tellure Rôta

Product categories index PAGE 02

Company presentation PAGE 04

Test & Research Laboratory PAGE 10

Tellure Rôta products PAGE 12

Tellure Rôta brackets PAGE 14

Tellure Rôta locking devices PAGE 26

Tellure Rôta hubs and axle sets PAGE 30

Choosing the right wheel PAGE 32

Standards and tests PAGE 42

Product categories PAGE 44

- Industrial - Light duty loads PAGE 44
- Industrial - Medium duty loads PAGE 84
- Industrial - Heavy duty loads and mechanical handling PAGE 130
- High temperatures PAGE 214
- Pallet truck rollers PAGE 230
- Scaffoldings PAGE 246
- Waste bin containers PAGE 252
- Institutional PAGE 256
- Furniture PAGE 278
- Customised solutions PAGE 290
- Accessories PAGE 292

Use guide PAGE 298

General terms of sale PAGE 302

Speed index PAGE 304

PRODUCT CATEGORIES INDEX

PAGE 44

INDUSTRIAL
LIGHT DUTY LOADS

SERIES 22 PAGE 46
SERIES 23 PAGE 52
SERIES 52 PAGE 58
SERIES 53 PAGE 66
SERIES 71 PAGE 74
SERIES 82 PAGE 82

PAGE 84

INDUSTRIAL
MEDIUM DUTY LOADS

SERIES 60 PAGE 86
SERIES 61 PAGE 96
SERIES 68 PAGE 104
SERIES 73 PAGE 116
SERIES 73AE PAGE 124

PAGE 130

INDUSTRIAL
HEAVY DUTY LOADS AND MECHANICAL HANDLING

SERIES 62 PAGE 132
SERIES 63AC PAGE 140
SERIES 63GH PAGE 146
SERIES 64 PAGE 154
SERIES 65AL PAGE 164
SERIES 65GH PAGE 170

SERIES 65HT PAGE 176
SERIES 66 PAGE 180
SERIES 68P PAGE 190
SERIES 69 PAGE 196
SERIES 72AL PAGE 202
SERIES 72GH PAGE 208

PAGE 214

HIGH TEMPERATURE

SERIES 67 PAGE 216
SERIES 68FV PAGE 222
SERIES 72GS PAGE 226

PAGE 230

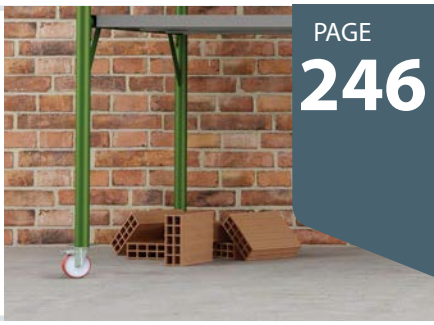
PALLET TRUCK ROLLERS

SERIES 74 PAGE 232
SERIES 75 PAGE 236
SERIES 76 PAGE 240
SERIES 77 PAGE 242
SERIES 78 PAGE 244

SCAFFOLDINGS

SERIES 60
PAGE 247

SERIES 68
PAGE 249



PAGE **246**

WASTE BIN CONTAINERS

SERIES 52
PAGE 253

SERIES 53
PAGE 254

SERIES 72
PAGE 255

PAGE **252**

INSTITUTIONAL

SERIES 32
PAGE 258

SERIES 36
PAGE 264

SERIES 37
PAGE 268

SERIES 51
PAGE 274

PAGE **256**

FURNITURE

SERIES 33
PAGE 280

SERIES 34
PAGE 282

SERIES 35
PAGE 286

SERIES 39
PAGE 288

PAGE **278**

CUSTOMISED SOLUTIONS

PAGE **290**

ACCESSORIES

PAGE **292**

MILESTONES

1950 Company was set up as a craft business

1953 Brand registration and conversion to a joint stock company (SpA)

1961 First foreign customer for wheels with polyurethane coating

1972 Production of 2,000 wheels a day with 100 employees

1980 The company moved to the current 10,000 square metre plant

1995 Production of 30,000 wheels a day with 104 employees

1996 ISO 9001 certification

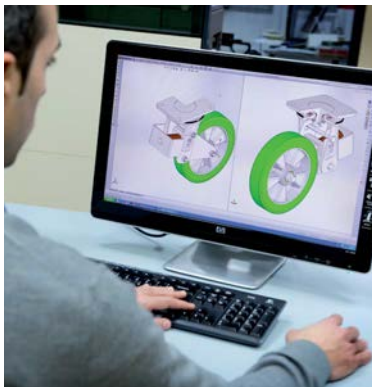
2000 Tellure Rôta do Brasil incorporated

2002 ISO 9001:2000 certification

1953 • 2013
60
years of quality

"We are working to improve, always"

This is how Roberto Lancellotti - founder and current president of Tellure Rôta - summarises the mission of the company, which works every day to satisfy its customers' movement and handling needs for industry and home applications, through the design, manufacture and sale of wheels and brackets.



Specific design for every sector

Every day, our designers study innovative movement solutions for multiple application sectors. The result is an offer of over 3,500 catalogue items and the development of special products upon customer requests

From large industries to private homes, from office canteens to every environment of use, there is a specific solution that has been studied, developed and tested within the company, thanks to the know-how of materials and the use of the most modern conception, design and testing software.

In Tellure Rôta, technology and competence are at the customer's service.

2004 ISO 14001:2004 environmental certification

2005 Production expansion for automatic assembly with the purchase of a 3,000 square metre facility next to the main plant

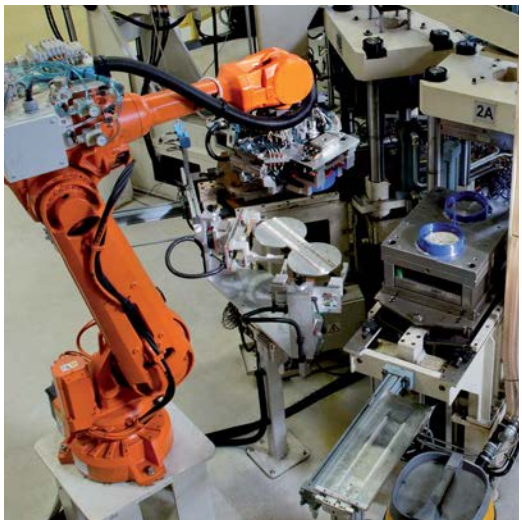
2006 Start of the Lean production project

2009 OHSAS 18001:2007 Workplace Health and Safety Certification

2011 Qualification and accreditation of the "Test & Research" lab by the Emilia-Romagna High Technology Network

2012 Production expansion for thermoplastic moulding with the purchase of a third 1,500 square metre facility next to the main plant

2013 Achievement of sixty years in the business



Tellure Rôta, 60 years of guaranteed, Made in Italy quality

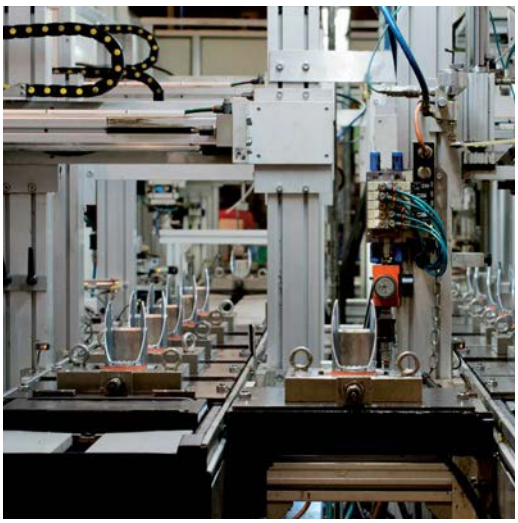
The wheels and brackets are manufactured in three plants in Formigine, on a covered surface of 15,000 square metres.
Here, the skills of our people combine with technology to manufacture products which are built by following certificated standards and which guarantee quality.

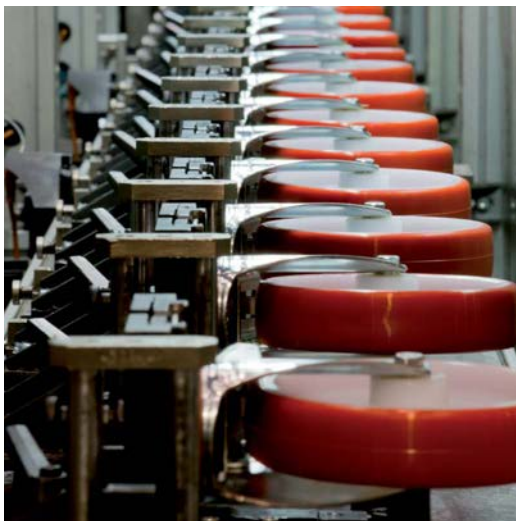
The steel sheets are moulded with automatic presses rated up to 630 Tonnes and pitch moulds. Strict and continuous checks made on the steel sheet and on the moulded components guarantee precise processing tolerances.

The preparation of hubs for coating and casting polyurethane wheels and rollers takes place according to formulas created in-house and using high quality raw materials. The entire process is strictly controlled to obtain the highest performance of the Tellure Rôta polyurethanes.

The thermoplastic wheels are moulded in a specific plant with state-of-the-art presses, in a controlled environment and starting from with certified materials.
The process ends with the assembly of the wheels and brackets on automatic lines that guarantee high production volumes and constantly high final quality.

OVERVIEWS





Tellure Rôta production process is based on lean production principles, which allows a flexible response to customer requests, ensuring reliable service and rapid delivery.

Established in Italy, competitive in the world

Thanks to the commitment to product quality and innovative solutions to the different movement and handling problems, Tellure Rôta is internationally recognised as one of the most important industrial companies in the sector.
Tellure Rôta do Brasil was set-up in 2000 to strengthen the presence in South America.

CERTIFICATIONS

1996: ISO 9001 certification, updated in January 2002 according to the new Vision 2000 standards, that guarantee management of all company processes even more focused on complete and constant customer satisfaction;

2005: ISO 14001:2004 environmental certification, demonstrating Tellure Rôta's ability to combine management which focuses on continuous improvement and customer satisfaction with environmental protection and prevention of pollution;

2009: OHSAS 18001:2007 health and safety certification, thanks to the implementation of an internal system which guarantees regulations are respected, constant checks are performed and proactive management is done on all risks which can be found in the workplace.

Today, a sales network with over 2,000 customers supports 57 countries.
Tellure Rôta is based in Formigine (Modena) in the north of Italy, on a site consisting of three production plants and the research and development laboratory.

TR Lab
Test & Research

An in-house laboratory for continuous innovation

To guarantee to its customers excellence in designing projects, Tellure Rôta has chosen to qualify and support its production departments with the Test & Research lab, a research laboratory with operational autonomy and accredited since 2011.
Since the laboratory belongs to a network of excellence, it is constantly updated and can expand its know-how to guarantee customers with on-going innovative projects.

EQUIPMENT

The supplied equipment consists of machinery and modern and updated technologies; it is divided into:

- test machines and benches for finished products according to the Standards of reference
- measuring instruments for the dimensional control and the physical-mechanical-electrical characterisation of the materials
- FEM design and analysis software workstations

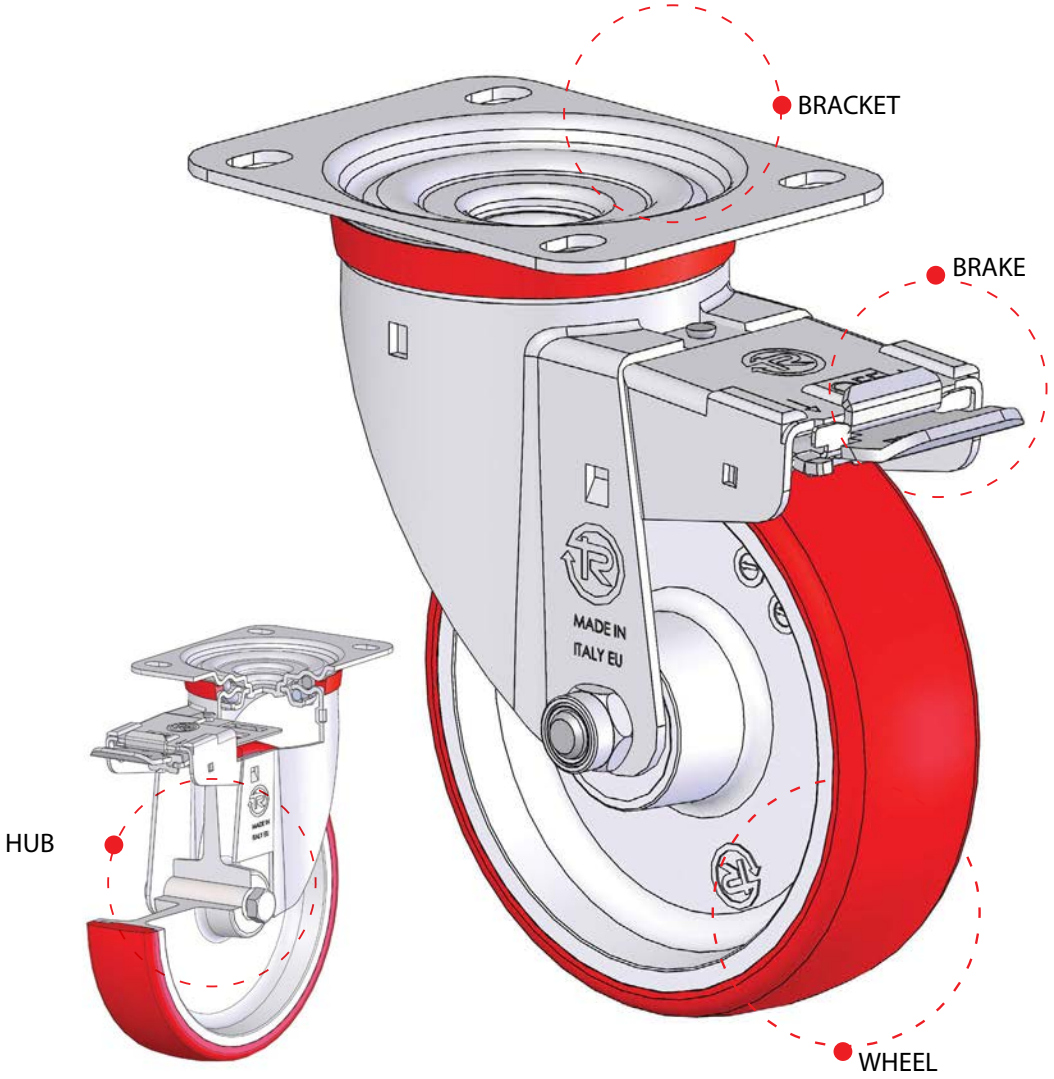
All equipment is integrated with sensors and software for the collection and processing of data and the tests are video-recorded in real time.

Where research becomes solution

The laboratory guarantees the necessary skills to develop and test new solutions for materials, products and constructive and process technologies.
In particular, it develops and characterises polyurethane mixes and thermoplastic materials able to meet the specific application requirements of wheel users and the right quality/price ratio.
All of the chosen materials and treatments have a low environmental impact and are conform with the RoHS and Reach Directives.
TRLab also researches metal components to make brackets with optimised performance even in the case of heavy-duty uses, and it also experiments with surface treatments that resist external chemical agents.

SERVICES

- Tests on wheels and brackets according to the wheels and brackets standards
- Tests on wheels and brackets according to standards relating to different applications (waste collection bins, mobile scaffoldings and others)
- Tests on elastomer, thermoplastic and metal materials
- Physical-mechanical characterisation tests of elastomers and vulcanised rubbers (traction, tear, abrasion, resilience, density, hysteresis)
- Electrical resistance tests on antistatic or conductive components
- Specific tests on customer projects



WHEEL

Round mechanical part allowing the transformation, by rotating around its own axis, of a scraping movement into a rolling movement.
The elements composing the wheel are: the tread, the cover, the centre, the hub and the swivel actions.

In this catalogue the wheels are divided by usage situation. Each series contains specific information and individual codes.

Industrial - Light duty loads
Industrial - Medium duty loads
Industrial - Heavy duty loads and mechanical handling
High temperatures
Pallet truck rollers
Scaffoldings
Waste bin containers
Institutional
Furniture
Customised solutions
Accessories

from page 45 to page 296

BRACKET

Connecting element between wheel and trolley. All wheels normally require the use of a bracket to be applied to the trolley; the wheels which have an axis integrated in the trolley itself are an exception.
Swivel bracket: turns on its own vertical axis as the direction of movement changes; it can be swivel with top plate, swivel with bolt hole, swivel with stem. It can be fitted with a lock.
Fixed bracket: it cannot rotate; it has the task of maintaining the wheel along a guideline.

Brackets — from page 14 to page 25

BRAKE

Device to brake the rotation of the bracket around its own axis, the rotation of the wheel or the rotation of the complete castor. Front, rear, centralised, total or directional brakes can be fitted onto the swivel brackets.

Brakes — from page 26 to page 29

HUB

Central part of the wheel intended to house the axle or the swivel actions making rotation easier (ball bearing, roller bearing, plain bores,...).

Hubs — from page 30 to page 31

Light-duty SL

Carrying capacity: 130 daN
Diameters: 80-125 mm
Fitting: with top plate, with bolt hole
Brake: front

Page 15

Standard-duty NL -

Carrying capacity: 400 daN
Diameters: 65-280 mm
Fitting: with top plate, with bolt hole, with threaded stem, with Zamak stem
Brake: front, rear, centralised

Page 16

Medium-duty M

Carrying capacity: 500 daN
Diameters:150-200 mm
Fitting: with top plate
Brake: adjustable front

Page 18

Heavy-duty P-PX

Carrying capacity: 750 daN
Diameters: 80-200 mm
Fitting: with top plate
Brake: adjustable front, rear

Page 19

Extra heavy-duty EP

Carrying capacity: 1600daN
Diameters:100-250 mm
Fitting: with top plate
Brake: adjustable rear

Page 20

Electrowelded EE MHD

Carrying capacity: 1000 daN
Diameters: 100-200 mm
Fitting: with top plate
Brake: adjustable rear

Page 21

Electrowelded EE HD-EE EHD

Carrying capacity: 3500 daN
Diameters:150-400 mm
Fitting: with top plate
Brake: adjustable rear (EE HD only)

Page 22

Twin electrowelded EEG MHD

Carrying capacity: 1000 daN
Diameters: 100-125 mm
Fitting: with top plate

Page 23

Twin electrowelded EEG HD - EEG EHD

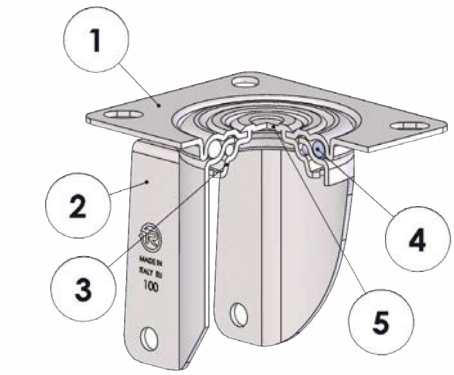
Carrying capacity: 4300 daN
Diameters:125-300 mm
Fitting: with top plate

Page 24

Scaffolding TRAB

Carrying capacity: 750 daN (according to EN 1004:2005)
Diameters:125-200 mm
Fitting: with top plate, with solid stem, with threaded stem with leveller

Page 25



1) Plate in electrolytically galvanised steel plate
2) Fork in electrolytically galvanised steel plate
3) Ball race ring in electrolytically galvanised steel plate
4) Swivel actions: on two ball race rings lubricated with grease
5) King pin: integrated with ball race ring

Light-duty SL - max carrying capacity 130 daN

The bracket is made of electrolytically galvanised steel plate.
The swivel action is composed of two roller ball race rings in calibrated tracks obtained on printed components. The bracket assembly is made by means of cold forming the pin integrated in the lower ring, thus guaranteeing good manoeuvrability and reduced side play.
The shaping of the fixing plate to protect the upper ball race ring and the balls lubrication using industrial multi-purpose grease reduce maintenance during the normal conditions of use of the bracket.

Brake: front

Fittings with wheels

SERIES 52 **SERIES 53** **SERIES 71**

Fitting with top plate

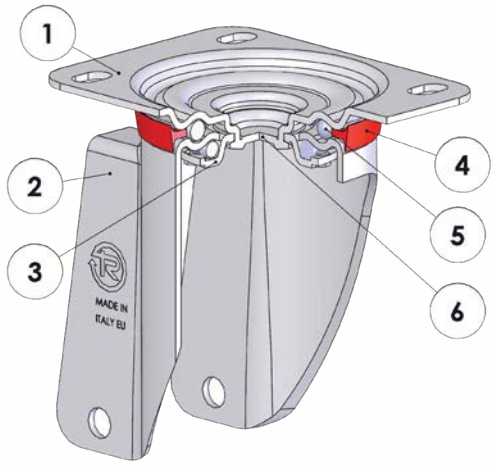
SL

							4 km/h
80	40	109	95x80	80x60	8.8	36	130
100	40	127	95x80	80x60	8.8	33	130
125	40	153	95x80	80x60	8.8	29	130

Fitting with bolt hole

SL

						4 km/h
80	40	109	12	63	36	130
100	40	127	12	63	33	130
125	40	153	12	63	29	130



1) Top Plate: electrolytically galvanised steel plate or in AISI 304 stainless steel
2) Fork: electrolytically galvanised steel plate or in AISI 304 stainless steel
3) Ball Race Ring: electrolytically galvanised steel plate or in AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Standard-duty NL and NLX - max carrying capacity 400 daN

Bracket made of printed steel plate with excellent swivel guaranteed by two ball race rings.
Precise assembly by means of cold-mechanical forming of the top plate integrated pin. The lubrication and adequate protection of the ball race rings against dust, together with the electrolytic galvanisation (NL) or the realisation in AISI 304 stainless steel (NLX) guarantee a long duration and a reduced request for maintenance in normal conditions of use. A specific model intended for uses with a temperature above 100°C is also available.

Brake: front, rear, centralised.

Fittings with wheels

SERIES 22

SERIES 23

SERIES 51

SERIES 52

SERIES 53

SERIES 60

SERIES 61

SERIES 62

SERIES 63GH

SERIES 63AC

SERIES 64

SERIES 65AL

SERIES 65GH

SERIES 66

SERIES 67

SERIES 68

SERIES 68P

SERIES 68FV

SERIES 69

SERIES 71

SERIES 72AL

SERIES 72GH

SERIES 72GS

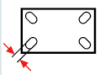
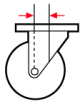
SERIES 73

SERIES 73AE

SERIES 82

Fitting with top plate

NL-NLX

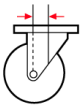
								4 km/h
65	40	100	100x85	80x60	9	37	8	200
80	40	107	100x85	80x60	9	37	8	200
100	45	128	100x85	80x60	9	35	8	200
125	45	156	100x85	80x60	9	37	8	220
125	45	156	140x110	105x80	11	37	8	220
125	60	165	140x110	105x80	11	57	12	300
140	45	176	100x85	80x60	9	34	8	220
150	45	182	100x85	80x60	9	34	8	220
150	45	182	140x110	105x80	11	34	8	220
150	60	194	140x110	105x80	11	56	12	300
160	60	187	100x85	80x60	9	50	12	220
160	60	198	140x110	105x80	11	56	12	300
175	60	217	140x110	105x80	11	56	12	300
180	60	219	140x110	105x80	11	56	12	300
200	60	240	140x110	105x80	11	56	12	300

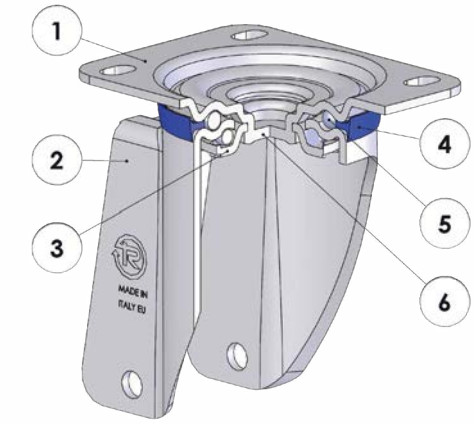
NL

225	60	263	140x110	105x80	11	56	12	300
250	90	296	200x160	160x120	14	86	12	350
260	90	300	200x160	160x120	14	86	12	350
280	90	311	200x160	160x120	14	86	12	400

Fitting with bolt hole

NL-NLX

							4 km/h
65	40	100	12	73	37	8	200
80	40	107	12	73	37	8	200
100	45	128	12	73	35	8	200
125	45	156	12	73	37	8	220
140	45	176	12	73	34	8	220
150	45	182	12	73	34	8	220
150	60	188	20	102	56	12	300
160	60	193	20	102	50	12	300
175	60	212	20	102	56	12	300
180	60	214	20	102	56	12	300
200	60	236	20	102	56	12	300



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Medium-duty M - max carrying capacity 500 daN

Bracket made of printed steel plate increased respect to the NL model.
Excellent swivel guaranteed by the two ball race ring.
Precise assembly by means of cold-mechanical forming of the top plate integrated pin, the lubrication and adequate protection of the ball race rings against dust, together with the electrolytic galvanisation guarantee long duration and a reduced request for maintenance in the normal conditions of use.

Brake: adjustable front

Fittings with wheels

SERIES 60

SERIES 62

SERIES 63AC

SERIES 63GH

SERIES 64

SERIES 65AL

SERIES 65GH

SERIES 66

SERIES 68

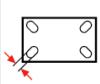
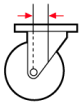
SERIES 72AL

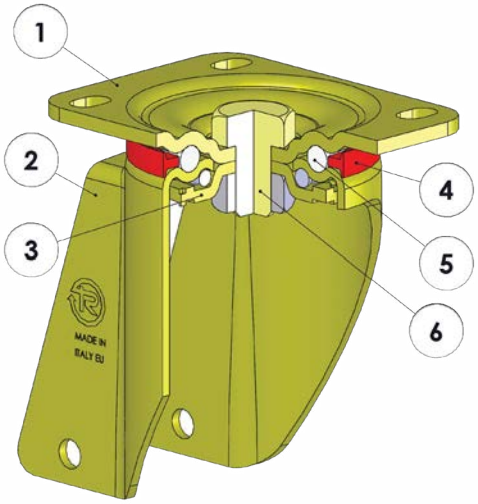
SERIES 72GH

SERIES 73

Fitting with top plate

M

								4 km/h
150	60	194	140x110	105x80	11	58	12	500
160	60	199	140x110	105x80	11	58	12	500
200	60	240	140x110	105x80	11	50	12	500



1) Top Plate: electrolytically colonial galvanised steel plate or AISI 304 stainless steel plate
2) Fork: electrolytically colonial galvanised steel plate or AISI 304 stainless steel plate
3) Ball Race Ring: electrolytically galvanised steel plate or AISI 304 stainless steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel screw, class 8.8 and nut or A2 stainless steel screw and nut

Heavy-duty P-PX - max carrying capacity 750 daN

Bracket made of thick printed steel plate with excellent swivel guaranteed by two ball race rings.
Precise assembly by means of highly mechanically resistant screw and locknut anti-loosening system. The lubrication and adequate protection of the ball race rings against dust, together with the highly resistant to corrosion electrolytic galvanisation or the realisation in AISI 304 stainless steel guarantee a long duration and a reduced request for maintenance in the normal conditions of use.

Brake: front in diameters 80-125 and adjustable rear in diameters 125-200

Fittings with wheels

SERIES 60

SERIES 62

SERIES 63AC

SERIES 63GH

SERIES 64

SERIES 65AL

SERIES

SERIES 65HT

SERIES 66

SERIES 67

SERIES 68-68P

SERIES72AL-72GH

SERIES72GH

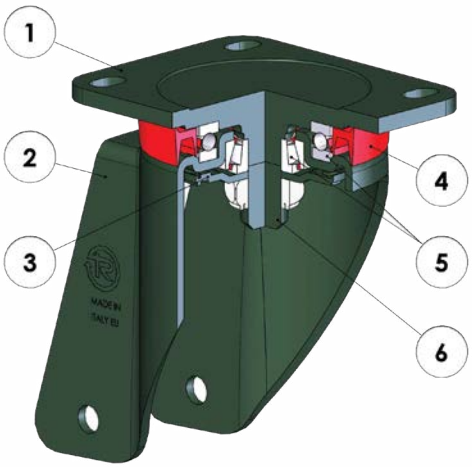
SERIES73-73AE

Fitting with top plate

P

P-PX

								4 km/h
80	45	128	100x85	80x60	9	46	8	350
100	45	138	100x85	80x60	9	46	8	350
125	45	161	100x85	80x60	9	48	8	350
125	60	170	140x110	105x80	11	70	12	750
150	60	200	140x110	105x80	11	70	12	750
160	60	205	140x110	105x80	11	70	12	750
175	60	225	140x110	105x80	11	70	12	750
180	60	227	140x110	105x80	11	70	12	750
200	60	250	140x110	105x80	11	70	12	750



1) Plate: green galvanised forged steel
2) Fork: green galvanised steel plate
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Extra-heavy duty EP - max carrying capacity 1600 daN

Heavy-duty loads brackets made with forged steel fixing plate and integrated pin, fork in thick printed steel plate; excellent swivel thanks to the use of an axial bearing that guarantees vertical load and tapered bearing to compensate the oblique forces.
Low-maintenance and long-duration bracket thanks to the use of purposely shaped dust seal, lubrication of the bearings (option with grease nipple available) and highly resistant electrolytic galvanising against corrosion.

Brake: adjustable rear

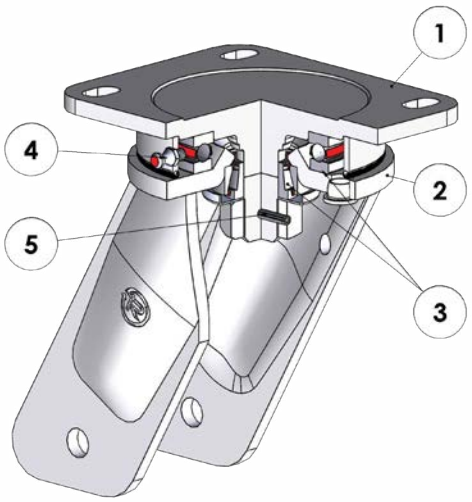
Fittings with wheels

SERIES 62 **SERIES 63AC** **SERIES 63GH** **SERIES 64** **SERIES 65AL** **SERIES 65GH** **SERIES 72GH**

Fitting with top plate

EP

								4 km/h
100	45	140	100x85	80x60	9	46	8	350
125	45	164	100x85	80x60	9	48	8	350
125	60	188	135x110	105x80	11	70	12	1100
150	60	200	135x110	105x80	11	70	12	1100
160	60	205	135x110	105x80	11	70	12	1100
175	60	225	135x110	105x80	11	70	12	1100
180	60	227	135x110	105x80	11	70	12	1100
200	60	250	135x110	105x80	11	70	12	1100
250	90	300	175x140	140x105	14	66	18	1600



1) Plate: forged steel with electrolytically galvanised integrated pin
2) Fork: deep-drawn legs electro-welded to the electrolytically galvanised flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Electrowelded EE MHD - max carrying capacity 1000 daN

Bracket suitable for applications with loads up to 1000 daN, even in heavy-duty use conditions (mechanised towing and high speeds). Fixing plate made of forged steel with integrated pin, fork with legs shaped by means of deep-drawing process and welded to the flange; the axial and taper bearing guarantee excellent manoeuvrability also at full load and increase the side impact resistance of the bracket.
Bracket grease nipple, locknut anti-loosening system, protective o-ring against dust and zinc electroplating guarantee its extremely long duration and simple maintenance.

Brake: adjustable rear

Fittings with wheels

SERIES 62

SERIES 63GH

SERIES 64

SERIES 65HT

SERIES68P

SERIES72AL

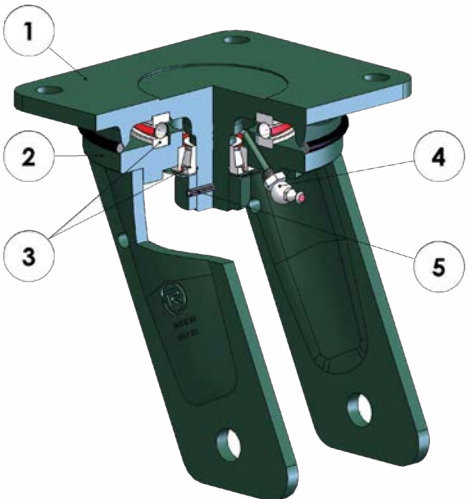
SERIES72GH

SERIES 75

Fitting with top plate

EE MHD

								4 km/h
100	60	170	135x110	105x80	11	51	12	1000
125	60	182	135x110	105x80	11	51	12	1000
150	60	210	135x110	105x80	11	60	12	1000
160	60	215	135x110	105x80	11	60	12	1000
180	60	242	135x110	105x80	11	70	12	1000
200	60	252	135x110	105x80	11	70	12	1000
250	60	300	135x110	105x80	11	83	12	1000



1) Top plate: forged steel with integrated pin painted with dark green powder
2) Fork: drawn legs electrowelded to the flange painted with dark green powder
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Electrowelded EE HD - EE EHD - max carrying capacity 3500 daN

Bracket suitable for applications with loads up to 3500 daN, even in heavy-duty use conditions (mechanised towing and high speeds). Fixing plate made of thick forged steel with integrated pin, fork with thick legs shaped by means of deep-drawing process and welded to the flange; the axial and taper bearing guarantee excellent manoeuvrability also at full load and increase the side impact resistance of the bracket. Bracket grease nipple, locknut anti-loosening system, protective o-ring against dust and green powder painting guarantee its extremely long duration and simple maintenance.

Brake: adjustable rear (EE HD model only)

Fittings with wheels

SERIES 63GH **SERIES 64** **SERIES 68** **SERIES 72GH**

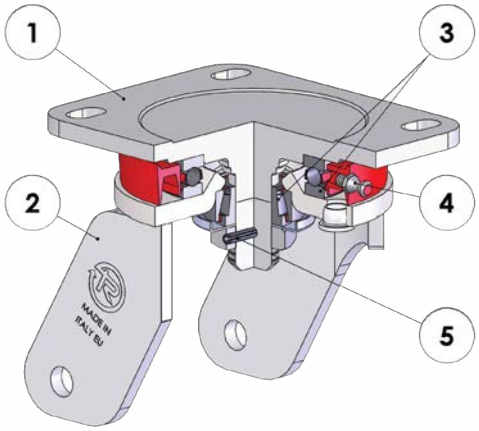
Fitting with top plate

EE HD

								4 km/h
150	90	218	175x140	140x105	14.5	50	18	1600
200	90	275	175x140	140x105	14.5	65	18	1600
250	90	320	175x140	140x105	14.5	74	18	1600
250	90	325	200x160	160x120	17	74	18	2500
300	90	360	175x140	140x105	14.5	81	18	1600
300	90	365	200x160	160x120	17	81	18	2500

EE EHD

300	130	384	250x200	210x160	19	78	24	3500
400	130	475	250x200	210x160	19	95	24	3500



1) Plate: forged steel with electrolytically galvanised integrated pin
2) Fork: deep-drawn legs electro-welded to the electrolytically galvanised flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Twin electrowelded EEG MHD - max carrying capacity 1000 daN

Bracket suitable for applications with loads up to 1000 daN, even in heavy-duty use conditions (mechanised towing and high speeds). Fixing plate made of forged steel with integrated pin, fork with legs shaped by means of deep-drawing process and welded to the flange; the axial and taper bearing guarantee excellent manoeuvrability also at full load and increase the side impact resistance of the bracket. Bracket grease nipple, locknut anti-loosening system, protective o-ring against dust and zinc electroplating guarantee its extremely long duration and simple maintenance.

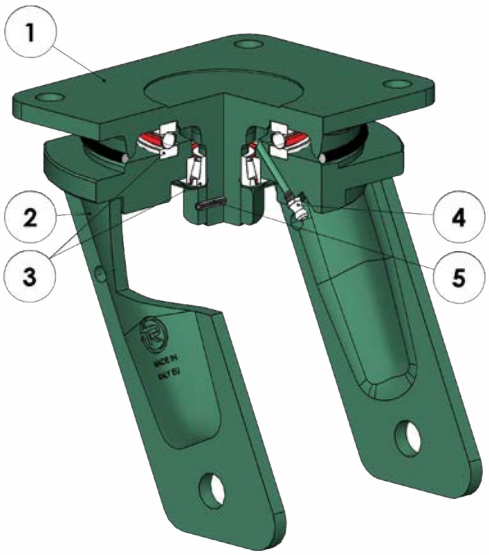
Fittings with wheels

SERIES 62 **SERIES 63GH** **SERIES 64** **SERIES 72AL** **SERIES 72GH**

Fitting with top plate

EEG MHD

								4 km/h
100	90	140	135x110	105x80	11	55	12	1000
125	90	175	135x110	105x80	11	55	12	1000



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Twin electrowelded EEG HD - EHD - max carrying capacity 4300 daN

Bracket suitable for applications with loads up to 4300 daN, even in heavy-duty use conditions (mechanised towing and high speeds). Fixing plate made of thick forged steel with integrated pin, fork with thick legs shaped by means of deep-drawing process and welded to the flange; the axial and taper bearing guarantee excellent manoeuvrability also at full load and increase the side impact resistance of the bracket. Bracket grease nipple, locknut anti-loosening system, protective o-ring against dust and green powder painting guarantee its extremely long duration and simple maintenance.
The top plate's longer side of fixed brackets is parallel to the axle of the wheel.

Fittings with wheels

SERIES 62 | SERIES 63GH | SERIES 64 | SERIES 68P | SERIES 72AL | SERIES 72GH

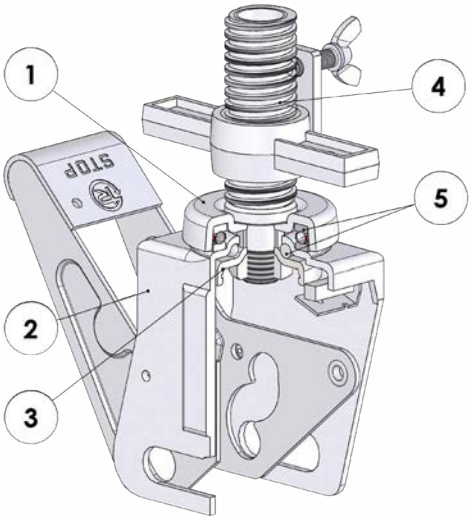
Fitting with top plate

EEG HD

								4 km/h
125	130	210	175x140	140x105	14	50	18	1600
150	130	223	175x140	140x105	14	50	18	1600
160	130	228	175x140	140x105	14	50	18	1600
200	130	280	175x140	140x105	14	65	18	1600
200	130	285	200x160	160x120	17	62	18	2000

EEG EHD

200	190	280	250x200	210x160	19	62	24	3500
250	190	330	250x200	210x160	19	62	24	3500
300	190	385	250x200	210x160	19	75	30	4300



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electroplated galvanised steel
4) King pin: stem with acme thread manufactured steel from tube, nut locked by mechanical deformation (different for top plate and solid stem models)
5) Swivel actions: for brackets diam. 125 and 150 mm: 125 and 150 mm: grease-lubricated double ball raceways; for brackets diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

Scaffolding - max carrying capacity 750 daN according to UNI EN 1004:2005

Bracket designed for the wheel scaffolding sector specific requirements, regulated by Standard EN 1004:2005.
During lock engagement, its construction allows eliminating the offset of the wheel by aligning the bracket's swivel axis and the wheel's swivel axis on the same vertical, thus significantly increasing the set's resistance to static loads.

Also available with double pedal (one pedal to lock and one to release)

Fittings with wheels

SERIES 60

SERIES 68

Fitting with top plate

TRAB

						4 km/h	EN 1004
150	192	140x110	105x80	19	40	300	500
200	243	140x110	105x80	19	40	400	750

Fitting with threaded stem

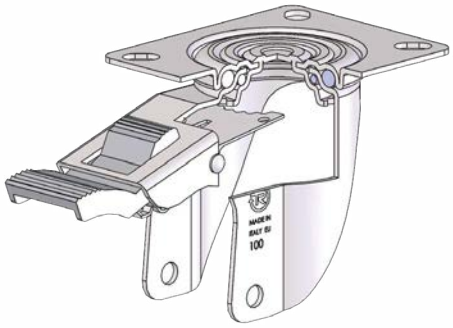
TRAB

						4 km/h	EN 1004
150	192	83	M38x6	500	40	300	500
200	243	81	M38x6	500	40	400	750

Fitting with solid stem

TRAB

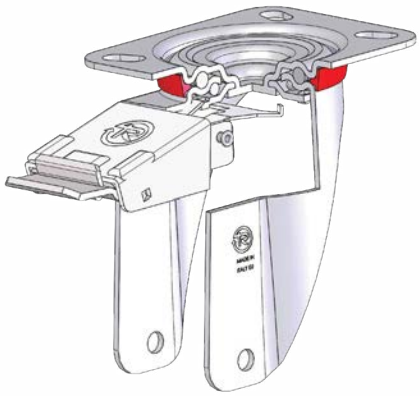
						4 km/h	EN 1004
125	150	89	38	57	30	250	500
150	192	83	38	57	40	300	500
200	243	81	38	57	40	400	750



Front brake for bracket SL diameters 80-125 mm

Total brake, it locks the wheel and bracket rotation.

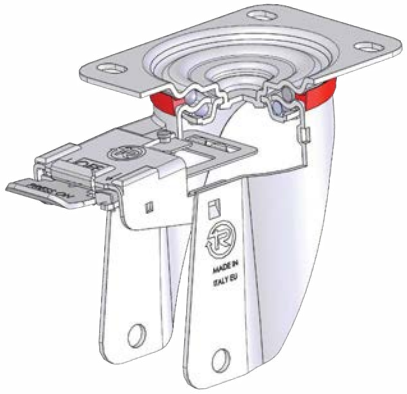
The braking device is integral with the fork. The plastic brake pedal is used for locking and releasing of the device. The extremely low position of the pedal makes it easier to use even with fixing to particularly encumbering structures. The hardened carbon steel spring, coated with thin zinc sheets, has very high corrosion resistance.



Front brake for brackets NL - NLX - P diameters 80-150 mm

Total brake, it locks the wheel and bracket rotation

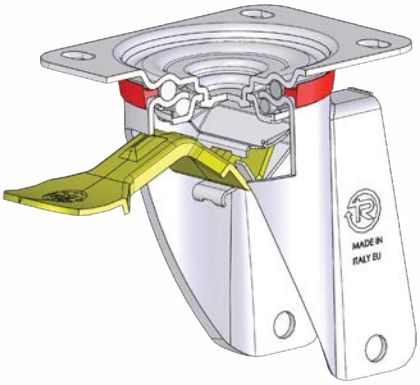
The front type brake remains within the operator's reach while pushing the trolley. This brake has double lock/release pedal to improve accessibility. The fold-away braking release pedal reduces clearances.
The shape of the wheel's braking spring optimises wheel locking in both rotation directions.
The hardened carbon steel spring, coated with thin zinc sheets, has very high corrosion resistance.
For brackets NLX, this brake is available in a completely STAINLESS STEEL version.



Front brake for brackets NL - NLX diameters 150-200 mm

Total brake, it locks the wheel and bracket rotation.

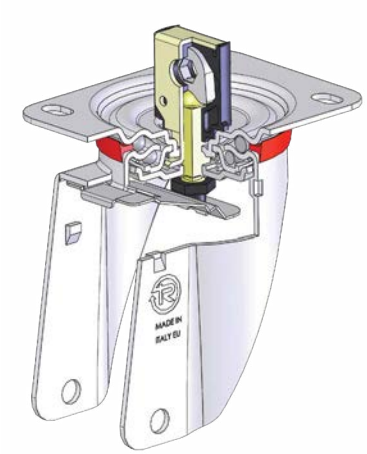
The front type brake remains within the operator's reach while pushing the trolley. This brake has a double lock/release pedal to improve its accessibility. The fold-away braking release pedal reduces clearances.
The shape of the wheel's braking spring optimises wheel locking in both rotation directions.
The hardened carbon steel spring, coated with thin zinc sheets, has very high corrosion resistance.
For brackets NLX, this brake is available in a completely STAINLESS STEEL version.



Rear brake for brackets NL diameters 160-200 mm

Total brake, it locks the wheel and bracket rotation.

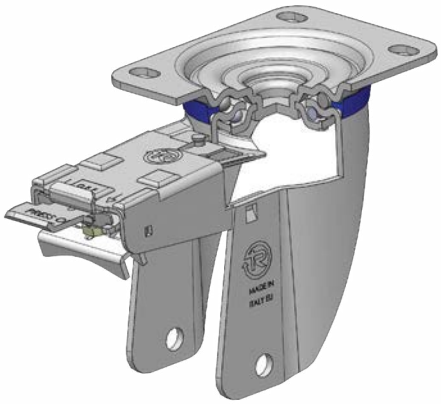
The rear type brake conceived for maximum simplicity of use, has a single lock and release pedal, specially ribbed to ensure optimal strength.
The position of the lock pedal is within the operator's reach when towing the trolley.
The hardened carbon steel springs coated with thin zinc sheets and the steel braking pedal coated with yellow electrolytic galvanising, are highly resistant to corrosion.



Adjustable centralised brake for brackets NL diameters 150-200 mm

The cam system is designed so that the brake can be engaged on two brackets at the same time, using a connection rod and just one lock pedal.

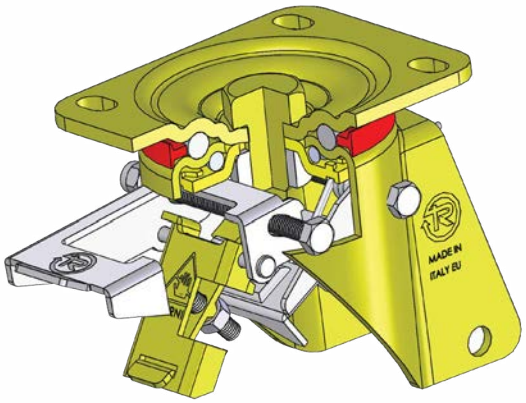
The hardened carbon steel spring, coated with thin zinc sheets, has very high corrosion resistance. This brake is equipped with an adjustment system to compensate for normal wheel wear during use.
Brake set-up for use with 11 mm hexagonal bar spanner.



Adjustable front brake for brackets M diam. 150-200 mm

Total brake, it locks the wheel and bracket rotation

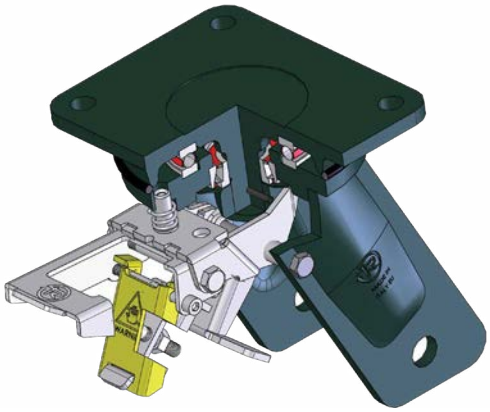
The front type brake remains within the operator's reach while pushing the trolley. This brake has double lock/release pedal to improve accessibility. The fold-away braking release pedal reduces clearances.
The hardened carbon steel spring, coated with thin zinc sheets, has very high corrosion resistance.
Locking force can be adjusted using an M8 socket screw and 13 mm spanner. This system has been designed to optimise braking based on the hardness of the wheel tread, its wear and the conditions of use. Make sure that the braking setting obtained (by means of adjustment) is suitable for the specific operating requirements.



Adjustable rear brake for brackets P-PX-EP diameters 150-200 mm

Total brake, it locks the wheel and bracket rotation.

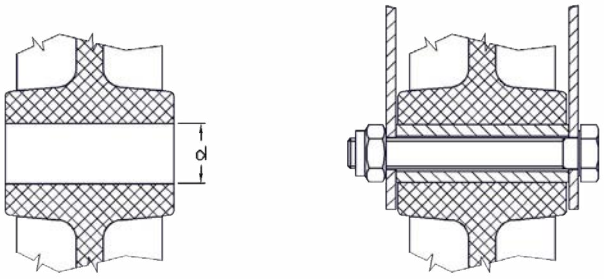
The rear type brake remains within the operator's reach while towing the trolley. This brake is made to obtain optimal braking values, while maintaining maximum simplicity of use.
A top-to-bottom movement using the tip of the foot on two independent pedals is all that's needed to engage and release the brake quickly and smoothly.
Locking force can be adjusted using an M8 socket screw, in order to optimise braking based on the hardness of the wheel tread, its wear and the conditions of use; before use, we suggest making sure that the brake setting obtained (by means of adjustment) is suitable for the specific operating requirements.
.



Rear brake for brackets EE MHD and EE HD diam. 125-300

Total brake, it locks the wheel and bracket rotation.

The rear type brake remains within the operator's reach while towing the trolley. This brake is made to obtain optimal braking values, while maintaining maximum simplicity of use and the necessary strength.
A top-to-bottom movement using the tip of the foot on two independent pedals is all that's needed to engage and release the brake quickly and smoothly.
Locking force can be adjusted using an M8 socket screw, in order to optimise braking based on the hardness of the wheel tread, its wear and the conditions of use; before use, we suggest making sure that the braking setting obtained (by means of adjustment) is suitable for the specific operating requirements.
The brake for electrowelded brackets is a parking brake suitable for flat floors.

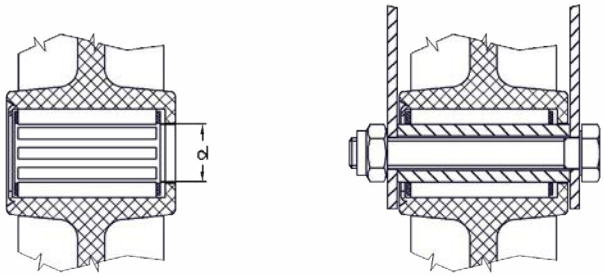


Hub with plain bore

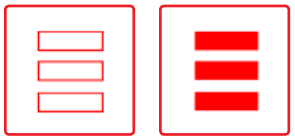
Suitable for applications involving non-continuous movements and limited loads.

The relative sliding friction coefficient range is b= 0.003-0.005.

The plain bearing can be joined directly to the wheel bore. The axle set is made with a calibrated and machined tube to create a homogeneous and precision bearing coupling surface. Acting like a spacer, the tube is inserted into the bearing and tightened to the bracket using a screw and nut up to the predefined torque setting. The bearing slides freely on the tube. Axle sets can be supplied in the galvanised steel or stainless steel version. The centre of model P64 C/B is specifically dimensioned to obtain the variations for spline and key housing in the precision hole, in order to make this a drive wheel.



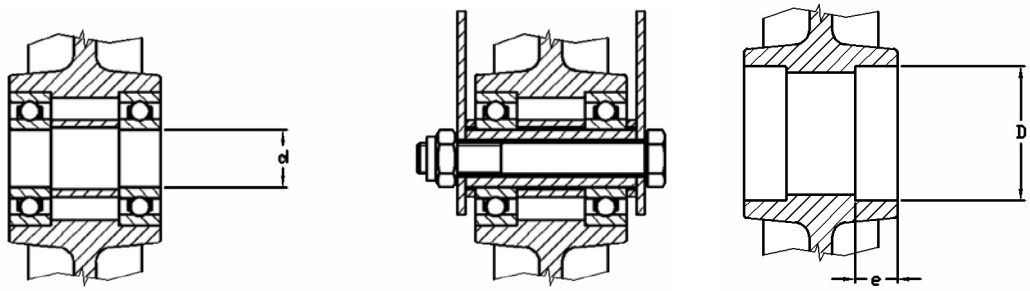
Hub with roller bearings



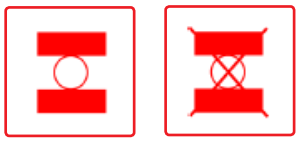
Suitable for applications involving non-continuous movements and heavier loads respect to wheels with hub with plain bore, as it guarantees low friction coefficients even in the presence of heavy loads.

The indicative sliding friction coefficient is b=0.0025.

The bearing with steel cylindrical rollers or stainless steel rollers, with plastic cage is assembled in the seat specifically obtained on the hub. The axle set is made with a calibrated and machined tube to create a homogeneous and precision roller bearing coupling surface.
Acting like a spacer, the tube is inserted into the roller bearing and tightened to the bracket using a screw and nut up to the predefined torque setting. The roller bearing slides freely on the tube. Axle sets can be supplied in the galvanised steel or stainless steel version.



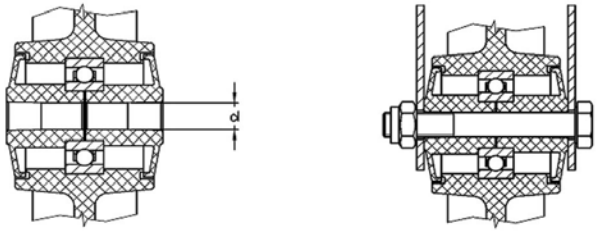
Hub with ball bearings



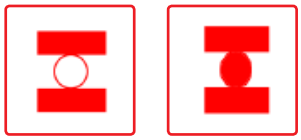
This is the ideal solution for heavier loads and continuous movements.

The indicative sliding friction coefficient is b=0.0015.

The shielded ball bearings are assembled in the relative seats in the wheel hub, in order to obtain the adequate interference tolerances.
The axle set is mounted using a calibrated and machined tube to create a homogeneous surface on which to insert the bearings and spacers.
The screw and nut are tightened to secure the spacer and the ball bearings.
Axle sets can be supplied in the galvanised steel or stainless steel version. The wheels and rollers can be supplied with only the bearings housing seat.



Hub with single ball bearing



Solution for applications involving continuous movements and non-heavy loads.

The indicative sliding friction coefficient is b=0.0015.

The hub of the thermoplastic wheel is overprinted on a radial type ball bearing with double shield, making them permanently integral.
Two polyamide plain bores loaded with fibreglass with internal labyrinth protect the bearing against dirt, processing residues and aggressive agents.
Stainless steel ball bearing model is also available.
The wheel is directly fitted by means of partially threaded screw and self-locking nut.

The safety and easy handling of a trolley depends on choosing the most suitable wheel, therefore, it is recommended to consider the following factors:

1. NATURE AND CONDITION OF THE FLOOR

The type of floor and the presence of any obstacles will have an influence on the thrust/traction force required to move the trolley, on the transmission of vibrations and wear of the wheel:

- Extremely thick wheels with soft tread and large diameter are normally chosen for uneven floors or with obstacles;
- Wheels with a more sturdy tread are normally chosen for smooth floors and heavy loads.

For each series, the catalogue shows the floor for which a wheel is suitable:

TILES	ASPHALT	RESIN-CEMENT	NOT PAVED	EXPANDED METAL	WITH CHIPS
PLASTIC MATERIALS, POLYURETHANE, RUBBER	RUBBER OR ELASTIC POLYURETHANE	PLASTIC MATERIALS, POLYURETHANE, RUBBER	RUBBER OR ELASTIC POLYURETHANE	RUBBER OR ELASTIC POLYURETHANE	RUBBER OR ELASTIC POLYURETHANE

2. ENVIRONMENT OF USE

The wheel and bracket materials may or may not be suitable for use in aggressive environments: extreme temperatures, humidity, acids, solvents, bases and hydrocarbons.

The table on page 36 shows the compatibility with a detailed list of chemical substances.
The table on page 38 shows the carrying capacity reduction upon temperature variation.

3. MAGNITUDE AND NATURE OF THE LOAD

The weight of the load, its nature (solid or liquid) and the tare of the trolley determine the minimum carrying capacity the wheel must have to guarantee safe handling.

GLOSSARY

Static load

Maximum load (expressed in daN) that a motionless (stationary) wheel can support without generating any permanent deformation that may reduce operating efficiency.

Dynamic carrying capacity

Maximum load value (expressed in daN) that can be supported by a moving wheel. This value is determined in compliance with Standard ISO 22883-22884 for industrial use and ISO 22879-22880 for civil and domestic use.
See page 42-43 for the test conditions.

With a 4-wheel trolley, calculate the minimum carrying capacity required using the following formula:

Solid load:

MINIMUM CARRYING CAPACITY REQUIRED = (SOLID LOAD WEIGHT + TROLLEY TARE): 3
(3 out of 4 wheels are always in contact with the ground)

Liquid load:

MINIMUM CARRYING CAPACITY REQUIRED = (LIQUID LOAD WEIGHT + TROLLEY TARE): 2
(2 out of 4 wheels are always in contact with the ground)

For each series, the catalogue shows the static, dynamic carrying capacity values and rolling resistance of each wheel.

4. MEANS OF TRACTION AND SPEED

For a static use (trolley handled only occasionally and stopped for most of the time), it is recommended to check:

STATIC CARRYING CAPACITY OF THE WHEEL > MINIMUM CARRYING CAPACITY REQUIRED

Whereas, if the trolley is intended for frequent use or for long distances, assess the type of handling: manual, with towed mechanical means or applied to a driving mechanism.

Manual handling

The trolley speed is generally less than 4 km/h; it is recommended to check:

DYNAMIC CARRYING CAPACITY OF THE WHEEL > MINIMUM CARRYING CAPACITY REQUIRED

ROLLING RESISTANCE > (SOLID/LIQUID LOAD WEIGHT + TROLLEY TARE):4

The smoother the wheel, the less effort is required.
For each wheel, Tellure Rôta catalogue shows the ROLLING RESISTANCE value: it is the maximum applicable load in correspondence of which the traction/thrust effort remains below 5 daN.

Rolling resistance

The rolling resistance is the value (expressed in daN) of the maximum load that can be supported by each single wheel at a constant speed of 4 km/h with application of a tractive force or thrust equal to 5 daN (excluding the initial pickup).
The 20 daN of traction/thrust force (corresponding to a 4-wheeled trolley) is the recommended limit for most of the adult working population. The tables in the introductory notes to each series highlight the traction force required for keeping a wheel, burdened by a certain weight, moving.

The values are detected on the TRLab laboratory test bench that detects the rolling resistance on a 1 metre long metal surface. They represent the average traction/thrust force value.
The force required for starting a wheel, defined starting point, significantly depends on the alignment position of the brackets and is always higher than indicated on the table.

The necessary force decreases if the wheel diameter increases: we recommend increasing the diameter down to traction/thrust values below 3 daN, for high movement frequency or movement along long sections.

For each series, the catalogue shows a table with the traction/thrust force at different load values, upon varying the diameter.

Towed mechanical movement

The dynamic carrying capacity of the wheels refers to a speed not higher than 4 km/h (1.1 m/s); the carrying capacity decreases if speed exceeds this value.
Use the correction factor of the carrying capacity shown in the table on page 39 and we recommend to check:
WHEEL DYNAMIC CARRYING CAPACITY x CORRECTION FACTOR (%) > MINIMUM CARRYING CAPACITY REQUIRED

On-board mechanical movement

In this case the wheels are subjected to particular stress and strain, different case by case.
We recommend contacting Tellure Rôta Technical Service to choose the most suitable product for your application.

Based on the above information, the path provides:

- Choice of recommended wheels for the environmental conditions defined by the application (temperature, humidity, any aggressive chemicals and type of floor), based on the material compatibility tables and geometry of the product respect to its use.
- Choice of strap diameter and width to meet the carrying capacity, speed requirements and the product's easy movement.
- Choice of suitable bracket for the environment of use and for the requested speed and carrying capacity features.

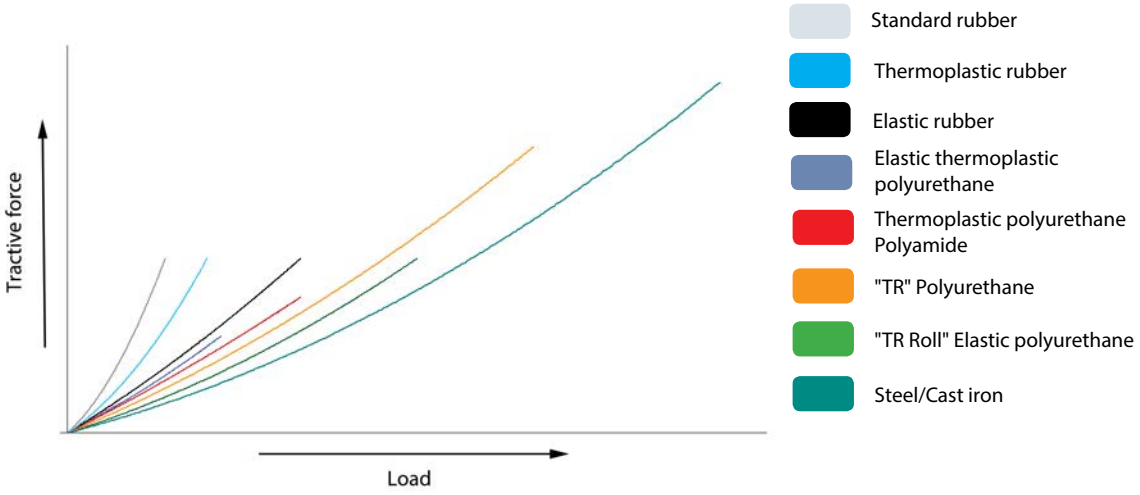
Tellure Rôta provides its experience and know-how in the movement solutions sector so that choosing a wheel becomes the most satisfying process for the final user.

FURTHER DETAILS AND INFORMATION

AVAILABLE TABLES

- AGGRESSIVE CHEMICAL AGENTS COMPATIBILITY PAGE 36
- CARRYING CAPACITY ADJUSTMENTS BASED ON TEMPERATURE PAGE 38
- CARRYING CAPACITY ADJUSTMENTS BASED ON SPEED PAGE 39
- TABLE FOR CHOICE OF WHEEL PAGE 40

Comparison chart of the rolling resistance between the different materials



Comparison table of the hardness between the different materials

	Elastic rubber	"TR Roll" Elastic polyurethane	Standard rubber	Thermoplastic rubber Elastic thermoplastic polyurethane		"TR" Polyurethane	Thermoplastic polyurethane		Polyamide	
Shore A	70	75	80	85	90	95				
Shore D						45	55	65	70	75

For further information on choosing the right wheel:

- see Internet site www.tellurerota.com
- contact Tellure Rôta Sales Department:
  tel. Export: 0039 059.410302 - tel Italian Sales Dept.: 059.410300-306 -
  comm.estero@tellurerota.com - e-mail: comm.italia@tellurerota.com

COMPATIBILITY WITH AGGRESSIVE CHEMICAL AGENTS

	Materials		Steel	Stainless steel	Aluminium alloys	Cast iron	Standard rubber
ACIDS WEAK	Fatty acids		🔴	🟢	🟢	🟡	🟡
	Acetic acid		🔴	🟢	🟢	🟡	🟢
	Boric acid in solution	30	🔴	🟢	🟢	🟡	🟢
	Oleic acid		🔴	🟢	🟢	🟡	🟡
	Oxalic acid in solution	10	🔴	🟢	🟢	🟡	🟢
	Sulphurous acid		🔴	🟢	🟢	🔴	🟢
STRONG ACIDS	Hydrochloric acid in sol.	30	🔴	🟢	🔴	🔴	🔴
	Chromic acid in solution	10	🔴	🟢	🔴	🔴	🔴
	Phosphoric acid in sol.	10	🔴	🟢	🔴	🔴	🟡
	Nitric acid in solution	10	🔴	🟢	🔴	🔴	🔴
	Sulphuric acid in sol.	10	🔴	🟢	🔴	🔴	🔴
WEAK BASES	Aluminium acetate		🔴	🟢	🟡	🟡	🔴
	Ammonium carbonate		🔴	🟢	🟡	🟡	🔴
	Ammonium sulphate		🔴	🟢	🟡	🟡	🟡
	Sodium cyanide in sol.	10	🔴	🟢	🟡	🟡	🟡
	Alkaline solutions at 80°C		🔴	🟢	🟡	🟡	🟡
STRONG BASES	Ammonium hydrate		🔴	🟢	🟡	🟡	🟡
	Sodium carbonate in sol.	10	🔴	🟢	🟡	🟡	🔴
	Sodium phosphate in sol.	10	🔴	🟢	🟡	🟡	🟡
	Sodium hydroxide in sol.		🔴	🟢	🟡	🟡	🔴
	Sodium silicate in sol.	10	🔴	🟢	🟡	🟡	🟢
ALCOHOL	Alkybenzols		🟢	🟢	🟢	🟡	🔴
	Amyl alcohol		🟢	🟢	🟢	🟡	🟡
	Ethyl alcohol		🟢	🟢	🟢	🟡	🟡
	Methyl alcohol		🟢	🟢	🟢	🟡	🟡
	Propyl alcohol		🟢	🟢	🟢	🟡	🔴
SOLVENTS	Acetone		🟢	🟢	🟡	🔴	🟡
	Turpentine		🔴	🟢	🟡	🔴	🔴
	Amyl acetate		🟢	🟢	🟡	🟡	🟡
HYDRO CARBONS-	Petrol		🟢	🟢	🟢	🟢	🟡
	Diesel oil		🟢	🟢	🟢	🟢	🟡
	Mineral oils		🟢	🟢	🟢	🟢	🟡
OTHERS	Sea Water		🔴	🟢	🟢	🟡	🟢
	Water at 80°C		🔴	🟢	🟢	🔴	🟡
	Cold water		🔴	🟢	🟢	🟡	🟢
	Sodium Chloride in sol.		🔴	🟢	🟡	🔴	🔴
	Saturated steam	10	🔴	🟢	🟢	🔴	🟡

🟢 recommended 🟡 partially resistant 🔴 not suitable

Elastic rubber	Thermoplastic rubber	Polyamide	Polypropyl-ene	TR Polyure-thane	TR-Roll Poly-urethane	Vulkollan® Bayer	Thermoplastic polyurethane	Resin
🟡	🟡	🟢	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟡	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟢	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟡	🔴	🟡	🔴	🔴	🔴	🔴	🔴
🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡
🟡	🟢	🔴	🟢	🔴	🔴	🔴	🔴	🔴
🔴	🟢	🔴	🟢	🔴	🔴	🔴	🔴	🔴
🟡	🟢	🔴	🟢	🔴	🔴	🔴	🔴	🔴
🔴	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟡	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟡	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟢	🟢	🔴	🔴	🔴	🔴	🔴
🔴	🟢	🟢	🟢	🔴	🔴	🔴	🔴	🔴
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟡
🟡	🟢	🔴	🟢	🔴	🔴	🔴	🔴	🔴
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟡
🟢	🟡	🟢	🟡	🔴	🔴	🔴	🔴	🟢
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟢	🟢	🟢	🟢	🔴	🔴	🔴	🔴	🟢
🔴	🟡	🔴	🔴	🔴	🔴	🔴	🔴	🟢
🟡	🟡	🟢	🟡	🔴	🔴	🔴	🟡	🟢
🟡	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟢	🟢	🟢	🟢	🔴	🔴	🔴	🔴	🟢
🟢	🟢	🟢	🟢	🟡	🟡	🟡	🟡	🟢
🟡	🟢	🟡	🟢	🔴	🔴	🔴	🔴	🟢
🟡	🟡	🟡	🟡	🔴	🔴	🔴	🔴	🟢

CARRYING CAPACITY ADJUSTMENT CHART BASED ON TEMPERATURE FOR USE WITH MANUAL HANDLING

		Carrying capacity %							
Temperature		-40/-20°C	-20/0°C	0/20°C	20/40°C	40/ 60°C	60/ 80°C	80/ 130°C	>130°C
INDUSTRIAL LIGHT DUTY LOADS	22	-	80	100	100	85	50	-	-
	23	40	100	100	100	85	60	-	-
	52	-	80	100	100	85	50	-	-
	53	40	100	100	100	85	60	-	-
	71	-	80	100	100	85	50	-	-
	82	-	100	100	100	100	-	-	-
INDUSTRIAL MEDIUM DUTY LOADS	60	-	100	100	100	90	70	40	-
	61	-	100	100	100	85	60	-	-
	68	50	100	100	100	90	70	60	-
	73	40	100	100	100	85	60	50	-
	73AE	-	100	100	100	85	60	-	-
INDUSTRIAL HEAVY DUTY LOADS AND MECHANICAL HANDLING	62	-	100	100	100	90	80	-	-
	63AC	-	100	100	100	90	80	50	-
	63GH	-	100	100	100	90	80	50	-
	64	-	100	100	100	90	80	40	-
	65AL	-	100	100	100	90	80	40	-
	65GH	-	100	100	100	90	80	40	-
	65HT	-	100	100	100	90	80	40	-
	66	-	100	100	100	90	80	40	-
	68P	50	100	100	100	90	70	60	-
	69	100	100	100	100	100	100	100*	100*
	72AL	40	100	100	100	85	60	40	-
	72GH	40	100	100	100	85	60	40	-
HIGH TEMPERATURE	67	50	100	100	100	100	100	100	100
	68FV	70	100	100	100	100	100	100	-
	72GS	50	50	100	100	100	100	100	50
PALLET TRUCK ROLLERS	74	-	100	100	100	90	80	50	-
	75	-	100	100	100	90	80	40	-
	76	50	100	100	100	90	70	60	-
	77	-	100	100	100	90	80	40	-
	78	-	100	100	100	90	70	40	-

- = not suitable
* = suitable in ball bearing hub model only

CARRYING CAPACITY ADJUSTMENT CHART BASED ON SPEED

			Carrying capacity %					
	Speed		< 4 km/h	6 km/h	10 km/h	12 km/h	16 km/h	> 16 km/h
	INDUSTRIAL MEDIUM DUTY LOADS	60	100	60	-	-	-	-
		61	100	60	-	-	-	-
	INDUSTRIAL HEAVY DUTY LOADS AND MECHANICAL HANDLING	62	100	100	80	70	60	-
		63AC	100	80	65	60	50	contact Tellure Rôta
		63GH	100	80	65	60	50	contact Tellure Rôta
		64	100	80	60	50	40	-
		65AL	100	80	-	-	-	-
		65GH	100	80	60	50	40	-
		65HT	100	80	60	50	-	-
		66	100	80	-	-	-	-
		72AL	100	80	-	-	-	-
		72GH	100	80	-	-	-	-
	PALLET TRUCK ROLLERS	74	100	80	65	60	50	contact Tellure Rôta
		75	100	80	60	50	40	-
		77	100	80	-	-	-	-

This table only shows references to the types of wheels that Tellure Rôta recommends for use at speeds above 4 km/h.
For the products not found in this table, use with mechanical handling and at speeds above 4 km/h is not recommended.

For use at speeds above 4 km/h, we recommend using wheels with ball bearing hub, combined with Medium-heavy duty brackets P-PX, extra-heavy duty EP, electrowelded EE MHD, EE HD, EE EHD, twin electrowelded EEG MHD, EEG HD, EEG EHD.
The light-duty SL, NL, NLX and medium-duty M brackets are not recommended for use at high speeds.

SUMMARY TABLE FOR CHOOSING THE RIGHT WHEEL

		Carrying capacity daN			Rolling resistance daN		Means of traction	
		< 250	250 / 500	> 500	< 125	> 125	Manual	Mechan-ical
INDUSTRIAL LIGHT DUTY LOADS	22	●	●	●	●	●	●	●
	23	●	●	●	●	●	●	●
	52	●	●	●	●	●	●	●
	53	●	●	●	●	●	●	●
	71	●	●	●	●	●	●	●
	82	●	●	●	●	●	●	●
INDUSTRIAL MEDIUM DUTY LOADS	60	●	●	●	●	●	●	●
	61	●	●	●	●	●	●	●
	68	●	●	●	●	●	●	●
	73	●	●	●	●	●	●	●
	73AE	●	●	●	●	●	●	●
INDUSTRIAL HEAVY DUTY LOADS AND MECHANICAL HANDLING	62	●	●	●	●	●	●	●
	63AC	●	●	●	●	●	●	●
	63GH	●	●	●	●	●	●	●
	64	●	●	●	●	●	●	●
	65AL	●	●	●	●	●	●	●
	65GH	●	●	●	●	●	●	●
	65HT	●	●	●	●	●	●	●
	66	●	●	●	●	●	●	●
	68P	●	●	●	●	●	●	●
	69	●	●	●	●	●	●	●
	72AL	●	●	●	●	●	●	●
	72GH	●	●	●	●	●	●	●
HIGH TEMPERATURES	67	●	●	●	●	●	●	●
	68FV	●	●	●	●	●	●	●
	72GS	●	●	●	●	●	●	●
PALLET TRUCK ROLLERS	74	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
	76	●	●	●	●	●	●	●
	77	●	●	●	●	●	●	●
	78	●	●	●	●	●	●	●

● recommended ● partially resistant ● not suitable

Temperature °C				Chemi-cal agents	Flooring					
- 40 / - 20	- 20 / +80	+80 / +130	> +130							
🔴	🟢	🔴	🔴	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🔴	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
🔴	🟢	🔴	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟡	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
🔴	🟢	🔴	🔴	🔴	🟢	🟡	🟢	🟡	🔴	🔴
🔴	🟢	🔴	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
🔴	🟢	🔴	🔴	🟢	🟢	🟡	🟢	🟡	🔴	🔴
🔴	🟢	🔴	🔴	🟢	🟢	🟡	🟢	🟡	🟡	🟡
🟡	🟢	🟡	🔴	🟢	🟡	🔴	🟢	🟡	🔴	🔴
🔴	🟢	🔴	🔴	🟡	🟢	🟢	🟢	🟢	🟢	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🔴	🟢	🟡	🔴	🟢	🟢	🟡	🟢	🟡	🟡	🟡
🟡	🟢	🟡	🟡	🟢	🟡	🔴	🟢	🟡	🔴	🔴
🟢	🟢	🟢	🔴	🟢	🟡	🔴	🟢	🟡	🔴	🔴
🟡	🟢	🟡	🔴	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟡	🟢	🟡	🔴	🟡	🟢	🟢	🟢	🟢	🟢	🟢
🟢	🟢	🟢	🟢	🟢	🟡	🔴	🟢	🟡	🔴	🔴
🟢	🟢	🟢	🟢	🟢	🟡	🔴	🟢	🟡	🔴	🔴
🟡	🟢	🟢	🟢	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🟢	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🟢	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🟡	🟢	🟡	🔴	🟡	🟡	🔴	🟢	🟡	🔴	🔴
🟢	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🟡	🟡
🟢	🟢	🟡	🔴	🟡	🟢	🟡	🟢	🟡	🔴	🔴

Tellure Rôta products are produced in conformity the international standards for wheels and brackets sector.
The following table summarises the main international standards, with references to Tellure Rôta series designed and tested in accordance with the specifications of each standard.

Standard	Title	TR Series to which it applies
ISO 22877:2004 UNI EN 12526:2002	Vocabulary, recommended symbols and multilingual dictionary	All series
ISO 22878:2004 UNI EN 12527:2001	Wheels and brackets, test methods and equipment	All series
ISO 22879:2004 UNI EN 12528:2001	Wheels and brackets, wheels for furniture	33, 34, 35, 39
ISO 22880:2004 UNI EN 12529:2001	Wheels and brackets, wheels for furniture, wheels for swivel chairs	34
ISO 22881:2004 UNI EN 12530:2001	Wheels and brackets, wheels and brackets for manually propelled institutional equipment	32, 36, 37
ISO 22883:2004 UNI EN 12532:2001	Wheels and brackets, wheels and brackets for applications up to 1.1 m/s	22, 23, 51, 52, 53, 60, 61, 62, 63, 64, 65, 66, 67, 68, 68P, 68FV, 69, 71, 72, 72GS, 73, 73AE, 74, 75, 76, 77, 78, 82
ISO 22884:2004 UNI EN 12533:2001	Wheels and brackets, wheels and brackets for applications over 1.1 m/s and up to 4.4 m/s	62, 63GH, 63AL, 64, 65AL, 65GH, 65HT, 66, 68P, 72AL, 72GH

Tellure Rôta also guarantees that:

• the catalogue products are all conform with the European Directive 2002/95/EC (RoHS) specifications; Tellure Rôta commits to maintaining product conformity, even after the upgrading of Directive 2011/65/EC (RoHS 2).

• the products respect specifications stated under regulation 1907/96/EC (REACH) and, together with its suppliers, commits to working in respect of subsequent upgrades.

• a wide range of products is compatible for each category regulated by the ZEK 01-08 document issued by the Central Experience Exchange Committee, with regard to the PAH contents (Polycyclic aromatic hydrocarbons).

THE TRLAB TESTS

The quality of the Tellure Rôta products is guaranteed by in-house testing procedures that include acceptance tests on raw materials and of all other purchased components, tests on semi-finished products in various stages of the process and tests on the finished product.

The "Test & Research" laboratory is equipped with testing machines and benches for in-house testing as provided by the international standards in the wheels and brackets sector and of specific application sectors.

Specifically:

- Dynamic load test on wheels and brackets for the industrial sector in accordance with Standard ISO 22883:2004 or ISO 22884:2004
- Dynamic load test on wheels and brackets for the waste collection container sector in accordance with UNI EN 840-5:2004
- Dynamic load test on wheels and brackets for the institutional sector in accordance with ISO 22881:2004
- Conformity tests on wheels and brackets for the mobile scaffolding sector in accordance with Standard UNI EN 1004:2005;
- Rolling resistance tests on wheels and brackets for the industrial sector in accordance with UNI 11330;
- Braking efficiency and engagement tests of the braking device in accordance with ISO 22883:2004 or ISO 22884:2004;
- Static load tests on wheels for the institutional sector in accordance with ISO 22881:2004

The following layout describes the tests made in accordance with the sector standards, in order to determine the industrial wheels' carrying capacity stated in the catalogue.

	Industrial wheels manual handling	**Industrial wheels mechanical handling**
Standard	ISO 22883	ISO 22884
Test load	Rated carrying capacity	
Test speed	4 km/h	A= 6 km/h; B = 10 km/h; C= 16 km/h
Env. temperature	Between 15 and 28 °C	
Floor	Hard floor with obstacles	
Height of obstacles	5% of the wheel diameter for soft rolling strip (hardness <= 90 ShA); 2.5% of the wheel diameter for hard rolling strip (hardness > 90 ShA)	
Layout of obstacles	width 100 mm, rounded corners with radius between 1.5 and 5 mm and arranged 45 degrees with respect to the translation axis and in an alternating pattern to the right and to the left	
Quantity of obstacles	500 obstacles separated from each other between 1 and 3 m	5 times the wheel diameter in mm (e.g. one wheel diam. 200 mm must pass 1,000 obstacles); the obstacles are spaced out: >= 1 m; B>= 1.5 m; >= 3 m
Duration	Sequence of cycles with a maximum duration of 3 min., with a maximum pause time of 1 min.. The wheel must pass the foreseen obstacles, and complete 15,000 revs without obstacles.	Sequence of cycles with a maximum duration of 3 min., with a maximum pause time of 1 min.. The wheel must pass all the foreseen obstacles.

For any further details or explanations contact Tellure Rôta Sales Department.

INDUSTRIAL
LIGHT DUTY LOADS

SERIES **22**

GREY RUBBER WHEELS
WITH POLYPROPYLENE CENTRE

80-200 mm | 4 km/h 65-225 daN | 50-140 daN | -20 / +60 °C | INOX

PAGE 46

SERIES **23**

GREY RUBBER WHEELS
PRESSED STEEL DISCS

80-200 mm | 4 km/h 65-230 daN | 50-140 daN | -20 / +60 °C

PAGE 52

SERIES **52**

BLACK RUBBER WHEELS
WITH POLYPROPYLENE CENTRE

80-250 mm | 4 km/h 65-300 daN | 50-175 daN | -20 / +60 °C

PAGE 58

SERIES **53**

BLACK RUBBER WHEELS
PRESSED STEEL DISCS

80-280 mm | 4 km/h 65-390 daN | 50-200 daN | -20 / +60 °C

PAGE 66

SERIES **71**

THERMOPLASTIC RUBBER WHEELS
WITH POLYPROPYLENE CENTRE

80-200 mm | 4 km/h 70-225 daN | 70-225 daN | -20 / +70 °C | INOX

PAGE 74

SERIES **82**

PNEUMATIC WHEELS
WITH POLYPROPYLENE CENTRE

260 mm | 4 km/h 150 daN | -20 / +60 °C

PAGE 82

SERIES 22

80-200 mm

80 Shore A

65-225 daN
4 km/h

50-140 daN

-20 / +60 °C

INOX

GREY NON-MARKING RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Description

Tyre: grey non-marking standard rubber, hardness 80 Shore A

Centre: polypropylene.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing with plastic cage.

Uses

Suitable for trolleys with light-duty loads, also in the presence of obstacles and for indoor-outdoor use.
The grey non-marking rubber tyre makes them suitable for use on fragile floors as well as in in domestic/institutional environments.
Examples of recommended applications: luggage trolleys, tool trolleys, small mobile scaffoldings, waste bin containers.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and weak acids. Not suitable in the presence of strong acids, bases and solvents. Fitted with stainless steel brackets, they are also suitable in the presence of medium-harsh chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of floors, even outdoors. They facilitate the overcoming of obstacles.
They do not damage or mark floors.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	225 kg
80 mm	5	----	----	----	----
100 mm	2.5	----	----	----	----
125 mm	2.2	6	----	----	----
140 mm	2	5.5	----	----	----
150 mm	2	5	----	----	----
160 mm	1.5	3.5	7.5	----	----
180 mm	1	3.2	6	----	----
200 mm	1	3	5.5	8.5	10

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 225 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 225 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Options available to order:

The series 22 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Wheels
with SL bracket
d. 80-125 mm

SERIES

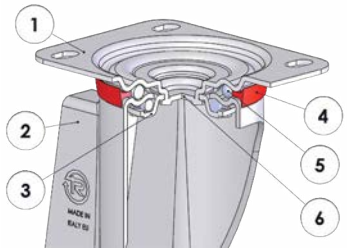
22

GREY NON-MARKING RUBBER WHEELS WITH POLYPROPYLENE CENTRE

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.11	222101	12	39	**150**	**50**	**65**
100	30	0.21	222102	12	44	**200**	**75**	**80**
125	37.5	0.41	221103	15	44	**225**	**85**	**110**
140	37.5	0.60	221104	15	44	**250**	**95**	**120**
150	40	0.67	221111	15	44	**275**	**100**	**130**
160	40	0.73	221110	20	59	**300**	**120**	**150**
180	45	1.02	221105	20	59	**350**	**130**	**180**
200	50	1.51	221106	20	59	**400**	**140**	**225**

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.14	224101	12	39	**150**	**50**	**65**
100	30	0.24	224102	12	44	**200**	**75**	**80**
125	37.5	0.44	223103	15	44	**225**	**85**	**110**
140	37.5	0.63	223104	15	44	**250**	**95**	**120**
150	40	0.70	223111	15	44	**275**	**100**	**130**
160	40	0.75	223110	20	59	**300**	**120**	**150**
200	50	1.84	223106	20	59	**400**	**140**	**225**

Standard-duty brackets NL - max carrying capacity 225 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	25	0.64	224401	0.36	225701	0.82	225201	107	100x85	80x60	9	37	120	**65**
100	30	0.73	224402	0.48	225702	0.88	225202	128	100x85	80x60	9	35	120	**80**
125	37.5	1.06	224403	0.71	225703	1.20	225203	156	100x85	80x60	9	37	120	**110**
140	37.5	1.18	224404	0.80	225704	1.32	225204	177	100x85	80x60	9	34	120	**120**
150	40	1.31	224411	0.93	225711	1.45	225211	182	100x85	80x60	9	34	120	**130**
160	40	2.10	224410	1.73	225710	2.38	225210	199	140x110	105x80	11	56	156	**150**
180	45	2.40	224405	2.11	225705	2.69	225205	219	140x110	105x80	11	56	156	**180**
200	50	2.72	224406	2.50	225706	3.00	225206	240	140x110	105x80	11	56	156	**225**
80	25	0.69	224601	0.39	225901	0.86	225221	107	100x85	80x60	9	37	120	**65**
100	30	0.78	224602	0.51	225902	0.93	225222	128	100x85	80x60	9	35	120	**80**
125	37.5	1.09	224603	0.73	225903	1.24	225223	156	100x85	80x60	9	37	120	**110**
140	37.5	1.20	224604	0.82	225904	1.35	225224	177	100x85	80x60	9	34	120	**120**
150	40	1.31	224611	0.93	225911	1.45	225231	182	100x85	80x60	9	34	120	**130**
160	40	2.18	224610	1.75	225910	2.47	225230	199	140x110	105x80	11	56	156	**150**
200	50	2.76	224606	2.67	225906	3.04	225226	240	140x110	105x80	11	56	156	**225**

Options available to order

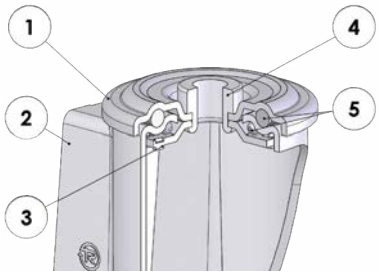
Bracket with rear brake d. 150-200 mm

Bracket with directional lock d. 80-125 mm

Directional lock for brackets d. 150-200 mm

GREY NON-MARKING RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Standard-duty brackets NL - max carrying capacity 225 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	4 km/h daN
80	25	0.55	227701	0.68	225601	107	73	12	37	120	**65**
100	30	0.68	227702	0.75	225602	128	73	12	35	120	**80**
125	37.5	0.96	227703	1.10	225603	156	73	12	37	120	**110**
140	37.5	1.12	227704	1.26	225604	177	73	12	34	120	**120**
150	40	1.25	227711	1.39	225611	182	73	12	34	120	**130**
160	40	1.44	227710	1.73	225610	193	102	20	56	156	**150**
180	45	2.28	227705	2.57	225605	214	102	20	56	156	**180**
200	50	2.62	227706	2.91	225606	236	102	20	56	156	**225**
80	25	0.58	227901	0.70	225621	107	73	12	37	120	**65**
100	30	0.71	227902	0.78	225622	128	73	12	35	120	**80**
125	37.5	1.08	227903	1.23	225623	156	73	12	37	120	**110**
140	37.5	1.19	227904	1.34	225624	177	73	12	34	120	**120**
150	40	1.35	227911	1.50	225631	182	73	12	34	120	**130**
160	40	1.47	227910	1.75	225630	193	102	20	56	156	**150**
200	50	2.80	227906	3.08	225626	236	102	20	56	156	**225**

Options available to order

Fitting with stem in Zamak alloy d. 80-125 mm

Fitting with threaded stem d. 80-200 mm

Stainless steel standard-duty brackets NLX - max carrying capacity 225 daN

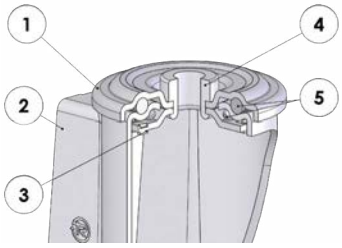
INOX

1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	25	0.59	224801	0.33	226101	0.76	225401	107	100x85	80x60	9	37	120	**65**
100	30	0.70	224802	0.45	226102	0.88	225402	128	100x85	80x60	9	35	120	**80**
125	37.5	0.96	224803	0.80	226103	1.10	225403	156	100x85	80x60	9	37	120	**110**
140	37.5	1.10	224804	0.88	226104	1.25	225404	177	100x85	80x60	9	34	120	**120**
150	40	1.24	224811	1.02	226111	1.38	225411	182	100x85	80x60	9	34	120	**130**
160	40	2.04	224810	1.60	226110	2.31	225410	199	140x110	105x80	11	56	156	**150**
180	45	2.34	224805	1.90	226105	2.63	225405	219	140x110	105x80	11	56	156	**180**
200	50	2.69	224806	2.24	226106	2.98	225406	240	140x110	105x80	11	56	156	**225**

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
80	25	0.53	227801	0.70	225501	107	73	12	37	120	**65**	
100	30	0.66	227802	0.86	225502	128	73	12	35	120	**80**	
125	37.5	0.94	227803	1.09	225503	156	73	12	37	120	**110**	
140	37.5	1.10	227804	1.18	225504	177	73	12	34	120	**120**	
150	40	1.17	227811	1.31	225511	182	73	12	34	120	**130**	
160	40	1.83	227810	2.14	225510	193	102	20	56	156	**150**	
180	45	2.15	227805	2.44	225505	214	102	20	56	156	**180**	
200	50	2.61	227806	2.89	225506	236	102	20	56	156	**225**	

SERIES 23

80-200 mm

80 Shore A

65-230 daN
4 km/h

50-140 daN

-20 / +60 °C

GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS

Description

Tyre: grey non-marking standard rubber, hardness 80 Shore A

Centre: electrolytically galvanised steel plate, made of two riveted discs.

Hub with polyamide self-lubricating plain bore.
Cylindrical roller bearing hub with plastic cage.

Uses

Suitable for trolleys with light-duty loads, also in the presence of obstacles and for indoor-outdoor use.
The grey non-marking rubber tyre makes them suitable for use on fragile floors as well as in domestic/institutional environments.
Examples of recommended applications: luggage trolleys, tool trolleys, small mobile scaffoldings, waste bin containers.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and oils. Not suitable in the presence of aggressive chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of floors, even outdoors.
They facilitate the overcoming of obstacles.
They do not damage or mark floors.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	230 kg
80 mm	5	----	----	----	----
100 mm	3	----	----	----	----
125 mm	2.5	6	----	----	----
140 mm	2.2	5.5	9	----	----
150 mm	2	5	8.5	----	----
160 mm	1.5	3.5	7.5	----	----
200 mm	1	3	5.5	8.5	11

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 230 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Options available to order:

The series 23 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Wheels
with SL brackets
d. 80-125 mm

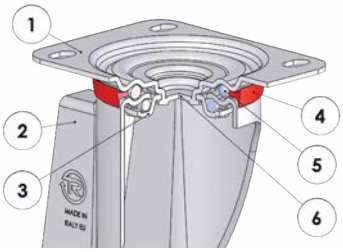
SERIES **23**

GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.17	231121	12	39	**260**	**50**	**65**
100	30	0.28	231122	12	44	**300**	**75**	**80**
125	37.5	0.51	231103	15	44	**330**	**85**	**130**
140	37.5	0.64	231104	15	44	**340**	**95**	**150**
150	40	0.73	231111	15	44	**350**	**100**	**170**
160	40	1.00	231110	20	58	**370**	**120**	**180**
200	50	1.75	231106	20	58	**410**	**140**	**230**

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.19	233121	12	39	**260**	**50**	**65**
100	30	0.31	233122	12	44	**300**	**75**	**80**
125	37.5	0.54	233103	15	44	**330**	**85**	**130**
140	37.5	0.66	233104	15	44	**340**	**95**	**150**
150	40	0.76	233111	15	44	**350**	**100**	**170**
160	40	1.07	233110	20	58	**370**	**120**	**180**
200	50	1.81	233106	20	58	**410**	**140**	**230**

Standard-duty brackets NL - max carrying capacity 230 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN
80	25	0.69	234401	0.49	235701	0.87	235201	107	100x85	80x60	9	37	120	**65**
100	30	0.82	234402	0.62	235702	1.00	235202	128	100x85	80x60	9	35	120	**80**
125	37.5	1.18	234403	0.92	235703	1.30	235203	156	100x85	80x60	9	37	120	**130**
140	37.5	1.31	234404	0.93	235704	1.46	235204	177	100x85	80x60	9	34	120	**150**
150	40	1.42	234411	1.04	235711	1.57	235211	182	100x85	80x60	9	34	120	**170**
160	40	2.44	234410	2.07	235710	2.69	235210	199	140x110	105x80	11	56	156	**180**
200	50	3.25	234406	2.89	235706	3.39	235206	240	140x110	105x80	11	56	156	**230**
80	25	0.70	234601	0.51	235901	0.89	235221	107	100x85	80x60	9	37	120	**65**
100	30	0.84	234602	0.65	235902	1.03	235222	128	100x85	80x60	9	35	120	**80**
125	37.5	1.21	234603	0.95	235903	1.33	235223	156	100x85	80x60	9	34	120	**130**
140	37.5	1.34	234604	0.96	235904	1.49	235224	177	100x85	80x60	9	34	120	**150**
150	40	1.45	234611	1.07	235911	1.60	235231	182	100x85	80x60	9	37	120	**170**
160	40	2.50	234610	2.13	235910	2.75	235230	199	140x110	105x80	11	56	156	**180**
200	50	3.31	234606	3.05	235906	3.45	235226	240	140x110	105x80	11	56	156	**230**

Options available to order:

Bracket with rear brake d. 150-200 mm

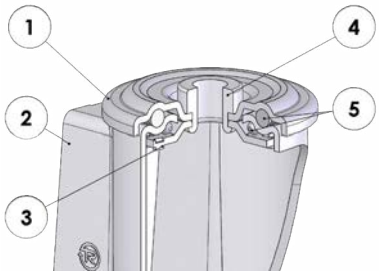
Bracket with directional lock d. 80-125 mm

Directional lock for brackets d. 150-200 mm

SERIES **23**

GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS

Standard-duty brackets NL - max carrying capacity 230 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.61	237701	0.79	235601	107	73	12	37	120	**65**
100	30	0.74	237702	0.94	235602	128	73	12	35	120	**80**
125	37.5	1.09	237703	1.24	235603	156	73	12	37	120	**130**
140	37.5	1.23	237704	1.38	235604	177	73	12	34	120	**150**
150	40	1.35	237711	1.49	235611	182	73	12	34	120	**170**
160	40	1.78	237710	2.04	235610	193	102	20	56	156	**180**
200	50	3.16	237706	3.29	235606	236	102	20	56	156	**230**
80	25	0.63	237901	0.80	235621	107	73	12	37	120	**65**
100	30	0.76	237902	0.96	235622	128	73	12	35	120	**80**
125	37.5	1.12	237903	1.27	235623	156	73	12	37	120	**130**
140	37.5	1.26	237903	1.41	235624	177	73	12	34	120	**150**
150	40	1.38	237911	1.52	235631	182	73	12	34	120	**170**
160	40	1.85	237910	2.10	235630	193	102	20	56	156	**180**
200	50	3.22	237906	3.35	235626	236	102	20	56	156	**230**

Options available to order:

Fitting with stem in Zamak alloy

Experience and innovation

tellureRôta

SERIES 52

80-250 mm

80 Shore A

65-300 daN
4 km/h

50-175 daN

-20 / +60 °C

BLACK RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Description

Tyre: black standard rubber, hardness 80 Shore A.

Centre: polypropylene.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing with plastic cage.

Uses

Suitable for trolleys with light-duty loads, also in the presence of obstacles and for indoor-outdoor use.
Examples of recommended applications: luggage trolleys, tool trolleys, small mobile scaffoldings, waste bin containers.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and weak acids. Not suitable in the presence of strong acids, bases and solvents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of floors, even outdoors.
They easily overcome obstacles, do not damage fragile floors, but they may mark the floor.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	250 kg	300 kg
80 mm	5	----	----	----	----	----
100 mm	2.5	----	----	----	----	----
125 mm	2.2	6	----	----	----	----
140 mm	2	5.5	----	----	----	----
150 mm	2	5	----	----	----	----
160 mm	1.5	3.5	7.5	----	----	----
180 mm	1	3.2	6	----	----	----
200 mm	1	3	5.5	8.5	----	----
250 mm	1	2.2	4	6	8.2	11

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Light-duty brackets SL
Maximum carrying capacity 110 daN - available diameters 80-125 mm
Top plate and bolt hole fittings. Available with front brake.

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-250 mm
Top plate, bolt hole, solid stem fittings. Available with front brake.

Options available to order:

The series 52 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

SERIES

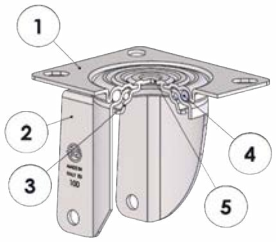
52

BLACK RUBBER WHEELS WITH POLYPROPYLENE CENTRE

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.11	522101	12	39	**150**	**50**	**65**
100	30	0.21	522102	12	44	**200**	**75**	**80**
100	30	0.19	521132	12	39	**200**	**75**	**80**
125	37.5	0.41	521103	15	44	**225**	**85**	**110**
125	37.5	0.35	521133	12	39	**225**	**85**	**110**
140	37.5	0.48	521104	15	44	**250**	**95**	**120**
150	40	0.61	521111	15	44	**275**	**100**	**130**
160	40	0.73	521110	20	59	**300**	**120**	**150**
180	45	1.02	521105	20	59	**350**	**130**	**180**
200	50	1.31	521106	20	59	**400**	**140**	**225**
200	50	1.28	521206	25	59	**400**	**140**	**225**
250	60	2.59	521108	25	75	**500**	**175**	**300**

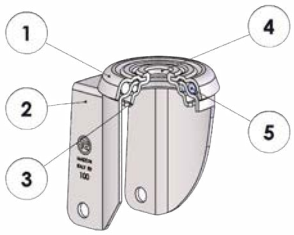
						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.14	524101	12	39	**150**	**50**	**65**
100	30	0.24	524102	12	44	**200**	**75**	**80**
125	37.5	0.44	523103	15	44	**225**	**85**	**110**
140	37.5	0.51	523104	15	44	**250**	**95**	**120**
150	40	0.61	523111	15	44	**275**	**100**	**130**
160	40	0.75	523110	20	59	**300**	**120**	**150**
180	45	1.18	523105	20	59	**350**	**130**	**180**
200	50	1.48	523106	20	59	**400**	**140**	**225**
200	50	1.45	523206	25	59	**400**	**140**	**225**
250	60	2.78	523108	25	75	**500**	**175**	**300**

Light-duty brackets SL - max carrying capacity 110 daN



1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel plate
4) Swivel actions: on two ball race rings lubricated with grease
5) Bracket closing king pin integrated with ball race ring
Available with total front foot brake

																4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
80	25	0.45	525801	0.44	526001	0.57	526301	109	95x80	100x85	80x60	8.8	36	120	**65**
100	30	0.54	525802	0.53	526002	0.68	526302	127	95x80	100x85	80x60	8.8	33	120	**80**
125	37.5	0.78	525803	0.76	526003	0.89	526303	153	95x80	100x85	80x60	8.8	29	120	**110**



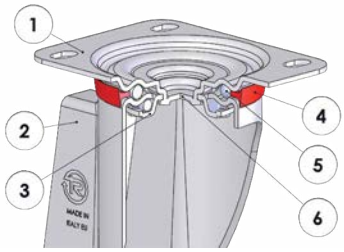
1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel plate
4) Bracket closing king pin integrated with ball race ring
5) Swivel actions: on two ball race rings lubricated with grease
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.40	526101	0.50	526201	109	63	12	36	120	**65**
100	30	0.49	526102	0.60	526202	127	63	12	33	120	**80**
125	37.5	0.72	526103	0.82	526203	153	63	12	29	120	**110**

SERIES **52**

BLACK RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	25	0.64	524401	0.36	525701	0.82	525201	107	100x85	80x60	9	37	120	**65**	
100	30	0.73	524402	0.48	525702	0.88	525202	128	100x85	80x60	9	35	120	**80**	
125	37.5	1.06	524403	0.71	525703	1.20	525203	156	100x85	80x60	9	37	120	**110**	
140	37.5	1.18	524404	0.80	525704	1.32	525204	177	100x85	80x60	9	34	120	**120**	
150	40	1.31	524411	0.93	525711	1.45	525211	182	100x85	80x60	9	34	120	**130**	
160B	40	1.41	524412	1.25	525712			187	100x85	80x60	9	50		**150**	
160	40	2.10	524410	1.73	525710	2.38	525210	199	140x110	105x80	11	56	156	**150**	
180	45	2.40	524405	2.11	525705	2.69	525205	219	140x110	105x80	11	56	156	**180**	
200	50	2.72	524406	2.50	525706	3.00	525206	240	140x110	105x80	11	56	156	**225**	
250	60	6.02	524708	4.52	525708			296	200x160	160x120	14	87		**300**	

80	25	0.69	524601	0.39	525901	0.86	525221	107	100x85	80x60	9	37	120	**65**
100	30	0.78	524602	0.51	525902	0.93	525222	128	100x85	80x60	9	35	120	**80**
125	37.5	1.09	524603	0.73	525903	1.24	525223	156	100x85	80x60	9	37	120	**110**
140	37.5	1.20	524604	0.82	525904	1.35	525224	177	100x85	80x60	9	34	120	**120**
150	40	1.31	524611	0.93	525911	1.45	525231	182	100x85	80x60	9	34	120	**130**
160B	40	1.43	524612	1.23	525912			187	100x85	80x60	9	50		**150**
160	40	2.18	524610	1.75	525910	2.47	525230	199	140x110	105x80	11	56	156	**150**
180	45	2.40	524605	2.27	525905	2.68	525225	219	140x110	105x80	11	56	156	**180**
200	50	2.76	524606	2.67	525906	3.04	525226	240	140x110	105x80	11	56	156	**225**
250	60	6.12	524908	4.70	525908			296	200x160	160x120	14	87		**300**

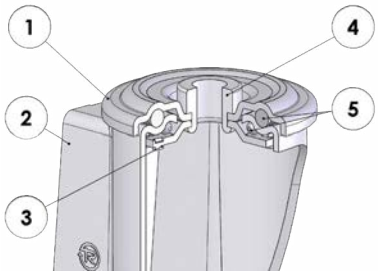
Options available to order:

Bracket with rear brake d. 150-200 mm

Bracket with directional lock d. 80-125 mm

Directional lock for brackets d. 150-200 mm

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

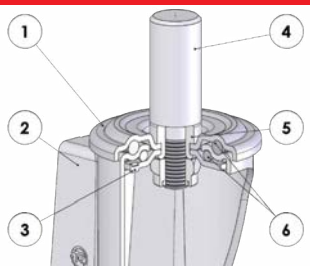
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.55	527701	0.68	525601	107	73	12	37	120	**65**
100	30	0.68	527702	0.75	525602	128	73	12	35	120	**80**
125	37.5	0.96	527703	1.10	525603	156	73	12	37	120	**110**
140	37.5	1.12	527704	1.26	525604	177	73	12	34	120	**120**
150	40	1.25	527711	1.39	525611	182	73	12	34	120	**130**
160	40	1.44	527710	1.73	525610	193	102	20	56	156	**150**
180	45	2.28	527705	2.57	525605	214	102	20	56	156	**180**
200	50	2.62	527706	2.91	525606	236	102	20	56	156	**225**
80	25	0.58	527901	0.70	525621	107	73	12	37	120	**65**
100	30	0.71	527902	0.78	525622	128	73	12	35	120	**80**
125	37.5	1.08	527903	1.23	525623	156	73	12	37	120	**110**
140	37.5	1.19	527904	1.34	525624	177	73	12	34	120	**120**
150	40	1.35	527911	1.50	525631	182	73	12	34	120	**130**
160	40	1.47	527910	1.75	525630	193	102	20	56	156	**150**
180	45	2.44	527905	2.73	525625	214	102	20	56	156	**180**
200	50	2.80	527906	3.08	525626	236	102	20	56	156	**225**

SERIES **52**

BLACK RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	30	1.68	529202	1.75	529302	128	73	22	47	35	120	**80**
125	37.5	1.96	529203	2.10	529303	156	73	22	47	37	120	**110**
150	40	2.25	529211	2.39	529311	182	73	22	47	34	120	**130**
160	40	1.81	529210	2.01	529310	193	102	26	56	56	156	**150**
160	40	2.44	525520	2.73	525620	193	102	40	86	56	156	**150**
200	50	2.99	529206	3.28	529306	236	102	26	56	56	156	**225**
200	50	3.62	525516	3.91	525616	236	102	40	86	56	156	**225**

Products made in Italy

tellureRôta

SERIES 53

80-280 mm

80 Shore A

65-390 daN
4 km/h

50-200 daN

-20 / +60 °C

BLACK RUBBER WHEELS WITH PRESSED STEEL DISCS

Description

Tyre: black standard rubber, hardness 80 Shore A.

Centre: electrolytically galvanised steel plate, made of two riveted discs.

Hub with polyamide self-lubricating plain bore.
Cylindrical roller bearing hub in plastic cage.

Uses

Suitable for trolleys with light-duty loads, also in the presence of obstacles and for indoor-outdoor use.
Examples of recommended applications: tool trolleys, trolleys for industrial indoor handling, small mobile scaffoldings, waste bin containers.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and oils. Not suitable in the presence of aggressive chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of floors, even outdoors.
They easily overcome obstacles, do not damage fragile floors, but they may mark the floor.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	250 kg	300 kg
80 mm	5	----	----	----	----	----
100 mm	3	----	----	----	----	----
125 mm	2.5	6	----	----	----	----
140 mm	2.2	5.5	9	----	----	----
150 mm	2	5	8	----	----	----
160 mm	1.5	3.5	7.5	----	----	----
180 mm	1	3	6.1	----	----	----
200 mm	1	3	5.5	8.5	----	----
225 mm	< 1	2.1	4.8	7.5	11	----
250 mm	< 1	2	4	6	9	12
280 mm	< 1	2	3.5	5	7	9

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floor. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 da N.

Fittings with brackets

Light-duty brackets SL
Maximum carrying capacity 130 daN - available diameters 80-125 mm
Top plate and bolt hole fittings. Available with front brake.

Standard-duty brackets NL
Maximum carrying capacity 390 daN - available diameters 80-280 mm
Top plate, bolt hole and solid stem fittings. Available with front brake.

Options available to order:

The series 53 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Wheel with tread
in anti-static rubber
(roller bearing hub only)

SERIES

53

BLACK RUBBER WHEELS WITH PRESSED STEEL DISCS

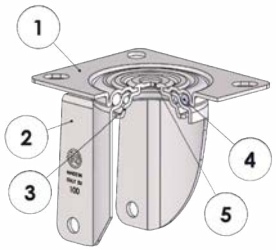
						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.17	531121	12	39	**260**	**50**	**65**
100	30	0.28	531122	12	44	**300**	**75**	**80**
100	30	0.25	531132	12	39	**300**	**75**	**80**
125	37.5	0.51	531103	15	44	**330**	**85**	**130**
125	37.5	0.44	531133	12	39	**330**	**85**	**130**
140	37.5	0.64	531104	15	44	**340**	**95**	**150**
150	40	0.73	531111	15	44	**350**	**100**	**170**
160	40	1.00	531110	20	58	**370**	**120**	**180**
180	45	1.33	531105	20	58	**390**	**130**	**200**
200	50	1.75	531106	20	58	**410**	**140**	**230**
200	50	1.74	531206	25	58	**410**	**140**	**230**
225	50	2.16	531107	20	58	**420**	**160**	**250**
250	60	3.24	531108	25	73	**500**	**175**	**300**
280	60	3.92	531109	25	73	**550**	**200**	**390**

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	25	0.19	533121	12	39	**260**	**50**	**65**
100	30	0.31	533122	12	44	**300**	**75**	**80**
125	37.5	0.54	533103	15	44	**330**	**85**	**130**
140	37.5	0.66	533104	15	44	**340**	**95**	**150**
150	40	0.76	533111	15	44	**350**	**100**	**170**
160	40	1.07	533110	20	58	**370**	**120**	**180**
180	45	1.39	533105	20	58	**390**	**130**	**200**
200	50	1.81	533106	20	58	**410**	**140**	**230**
200	50	1.78	533206	25	58	**410**	**140**	**230**
225	50	2.42	533107	20	58	**420**	**160**	**250**
250	60	3.14	533108	25	73	**500**	**175**	**300**
280	60	3.84	533109	25	73	**550**	**200**	**390**

Options available to order:

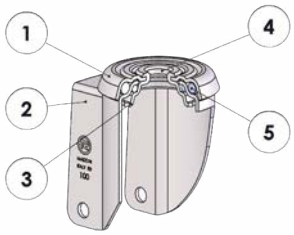
Wheel with coating
in anti-static rubber
(roller bearing model only)

Light-duty brackets SL - max carrying capacity 130 daN



1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel plate
4) Swivel actions: on two ball race rings lubricated with grease
5) Bracket closing king pin integrated with ball race ring
Available with total front foot brake

																4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
80	25	0.51	535801	0.50	536001	0.63	536301	109	95x80	100x85	80x60	8.8	36	120	**65**
100	30	0.60	535802	0.59	536002	0.74	536302	127	95x80	100x85	80x60	8.8	33	120	**80**
125	37.5	0.87	535803	0.85	536003	0.98	536303	153	95x80	100x85	80x60	8.8	29	120	**130**



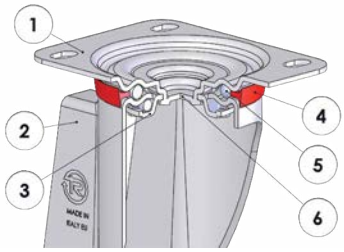
1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel plate
4) Bracket closing king pin integrated with ball race ring
5) Swivel actions: on two ball race rings lubricated with grease
Available with total front foot brake

											4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
80	25	0.46	536101	0.56	536201	109	63	12	36	120	**65**	
100	30	0.55	536102	0.66	536202	127	63	12	33	120	**80**	
125	37.5	0.81	536103	0.91	536203	153	63	12	29	120	**130**	

SERIES **53**

BLACK RUBBER WHEELS WITH PRESSED STEEL DISCS

Standard-duty brackets NL - max carrying capacity 390 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	25	0.69	535001	0.49	535701	0.87	535401	107	100x85	80x60	9	37	120	**65**	
100	30	0.82	535002	0.62	535702	1.00	535402	128	100x85	80x60	9	35	120	**80**	
125	37.5	1.18	535003	0.92	535703	1.30	535403	156	100x85	80x60	9	37	120	**130**	
140	37.5	1.27	535004	1.09	535704	1.46	535404	177	100x85	80x60	9	34	120	**150**	
150	40	1.40	535011	1.22	535711	1.57	535411	182	100x85	80x60	9	34	120	**170**	
160B	40	1.75	535012	1.55	535712			187	100x85	80x60	9	50		**180**	
160	40	2.44	535010	2.07	535710	2.69	535410	199	140x110	105x80	11	56	156	**180**	
180	45	2.78	535005	2.49	535705	3.07	535405	219	140x110	105x80	11	56	156	**200**	
200	50	3.25	535006	2.89	535706	3.39	535406	240	140x110	105x80	11	56	156	**230**	
225	50	3.67	535007	3.18	535707	3.95	535407	263	140x110	105x80	11	56	156	**250**	
250	60	6.66	534708	5.16	535708			296	200x160	160x120	14	87		**300**	
280	60	7.35	534709	5.84	535709			311	200x160	160x120	14	87		**390**	

80	25	0.70	535101	0.51	535901	0.89	535421	107	100x85	80x60	9	37	120	**65**
100	30	0.84	535102	0.65	535902	1.03	535422	128	100x85	80x60	9	35	120	**80**
125	37.5	1.21	535103	0.95	535903	1.33	535423	156	100x85	80x60	9	37	120	**130**
140	37.5	1.34	535104	0.96	535904	1.49	535424	177	100x85	80x60	9	34	120	**150**
150	40	1.45	535111	1.07	535911	1.60	535431	182	100x85	80x60	9	34	120	**170**
160B	40	1.81	535112	1.61	535912			187	100x85	80x60	9	50		**180**
160	40	2.50	535110	2.13	535910	2.75	535430	199	140x110	105x80	11	56	156	**180**
180	45	2.85	535105	2.56	535905	3.13	535425	219	140x110	105x80	11	56	156	**200**
200	50	3.31	535106	3.05	535906	3.45	535426	240	140x110	105x80	11	56	156	**230**
225	50	3.93	535107	3.45	535907	4.22	535427	263	140x110	105x80	11	56	156	**250**
250	60	6.56	534908	5.06	535908			296	200x160	160x120	14	87		**300**
280	60	7.27	534909	5.76	535909			311	200x160	160x120	14	87		**390**

Options available to order:

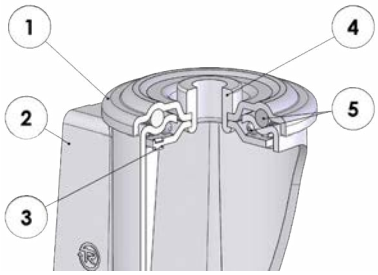
Wheel with antistatic rubber tread (roller bearing hub only)

Bracket with rear brake d. 150-200 mm

Bracket with directional lock d. 80-125 mm

Directional lock for brackets d. 150-200 mm

Standard-duty brackets NL - max carrying capacity 230 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	4 km/h daN
80	25	0.61	537701	0.78	538201	107	73	12	37	120	**65**
100	30	0.74	537702	0.94	538202	128	73	12	35	120	**80**
125	37.5	1.09	537703	1.24	538203	156	73	12	37	120	**130**
140	37.5	1.23	537704	1.38	538204	177	73	12	34	120	**150**
150	40	1.35	537711	1.49	538211	182	73	12	34	120	**170**
160	40	1.78	537710	2.04	538210	193	102	20	56	156	**180**
180	45	2.66	537705	3.95	538205	214	102	20	56	156	**200**
200	50	3.16	537706	3.29	538206	236	102	20	56	156	**230**
80	25	0.63	537901	0.80	538221	107	73	12	37	120	**65**
100	30	0.76	537902	0.96	538222	128	73	12	35	120	**80**
125	37.5	1.12	537903	1.27	538223	156	73	12	37	120	**130**
140	37.5	1.26	537904	1.41	538224	177	73	12	34	120	**150**
150	40	1.38	537911	1.52	538231	182	73	12	34	120	**170**
160	40	1.85	537910	2.10	538230	193	102	20	56	156	**180**
180	45	2.73	537905	3.01	538225	214	102	20	56	156	**200**
200	50	3.22	537906	3.35	538226	236	102	20	56	156	**230**

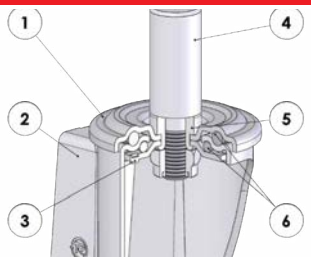
Options available to order:

Wheel with tread
in anti-static rubber
(roller bearing hub only)

SERIES **53**

BLACK RUBBER WHEELS WITH PRESSED STEEL DISCS

Standard-duty brackets NL - max carrying capacity 230 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	30	1.74	539202	2.24	538802	128	73	22	47	35	120	**80**
125	37.5	2.09	539203	2.24	538803	156	73	22	47	37	120	**130**
150	40	2.35	539211	2.49	538811	182	73	22	47	34	120	**170**
160	40	2.15	539210	2.41	538810	193	102	26	56	56	156	**180**
160	40	3.20	535520	3.50	535620	193	102	40	86	56	156	**180**
180	45	3.75	535515	3.95	535615	214	102	40	86	56	156	**200**
200	50	3.53	539206	3.66	538806	236	102	26	56	56	156	**230**
200	50	4.16	535516	4.29	535616	236	102	40	86	56	156	**230**

Technology at work

tellureRôta

GREY NON-MARKING THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

80-200 mm

85 Shore A

70-225 daN
4 km/h

70-225 daN

-20 / +70 °C

INOX

Description

Tyre: grey non-marking thermoplastic rubber, hardness 85 Shore A, excellent rolling resistance and elasticity.

Centre: polypropylene.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing in plastic cage. Also available with stainless steel roller bearing.
Hub with double shielding ball bearing, co-printed in the centre of the wheel. The bearing is protected from dirt, machining residue and corrosive substances by a glass-fibre reinforced polyamide installation bushing with internal labyrinth seal

Uses

Indicated for trolleys with light-duty loads, mainly for indoor use; the grey non-marking rubber tyre makes it suitable for use on fragile floors and also in domestic/institutional environments.
Excellent rolling resistance guarantees minimum effort in manual handling.
Examples of recommended applications: luggage trolleys, tool trolleys, institutional and catering trolleys, trolleys for industrial indoor use, tubular trolleys.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity. Fitted with stainless steel brackets, they are also recommended for environments with the presence of aggressive chemical agents. Not suitable in the presence of organic solvents, chlorinated substances, hydrocarbons and mineral oils.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

It does not stain or damage fragile floors. Suitable for tiles and cement-resin.
Not recommended on abrasive, unpaved floors or in the presence of processing residues.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	225 kg
80 mm	3.5	----	----	----	----
100 mm	2.2	5	----	----	----
125 mm	1.5	3.5	----	----	----
150x35 mm	1	2.5	4.7	----	----
150x45 mm	< 1	2	3.8	----	----
200 mm	< 1	1.3	2.5	3.9	5

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth pavement. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 da N.

Fittings with brackets

Light-duty brackets SL
Maximum carrying capacity 120 daN - available diameters 80-125 mm
Top plate and bolt hole fittings. Available with front brake.

Standard-duty brackets NL
Maximum carrying capacity 225 daN - available diameters 80-200 mm
Top plate, bolt hole and Zamak expander stem fittings. Available with front brake.

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 225 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Options available to order:

The series 71 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Wheel for large commercial kitchens (conforms to Standard DIN 18867-8)
d. 160 and 200 mm

GREY NON-MARKING THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

mm	mm	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.09	711101	12	39	**100**	**70**	**70**
100	30	0.12	711102	12	44	**150**	**100**	**100**
100	30	0.11	711132	12	39	**150**	**100**	**100**
125	35	0.20	711103	15	44	**180**	**120**	**120**
125	35	0.20	711133	12	39	**180**	**120**	**120**
150	35	0.27	711105	15	44	**210**	**140**	**140**
150	45	0.36	711104	20	59	**270**	**180**	**180**
200	50	0.70	711106	20	59	**330**	**225**	**225**

mm	mm	kg	CODE	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.11	713101	0.11	713201	12	39	**100**	**70**	**70**
100	30	0.14	713102	0.14	713202	12	44	**150**	**100**	**100**
125	35	0.22	713103	0.22	713203	15	44	**180**	**120**	**120**
150	35	0.30	713105	0.30	713205	15	44	**210**	**140**	**140**
150	45	0.41	713104	0.41	713204	20	59	**270**	**180**	**180**
200	50	0.74	713106	0.74	713206	20	59	**330**	**225**	**225**

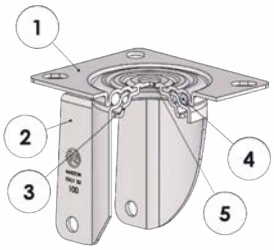
mm	mm	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.14	712201	8	40	**100**	**70**	**70**
100	30	0.18	712202	8	45	**150**	**100**	**100**
125	35	0.25	712203	8	45	**180**	**120**	**120**

Options available to order:

Wheel for large commercial kitchens (conforms to Standard DIN 18867-8)

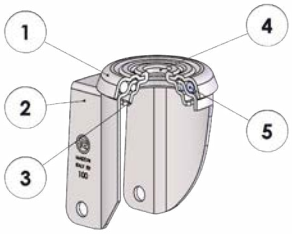
Wheel with single stainless steel ball bearing d. 80-125 mm

Light-duty brackets SL - max carrying capacity 120 daN



1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel plate
4) Swivel actions: on two ball race rings lubricated with grease
5) Bracket closing king pin integrated with ball race ring
Available with total front foot brake

																4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
80	30	0.43	715801	0.42	716001	0.55	716301	109	95x80	100x85	80x60	8.8	36	120	**70**
100	30	0.46	715802	0.45	716002	0.60	716302	127	95x80	100x85	80x60	8.8	33	120	**100**
125	35	0.63	715803	0.61	716003	0.74	716303	153	95x80	100x85	80x60	8.8	29	120	**120**

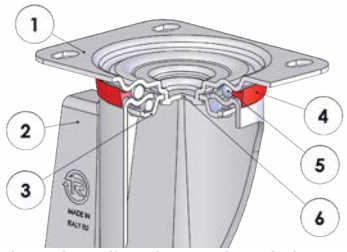


1) Plate in electrolytically galvanised printed steel plate
2) Fork in electrolytically galvanised printed steel plate
3) Ball Race Ring in electrolytically galvanised printed steel
4) Bracket closing king pin integrated with ball race ring
5) Swivel actions: on two ball race rings lubricated with grease
Available with total front foot brake

											4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
80	30	0.38	716101	0.48	716201	109	63	12	36	120	**70**	
100	30	0.41	716102	0.52	716202	127	63	12	33	120	**100**	
125	30	0.57	716103	0.67	716203	153	63	12	29	120	**120**	

GREY NON-MARKING THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Standard-duty brackets NL - max carrying capacity 225 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	30	0.60	714201	0.36	715701	0.79	716601	107	100x85	80x60	9	37	120	**70**	
100	30	0.70	714202	0.39	715702	0.85	716602	128	100x85	80x60	9	35	120	**100**	
125	35	0.86	714203	0.61	715703	1.00	716603	156	100x85	80x60	9	37	120	**120**	
150	35	0.96	714204	0.76	715704	1.14	716604	182	100x85	80x60	9	34	120	**140**	
150	45	1.72	714211	1.35	715711	2.00	716611	194	140x110	105x80	11	56	156	**180**	
200	50	2.07	714206	1.86	715706	2.35	716606	240	140x110	105x80	11	56	156	**225**	
80	30	0.61	714501	0.38	715901	0.82	716621	107	100x85	80x60	9	37	120	**70**	
100	30	0.71	714502	0.39	715902	0.86	716622	128	100x85	80x60	9	35	120	**100**	
125	35	0.87	714503	0.62	715903	1.03	716623	156	100x85	80x60	9	37	120	**120**	
150	35	1.11	714504	0.81	715904	1.16	716624	182	100x85	80x60	9	34	120	**140**	
150	45	1.87	714511	1.40	715911	2.05	716631	194	140x110	105x80	11	56	156	**180**	
200	50	2.10	714506	2.02	715906	2.34	716626	240	140x110	105x80	11	56	156	**225**	
80	30	0.58	714701	0.45	714801	0.75	714901	107	100x85	80x60	9	37	120	**70**	
100	30	0.64	714702	0.50	714802	0.81	714902	128	100x85	80x60	9	35	120	**100**	
125	35	0.81	714703	0.61	714803	0.97	714903	156	100x85	80x60	9	37	120	**120**	

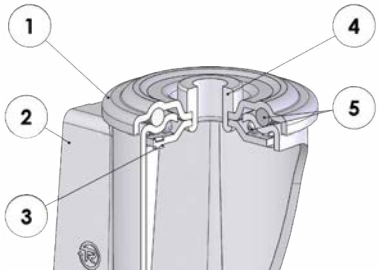
Options available to order:

Bracket with directional lock d. 80-125 mm

Directional lock for brackets d. 150-200 mm

Wheel for large commercial kitchens (conforms to Standard DIN 18867-8) d. 160 and 200 mm

Standard-duty brackets NL - max carrying capacity 225 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.53	717401	0.71	716501	107	73	12	37	120	**70**
100	30	0.63	717402	0.84	716502	128	73	12	35	120	**100**
125	35	0.80	717403	0.95	716503	156	73	12	37	120	**120**
150	35	0.90	717404	1.04	716504	182	73	12	34	120	**140**
150	45	1.58	717411	1.87	716511	188	102	20	56	156	**180**
200	50	1.97	717406	2.26	716506	236	102	20	56	156	**225**
80	30	0.55	717801	0.73	716521	107	73	12	37	120	**70**
100	30	0.64	717802	0.84	716522	128	73	12	35	120	**100**
125	35	0.82	717803	0.98	716523	156	73	12	37	120	**120**
150	35	0.93	717804	1.00	716524	182	73	12	34	120	**140**
150	45	1.85	717811	1.92	716531	188	102	20	56	156	**180**
200	50	2.02	717806	2.29	716526	236	102	20	56	156	**225**
80	30	0.53	714301	0.70	715501	107	73	12	37	120	**70**
100	30	0.58	714302	0.75	715502	128	73	12	35	120	**100**
125	35	0.74	714303	0.94	715503	156	73	12	37	120	**120**

Options available to order:

Wheel for large commercial kitchens (conforms to Standard DIN 18867-8) d. 160 and 200 mm

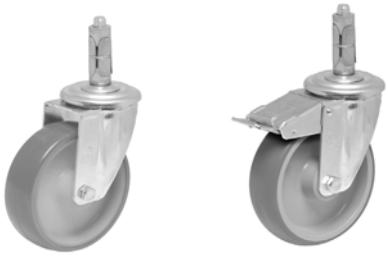
Fitting with threaded stem

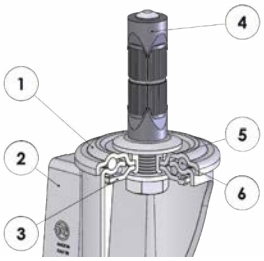
Fitting with unthreaded stem with dimensions that can be customised

SERIES **71**

GREY NON-MARKING THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Standard-duty brackets NL - max carrying capacity 225 daN





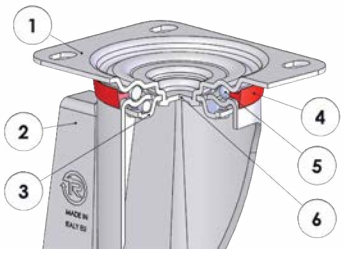
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Stem: zamak expander
5) King pin: bushing in electrolytically galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

		kg	CODE	kg	CODE							4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	30	0.65	719201	0.83	719301	109	20	65	20-24	37	120	**70**
100	30	0.75	719202	0.96	719302	130	20	65	20-24	35	120	**100**
125	35	1.02	719203	1.07	719303	158	20	65	20-24	37	120	**120**

Stainless steel standard-duty brackets NLX - max carrying capacity 225 daN

INOX



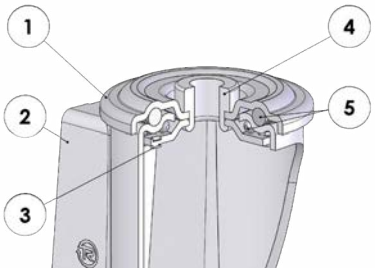
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

		kg	CODE	kg	CODE	kg	CODE								4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	30	0.59	714401	0.33	715301	0.76	716701	107	100x85	80x60	9	37	120	**70**
100	30	0.61	714402	0.36	715302	0.79	716702	128	100x85	80x60	9	35	120	**100**
125	35	0.76	714403	0.59	715303	0.90	716703	156	100x85	80x60	9	37	120	**120**
150	35	0.99	714404	0.76	715304	1.01	716704	182	100x85	80x60	9	34	120	**140**
150	45	1.63	714411	1.22	715311	1.95	716711	194	140x110	105x80	11	56	156	**180**
200	50	2.04	714406	1.59	715306	2.33	716706	240	140x110	105x80	11	56	156	**225**
80	30	0.61	714601	0.36	715601	0.79	716721	107	100x85	80x60	9	37	120	**70**
100	30	0.64	714602	0.37	715602	0.80	716722	128	100x85	80x60	9	35	120	**100**
125	35	0.78	714603	0.62	715603	0.93	716723	156	100x85	80x60	9	37	120	**120**
150	35	1.03	714604	0.81	715604	1.03	716724	182	100x85	80x60	9	34	120	**140**
150	45	1.71	714611	1.27	715611	2.00	716731	194	140x110	105x80	11	56	156	**180**
200	50	2.09	714606	1.62	715606	2.36	716726	240	140x110	105x80	11	56	156	**225**

Stainless steel standard-duty brackets NLX - max carrying capacity 225 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.53	717901	0.70	718801	107	73	12	37	120	**70**
100	30	0.57	717902	0.78	718802	128	73	12	35	120	**100**
125	35	0.74	717903	0.89	718803	156	73	12	37	120	**120**
150	35	0.95	717904	0.97	718804	182	73	12	34	120	**140**
150	45	1.46	717911	1.74	718811	188	102	20	56	156	**180**
200	50	1.99	717906	2.25	718806	236	102	20	56	156	**225**
80	30	0.56	718001	0.73	718821	107	73	12	37	120	**70**
100	30	0.58	718002	0.78	718822	128	73	12	35	120	**100**
125	35	0.77	718003	0.92	718823	156	73	12	37	120	**120**
150	35	1.00	718004	0.99	718824	182	73	12	34	120	**140**
150	45	1.51	718011	1.79	718831	188	102	20	56	156	**180**
200	50	2.02	718006	2.28	718826	236	102	20	56	156	**225**

Options available to order:

Wheel with single stainless steel ball bearing d. 80-125 mm

Wheel for large commercial kitchens (conforms to Standard DIN 18867-8) d. 160 and 200 mm

SERIES 82

260 mm

150 daN
4 km/h

-20 / +60 °C

PNEUMATIC WHEELS WITH POLYPROPYLENE CENTRE

Description

Tyre: four plies ribbed or country profiled tyre; working pressure 2 bar.

Centre: polypropylene.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing with plastic cage.

Uses

Suitable for use with light and medium-duty loads, on any type of flooring, also for mixed indoor and outdoor use.
Also suitable on sandy base.
Examples of recommended applications: wheelbarrows, box charts.

Environments of use

Suitable for industrial and outdoor environments, also in the presence of humidity and medium-harsh chemical agents.
Not suitable in the presence of organic solvents, chlorinated substances, hydrocarbons and mineral oils.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

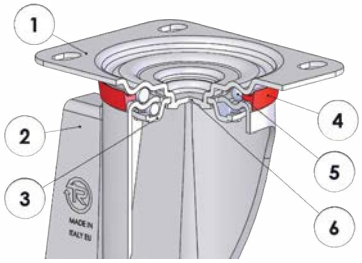
For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for any type of floor, also in the presence of obstacles.

mm	mm	kg	CODE	kg	CODE	mm	mm	daN	
260	85	0.91	821601	1.03	823601	20	74	**150**	**ribbed profile**
260	85	0.90	821602	1.00	823602	25	74	**150**	**ribbed profile**
260	85	0.96	822601	1.08	824601	20	74	**150**	**country profile**
260	85	0.95	822602	1.05	824602	25	74	**150**	**country profile**

Standard-duty brackets NL - max carrying capacity 150 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
260	85	4.33	825601	2.83	826601	300	200x160	160x120	14	86	**150**
260	85	4.43	825701	2.93	826701	300	200x160	160x120	14	86	**150**

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
260	85	4.38	825602	2.89	826602	300	200x160	160x120	14	86	**150**
260	85	4.48	825702	2.98	826702	300	200x160	160x120	14	86	**150**

INDUSTRIAL
MEDIUM DUTY LOADS

SERIES **60**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

80-200 mm | 4 km/h 120-450 daN | 120-380 daN | 6 km/h 100-200 daN | -15 / +80 °C | INOX

PAGE 86

SERIES **61**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

80-200 mm | 4 km/h 75-300 daN | 120-380 daN | 6 km/h 70-140 daN | -15 / +70 °C | INOX

PAGE 96

SERIES **68**

SOLID WHEELS IN POLYAMIDE 6

65-250 mm | 4 km/h 125-1200 daN | 90-450 daN | -30 / +80 °C | INOX

PAGE 104

SERIES **73**

WHEELS IN SIGMA ELASTIC RUBBER WITH POLYAMIDE 6 CENTRE

100-200 mm | 4 km/h 150-450 daN | 100-350 daN | -20 / +70 °C | INOX

PAGE 116

SERIES **73 AE**

ELASTIC RUBBER WHEELS WITH POLYAMIDE CENTRE

100-200 mm | 4 km/h 150-350 daN | 100-235 daN | -20 / +70 °C

PAGE 124

SERIES 60

80-200 mm

55 Shore D

120-450 daN
4 km/h

100-200 daN
6 km/h

120-380 daN

-15 / +80 °C

INOX

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Description

Tyre: red thermoplastic polyurethane, hardness 55 Shore D, excellent rolling resistance and elasticity features, good resistance to wear and tearing.

Centre: polyamide 6.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing in plastic cage. Also available with stainless steel roller bearing.
Hub with double shielding ball bearing, co-printed in centre. The bearing is protected from dirt, machining residue and corrosive substances by a glass-fibre reinforced polyamide installation bushing with internal labyrinth seal

Uses

Suitable for trolleys and machinery with medium-duty loads, also in case of continuous handling. The ball bearing model is excellent for mechanical handling or manual-mechanical handling and speed up to 6 Km/h.
Suitable for indoor and outdoor use with frequent washing and sterilisation.
Examples of recommended applications: trolleys for industrial use, tubular trolleys, trolleys for food and chemical industry, mobile scaffoldings (fitted with suitable brackets, they meet Standard UNI EN 1004:2005).

Environments of use

Suitable for industrial environments, also in the presence of water and saturated vapour, alcohol and glycol, mineral and organic acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not recommended unpaved floors or in the presence of processing residues.
Not suitable in the presence of obstacles, even if small.
They do not mark or damage fragile floors.

Force required to push or tow a wheel

	100 kg	150 kg	200 kg	250 kg	300 kg	350 kg	400 kg	450 kg
80 mm	4.5	----	----	----	----	----	----	----
100 mm	2.2	4.5	----	----	----	----	----	----
125 mm	1.2	2.2	4	----	----	----	----	----
150x35 mm	< 1	2	3.2	5	----	----	----	----
150x45 mm	< 1	2	3.2	4.5	6	9	----	----
200 mm	< 1	< 1	<1	2.5	3	4	5.5	7

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate, bolt hole, solid stem, Zamak expander fittings. Available with front brake.

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 450 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 450 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Medium-heavy duty brackets PX in stainless steel
Maximum carrying capacity 450 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable rear brake.

Mobile scaffolding brackets (See Scaffolding section)
Maximum carrying capacity 400 daN - maximum capacity according to UNI EN 1004:2005 750 daN
Available diameters 125-200 mm. Top plate, unthreaded stem, threaded stem with leveller fittings. Available with brake and double brake pedal.

Options available to order:

The series 60 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

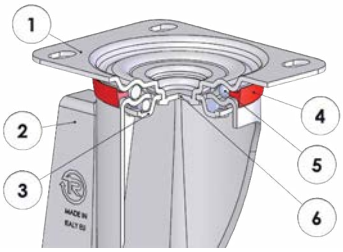
THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

						Static		4 km/h
mm	mm	kg	CODE	mm	mm.	daN	daN	daN
80	30	0.11	601101	12	39	**220**	**120**	**120**
100	30	0.15	601102	12	44	**300**	**170**	**170**
125	35	0.25	601103	15	44	**350**	**230**	**230**
150	35	0.38	601105	15	44	**500**	**250**	**250**
150	45	0.47	601104	20	59	**700**	**280**	**350**
200	50	0.82	601106	20	59	**750**	**380**	**450**

								Static		4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	daN	daN	daN
80	30	0.13	603101	0.13	603201	12	39	**220**	**120**	**120**
100	30	0.16	603102	0.16	603202	12	44	**300**	**170**	**170**
125	35	0.27	603103	0.27	603203	15	44	**350**	**230**	**230**
150	35	0.40	603105	0.40	603205	15	44	**500**	**250**	**250**
150	45	0.52	603104	0.52	603204	20	59	**700**	**280**	**350**
200	50	0.87	603106	0.87	603206	20	59	**750**	**380**	**450**

								Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	daN	daN	daN	daN
80	30	0.17	602201	0.17	602401	8	40	**220**	**130**	**130**	**100**
100	30	0.21	602202	0.21	602402	8	45	**300**	**200**	**200**	**160**
125	35	0.30	602203	0.30	602403	8	45	**350**	**250**	**250**	**200**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	30	0.62	604201	0.38	605701	0.81	606601	107	100x85	80x60	9	37	120	**120**	
100	30	0.74	604202	0.43	605702	0.89	606602	128	100x85	80x60	9	35	120	**170**	
125	35	0.91	604203	0.66	605703	1.05	606603	156	100x85	80x60	9	37	120	**220**	
150	35	1.08	604204	0.8	605704	1.21	606604	182	100x85	80x60	9	34	120	**220**	
150	45	1.83	604211	1.46	605711	2.11	606611	194	140x110	105x80	11	56	156	**300**	
200	50	2.23	604206	2.01	605706	2.49	606606	240	140x110	105x80	11	56	156	**300**	
80	30	0.63	604501	0.41	605901	0.84	606621	107	100x85	80x60	9	37	120	**120**	
100	30	0.75	604502	0.43	605902	0.9	606622	128	100x85	80x60	9	35	120	**170**	
125	35	0.92	604503	0.67	605903	1.07	606623	156	100x85	80x60	9	37	120	**220**	
150	35	1.11	604504	0.82	605904	1.23	606624	182	100x85	80x60	9	34	120	**220**	
150	45	1.98	604511	1.51	605911	2.16	606631	194	140x110	105x80	11	56	156	**300**	
200	50	2.27	604506	2.06	605906	2.56	606626	240	140x110	105x80	11	56	156	**300**	
80	30	0.60	604701	0.48	604801	0.77	604901	107	100x85	80x60	9	37	120	**130**	
100	30	0.67	604702	0.53	604802	0.84	604902	128	100x85	80x60	9	35	120	**200**	
125	35	0.86	604703	0.66	604803	1.02	604903	156	100x85	80x60	9	37	120	**220**	

Options available to order:

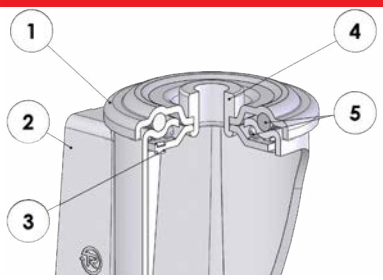
Bracket
with directional
lock
d. 80-125 mm

Directional lock
for brackets
d. 150-200 mm

SERIES **60**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

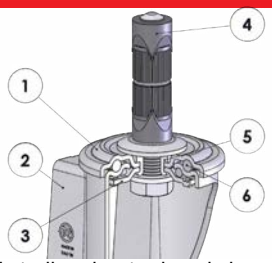
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.55	607701	0.73	606401	107	73	12	37	120	**120**
100	30	0.67	607702	0.88	606402	128	73	12	35	120	**170**
125	35	0.85	607703	1.00	606403	156	73	12	37	120	**220**
150	35	1.01	607704	1.14	606404	182	73	12	34	120	**220**
150	45	1.69	607711	1.98	606411	188	102	20	56	156	**300**
200	50	2.13	607706	2.41	606406	236	102	20	56	156	**300**
80	30	0.57	607801	0.75	606421	107	73	12	37	120	**120**
100	30	0.68	607802	0.88	606422	128	73	12	35	120	**170**
125	35	0.87	607803	1.02	606423	156	73	12	37	120	**220**
150	35	1.03	607804	1.16	606424	182	73	12	34	120	**220**
150	45	1.74	607811	2.03	606431	188	102	20	56	156	**300**
200	50	2.18	607806	2.46	606426	236	102	20	56	156	**300**
80	30	0.56	604301	0.72	605501	107	73	12	37	120	**130**
100	30	0.61	604302	0.78	605502	128	73	12	35	120	**200**
125	35	0.79	604303	0.96	605503	156	73	12	37	120	**220**

Options available to order:

Fastening
with threaded stem

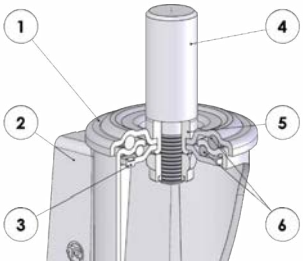
Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Stem: zamak expander
5) King pin: bushing in electrolytically galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	4 km/h daN
80	30	0.67	609201	0.85	609301	109	73	20	65	20-24	37	120	**120**
100	30	0.79	609202	1.00	609302	130	73	20	65	20-24	35	120	**130**
125	35	0.97	609203	1.12	609303	158	73	20	65	20-24	37	120	**130**



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in electrolytically galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN
100	30	1.67	606102	1.88	606202	128	73	22	47	35	120	**170**
125	35	1.85	606103	2.00	606203	156	73	22	47	37	120	**220**
150	35	2.01	606104	2.14	606204	182	73	22	47	34	120	**220**
150	45	2.69	606111	2.98	606211	188	102	26	56	56	156	**300**
200	50	3.13	606106	3.41	606206	236	102	26	56	56	156	**300**

Options available to order:

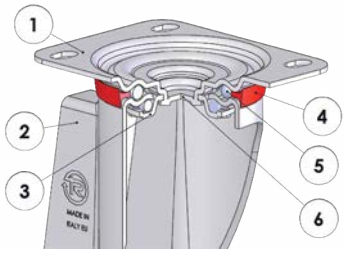
Bracket with Zamak stem fitted with wheels with roller bearings and single ball bearing
d. 80-125 mm

Connection with solid stem with dimensions that can be customised

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX



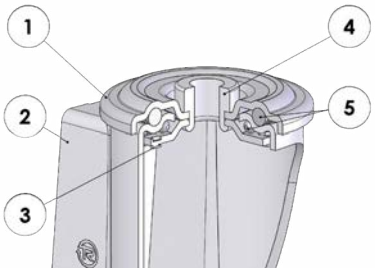
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	30	0.61	604401	0.35	605101	0.78	606701	107	100x85	80x60	9	37	120	**120**
100	30	0.65	604402	0.40	605102	0.83	606702	128	100x85	80x60	9	35	120	**170**
125	35	0.81	604403	0.64	605103	0.95	606703	156	100x85	80x60	9	37	120	**220**
150	35	0.97	604404	0.81	605104	1.10	606704	182	100x85	80x60	9	34	120	**220**
150	45	1.77	604411	1.33	605111	2.06	606711	194	140x110	105x80	11	56	156	**300**
200	50	2.20	604406	1.74	605106	2.48	606706	240	140x110	105x80	11	56	156	**300**
80	30	0.64	604601	0.38	605601	0.81	606721	107	100x85	80x60	9	37	120	**120**
100	30	0.65	604602	0.41	605602	0.84	606722	128	100x85	80x60	9	35	120	**170**
125	35	0.83	604603	0.66	605603	0.97	606723	156	100x85	80x60	9	37	120	**220**
150	35	0.99	604604	0.83	605604	1.12	606724	182	100x85	80x60	9	34	120	**220**
150	45	1.82	604611	1.38	605611	2.03	606731	194	140x110	105x80	11	56	156	**300**
200	50	2.25	604606	1.74	605606	2.53	606726	240	140x110	105x80	11	56	156	**300**
80	30	0.60	605401	0.48	605001	0.77	606901	107	100x85	80x60	9	37	120	**130**
100	30	0.67	605402	0.53	605002	0.84	606902	128	100x85	80x60	9	35	120	**200**
125	35	0.78	605403	0.66	605003	0.95	606903	156	100x85	80x60	9	37	120	**220**

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

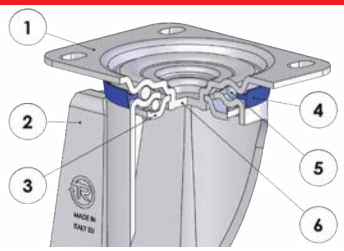
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.55	607901	0.61	608801	107	73	12	37	120	**120**
100	30	0.61	607902	0.82	608802	128	73	12	35	120	**170**
125	35	0.79	607903	0.94	608803	156	73	12	37	120	**220**
150	35	0.90	607904	1.03	608804	182	73	12	34	120	**220**
150	45	1.57	607911	1.85	608811	188	102	20	56	156	**300**
200	50	2.14	607906	2.40	608806	236	102	20	56	156	**300**
80	30	0.58	608001	0.62	608821	107	73	12	37	120	**120**
100	30	0.62	608002	0.82	608822	128	73	12	35	120	**170**
125	35	0.81	608003	0.96	608823	156	73	12	37	120	**220**
150	35	0.92	608004	1.25	608824	182	73	12	34	120	**220**
150	45	1.62	608011	1.90	608831	188	102	20	56	156	**300**
200	50	2.19	608006	2.45	608826	236	102	20	56	156	**300**
80	30	0.56	606301	0.72	606501	107	73	12	37	120	**130**
100	30	0.61	606302	0.78	606502	128	73	12	35	120	**200**
125	35	0.73	606303	0.88	606503	156	73	12	37	120	**220**

SERIES **60**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

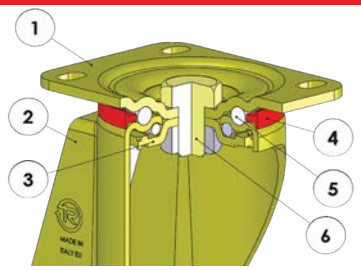
Medium-duty brackets M - max carrying capacity 450 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electroplated galvanised steel
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted
Available with adjustable total front foot brake

		kg		kg		kg									4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	45	2.17	604311	1.46	605711	2.64	606811	194	140x110	105x80	11	58	178	**350**	
200	50	2.62	604306	2.01	605706	3.04	606806	240	140x110	105x80	11	50	178	**450**	
150	45	2.32	604711	1.51	605911	2.68	606831	194	140x110	105x80	11	58	178	**350**	
200	50	2.66	604706	2.06	605906	3.11	606826	240	140x110	105x80	11	50	178	**450**	

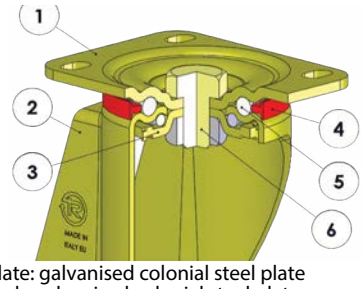
Medium-heavy duty brackets P - max carrying capacity 450 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut
Available with total front foot brake

		kg		kg		kg									4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	30	1.03	607102	0.54	608102	1.18	609002	138	100x85	80x60	9	46	123	**170**		
125	35	1.17	607103	0.75	608103	1.31	609003	161	100x85	80x60	9	48	123	**230**		
100	30	1.05	607302	0.55	608302	1.19	609102	138	100x85	80x60	9	46	123	**170**		
125	35	1.19	607303	0.77	608303	1.33	609103	161	100x85	80x60	9	48	123	**230**		
100	30	1.08	608202	0.67	608222	1.24	608242	138	100x85	80x60	9	46	123	**200**	**160**	
125	35	1.22	608203	0.76	608223	1.36	608243	161	100x85	80x60	9	48	123	**250**	**200**	

Medium-heavy duty brackets P - max carrying capacity 450 daN

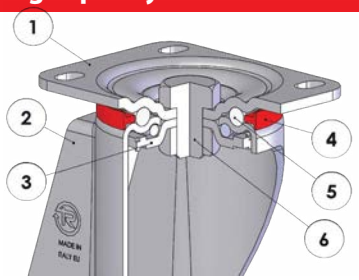


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	45	2.81	607604	1.39	608604	3.38	609004	200	140x110	105x80	11	70	126	**350**
200	50	3.20	607606	1.83	608606	3.77	609006	250	140x110	105x80	11	70	126	**450**
150	45	2.87	607504	1.44	608504	3.44	609104	200	140x110	105x80	11	70	126	**350**
200	50	3.34	607506	1.88	608506	3.91	609106	250	140x110	105x80	11	70	126	**450**

Stainless steel medium-heavy duty brackets PX - max carrying capacity 450 daN



INOX

1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: screw and nut in stainless steel

Available with adjustable total rear foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	45	2.77	607004	1.53	607114	3.34	607214	200	140x110	105x80	11	70	126	**350**
200	50	3.24	607006	1.80	607116	3.81	607216	250	140x110	105x80	11	70	126	**450**
150	45	2.75	607314	1.53	607414	3.32	607514	200	140x110	105x80	11	70	126	**350**
200	50	3.28	607316	1.85	607416	3.85	607516	250	140x110	105x80	11	70	126	**450**

SERIES 61

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

80-200 mm

85 Shore A

75-300 daN
4 km/h

70-140 daN
6 km/h

75-300 daN

-15 / +70 °C

INOX

Description

Tyre: blue non-marking thermoplastic polyurethane, hardness 85 Shore A, excellent rolling resistance and elasticity, good resistance to wear and tearing.

Centre: polyamide 6.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing in a plastic cage. Also available with stainless steel roller bearings.
Hub with double shielding ball bearing, co-printed in centre. The bearing is protected from dirt, machining residue and corrosive substances by a glass-fibre reinforced polyamide installation bushing with internal labyrinth seal.

Uses

Suitable for trolleys and machinery with medium-duty loads, also in case of continuous handling. The model with ball bearing hub can also be used for mechanical handling or manual-mechanical handling and speed up to 6 km/h.
Suitable for indoor and outdoor use for frequent washing and sterilisation.
Excellent rolling resistance guarantees minimum effort in manual handling.
Examples of recommended applications: trolleys for industrial indoor use, tubular trolleys, trolleys for food and chemical industry, mobile scaffoldings (fitted with suitable brackets, they meet Standard UNI EN 1004:2005).

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and oils. Not suitable in the presence of aggressive chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin. Not recommended on unpaved floors or in the presence of processing residues. They facilitate overcoming small obstacles along the path. They do not mark or damage fragile floors.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	250 kg	300 kg
80 mm	3.4	----	----	----	----	----
100 mm	1.5	4	----	----	----	----
125 mm	1	2.5	4	----	----	----
150x35 mm	< 1	1.8	3	4.5	----	----
150x45 mm	< 1	1.5	2.5	3.9	----	----
200 mm	< 1	< 1	1.6	2.5	3.7	5

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate, bolt hole, solid stem, Zamak expander fittings. Available with front brake..

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings Available with front brake.

Options available to order:

The series 61 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

SERIES **61**

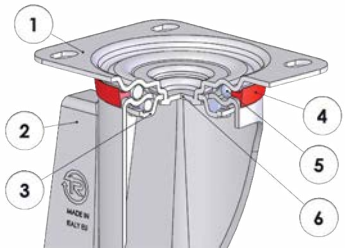
THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

mm	mm	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.11	611101	12	39	**160**	**75**	**75**
100	30	0.16	611102	12	44	**200**	**120**	**120**
125	35	0.25	611103	15	44	**350**	**180**	**180**
150	35	0.38	611105	15	44	**400**	**220**	**230**
150	45	0.39	611104	20	59	**450**	**240**	**250**
200	50	0.86	611106	20	59	**500**	**300**	**300**

mm	mm	kg	CODE	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.13	613101	0.13	613201	12	39	**160**	**75**	**75**
100	30	0.18	613102	0.18	613202	12	44	**200**	**120**	**120**
125	35	0.27	613103	0.27	613203	15	44	**350**	**180**	**180**
150	35	0.40	613105	0.40	613205	15	44	**400**	**220**	**230**
150	45	0.43	613104	0.43	613204	20	59	**450**	**240**	**250**
200	50	0.92	613106	0.92	613206	20	59	**500**	**300**	**300**

mm	mm	kg	CODE	kg	CODE	mm	mm.	Static daN	daN	4 km/h daN	6 km/h daN
80	30	0.17	612201	0.17	612401	8	40	**160**	**85**	**85**	**70**
100	30	0.21	612202	0.21	612402	8	45	**200**	**120**	**120**	**100**
125	35	0.30	612203	0.30	612403	8	45	**350**	**180**	**180**	**140**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

		kg		kg		kg									4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	30	0.62	614201	0.38	615701	0.81	616601	107	100x85	80x60	9	37	120	**75**	
100	30	0.74	614202	0.43	615702	0.89	616602	128	100x85	80x60	9	35	120	**120**	
125	35	0.91	614203	0.66	615703	1.05	616603	156	100x85	80x60	9	37	120	**180**	
150	35	1.08	614204	0.80	615704	1.21	616604	182	100x85	80x60	9	34	120	**220**	
150	45	1.83	614211	1.46	615711	2.11	616611	194	140x110	105x80	11	56	156	**250**	
200	50	2.23	614206	1.81	615706	2.49	616606	240	140x110	105x80	11	56	156	**300**	
80	30	0.63	614501	0.41	615901	0.84	616621	107	100x85	80x60	9	37	120	**75**	
100	30	0.75	614502	0.43	615902	0.90	616622	128	100x85	80x60	9	35	120	**120**	
125	35	0.92	614503	0.67	615903	1.07	616623	156	100x85	80x60	9	37	120	**180**	
150	35	1.11	614504	0.82	615904	1.23	616624	182	100x85	80x60	9	34	120	**220**	
150	45	1.98	614511	1.51	615911	2.16	616631	194	140x110	105x80	11	56	156	**250**	
200	50	2.27	614506	1.86	615906	2.51	616626	240	140x110	105x80	11	56	156	**300**	
80	30	0.60	614701	0.48	614801	0.77	614901	107	100x85	80x60	9	37	120	**85**	
100	30	0.67	614702	0.53	614802	0.84	614902	128	100x85	80x60	9	35	120	**120**	
125	35	0.82	614703	0.66	614803	1.02	614903	156	100x85	80x60	9	37	120	**180**	

Options available to order:

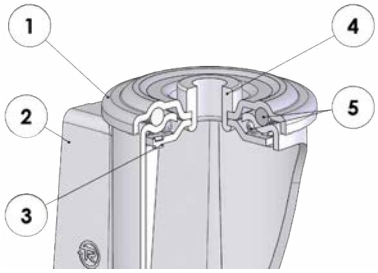
Bracket
with directional
lock
d. 80-125 mm

Directional lock
for brackets
d. 150-200 mm

SERIES **61**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

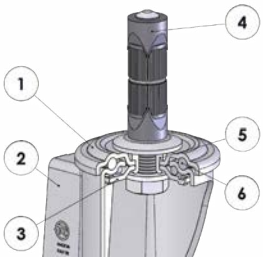
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.55	617701	0.73	616401	107	73	12	37	120	**75**
100	30	0.67	617702	0.88	616402	128	73	12	35	120	**120**
125	35	0.85	617703	1.00	616403	156	73	12	37	120	**180**
150	35	1.01	617704	1.14	616404	182	73	12	34	120	**220**
150	45	1.69	617711	1.98	616411	188	102	20	56	156	**250**
200	50	2.13	617706	2.41	616406	236	102	20	56	156	**300**
80	30	0.57	617801	0.75	616421	107	73	12	37	120	**75**
100	30	0.68	617802	0.88	616422	128	73	12	35	120	**120**
125	35	0.87	617803	1.02	616423	156	73	12	37	120	**180**
150	35	1.03	617804	1.16	616424	182	73	12	34	120	**220**
150	45	1.74	617811	2.03	616431	188	102	20	56	156	**250**
200	50	2.18	617806	2.46	616426	236	102	20	56	156	**300**
80	30	0.56	614301	0.72	615501	107	73	12	37	120	**85**
100	30	0.61	614302	0.78	615502	128	73	12	35	120	**120**
125	35	0.79	614303	0.96	615503	156	73	12	37	120	**180**

Options available to order:

Fitting with threaded stem

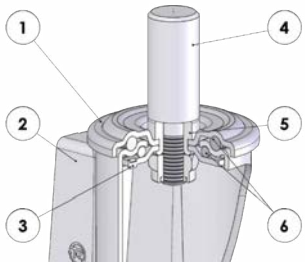
Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Stem: zamak expander
5) King pin: bushing in electrolytically galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	30	0.67	619201	0.85	619301	109	20	65	20-24	37	120	**75**	
100	30	0.79	619202	1.00	619302	130	20	65	20-24	35	120	**120**	
125	35	0.97	619203	1.12	619303	158	20	65	20-24	37	120	**130**	



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in galvanised steel
6) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
100	30	1.67	616102	1.88	616202	128	73	22	47	35	120	**120**	
125	35	1.85	616103	2.00	616203	156	73	22	47	37	120	**180**	
150	35	2.01	616104	2.14	616204	182	73	22	47	34	120	**220**	
150	45	2.69	616111	2.98	616211	188	102	26	56	56	156	**250**	
200	50	3.13	616106	3.41	616206	236	102	26	56	56	156	**300**	

Options available to order:

Bracket with Zamak stem fitted with wheels with roller bearings and single ball bearing
d. 80-125 mm

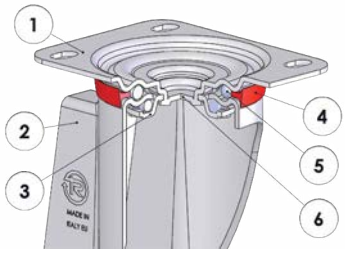
Fitting with solid stem with customised dimensions

SERIES **61**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Standard-duty brackets NLX in stainless steel - max carrying capacity 300 daN

INOX



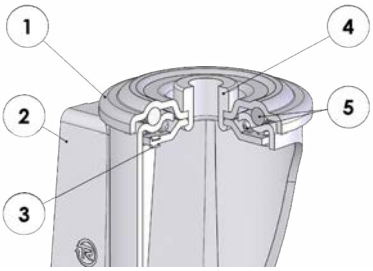
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN
80	30	0.61	614401	0.35	615101	0.78	616701	107	100x85	80x60	9	37	120	**75**
100	30	0.65	614402	0.40	615102	0.83	616702	128	100x85	80x60	9	35	120	**120**
125	35	0.81	614403	0.64	615103	0.95	616703	156	100x85	80x60	9	37	120	**180**
150	35	0.97	614404	0.81	615104	1.10	616704	182	100x85	80x60	9	34	120	**220**
150	45	1.77	614411	1.33	615111	1.98	616711	194	140x110	105x80	11	56	156	**250**
200	50	2.20	614406	1.71	615106	2.48	616706	240	140x110	105x80	11	56	156	**300**
80	30	0.64	614601	0.38	615601	0.81	616721	107	100x85	80x60	9	37	120	**75**
100	30	0.65	614602	0.41	615602	0.84	616722	128	100x85	80x60	9	35	120	**120**
125	35	0.83	614603	0.66	615603	0.97	616723	156	100x85	80x60	9	37	120	**180**
150	35	0.99	614604	0.83	615604	1.12	616724	182	100x85	80x60	9	34	120	**220**
150	45	1.82	614611	1.38	615611	2.03	616731	194	140x110	105x80	11	56	156	**250**
200	50	2.25	614606	1.74	615606	2.53	616726	240	140x110	105x80	11	56	156	**300**
80	30	0.60	615401	0.48	615001	0.77	616901	107	100x85	80x60	9	37	120	**85**
100	30	0.67	615402	0.53	615002	0.84	616902	128	100x85	80x60	9	35	120	**120**
125	35	0.78	615403	0.66	615003	0.95	616903	156	100x85	80x60	9	37	120	**180**

Standard-duty brackets NLX in stainless steel - max carrying capacity 300 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.55	617901	0.72	618801	107	73	12	37	120	**75**
100	30	0.61	617902	0.82	618802	128	73	12	35	120	**120**
125	35	0.79	617903	0.94	618803	156	73	12	37	120	**180**
150	35	0.90	617904	1.03	618804	182	73	12	34	120	**220**
150	45	1.57	617911	1.85	618811	188	102	20	56	156	**250**
200	50	2.14	617906	2.40	618806	236	102	20	56	156	**300**
80	30	0.58	618001	0.75	618821	107	73	12	37	120	**75**
100	30	0.62	618002	0.82	618822	128	73	12	35	120	**120**
125	35	0.81	618003	0.96	618823	156	73	12	37	120	**180**
150	35	0.92	618004	1.05	618824	182	73	12	34	120	**220**
150	45	1.62	618011	1.90	618831	188	102	20	56	156	**250**
200	50	2.46	618006	2.45	618826	236	102	20	56	156	**300**
80	30	0.56	616301	0.72	616501	107	73	12	37	120	**85**
100	30	0.61	616302	0.78	616502	128	73	12	35	120	**120**
125	35	0.73	616303	0.88	616503	156	73	12	37	120	**180**

SERIES 68

POLYAMIDE 6 SOLID WHEELS

65-250 mm

70 Shore D

120-1200 daN
4 km/h

90-450 daN

-30 / +80 °C

INOX

Description

Polyamide 6 solid wheels 6, hardness 70 Shore D.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing with plastic cage. Also available with stainless steel roller bearings.
Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding. The wheel is also available without bearings.

Uses

Intended mainly for static uses, for medium-heavy capacities.
The excellent rolling resistance ensures that minimum manual effort is needed in handling, but only on smooth floors.
Examples of recommended applications: trolleys for internal use in the food and canning industries, tannery equipment, flower trolleys, manual pallet trucks, mobile scaffoldings (fitted with adequate brackets, they meet UNI EN 1004:2005 Standards).

Environments of use

Designed for industrial environments, even in the presence of aggressive chemical substances. Not recommended in places with strong organic acids and concentrated mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable only for smooth and compact floors.
Not suited for areas with obstacles.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg	700 kg	1000 kg	1200 kg
65 mm	5.5	----	----	----	----	----	----	----
80 mm	4	----	----	----	----	----	----	----
100 mm	3.5	6	9	----	----	----	----	----
125 mm	2.5	5	6	8	----	----	----	----
150 mm	1	2.5	6	8	10	----	----	----
175 mm	< 1	2	5.5	7	9	----	----	----
200 mm	< 1	1.8	4.7	5.8	6.5	7.8	----	----
250 mm	< 1	1.5	4	4.5	6	8	12	16

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 350 daN - available diameters 65-250 mm
Top plate, bolt hole, solid stem fittings. Available with front brake.

Standard-duty brackets NLX in stainless steel
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fittings. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 730 daN - available diameters 100-200 mm
Top plate fittings. Available with front brake and adjustable rear brake.

Heavy supports in PX stainless steel
Maximum carrying capacity 730 daN - available diameters 150-200 mm
Top plate fittings. Available with adjustable rear brake.

Electrowelded brackets EE HD
Maximum carrying capacity 1200 daN - available diameters 250 mm
Top plate fittings. Available with adjustable rear brake.

Mobile scaffolding brackets (See Scaffolding section)
Maximum carrying capacity 400 daN - maximum capacity according to UNI EN 1004:2005 750 daN
Available diameters 125-200 mm. Top plate, solid stem and threaded stem with leveller fittings. Available with single brake and double pedal.

Options available to order:

The series 68 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Black polypropylene wheels (only version with hub with plain bore)

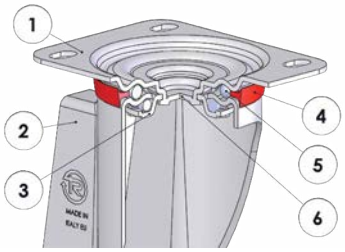
POLYAMIDE 6 SOLID WHEELS

mm	mm	kg	CODE	mm	mm.	Static daN	daN	4 km/h daN
65	30	0.06	681100	12	34	**125**	**90**	**120**
80	30	0.08	681111	12	39	**200**	**150**	**180**
100	30	0.13	681112	12	44	**350**	**175**	**300**
125	38	0.23	681103	15	44	**450**	**200**	**400**
150	45	0.34	681104	20	59	**600**	**250**	**500**
175	45	0.48	681105	20	59	**700**	**275**	**630**
200	50	0.64	681106	20	59	**800**	**315**	**730**
250	60	1.30	681108	25	88	**1300**	**450**	**1200**

mm	mm	kg	CODE	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	30	0.10	683111	0.10	683211	12	39	**200**	**150**	**180**
100	30	0.15	683112	0.15	683212	12	44	**350**	**175**	**300**
125	38	0.25	683103	0.25	683203	15	44	**450**	**200**	**400**
150	45	0.51	683104	0.51	683204	20	59	**600**	**250**	**500**
175	45	0.60	683105	0.60	683205	20	59	**700**	**275**	**630**
200	50	0.82	683106	0.82	683206	20	59	**800**	**315**	**730**
200	50	0.81	683116	0.81	683216	25	59	**800**	**315**	**730**
250	60	1.38	683108	1.38	683208	25	88	**1300**	**450**	**1200**

mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	Static daN	daN	4 km/h daN
200	50	0.82	683306	0.63	682106	20	60	47	14	**800**	**315**	**730**
200	50	0.81	683316	0.63	682106	25	60	47	14	**800**	**315**	**730**

Standard-duty brackets NL - max carrying capacity 350 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

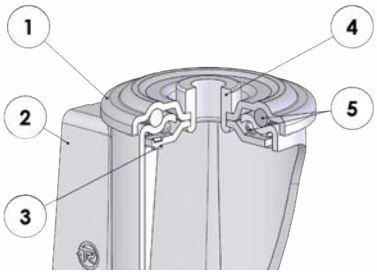
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN
65	30	0.57	684500	0.37	685100			100	100x85	80x60	9	37		**120**
80	30	0.58	684501	0.39	685101	0.78	686801	107	100x85	80x60	9	37	120	**180**
100	30	0.65	684502	0.46	685102	0.85	686802	128	100x85	80x60	9	35	120	**200**
125	38	0.89	684503	0.64	685103	1.04	686803	156	100x85	80x60	9	37	120	**220**
125PG	38	1.10	684513	0.91	685143	1.30	686843	156	140x110	105x80	11	37	120	**220**
150B	45	1.02	684512	0.85	685142			182	100x85	80x60	9	50		**220**
150	45	1.77	684504	1.45	685104	1.99	686804	194	140x110	105x80	11	56	156	**300**
175	45	1.90	684505	1.56	685105	2.13	686805	217	140x110	105x80	11	56	156	**300**
200	50	2.14	684506	1.92	685106	2.33	686806	240	140x110	105x80	11	56	156	**300**
250	60	4.62	684108	3.19	685108			296	200x160	160x120	14	86		**350**
80	30	0.61	684801	0.41	685301	0.80	686821	107	100x85	80x60	9	37	120	**180**
100	30	0.68	684802	0.49	685302	0.88	686822	128	100x85	80x60	9	35	120	**200**
125	38	0.91	684803	0.66	685303	1.07	686823	156	100x85	80x60	9	37	120	**220**
125PG	38	1.12	684813	0.94	685323	1.33	686853	156	140x110	105x80	11	37	120	**220**
150B	45	1.20	684812	1.03	685322			182	100x85	80x60	9	50		**220**
150	45	1.94	684804	1.63	685304	2.17	686824	194	140x110	105x80	11	56	156	**300**
175	45	2.02	684805	1.68	685305	2.27	686825	217	140x110	105x80	11	56	156	**300**
200	50	2.32	684806	2.10	685306	2.46	686826	240	140x110	105x80	11	56	156	**300**
200	50	2.50	684866	2.30	685166	2.67	686846	240	140x110	105x80	11	56	156	**300**

Options available to order:

Black polypropylene wheels (only version with hub with plain bore)

POLYAMIDE 6 SOLID WHEELS

Standard-duty brackets NL - max carrying capacity 300 daN



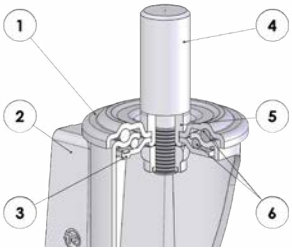
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
65	30	0.51	687700			100	73	12	37		**120**
80	30	0.52	687701	0.70	686701	107	73	12	37	120	**180**
100	30	0.55	687702	0.80	686702	128	73	12	35	120	**200**
125	38	0.85	687703	0.99	686703	156	73	12	37	120	**220**
150	45	1.57	687704	1.86	686704	188	102	20	56	156	**300**
175	45	1.73	687705	2.02	686705	212	102	20	56	156	**300**
200	50	1.95	687706	2.24	686706	236	102	20	56	156	**300**
80	30	0.54	687901	0.73	686721	107	73	12	37	120	**180**
100	30	0.62	687902	0.83	686722	128	73	12	35	120	**200**
125	38	0.87	687903	1.02	686723	156	73	12	37	120	**220**
150	45	1.75	687904	2.03	686724	188	102	20	56	156	**300**
175	45	1.85	687905	2.14	686725	212	102	20	56	156	**300**
200	50	2.13	687906	2.42	686726	236	102	20	56	156	**300**
200	50	2.19	688006	2.48	686606	236	102	20	56	156	**300**

Options available to order:

Fitting with threaded stem

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in galvanised steel
6) Swivel actions: double ball ring with grease lubrication
Available with total front foot brake

												4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	30	1.55	686102	1.80	687102	128	73	22	47	35	120	**200**
125	38	1.85	686103	1.99	687103	156	73	22	47	37	120	**220**
150	45	2.57	686104	2.86	687104	188	102	26	56	56	156	**300**
200	50	2.95	686106	3.24	687106	236	102	26	56	56	156	**300**

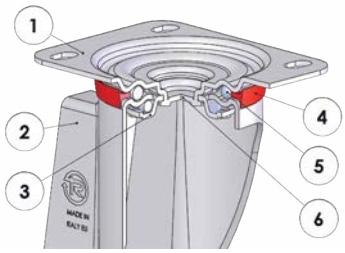
Options available to order:

Fitting with expansion stem in polyamide d. 80-125 mm

Fitting with solid stem with dimensions that can be customised

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX



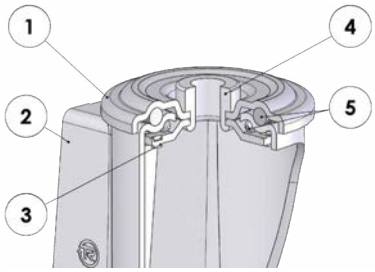
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	30	0.55	684401	0.29	685401	0.73	689001	107	100x85	80x60	9	37	120	**180**
100	30	0.61	684402	0.36	685402	0.76	689002	128	100x85	80x60	9	35	120	**200**
125	38	0.78	684403	0.63	685403	0.95	689003	156	100x85	80x60	9	37	120	**220**
150B	45	1.03	684408	0.83	685408			182	100x85	80x60	9	50		**220**
150	45	1.65	684404	1.20	685404	1.94	689004	194	140x110	105x80	11	56	156	**300**
175	45	1.79	684405	1.35	685405	2.08	689005	217	140x110	105x80	11	56	156	**300**
200	50	2.02	684406	1.56	685406	2.30	689006	240	140x110	105x80	11	56	156	**300**
80	30	0.56	684601	0.31	685601	0.75	689101	107	100x85	80x60	9	37	120	**180**
100	30	0.64	684602	0.39	685602	0.79	689102	128	100x85	80x60	9	35	120	**200**
125	38	0.80	684603	0.65	685603	0.97	689103	156	100x85	80x60	9	37	120	**220**
150B	45	1.21	684608	1.00	685608			182	100x85	80x60	9	50		**220**
150	45	1.83	684604	1.39	685604	2.11	689104	194	140x110	105x80	11	56	156	**300**
175	45	1.91	684605	1.47	685605	2.20	689105	217	140x110	105x80	11	56	156	**300**
200	50	2.20	684606	1.75	685606	2.48	689106	240	140x110	105x80	11	56	156	**300**

Stainless steel standard-duty brackets NLX -- max carrying capacity 300 daN

INOX



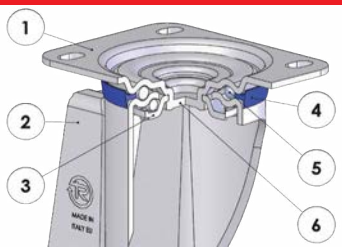
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

		kg		kg							4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	30	0.50	685801	0.68	686001	107	73	12	37	120	**180**
100	30	0.61	685802	0.79	686002	128	73	12	35	120	**200**
125	38	0.79	685803	0.93	686003	156	73	12	37	120	**220**
150	45	1.45	685804	1.75	686004	188	102	20	56	156	**300**
175	45	1.61	685805	1.89	686005	212	102	20	56	156	**300**
200	50	1.93	685806	2.22	686006	236	102	20	56	156	**300**
80	30	0.52	685901	0.73	686021	107	73	12	37	120	**180**
100	30	0.63	685902	0.81	686022	128	73	12	35	120	**200**
125	38	0.81	685903	0.96	686023	156	73	12	37	120	**220**
150	45	1.63	685904	1.93	686024	188	102	20	56	156	**300**
175	45	1.73	685905	2.01	686025	212	102	20	56	156	**300**
200	50	2.11	685906	2.40	686026	236	102	20	56	156	**300**

POLYAMIDE 6 SOLID WHEELS

Medium-duty brackets M - max carrying capacity 500 daN

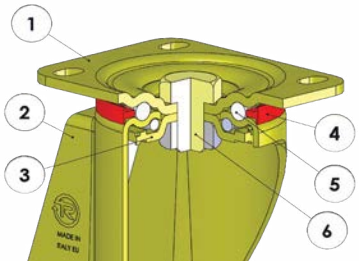


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN	
150	45	2.12	684704	1.45	685104	2.52	688204	194	140x110	105x80	11	58	178	**500**	
200	50	2.53	684706	1.92	685106	2.89	688206	240	140x110	105x80	11	50	178	**500**	
150	45	2.29	685004	1.63	685304	2.70	689204	194	140x110	105x80	11	58	178	**500**	
200	50	2.71	685006	2.10	685306	3.01	689206	240	140x110	105x80	11	50	178	**500**	
200	50	2.69	684206	2.30	685166	3.22	684306	240	140x110	105x80	11	50	178	**500**	

Medium-heavy duty brackets P - max carrying capacity 730 daN

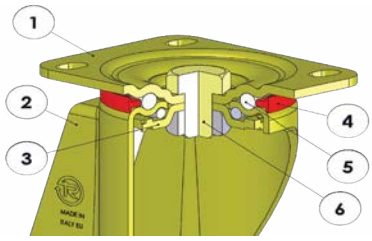


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN	
100	30	0.99	687502	0.60	688502	1.14	686902	138	100x85	80x60	9	46	123	**300**	
125	38	1.16	687503	0.64	688503	1.27	686903	161	100x85	80x60	9	46	123	**350**	
100	30	1.02	687602	0.63	688602	1.17	686922	138	100x85	80x60	9	46	123	**300**	
125	38	1.18	687603	0.66	688603	1.29	686923	161	100x85	80x60	9	46	123	**350**	

Medium-heavy duty brackets P - max carrying capacity 730 daN



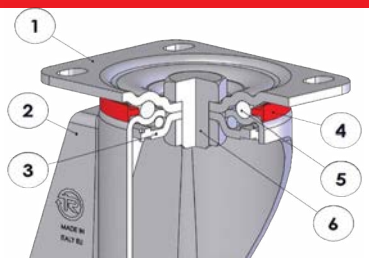
1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	45	2.80	687504	1.67	688504	2.98	686904	200	140x110	105x80	11	70	156	**500**
175	45	2.86	687505	1.45	688505	3.43	686905	225	140x110	105x80	11	70	156	**630**
200	50	3.11	687506	1.65	688506	3.39	686906	250	140x110	105x80	11	70	156	**730**
150	45	2.97	687604	1.57	688604	3.54	686924	200	140x110	105x80	11	70	156	**500**
175	45	2.98	687605	1.69	688605	3.55	686925	225	140x110	105x80	11	70	156	**630**
200	50	3.28	687606	1.83	688606	3.85	686926	250	140x110	105x80	11	70	156	**730**
200	50	3.35	684966	1.89	685366	3.63	686946	250	140x110	105x80	11	70	156	**730**

Stainless steel medium-heavy duty brackets PX - max carrying capacity 730 daN

INOX



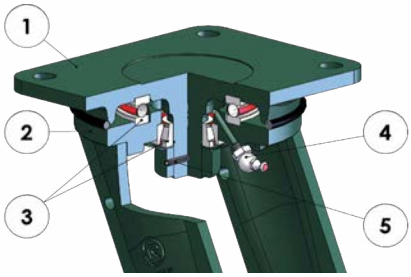
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: red polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: screw and nut in stainless steel

Available with adjustable total rear foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	45	2.66	687004	1.23	687114	3.23	687214	200	140x110	105x80	11	70	156	**500**
175	45	2.86	687005	1.42	687115	3.43	687215	225	140x110	105x80	11	70	156	**630**
200	50	3.06	687006	1.62	687116	3.63	687216	250	140x110	105x80	11	70	156	**730**
150	45	2.86	687314	1.41	687414	3.40	687514	200	140x110	105x80	11	70	156	**500**
175	45	2.94	687315	1.54	687415	3.51	687515	225	140x110	105x80	11	70	156	**630**
200	50	3.24	687316	1.80	687416	3.81	687516	250	140x110	105x80	11	70	156	**730**

POLYAMIDE 6 SOLID WHEELS

Electrowelded brackets EE HD - max carrying capacity 1200 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn tips electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable rear drive brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
250	60	7.99	688307	6.40	688407	8.87	688707	320	175x140	140x105	14	74	166	**1200**

Our work, our passion

tellure Rôta

SERIES 73

100-200 mm

70 Shore A

150-450 daN
4 km/h

100-350 daN

-20 / +70 °C

INOX

SIGMA ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

Description

Tyre: blue non-marking Sigma Elastic rubber, hardness 70 Shore A, good resistance to tear and wear.

Centre: polyamide 6.

Hub with plain bore which directly houses the axle.
Hub with cylindrical roller bearing in plastic cage. Also available with stainless steel roller bearings.
Hub with ball bearings with interference assembly in the seats obtained by centre moulding. The wheel is also available without bearings.

Uses

Wheels with excellent elasticity features, they are particularly suitable for use on uneven surfaces, in the presence of obstacles or for mixed indoor/outdoor uses with medium-duty loads.
The good elasticity and rolling resistance guarantee minimum effort, particularly on uneven surfaces.
Examples of recommended applications: trolleys for industrial indoor and outdoor handling, manual pallet trucks, flight cases for transporting musical instruments.

Environments of use

Designed for industrial environments, even in the presence of medium-harsh chemical agents. Not suitable in the presence of organic, aromatic solvents, chlorinated substances and hydrocarbons.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

They are suitable for use on all types of floors, even in the presence of obstacles. They do not mark or damage fragile floors.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	300 kg	400 kg
100 mm	2	5	8	----	----	----
125 mm	1.8	3	5	7	----	----
160 mm	1	2	3	5	8.5	----
180 mm	< 1	1	2	3	5.5	----
200 mm	< 1	< 1	1	1.7	3.5	6.5

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-200 mm
Top plate, bolt hole and solid stem fittings. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 450 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 450 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Stainless steel medium-heavy duty brackets PX I
Maximum carrying capacity 450 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable rear brake.

Options available to order:

The series 73 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

Wheels with standard-duty bracket
in stainless steel NLX

SERIES **73**

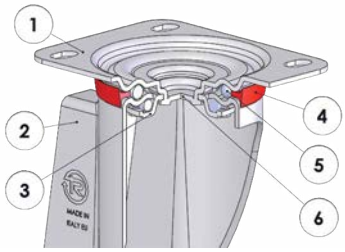
SIGMA ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

mm	mm	kg	CODE	mm	mm.	Static daN	daN	4 km/h daN
100	40	0.31	731102	12	44	**200**	**100**	**150**
125	40	0.38	731103	15	44	**270**	**150**	**230**
160	50	0.83	731104	20	59	**350**	**200**	**300**
180	50	0.90	731105	20	59	**400**	**280**	**350**
200	50	1.04	731106	20	59	**510**	**350**	**450**

mm	mm	kg	CODE	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
100	40	0.36	733102			12	44	**200**	**100**	**150**
125	40	0.58	733103			15	44	**270**	**150**	**230**
160	50	1.04	733104	1.04	733204	20	59	**350**	**200**	**300**
180	50	1.10	733105	1.10	733205	20	59	**400**	**280**	**350**
200	50	1.25	733106	1.25	733206	20	59	**510**	**350**	**450**

mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	Static daN	daN	4 km/h daN
100	40	0.36	732102	0.29	734102	12	40	32	11.5	**200**	**120**	**150**
125	40	0.58	732103	0.38	734103	20	44	47	17	**270**	**200**	**230**
160	50	0.99	732104	0.79	734104	20	58	47	17	**350**	**250**	**300**
160	50	0.94	732114	0.79	734104	25	58	47	17	**350**	**250**	**300**
180	50	1.05	732105	0.85	734105	20	58	47	17	**400**	**320**	**350**
180	50	1.00	732115	0.85	734105	25	58	47	17	**400**	**320**	**350**
200	50	1.12	732106	0.92	734106	20	58	47	17	**510**	**350**	**450**
200	50	1.07	732116	0.92	734106	25	58	47	17	**510**	**350**	**450**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	40	0.85	735002	0.65	735102	0.97	735202	128	100x85	80x60	9	35	120	**150**
125	40	1.08	735003	0.81	735103	1.19	735203	156	100x85	80x60	9	37	120	**220**
160	50	2.11	735004	1.74	735104	2.36	735204	198	140x110	105x80	11	56	156	**300**
180	50	2.22	735005	1.81	735105	2.46	735205	219	140x110	105x80	11	56	156	**300**
200	50	2.44	735006	1.98	735106	2.69	735206	240	140x110	105x80	11	56	156	**300**
100	40	0.91	735302	0.70	735402	1.02	735502	128	100x85	80x60	9	35	120	**150**
125	40	1.23	735303	0.96	735403	1.34	735503	156	100x85	80x60	9	37	120	**220**
160	50	2.32	735304	1.89	735404	2.51	735504	198	140x110	105x80	11	56	156	**300**
180	50	2.42	735305	1.96	735405	2.61	735505	219	140x110	105x80	11	56	156	**300**
200	50	2.65	735306	2.06	735406	2.77	735506	240	140x110	105x80	11	56	156	**300**
100	40	0.91	735602	0.70	735702	1.02	735802	128	100x85	80x60	9	35	120	**150**
125	40	1.23	735603	0.96	735703	1.34	735803	156	100x85	80x60	9	37	120	**220**
160	50	2.32	735604	1.94	735704	2.56	735804	198	140x110	105x80	11	56	156	**300**
180	50	2.42	735605	2.01	735705	2.66	735805	219	140x110	105x80	11	56	156	**300**
200	50	2.65	735606	2.19	735706	2.89	735806	240	140x110	105x80	11	56	156	**300**

Options available to order:

Bracket with directional lock d. 80-125 mm

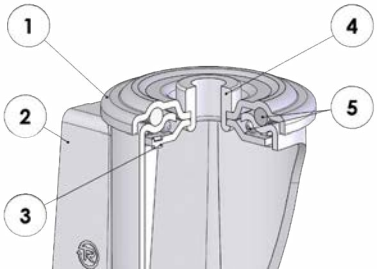
Directional lock for brackets d. 150-200 mm

Bracket with active centralised brake d. 160-200 mm

SERIES **73**

SIGMA ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

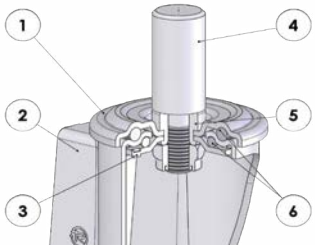
Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	4 km/h daN
100	40	0.75	737702	0.93	738202	128	73	12	35	120	**150**
125	40	0.90	737703	1.11	738203	156	73	12	37	120	**220**
160	50	1.43	737704	1.56	738204	193	102	20	56	156	**300**
180	50	2.21	737705	2.49	738205	214	102	20	56	156	**300**
200	50	2.35	737706	2.63	738206	236	102	20	56	156	**300**
100	40	0.81	737802	0.98	738302	128	73	12	35	120	**150**
125	40	1.05	737803	1.26	738303	156	73	12	37	120	**220**
160	50	1.64	737804	1.77	738304	193	102	20	56	156	**300**
180	50	2.41	737805	2.69	738305	214	102	20	56	156	**300**
200	50	2.56	737806	2.84	738306	236	102	20	56	156	**300**
100	40	0.81	735902	0.98	738402	128	73	12	35	120	**150**
125	40	1.05	735903	1.26	738403	156	73	12	37	120	**220**
160	50	1.64	735904	1.77	738404	193	102	20	56	156	**300**
180	50	2.41	735905	2.69	738405	214	102	20	56	156	**300**
200	50	2.56	735906	2.84	738406	236	102	20	56	156	**300**

Options available to order:

Bracket with Zamak stem fitted
d. 80-125 mm

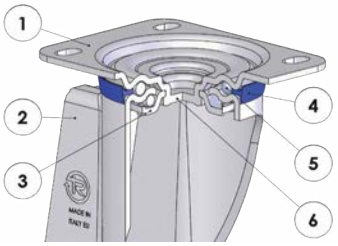
Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Solid stem: galvanised steel
5) King pin: bushing in galvanised steel
6) Swivel actions: double ball ring with grease lubrication
Available with total front foot brake

												4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	40	1.75	738702	1.93	738802	128	73	22	47	35	120	**150**
125	40	1.90	738703	2.11	738803	156	73	22	47	37	120	**220**
160	50	2.43	738704	2.56	738804	193	102	26	56	56	156	**300**
180	50	3.21	738705	3.49	738805	214	102	26	56	56	156	**300**
200	50	3.35	738706	3.63	738806	236	102	26	56	56	156	**300**

Medium-duty brackets M - max carrying capacity 450 daN

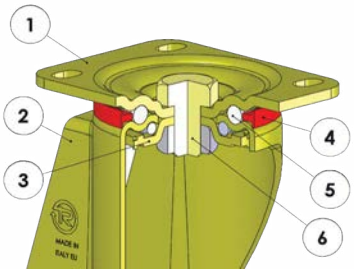


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted
Available with adjustable total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
160	50	2.46	736904	1.74	735104	2.89	737604	199	140x110	105x80	11	58	178	**300**
200	50	2.83	736906	1.98	735106	3.24	737606	240	140x110	105x80	11	50	178	**450**
160	50	2.67	738904	1.94	735404	3.09	739004	199	140x110	105x80	11	58	178	**300**
200	50	3.04	738906	2.19	735406	3.44	739006	240	140x110	105x80	11	50	178	**450**
160	50	2.62	739104	1.89	735704	3.04	739204	199	140x110	105x80	11	58	178	**300**
200	50	2.91	739106	2.06	735706	3.32	739206	240	140x110	105x80	11	50	178	**450**

SIGMA ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

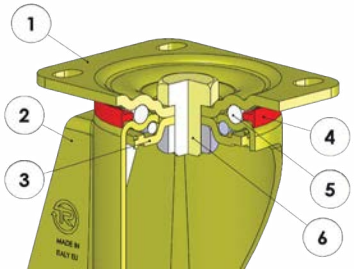
Medium-heavy duty brackets P - max carrying capacity 450 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	40	1.18	736002	0.69	736102	1.33	736202	138	100x85	80x60	9	46	123	**150**
125	40	1.34	736003	0.82	736103	1.48	736203	161	100x85	80x60	9	44	123	**230**
100	40	1.23	736302	0.73	736402	1.37	736502	138	100x85	80x60	9	46	123	**150**
125	40	1.49	736303	0.97	736403	1.63	736503	161	100x85	80x60	9	44	123	**230**
100	40	1.23	736602	0.73	736702	1.37	736802	138	100x85	80x60	9	46	123	**150**
125	40	1.49	736603	0.97	736703	1.63	736803	161	100x85	80x60	9	44	123	**230**



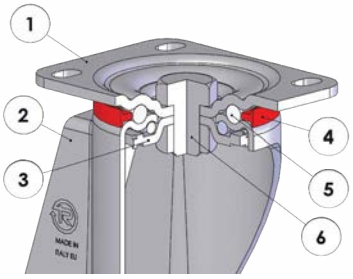
1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
160	50	3.18	736004	1.79	736104	3.75	736204	205	140x110	105x80	11	70	126	**300**
180	50	3.29	736005	1.89	736105	3.86	736205	225	140x110	105x80	11	70	126	**350**
200	50	3.54	736006	2.05	736106	4.11	736206	250	140x110	105x80	11	70	126	**450**
160	50	3.39	736304	1.99	736404	3.91	736504	205	140x110	105x80	11	70	126	**300**
180	50	3.49	736305	2.09	736405	4.06	736505	225	140x110	105x80	11	70	126	**350**
200	50	3.74	736306	2.26	736406	4.31	736506	250	140x110	105x80	11	70	126	**450**
160	50	3.34	736604	1.99	736704	3.91	736804	205	140x110	105x80	11	70	126	**300**
180	50	3.44	736605	2.04	736705	4.01	736805	225	140x110	105x80	11	70	126	**350**
200	50	3.62	736606	2.13	736706	4.19	736806	250	140x110	105x80	11	70	126	**450**

Stainless steel medium-heavy duty brackets PX - max carrying capacity 450 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: screw and nut in stainless steel

Available with adjustable total rear foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
160	50	3.19	737004	1.74	737104	3.76	737204	205	140x110	105x80	11	70	126	**300**
180	50	3.36	737005	1.81	737105	3.93	737205	225	140x110	105x80	11	70	126	**350**
200	50	3.58	737006	1.98	737106	4.15	737206	250	140x110	105x80	11	70	126	**450**
160	50	3.40	737304	1.94	737404	3.97	737504	205	140x110	105x80	11	70	126	**300**
180	50	3.56	737305	2.01	737405	4.13	737505	225	140x110	105x80	11	70	126	**350**
200	50	3.78	737306	2.19	737406	4.35	737506	250	140x110	105x80	11	70	126	**450**

SERIES 73AE

ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

100-200 mm

70 Shore A

150-350 kg
4 km/h

100-235 daN

-20 / +70 °C

Description

Tyre: blue non-marking elastic rubber, hardness 70 Shore A

Centre: in polyamide 6.

Hub with plain bore hole which directly houses the axle.
Hub with ball bearings with interference assembly in the seats obtained by centre moulding.

Uses

Wheels with good elasticity, they are particularly suitable for use on uneven surfaces, in the presence of obstacles or for mixed indoor/outdoor uses with medium-duty loads.
Examples of recommended applications: trolleys for industrial indoor and outdoor handling, manual transpallet, flight cases for transporting musical instruments.

Environments of use

Designed for industrial environments, even in the presence of medium-harsh chemical agents. Not suitable in the presence of organic, aromatic solvents, chlorinated substances and hydrocarbons.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

They are suitable for use on all types of floors, even in the presence of obstacles. They do not mark or damage fragile floors.

Force required to push or tow a wheel

	50 kg	100 kg	150 kg	200 kg	300 kg	400 kg
100 mm	2	5	8	----	----	----
125 mm	1.8	3	5	7	----	----
160 mm	1	2	3	6	8.5	----
200 mm	< 1	1.7	2.5	3.8	6.5	----

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake.

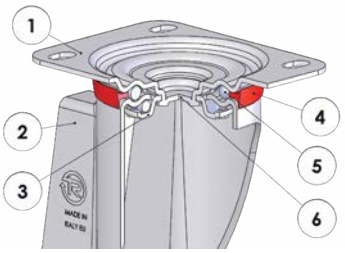
Medium-heavy duty brackets P
Maximum carrying capacity 350 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
100	36	0.22	731102AE	12	44	**200**	**100**	**150**
125	36	0.33	731103AE	12	44	**270**	**150**	**200**
160	48	0.76	731104AE	20	59	**350**	**175**	**300**
200	48	1.06	731106AE	20	59	**510**	**235**	**350**

								Static		4 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	daN	daN	daN
100	36	0.32	732102AE	12	40	32	10	**200**	**100**	**150**
125	36	0.41	732103AE	12	40	32	10	**270**	**150**	**200**
160	48	0.98	732104AE	20	55	47	14	**350**	**175**	**300**
200	48	1.28	732106AE	20	55	47	14	**510**	**235**	**350**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

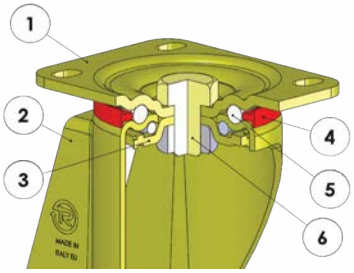
Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	36	0.76	735002AE	0.56	735102AE	0.88	735202AE	128	100x85	80x60	9	35	120	**150**
125	36	1.03	735003AE	0.76	735103AE	1.14	735203AE	156	100x85	80x60	9	37	120	**200**
160	48	2.04	735004AE	1.67	735104AE	2.29	735204AE	198	140x110	105x80	11	56	156	**300**
200	48	2.46	735006AE	2.00	735106AE	2.71	735206AE	240	140x110	105x80	11	56	156	**300**
100	36	0.87	735602AE	0.66	735702AE	0.93	735802AE	128	100x85	80x60	9	35	120	**150**
125	36	1.06	735603AE	0.79	735703AE	1.12	735803AE	156	100x85	80x60	9	37	120	**200**
160	48	2.26	735604AE	1.88	735704AE	2.50	735804AE	198	140x110	105x80	11	56	156	**300**
200	48	2.68	735605AE	2.22	735705AE	2.93	735805AE	240	140x110	105x80	11	56	156	**300**

SERIES **73 AE**

ELASTIC RUBBER WHEELS WITH POLYAMIDE 6 CENTRE

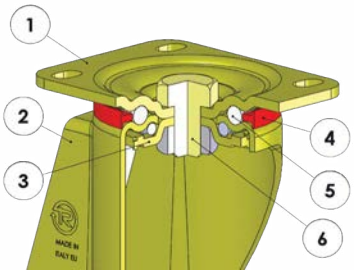
Medium-heavy duty brackets P - max carrying capacity 350 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	36	1.09	736002AE	0.60	736102AE	1.24	736202AE	138	100x85	80x60	9	46	123	**150**
125	36	1.29	736003AE	0.77	736103AE	1.28	736203AE	161	100x85	80x60	9	44	123	**200**
100	36	1.19	736602AE	0.69	736702AE	1.33	736802AE	138	100x85	80x60	9	46	123	**150**
125	36	1.32	736603AE	0.80	736703AE	1.46	736803AE	161	100x85	80x60	9	44	123	**200**



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
160	48	3.11	736004AE	1.72	736104AE	3.68	736204AE	205	140x110	105x80	11	70	126	**300**
200	48	3.56	736006AE	2.07	736106AE	4.13	736206AE	250	140x110	105x80	11	70	126	**350**
160	48	3.33	736604AE	1.98	736704AE	3.90	736804AE	205	140x110	105x80	11	70	126	**300**
200	48	3.78	736606AE	2.29	736706AE	4.35	736806AE	250	140x110	105x80	11	70	126	**350**

Details make the difference

tellureRôta

INDUSTRIAL
HEAVY DUTY LOADS AND MECHANICAL HANDLING

SERIES **62**

"TR-ROLL" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

100-250 mm | 4 km/h 300-800 daN | 300-600 daN | 6 km/h 300-800 daN | -20 / +70 °C

PAGE 132

SERIES **63AC**

VULKOLLAN® WHEELS WITH STEEL CENTRE

80-200 mm | 4 km/h 250-1500 daN | 190-550 daN | 6 km/h 200-1200 daN | -20 / +80 °C

PAGE 140

SERIES **63GH**

WHEELS IN VULKOLLAN® WITH CAST IRON CENTRE

80-300 mm | 4 km/h 280-2300 daN | 190-600 daN | 6 km/h 220-1800 daN | -20 / +80 °C

PAGE 148

SERIES **64**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

80-400 mm | 4 km/h 280-3500 daN | 190-750 daN | 6 km/h 220-2800 daN | -20 / +80 °C

PAGE 154

SERIES **65AL**

"TR" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

80-200 mm | 4 km/h 220-850 daN | 150-360 daN | 6 km/h 170-680 daN | -20 / +80 °C

PAGE 164

SERIES **65GH**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

150-300 mm | 4 km/h 400-2200 daN | 280-550 daN | 6 km/h 320-1700 daN | -20 / +80 °C

PAGE 170

SERIES **65HT**

THICK "TR" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

100-200 mm | 4 km/h 350-850 daN | 270-350 daN | 6 km/h 280-640 daN | -20 / +80 °C

PAGE 176

SERIES **66**

"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

80-250 mm | 4 km/h 100-400 daN | 120-380 daN | 6 km/h 180-800 daN | -20 / +80 °C | INOX

PAGE 180

SERIES **68P**

POLYAMIDE 6 SOLID WHEELS FOR HEAVY-DUTY LOADS

100-200 mm | 4 km/h 400-900 daN | 120-380 daN | -30 / +80 °C | INOX

PAGE 190

SERIES **69**

CAST IRON SOLID WHEELS

100-200 mm | 4 km/h 500-1400 daN | 260-800 daN | -40 / +400 °C

PAGE 196

SERIES **72AL**

SIGMA ELASTIC RUBBER WHEELS WITH ALUMINIUM CENTRE

100-200 mm | 4 km/h 180-500 daN | 180-300 daN | 6 km/h 140-400 daN | -20 / +70 °C

PAGE 202

SERIES **72GH**

SIGMA ELASTIC RUBBER WHEELS WITH ALUMINIUM CENTRE

120-300 mm | 4 km/h 300-950 daN | 250-500 daN | 6 km/h 240-760 daN | -20 / +70 °C

PAGE 208

SERIES 62

"TR-ROLL" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

100-250 mm

75 Shore A

300-800 daN
4 km/h

300-800 daN
6 km/h

300-550 daN

-20 / +70 °C

Description

Tyre: very thick TR-Roll polyurethane, hardness 75 Shore A, with excellent rolling resistance and elasticity and good resistance to wear and tear.

Centre: made of cast aluminium.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

Innovative product that combines the load capacity and the resistance to wear and tear of the polyurethane with the ability to overcome obstacles, noise, vibration damping and impacts of the elastic rubber. Combined with appropriate brackets they guarantee excellent performance for mechanical handling up to 16 km/h.
The excellent rolling resistance guarantees easy handling of heavy loads even with wheels in a small diameter.
Examples of application: trolleys for the automotive industry, towing applications.

Environments of use

Industrial environments, even in the presence of humidity and oils. Not suitable in the presence of strong acids and solvents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of industrial floors, even outdoors. Facilitates the overcoming of obstacles.
It does not damage the floors.

Force required to push or tow a wheel

	150 kg	250 kg	350 kg	450 kg	550 kg	700 kg
100 mm	2.5	4	----	----	----	
125 mm	1.8	3.2	5	----	----	
160 mm	1.4	2.8	4.1	5.9	8	
180 mm	< 1	2	3.5	5.0	6.8	
200 mm	< 1	1.5	2.8	4.2	5.9	9
250 mm	< 1	1.3	2.5	3.7	5	8.7

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-125 mm
Top plate fitting. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 700 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 700 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD
Maximum carrying capacity 700 daN - available diameters 100-200 mm
Top plate fitting. Available with adjustable rear brake.

Twin electrowelded brackets EEG MHD - EEG HD
Maximum carrying capacity 1400 daN - available diameters 100-200 mm
Top plate fitting.

Options available to order:

Wheel with rounded tread d. 125-160-200 mm

Wheel with mechanical cast iron centre

Wheel with mechanical cast iron centre hub with key housing

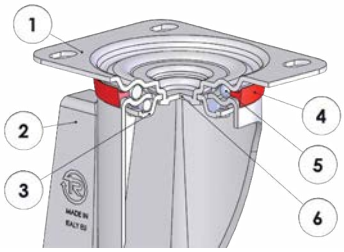
Wheel with polyamide 6 centre

SERIES **62**

"TR-ROLL" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
100	40	0.48	622102	0.39	624102	15	40	32	10	**400**	**300**	**300**	**300**
125	40	0.79	622113	0.54	624113	20	40	47	14	**500**	**350**	**350**	**350**
125	40	0.81	622103	0.56	624103	20	50	47	14	**500**	**350**	**350**	**350**
160	50	1.25	622104	1.00	624104	20	58	47	14.5	**800**	**400**	**550**	**550**
160	50	1.24	622114	1.00	624104	25	58	47	14.5	**800**	**400**	**550**	**550**
180	50	1.50	622105	1.25	624105	20	60	47	14.5	**900**	**450**	**600**	**600**
200	50	1.85	622106	1.60	624106	20	60	47	14.5	**1000**	**500**	**700**	**700**
200	50	1.84	622116	1.60	624106	25	60	47	14.5	**1000**	**500**	**700**	**700**
250	50	2.40	622108	2.10	624108	20	55	52	15	**1000**	**550**	**800**	**800**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	40	0.86	624402	0.83	626202	1.05	627302	128	100x85	80x60	9	37	120	**200**
125	40	1.35	624413	1.17	626213	1.51	627313	156	100x85	80x60	9	35	120	**220**
125	40	1.46	624403	1.11	626203	2.34	627303	165	140x110	105x80	11	57	156	**300**

Options available to order:

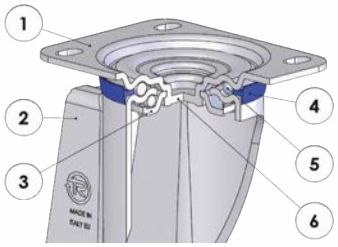
Wheel with rounded tread d. 125-160-200 mm

Wheel with cast iron centre

Wheel with cast iron centre, hub with key housing

Wheel with polyamide 6 centre

Medium-duty brackets M - max carrying capacity 500 daN

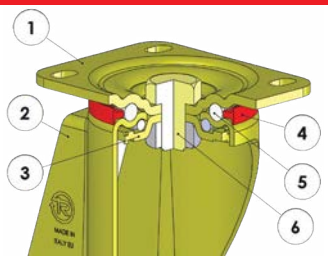


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electroplated galvanised steel
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
160	50	2.95	624504	2.24	627704	3.42	627404	199	140x110	105x80	11	58	178	**500**	
200	50	3.69	624506	3.04	627706	4.07	627406	240	140x110	105x80	11	50	178	**500**	

Medium-heavy duty brackets P - max carrying capacity 700 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	40	1.35	627602	0.85	628512	1.52	627202	138	100x85	80x60	9	46	123	**300**	**300**	
125	40	1.70	627613	1.26	628513	1.87	627213	161	100x85	80x60	9	44	123	**300**	**300**	

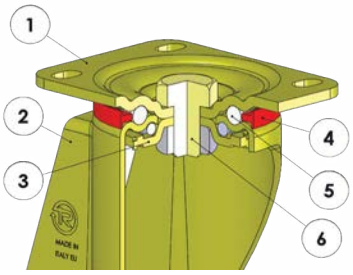
Options available to order:

Footguard
for brackets
NL-M-P

SERIES **62**

"TR-ROLL" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

Heavy duty brackets P - max carrying capacity 700 daN

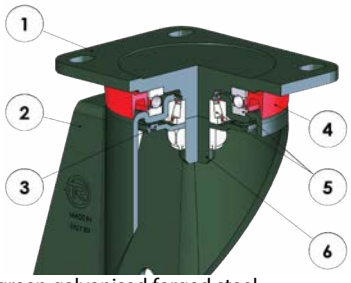


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

														4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	40	2.33	627603	1.69	628503	2.86	627203	170	140x110	105x80	11	70	126	**350**	**350**
160	50	3.60	627610	2.11	628514	4.17	627204	205	140x110	105x80	11	70	126	**550**	**550**
180	50	3.84	627605	2.42	628515	4.41	627205	228	140x110	105x80	11	70	126	**600**	**600**
200	50	4.31	627516	2.85	628516	4.91	627206	250	140x110	105x80	11	70	126	**700**	**700**

Extra-heavy duty brackets EP - max carrying capacity 700 daN



1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

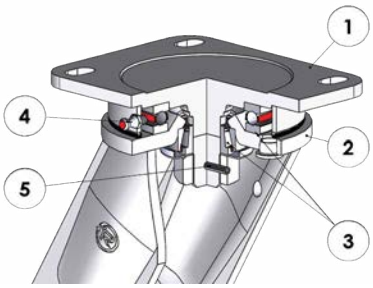
Available with adjustable total rear foot brake

														4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
160	50	3.76	627824	3.35	628824	4.28	626664	205	135x110	105x80	11	70	126	**550**	**550**
200	50	4.57	627826	4.13	628826	5.14	626656	250	135x110	105x80	11	70	126	**700**	**700**

Options available to order:

Footguard
for brackets
NL-M-P

Electrowelded brackets EE MHD - max carrying capacity 700 daN

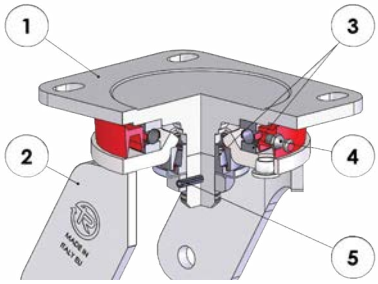


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	40	3.38	628302	2.40	628402	4.26	628602	170	135x110	105x80	11	51	157	**300**	**300**
125	40	3.71	628303	2.73	628403	4.59	628603	182	135x110	105x80	11	51	157	**350**	**350**
160	50	4.25	628314	3.26	628414	5.13	628614	215	135x110	105x80	11	60	157	**550**	**550**
180	50	4.62	628305	3.64	628405	5.51	628605	242	135x110	105x80	11	70	157	**600**	**600**
200	50	4.97	628306	3.99	628406	6.31	628606	252	135x110	105x80	11	70	157	**700**	**700**

Twin electrowelded brackets EEG MHD - max carrying capacity 700 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn tips electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

												4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN		
100	40+40	3.45	628062	2.65	628162	140	135x110	105x80	11	55	**600**	**600**		
125	40+40	4.20	628063	3.40	628163	170	135x110	105x80	11	55	**700**	**700**		

Options available to order:

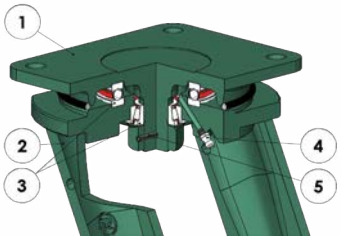
Wheels EE MHD with steering system

Directional lock for brackets EE MHD

SERIES **62**

"TR-ROLL" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

Twin electrowelded brackets EEG HD - max carrying capacity 1400 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

		kg		kg							4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
160	50+50	10.60	628084	6.20	628184	228	175x140	140x105	14	50	**1100**	**1100**
200	50+50	12.30	628066	7.70	628166	280	175x140	140x105	14	65	**1400**	**1400**

Flexibility you need

tellureRôta

SERIES 63 AC

VULKOLLAN® WHEELS WITH FORGED STEEL CENTRE

100-250 mm

93 Shore A

250-1500 daN
4 km/h

200-1200 daN
6 km/h

190-550 daN

-20 / +80 °C

Description

Tyre: Vulkollan®, hardness 93 Shore A: excellent rolling resistance and elasticity, highly resistant to wear, tear and deformations.

Centre: forged steel.

Hub with shielded ball bearings with interference assembly in the seats obtained by turning on the centre; also available without bearings.

Uses

Ideal for applications with heavy duty loads, even for mechanical handling at high speeds. Fitted with appropriate brackets they guarantee excellent performance up to 16 km/h.
The excellent rolling resistance allows easy handling of heavy loads even with wheels in a small diameter.
Examples of recommended applications: trolleys for internal industrial handling, AGV trolleys, containers, electrical pallet trucks, forklift trucks..

Environments of use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	150 kg	300 kg	450 kg	600 kg	1000 kg	1500 kg
100 mm	4	----	----	----	----	----
125 mm	3.3	6.7	----	----	----	----
150 mm	2.4	4.8	7.2	9.6	----	----
175 mm	2.2	4.5	6.8	9	----	----
200 mm	1.7	3.5	5.5	7.6	14.2	----
250 mm	1.2	2.5	4	5.6	10.5	18

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Fittings with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-200 mm
Top plate fitting.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 80-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 1500 daN - available diameters 100-250 mm
Top plate fitting. Available with adjustable rear brake.

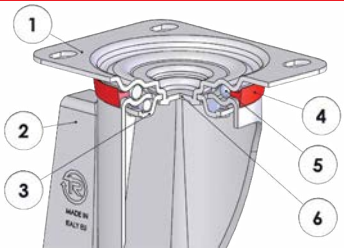
Options available to order:

The series 63AC wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

VULKOLLAN® WHEELS WITH FORGED STEEL CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
100	30	0.74	632122	0.67	634122	12	30	32	10	**375**	**190**	**250**	**200**
125	40	1.38	632123	1.31	634123	12	40	32	10	**500**	**230**	**350**	**280**
150	40	1.84	632124	1.66	634124	17	40	40	12	**900**	**320**	**750**	**600**
150	40	1.76	632224	1.60	634224	20	40	42	12	**900**	**320**	**750**	**600**
175	40	2.80	632125	2.56	634125	20	40	47	14	**1200**	**340**	**850**	**680**
200	50	4.03	632126	3.79	634126	20	50	47	14	**1800**	**420**	**1100**	**880**
200	50	4.00	632226	3.72	634226	25	50	52	15	**1800**	**420**	**1100**	**880**
250	60	8.03	632128	7.75	634128	25	60	52	15	**2200**	**550**	**1500**	**1200**

Standard-duty brackets NL - max carrying capacity 300 daN



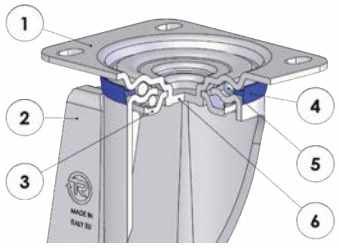
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
100	30	1.26	637322	1.01	638222	128	100x85	80x60	9	35	**200**
125	40	2.03	637323	1.68	638223	156	100x85	80x60	9	37	**220**
150	40	2.54	637304	2.15	638214	182	100x85	80x60	9	34	**220**
150	40	3.21	637324	2.84	638224	194	140x110	105x80	11	56	**300**
175	40	4.18	637325	3.89	638225	217	140x110	105x80	11	56	**300**
200	50	5.43	637326	5.21	638226	240	140x110	105x80	11	56	**300**

Options available to order:

Footguard for brackets NL-M-P

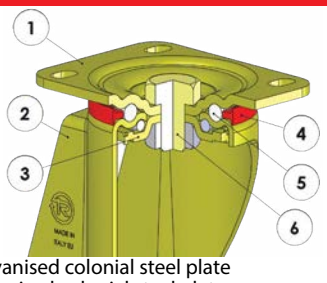
Medium-duty brackets M - max carrying capacity 500 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electroplated galvanised steel
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted
Available with adjustable total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	40	3.56	637404	2.84	638224	4.13	636704	194	140x110	105x80	11	58	178	**500**	
200	50	5.82	637406	5.21	638226	6.18	636706	240	140x110	105x80	11	50	178	**500**	

Medium-heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut
Available with total front foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	30	1.61	637622	1.11	638622	1.75	636302	138	100x85	80x60	9	46	123	**250**	**200**	
125	40	2.29	637623	1.76	638623	2.43	636303	161	100x85	80x60	9	44	123	**350**	**280**	

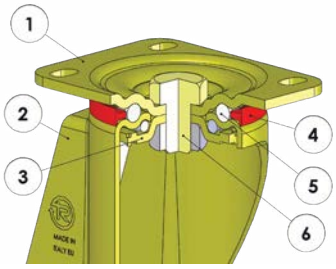
Options available to order:

Footguard
for brackets
NL-M-P

SERIES 63 AC

VULKOLLAN® WHEELS WITH FORGED STEEL CENTRE

Heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

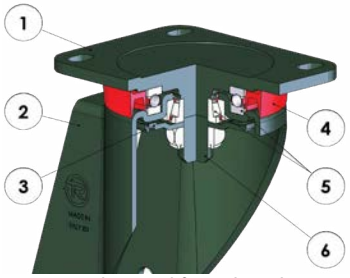
Available with total adjustable rear foot brake

														4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	40	4.19	637624	2.70	638624	4.76	636304	200	140x110	105x80	11	70	126	**750**	**600**
175	40	5.14	637625	3.72	638625	5.71	636305	225	140x110	105x80	11	70	126	**750**	**600**
200	50	6.44	637626	4.98	638626	7.01	636306	250	140x110	105x80	11	70	126	**750**	**600**

Options available to order:

Footguard for brackets NL-M-P

Extra-heavy duty brackets EP - max carrying capacity 1500 daN



1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

																4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	30	1.85	637822	1.61	638822			140	100x85	80x60	9	46		**250**	**200**
125	40	2.56	637823	1.70	638823			164	100x85	80x60	9	48		**350**	**280**
150	40	4.46	637824	3.97	638824	5.03	636504	200	135x110	105x80	11	70	126	**750**	**600**
175	40	5.44	637825	5.02	638825	6.01	636505	225	135x110	105x80	11	70	126	**850**	**680**
200	50	6.75	637826	6.30	638826	7.32	636506	250	135x110	105x80	11	70	126	**1100**	**880**
250	60	13.58	637828	11.74	638828			300	175x140	140x105	14	66		**1500**	**1200**

Options available to order:

Footguard
for brackets
NL-M-P

SERIES 63GH

VULKOLLAN® WHEELS WITH CAST IRON CENTRE

80-300 mm

93 Shore A

280-2300 daN
4 km/h

220-1800 daN
6 km/h

190-600 daN

-20 / +80 °C

Description

Tyre: Vulkollan®, hardness 93 Shore A: excellent rolling resistance and elasticity, highly resistant to wear, tear and deformations.

Centre: cast iron.

Hub with shielded ball bearings with interference assembly in the seats obtained by turning on the centre; also available without bearings.

Uses

Ideal for applications with heavy duty loads, even for mechanical handling at high speeds. Combined with appropriate brackets they guarantee excellent performance up to 16 km/h.
The excellent rolling resistance allows easy handling of heavy loads even with wheels in a small diameter.
Examples of recommended applications: trolleys for internal industrial handling, AGV trolleys, containers, electrical pallet trucks, forklift trucks.

Environments for use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

4 km/h	150 kg	300 kg	450 kg	600 kg	1000 kg	1500 kg	2000 kg
80 mm	4.5	11	----	----	----	----	----
100 mm	3.8	7.7	----	----	----	----	----
125x38 mm	3.5	7	11.5	----	----	----	----
125x50 mm	3.3	6.5	11	----	----	----	----
150x50 mm	2.5	5.2	8.6	12.6	----	----	----
160x50 mm	2.3	5	8.3	12	----	----	----
180x50 mm	2	4.1	6.8	9.7	----	----	----
200x50 mm	1.7	3.8	6	8.5	16	----	----
200x80 mm	1.3	3.5	5.0	6.7	11.5	17	----
250x60 mm	1	3	4.7	6.3	10.9	16	----
250x80 mm	< 1	2.5	4.5	6	10.3	15.5	----
300x60 mm	< 1	2	4	5.5	9.6	15	----
300x80 mm	< 1	1.5	3.5	5	8.6	13	16

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate fitting. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 80-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 1600 daN - available diameters 100-250 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD - EE HD - EE EHD.
Maximum carrying capacity 2300 daN - available diameters 125-400 mm
Top plate fitting. Available with adjustable rear brake.

Twin electrowelded brackets EEG MHD - EEG HD - EEG EHD
Maximum carrying capacity 3500 daN - available diameters 100-250 mm
Top plate fitting.

Options available to order:

Wheel with key housing

Wheel with very thick tyre

SERIES

63GH

VULKOLLAN® WHEELS WITH CAST IRON CENTRE

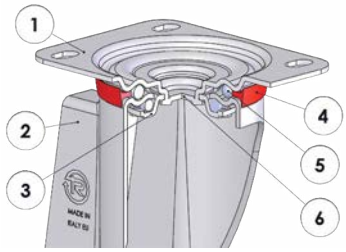
										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
80	28	0.51	632151	0.46	634151	12	32	28	8	**370**	**190**	**280**	**220**
100	38	1.02	632152	0.91	634152	15	40	35	11	**500**	**220**	**380**	**300**
125	38	1.45	632153	1.34	634153	15	40	35	11	**600**	**240**	**450**	**360**
125	50	1.98	632163	1.76	634163	20	55	47	14	**800**	**270**	**600**	**440**
125	50	1.96	632363	1.76	634163	25	55	47	14	**800**	**270**	**600**	**440**
150	50	2.50	632154	2.28	634154	20	55	47	14	**910**	**290**	**700**	**560**
150	50	2.48	632354	2.28	634154	25	55	47	14	**910**	**290**	**700**	**560**
160	50	2.65	632164	2.43	634164	20	55	47	14	**1000**	**300**	**750**	**600**
160	50	2.63	632364	2.43	634164	25	55	47	14	**1000**	**300**	**750**	**600**
180	50	3.02	632155	2.80	634155	20	55	47	14	**1100**	**350**	**900**	**720**
200	50	3.65	632156	3.43	634156	20	55	47	14	**1500**	**380**	**1000**	**800**
200	50	3.63	632356	3.43	634156	25	55	47	14	**1500**	**380**	**1000**	**800**
200	80	7.26	632166	6.74	634166	25	86	62	17	**2000**	**450**	**1600**	**1300**
200	80	7.24	632366	6.74	634166	30	86	62	17	**2000**	**450**	**1600**	**1300**
250	60	8.13	632157	7.61	634157	25	65	62	17	**2500**	**480**	**1500**	**1200**
250	60	8.10	632357	7.61	634157	30	65	62	17	**2500**	**480**	**1500**	**1200**
250	80	9.81	632167	9.29	634167	25	86	62	17	**2800**	**500**	**1900**	**1500**
250	80	9.80	632367	9.29	634167	30	86	62	17	**2800**	**500**	**1900**	**1500**
300	60	11.43	632158	10.96	634158	30	65	62	17	**3200**	**550**	**1750**	**1400**
300	80	13.80	632168	13.33	634168	30	86	62	17	**3400**	**600**	**2300**	**1800**

Options available to order:

Wheel with key housing

Wheel with very thick tyre

Standard-duty brackets NL - max carrying capacity 300 daN

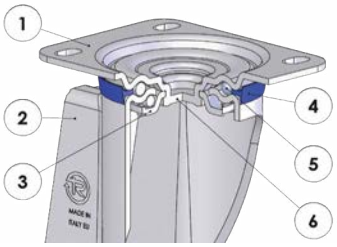


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	28	0.95	634551	0.82	634651	1.11	635451	107	100x85	80x60	9	37	120	**200**	
100	38	1.51	634552	1.40	634652	1.67	635452	128	100x85	80x60	9	35	120	**200**	
125	38	1.97	634553	1.86	634653	2.13	635453	156	100x85	80x60	9	37	120	**220**	
125	50	3.38	634563	2.89	634663	3.58	635463	165	140x110	105x80	11	57	156	**300**	
150	50	3.87	634554	3.59	634654			194	140x110	105x80	11	56		**300**	
160	50	3.98	634564	3.71	634664	4.23	635474	199	140x110	105x80	11	56	156	**300**	
180	50	4.48	634555	4.21	634655	4.68	635465	220	140x110	105x80	11	56	156	**300**	
200	50	5.16	634556	4.92	634656	5.36	635466	240	140x110	105x80	11	56	156	**300**	

Medium-duty brackets M - max carrying capacity 500 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

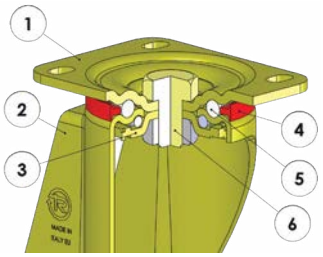
Available with adjustable total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	50	4.21	637424	3.59	634654	4.65	636724	194	140x110	105x80	11	58	178	**500**	
160	50	4.33	637434	3.71	634664	4.78	636734	199	140x110	105x80	11	58	178	**500**	
200	50	5.55	637426	4.92	634656	5.91	636726	240	140x110	105x80	11	50	178	**500**	

SERIES **63GH**

VULKOLLAN® WHEELS WITH CAST IRON CENTRE

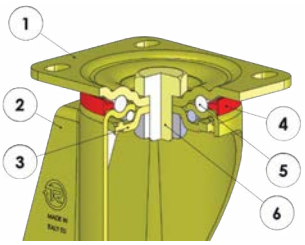
Heavy-duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
80	28	1.38	635851	0.96	636851			128	100x85	80x60	9	46		**280**	**220**
100	38	1.93	635852	1.52	636852	2.06	634852	138	100x85	80x60	9	46	123	**350**	**300**
125	38	2.37	635853	2.04	636853	2.50	634853	161	100x85	80x60	9	44	123	**350**	**300**



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

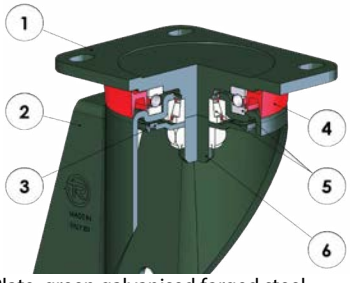
Available with total adjustable rear foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
125	50	3.66	635863	2.65	636863	4.24	634863	170	140x110	105x80	11	70	126	**550**	**440**
150	50	4.81	635854	3.55	636854	5.33	634854	200	140x110	105x80	11	70	126	**700**	**560**
160	50	4.93	635864	4.08	636864	5.45	634864	205	140x110	105x80	11	70	126	**750**	**600**
180	50	5.30	635855	4.45	636855	5.90	634855	228	140x110	105x80	11	70	126	**750**	**600**
200	50	6.06	635856	5.15	636856	6.66	634856	250	140x110	105x80	11	70	126	**750**	**600**

Options available to order:

Footguard
for brackets
NL-M-P

Extra-heavy duty brackets P - max carrying capacity 1600 daN

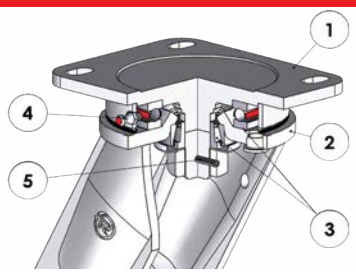


1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

		kg		kg		kg										4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	38	2.15	637852	1.92	638852			140	100x85	80x60	9	46		**350**	**300**
125	38	2.64	637853	2.44	638853			164	100x85	80x60	9	48		**350**	**300**
150	50	5.04	637854	4.63	638854	5.56	636654	200	135x110	105x80	11	70	126	**700**	**560**
160	50	5.16	637864	4.75	638864	5.68	636664	205	135x110	105x80	11	70	126	**750**	**560**
180	50	5.60	637855	5.20	638855	6.20	636655	228	135x110	105x80	11	70	126	**900**	**720**
200	50	6.35	637856	6.06	638856	6.95	636656	250	135x110	105x80	11	70	126	**1000**	**800**
200	80	12.30	637866	10.46	638866			275	175x140	140x105	14	66		**1600**	**1300**
250	60	13.16	637857	11.32	638857			300	175x140	140x105	14	66		**1500**	**1200**

Electrowelded brackets EE MHD - max carrying capacity 1000 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

		kg		kg		kg										4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	50	4.88	638303	3.90	638403	5.76	638903	182	135x110	105x80	11	51	157	**600**	**440**
150	50	5.50	638304	4.51	638404	6.38	638904	210	135x110	105x80	11	60	157	**700**	**560**
160	50	5.65	638314	4.66	638414	6.53	638914	215	135x110	105x80	11	60	157	**750**	**600**
180	50	6.14	638305	5.16	638405	7.02	638905	242	135x110	105x80	11	70	157	**900**	**720**
200	50	6.77	638306	5.79	638406	7.65	638906	252	135x110	105x80	11	70	157	**1000**	**800**

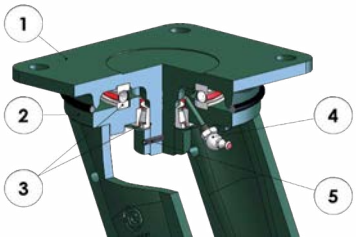
Options available to order:

Bracket
EE MHD
with helm

Directional lock
for brackets
EE MHD

VULKOLLAN® WHEELS WITH CAST IRON CENTRE

Electrowelded brackets EE HD - max carrying capacity 2300 daN

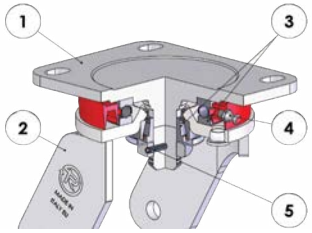


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
200	80	13.72	638316	12.18	638416	14.60	638916	275	175x140	140x105	14	65	166	**1600**	**1300**
250	60	14.82	638307	13.23	638407	15.70	638907	320	175x140	140x105	14	74	166	**1500**	**1200**
250	80	16.50	638317	14.91	638417	17.38	638917	320	175x140	140x105	14	74	166	**1600**	**1300**
250	80	17.56	638327	15.23	638427	18.44	638927	325	200x160	160x120	17	74	166	**1900**	**1500**
300	60	18.24	638308	16.62	638408	19.12	638908	360	175x140	140x105	14	81	166	**1600**	**1300**
300	60	19.30	638328	16.95	638428	20.18	638928	365	200x160	160x120	17	81	166	**1750**	**1400**
300	80	20.61	638318	18.99	638418	21.49	638918	360	175x140	140x105	14	81	166	**1600**	**1300**
300	80	21.67	638338	19.32	638438	22.55	638938	365	200x160	160x120	17	81	166	**2300**	**1800**

Twin electrowelded brackets EEG MHD - max carrying capacity 900 daN



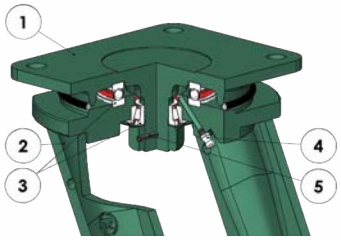
1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
100	38+38	4.50	638062	3.75	638162	140	135x110	105x80	11	55	**700**	**600**
125	38+38	5.45	638063	4.70	638163	170	135x110	105x80	11	55	**900**	**720**

Options available to order:

Directional lock for brackets EE HD

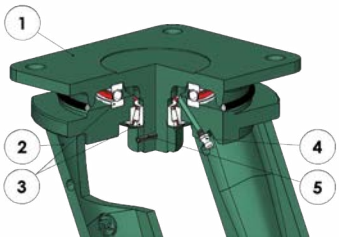
Twin electrowelded brackets EEG HD - max carrying capacity 2000 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
125	50+50	11.00	638072	7.70	638172	210	175x140	140x105	14	50	**1200**	**880**
150	50+50	13.10	638074	8.70	638174	223	175x140	140x105	14	50	**1400**	**1100**
160	50+50	13.40	638084	9.00	638184	228	175x140	140x105	14	50	**1500**	**1200**
200	50+50	15.90	638066	11.30	638166	280	175x140	140x105	14	65	**1600**	**1300**
200	50+50	17.55	638076	12.70	638176	285	200x160	160x120	17	65	**2000**	**1600**

Twin electrowelded brackets EEG MHD - max carrying capacity 3500 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
200	80+80	34.80	638086	25.05	638186	280	250x200	210x160	19	52	**3200**	**2500**
250	60+60	36.95	638067	27.20	638167	330	250x200	210x160	19	62	**3000**	**2400**
250	80+80	40.30	638077	30.55	638177	330	250x200	210x160	19	62	**3500**	**2800**

SERIES 64

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

80-400 mm

95 Shore A

280-3500 daN
4 km/h

220-2800 daN
6 km/h

190-750 daN

-20 / +80 °C

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity, highly resistant to wear.

Centre: cast iron.

Hub with plain hole so that it can easily be reworked to achieve a spline or key housing.
Hub with shielded ball bearing press-fitted in the seats obtained by precision turning on the centre; also available without bearings.

Uses

Ideal for applications with heavy duty loads, even for mechanical handling at high speeds. Combined with appropriate brackets they guarantee excellent performance up to 16 km/h.
The excellent rolling resistance allows easy handling of heavy loads even with wheels in a small diameter.
The plain hole version, with key way or spline, is suitable for use as a drive wheel.
Examples of recommended applications: trolleys for internal industrial handling, AGV trolleys, containers, electrical pallet trucks.
.

Environments of use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated steam.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	150 kg	300 kg	450 kg	600 kg	1000 kg	1500 kg	2000 kg	2800 kg
80 mm	4.5	11	----	----	----	----	----	----
100 mm	3.8	7.7	----	----	----	----	----	----
125x38 mm	3.5	7	11.5	----	----	----	----	----
125x50 mm	3.3	6.5	11	----	----	----	----	----
125x60 mm	3.3	6.5	11	14	----	----	----	----
150x50 mm	2.5	5.2	8.6	12.6	----	----	----	----
150x60 mm	2	4	8	11	----	----	----	----
150x80 mm	1.8	3.5	6	10.5	18	----	----	----
160x50 mm	2.3	5	8.3	12	----	----	----	----
180x50 mm	2	4.1	6.8	9.7	----	----	----	----
200x50 mm	1.7	3.8	6	8.5	16	----	----	----
200x80 mm	1.3	3.5	5.0	6.7	11.5	17	----	----
250x60 mm	1	3	4.7	6.3	10.9	16	----	----
250x80 mm	< 1	2.5	4.5	6	10.3	15.5	----	----
300x60 mm	< 1	2	4	5.5	9.6	15	----	----
300x80 mm	< 1	1.5	3.5	5	8.6	13	16	----
400x100 mm	< 1	< 1	2	3.2	6.8	11	13	21

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate fitting. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 80-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 1600 daN - available diameters 100-250 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD - EE HD - EE EHD.
Maximum carrying capacity 2800 daN - available diameters 125-400 mm
Top plate fitting. Available with adjustable rear brake.

Twin electrowelded brackets EEG MHD - EEG HD - EEG EHD
Maximum carrying capacity 4300 daN - available diameters 100-300 mm
Top plate fitting

Options available to order:

Wheel
with
key housing

Wheel
with very thick
tyre

SERIES **64**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

mm	mm	kg	CODE	mm	mm.	mm.	mm.	Static daN	4 km/h daN	6 km/h daN
100	40	1.50	641102	15 H7	45	55	30	**500**	**300**	**300**
125	40	1.30	641103	20 H7	60	60	30	**600**	**400**	**400**
150	40	2.90	641104	20 H7	60	70	40	**730**	**500**	**500**
150	50	3.70	641114	20 H7	60	70	40	**910**	**700**	**700**
180	50	4.40	641105	20 H7	60	70	40	**1100**	**800**	**800**
200	50	4.60	641106	20 H7	60	70	40	**1500**	**950**	**950**
200	60	6.00	641116	25 H7	60	70	40	**1700**	**1000**	**1000**
200	80	8.40	641126	40 H7	80	95	60	**2000**	**1400**	**1400**
250	50	6.60	641107	20 H7	60	75	45	**1800**	**1100**	**1100**
250	80	11.00	641117	40 H7	80	95	60	**2800**	**1600**	**1600**
250	80	10.10	641127	60 H7	80	95	60	**2800**	**1600**	**1600**
300	80	14.40	641108	50 H7	80	100	65	**3400**	**2000**	**2000**
300	100	21.20	641118	50 H7	100	120	80	**4200**	**2500**	**2500**
350	100	26.10	641109	50 H7	100	120	80	**4700**	**2800**	**2800**
400	100	31.60	641110	50 H7	100	120	80	**5000**	**3500**	**3500**

These wheels can also be used as drive wheels: the wheel hub is manufactured so that it can easily be reworked to achieve a spline or key housing The carrying capacity given is valid for movements at a maximum speed of 6 km/h also if used as a drive wheel on mainly straight routes.
To use as a steering drive wheel or at speeds higher than 6 km/h it is advisable to contact Tellure Rôta to assess any reduction of the maximum applicable loads that may be necessary. To prevent the polyurethane tyre from deteriorating, any reworking on the wheel must be done keeping the temperature under 80°C (which is recommended as the maximum limit during normal use of the product).
Tellure Rôta is at your disposal to customise the product, modifying the bore with a groove for a key or tongue according to the specifications of the Italian (UNI 6604 and UNI 6607) and European (DIN 6885) regulations in force. The maximum applicable diameter for each wheel, guaranteeing the carrying capacity values, is given in the product dimensions column.

Options available to order:

Wheel with key housing

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
80	28	0.51	642151	0.46	644151	12	32	28	8	**370**	**190**	**280**	**220**
100	38	1.02	642152	0.91	644152	15	40	35	11	**500**	**220**	**380**	**300**
125	38	1.45	642153	1.34	644153	15	40	35	11	**600**	**240**	**450**	**360**
125	50	1.98	642163	1.76	644163	20	55	47	14	**800**	**270**	**550**	**440**
125	50	1.96	642363	1.76	644163	25	55	47	14	**800**	**270**	**550**	**440**
125	58	2.86	642103	2.62	644103	20	58	47	15	**800**	**250**	**600**	**480**
150	50	2.50	642154	2.28	644154	20	55	47	14	**910**	**290**	**700**	**560**
150	50	2.48	642354	2.28	644154	25	55	47	14	**910**	**290**	**700**	**560**
150	58	2.83	642104	2.59	644104	20	58	47	15	**1400**	**350**	**850**	**680**
150	78	5.69	642124	5.19	644124	25	88	62	18	**1700**	**400**	**1000**	**800**
160	50	2.65	642164	2.43	644164	20	55	47	14	**1000**	**300**	**750**	**600**
160	50	2.63	642364	2.43	644164	25	55	47	14	**1000**	**300**	**750**	**600**
180	50	3.02	642155	2.80	644155	20	55	47	14	**1100**	**350**	**900**	**720**
200	50	3.65	642156	3.43	644156	20	55	47	14	**1500**	**380**	**1000**	**800**
200	50	3.63	642356	3.43	644156	25	55	47	14	**1500**	**380**	**1000**	**800**
200	78	7.26	642166	6.74	644166	25	86	62	17	**2000**	**450**	**1600**	**1300**
200	78	7.24	642366	6.74	644166	30	86	62	17	**2000**	**450**	**1600**	**1300**
250	60	8.13	642157	7.61	644157	25	65	62	17	**2500**	**480**	**1500**	**1200**
250	60	8.10	642357	7.61	644157	30	65	62	17	**2500**	**480**	**1500**	**1200**
250	78	9.81	642167	9.81	644167	25	86	62	17	**2800**	**500**	**1900**	**1500**
250	78	9.80	642367	9.81	644167	30	86	62	17	**2800**	**500**	**1900**	**1500**
300	60	11.43	642158	10.96	644158	30	65	62	17	**3200**	**550**	**1750**	**1400**
300	78	13.80	642168	13.33	644168	30	86	62	17	**3400**	**600**	**2300**	**1800**
360	120	31.63	642139	30.50	644139	40	120	90	23	**3800**	**750**	**2800**	**2200**
400	100	28.86	642129	26.30	644129	50	120	110	28	**4500**	**750**	**2800**	**2200**

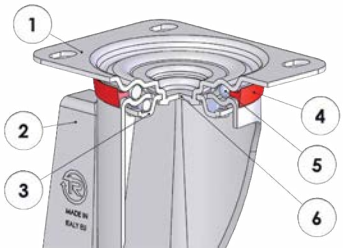
Options available to order:

Wheel
with very thick
tyre

SERIES **64**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN

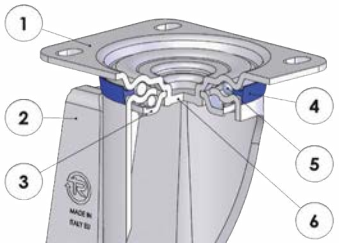


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	28	0.95	644551	0.82	644651	1.11	645451	107	100x85	80x60	9	37	120	**200**
100	38	1.51	644552	1.40	644652	1.67	645452	128	100x85	80x60	9	35	120	**200**
125	38	1.97	644553	1.86	644653	2.13	645453	156	100x85	80x60	9	37	120	**220**
125	50	3.38	644563	2.89	644663	3.58	645463	165	140x110	105x80	11	56	156	**300**
150	50	3.87	644554	3.59	644654	4.12	645464	194	140x110	105x80	11	56	156	**300**
160	50	3.98	644564	3.71	644664	4.23	645474	199	140x110	105x80	11	56	156	**300**
200	50	4.48	644555	4.21	644655	4.68	645465	220	140x110	105x80	11	56	156	**300**
200	50	5.16	644556	4.92	644656	5.36	645466	240	140x110	105x80	11	56	156	**300**

Medium-duty brackets M - max carrying capacity 500 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

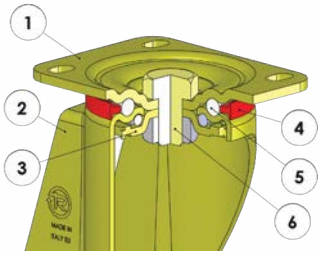
Available with adjustable total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	50	4.21	644954	3.59	644654	4.65	645564	194	140x110	105x80	11	58	178	**500**
160	50	4.33	644964	3.71	644664	4.78	645574	199	140x110	105x80	11	58	178	**500**
200	50	5.55	644956	4.92	644656	5.91	645566	240	140x110	105x80	11	50	178	**500**

Options available to order:

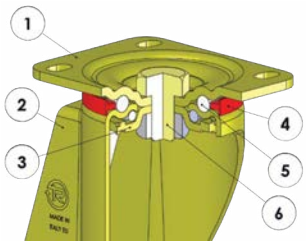
Footguard
for brackets
NL-M-P

Medium-heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut
Available with total front foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
80	28	1.38	645851	0.96	646851			128	100x85	80x60	9	46	123	**280**	**220**
100	38	1.93	645852	1.52	646852	2.06	644852	131	100x85	80x60	9	46	123	**350**	**300**
125	38	2.37	645853	2.04	646853	2.50	644853	161	100x85	80x60	9	48	123	**350**	**300**



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut
Available with total adjustable rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	50	3.66	645863	2.65	646863	4.24	644863	170	140x110	105x80	11	70	126	**550**	**440**
150	50	4.81	645854	3.55	646854	5.33	644854	200	140x110	105x80	11	70	126	**700**	**560**
160	50	4.93	645864	4.08	646864	5.45	644864	205	140x110	105x80	11	70	126	**750**	**600**
180	50	5.30	645855	4.45	646855	5.90	644855	228	140x110	105x80	11	70	126	**750**	**600**
200	50	6.06	645856	5.15	646856	6.66	644856	250	140x110	105x80	11	70	126	**750**	**600**

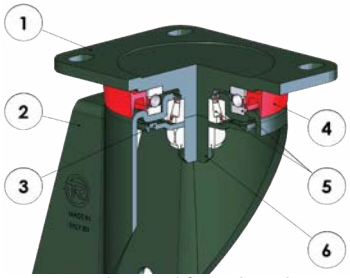
Options available to order:

Footguard
for brackets
NL-M-P

SERIES **64**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

Extra-heavy duty brackets EP - max carrying capacity 1600 daN

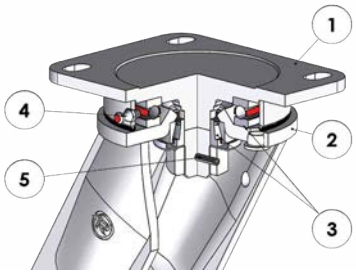


1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	38	2.15	647852	1.92	648852			140	100x85	80x60	9	46		**350**	**300**
125	38	2.64	647853	2.44	648853			164	100x85	80x60	9	48		**350**	**300**
125	50	4.61	647863	4.16	648863			188	135x110	105x80	11	70		**550**	**440**
150	50	5.04	647854	4.63	648854	5.56	646654	200	135x110	105x80	11	70	126	**700**	**560**
150	58	5.44	647824	4.96	648824			200	135x110	105x80	11	70		**850**	**680**
160	50	5.16	647864	4.75	648864	5.68	646664	205	135x110	105x80	11	70	126	**750**	**600**
180	50	5.60	647855	5.20	648855	6.20	646655	228	135x110	105x80	11	70	126	**900**	**720**
200	50	6.35	647856	6.06	648856	6.95	646656	250	135x110	105x80	11	70	126	**1000**	**800**
200	78	12.30	647866	10.46	648866			275	175x140	140x105	14	66		**1600**	**1300**
250	60	13.16	647857	11.32	648857			300	175x140	140x105	14	66		**1500**	**1200**

Electrowelded brackets EE MHD - max carrying capacity 1000 daN

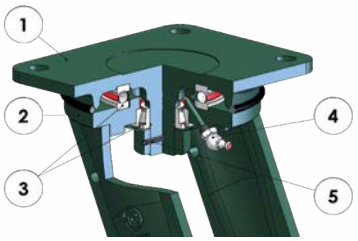


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	50	4.88	648303	3.90	648403	5.76	648503	182	135x110	105x80	11	51	157	**550**	**440**
150	50	5.50	648304	4.51	648404	6.38	648504	210	135x110	105x80	11	60	157	**700**	**560**
160	50	5.65	648314	4.66	648414	6.53	648514	215	135x110	105x80	11	60	157	**750**	**600**
180	50	6.14	648305	5.16	648405	7.02	648505	242	135x110	105x80	11	70	157	**900**	**720**
200	50	6.77	648306	5.79	648406	7.65	648506	252	135x110	105x80	11	70	157	**1000**	**800**

Electrowelded brackets EE HD - max carrying capacity 2300 daN

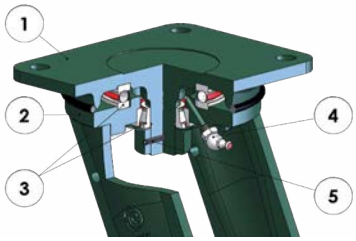


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	78	12.15	648315	10.61	648415	13.03	648515	218	175x140	140x105	14	50	166	**1000**	**800**
150	78	12.15	648324	10.61	648424			223	200x160	160x120	17	50		**1000**	**800**
200	78	13.72	648316	12.18	648416	14.60	648516	275	175x140	140x105	14	65	166	**1600**	**1300**
250	60	14.82	648307	13.23	648407	15.70	648507	320	175x140	140x105	14	74	166	**1500**	**1200**
250	78	16.50	648317	14.91	648417	17.38	648517	320	175x140	140x105	14	74	166	**1600**	**1300**
250	78	17.56	648327	15.23	648427	18.44	648527	325	200x160	160x120	17	74	166	**1900**	**1500**
300	60	18.24	648308	16.62	648408	19.12	648508	360	175x140	140x105	14	81	166	**1600**	**1300**
300	60	19.30	648328	16.95	648428	20.18	648528	365	200x160	160x120	17	81	166	**1750**	**1400**
300	78	20.61	648318	18.99	648418	21.49	648518	360	175x140	140x105	14	81	166	**1600**	**1300**
300	78	21.67	648338	19.32	648438	22.55	648538	365	200x160	160x120	17	81	166	**2300**	**1800**

Electrowelded bracket EE EHD - max carrying capacity 2800 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
300	100	29.80	648309	25.10	648409	384	250x200	210x160	19	78	**2500**	**2000**
400	100	44.91	648310	40.21	648410	475	250x200	210x160	19	95	**2800**	**2200**

Options available to order:

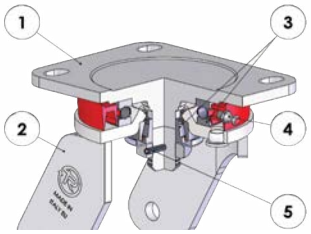
Bracket
EE MHD
with steering
system

Directional lock
for brackets
EE MHD - EE HD

SERIES **64**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

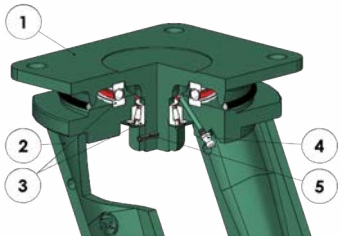
Twin electrowelded brackets EEG MHD - max carrying capacity 900 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
100	38+38	4.50	648062	3.75	648162	140	135x110	105x80	11	55	**700**	**600**
125	38+38	5.45	648063	4.70	648163	170	135x110	105x80	11	55	**900**	**720**

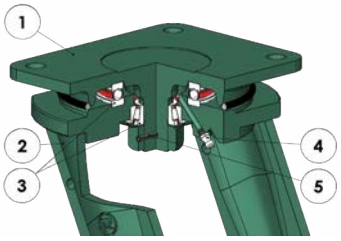
Twin electrowelded brackets EEG HD - max carrying capacity 2000 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
125	50+50	11.00	648072	7.70	648172	210	175x140	140x105	14	50	**1100**	**880**
150	50+50	13.10	648074	8.70	648174	223	175x140	140x105	14	50	**1400**	**1100**
160	50+50	13.40	648084	9.00	648184	228	175x140	140x105	14	50	**1500**	**1200**
200	50+50	15.90	648066	11.30	648166	280	175x140	140x105	14	65	**1600**	**1300**
200	50+50	17.55	648076	12.70	648176	285	200x160	160x120	17	65	**2000**	**1600**

Twin electrowelded brackets EEG MHD - max carrying capacity 4300 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
200	78+78	34.80	648086	25.05	648186	280	250x200	210x160	19	52	**3200**	**2500**
250	60+60	36.95	648067	27.20	648167	330	250x200	210x160	19	62	**3000**	**2400**
250	78+78	40.30	648077	30.55	648177	330	250x200	210x160	19	62	**3500**	**2800**
300	78+78	50.00	648078	40.00	648178	385	250x200	210x160	19	75	**4300**	**3500**

SERIES 65 AL

"TR" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

80-200 mm

95 Shore A

220-850 daN
4 km/h

170-680 daN
6 km/h

150-360 daN

-20 / +80 °C

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity, highly resistant to wear and tear.

Centre: made of cast aluminium.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

Suitable for applications with medium/heavy-duty loads, also with mechanical handling, with speed up to 6 km/h.
The excellent rolling resistance allows easy handling of heavy loads even with wheels in a small diameter.
Examples of recommended applications: trolleys for internal industrial handling, AGV trolleys, containers, electrical pallet trucks, tilt trucks.

Environments of use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons.
Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	200 kg	350 kg	500 kg	650 kg	850 kg
80 mm	2.8	5.8	----	----	----	----
100 mm	1.7	4.5	----	----	----	----
125 mm	1.4	3	----	----	----	----
150 mm	< 1	2	6	7.6	10.7	----
160 mm	< 1	1.8	5	7.4	10.5	----
200 mm	< 1	1.4	4.8	7.2	10.3	18

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets :

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with the front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 850 daN - available diameters 100-200 mm
Top plate fitting. Available with adjustable rear brake.

Options available to order:

The series 65AL wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

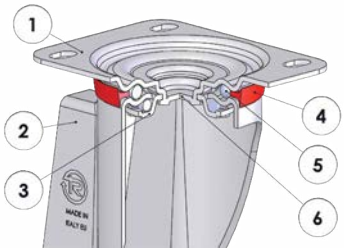
SERIES

65 AL

"TR" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
80	25	0.20	652101	0.15	654101	12	30	28	8	**280**	**150**	**220**	**170**
100	30	0.34	652102	0.25	654102	12	40	32	10	**350**	**225**	**250**	**200**
125	35	0.50	652103	0.41	654103	12	40	32	10	**500**	**280**	**400**	**320**
150	40	0.91	651104	0.66	653104	20	50	47	14	**850**	**330**	**600**	**480**
160	50	1.25	652114	0.99	654114	20	60	47	14.5	**950**	**350**	**800**	**640**
200	50	1.47	651106	1.16	653106	20	55	52	15	**1000**	**360**	**850**	**680**
200	50	1.45	651206	1.16	653106	25	55	52	15	**1000**	**360**	**850**	**680**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

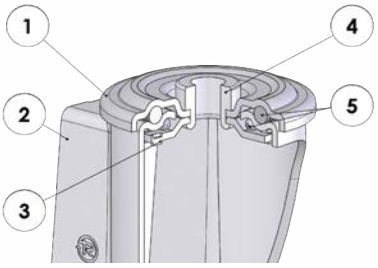
															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
80	25	0.72	659301	0.52	658201	0.91	656501	107	100x85	80x60	9	37	120		**200**
100	30	0.94	659302	0.69	658202	1.08	656502	128	100x85	80x60	9	35	120		**200**
125	35	1.14	659303	0.89	658203	1.28	656503	156	100x85	80x60	9	37	120		**220**
150	40	1.66	659312	1.52	658112			182	100x85	80x60	9	50			**220**
150	40	2.34	659304	2.04	658104	2.63	656504	194	140x110	105x80	11	56	156		**300**
160	50	2.68	659314	2.38	658114	2.97	656514	198	140x110	105x80	11	56	156		**300**
200	50	3.05	659306	2.76	658106	3.25	656506	240	140x110	105x80	11	56	156		**300**

Options available to order:

Directional lock for brackets d. 150-200 mm

Footguard for brackets NL-M-P

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

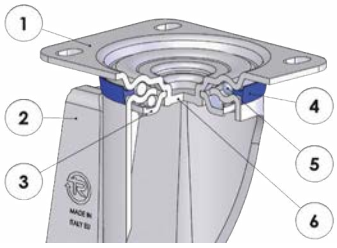
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.65	656401	0.78	656801	107	73	12	37	120	**200**
100	30	0.88	656402	1.02	656802	128	73	12	35	120	**200**
125	35	1.08	656403	1.23	656803	156	73	12	37	120	**220**
150	40	2.20	656404	2.49	656804	188	102	20	56	156	**300**
160	50	2.54	656414	2.96	656814	193	102	20	56	156	**300**
200	50	2.95	656406	3.24	656806	236	102	20	56	156	**300**

SERIES 65AL

"TR" POLYURETHANE WHEELS WITH ALUMINIUM CENTRE

Medium-duty brackets M - max carrying capacity 500 daN

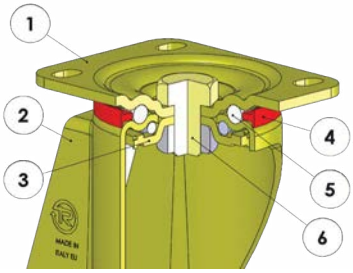


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	40	2.68	659604	2.04	658104	3.16	659704	194	140x110	105x80	11	58	178	**500**	
160	50	3.03	659614	2.38	658114	3.49	659714	199	140x110	105x80	11	58	178	**500**	
200	50	3.44	659606	2.76	658106	3.80	659706	240	140x110	105x80	11	50	178	**500**	

Heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

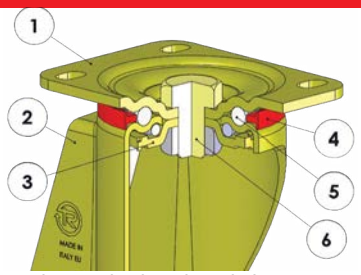
Available with total front foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	30	1.20	657602	0.82	658602	1.35	656602	138	100x85	80x60	9	46	123	**250**	**200**	
125	35	1.39	657603	0.97	658603	1.54	656603	161	100x85	80x60	9	44	123	**350**	**280**	

Options available to order:

Footguard
for brackets
NL-M-P

Medium-heavy duty brackets P - max carrying capacity 750 daN

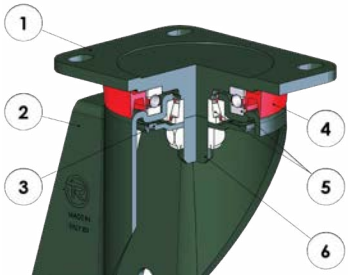


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	40	3.18	657604	2.19	658604	3.75	656604	200	140x110	105x80	11	70	126	**600**	**480**
160	50	3.52	657514	2.53	658614	4.09	656614	205	140x110	105x80	11	70	126	**750**	**600**
200	50	3.94	657606	2.48	658606	4.51	656606	250	140x110	105x80	11	70	126	**750**	**600**

Extra-heavy duty brackets EP - max carrying capacity 850 daN



1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	30	1.44	657802	1.31	658802			140	100x85	80x60	9	46		**250**	**200**
125	35	1.79	657803	1.45	658803			164	100x85	80x60	9	48		**350**	**280**
150	40	3.44	657704	2.96	658704	4.01	656904	200	135x110	105x80	11	70	126	**600**	**480**
160	50	3.78	657714	3.30	658714	4.35	657014	205	135x110	105x80	11	70	126	**800**	**640**
200	50	4.19	657706	3.75	658706	4.76	656906	250	135x110	105x80	11	70	126	**850**	**680**

Options available to order:

Directional lock for P brackets d. 150-200 mm

Footguard for brackets NL-M-P

SERIES 65GH

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

150-300 mm

95 Shore A

400-2200 daN
4 km/h

320-1700 daN
6 km/h

280-550 daN

-20 / +80 °C

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity features, highly resistant to wear and tear.

Centre: cast iron.

Hub with shielded ball bearings with interference assembly in the seats obtained by turning on the centre; also available without bearings.

Uses

Suitable for applications with medium/heavy-duty loads, also with mechanical handling, with speed up to 6 km/h.
The excellent rolling resistance allows manually handling heavy loads.
Examples of recommended applications: trolleys for internal industrial handling, AGV trolleys, containers, electrical pallet trucks, tilt trucks.

Environments of use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	300 kg	500 kg	700 kg	1000 kg	2000 kg
150x30 mm	1.4	5.7	----	----	----	----
150x35 mm	1.9	5	----	----	----	----
175 mm	1	3.9	11.6	----	----	----
200 mm	< 1	2.2	6	10.4	19	----
250 mm	< 1	2	5.8	8.4	14.8	----
300 mm	< 1	1.7	4.5	7	10	19.3

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Combination with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 150-200 mm
Top plate and bolt hole fittings. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 150-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 1200 daN - available diameters 150-250 mm
Top plate fitting. Available with adjustable rear brake.

Options available to order:

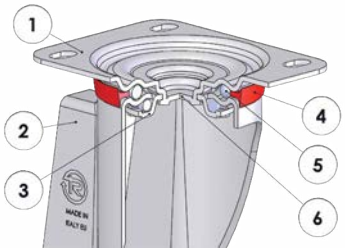
The series 65GH wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.

SERIES

65GH "TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN	daN
150	30	1.45	652104	0.96	654104	17	30	40	12	**700**	**280**	**400**	**320**
150	35	1.60	652224	1.36	654224	20	35	47	14	**825**	**290**	**490**	**390**
175	35	2.03	652105	1.79	654105	20	35	47	14	**900**	**350**	**650**	**520**
200	45	3.51	652106	3.27	654106	20	45	47	14	**1125**	**380**	**1000**	**800**
200	45	3.42	652206	3.14	654206	25	45	52	15	**1125**	**380**	**1000**	**800**
250	50	5.59	652108	5.31	654108	25	50	52	15	**1750**	**400**	**1200**	**960**
300	70	12.31	652109	11.85	654109	30	70	62	16	**3000**	**550**	**2200**	**1700**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel sheet
2) Fork: electrolytically galvanised steel sheet
3) Ball race ring: electrolytically galvanised steel sheet
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

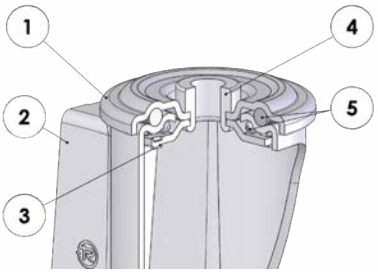
															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
150	30	2.81	656204	2.45	658204	3.10	656524	192	140x110	105x80	11	56	156		**300**
150	35	2.96	656214	2.60	658214	3.25	656534	192	140x110	105x80	11	56	156		**300**
175	35	3.41	656205	3.12	658205	3.69	656525	217	140x110	105x80	11	56	156		**300**
200	45	4.92	656206	4.70	658206	4.70	656526	240	140x110	105x80	11	56	156		**300**

Options available to order:

Directional lock for brackets d. 150-200 mm

Footguard for brackets NL-M-P

Standard-duty brackets NL - max carrying capacity 300 daN

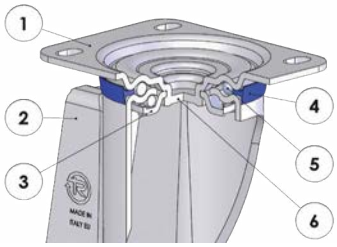


1) Plate: electrolytically galvanised steel sheet
2) Fork: electrolytically galvanised steel sheet
3) Ball race ring: electrolytically galvanised steel sheet
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
150	30	2.68	656424	2.96	656824	188	102	20	56	156	**300**
150	35	2.83	656434	3.11	656834	188	102	20	56	156	**300**
175	35	3.29	656425	3.57	656825	212	102	20	56	156	**300**
200	45	4.77	656426	5.06	656826	236	102	20	56	156	**300**

Medium-duty brackets M - max carrying capacity 500 daN



1) Plate: electrolytically galvanised steel sheet
2) Fork: electrolytically galvanised steel sheet
3) Ball race ring: electroplated galvanised steel
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	35	3.31	657214	2.60	658214	3.78	657334	194	140x110	105x80	11	58	178	**490**
200	45	5.31	657206	4.70	658206	5.25	657326	240	140x110	105x80	11	50	178	**500**

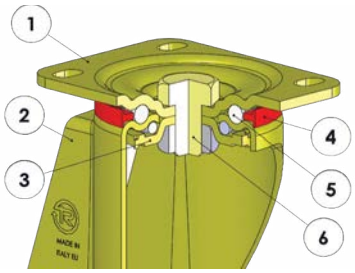
Options available to order:

Footguard
for brackets
NL-M-P

SERIES **65GH**

"TR" POLYURETHANE WHEELS WITH CAST IRON CENTRE

Medium-heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

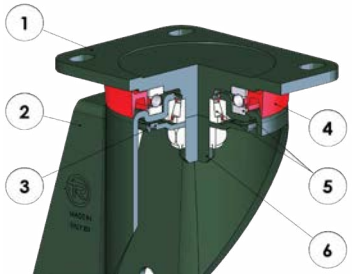
															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	30	3.80	657404	2.36	658404	4.08	656624	200	140x110	105x80	11	70	126	**400**	**320**
150	35	3.95	657414	2.51	658414	4.52	656634	200	140x110	105x80	11	70	126	**490**	**390**
175	35	4.42	657405	3.00	658405	4.99	656625	225	140x110	105x80	11	70	126	**650**	**520**
200	45	5.89	654706	4.43	658406	6.46	656626	250	140x110	105x80	11	70	126	**750**	**600**

Available versions that can be specially ordered

Directional lock for brackets d. 150-200 mm

Footguard for brackets NL-M-P

Extra-heavy duty brackets EP - max carrying capacity 1200 daN



1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	30	4.06	657804	2.32	658804			200	135x110	105x80	11	70		**400**	**320**
150	35	4.21	657814	3.73	658814	4.78	656914	200	135x110	105x80	11	70	126	**490**	**390**
175	35	4.66	657805	4.24	658805	5.23	656915	225	135x110	105x80	11	70	126	**650**	**520**
200	45	6.14	657806	5.70	658806	6.71	656916	250	135x110	105x80	11	70	126	**1000**	**800**
250	50	11.14	657808	9.30	658808			300	175x140	140x105	14	66		**1200**	**960**

SERIES 65HT

WHEELS IN THICK "TR" POLYURETHANE WITH ALUMINIUM CENTRE

100-200 mm

95 Shore A

350-800 daN
4 km/h

280-640 daN
6 km/h

270-350 daN

-20 / +80 °C

Technical features

Tyre: "TR" polyurethane, hardness 95 Shore A, very thick and rounded profile; excellent rolling resistance and elasticity, highly resistant to wear and tear.

Centre: made of cast aluminium.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

Designed to improve trolleys' handling with heavy loads on uneven surfaces.
The thick tread guarantees: excellent ability to overcome obstacles, reduced fatigue in pushing the trolley, excellent performance in case of mechanical handling or mixed manual-mechanical handling, excellent performance in time, even at high speed (up to 12 km/h).
Examples of recommended applications: trolleys for internal handling in the logistics and automotive industry, electrical pallet trucks.

Environments of use

Designed for industrial environments, even in in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of industrial floors, except unpaved; it easily overcomes obstacles.

Force required to push or tow a wheel

	100 kg	300 kg	400 kg	500 kg	650 kg	800 kg
100 mm	2.5	5.5	----	----	----	----
125 mm	2.4	5.3	----	----	----	----
160 mm	1.8	4.7	5.8	7	11	----
180 mm	1.5	4.4	5.6	6.5	10	----
200 mm	1.2	4	5.4	6.2	9	12

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Electrowelded brackets EE MHD
Maximum carrying capacity 800 daN - available diameters 100-200 mm
Top plate fitting. Available with adjustable rear brake.

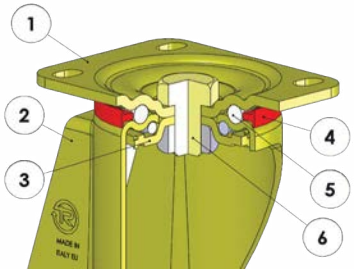
SERIES

65HT

WHEELS IN THICK "TR" POLYURETHANE WITH ALUMINIUM CENTRE

										Static		4 km/h	6 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN		
100	40	0.46	652302	0.38	654302	15	40	32	9	**500**	**270**	**350**	**280**		
125	40	0.76	652303	0.41	654303	20	50	47	14	**650**	**280**	**450**	**360**		
160	50	1.18	652304	0.95	654304	20	58	47	14.5	**900**	**320**	**700**	**560**		
180	50	1.44	652305	1.21	654305	20	60	47	14.5	**950**	**335**	**750**	**600**		
200	50	1.76	652306	1.52	654306	20	60	47	14.5	**1000**	**350**	**800**	**640**		

Medium-heavy duty brackets P - max carrying capacity 750 daN

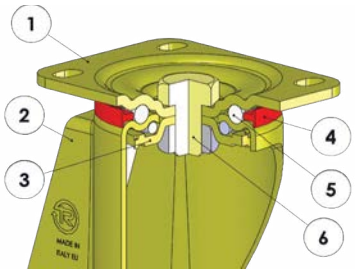


1) Plate: galvanised colonial platesteel
2) Fork: galvanised colonial platesteel
3) Ball race ring: galvanised colonial platesteel
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

														4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	40	1.33	655302	0.83	655412	1.50	655502	138	100x85	80x60	9	46	123	**350**	**280**

Medium-heavy duty brackets P - max carrying capacity 750 daN

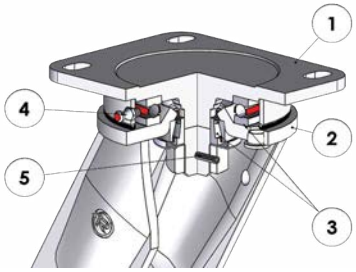


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

		kg		kg		kg										4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	40	2.30	655303	1.63	655403	2.83	655503	170	140x110	105x80	11	70	126	**450**	**360**
160	50	3.53	655310	2.04	655414	4.10	655504	205	140x110	105x80	11	70	126	**700**	**560**
180	50	3.78	655305	2.36	655415	4.35	655505	228	140x110	105x80	11	70	126	**750**	**600**
200	50	4.22	655316	2.76	655416	4.82	655506	250	140x110	105x80	11	70	126	**750**	**600**

Electrowelded brackets EE MHD - max carrying capacity 800 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

																4 km/h	6 km/h
		kg		kg		kg											
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	40	3.36	655602	2.38	655702	4.24	655802	170	135x110	105x80	11	51	157	**350**	**280**
125	40	3.68	655603	2.70	655703	4.56	655803	182	135x110	105x80	11	51	157	**450**	**360**
160	50	4.18	655614	3.19	655714	5.06	655814	215	135x110	105x80	11	60	157	**700**	**560**
180	50	4.56	655605	3.58	655705	5.45	655805	242	135x110	105x80	11	70	157	**750**	**600**
200	50	4.88	655606	3.90	655706	6.22	655806	252	135x110	105x80	11	70	157	**800**	**640**

Options available to order:

Directional lock for P brackets d. 150-200 mm

Directional lock for brackets EE MHD

Footguard for brackets NL-M-P

SERIES 66

80-250 mm

95 Shore A

100-400 daN
4 km/h

180-800 daN
6 km/h

120-380 daN

-20 / +80 °C

INOX

"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity, highly resistant to wear.

Centre: polyamide 6.

Hub with plain bore hole which directly houses the axle.
Hub with cylindrical roller bearing with plastic cage. Also available with stainless steel roller bearings.
Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding. The wheel is also available without bearings.

Uses

Excellent for trolleys and machinery with medium/heavy-duty loads, also in case of continuous handling.
Also suitable for mechanical or mixed manual-mechanical handling, up to 6 km/h.
Its excellent rolling resistance guarantees minimum effort by manual handling.
Examples of recommended applications: trolleys for industrial internal handling, trolleys for the food and chemical industry, manual and electric pallet trucks, equipment for dry cleaner's, slaughterhouses, meat factories.

Environments of use

Suitable for indoor environments, also in the presence of medium-harsh chemical agents, alcohol, glycol and water are suitable for industrial environments.
Not recommended in places with strong organic acids and mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

They do not mark or damage delicate floors.
Suitable on tiles, resin-cement, asphalt even in the presence of small obstacles on the path. Not recommended on unpaved floors or in the presence of processing residues.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg	600 kg	800 kg	1000 kg
80 mm	5	----	----	----	----	----	----	----
100 mm	4.5	8	----	----	----	----	----	----
125 mm	4.2	7	----	----	----	----	----	----
150 mm	2.5	4	6	8				
175 mm	1.5	3.7	5.5	7.5	----	----	----	----
200 mm	< 1	3.5	5	8.5	11	17	----	----

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 600 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Stainless steel medium-heavy duty brackets PX
Maximum carrying capacity 600 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable rear brake.

Options available to order

The series 66 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the wheel+bracket code. To order loose thread guards see the Accessories section.

SERIES **66**

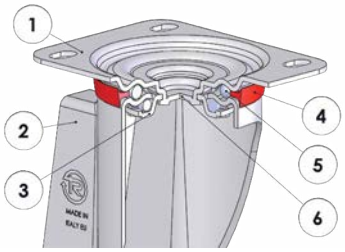
"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

mm	mm	kg	CODE	mm	mm.	Static daN	daN	4 km/h daN
80	25	0.10	661101	12	39	**225**	**100**	**150**
100	30	0.16	661102	12	44	**300**	**135**	**200**
125	35	0.25	661103	15	44	**400**	**150**	**250**
150	40	0.45	661104	20	59	**600**	**240**	**400**
175	40	0.62	661105	20	59	**680**	**270**	**470**
200	50	0.78	661106	20	59	**800**	**300**	**600**
200	50	0.75	661206	25	59	**800**	**300**	**600**
250	60	1.41	661108	25	88	**1200**	**400**	**1000**

mm	mm	kg	CODE	kg	CODE	mm	mm	Static daN	daN	4 km/h daN
80	25	0.13	663101	0.13	663201	12	39	**225**	**100**	**150**
100	30	0.19	663102	0.19	663202	12	44	**300**	**135**	**200**
125	35	0.28	663103	0.28	663203	15	44	**400**	**150**	**250**
150	40	0.54	663104	0.54	663204	20	59	**600**	**240**	**400**
175	40	0.73	663105	0.73	663205	20	59	**680**	**270**	**470**
200	50	0.89	663106	0.89	663206	20	59	**800**	**300**	**600**
200	50	0.85	663116			25	59	**800**	**300**	**600**
250	60	1.52	663108	1.52	663208	25	88	**1200**	**400**	**1000**

mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	Static daN	daN	4 km/h daN	6 km/h daN
80	25	0.15	662101	0.10	664101	12	32	28	10	**225**	**100**	**150**	**120**
100	30	0.25	662102	0.15	664102	12	40	32	11.5	**300**	**135**	**200**	**160**
125	35	0.33	662103	0.25	664103	15	40	35	13.5	**400**	**150**	**250**	**200**
175	40	0.85	662105	0.60	664105	20	55	47	14	**680**	**270**	**470**	**380**
200	50	1.07	662106	0.76	664106	20	55	52	15	**800**	**300**	**600**	**480**
200	50	1.06	662126	0.76	664106	25	55	52	15	**800**	**300**	**600**	**480**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
80	25	0.61	664201	0.37	665701	0.80	666601	107	100x85	80x60	9	37	120	**150**
100	30	0.75	664202	0.44	665702	0.90	666602	128	100x85	80x60	9	35	120	**200**
125	30	0.91	664203	0.66	665703	1.05	666603	156	100x85	80x60	9	37	120	**220**
125PG	30	1.10	664213	0.86	665713	1.30	666643	156	140x110	105x80	11	37	120	**220**
150	40	1.81	664204	1.44	665704	2.09	666604	194	140x110	105x80	11	56	156	**300**
175	40	1.99	664205	1.70	665705	2.27	666605	217	140x110	105x80	11	56	156	**300**
200	50	2.19	664206	1.97	665706	2.45	666606	240	140x110	105x80	11	56	156	**300**
80	25	0.63	664501	0.41	665901	0.84	666621	107	100x85	80x60	9	37	120	**150**
100	30	0.78	664502	0.46	665902	0.93	666622	128	100x85	80x60	9	35	120	**200**
125	30	0.93	664503	0.68	665903	1.08	666623	156	100x85	80x60	9	37	120	**220**
125PG	30	1.13	664513	0.89	665913	1.33	666653	156	140x110	105x80	11	37	120	**220**
150	40	2.00	664504	1.53	665904	2.18	666624	194	140x110	105x80	11	56	156	**300**
175	40	2.12	664505	1.79	665905	2.38	666625	217	140x110	105x80	11	56	156	**300**
200	50	2.29	604506	2.08	665906	2.53	666626	240	140x110	105x80	11	56	156	**300**

Options available to order

Wheel with ball bearings fitted with NL bracket

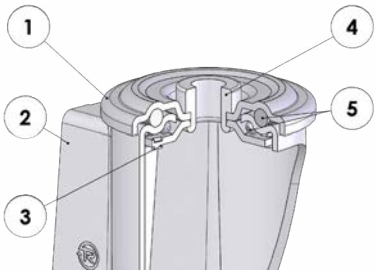
Directional lock for brackets d. 150-200 mm

Footguard for brackets NL-M-P

SERIES **66**

"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

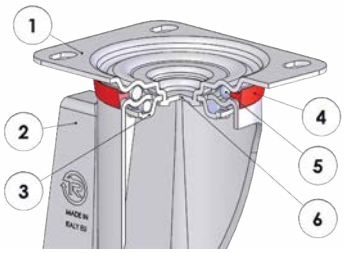
Available with total front foot brake

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.54	667701	0.72	666401	107	73	12	37	120	**150**
100	30	0.68	667702	0.89	666402	128	73	12	35	120	**200**
125	30	0.85	667703	1.00	666403	156	73	12	37	120	**200**
150	40	1.67	667704	1.96	666404	188	102	20	56	156	**300**
175	40	1.86	667705	2.15	666405	212	102	20	56	156	**300**
200	50	2.09	667706	2.37	666406	236	102	20	56	156	**300**
80	25	0.57	667801	0.75	666421	107	73	12	37	120	**150**
100	30	0.71	667802	0.91	666422	128	73	12	35	120	**200**
125	30	0.88	667803	1.03	666423	156	73	12	37	120	**200**
150	40	1.76	667804	2.05	666424	188	102	20	56	156	**300**
175	40	1.97	667805	2.26	666425	212	102	20	56	156	**300**
200	50	2.20	667806	2.48	666426	236	102	20	56	156	**300**

Options available to order

Wheel
with ball bearings
fitted with bracket
NL

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN



INOX

1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

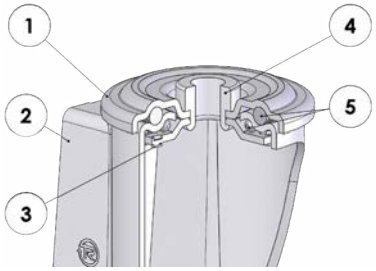
Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
80	25	0.60	664401	0.34	665401	0.77	666701	107	100x85	80x60	9	37	120	**150**	
100	30	0.66	664402	0.41	665402	0.84	666702	128	100x85	80x60	9	35	120	**200**	
125	30	0.81	664403	0.64	665403	0.95	666703	156	100x85	80x60	9	37	120	**220**	
150	40	1.75	664404	1.31	665404	2.04	666704	194	140x110	105x80	11	56	156	**300**	
175	40	1.93	664405	1.49	665405	2.21	666705	215	140x110	105x80	11	56	156	**300**	
200	50	2.16	664406	1.70	665406	2.44	666706	240	140x110	105x80	11	56	156	**300**	
80	25	0.64	664601	0.38	665601	0.81	666721	107	100x85	80x60	9	37	120	**150**	
100	30	0.68	664602	0.44	665602	0.87	666722	128	100x85	80x60	9	35	120	**200**	
125	30	0.84	664603	0.67	665603	0.98	666723	156	100x85	80x60	9	37	120	**220**	
150	40	1.84	664604	1.40	665604	2.13	666724	194	140x110	105x80	11	56	156	**300**	
175	40	2.04	664605	1.60	665605	2.32	666725	215	140x110	105x80	11	56	156	**300**	
200	50	2.27	664606	1.81	665606	2.55	666726	240	140x110	105x80	11	56	156	**300**	

"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX

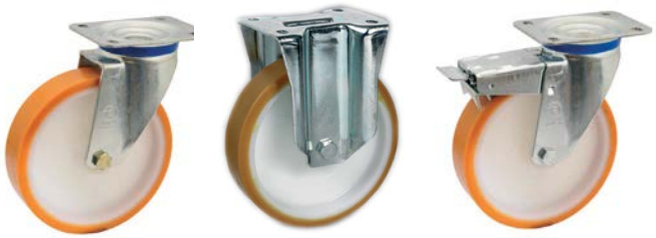


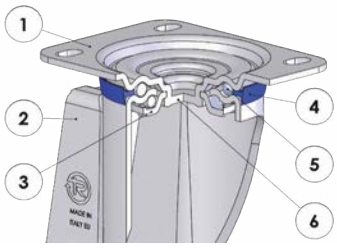
1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

		kg		kg							4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	25	0.54	667901	0.71	668801	107	73	12	37	120	**150**
100	30	0.62	667902	0.83	668802	128	73	12	35	120	**200**
125	30	0.79	667903	0.94	668803	156	73	12	37	120	**220**
150	40	1.55	667904	1.83	668804	188	102	20	56	156	**300**
175	40	1.74	667905	2.02	668805	212	102	20	56	156	**300**
200	50	2.10	667906	2.36	668806	236	102	20	56	156	**300**
80	25	0.58	668001	0.75	668821	107	73	12	37	120	**150**
100	30	0.65	668002	0.85	668822	128	73	12	35	120	**200**
125	30	0.82	668003	0.97	668823	156	73	12	37	120	**220**
150	40	1.64	668004	1.32	668824	188	102	20	56	156	**300**
175	40	1.85	668005	2.13	668825	212	102	20	56	156	**300**
200	50	2.21	668006	2.47	668826	236	102	20	56	156	**300**

Medium-duty brackets M - max carrying capacity 500 daN





1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	40	2.16	664304	1.44	665704	2.62	668704	194	140x110	105x80	11	58	178	**400**
200	50	2.58	664306	1.97	665706	3.00	668706	240	140x110	105x80	11	50	178	**500**
150	40	2.35	664804	1.53	665904	2.71	668904	194	140x110	105x80	11	58	178	**400**
200	50	2.68	664806	2.08	665906	3.08	668906	240	140x110	105x80	11	50	178	**500**
200	50	2.93	665306	2.32	665806	3.35	669206	240	140x110	105x80	11	50	178	**500**

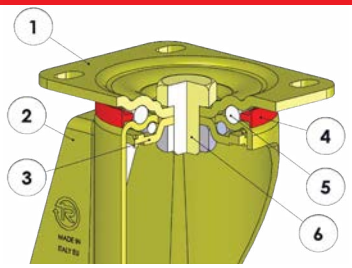
Options available to order

Footguard
for brackets
NL-M-P

SERIES **66**

"TR" POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

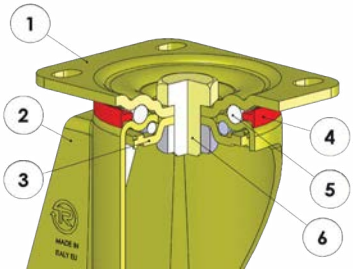
Medium-heavy duty brackets P - max carrying capacity 600 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
100	30	1.04	667102	0.55	668102	1.19	669002	138	100x85	80x60	9	46	123	**200**
125	30	1.17	667103	0.75	668103	1.31	669003	161	100x85	80x60	9	44	123	**250**
100	30	1.08	667302	0.58	668302	1.22	669102	138	100x85	80x60	9	46	123	**200**
125	30	1.20	667303	0.78	668303	1.34	669103	161	100x85	80x60	9	44	123	**250**



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
150	40	2.79	667604	1.37	668604	3.36	669004	200	140x110	105x80	11	70	126	**400**
175	40	3.01	667605	1.58	668605	3.57	669005	225	140x110	105x80	11	70	126	**470**
200	50	3.25	667606	1.79	668606	3.82	669006	250	140x110	105x80	11	70	126	**600**
150	40	2.89	667504	1.46	668504	3.46	669104	200	140x110	105x80	11	70	126	**400**
175	40	3.11	667505	1.69	668505	3.68	669105	225	140x110	105x80	11	70	126	**470**
200	50	3.36	667506	1.90	668506	3.93	669106	250	140x110	105x80	11	70	126	**600**

Options available to order

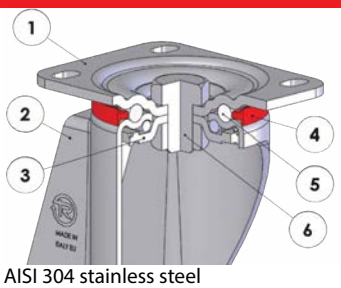
Wheel with ball bearings fitted with bracket NL

Directional lock for brackets d. 150-200 mm

Footguard for brackets NL-M-P

Stainless steel medium-heavy duty brackets PX - max carrying capacity 600 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: screw and nut in stainless steel

Available with adjustable total rear foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	40	2.75	667004	1.36	667114	3.32	667214	200	140x110	105x80	11	70	126	**400**	
175	40	2.95	667005	1.56	667115	3.52	667215	225	140x110	105x80	11	70	126	**470**	
200	50	3.20	667006	1.76	667116	3.77	667216	250	140x110	105x80	11	70	126	**600**	
150	40	2.77	667314	1.55	667414	3.34	667514	200	140x110	105x80	11	70	126	**400**	
175	40	3.09	667315	1.69	667415	3.66	667515	225	140x110	105x80	11	70	126	**470**	
200	50	3.30	667316	1.87	667416	3.87	667516	250	140x110	105x80	11	70	126	**600**	

SERIES 68P

POLYAMIDE 6 SOLID WHEELS FOR HEAVY LOADS

100-200 mm

70 Shore D

400-900 daN
4 km/h

120-380 daN

-30 / +80 °C

INOX

Description

Polyamide 6 solid wheels for heavy-duty loads, hardness 70 Shore D.

Hub with plain bore hole which directly houses the axle.
Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding. The wheel is also available without bearings.

Uses

Intended mainly for static uses, for high carrying capacities.
The excellent rolling resistance ensures that a minimum manual effort is needed in handling, but only on smooth floors.
Examples of recommended applications: trolley for internal use in the food and canning industries, tannery equipment, flower trolley, manual pallet trucks, mobile scaffolding.

Environments of use

Designed for industrial environments, even in the presence of aggressive chemical substances. Not recommended in places with strong organic acids and concentrated mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable only for smooth and compact floors.
Not suited for areas with obstacles.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	500 kg	700 kg	900 kg
100 mm	2.5	3.5	4.5	----	----	----
125x35 mm	2	2.8	3.8	----	----	----
125x45 mm	2.2	3.2	4	6.5	----	----
150 mm	1.8	2.3	3.5	5.5	7	----
200 mm	1.2	1.8	2.7	3.4	5.5	8

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 125 mm
Top plate fitting. Available with front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Stainless steel medium-heavy duty brackets PX
Maximum carrying capacity 750 daN - available diameters 125-200 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD
Maximum carrying capacity 900 daN - available diameters 125-200 mm
Top plate fitting. Available with front brake and adjustable rear brake.

Twin electrowelded brackets EEG HD
Maximum carrying capacity 1800 daN - available diameters 125-200 mm
Top plate fitting.

Options available to order

Wheel
in solid polyamide
6 for extremely
heavy loads

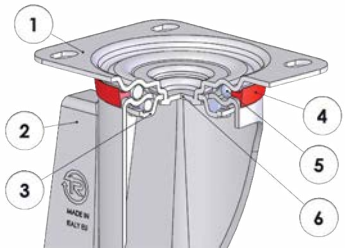
SERIES **68 P**

POLYAMIDE 6 SOLID WHEELS FOR HEAVY-DUTY LOADS

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
100	35	0.26	681202	20	44	**450**	**200**	**400**
125	45	0.36	681203	20	58	**700**	**200**	**650**
160	45	0.50	681204	20	58	**800**	**300**	**750**
200	50	0.90	681206	20	58	**1000**	**400**	**900**

										Static		4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN
100	35	0.33	683402	0.20	682202	15	40	35	11	**450**	**350**	**350**
125	35	0.42	683403	0.29	682203	15	40	35	11	**500**	**450**	**450**
125	45	0.61	683413	0.39	682213	20	56	47	13	**700**	**400**	**650**
125	45	0.60	683423	0.39	682213	25	56	47	13	**700**	**400**	**650**
150	45	0.74	683404	0.52	682204	20	56	47	13	**800**	**455**	**750**
150	45	0.73	683424	0.52	682204	25	56	47	13	**800**	**455**	**750**
200	50	1.10	683406	0.89	682206	20	56	47	13	**1000**	**650**	**900**
200	50	1.08	683426	0.89	682206	25	56	47	13	**1000**	**650**	**900**

Standard-duty brackets NL - max carrying capacity 300 daN

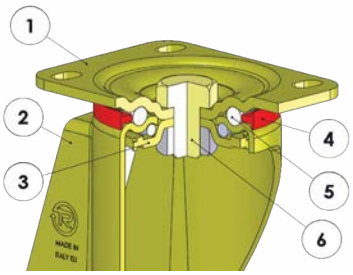


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE		kg	CODE		kg	CODE		mm	mm	mm	mm	mm	mm	daN
125	45	1.48	684523		1.44	685113		1.70	686813		156	140x110	105x80	11	57	156	**300**
125	45	1.73	684873		1.69	685173		1.95	686863		156	140x110	105x80	11	57	156	**300**

Medium-heavy duty brackets P - max carrying capacity 350 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE		kg	CODE		kg	CODE		mm	mm	mm	mm	mm	mm	daN
100	35	1.13	687522		0.74	688522		1.28	686912		138	100x85	80x60	9	46	123	**350**
100	35	1.20	684972		0.81	685372		1.35	686952		138	100x85	80x60	9	46	123	**350**
125	35	1.35	684973		0.83	685373		1.46	686953		161	100x85	80x60	9	48	123	**350**

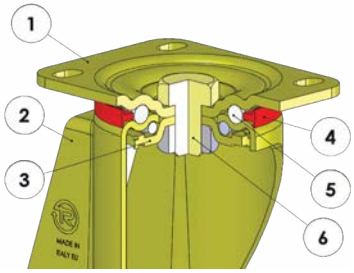
Options available to order

Directional lock
for brackets
d. 150-200 mm

SERIES **68P**

POLYAMIDE 6 SOLID WHEELS FOR HEAVY-DUTY LOADS

Medium-heavy duty brackets P - max carrying capacity 750 daN

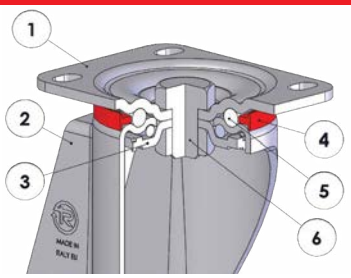


1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
125	45	2.28	687533	1.49	688533	2.83	686913	170	140x110	105x80	11	70	156	**650**	
150	45	2.96	687524	1.83	688524	3.14	686914	200	140x110	105x80	11	70	156	**750**	
200	50	3.37	687526	1.91	688526	3.68	686916	250	140x110	105x80	11	70	156	**750**	
125	45	2.53	684993	1.74	685393	3.08	686933	170	140x110	105x80	11	70	156	**650**	
150	45	3.20	684974	2.07	685374	3.77	686954	200	140x110	105x80	11	70	156	**750**	
200	50	3.64	684976	2.18	685376	3.92	686956	250	140x110	105x80	11	70	156	**750**	

Stainless steel medium-heavy duty brackets PX- max carrying capacity 750 daN



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: screw and nut in stainless steel A

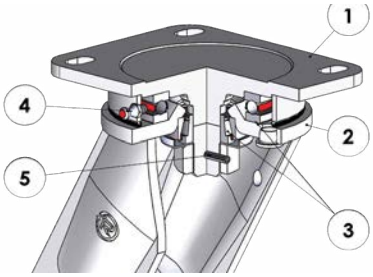
Available with adjustable total rear foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
125	45	2.52	687013	1.10	687123			188	140x110	105x80	11	70		**650**	
150	45	2.86	687014	1.42	687124	3.43	687224	200	140x110	105x80	11	70	156	**750**	
200	50	3.32	687016	1.88	687126	3.88	687226	250	140x110	105x80	11	70	156	**750**	

Options available to order

Directional lock
for brackets P
d. 150-200 mm

Electrowelded brackets EE MHD - max carrying capacity 900 daN

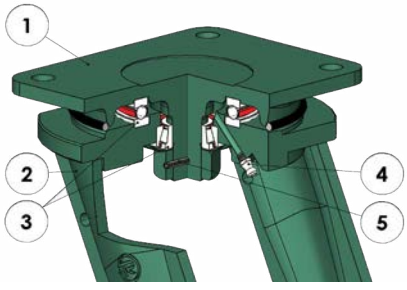


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

		kg	CODE	kg	CODE	kg	CODE							4 km/h	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
125	45	3.26	688303	2.03	688403	4.14	688703	182	135x110	105x80	11	51	157	**650**	
150	45	3.50	688304	2.51	688404	4.38	688704	210	135x110	105x80	11	60	157	**750**	
200	50	4.02	688306	3.04	688406	4.90	688706	252	135x110	105x80	11	70	157	**900**	
125	45	3.51	689303	2.28	689403	4.39	689803	182	135x110	105x80	11	51	157	**650**	
150	45	3.74	689304	2.75	689404	4.62	689804	210	135x110	105x80	11	60	157	**750**	
200	50	4.22	689306	3.24	689406	5.10	689806	252	135x110	105x80	11	70	157	**900**	

Twin electrowelded brackets EEG HD - max carrying capacity 1800 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

		kg	CODE	kg	CODE						4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
125	45+45	9.35	688072	4.90	688172	210	175x140	140x105	14	50	**1300**	
150	45+45	9.62	688074	5.20	688174	223	175x140	140x105	14	50	**1500**	
200	50+50	12.40	688066	7.60	688166	285	200x160	160x120	17	65	**1800**	

Options available to order

Directional lock
for brackets
EE MHD

SERIES 69

CAST IRON SOLID WHEELS

100-200

500-1400 daN
4 km/h

260-800 daN

-40 / +400 °C

Description

Solid cast iron wheels.

Hub with plain bore which directly houses the axle.
Hub with shielded ball bearings with interference assembly in the seats obtained by turning on the centre. The wheel is also available without bearings.

Uses

Intended mainly for static uses, for high carrying capacities.
The model with plain bore is resistant to temperatures from -40 C to +400°C and is, therefore, particularly suitable for oven applications. To use the wheel+bracket assemblies at temperatures above 100 °C, the wheel will have to be assembled with a special bracket for high-temperature use.
Examples of recommended applications: trolleys for workshops, industrial ovens.

Environments of use

Designed for industrial environments, even in the presence of medium-harsh chemical agents. Not recommended in humid environments and in the presence of strong organic acids and concentrated mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable only for smooth and compact floors.
Not suited for areas with obstacles.
They may damage fragile floors.

Force required to push or tow a wheel

	100 kg	300 kg	500 kg	700 kg	1000 kg	1400 kg
100x30 mm	< 1	5.6	15	----	----	----
100x40 mm	< 1	4.3	11.2	----	----	----
125 mm	< 1	3.2	7.6	14	----	----
150 mm	< 1	2.5	4.7	7.4	12.2	----
200 mm	< 1	1.7	3.5	5.8	10.3	18

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-150 mm
Top plate fitting.

Medium-heavy duty brackets P
Maximum carrying capacity 750 daN - available diameters 125-200 mm
Top plate fitting.

Extra-heavy duty brackets EP
Maximum carrying capacity 1100 daN - available diameters 150-200 mm
Top plate fitting.

Options available to order

Steel wheel for extremely heavy loads

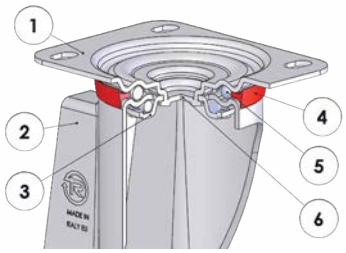
Wheel with brackets NL and P for high tempera-tures

CAST IRON SOLID WHEELS

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
100	30	0.62	691102	15	34	**800**	**260**	**500**
100	30	0.70	691112	15	44	**800**	**260**	**500**
100	40	0.92	691202	20	44	**900**	**300**	**600**
125	40	1.09	691103	15	44	**1200**	**350**	**700**
125	40	1.12	691203	20	44	**1200**	**350**	**700**
150	45	1.81	691104	20	59	**1500**	**500**	**1200**
200	45	3.34	691106	20	59	**1900**	**600**	**1400**
200	45	3.19	691206	25	59	**1900**	**800**	**1400**

										Static		4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	daN	daN	daN
100	38	1.33	692122	1.14	694102	15	40	42	13	**900**	**300**	**600**
100	38	1.28	692102	1.14	694102	20	40	42	13	**900**	**300**	**600**
125	40	1.67	692103	1.43	694103	20	43	47	15.5	**1200**	**350**	**700**
150	50	2.46	692104	2.18	694104	20	56	47	14	**1500**	**500**	**1200**
200	50	3.64	692106	3.29	694106	20	56	52	15	**1900**	**600**	**1400**
200	50	3.57	692126	3.57	694106	25	56	52	15	**1900**	**600**	**1400**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

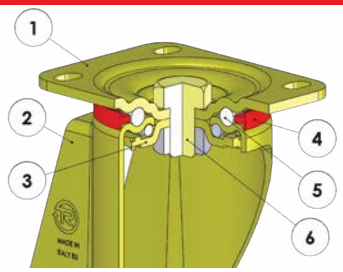
											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
100	30	1.16	694802	0.89	695702	128	100x85	80x60	9	35	**200**
100	40	1.50	694812	1.16	695712	128	100x85	80x60	9	35	**200**
125	40	1.73	694803	1.38	695703	156	100x85	80x60	9	37	**220**
150	45	3.24	694804	2.87	695704	194	140x110	105x80	11	56	**300**
100	40	1.91	694902	1.57	695802	128	100x85	80x60	9	35	**200**
125	40	2.31	694903	1.96	695803	156	100x85	80x60	9	37	**220**
150	50	3.89	694904	3.52	695804	194	140x110	105x80	11	56	**300**

Options available to order

Wheel
with NL and P
brackets for high
temperatures

CAST IRON SOLID WHEELS

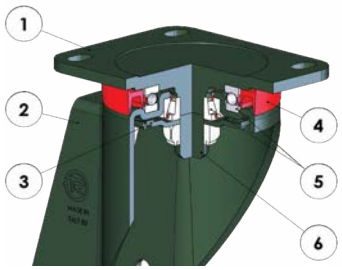
Medium-heavy duty brackets P - max carrying capacity 750 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
125	40	1.96	697603	1.46	698603	161	100x85	80x60	9	48	**350**
150	45	4.16	697504	2.73	698504	200	140x110	105x80	11	70	**750**
200	45	5.81	697506	4.35	698506	250	140x110	105x80	11	70	**750**
125	40	2.75	696203	2.05	696303	161	100x85	80x60	9	48	**350**
150	50	4.81	696204	3.38	696304	200	140x110	105x80	11	70	**750**
200	50	6.11	696206	4.65	696306	250	140x110	105x80	11	70	**750**

Extra-heavy duty brackets EP - max carrying capacity 1100 daN



1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

											4 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN		
150	45	4.43	697804	3.94	698804	200	135x110	105x80	11	70	**1100**		
200	45	6.03	697806	5.62	698806	250	135x110	105x80	11	70	**1100**		
150	50	5.08	697604	4.59	697704	200	135x110	105x80	11	70	**1100**		
200	50	6.30	697606	5.92	697706	250	135x110	105x80	11	70	**1100**		

SERIES 72 AL

SIGMA ELASTIC RUBBER WHEELS WITH ALUMINIUM CENTRE

100-200 mm

70 Shore A

180-500 daN
4 km/h

140-400 daN
6 km/h

180-300 daN

-20 / +70 °C

Description

Tyre: Sigma Elastic rubber, hardness 70 Shore A, excellent elasticity and good resistance to tear and wear.

Centre: made of cast aluminium.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

The excellent elasticity guarantees the easy overcoming of obstacles, vibration damping and noise reduction during use.
Combined with appropriate brackets, they are also suitable for mechanical handling up to 6 km/h.
Good rolling resistance means less fatigue for the operator handling the equipment.
Examples of recommended applications: trolleys for industrial indoor and outdoor handling, manual pallet trucks, waste collection bins for heavy components.

Environments of use

Industrial environments, even in the presence of humidity. Not suitable in the presence of strong acids and solvents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of industrial floor, even outdoors.
Allows easily overcoming the obstacles and does not damage floors.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg
100 mm	3	----	----	----	----
125x40 mm	2.5	5	----	----	----
160 mm	1.8	3.5	5	----	----
180 mm	2.3	4	6	----	----
200 mm	1	2.4	5	6.5	9
250 mm	1	2.4	5	6.5	9

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets :

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 100-200 mm
Top plate fitting. Available with front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 500 daN - available diameters 100-200 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD
Maximum carrying capacity 700 daN - available diameters 100-200 mm
Top plate fitting. Available with adjustable rear brake.

Twin electrowelded brackets EEG MHD - EEG HD
Maximum carrying capacity 1000 daN - available diameters 100-200 mm
Top plate fitting.

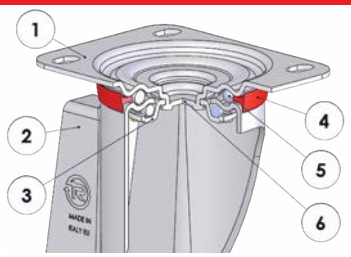
Options available to order

Wheel
with grey rubber
tyre

SIGMA ELASTIC RUBBER WHEELS WITH ALUMINIUM CENTRE

mm	mm	kg	CODE	kg	CODE	mm	mm.	mm	mm	Static daN	daN	4 km/h daN	6 km/h daN
100	40	0.44	721202	0.39	723102	15	40	32	9	**250**	**180**	**180**	**140**
125	40	0.76	721103	0.50	723003	20	40	47	14	**280**	**200**	**200**	**160**
125	40	0.78	721203	0.52	723103	20	50	47	14	**280**	**200**	**200**	**160**
125	50	0.84	721213	0.62	723113	20	59	47	14	**320**	**230**	**230**	**180**
160	50	1.22	721210	0.96	723104	20	58	47	14	**420**	**300**	**300**	**240**
160	50	1.20	721110	0.96	723104	25	58	47	14	**420**	**300**	**300**	**240**
180	50	1.47	721205	1.21	723105	20	60	47	14	**490**	**250**	**350**	**280**
200	50	2.00	721206	1.71	723106	20	60	52	17.5	**1000**	**300**	**500**	**400**
200	50	1.99	721106	1.71	723106	25	60	52	17.5	**1000**	**300**	**500**	**400**
250	50	2.30	721208	1.97	723108	20	60	52	15	**1000**	**300**	**500**	**400**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

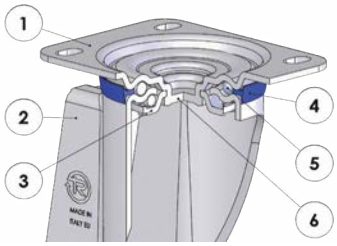
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	4 km/h daN
100	40	0.96	724402	0.71	726202	1.17	727302	128	100x85	80x60	9	37	120	**180**
125	50	1.49	724413	1.14	726213	2.37	727313	165	140x110	105x80	11	57	156	**230**
160	50	2.59	724410	2.22	726210	2.80	727310	199	140x110	105x80	11	56	156	**300**
180	50	2.85	724405	2.56	726205	3.06	727305	219	140x110	105x80	11	56	156	**300**
200	50	3.40	724306	3.18	725206	3.66	727106	240	140x110	105x80	11	56	156	**300**

Options available to order

Wheel with grey rubber tyre

Directional lock for brackets d. 150-200 mm

Medium-duty brackets M - max carrying capacity 500 daN

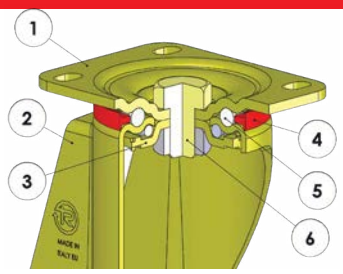


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

		kg		kg		kg									4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
160	50	2.94	724610	2.22	726210	3.33	727910	199	140x110	105x80	11	58	178	**300**	
200	50	3.79	724506	3.18	725206	4.21	727706	240	140x110	105x80	11	50	178	**500**	

Medium-heavy duty brackets P - max carrying capacity 500 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

		kg		kg		kg									4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	40	1.31	727602	0.81	728512			138	100x85	80x60	9	46		**180**	**140**	
125	50	2.30	727613	1.66	728523			170	140x110	105x80	11	70		**230**	**180**	
160	50	3.57	727610	2.08	728514	4.14	727204	205	140x110	105x80	11	70	126	**300**	**240**	
180	50	3.81	727605	2.39	728515	4.38	727205	228	140x110	105x80	11	70	126	**350**	**280**	
200	50	4.46	727516	3.00	728516	5.06	727206	250	140x110	105x80	11	70	126	**500**	**400**	

Options available to order

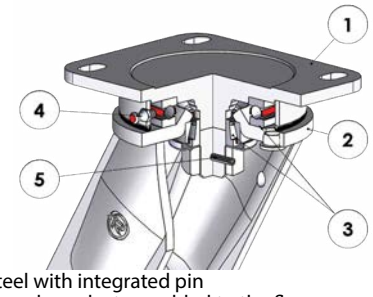
Wheel
with grey rubber
tyre

Directional lock
for P brackets
d. 150-200 mm

SERIES **72AL**

SIGMA ELASTIC RUBBER WHEELS WITH ALUMINIUM CENTRE

Electrowelded brackets EE MHD - max carrying capacity 500 daN

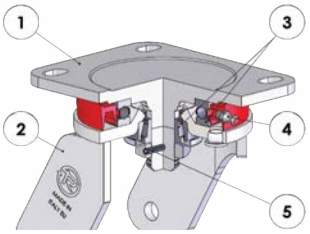


1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

Available with adjustable total rear foot brake

															4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	50	3.74	728303	2.76	728403	4.62	728603	182	135x110	105x80	11	51	157	**230**	**180**
160	50	4.22	728314	3.23	728414	5.10	728614	215	135x110	105x80	11	60	157	**300**	**240**
180	50	4.59	728305	3.61	728405	5.47	728605	242	135x110	105x80	11	70	157	**350**	**280**
200	50	5.12	728306	4.14	728406	6.00	728606	252	135x110	105x80	11	70	157	**500**	**400**
250	50	5.58	728307	4.55	728407	6.46	728607	300	135x110	105x80	11	83	157	**500**	**400**

Twin electrowelded brackets EEG MHD - max carrying capacity 400 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

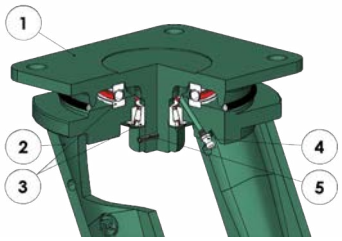
											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
100	40+40	3.35	728062	2.60	728162	140	135x110	105x80	11	55	**360**	**280**
125	40+40	4.10	728063	3.35	728163	170	135x110	105x80	11	55	**400**	**320**

Options available to order

Wheel
with grey rubber
tyre

Directional lock
for brackets
EE MHD

Twin electrowelded brackets EEG HD - max carrying capacity 1000 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

												4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN		
160	50+50	10.60	728084	6.15	728184	228	175x140	140x105	14	50	**600**	**480**		
200	50+50	12.55	728086	8.00	728186	280	175x140	140x105	14	65	**1000**	**800**		

Options available to order

Wheel
with grey rubber
tyre

SERIES 72GH

SIGMA ELASTIC RUBBER WHEELS WITH CAST IRON CENTRE

125-300 mm

70 Shore A

300-950 daN
4 km/h

240-760 daN
6 km/h

250-1000 daN

-20 / +70 °C

Description

Tyre: Sigma Elastic rubber, hardness 70 Shore A, excellent elasticity and good resistance to tear and wear.

Centre: cast iron.

Hub with shielded ball bearings with interference assembly in the seats obtained by turning on the centre; also available without bearings.

Uses

The excellent elasticity guarantees the easy overcoming of obstacles, vibration damping and noise reduction during use.
Good rolling resistance means less fatigue for the operator handling the equipment.
Combined with appropriate brackets, they are also suitable for mechanical handling up to 6 km/h.
Also suitable for mixed indoor-outdoor uses.
Examples of recommended applications: trolleys for industrial indoor and outdoor handling, manual pallet trucks, waste collection bins for heavy components.

Environments of use

Industrial environments, even in the presence of humidity. Not suitable in the presence of organic, aromatic solvents, chlorinated substances and hydrocarbons.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for all types of industrial floor, even outdoors.
Allows easily overcoming the obstacles and does not damage floors.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg	700 kg	900 kg
125 mm	1.4	3.7	7	----	----		
150 mm	1	3	5.8	9.5	----		
200x50 mm	< 1	1.8	4	7.1	11		
200x75 mm	< 1	1.8	3.3	5	7	12	
250 mm	< 1	1.5	2.7	4.1	6	10.3	

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors.
For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 125-200 mm
Top plate fitting. Available with the front brake.

Medium-duty brackets M
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting. Available with adjustable front brake.

Medium-heavy duty brackets P
Maximum carrying capacity 500 daN - available diameters 125-200 mm
Top plate fitting. Available with adjustable rear brake.

Extra-heavy duty brackets EP
Maximum carrying capacity 800 daN - available diameters 150-250 mm
Top plate fitting. Available with adjustable rear brake.

Electrowelded brackets EE MHD - EE HD
Maximum carrying capacity 950 daN - available diameters 125-300 mm
Top plate fitting. Available with adjustable rear brake.

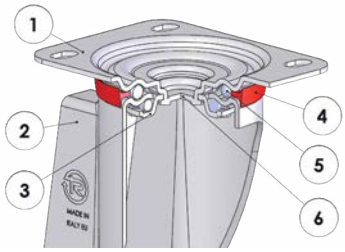
Twin electrowelded brackets EEG HD
Maximum carrying capacity 1000 daN - available diameters 150-200 mm
Top plate fitting.

SERIES **72GH**

SIGMA ELASTIC RUBBER WHEELS WITH CAST IRON CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
125	50	1.88	722103	1.64	724103	20	55	47	14	**450**	**250**	**300**	**240**
150	50	2.30	722104	2.06	724104	20	55	47	14	**600**	**275**	**400**	**320**
150	50	2.28	722124	2.06	724104	25	55	47	14	**600**	**275**	**400**	**320**
200	50	3.15	722106	2.87	724106	25	55	52	17	**1000**	**335**	**500**	**400**
200	75	5.35	722126	5.07	724126	25	85	52	17	**1200**	**400**	**700**	**560**
250	75	7.17	722108	6.67	724108	25	88	52	17.5	**1500**	**450**	**800**	**640**
300	85	8.51	722109	8.05	724109	30	90	62	16	**1800**	**500**	**950**	**760**
300	85	8.49	722129	8.05	724109	35	90	62	16	**1800**	**500**	**950**	**760**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

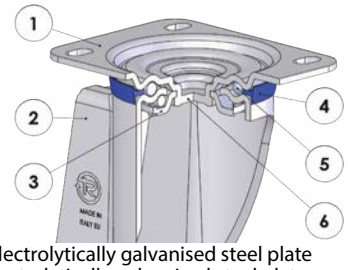
Available with total front foot brake

															4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
125	50	3.00	724313	2.63	725213	3.22	727113	165	140x110	105x80	11	57	156	**300**
150	50	3.67	724304	3.30	725204	3.96	727124	194	140x110	105x80	11	56	156	**300**
200	50	4.56	724336	4.34	725236	4.86	727126	240	140x110	105x80	11	56	156	**300**

Options available to order

Directional lock
for brackets
d. 150-200 mm

Medium-duty brackets M - max carrying capacity 500 daN

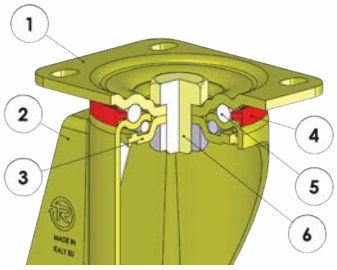


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: blue polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with adjustable total front foot brake

		kg		kg		kg									4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
150	50	4.02	724504	3.30	725204	4.49	727724	194	140x110	105x80	11	58	178	**400**	
200	50	4.95	724536	4.34	725236	5.11	727726	240	140x110	105x80	11	50	178	**500**	

Medium-heavy duty brackets P - max carrying capacity 500 daN



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

Available with adjustable total rear foot brake

		kg		kg		kg									4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
125	50	3.80	727513	3.24	728513			170	140x110	105x80	11	70		**300**	**240**	
150	50	4.65	727504	3.42	728504	5.22	727224	200	140x110	105x80	11	70	126	**400**	**320**	
200	50	5.62	727506	4.16	728506	6.19	727226	250	140x110	105x80	11	70	126	**500**	**400**	

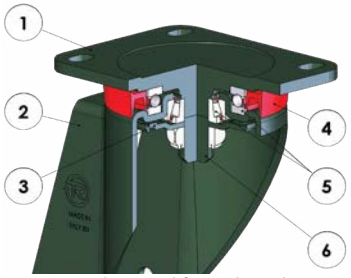
Options available to order

Directional lock
for P brackets
d. 150-200 mm

SERIES **72GH**

SIGMA ELASTIC RUBBER WHEELS WITH CAST IRON CENTRE

Extra-heavy duty brackets EP - max carrying capacity 800 daN

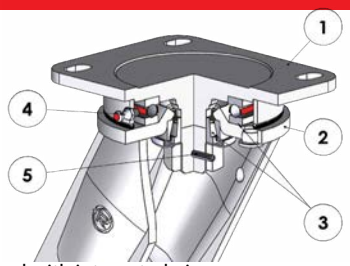


1) Plate: green galvanised forged steel
2) Fork: green galvanised forged steel
3) Lower bearing protection ring
4) Dust seal: orange polyethylene
5) Swivel actions: axial ball bearing and tapered roller bearing
6) King pin: integrated with the machine-processed plate

Available with adjustable total rear foot brake

		kg		kg		kg								4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	50	4.92	727814	4.43	728814	5.49	727324	200	135x110	105x80	11	70	126	**400**	**320**
200	50	5.87	727816	5.43	728816	6.44	727326	250	135x110	105x80	11	70	126	**500**	**400**
200	75	10.90	727806	9.06	728806			275	175x140	140x105	14	66		**700**	**560**
250	75	12.71	727808	10.88	728808			300	175x140	140x105	14	66		**800**	**640**

Electrowelded brackets EE MHD - max carrying capacity 500 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

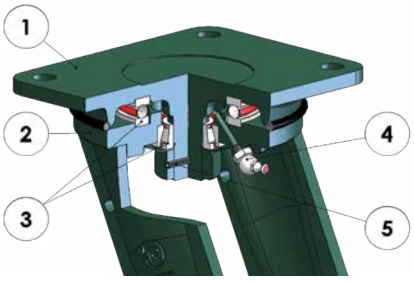
Available with adjustable total rear foot brake

		kg		kg		kg								4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
125	50	4.78	729303	3.80	729403	5.66	729603	182	135x110	105x80	11	51	157	**300**	**180**
150	50	5.30	729304	4.31	729404	6.18	729604	210	135x110	105x80	11	60	157	**400**	**320**
200	50	6.27	729306	5.29	729406	7.15	729606	252	135x110	105x80	11	70	157	**500**	**400**

Options available to order

Directional lock for brackets EE MHD

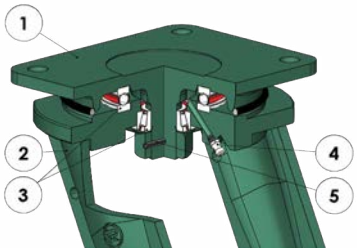
Electrowelded brackets EE HD - max carrying capacity 950 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

		kg	CODE	kg	CODE	kg	CODE							4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
200	75	11.81	729316	10.27	729416	12.69	729616	275	175x140	140x105	14	65	166	**700**	**560**	
250	75	13.86	729307	12.27	729407	14.74	729607	320	175x140	140x105	14	74	166	**800**	**640**	
300	85	15.32	729308	13.70	729408	16.20	729608	360	175x140	140x105	14	81	166	**950**	**760**	

Twin electrowelded brackets EEG HD - max carrying capacity 1000 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

		kg	CODE	kg	CODE							4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
150	50+50	12.75	728074	8.30	728174	228	175x140	140x105	14	50		**800**	**640**	
200	50+50	14.90	728066	10.35	728166	280	175x140	140x105	14	65		**1000**	**800**	
200	50+50	16.55	728076	11.75	728176	285	200x160	160x120	17	65		**1000**	**800**	

Options available to order

Directional lock
for brackets
EE HD

HIGH TEMPERATURE

SERIES **67**

SOLID THERMOSETTING RESIN WHEELS

80-200 mm | 4 km/h 150-500 daN | 125-240 daN | -20 / +300 °C | INOX

PAGE 216

SERIES **68FV**

POLYAMIDE 6 SOLID WHEELS CHARGED WITH GLASS FIBER

100-125 mm | 4 km/h 250-350 daN | 250-350 daN | -30 / +130 °C | INOX

PAGE 222

SERIES **72GS**

SILICONE RUBBER WHEELS WITH ALUMINIUM CENTRE

100 mm | 4 km/h 80 daN | 80 daN | -30 / +250 °C | INOX

PAGE 226

SERIES 67

THERMOSETTING RESIN SOLID WHEELS

80-200 mm

150-500 daN
4 km/h

125-240 daN

-20 / +300 °C

INOX

Description

Solid thermosetting resin wheels, resistant to temperature from -20°C up to 300°C.

Hub with plain bore hole which directly houses the axle.

Uses

Their resistance to temperature makes them particularly suitable for use in food industry and cooking ovens, particularly in the baking segment.
They are combined with brackets and axle components, specific for high temperatures.
They are resistant to medium-harsh chemical agents.
Not suitable in the presence of obstacles along the path or on delicate flooring.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not suitable on fragile floor or with obstacles along the path.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg
80 mm	4	----	----	----	----
100 mm	3.7	8.2	----	----	----
125 mm	3	7	11	----	----
150 mm	2	5.5	9	----	

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets:

Standard-duty brackets NL
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings.

Stainless steel standard-duty brackets NLX
Maximum carrying capacity 300 daN - available diameters 80-200 mm
Top plate and bolt hole fittings.

Stainless steel medium-heavy brackets PX
Maximum carrying capacity 500 daN - available diameters 150-200 mm
Top plate fitting.

Options available to order:

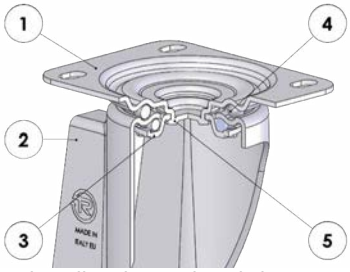
Axle components with stainless steel tube coated with hi-thickness PTFE

Axle components with stainless steel tube coated with hi-thickness PTFE and spacers

THERMOSETTING RESIN SOLID WHEELS

						Static		4 km/h
mm	mm	kg	CODE	mm	mm	daN	daN	daN
80	35	0.18	672201	12	39	**250**	**125**	**150**
100	35	0.29	672202	15	44	**300**	**130**	**200**
125	35	0.43	672203	15	44	**400**	**180**	**300**
150	50	0.90	672104	20	58	**500**	**190**	**300**
200	50	1.68	672106	20	58	**700**	**240**	**500**

Standard-duty brackets NL - max carrying capacity 300 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication for high temperatures
5) King pin: integrated with the plate and cold-riveted

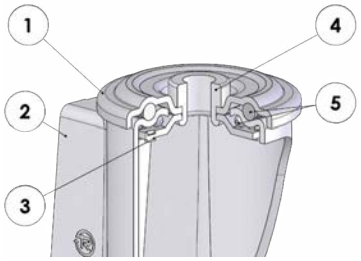
											4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
80	35	0.71	677101	0.43	678101	107	100x85	80x60	9	37	**150**
100	35	0.85	677102	0.53	678102	128	100x85	80x60	9	35	**200**
125	35	1.07	677103	0.73	678103	156	100x85	80x60	9	37	**220**
150	50	2.23	677314	1.90	678304	194	140x110	105x80	11	56	**300**
200	50	3.08	677316	2.87	678306	240	140x110	105x80	11	56	**300**

Options available to order:

Axle components with stainless steel tube coated with hi-thickness PTFE

Axle components with stainless steel tube coated with hi-thickness PTFE and spacers

Standard-duty brackets NL - max carrying capacity 300 daN

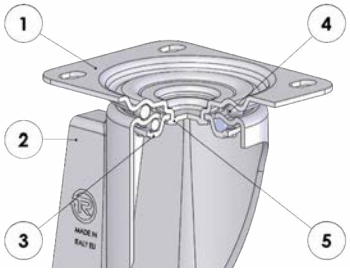


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication for high temperatures

								4 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	daN
80	35	0.62	676101	107	73	12	37	**150**
100	35	0.72	676102	128	73	12	35	**200**
125	35	1.05	676103	156	73	12	37	**220**

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Swivel actions: double stainless steel ball ring with grease lubrication for high temperatures

											4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
80	35	0.71	677701	0.40	678701	107	100x85	80x60	9	37	**150**	
100	35	0.79	677702	0.52	678702	128	100x85	80x60	9	35	**200**	
125	35	0.92	677713	0.80	678713	156	100x85	80x60	9	37	**220**	
150	50	2.21	677704	1.77	678704	194	140x110	105x80	11	56	**300**	
200	50	3.06	677706	2.60	678706	240	140x110	105x80	11	56	**300**	

Options available to order:

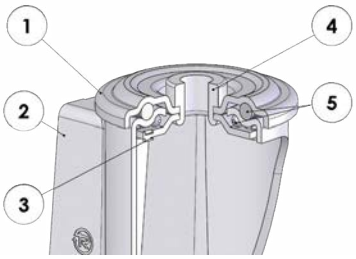
Axle components with stainless steel tube coated with hi-thickness PTFE

Axle components with stainless steel tube coated with hi-thickness PTFE and spacers

THERMOSETTING RESIN SOLID WHEELS

Stainless steel standard-duty brackets NLX - max carrying capacity 300 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double stainless steel ball ring with grease lubrication for high temperatures

								4 km/h						
mm	mm	kg	CODE	mm	mm	mm	mm	daN						
80	35	0.62	676701	107	73	12	37	**150**						
100	35	0.72	676702	128	73	12	35	**200**						
125	35	1.05	676703	156	73	12	37	**220**						

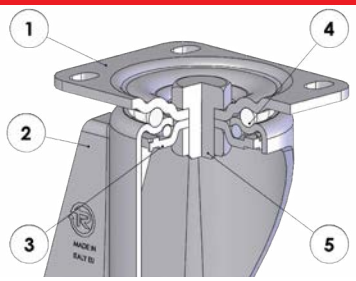
Options available to order:

Axle components with stainless steel tube coated with hi-thickness PTFE

Axle components with stainless steel tube coated with hi-thickness PTFE and spacers

Stainless steel medium-heavy duty brackets PX - max carrying capacity 500 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Swivel actions: double stainless steel ball ring with grease lubrication for high temperatures
5) King pin: screw and nut in stainless steel

		kg		kg							4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
150	50	3.25	677004	1.90	677104	200	140x110	105x80	11	70	**300**
200	50	4.25	677006	2.74	677106	250	140x110	105x80	11	70	**500**

Options available to order:

Axle components with stainless steel tube coated with hi-thickness PTFE

Axle components with stainless steel tube coated with hi-thickness PTFE and spacers

SERIES 68FV

POLYAMIDE 6 SOLID WHEELS CHARGED WITH GLASS FIBER

100-125 mm

80 Shore D

250-350 daN
4 km/h

400-500 daN

-30 / +130 °C

INOX

Description

Polyamide 6 solid wheels charged with glass fiber, to increase resistance to temperature from -30°C up to +130°C. Hardness 80 Shore D.

Hub with ball bearings with interference assembly in the seats obtained by centre moulding. The bearing is protected against external agents by polyamide plain bores charged with fibreglass with internal labyrinth. Also available with stainless steel ball bearings.

Uses

Mainly suitable for static uses on smooth and compact flooring, for medium-duty carrying capacities. Resistant to temperatures between -30°C and +130°C, suitable for use on equipment that has to be frequently washed and sterilised, especially in autoclaves.
The excellent rolling resistance ensures that minimum effort is needed in manual handling, but only on smooth floors.
They are combined with brackets and axle components, specific for high temperatures.
Examples of recommended applications: trolley for internal use in the food and canning industries, tannery equipment.

Environments of use

Resistant to medium-harsh chemical agents, they are suitable for industrial and institutional environments, also in the presence of humidity and chemical agents.
Not recommended in places with strong organic acids and mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page

Floors

Only suitable on smooth and compact tile and resin-cement flooring. Not suitable in the presence of obstacles.
They may damage fragile floors.
Not recommended on abrasive, unpaved floors or in the presence of processing residues.

Tractive force or thrust for wheel movement

	100 kg	150 kg	200 kg	250 kg	300 kg	350 kg
100 mm	<1	1.2	1.5	2	---	---
125 mm	<1	< 1	1.1	1.5	1.8	2.2

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth pavement. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Combination with brackets

Standard-duty brackets NL
Maximum carrying capacity 220 daN - available diameters 100-125 mm
Top plate and bolt hole fittings.

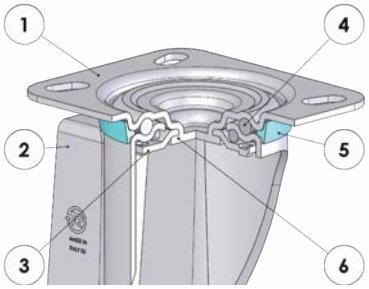
Stainless steel standard-duty brackets NLX
Maximum carrying capacity 220 daN - available diameters 100-125 mm
Top plate and bolt hole fittings.

SERIES **68 FV**

POLYAMIDE 6 SOLID WHEELS CHARGED WITH GLASS FIBER

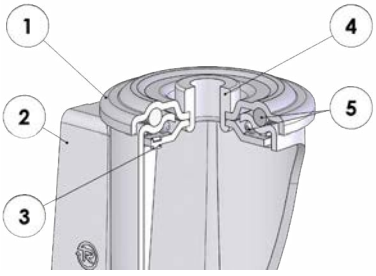
								Static		4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	daN	daN.	daN
100	30	0.27	683502	0.27	683602	12	45	**250**	**250**	**250**
125	30	0.33	683503	0.33	683603	12	45	**350**	**350**	**350**

Standard-duty brackets NL - max carrying capacity 220 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Dust seal: blue polyamide
4) Ball race ring: electrolytically galvanised steel plate
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

											4 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
100	30	0.74	684882	0.63	685182	128	100x85	80x60	9	35	**220**	
125	30	0.83	684883	0.72	685183	156	100x85	80x60	9	37	**220**	

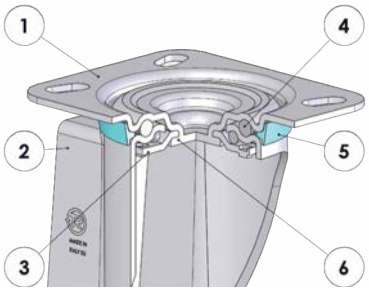


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication

								4 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	daN
100	30	0.69	688082	128	73	12	35	**220**
125	30	0.78	688083	156	73	12	37	**220**

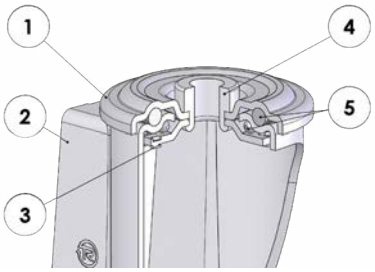
Standard-duty brackets NLX in stainless steel - max carrying capacity 220 daN

INOX



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Dust seal: blue polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	4 km/h daN
100	30	0.74	684682	0.63	685682	128	100x85	80x60	9	35	**220**
125	30	0.83	684683	0.72	685683	156	100x85	80x60	9	37	**220**



1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double ball ring with grease lubrication

mm	mm	kg	CODE	mm	mm	mm	mm	4 km/h daN
100	30	0.69	685982	128	73	12	35	**220**
125	30	0.78	685983	156	73	12	37	**220**

SERIES 72GS

SILICONE RUBBER WHEELS WITH ALUMINIUM CENTRE

100 mm

80 Shore A

80 daN
4 km/h

80 daN

-30 / +250 °C

INOX

Description

Tyre: red non-marking silicone rubber, hardness 80 Shore A, resistant to temperatures up to 250°C.

Centre: aluminium.

Hub with ball bearings with silicone grease for high temperatures, interference assembly in the seats obtained by centre moulding.

Uses

Suitable for use at temperatures from -30 up to +250°C. Particularly suitable for intermittent use in baking ovens (maximum permanence at 250°C is of 30 minutes, with subsequent period of resting of at least 30 minutes, at room temperature).
They have excellent elasticity features and guarantee easy overcoming of obstacles on uneven flooring also; compared to solid wheels for high temperature, they allow a significant reduction of noise during use.
They are combined with brackets and axle components specific for high temperatures, and already fitted with thread guards.
Not suitable in the presence of obstacles along the path or on delicate flooring.

Environments of use

Suitable for industrial and institutional environments. They are resistant to medium-harsh chemical agents and humidity. Not recommended in places with strong acids and oils.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for use on tiles, resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not suitable on delicate floor or with obstacles along the path.
They do not mark the floor.

Force required to push or tow a wheel

	50 kg	75 kg	100 kg
100 mm	<1	4	----

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth floors. For manual handling of a 4-wheel trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets

Standard-duty brackets NL
Maximum carrying capacity 80 daN - available diameters 100 mm
Top plate and bolt hole fittings. Available with front brake.

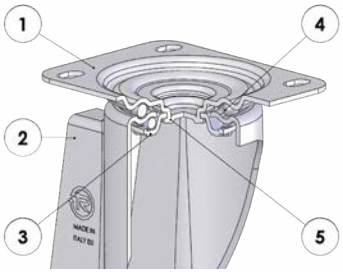
Stainless steel standard-duty brackets NLX
Maximum carrying capacity 80 daN - available diameters 100 mm
Top plate and bolt hole fittings Available with front brake.

SERIES **72GS**

SILICONE RUBBER WHEELS WITH ALUMINIUM CENTRE

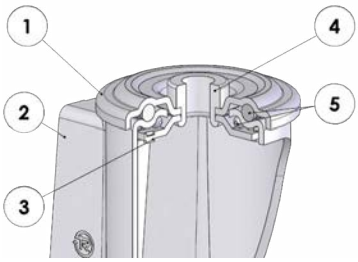
						Static		4 km/h	250 °C Static	250 °C	250 °C 4 km/h
mm	mm	kg	CODE	mm	mm.	daN	daN	daN	daN	daN	daN
100	40	0.43	722152	15	40	**100**	**80**	**80**	**40**	**40**	**40**

Standard-duty brackets NL - max carrying capacity 80 daN



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication for high temperatures
5) King pin: integrated with the plate and cold-riveted
Available with total front foot brake

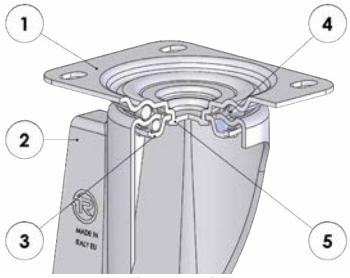
																4 km/h	250 °C 4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
100	40	0.96	724452PF	0.71	726252PF	1.17	727152PF	128	100x85	80x60	9	35	120	**80**	**40**



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: bushing in electrolytically galvanised steel
5) Swivel actions: double ball ring with grease lubrication for high temperatures
Available with total front foot brake

																4 km/h	250 °C 4 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	daN	daN
100	40	0.86	727352PF	1.07	727452PF	128	73	12	35	120	**80**	**40**

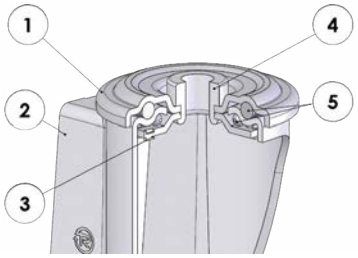
Stainless steel standard-duty brackets NLX - max carrying capacity 80 daN



INOX

1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) Swivel actions: double stainless steel ball ring with grease lubrication for high temperatures
5) King pin: integrated with the plate and cold-riveted
Available with total front foot brake

															250 °C	
		kg		kg		kg								4 km/h	4 km/h	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
100	40	0.96	724462PF	0.71	726262PF	1.17	727162PF	128	100x85	80x60	9	35	120	**80**	**40**	



INOX

1) Plate: AISI 304 stainless steel
2) Fork: AISI 304 stainless steel
3) Ball race ring: AISI 304 stainless steel
4) King pin: bushing in stainless steel
5) Swivel actions: double stainless steel ball ring with grease lubrication for high temperatures
Available with total front foot brake

													250 °C			
		kg		kg								4 km/h	4 km/h			
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN				
100	40	0.86	727362PF	1.07	727462PF	128	73	12	35	120	**80**	**40**				

PALLET TRUCK ROLLERS

SERIES **74**

VULKOLLAN® ROLLERS
WITH STEEL CENTRE

80-85 mm | 4 km/h 400-1000 daN | 180-450 daN | 6 km/h 320-800 daN | -20 / +80 °C

PAGE 232

SERIES **75**

"TR" POLYURETHANE ROLLERS
WITH STEEL CENTRE

80-85 mm | 4 km/h 400-1000 daN | 150-400 daN | 6 km/h 320-800 daN | -20 / +80 °C

PAGE 236

SERIES **76**

POLYAMIDE 6 SOLID ROLLERS

40-85 mm | 4 km/h 700-1200 daN | 335-500 daN | -30 / +80 °C

PAGE 240

SERIES **77**

"TR" POLYURETHANE ROLLERS
WITH POLYAMIDE 6 CENTRE

82-85 mm | 4 km/h 450-600 daN | 300-350 daN | 6 km/h 350-480 daN | -20 / +80 °C

PAGE 242

SERIES **78**

THERMOPLASTIC POLYURETHANE
ROLLERS WITH POLYAMIDE 6 CENTRE

82 mm | 4 km/h 450-750 daN | 390-530 daN | -15 / +80 °C

PAGE 244

SERIES 74

80-85 mm

93 Shore A

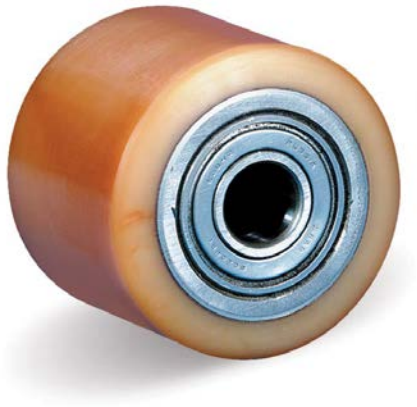
400-1000 daN
4 km/h

320-800 daN
6 km/h

180-450 daN

-20 / +80 °C

VULKOLLAN® PALLET TRUCK ROLLERS WITH STEEL CENTRE



Description

Tyre: Vulkollan®, hardness 93 Shore A: excellent rolling and elasticity, highly resistant to wear, tear and deformations.

Centre: obtained from a steel tube.

Hub with shielded ball bearing with interference assembly in the seats obtained by precision turning on the centre; also available without bearings.
Model with labyrinths: protective plastic-rings, with interference assembly in front of the ball bearings. They ensure longer life, protecting them from dust and foreign bodies.

Uses

Excellent for use on electric pallet trucks, also in case of heavy loads and high speed handling (up to 16 km/h).
Their excellent values of rolling resistance allows manually handling of heavy loads.

Environments of use

Designed for industrial environments, even in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	500 kg	600 kg	800 kg	1000 kg
80x70 mm	1	2.6	5	12	16.7	----	----
80x90 mm	< 1	< 1	2.3	7.1	10.6	19.5	----
85x40 mm	1.4	5.3	10.4	----	----	----	----
85x70 mm	< 1	1.9	4	10.9	15.5	----	----
85x80 mm	< 1	1.6	3.5	9.5	13.6	24	----
85x90 mm	< 1	< 1	2.3	7.9	11.4	20.5	----
85x100 mm	< 1	< 1	2	5.8	9.3	17	27

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single roller at the constant speed of 4 km/h on smooth floor.
For manual handling of a trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Options available to order

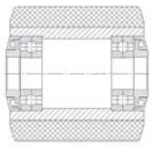
Rollers fitted
with electrowelded
brackets EE MHD

SERIES **74**

VULKOLLAN® PALLET TRUCK ROLLERS WITH STEEL CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
80	70	1.07	742202	0.83	744202	20	70	47	14	**1000**	**300**	**700**	**560**
80	90	1.38	742105	1.14	744105	20	90	47	14	**1200**	**385**	**900**	**720**
85	40	0.72	742121	0.48	744121	20	40	47	14	**575**	**180**	**400**	**320**
85	70	1.13	742122	0.89	744122	20	70	47	14	**1000**	**315**	**700**	**560**
85	80	1.26	742123	1.02	744123	20	80	47	14	**1050**	**360**	**800**	**640**
85	80	1.19	742224	0.91	744224	25	80	52	15	**1050**	**360**	**800**	**640**
85	90	1.41	742125	1.17	744125	20	90	47	14	**1200**	**400**	**900**	**720**
85	100	1.54	742127	1.30	744127	20	100	47	14	**1300**	**450**	**1000**	**800**

With labyrinths



Labyrinths: protective plastic-rings, with interference assembly in front of the ball bearings. They ensure longer life, protecting them from dust and foreign bodies that may limit the roller's free rotation.

								Static		4 km/h	6 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
80	65	0.98	743201	20	70	47	20.5	**930**	**280**	**650**	**520**
80	85	1.32	743202	20	90	47	20.5	**1130**	**360**	**850**	**680**
85	65	1.07	743203	20	70	47	20.5	**930**	**290**	**750**	**600**
85	75	1.20	743204	20	70	47	20.5	**980**	**335**	**750**	**600**
85	75	1.13	743224	25	80	47	20.5	**980**	**335**	**750**	**600**
85	85	1.35	743205	20	90	47	20.5	**1130**	**375**	**850**	**680**
85	95	1.48	743206	20	100	47	20.5	**1230**	**425**	**950**	**760**

Options available to order

Rollers fitted with electrowelded brackets EE MHD

Rollers with customised dimensions

TR Lab, we work for the future

tellureRôta

SERIES 75

80-85 mm

95 Shore A

400-1000 daN
4 km/h

320-800 daN
6 km/h

250-400 daN

-20 / +80 °C

"TR" POLYURETHANE PALLET TRUCK ROLLERS WITH STEEL CENTRE

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity, highly resistant to wear.

Centre: obtained from a steel tube:

Hub with shielded ball bearing with interference assembly in the seats obtained by precision turning on the centre; also available without bearings.
Model with labyrinths: protective plastic-rings, with interference assembly in front of the ball bearings. They ensure longer life, protecting them from dust and foreign bodies.

Uses

Excellent for use on electric pallet trucks, also in case of heavy loads and high speed handling (up to 16 km/h).
Their excellent values of rolling resistance allows manually handling of heavy loads. The model with electrowelded brackets allows handling heavy loads while maintaining a low centre of gravity. It is specifically used to move sets in the show business sector.

Environments of use

Designed for industrial environments, even in the presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	500 kg	600 kg	800 kg	1000 kg
80x70 mm	1.3	3	5.5	10.3	13.5	----	----
80x90 mm	1.3	2.7	4.4	8.2	10.4	15.3	----
82x70 mm	1	2.6	5.4	11.2	15.3	----	----
82x85 mm	1	2.6	5	10.5	13.9	22	----
82x90 mm	< 1	2.3	4.2	9	12.2	20	----
82x100 mm	< 1	< 1	2.3	6.7	9.8	17.8	28
85x40 mm	1.4	5.3	10.4	----	----	----	----
85x70 mm	< 1	1.9	5.2	10.9	15.5	----	----
85x80 mm	< 1	1.6	4.5	9.5	13.6	24	----
85x90 mm	< 1	< 1	3.5	7.9	11.4	20.5	----
85x100 mm	< 1	< 1	2	5.8	9.3	17	27

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single roller at the constant speed of 4 km/h on smooth floor.
For manual handling of a trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 daN.

Available with brackets

Electrowelded brackets EE MHD
Maximum carrying capacity 800 daN - available diameters 80-85 mm
Top plate fitting.

Options available to order

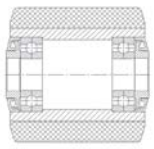
Rollers
with TR-Roll
polyurethane tyre

SERIES **75**

"TR" POLYURETHANE PALLET TRUCK ROLLERS WITH STEEL CENTRE

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
80	70	1.06	752102	0.82	754102	20	70	47	14	**800**	**250**	**700**	**560**
80	90	1.35	752105	1.11	754105	20	90	47	14	**1000**	**335**	**900**	**720**
82	70	1.09	752132	0.85	754132	20	70	47	14	**800**	**255**	**700**	**560**
82	85	1.27	752134	1.03	754134	20	85	47	14	**900**	**300**	**800**	**640**
82	90	1.33	752135	1.09	754135	20	90	47	14	**1000**	**340**	**900**	**720**
82	100	1.45	752137	1.21	754137	20	100	47	14	**1100**	**390**	**1000**	**800**
85	40	0.72	752121	0.48	754121	20	40	47	14	**450**	**150**	**400**	**320**
85	70	1.12	752122	0.88	754122	20	70	47	14	**800**	**265**	**700**	**560**
85	80	1.25	752123	1.01	754123	20	80	47	14	**900**	**310**	**800**	**640**
85	80	1.18	752223	0.90	754223	25	80	52	15	**900**	**310**	**800**	**640**
85	90	1.39	752125	1.15	754125	20	90	47	14	**1000**	**350**	**900**	**720**
85	100	1.52	752127	1.28	754127	20	100	47	14	**1100**	**400**	**1000**	**800**

With labyrinths



Labyrinths: protective plastic-rings, with interference assembly in front of the ball bearings. They ensure longer life, protecting them from dust and foreign bodies that may limit the roller's free rotation.

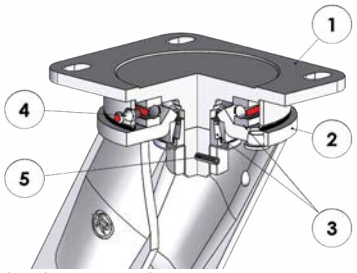
								Static		4 km/h	6 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
80	65	0.97	753101	20	70	47	20.5	**750**	**230**	**650**	**520**
80	85	1.29	753102	20	90	47	20.5	**950**	**310**	**850**	**680**
82	65	1.03	753103	20	70	47	20.5	**750**	**235**	**650**	**520**
82	80	1.21	753104	20	85	47	20.5	**900**	**280**	**800**	**640**
82	85	1.27	753105	20	90	47	20.5	**950**	**320**	**850**	**680**
82	95	1.39	753106	20	100	47	20.5	**1050**	**365**	**950**	**760**
85	65	1.06	753107	20	70	47	20.5	**750**	**245**	**650**	**520**
85	75	1.19	753108	20	80	47	20.5	**850**	**285**	**750**	**600**
85	75	1.12	753223	25	80	47	20.5	**850**	**285**	**750**	**600**
85	85	1.33	753209	20	90	47	20.5	**950**	**330**	**850**	**680**
85	95	1.46	753110	20	100	47	20.5	**1050**	**375**	**950**	**760**

Options available to order

Rollers with customised dimensions

Rollers with TR-Roll polyurethane tyre

Electrowelded brackets EE MHD - max carrying capacity 800 daN



1) Plate: forged steel with integrated pin
2) Fork: deep-drawn legs electro-welded to the flange
3) Swivel actions: axial ball bearing and tapered roller bearing
4) Grease nipple
5) Nut anti-loosening system

											4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
80	70	3.96	758301	2.98	758401	130	135x110	108x80	11	55	**700**	**560**
85	70	4.02	758311	3.04	758411	132.5	135x110	105x80	11	55	**700**	**560**
85	80	4.15	758321	3.17	758421	132.5	135x110	105x80	11	55	**800**	**640**

Options available to order

Rollers
with TR-Roll
polyurethane tyre

SERIES 76

POLYAMIDE 6 PALLET TRUCK ROLLERS

40-85 mm

70 Shore D

700-1200 daN
4 km/h

335-500 daN

-30 / +80 °C

Description

Solid polyamide 6 pallet truck rollers, hardness 70 Shore D; excellent rolling and impact resistance. Reduced deformation under load.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.
Hub with plain bore hole which directly houses the axle.

Uses

Suitable for use on manual pallet trucks, also with humidity and highly aggressive chemical agents.
Their excellent values of rolling resistance allow manually handling of heavy loads.
It is specifically recommended for use in the food and canning industries.

Environments of use

Suitable for industrial environments, also in the presence of humidity and chemical agents. Not recommended in places with strong organic acids and concentrated mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not recommended in the presence of obstacles.
They may damage fragile flooring.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	500 kg	600 kg	800 kg	1000 kg
82x60 mm	1.2	2.6	4.5	7	8.7	----	----
82x70 mm	1.2	2.5	3.8	6.5	7.9	10.8	----
82x90 mm	< 1	1.9	2.9	5.5	6	8.4	10.8
82x100 mm	< 1	1.7	2.6	5	5.5	7.5	9.7

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single roller at the constant speed of 4 km/h on smooth floor.
For manual handling of a trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 da N.

									Static		4 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	
82	60	0.47	763011	0.23	761011	20	60	47	14	**1000**	**335**	**700**	
82	70	0.49	763012	0.25	761012	20	70	47	14	**1100**	**350**	**850**	
82	90	0.57	763014	0.33	761014	20	90	47	14	**1300**	**450**	**1100**	
82	100	0.65	763015	0.41	761015	20	100	47	14	**1400**	**500**	**1200**	

mm	mm	kg	CODE	mm	mm
50	55	0.12	760002	12	55

mm	mm	kg	CODE	mm	mm
40	43	0.05	760001	17	45

Options available to order

Rollers fitted with 25 mm hole ball bearings

SERIES 77

"TR" POLYURETHANE PALLET TRUCK ROLLERS WITH POLYAMIDE CENTRE 6

82-85 mm

95 Shore A

450-600 daN
4 km/h

360-480 daN
6 km/h

300-350 daN

-20 / +80 °C

Description

Tyre: "TR" polyurethane, hardness 95 Shore A, excellent rolling resistance and elasticity features, highly resistant to wear.

Centre: polyamide 6.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

Suitable for use on manual and electric pallet trucks, with speed up to 6 km/h.
Their excellent values of rolling resistance allow manually handling of heavy loads.

Environments of use

Designed for industrial environments, even in the presence of medium-harsh chemical agents. Not recommended in places with strong organic acids and mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg	600 kg
82x70 mm	1.1	2.7	5	7.8	----	----
82x90 mm	< 1	2.1	4	6.6	9.7	----
82x100 mm	< 1	1.9	3.5	5.4	7.8	10.5
85x70 mm	< 1	2.5	4.7	7.6	11	----
85x90 mm	< 1	2.3	4	6	8	11

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single roller at the constant speed of 4 km/h on smooth floor. For manual handling of a trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 da N.

										Static		4 km/h	6 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
82	70	0.60	772132	0.36	774132	20	70	47	14	**550**	**300**	**450**	**360**
82	90	0.70	772135	0.46	774135	20	90	47	14	**610**	**340**	**510**	**400**
82	100	0.76	772137	0.52	774137	20	100	47	14	**700**	**380**	**600**	**480**
85	70	0.65	772122	0.41	774122	20	70	47	14	**600**	**310**	**500**	**400**
85	90	0.76	772125	0.52	774125	20	90	47	14	**700**	**350**	**600**	**480**

Options available to order

Rollers fitted with 25 mm hole ball bearings

SERIES 78

THERMOPLASTIC POLYURETHANE PALLET TRUCK ROLLERS WITH POLYAMIDE CENTRE 6

82 mm

60 Shore D

450-750 daN
4 km/h

390-530 daN

-15 / +80 °C

Description

Tyre: thermoplastic polyurethane, hardness 60 Shore D, excellent rolling resistance and elasticity features, highly resistant to wear and tear.

Centre: polyamide 6.

Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.

Uses

Suitable for use on manual pallet trucks, also with humidity and highly aggressive chemical agents.
Their excellent values of rolling resistance allow manually handling of heavy loads.
It is specifically recommended for use in the food and canning industries.

Environments of use

Suitable for industrial environments, also in the presence of humidity and chemical agents. Not recommended in places with strong organic acids and concentrated mineral acids.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable for tiles and cement-resin.
Not suitable if large obstacles are present.

Force required to push or tow a wheel

	100 kg	200 kg	300 kg	400 kg	500 kg	600 kg	700 kg
82x60 mm	1.2	2.4	3.8	5.2	----	----	----
82x70 mm	< 1	2	3.3	4.8	6.5	----	----
82x80 mm	< 1	1.5	2.4	3.7	5.2	7	----
82x90 mm	< 1	1.5	2.4	3.6	4.8	6.1	7.5
82x100 mm	< 1	1.5	2.4	3.5	4.7	5.9	7.3

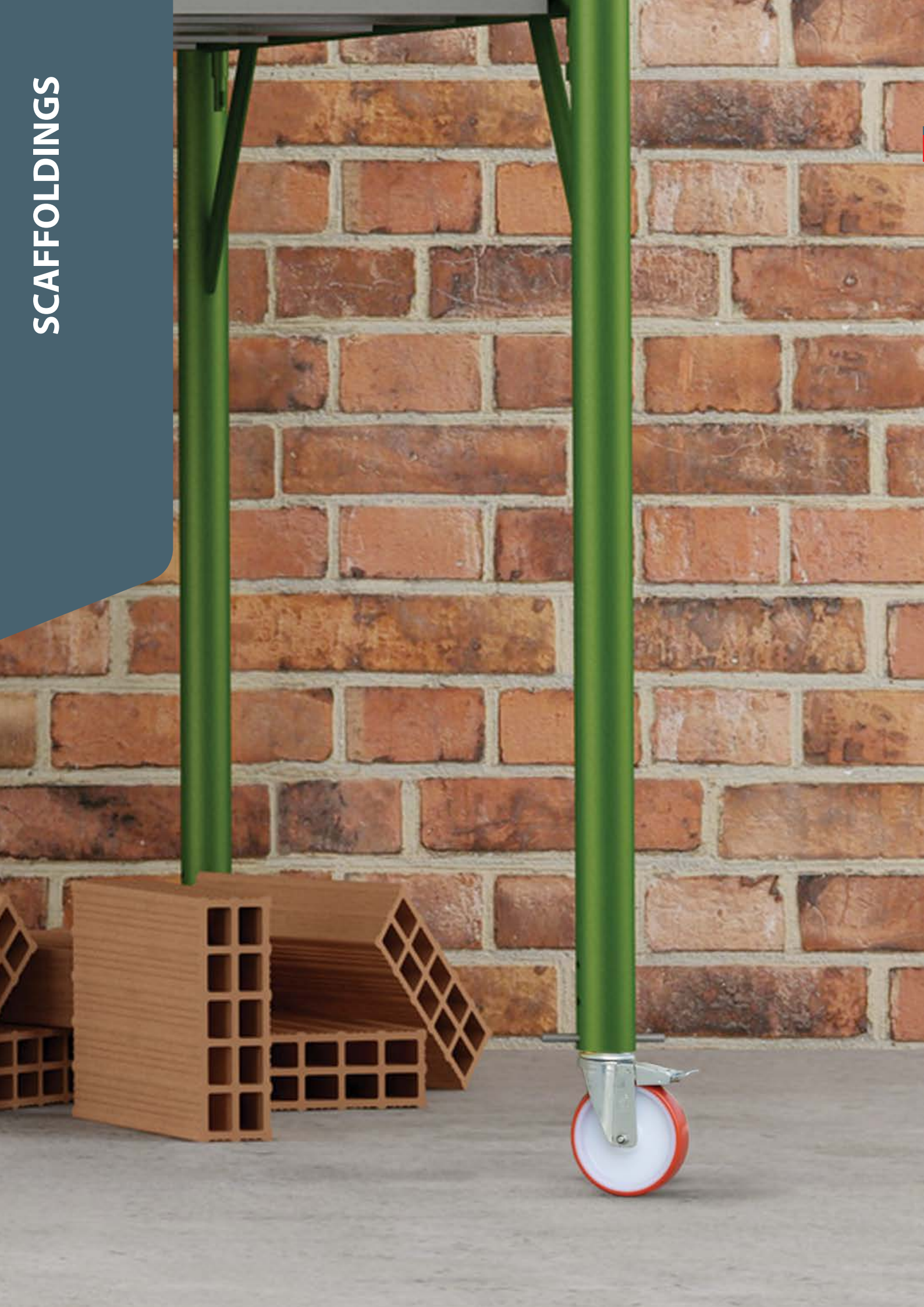
For each load and diameter, the table indicates the force (in daN) needed to push or tow a single roller at the constant speed of 4 km/h on smooth floor.
For manual handling of a trolley choose diameters that have values < 5 daN, for frequent handling choose values < 3 da N.

										Static		4 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN		
82	60	0.47	782101	0.27	784101	20	60	47	14	**450**	**390**	**450**		
82	70	0.53	782102	0.32	784102	20	70	47	14	**500**	**410**	**500**		
82	80	0.59	782103	0.38	784103	20	80	47	14	**600**	**500**	**600**		
82	90	0.64	782104	0.43	784104	20	90	47	14	**700**	**525**	**700**		
82	100	0.69	782105	0.49	784105	20	100	47	14	**750**	**530**	**750**		

Options available to order

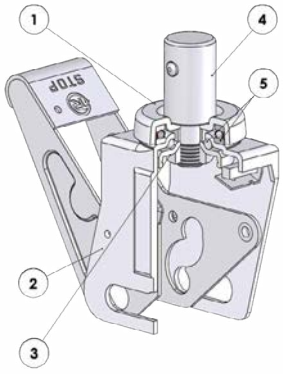
Rollers fitted with 25 mm hole ball bearings

SCAFFOLDINGS



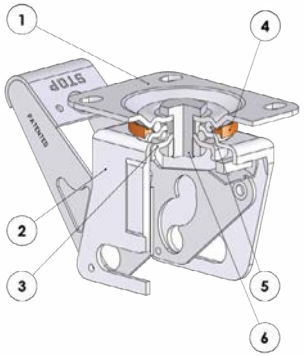
Thermoplastic polyurethane wheels with polyamide 6 centre

Wheel description on page 86-88



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: diam. 150-200 mm: solid stem in steel and nut locked by mechanical deformation; diam.125 mm: cold-headed solid stem
5) Swivel actions: diam. 125-150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

		1 PEDAL		2 PEDALS							4 km/h			
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN	
125	35	1.72	609553	1.94	609563	150	89	38	57	30	130	**250**	**600**	
150	45	3.16	609554	3.58	609564	192	83	38	57	40	150	**300**	**700**	
200	50	3.86	609576	4.21	609586	243	81	38	57	40	165	**400**	**750**	



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyamide
5) King pin: steel pin and nut locked through mechanical deformation
6) Swivel actions: diam. 150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

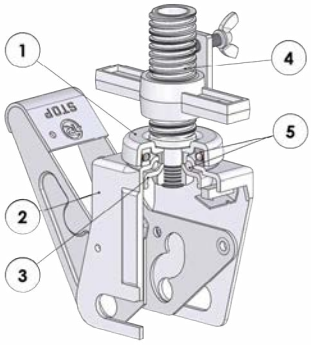
										4 km/h	EN 1004				
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN				
150	45	3.01	609654	192	140x110	105x80	12	40	150	**300**	**700**				
200	50	3.61	609676	243	140x110	105x80	12	40	165	**400**	**750**				

EN 1004

This symbol indicates the castor carrying capacity according to UNI EN 1004:2005, par. 7.5 (Castor Wheels), that is guaranteed with brake engaged, without bracket offset and with the wheel stationary. With the brake released and the wheel moving, do not exceed the carrying capacities indicated in the "Dynamic carrying capacity" column at 4 km/h, that are guaranteed in accordance with ISO 22883:2004

Thermoplastic polyurethane wheels with polyamide 6 centre

Wheel description on page 86-88



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: stem with acme thread manufactured steel from tube, nut locked by mechanical deformation
5) Swivel actions: diam. 150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

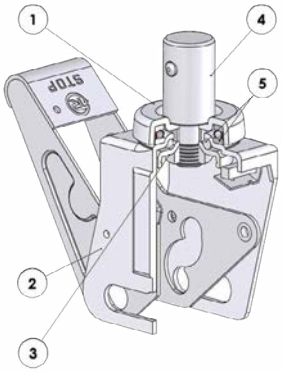
		1 PEDAL		2 PEDALS								4 km/h	EN 1004		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN		
150	45	3.86	609704	5.37	609714	192	83	M38x6	500	40	150	**300**	**700**		
200	50	4.56	609726	5.67	609736	243	81	M38x6	500	40	165	**400**	**750**		

EN 1004

This symbol indicates the castor carrying capacity according to UNI EN 1004:2005, par. 7.5 (Castor Wheels), that is guaranteed with brake engaged, without bracket offset and with the wheel stationary. With the brake released and the wheel moving, do not exceed the carrying capacities indicated in the "Dynamic carrying capacity" column at 4 km/h, that are guaranteed in accordance with ISO 22883:2004

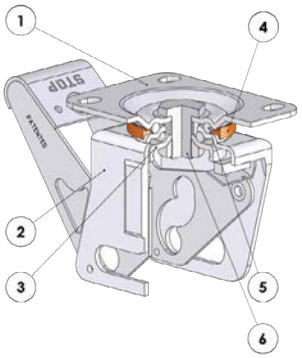
Polyamide 6 solid wheels

Wheel description on page 104-106



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: diam. 150-200 mm: solid stem in steel and nut locked by mechanical deformation; diam. 125 mm: cold-headed solid stem
5) Swivel actions: diam. 125-150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

			1 PEDAL		2 PEDALS								4 km/h	EN 1004
mm	mm	kg	CODE	kg	CODE	2 PEDALS mm	mm	mm	mm	mm	mm	daN	daN
125	38	1.69	689503	1.91	689513	150	89	38	57	30	130	**250**	**500**
150	45	3.06	689504	3.37	689514	192	83	38	57	40	150	**300**	**500**
200	50	3.68	689506	3.99	689516	243	81	38	57	40	165	**400**	**750**



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyamide
5) King pin: steel pin and nut locked through mechanical deformation
6) Swivel actions: diam. 150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

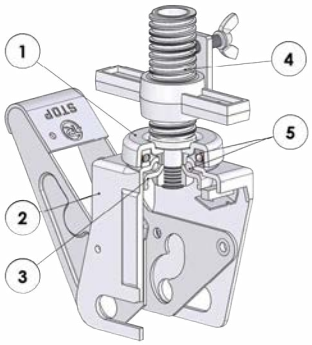
										4 km/h	EN 1004
mm	mm	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	45	3.76	689604	192	140x110	105x80	12	40	150	**300**	**500**
200	50	4.38	689606	243	140x110	105x80	12	40	165	**400**	**750**

EN 1004

This symbol indicates the castor carrying capacity according to UNI EN 1004:2005, par. 7.5 (Castor Wheels), that is guaranteed with lock engaged, without bracket offset and with the wheel stationary. With the lock not engaged and the wheel moving, do not exceed the carrying capacities indicated in the "Dynamic carrying capacity" column at 4 km/h, that are guaranteed in accordance with ISO 22883:2004

Polyamide 6 solid wheels

Description on page 104-106



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) King pin: stem with acme thread manufactured steel from tube, nut locked by mechanical deformation
5) Swivel actions: diam. 150 mm: grease-lubricated double ball raceways; diam. 200 mm: single direction axial bearing and a grease-lubricated single ball raceway

		1 PEDAL		2 PEDALS								4 km/h	EN 1004
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	daN
150	45	3.76	689704	4.07	689714	192	83	M38x6	500	40	150	**300**	**500**
200	50	4.38	689706	5.49	689716	243	81	M38x6	500	40	165	**400**	**750**

EN 1004

This symbol indicates the castor carrying capacity according to UNI EN 1004:2005, par. 7.5 (Castor Wheels), that is guaranteed with brake engaged, without bracket offset and with the wheel stationary. With the brake released and the wheel moving, do not exceed the carrying capacities indicated in the "Dynamic carrying capacity" column at 4 km/h, that are guaranteed in accordance with ISO 22883:2004

Customisations for scaffolding castors

Customised products are made upon customer's specific request, with:

- differently sized fittings on NL bracket and Scaffolding bracket
- combinations with different wheels.

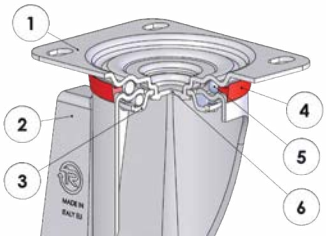
TEST REPORT ACCORDING TO UNI EN 1004:2005

The TR Lab, Test & Research laboratory of Tellure Rôta, has the necessary equipment for conformity testing on wheel and castor according to UNI EN 1004:2005, par. 7.5; the test is carried out on static load and locking efficiency. The conformity requires carrying out 2 tests on 5 equal products.
The laboratory issues a test report with the results of the tests performed.

WASTE BIN CONTAINERS

Black rubber wheels with polypropylene centre

Wheel description on page 58-60



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake, total rear foot brake, centralised brake

																4 km/h
mm	mm	kg	CODE		kg	CODE		kg	CODE		mm	mm	mm	mm	mm	mm	daN
160	40	2.10	524410	=	2.38	525210	=	2.60	524010	=	199	140x110	105x80	11	56	156	**150**
200	50	2.72	524406	=	3.00	525206	=	3.22	524006	=	240	140x110	105x80	11	56	156	**225**

																4 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm					daN
200	50	3.45	524206	=	240	140x110	105x80	11	56	40	34	16.5				**225**

Options available to order

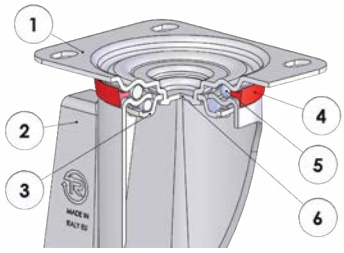
Directional lock for brackets d. 150-200 mm

Wheel with roller bearings

Wheel with grey rubber tyre

Black rubber wheels with pressed steel discs

Wheel description on page 66-68



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

Available with total front foot brake, total rear foot brake, centralised brake

														4 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
160	40	2.44	535010	2.69	535410	2.97	534010	199	140x110	105x80	11	56	156	**180**
200	50	3.25	535006	3.39	535406	3.67	534006	240	140x110	105x80	11	56	156	**230**

													4 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	daN	
200	50	3.45	534806	240	140x110	105x80	11	56	40	34	16.5	**230**	

Options available to order

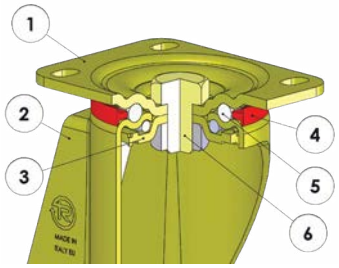
Directional lock for brackets d. 150-200 mm

Wheel with roller bearings

Wheel with grey rubber tyre

Sigma Elastic rubber wheels with aluminium centre

Wheel description on page 202-204



1) Plate: galvanised colonial steel plate
2) Fork: galvanised colonial steel plate
3) Ball race ring: galvanised colonial steel plate
4) Dust seal: orange polyamide
5) Swivel actions: double ball ring with grease lubrication
6) King pin: steel bolt in grade 8.8 steel and steel nut

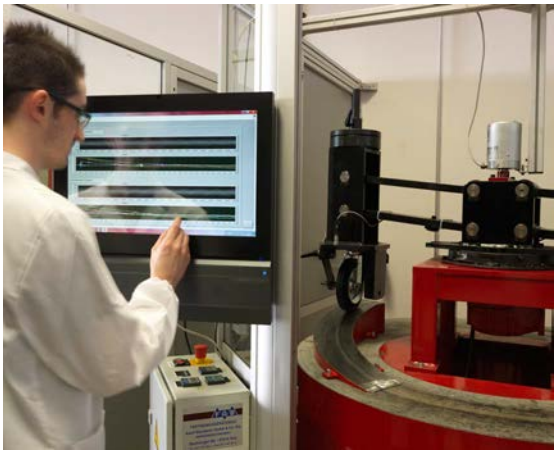
Available with adjustable total rear foot brake

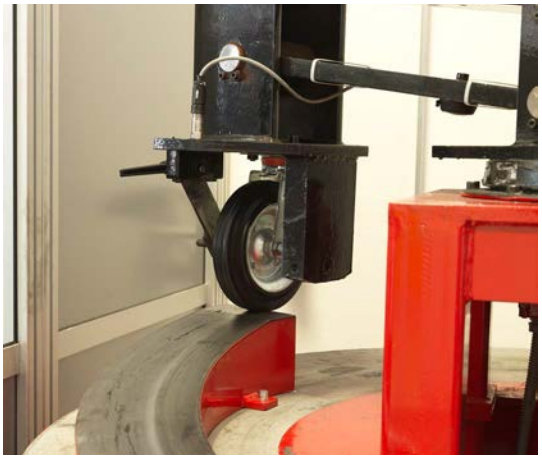
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
200	50	4.46	727516	3.00	728516	5.06	727206	250	140x110	105x80	11	56	126	**500**

4 km/h

TEST REPORT ACCORDING TO UNI EN 1004:2005

The TR Lab, Test & Research laboratory of Tellure Rôta has the necessary equipment for Dynamic testing on wheel and castor according to UNI EN 840-5:2004, par. 4.9.
The laboratory issues a test report with the results of the performed tests.





INSTITUTIONAL

SERIES **32**

POLYAMIDE 6 WHEELS

40-60 mm | 3 km/h | 30-90 daN | -5 / +40 °C

PAGE 258

SERIES **36**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

40-60 mm | 3 km/h | 40-140 daN | -5 / +40 °C

PAGE 264

SERIES **37**

GREY RUBBER WHEELS WITH POLYPROPYLENE CENTRE

40-125 mm | 3 km/h | 30-80 daN | -5 / +40 °C

PAGE 268

SERIES **51**

THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

80-250 mm | Static | 30-120 daN | -15 / +70 °C

PAGE 274

SERIES 32

POLYAMIDE 6 WHEELS

40-60 mm

30-90 daN
3 km/h

-5 / +40 °C

Description

Polyamide 6 solid wheels.

Hub with plain bore hole which directly houses the axle.

Uses

Recommended for use on catering and institutional trolleys having light carrying capacities.
Good resistance to chemical agents: not suitable on uneven flooring.
Examples of recommended applications: shop display units, trolleys for restaurants, furniture with light loads.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

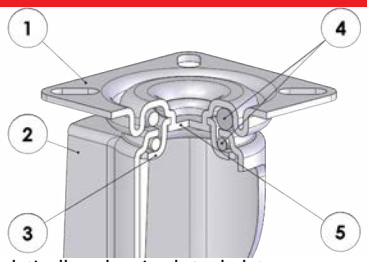
For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not suitable on fragile floor or with obstacles along the path.

mm	mm	kg	CODE	mm	mm	3 km/h daN
40	17	0.02	321102	8	21	**30**
50	17	0.02	321104	8	22	**40**
50	22	0.03	321105	8	28	**50**
60	22	0.03	321106	8	28	**60**

Institutional brackets

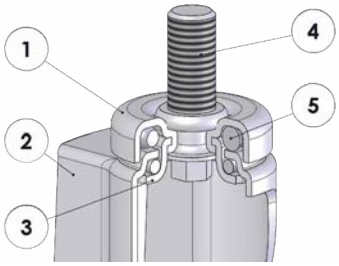


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

mm	mm	kg	CODE	2 pc package kg	2 pc package CODE	mm	mm	mm	mm	mm	3 km/h daN
40	17	0.12	324101	0.29	324001	61	42x42	30x30	5	24	**30**
50	17	0.12	324102	0.31	324002	66	42x42	30x30	5	24	**40**
60	22	0.22	324103	0.56	324003	83	60x60	45x45	6	21	**60**

mm	mm	kg	CODE	mm	mm	mm	mm	3 km/h daN
40	17	0.10	325101	61	55x25	42	5	**30**
50	17	0.10	325102	66	55x25	42	5	**40**
60	22	0.20	325103	83	60x60	45x45	6	**60**

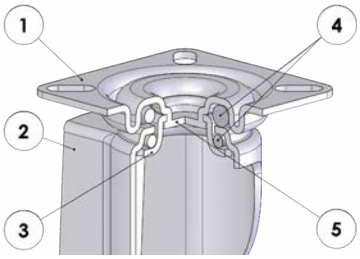
Institutional brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

				2 pc package								
		kg	CODE	kg	CODE	mm	mm	mm	mm	mm	3 km/h	
mm	mm										daN	
40	17	0.12	326101	0.26	326001	61	35	M10	20	24	**30**	
50	17	0.14	326102	0.28	326002	66	35	M10	20	24	**40**	
60	22	0.23	326103	0.47	326003	83	41	M12	24	21	**60**	

Institutional twin brackets for high carrying capacity

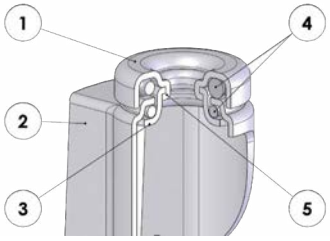


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

												3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
50	18+18	0.28	324302	0.33	328202	71	60x60	45x45	6	25.5	83	**90**

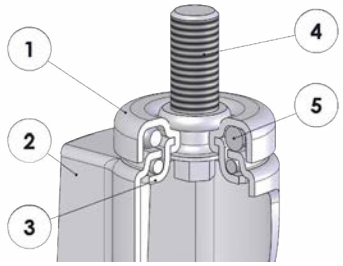
Institutional twin brackets for high carrying capacity



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

											3 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN		
50	18+18	0.26	323202	0.31	327202	71	55	10	25.5	83	**90**		

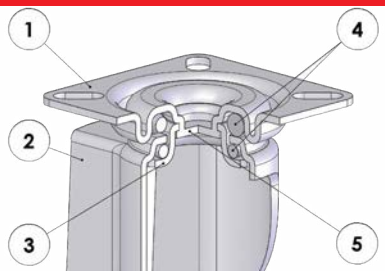


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											3 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN		
50	18+18	0.29	326202	0.34	329202	71	52	M10	25	25.5	83	**90**	

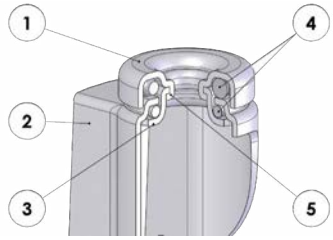
Institutional brackets for high carrying capacity



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

												3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
50	30	0.27	324402	0.32	328302	71	60x60	45x45	6	25.5	83	**80**

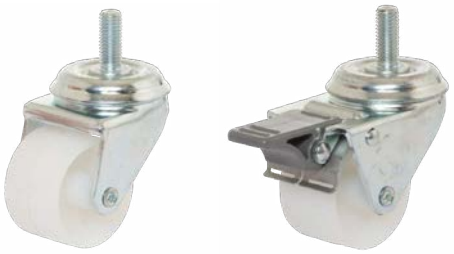


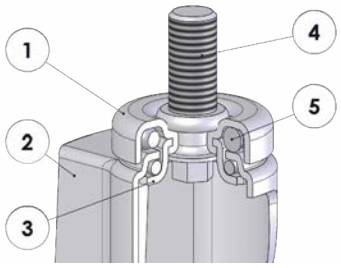
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

												3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
50	30	0.24	323302	0.29	327302	71	55	10	25.5	83	**80**

Institutional brackets for high carrying capacity





1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												3 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN		
50	30	0.28	326302	0.33	329302	71	52	M10	25	25.5	83	**80**		

SERIES 36

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

40-60 mm

40-140 daN
3 km/h

-5 / +40 °C

Description

Tyre: thermoplastic polyurethane.

Centre: polyamide 6.

Hub with plain bore hole which directly houses the axle.

Uses

Suitable for use on different types of trolleys within the institutional sector, particularly in catering.
Good load carrying capacity in relation to small diameter wheels.
Resist well to frequent washing, making them suitable in environments where hygiene must be guaranteed.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and chemical agents.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

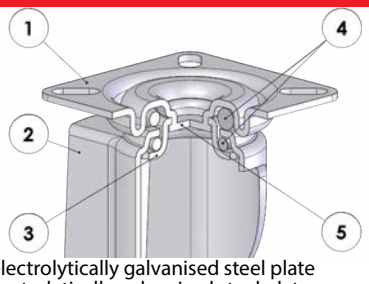
For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
They do not damage fragile flooring and are also suitable in the presence of small obstacles.

mm	mm	kg	CODE	mm	mm	3 km/h daN
40	18	0.02	361101	8	21	**40**
50	18	0.02	361102	8	22	**55**
60	25	0.06	361103	8	28	**70**

Institutional brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

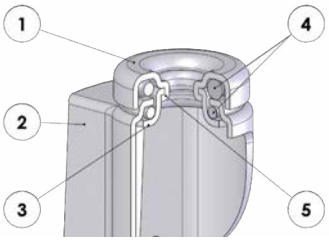
Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	3 km/h daN
40	18	0.11	364301	0.11	365101	0.13	368101	59	42x42	32x32	5	23	76	**40**
50	18	0.13	364302	0.12	365102	0.16	368102	66	55x55	40x40	6	24	76	**55**
60	25	0.24	364303	0.21	365103	0.28	368103	83	60x60	45x45	6	21	84	**70**

mm	mm	2 pc package kg	CODE	mm	mm	mm	mm	mm	3 km/h daN
40	18	0.30	324001	59	42x42	32x32	5	23	**40**
50	18	0.34	324002	66	55x55	40x40	6	24	**55**
60	25	0.56	324003	83	60x60	45x45	6	21	**70**

THERMOPLASTIC POLYURETHANE WHEELS WITH POLYAMIDE 6 CENTRE

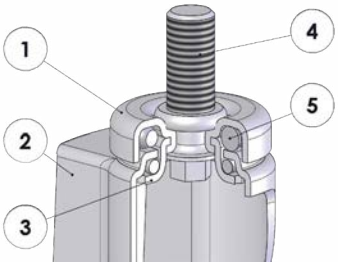
Institutional brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

											3 km/h		
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN		
40	18	0.10	363101	0.12	367101	59	35	10	23	76	**40**		
50	18	0.13	363102	0.13	367102	66	35	10	24	76	**55**		
60	25	0.24	363103	0.25	367103	83	42	13	21	84	**70**		



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

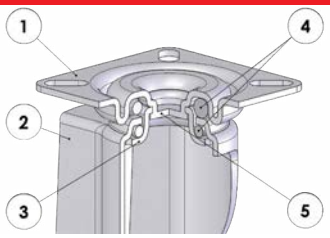
Available with total front foot brake

						2 pc package										
																3 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	daN
40	18	0.12	366301	0.14	369101	0.34	366001	59	35	M10	20	23	76	**40**		
50	18	0.13	366302	0.16	369102	0.38	366002	66	35	M10	20	24	76	**55**		
60	25	0.24	366303	0.28	369103	0.62	366003	83	42	M12	25	21	84	**70**		

Options available to order

Different stem dimensions

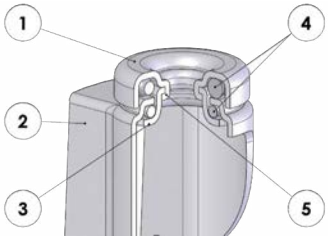
Institutional twin brackets for high carrying capacity



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

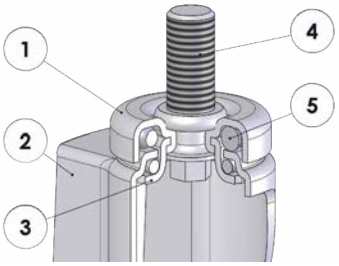
													3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN	
50	18+18	0.30	364402	0.35	368202	71	60x60	45x45	6	25.5	83	**140**	



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

											3 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
50	18+18	0.27	363202	0.32	367202	71	55	10	25.5	83	**140**	



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

											3 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	
50	18+18	0.31	366402	0.36	369202	71	52	M10	25	25.5	83	**140**

SERIES 37

GREY RUBBER WHEELS WITH POLYPROPYLENE CENTRE

40-125 mm

30-80 daN
3 km/h

-5 / +40 °C

Description

Tyre: non-marking grey rubber, good elasticity.

Centre: polypropylene with metal thread-guards.

Hub with plain bore hole which directly houses the axle.

Uses

Suitable for use on different types of trolleys within the furniture and institutional sector.
They can also be used on fragile floors and in the presence of small obstacles.
Example of recommended applications: shop display units and windows, low carrying capacity tool trolleys, supermarket trolleys.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity and medium-harsh chemical agents. Not suitable in the presence of organic solvents, chlorinated substances, hydrocarbons and mineral oils.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

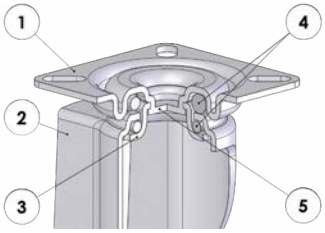
For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
They do not damage fragile floors and are also suitable in the presence of small obstacles.

mm	mm	kg	CODE	mm	mm	3 km/h daN
40	18	0.03	371100	8	21	**30**
50	20	0.06	371101	8	22	**35**
60	24	0.10	371102	8	28	**50**
75	24	0.14	371203	8	28	**55**
80	24	0.17	371103	8	28	**55**
100	24	0.22	371104	8	28	**60**
125	30	0.46	371105	10	35	**80**

Institutional brackets



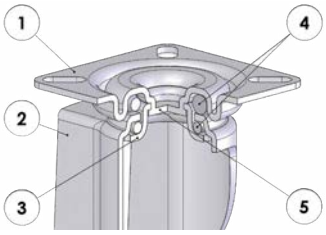
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	3 km/h daN
40	18	0.12	374100	0.11	375100	0.15	378100	59	42x42	31x31	5	24	78	**30**
50	18	0.20	374101	0.20	375101	0.24	378101	67	55x55	40x40	6	24	76	**35**
60	24	0.28	374102	0.26	375102	0.40	378102	83	60x60	45x45	6	21	84	**50**
75	24	0.40	374303	0.31	375303	0.48	378303	101	60x60	45x45	6	25	91	**55**
80	24	0.43	374103	0.34	375103	0.50	378103	104	60x60	45x45	6	25	91	**55**
100	24	0.48	374104	0.40	375104	0.57	378104	121	60x60	45x45	6	32	95	**55**
125	30	0.87	374105	0.80	375105	0.97	378105	152	77x67	55x45	8	40	115	**80**

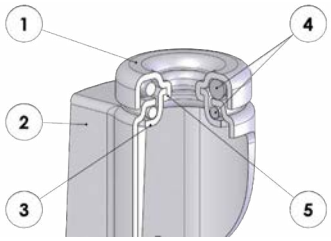
GREY RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Institutional brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

		2 pc package							3 km/h
mm	mm	kg	CODE	mm	mm	mm	mm	mm	daN
50	18	0.39	374001	67	55x55	40x40	6	24	**35**
60	24	0.68	374002	85	60x60	45x45	6	21	**50**

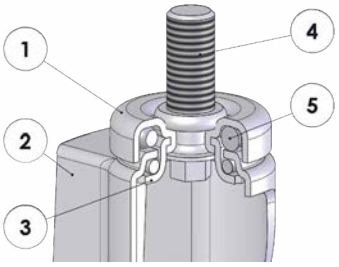


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

Available with total front foot brake

											3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
40	18	0.11	373100	0.14	377100	59	35	10	24	78	**35**
50	18	0.16	373101	0.19	377101	66	35	10	24	76	**50**
60	24	0.25	373102	0.32	377102	83	41	12	21	84	**55**
75	24	0.31	373303	0.40	377303	101	41	12	25	91	**55**
80	24	0.34	373103	0.43	377103	104	41	12	25	91	**55**
100	24	0.40	373104	0.49	377104	121	41	12	32	91	**55**
125	30	0.76	373105	0.87	377105	149	52	12	40	115	**80**

Institutional brackets

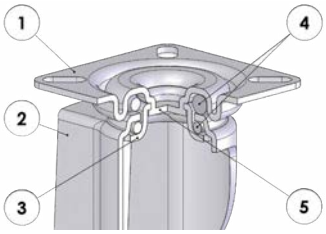


1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

						2 pc package								
														3 km/h
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
40	18	0.13	376100	0.18	379100			59	35	M8	15	24	78	**30**
50	18	0.18	376101	0.21	379101	0.34	376001	66	35	M8	15	24	76	**35**
60	24	0.29	376102	0.36	379102	0.60	376002	83	41	M12	25	21	84	**50**
75	24	0.36	376303	0.43	379303			101	41	M12	25	25	91	**55**
80	24	0.39	376103	0.46	379103			104	41	M12	25	25	91	**55**
100	24	0.44	376104	0.53	379104			121	41	M12	25	32	95	**55**
125	30	0.79	376105	0.89	379105			149	35	M12	25	40	115	**80**

Institutional twin brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

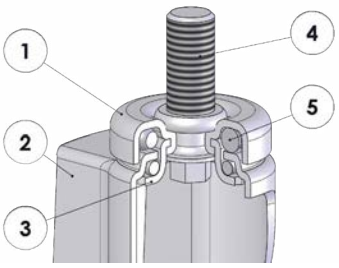
Available with total front foot brake

													3 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN		
50	18+18	0.35	374201	0.40	378201	70	60x60	45x45	6	30	82	**60**		
75	24+24	0.64	374203	0.72	378203	100	60x60	45x45	6	33	95	**80**		

SERIES **37**

GREY RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Twin brackets for institutional



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

Available with total front foot brake

												3 km/h
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	daN
50	18+18	0.30	376201	0.37	379201	70	42	M10	15	30	82	**60**
75	24+24	0.50	376203	0.68	379203	100	52	M12	25	33	95	**80**

Quality You need

tellureRôta

SERIES 51

80-250 mm

30-120 daN
Static

-5 / +40 °C

BLACK THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

Description

Tyre: black thermoplastic rubber.

Centre: polypropylene.

Hub with plain bore hole which directly houses the axle.

Uses

Mainly suitable for static applications, on even flooring and for light carrying capacities.
Example of recommended applications: compressors, welding machines.

Environments of use

Suitable for industrial and institutional environments, also in the presence of humidity.
Not suitable in the presence of organic solvents, chlorinated substances, hydrocarbons and mineral oils.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

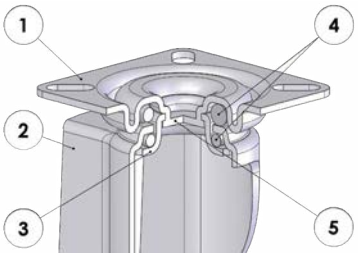
For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and resin-cement; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not suitable for uneven surfaces.

mm	mm	kg	CODE	mm	mm	Static daN
80	26	0.09	511101	10	34	**30**
100	30	0.11	511112	8	35	**35**
100	30	0.11	511122	12	35	**35**
125	35	0.18	511103	15	44	**50**
150	35	0.23	511104	15	44	**90**
175	45	0.33	511105	20	59	**100**
200	50	0.72	511106	20	59	**120**
250	50	0.89	511108	20	59	**120**

Institutional brackets



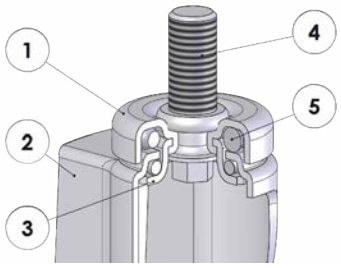
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Swivel actions: double ball ring with grease lubrication
5) King pin: integrated with the plate and cold-riveted

mm	mm	kg	CODE	mm	mm	mm	mm	mm	Static daN
80	26	0.43	514411	106	60x60	45x45	6	28	**30**
100	30	0.48	514412	128	60x60	45x45	6	32	**35**

SERIES **51**

BLACK THERMOPLASTIC RUBBER WHEELS WITH POLYPROPYLENE CENTRE

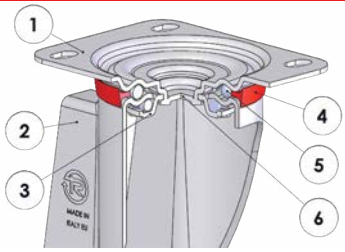
Institutional brackets



1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Galvanised steel threaded stem
5) Swivel actions: double ball ring with grease lubrication

									Static
mm	mm	kg	CODE	mm	mm	mm	mm	mm	daN
80	26	0.35	516801	103	41	M12	25	28	**30**
100	30	0.40	516802	126	41	M12	25	32	**35**

Standard-duty brackets NL - max carrying capacity 90 daN



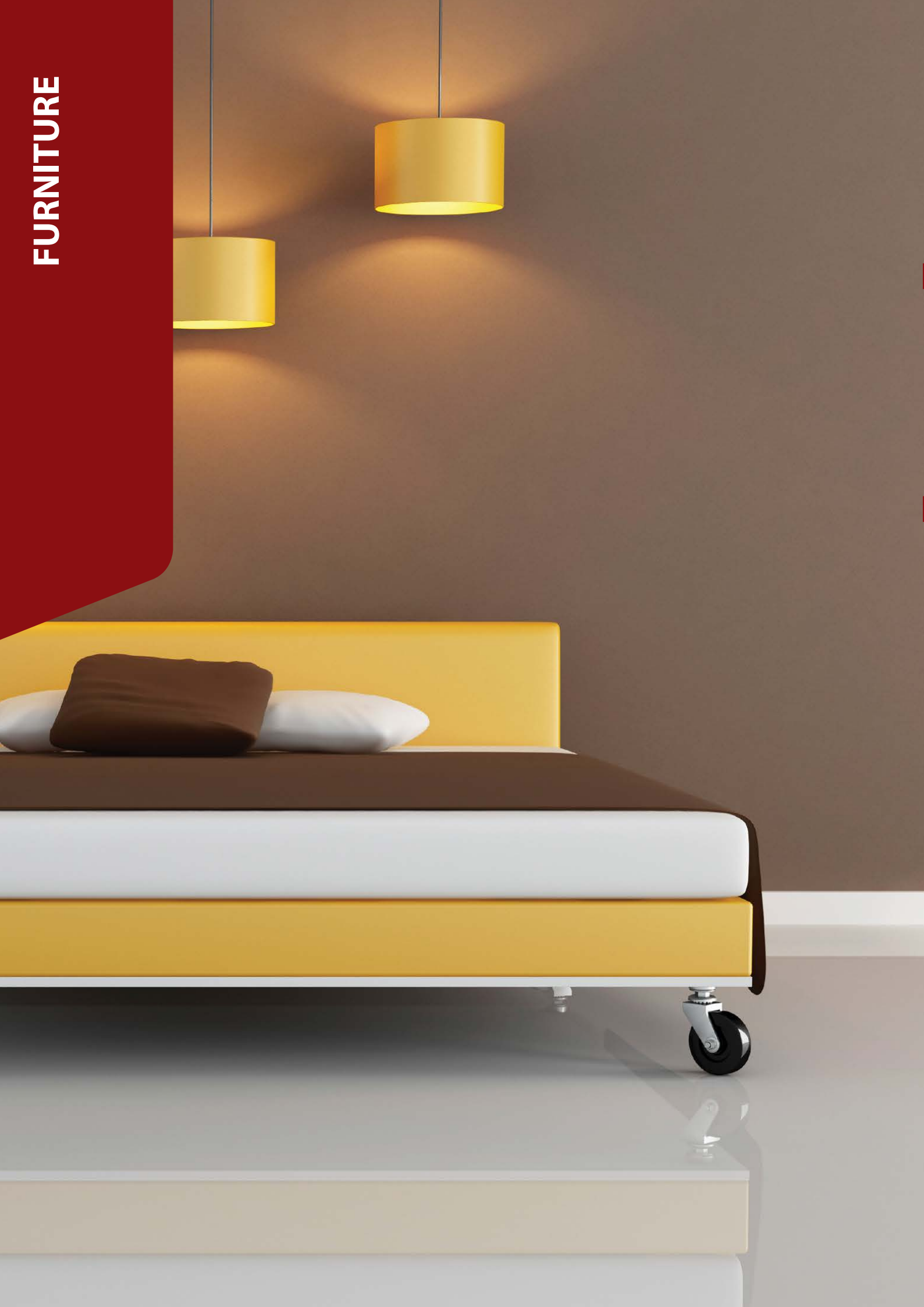
1) Plate: electrolytically galvanised steel plate
2) Fork: electrolytically galvanised steel plate
3) Ball race ring: electrolytically galvanised steel plate
4) Dust seal: orange polyethylene
5) Swivel actions: double ball ring with grease lubrication
6) King pin: integrated with the plate and cold-riveted

											Static
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	kg
80	26	0.62	514401	0.34	515701	107	100x85	80x60	9	37	**30**
100	30	0.63	514402	0.37	515702	128	100x85	80x60	9	35	**35**
125	35	0.82	514403	0.48	515703	156	100x85	80x60	9	37	**50**
150	35	0.91	514404	0.54	515704	182	100x85	80x60	9	42	**90**

Sixty years of reliability

tellureRôta

FURNITURE



SERIES **33**

RUBBER BALL WHEELS

30-50 mm | 10-30 daN | 0 / +40 °C

PAGE 280

SERIES **34**

PAIRED POLYAMIDE 6 OR POLYPROPYLENE WHEELS

35-100 mm | 10-40 daN | 0 / +40 °C

PAGE 282

SERIES **35**

RUBBER HALF-BALL WHEELS

45-65 mm | 20-40 daN | 0 / +40 °C

PAGE 286

SERIES **39**

TRANSPARENT POLYURETHANE WHEELS WITH METHACRYLATE CENTRE

50-75 mm | 20-40 daN | 0 / +40 °C

PAGE 288

SERIES 33

RUBBER BALL WHEELS

30-50 mm

10-30 daN

0 / +40 °C

Description

Black rubber ball wheels with zinc-plated brackets.

Hub with plain bore hole which directly houses the axle.

Uses

Suitable for indoor applications, without aggressive chemicals. They can be used on fragile flooring, even carpet.
Examples of recommended applications: house and office furniture with low carrying capacity.

Environments of use

Suitable for domestic environments without aggressive chemicals.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and delicate flooring; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not recommended in the presence of obstacles.

			2 pc package						
mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN
30	0.11	334101	0.26	334001	48	40x40	27x27	5	**10**
40	0.15	334102	0.34	334002	59	40x40	27x27	5	**20**
50	0.23	334103	0.51	334003	69	47x47	35x35	6	**30**

			2 pc package					
mm	kg	CODE	kg	CODE	mm	mm	mm	daN
30	0.09	333101	0.21	333001	46	32	9	**10**
40	0.13	333102	0.30	333002	57	32	9	**20**
50	0.20	333103	0.43	333003	66	36	10	**30**

			2 pc package						
mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN
30	0.10	336101	0.25	336001	51	SPANNER	M8	15	**10**
40	0.14	336102	0.33	336002	63	SPANNER	M8	15	**20**
50	0.22	336103	0.47	336003	73	SPANNER	M8	15	**30**

SERIES 34

PAIRED POLYAMIDE 6 AND POLYPROPYLENE WHEELS

35-100 mm

10-40 daN

0 / +40 °C

Description

Paired wheels in black or grey polyamide 6.
Steel fastening stems and plates

Paired wheels in transparent or blue polypropylene.
Steel fastening stems and plates.

Uses

Suitable for indoor applications, without aggressive chemicals. They can be used on fragile flooring, even carpet.
Examples of recommended applications: chairs with low carrying capacity for home and office.

Environments of use

Suitable for domestic environments without aggressive chemicals.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and fragile floors not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not recommended in the presence of obstacles.

Black polyamide 6 wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
35	39	0.05	344100	50	28x28	19x19	5	**10**
50	59	0.09	344101	68	38x38	27x27	5	**30**

Black polyamide 6 wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
35	39	0.04	346200	44.5	SPANNER	M8	15	**10**
50	59	0.07	346201	62	SPANNER	M10	15	**30**

Black polyamide 6 wheels
Package with 2 pieces and 4 fittings

mm	mm	2 pc package kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
35	39	0.22	340000	50/44,5	28x28	19x19	5	SPANNER	M8	15	**10**
50	59	0.30	340001	68/62	38x38	27x27	5	SPANNER	M10	15	**30**

PAIRED POLYAMIDE 6 AND POLYPROPYLENE WHEELS

Grey polyamide 6 wheels

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
60	42	0.13	347403	0.14	342103	86	48x48	34x34	6	74	**30**
75	48	0.16	347404	0.19	342104	102	48x48	34x34	6	87	**30**
100	57	0.51	347405	0.53	342105	127	60x60	42x42	6	115	**40**

Grey polyamide 6 wheels

mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN
60	42	0.09	342203	0.10	342303	93	SPANNER	M10	15	74	**30**
75	48	0.12	342204	0.13	342304	102	SPANNER	M10	15	87	**30**
100	57	0.54	342205	0.57	342305	127	SPANNER	M10	15	115	**40**

Tansparent polypropylene wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
50	54	0.09	347002	66	35x35	26x26	4	**20**

Transparent polypropylene wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
50	54	0.08	347102	61	SPANNER	M10	15	**20**

Blue polypropylene wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
50	54	0.09	347202	66	35x35	26x26	4	**20**

Blue polypropylene wheels

mm	mm	kg	CODE	mm	mm	mm	mm	daN
50	54	0.08	347302	61	SPANNER	M10	15	**20**

SERIES 35

RUBBER HALF-BALL WHEELS

45-65 mm

20-40 daN

0 / +40 °C

Description

Black rubber half-ball wheels with chrome-plated brackets and electrolytically galvanised Zamak alloy fittings.
The wheels are supplied combined only (one right and one left wheel).

Uses

Suitable for indoor applications, without aggressive chemicals. They can be used on fragile floors, even carpet.
Examples of recommended applications: house and office furniture with low carrying capacity.

Environments of use

Suitable for domestic environments without aggressive chemicals.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and delicate flooring; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not recommended in the presence of obstacles.

	RH		LH						
mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN
45	0.09	354101	0.09	354201	56	28x28	19x19	5	**20**
55	0.14	354102	0.14	354202	66	38x38	27x27	5	**30**
65	0.19	354103	0.19	354203	76	38x38	27x27	5	**40**

	RH		LH						
mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN
45	0.09	356101	0.09	356201	52	SPANNER	M8	15	**20**
55	0.13	356102	0.13	356202	62	SPANNER	M8	15	**30**
65	0.18	356103	0.18	356203	72	SPANNER	M10	15	**40**

Package with 2 wheels and 4 fittings

mm	kg	CODE	mm	mm	mm	mm	mm	mm	mm	daN
45	0.25	350001	52	28x28	19x19	5	SPANNER	M8	15	**20**
55	0.35	350002	62	38x38	27x27	5	SPANNER	M8	15	**30**

SERIES 39

50-75 mm

20-40 daN

0 / +40 °C

TRANSPARENT POLYURETHANE WHEELS WITH METHACRYLATE CENTRE

Description

Tyre: transparent polyurethane.

Centre: methacrylate.

Hub with plain bore hole which directly houses the axle.

Zinc-plated brackets.

Uses

Suitable for indoor applications, without aggressive chemicals. They can be used on delicate flooring, even carpet.
Examples of recommended applications: house and office furniture with low carrying capacity.

Environments of use

Suitable for domestic environments without aggressive chemicals.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 36.

Floors

Suitable on tiles and fragile flooring; not recommended on abrasive, unpaved floors or in the presence of processing residues.
Not recommended in the presence of obstacles.

mm	mm	kg	CODE	mm	mm	mm	mm	mm	daN
50	20	0.14	392002	71	42x42	32x32	4.5	19	**20**
75	22	0.33	392004	103	60x60	43x43	6.5	28	**40**

mm	mm	kg	CODE	mm	mm	mm	mm	daN
50	20	0.14	392102	71	M8	15	19	**20**
75	22	0.31	392104	103	M10	25	28	**40**

Options available to order

Wheels with thread bracket d. 78 mm

Wheels with thread bracket d. 78 mm

PRODUCTS FOR SPECIFIC CUSTOMER REQUIREMENTS

Tellure Rôta designs and implements customised solutions, manufactured according to the specific requirements of customers.
Thanks to its flexible production system and a specific prototyping department, Tellure Rôta makes samples of customised products which are then tested in TR Lab to assess their performance.
Manufacturing special versions is based on placing minimum quantity orders, which can vary according to the type of product.

The phases in designing a Tellure Rôta customised product are:

- MEETING THE CUSTOMER TO ACQUIRE THE SPECIFIC REQUIREMENTS
- CREATING A DEDICATED PROJECT
- SHARING THE RESULTS WITH THE CUSTOMER
- IMPLEMENTING THE WHEEL PROTOTYPE
- QUALITY TEST
- CUSTOMER VALIDATION
- PRODUCTION START

Some samples of projects on demand

THERMOPLASTIC MATERIAL WHEEL WITH CUSTOMISED COLOURS

THERMOPLASTIC MATERIAL WHEEL FOR PALLET TRUCK SECTOR

SPRING BRACKET FOR THE AUTOMOTIVE SECTOR

POLYURETHANE WHEELS WITH INCREASED THICKNESS TO BETTER OVERCOME ANY OBSTACLES

TRIPOD WITH ELASTIC POLYURETHANE WHEELS FOR MOVING SETS

POLYAMIDE 6 WHEEL WITH SPECIFIC ELECTRICAL RESISTANCE

WHEEL WITH TWIN ELECTROWELDED BRACKET DIAM. 400 MM FOR VERY HEAVY-DUTY LOADS

VULKOLLAN ® WHEEL WITH GROOVES

BRACKETS WITH CUSTOMISED FASTENINGS

DRIVE WHEEL

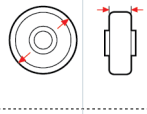
POLYURETHANE COATING

COATING FOR MOTORWHEEL

ACCESSORIES FOR WHEELS AND CASTORS: THREADGUARDS AND COUNTER-PLATES

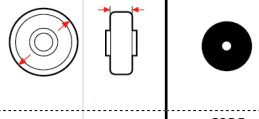
Threadguards

Threadguards in galvanised steel for series 22-52



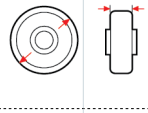
mm	mm	CODE
80	25	100027
100	30	100027
125	37.5	100010
140	37.5	100010
150 - 22	40	100028
150 - 52	40	100005
200	50	100007

Threadguards in galvanised steel for series 23-53



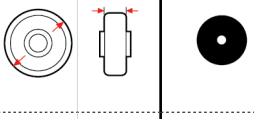
mm	mm	CODE
80	25	100010
100	30	100009
125	37.5	100012
140	37.5	100014
150	40	100014
160	40	100015
180	50	100016
200	50	100017

Polyamide 6 threadguards and galvanised steel series 60-61-71 (models with plain bore hole hub and ball bearing)



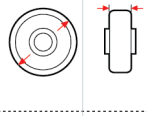
mm	mm	POL 6 CODE	GALVANISED CODE
80	30	100501	940261
100	30	100502	940262
125	35	100503	940263
150	35	100504	
150	45	100514	
200	50	100506	

Threadguards in galvanised steel for series 63AC



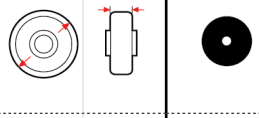
mm	mm	CODE
100	30	100031
125	40	100032
150	40	100033
200	50	100035

Threadguards in galvanised steel for series 65AL



mm	mm	CODE
80	25	100461
100	30	100462
125	35	100463
150	40	100464
200	50	100466

Threadguards in galvanised steel for series 65GH



mm	mm	CODE
150	30	100033
150	35	100034
175	35	100035
200	45	100036

Threadguards

Threadguards in galvanised steel and stainless steel for series 66

mm	mm	GALVANISED CODE	STAINLESS CODE
80	25	100461	
100	30	100031	100231
125	30	100032	100232
150	40	100033	100234
175	40	100034	
200	50	100035	
250	60	100036	

Threadguards in galvanised steel and in stainless steel for series 68

mm	mm	GALVANISED CODE	STAINLESS CODE
80	30	100491	
100	30	100498	
125	38	100493	
150	45	100494	100234
175	45	100495	100237
200	50	100496	

Counter-plates

Counter-plates for brackets NL

mm	mm	mm	CODE
100x85	80x60	3.0	110401
140x110	105x80	3.5	110105

Counter-plates for brackets NLX

mm	mm	mm	CODE
100x85	80x60	2.5	110402
140x110	105x80	3.0	110106

Counter-plates for brackets P

mm	mm	mm	CODE
100x85	80x60	4.0	110403
135x110	105x80	6.0	110204

Counter-plates for brackets EP

mm	mm	mm	CODE
100x85	80x60	5.0	110202
135x110	105x80	6.0	110204
135x110	105x80	6.0	110204
175x140	140x105	8.0	110208

All counter-plates are supplied raw (not treated on the surface) to favour their welding to the trolley.

ACCESSORIES FOR WHEELS AND CASTORS: STEMS

Solid stems and nuts for assembly

mm	mm	mm	mm	mm	CODE	CODE
80	73	12	22	47	926044	921079
100	73	12	22	47	926044	921079
125	73	12	22	47	926044	921079
140/150	73	12	22	47	926044	921079
150/160	102	20	26	56	926006	921070
175/180	102	20	26	56	926006	921070
200	102	20	26	56	926006	921070

Solid stems assembly layout

Threaded stems, bolts, nuts

Threaded stems

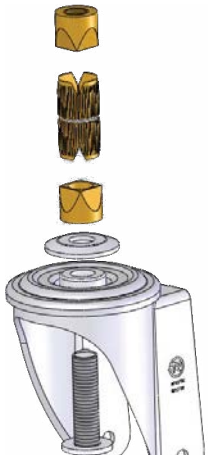
mm	mm	mm	mm	mm	CODE	CODE	CODE	CODE
80	73	12	10x1.5	25	925005	922028		
100	73	12	10x1.5	25	925005	922028		
125	73	12	12x1.75	45	925006	922112		
140/150	73	12	12x1.75	45	925006	922112		
150/160	102	20	16x2	35	925007	922108	929324	947015
175/180	102	20	16x2	35	925007	922108	929324	947015
200	102	20	16x2	35	925007	922108	929324	947015

Threaded stems assembly layout

Expansion stem in Zamak alloy

Designed to optimise handling of tubular trolleys and perfect for use on modular trolleys.
Can be combined with wheels with bolt hole swivel bracket with diameter from 80 to 125 mm and it is suitable for assembly on tubes having diameter from 20 to 24 mm.
Proposed with series 60, 61, 71.

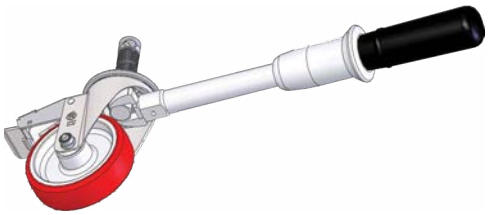
Assembly and maintenance recommendations



We recommend fastening the product with expansion stem to the tubular structures with adequate tightening torques. Insufficient tightening torques can jeopardise the overall carrying capacity and/or stability of the product.

The torques must be compatible with the thickness and mechanical resistance of the tube in which the product is used. The recommended carrying capacities and maintenance cycles relate to brackets with expansion fastening secured with fastening torque of 40 N/m.

Fixing through expansion stem is subject to adjustment during use: we recommend periodically checking its fastening. The product is subject to an initial adjustment during the first days of use; control cycles may be subsequently foreseen based on the periods indicated on the Use and Maintenance Guide.

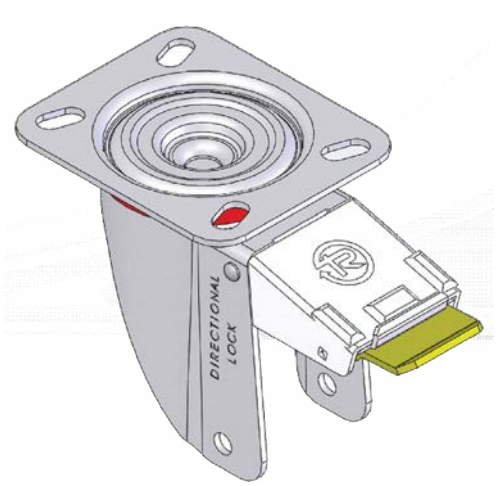


ACCESSORIES FOR WHEELS AND BRACKETS: DIRECTIONAL LOCK

Directional lock

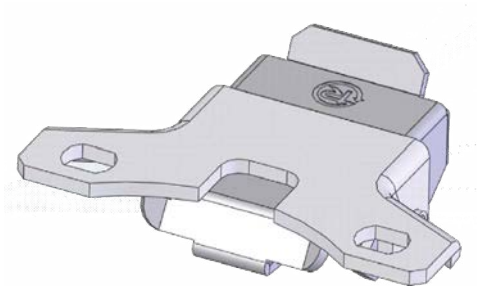
Directional lock is an accessory that can be applied onto the swivel bracket plate using its fixing screws to the trolley. Its engagement locks the bracket rotation in a precise direction, making it fixed. The device is used on at least two of the four swivel brackets fitted on the trolley, making this fitted with two swivel and two fixed brackets, thus allowing the simultaneous towing of more trolleys.

Directional lock for NL brackets diam. up to 150 mm



The directional lock is integrated in the swivel bracket.
It is suitable for manual tow trolleys or mechanical tow trolleys at low speed (max. 6 km/h) on good condition floor. Its engagement is made easier with self-insertion system in the wheel direction notch present on the ball seal ring of the swivel brackets.
Applicable to NL brackets diameter 80-100-125-140/150 upon request.

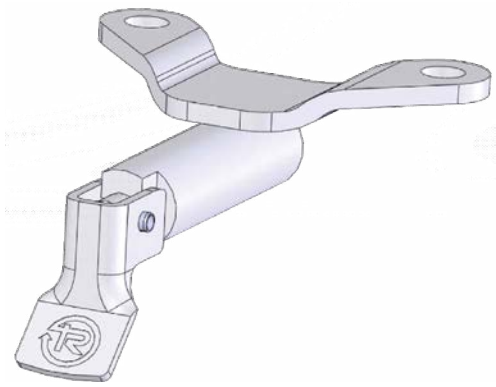
Directional lock for NL and P brackets, diam. from 150 to 200 mm



Designed for assembly on the plate's short side.
It consists of galvanised steel plate parts and is suitable for manual tow trolleys or mechanical tow trolleys at low speed (max 6 km/h) on good condition flooring.
Its engagement is made easier with appendixes for self-insertion in the wheel direction notch present on the fork of the swivel brackets.
It can be purchased as an accessory and combined with the NL and P series swivel brackets for wheels diameter 150, 160, 175, 180 and 200 mm, in the swivel version with rear foot brake and with centralised brake. It cannot be combined to brackets with front foot brake..

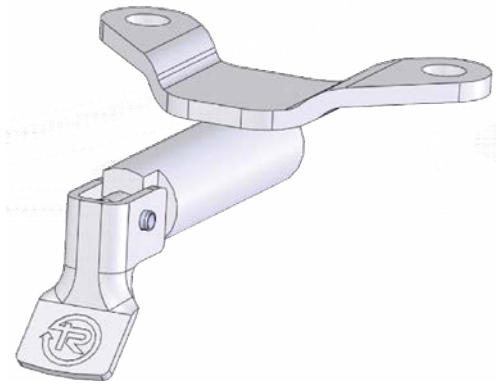
Directional lock

Directional lock for EE MHD brackets diam. up to 250 mm



Designed for assembly on the plate's short side, it consists of galvanised steel parts and is suitable for trolleys with mechanical tow at speed up to 16 km/h on indoor and outdoor floor (asphalt, cement). Its engagment is made easier with self-insertion in the wheel direction notch present on the fork of the swivel brackets.
Available with EE MHD swivel brackets for wheels with diameter up to 250 mm set-up for its use, in the swivel model and with rear foot brake.

Directional lock for EE HD brackets, diam. up to 300 mm



Designed for assembly on the short side of plate 175x140 mm only, it consists of galvanised steel parts and is suitable for trolleys with mechanical tow at speed up to 16 km/h on indoor and outdoor flooring (asphalt, cement). Its engagment is made easier with self-insertion in the wheel direction notch present on the fork of the swivel brackets. Available with EE HD swivel brackets for wheels with diameter up to 300 mm set-up for its use, in the swivel version.
On request, it can be combined to brackets with rear foot brake, to brackets with customised positioning of the wheel direction notches and to brackets with 200x160 mm plate.

CORRECT PRODUCT USE

Italy has implemented EEC directive no. 83/374 concerning the manufacturer's responsibility with Italian DPR no. 224 of 24/05/1988.
Subsequent to that directive, the user must comply with and apply all the recommendations provided by the manufacturer regarding use, assembly as well as preventive and periodic maintenance of its products.
Such recommendations are summarised in the following paragraphs.

For further information, please ask Tellure Rôta for the Technical Handbook or for the "Use guide" booklet prepared by the Union of Italian Wheel Manufacturers (UCIR).

Wheel maximum load and carrying capacity

The carrying capacity declared by the manufacturer is the maximum value, expressed in daN, that a wheel or a bracket can be subjected to without reducing its operating efficiency.
The user must check the suitability of the carrying capacity declared by the manufacturer in relation to the load, the wheel and bracket layout on the trolley to be moved, the number of them actually in contact with the ground and any other conditions (type of surface on which the trolley moves, temperature, humidity, presence of aggressive chemical agents in the operating environment) that may affect the operating conditions of the mechanical moving parts.

Tractive force

The user must check that the force needed to move the trolley with the foreseen load is compatible with current provisions. To make it easier to choose the right wheel, and based on the force required to move the trolley, the rolling resistance value of each wheel is indicated in Tellure Rôta catalogue.

Speed

The maximum speed for which Tellure Rôta refers to the rated carrying capacity is 4 km/h (1.1 m/s). For applications at higher speeds, please contact Tellure Rôta.

Floor

The rated load capacity declared in this catalogue refers to use on smooth and compact floors in good condition. Uneven floors, obstacles and different levels require wheels with a larger diameter and a covering with greater elasticity.

Means of traction and moving intensity

The rated carrying capacity declared in this catalogue refers to manual handling with interruptions during use. For continuous operation or motorised handling, please contact Tellure Rôta.

Environment

The user must check that the materials used to make the selected product are compatible with physical-chemical conditions of the operating environment. The catalogue indicates the "normal" operating conditions for each type of wheel.

Electrical conductivity

If it is necessary to guarantee the electric conductivity from the connecting part to the tread, please contact Tellure Rôta.

Braking and/or locking device

Tellure Rôta produces brackets equipped with brakes and/or locks. They are designed to park

the trolley on slopes of generally no more than 3% under the condition that at least two wheels of the trolley equipped with such devices are in contact with the ground. In case of use on steeper gradients, to ensure the trolley remains at a standstill in these conditions, either the load must be reduced or the number of braking devices must be increased. Tellure Rôta is available for any further details or explanations.

Storage

Products must be stored in a well-ventilated area, without excessive humidity, with a thermal excursion ranging between -10 and +40 C and protected from dust. Never expose products to direct sunlight for extended periods of time and, in general, avoid extended storage. To store the product more efficiently and to protect it against dust, Tellure Rôta items are supplied in standard shrink-wrapped packages.

INCORRECT ACTIONS

To use wheels and brackets correctly, avoid the following:

- overloads, non-uniform load distribution, violent application of the load
- extended stationary periods under load
- impacts, collisions and falling from different heights
- activation of locks and/or brakes while the trolley is moving
- moving the trolley with locks and/or brakes engaged
- parking the trolley with the locks and/or brakes engaged on slopes of more than 3%
- washing with chemically aggressive cleaners
- replacing the wheel and/or bracket with spare parts that do not comply with the Tellure Rôta specifications.

INSTALLATION

For efficient production operation and extended service life, follow the assembly instructions listed below.

Wheel assembly

- Check the mechanical strength of the attachment parts (axle sets, nuts, washers) used for the type of assembling (projecting or fork) and the load to which they are subjected
- House the axle set horizontally, perpendicular to the operating direction, and prevent it from rotating
- Check that the nut is tightened on the axle set; Check that the wheel rotates freely once the installation has been completed.

Bracket assembly

The trolley structure must be sized to withstand the stress exerted on it and to guarantee that attachment surfaces are level. They must be flat, horizontal and sized to guarantee that the corresponding bracket attachment surfaces are perfectly coplanar in the attachment point.
Connecting through welding is not recommended. It is recommended:

- To mount the bracket with a plate using screws, nuts and washers with the sizes and quantity indicated by the manufacturer
- To tighten the nuts or screws with the appropriate torque
- To guarantee that the axle set, for fixed castors, is perpendicular to the operating direction
- To guarantee that brackets with a solid stem are attached to tubular structures with precise

tolerances
- To attach the stems with the cross hole with screws that have an adequate diameter and length
- To guarantee that the tubular structure of the trolley rests completely on the bracket attachment surface
- To guarantee, for brackets with a threaded stem or bolt hole, that the bracket connection surface adheres completely to the surface equipment without interpositions. The brackets with a bolt hole must be attached using screws with the diameter indicated by the manufacturer.

MAINTENANCE

The user must carry out scheduled maintenance that includes the inspections listed below at the intervals that vary according to operating conditions.

Trolley structure check and maintenance

- Check damage to the trolley frame that may have reduced product connection efficiency;
- Check that the product connection parts are correctly tightened on the trolley structure.

Wheels and brackets checks and maintenance

- Check that the product is undamaged, fully operational and that there is no excessive clearance, wear, deformation or tearing
- Check that any locks and/or brakes, if present, are working efficiently
- Check that the environmental conditions have not changed the product (oxidation, corrosion, foreign bodies etc.), thus reducing its operating efficiency
- For products that ensure electrical conductivity, clean the rolling strip and periodically check the electrical conductivity
- Check that the wheel axle set is correctly tightened, reapplying the necessary torque
- Lubricate the moving parts with a lubricant suitable for the specific applications.

Frequency of checks and maintenance

The maximum time interval between two successive checks is as follows:
- damage to the trolley's frame: 12 months
- tightening of connection parts: 6 months
- product condition: 6 months
- brake efficiency: 3 months
- product alteration: 6 months
- electrical conductivity: 3 months
- wheel axle set tightness: 6 months
- lubrication top-up: 6 months (but the top-up lubrication has to be done every time the product is washed).

PROCEDURES FOR DISPOSING AND RECYCLING PRODUCTS

To dispose of and/or recycle the products after use, first, separate the wheel+bracket assemblies from the equipment on which they are fitted. It is best to split the wheel+bracket assemblies down into the following component parts:
- bracket
- axle unit (screw, tube, nut)
- wheel

In particular, the dismantling of the wheel from the bracket is crucial if these are prevalently made from plastic material or aluminium alloy.

Below are details of disposal and recycling of the main materials making up the Tellure Rôta wheels and brackets. In any case, we suggest comparing and supplementing these details with the procedures and rules established by the company in charge of waste disposal in the area or locality where the products are used.

Brackets and axle components

Steel and stainless steel can be recycled as ferrous scrap.

Wheels

We suggest that product recycling procedures include preliminary treatments that involve sorting the different materials in the wheels so as to ensure the correct disposal and/or recycling of each type.

- Steel and engineering cast iron can be recycled as ferrous scrap
- Aluminium alloy can be recycled as non-ferrous metal
- Plastic, thermoplastic rubber and vulcanised rubber parts can be recycled once they have been separated from the ferrous and non-ferrous metals
- Thermosetting resin can be disposed of in waste dumps
- The polyurethane parts can be disposed of in waste dumps, once separated from ferrous and non-ferrous metals.

Shrink-wrap packaging is recyclable as low density polyethylene (PE-LD).
Wooden pallets can be reused or recycled. Any paper or cardboard packaging can be returned to the paper production cycle.
As regards recycling procedures, please refer to the production consortia in the countries where the parts are disposed of.

GENERAL TERMS OF SALE

1. General terms

The contractual relationship, further to the conclusion of each single order, is regulated by these general terms of sale and by specific terms which may be indicated in the order, where specifically undersigned. Orders passed on to commercial assistants and intermediaries are accepted subject to the approval of Tellure Rôta S.p.A.

2. Offer

The documents forming part of the offer, such as illustrations, drawings, indications of weight and size, are only determinant in approximate terms to the extent that they have not been expressly indicated as binding. Tellure Rôta S.p.A. reserves the right of ownership and copyright with regards to the cost estimates, drawings and other documents, which must not be made accessible to third parties. The purchaser assumes full responsibility for the documents it has sent to Tellure Rôta S.p.A. in the event of breach of third party industrial protection rights, also in relation with Tellure Rôta S.p.A. The latter is obliged to make projects, indicated by the purchaser as confidential, accessible to third parties only upon the purchaser's approval.

3. Orders

Except in the event of different written terms, orders of less than Euro 500.00 are not accepted.

4. Variation in the confirmed order

Tellure Rôta reserves the right to refuse or accept, also only partially, any subsequent changes in the order and proposals by the purchaser. In the event of acceptance of these variations, the new price, methods of payment and new delivery dates shall be established by Tellure Rôta, with all other terms remaining unchanged.

5. Cancellation of a confirmed order

The purchaser that cancels a confirmed order, for any cause or motive, is bound to pay in full the amount relating to materials and to supplies already ordered by Tellure Rôta S.p.A. In any case, Tellure Rôta S.p.A. has the right to a minimum compensation equal to 25% of the agreed price, with the right to withdraw this amount even from possible sums received as advance payment for the supply.

6. Prices

Prices are considered as applying to material delivered ex works from Tellure Rôta S.p.A., except in the event of different written terms. The prices of products are those shown by Tellure Rôta S.p.A. in its price list or in its offers; these prices, if not yet agreed, may however be changed at any moment and will be absolutely applied at the date fixed by Tellure Rôta S.p.A.

7. Payments

Payment of supplies must be made within the period and the terms agreed to in the order. In all events, Tellure Rôta S.p.A. is authorised to issue drafts on the customer for the sums and at the due dates. The relative costs are to be borne by the customer. Every shipment is considered as independent of others for the purpose of payment. Delays in payments or any other breach give right to the suspension of the remaining supplies and to the rescission of the contract in progress, besides giving rise to default action against the purchaser with the immediate application of interests on arrears. On sums falling due and not paid, without prejudice to Tellure Rôta S.p.A.'s right to demand payment, interests on arrears will apply, with full right, from the day after the due date, at the legal rate of interest on arrears plus eight points, in compliance with the rate set by the ECB in respect of Italian Legislative Decree no. 192/2012. Requests for reimbursement of payments or for compensations by virtue of any possible counter-claim on the part of the purchaser are not accepted.

8. Delivery terms

The agreed and confirmed shipment and/or delivery terms are expressed in working days and are only indicative and as such are not legally binding, except in the event of a definite undertak-

ing on the part of Tellure Rôta S.p.A., which must be expressly indicated on the order confirmation, and except in cases of force majeure Any delays may not therefore, in any event, give rise to compensation for damages or the rescission, even partial, of the contract, except where such consequences are expressly accepted by Tellure Rôta S.p.A. in the order confirmation.

9. Shipment and transport

With the exception of a contrary agreement, which must be indicated in the order confirmation, the sale takes place Ex-Works. Partial shipments by Tellure Rôta S.p.A. are also accepted. Also in the event that Tellure Rôta S.p.A. is obliged to pay the relative transport cost for the goods as far as the agreed destination, the risk of loss or damage to the goods, as well as any additional costs due to events occurring after the goods have been consigned to the carrier, is transferred from Tellure Rôta S.p.A. to the purchaser at the moment in which the goods are consigned to the carrier. Any reserves, claims, or actions deriving from or in any case connected with the transport and consequent operations, must be raised by the purchaser, and exclusively against the carrier, with the absolute term of eight days from receipt of the goods, since Tellure Rôta S.p.A. is not responsible for events occurring after the consignment of the material to the carrier. Tellure Rôta S.p.A. will take care of the packaging according to experience and common practice, remaining explicitly exonerated from any responsibility for loss and/or damage. The use of special packaging, including the exclusion of packaging in the case of goods for which this is normal practice must be agreed to between Tellure Rôta S.p.A. and the purchaser upon making the order. With regards to matters not provided for, reference should be made to articles 1678 and 1702 of the Civil Code if, and to the extend, they are compatible with this clause. Samples are made available by Tellure Rôta S.p.A.'s only upon the application of a supplementary charge to be agreed from time to time on the relative price in force.

10. Faults and defects

Any claims for materials not corresponding, both in terms of quantity and of quality, to the conditions agreed to in the order, must be raised in writing within the maximum term of eight days from receipt of the goods on penalty of forfeiture. In the event of a prompt and justified claim, Tellure Rôta S.p.A.'s obligation is limited to the replacement of the goods acknowledged as not corresponding (in any case at supply conditions), to the same delivery destination as the initial supply, subject to the restitution of this initial supply, excluding any right on the part of the purchaser to request the rescission of the contract and compensation for direct or indirect damages and the reimbursement of any costs sustained for any reason. Tellure Rôta S.p.A. will not accept claims and will not be liable for damages suffered by third parties upon the occurrence of any of the following conditions: inappropriate or incorrect use, defective assembly on the part of the purchaser or of a third party, natural wear and tear, incorrect or negligent handling, electric or chemical effects, to the extent that these are not attributable to the fault of Tellure Rôta S.p.A. The purchaser loses every right of claim, and therefore the replacement of the goods, in the event that it fails to immediately suspend the use of the materials to which the claim refers.

11. Returns of materials

In the event of errors by the purchaser during the ordering phase, the material may be returned exclusively carriage free, against Tellure Rôta S.p.A.'s written authorisation, and only if perfectly integral and unused.

12. Changes in the construction

Tellure Rôta S.p.A. may make any changes in its construction without the obligation to inform the purchaser. Changes made subsequent to the order cannot give rise to compensation of any kind.

SPEED INDEX

ITEM NR.	PAGE
10	
100005	292
100007	292
100009	292
100010	292
100012	292
100014	292
100015	292
100016	292
100017	292
100027	292
100028	292
100031	292/293
100032	292/293
100033	292/293
100034	292/293
100035	292/293
100036	292/293
100231	293
100232	293
100234	293
100237	293
100461	292/293
100462	292
100463	292
100464	292
100466	292
100491	293
100493	293
100494	293
100495	293
100496	293
100498	293
100501	292
100502	292
100503	292
100504	292
100506	292
100514	292
11	
110105	293
110106	293
110202	293
110204	293
110208	293
110401	293
110402	293
110403	293
22	
221103	48
221104	48
221105	48
221106	48
221110	48
221111	48
222101	48
222102	48
223103	48
223104	48
223106	48
223110	48
223111	48
224101	48
224102	48
224401	49
224402	49
224403	49
224404	49
224405	49
224406	49
224410	49
224411	49
224601	49
224602	49
224603	49
224604	49
224606	49
224610	49
224611	49
224801	51
224802	51
224803	51
224804	51
224805	51
224806	51
224810	51
224811	51
225201	49
225202	49
225203	49
225204	49
225205	49
225206	49
225210	49
225211	49
225221	49
225222	49
225223	49
225224	49
225226	49
225230	49
225231	49
225401	51
225402	51
225403	51
225404	51
225405	51
225406	51
225410	51
225411	51
225501	51
225502	51
225503	51
225504	51
225505	51
225506	51
225510	51
225511	51
225601	50
225602	50
225603	50
225604	50
225605	50
225606	50
225610	50
225611	50
225621	50
225622	50
225623	50
225624	50
225626	50
225630	50
225631	50
225701	49
225702	49
225703	49
225704	49
225705	49
225706	49
225710	49
225711	49
225901	49
225902	49
225903	49
225904	49
225906	49
225910	49
225911	49
226101	51
226102	51
226103	51
226104	51
226105	51
226106	51
226110	51
226111	51
227701	50
227702	50
227703	50
227704	50
227705	50
227706	50
227710	50
227711	50
227801	51
227802	51
227803	51
227804	51
227805	51
227806	51
227810	51
227811	51
227901	50
227902	50
227903	50
227904	50
227906	50
227910	50
227911	50
23	
231103	54
231104	54
231106	54
231110	54
231111	54
231121	54
231122	54
233103	54
233104	54
233106	54
233110	54
233111	54
233121	54
233122	54
234401	55
234402	55
234403	55
234404	55
234406	55
234410	55
234411	55
234601	55
234602	55
234603	55
234604	55
234606	55
234610	55
234611	55
235201	55
235202	55
235203	55
235204	55
235206	55
235210	55
235211	55
235221	55
235222	55
235223	55
235224	55
235226	55
235230	55
235231	55
235601	56
235602	56
235603	56
235604	56
235606	56
235610	56
235611	56
235621	56
235622	56
235623	56
235624	56
235626	56
235630	56
235631	56
235701	55
235702	55
235703	55
235704	55
235706	55
235710	55
235711	55
235901	55
235902	55
235903	55
235904	55
235906	55
235910	55
235911	55
237701	56
237702	56
237703	56
237704	56
237706	56
237710	56
237711	56

ITEM NR.	PAGE
237901	56
237902	56
237903	56
237904	56
237906	56
237910	56
237911	56

32 . . . .

321102	259
321104	259
321105	259
321106	259
323202	261
323302	262
324001	259
324002	259
324003	259
324101	259
324102	259
324103	259
324302	260
324402	262
325101	259
325102	259
325103	259
326001	260
326002	260
326003	260
326101	260
326102	260
326103	260
326202	261
326302	263
327202	261
327302	262
328202	260
328302	262
329202	261
329302	263

33 . . . .

333001	281
333002	281
333003	281
333101	281
333102	281
333103	281
334001	281
334002	281
334003	281
334101	281
334102	281
334103	281
336001	281
336002	281
336003	281
336101	281
336102	281
336103	281

34 . . . .

340000	283
340001	283
342103	285
342104	285
342105	285
342203	285
342204	285
342205	285
342303	285
342304	285
342305	285
344100	283
344101	283
346200	283
346201	283
347002	284
347102	284
347202	284
347302	285
347403	285
347404	285
347405	285

35 . . . .

350001	287
350001	287
354101	287
354102	287
354103	287
354201	287
354202	287
354203	287
356101	287
356102	287
356103	287
356201	287
356202	287
356203	287

36 . . . .

361101	265
361102	265
361103	265
363101	266
363102	266
363103	266
363202	267
364001	265
364002	265
364003	265
364301	265
364302	265
364303	265
364402	267
365101	265
365102	265
365103	265
366001	266
366002	266
366003	266
366301	266
366302	266
366303	266
366402	267
367101	266
367102	266
367103	266
367202	267
368101	265
368102	265
368103	265
368202	267
369101	266
369102	266
369103	266
369202	267

37 . . . .

371100	269
371101	269
371102	269
371103	269
371104	269
371105	269
371203	269
373100	270
373101	270
373102	270
373103	270
373104	270
373105	270
373303	270
374001	270
374002	270
374100	269
374101	269
374102	269
374103	269
374104	269
374105	269
374201	271
374203	271
374303	269
375100	269
375101	269
375102	269
375103	269
375104	269
375105	269
375303	269
376001	271
376002	271
376100	271
376101	271
376102	271
376103	271
376104	271
376105	271
376201	272
376203	272
376303	271
377100	270
377101	270
377102	270
377103	270
377104	270
377105	270
377303	270
378100	269
378101	269
378102	269
378103	269
378104	269
378105	269
378201	271
378203	271
378303	269
379100	271
379101	271
379102	271
379103	271
379104	271
379105	271
379201	272
379203	272
379303	271

39 . . . .

392002	289
392004	289
392102	289
392104	289

51 . . . .

511101	275
511103	275
511104	275
511105	275
511106	275
511108	275
511112	275
511122	275
514401	276
514402	276
514403	276
514404	276
514411	275
514412	275
515701	276
515702	276
515703	276
515704	276
516801	276
516802	276

52 . . . .

521103	60
521104	60
521105	60
521106	60
521108	60
521110	60
521111	60
521132	60
521133	60
521206	60
522101	60
522102	60
523103	60
523104	60
523105	60
523106	60
523108	60
523110	60
523111	60
523206	60
524006	253

SPEED INDEX

ITEM NR.	PAGE
524010	253
524101	60
524102	60
524206	253
524401	62
524402	62
524403	62
524404	62
524405	62
524406	62/253
524410	62/253
524411	62
524412	62
524601	62
524602	62
524603	62
524604	62
524605	62
524606	62
524610	62
524611	62
524612	62
524708	62
524908	62
525201	62
525202	62
525203	62
525204	62
525205	62
525206	62/253
525210	62/253
525211	62
525221	62
525222	62
525223	62
525224	62
525225	62
525226	62
525230	62
525231	62
525516	64
525520	64
525601	63
525602	63
525603	63
525604	63
525605	63
525606	63
525610	63
525611	63
525616	64
525620	64

ITEM NR.	PAGE
525621	63
525622	63
525623	63
525624	63
525625	63
525626	63
525630	63
525631	63
525701	62
525702	62
525703	62
525704	62
525705	62
525706	62
525708	62
525710	62
525711	62
525712	62
525801	61
525802	61
525803	61
525901	62
525902	62
525903	62
525904	62
525905	62
525906	62
525908	62
525910	62
525911	62
525912	62
526001	61
526002	61
526003	61
526101	61
526102	61
526103	61
526201	61
526202	61
526203	61
526301	61
526302	61
526303	61
527701	63
527702	63
527703	63
527704	63
527705	63
527706	63
527710	63
527711	63
527901	63

ITEM NR.	PAGE
527902	63
527903	63
527904	63
527905	63
527906	63
527910	63
527911	63
529202	64
529203	64
529206	64
529210	64
529211	64
529302	64
529303	64
529306	64
529310	64
529311	64

53 . . . .

ITEM NR.	PAGE
531103	68
531104	68
531105	68
531106	68
531107	68
531108	68
531109	68
531110	68
531111	68
531121	68
531122	68
531132	68
531133	68
531206	68
533103	68
533104	68
533105	68
533106	68
533107	68
533108	68
533109	68
533110	68
533111	68
533121	68
533122	68
533206	68
534006	254
534010	254
534708	70
534709	70
534806	254
534908	70
534909	70

ITEM NR.	PAGE
535001	70
535002	70
535003	70
535004	70
535005	70
535006	70/254
535007	70
535010	70/254
535011	70
535012	70
535101	70
535102	70
535103	70
535104	70
535105	70
535106	70
535107	70
535110	70
535111	70
535112	70
535401	70
535402	70
535403	70
535404	70
535405	70
535406	70/254
535407	70
535410	70/254
535411	70
535421	70
535422	70
535423	70
535424	70
535425	70
535426	70
535427	70
535430	70
535431	70
535515	72
535516	72
535520	72
535615	72
535616	72
535620	72
535701	70
535702	70
535703	70
535704	70
535705	70
535706	70
535707	70
535708	70

ITEM NR.	PAGE
535709	70
535710	70
535711	70
535712	70
535801	69
535802	69
535803	69
535901	70
535902	70
535903	70
535904	70
535905	70
535906	70
535907	70
535908	70
535909	70
535910	70
535911	70
535912	70
536001	69
536002	69
536003	69
536101	69
536102	69
536103	69
536201	69
536202	69
536203	69
536301	69
536302	69
536303	69
537701	71
537702	71
537703	71
537704	71
537705	71
537706	71
537710	71
537711	71
537901	71
537902	71
537903	71
537904	71
537905	71
537906	71
537910	71
537911	71
538201	71
538202	71
538203	71
538204	71
538205	71

ITEM NR.	PAGE
538206	71
538210	71
538211	71
538221	71
538222	71
538223	71
538224	71
538225	71
538226	71
538230	71
538231	71
538802	72
538803	72
538806	72
538810	72
538811	72
539202	72
539203	72
539206	72
539210	72
539211	72

60 . . . .

ITEM NR.	PAGE
601101	88
601102	88
601103	88
601104	88
601105	88
601106	88
602201	88
602202	88
602203	88
602401	88
602402	88
602403	88
603101	88
603102	88
603103	88
603104	88
603105	88
603106	88
603201	88
603202	88
603203	88
603204	88
603205	88
603206	88
604201	89
604202	89
604203	89
604204	89
604206	89
604211	89
604301	90
604302	90
604303	90
604306	94
604311	94
604401	92
604402	92
604403	92
604404	92
604406	92
604411	92
604501	89
604502	89
604503	89
604504	89
604506	89
604511	89
604601	92
604602	92
604603	92
604604	92
604606	92
604611	92
604701	89
604702	89
604703	89
604706	94
604711	94
604801	89
604802	89
604803	89
604901	89
604902	89
604903	89
605001	92
605002	92
605003	92
605101	92
605102	92
605103	92
605104	92
605106	92
605111	92
605401	92
605402	92
605403	92
605501	90
605502	90
605503	90
605601	92
605602	92
605603	92
605604	92
605606	92
605611	92
605701	89
605702	89
605703	89
605704	89
605706	89/94
605711	89/94
605901	89
605902	89
605903	89
605904	89
605906	89/94
605911	89/94
606102	91
606103	91
606104	91
606106	91
606111	91
606202	91
606203	91
606204	91
606206	91
606211	91
606301	93
606302	93
606303	93
606401	90
606402	90
606403	90
606404	90
606406	90
606411	90
606421	90
606422	90
606423	90
606424	90
606426	90
606431	90
606501	93
606502	93
606503	93
606601	89
606602	89
606603	89
606604	89
606606	89
606611	89
606621	89
606622	89
606623	89
606624	89
606626	89
606631	89
606701	92
606702	92
606703	92
606704	92
606706	92
606711	92
606721	92
606722	92
606723	92
606724	92
606726	92
606731	92
606806	94
606811	94
606826	94
606831	94
606901	92
606902	92
606903	92
607004	95
607006	95
607102	94
607103	94
607114	95
607116	95
607214	95
607216	95
607302	94
607303	94
607314	95
607316	95
607414	95
607416	95
607504	95
607506	95
607514	95
607516	95
607604	95
607606	95
607701	90
607702	90
607703	90
607704	90
607706	90
607711	90
607801	90
607802	90
607803	90
607804	90
607806	90
607811	90
607901	93
607902	93
607903	93
607904	93
607906	93
607911	93
608001	93
608002	93
608003	93
608004	93
608006	93
608011	93
608102	94
608103	94
608202	94
608203	94
608222	94
608223	94
608242	94
608243	94
608302	94
608303	94
608504	95
608506	95
608604	95
608606	95
608801	93
608802	93
608803	93
608804	93
608806	93
608811	93
608821	93
608822	93
608823	93
608824	93
608826	93
608831	93
609002	94
609003	94
609004	95
609006	95
609102	94
609103	94
609104	95
609106	95
609201	91
609202	91
609203	91

SPEED INDEX

ITEM NR.	PAGE
609301	91
609302	91
609303	91
609553	247
609554	247
609563	247
609564	247
609576	247
609586	247
609654	247
609676	247
609704	248
609714	248
609726	248
609736	248

61 . . . .

ITEM NR.	PAGE
611101	98
611102	98
611103	98
611104	98
611105	98
611106	98
612201	98
612202	98
612203	98
612401	98
612402	98
612403	98
613101	98
613102	98
613103	98
613104	98
613105	98
613106	98
613201	98
613202	98
613203	98
613204	98
613205	98
613206	98
614201	99
614202	99
614203	99
614204	99
614206	99
614211	99
614301	100
614302	100
614303	100
614401	102
614402	102
614403	102
614404	102
614406	102
614411	102
614501	99
614502	99
614503	99
614504	99
614506	99
614511	99
614601	102
614602	102
614603	102
614604	102
614606	102
614611	102
614701	99
614702	99
614703	99
614801	99
614802	99
614803	99
614901	99
614902	99
614903	99
615001	102
615002	102
615003	102
615101	102
615102	102
615103	102
615104	102
615106	102
615111	102
615401	102
615402	102
615403	102
615501	100
615502	100
615503	100
615601	102
615602	102
615603	102
615604	102
615606	102
615611	102
615701	99
615702	99
615703	99
615704	99
615706	99
615711	99
615901	99
615902	99
615903	99
615904	99
615906	99
615911	99
616102	101
616103	101
616104	101
616106	101
616111	101
616202	101
616203	101
616204	101
616206	101
616211	101
616301	103
616302	103
616303	103
616401	100
616402	100
616403	100
616404	100
616406	100
616411	100
616421	100
616422	100
616423	100
616424	100
616426	100
616431	100
616501	103
616502	103
616503	103
616601	99
616602	99
616603	99
616604	99
616606	99
616611	99
616621	99
616622	99
616623	99
616624	99
616626	99
616631	99
616701	102
616702	102
616703	102
616704	102
616706	102
616711	102
616721	102
616722	102
616723	102
616724	102
616726	102
616731	102
616901	102
616902	102
616903	102
617701	100
617702	100
617703	100
617704	100
617706	100
617711	100
617801	100
617802	100
617803	100
617804	100
617806	100
617811	100
617901	103
617902	103
617903	103
617904	103
617906	103
617911	103
618001	103
618002	103
618003	103
618004	103
618006	103
618011	103
618801	103
618802	103
618803	103
618804	103
618806	103
618811	103
618821	103
618822	103
618823	103
618824	103
618826	103
618831	103
619201	101
619202	101
619203	101
619301	101
619302	101
619303	101

62 . . . .

ITEM NR.	PAGE
622102	134
622103	134
622104	134
622105	134
622106	134
622108	134
622113	134
622114	134
622116	134
624102	134
624103	134
624104	134
624105	134
624106	134
624108	134
624113	134
624402	134
624403	134
624413	134
624504	135
624506	135
626202	134
626203	134
626213	134
626656	136
626664	136
627202	135
627203	136
627204	136
627205	136
627206	136
627213	135
627302	134
627303	134
627313	134
627404	135
627406	135
627516	136
627602	135
627603	136
627605	136
627610	136
627613	135
627704	135
627706	135
627824	136
627826	136
628062	137
628063	137
628066	138
628084	138

ITEM NR.	PAGE
628162	137
628163	137
628166	138
628184	138
628302	137
628303	137
628305	137
628306	137
628314	137
628402	137
628403	137
628405	137
628406	137
628414	137
628503	136
628512	135
628513	135
628514	136
628515	136
628516	136
628602	137
628603	137
628605	137
628606	137
628614	137
628824	136
628826	136

63 . . . .

632122	142
632123	142
632124	142
632125	142
632126	142
632128	142
632151	148
632152	148
632153	148
632154	148
632155	148
632156	148
632157	148
632158	148
632163	148
632164	148
632166	148
632167	148
632168	148
632224	142
632226	142
632354	148
632356	148
632357	148
632363	148
632364	148
632366	148
632367	148
634122	142
634123	142
634124	142
634125	142
634126	142
634128	142
634151	148
634152	148
634153	148
634154	148
634155	148
634156	148
634157	148
634158	148
634163	148
634164	148
634166	148
634167	148
634168	148
634224	142
634226	142
634551	149
634552	149
634553	149
634554	149
634555	149
634556	149
634563	149
634564	149
634651	149
634652	149
634653	149
634654	149
634655	149
634656	149
634663	149
634664	149
634852	150
634853	150
634854	150
634855	150
634856	150
634863	150
634864	150
635451	149
635452	149
635453	149
635463	149
635465	149
635466	149
635474	149
635851	150
635852	150
635853	150
635854	150
635855	150
635856	150
635863	150
635864	150
636302	143
636303	143
636304	144
636305	144
636306	144
636504	145
636505	145
636506	145
636654	151
636655	151
636656	151
636664	151
636704	143
636706	143
636724	149
636726	149
636734	149
636851	150
636852	150
636853	150
636854	150
636855	150
636856	150
636863	150
636864	150
637304	142
637322	142
637323	142
637324	142
637325	142
637326	142
637404	143
637406	143
637424	149
637426	149
637434	149
637622	143
637623	143
637624	144
637625	144
637626	144
637822	145
637823	145
637824	145
637825	145
637826	145
637828	145
637852	151
637853	151
637854	151
637855	151
637856	151
637857	151
637864	151
637866	151
638062	152
638063	152
638066	153
638067	153
638072	153
638074	153
638076	153
638077	153
638084	153
638086	153
638162	152
638163	152
638166	153
638167	153
638172	153
638174	153
638176	153
638177	153
638184	153
638186	153
638214	142
638222	142
638223	142
638224	142/143
638225	142
638226	142/143
638303	151
638304	151
638305	151
638306	151
638307	152
638308	152
638314	151
638316	152
638317	152
638318	152
638327	152
638328	152
638338	152
638403	151
638404	151
638405	151
638406	151
638407	152
638408	152
638414	151
638416	152
638417	152
638418	152
638427	152
638428	152
638438	152
638622	143
638623	143
638624	144
638625	144
638626	144
638822	145
638823	145
638824	145
638825	145
638826	145
638828	145
638852	151
638853	151
638854	151
638855	151
638856	151
638857	151
638864	151
638866	151
638903	151
638904	151
638905	151
638906	151
638907	152
638908	152
638914	151
638916	152
638917	152
638918	152
638927	152
638928	152
638938	152
638928	152
638938	152

64 . . . .

641102	156

SPEED INDEX

ITEM NR.	PAGE
641103	156
641104	156
641105	156
641106	156
641107	156
641108	156
641109	156
641110	156
641114	156
641116	156
641117	156
641118	156
641126	156
641127	156
642103	157
642104	157
642124	157
642129	157
642139	157
642151	157
642152	157
642153	157
642154	157
642155	157
642156	157
642157	157
642158	157
642163	157
642164	157
642166	157
642167	157
642168	157
642354	157
642356	157
642357	157
642363	157
642364	157
642366	157
642367	157
644103	157
644104	157
644124	157
644129	157
644139	157
644151	157
644152	157
644153	157
644154	157
644155	157
644156	157
644157	157
644158	157
644163	157
644164	157
644166	157
644167	157
644168	157
644551	158
644552	158
644553	158
644554	158
644555	158
644556	158
644563	158
644564	158
644651	158
644652	158
644653	158
644654	158
644655	158
644656	158
644663	158
644664	158
644852	159
644853	159
644854	159
644855	159
644856	159
644863	159
644864	159
644954	158
644956	158
644964	158
645451	158
645452	158
645453	158
645463	158
645464	158
645465	158
645466	158
645474	158
645564	158
645566	158
645574	158
645851	159
645852	159
645853	159
645854	159
645855	159
645856	159
645863	159
645864	159
646654	160
646655	160
646656	160
646664	160
646851	159
646852	159
646853	159
646854	159
646855	159
646856	159
646863	159
646864	159
647824	160
647852	160
647853	160
647854	160
647855	160
647856	160
647857	160
647863	160
647864	160
647866	160
648062	162
648063	162
648066	162
648067	163
648072	162
648074	162
648076	162
648077	163
648078	163
648084	162
648086	163
648162	162
648163	162
648166	162
648167	163
648172	162
648174	162
648176	162
648177	163
648178	163
648184	162
648186	163
648303	160
648304	160
648305	160
648306	160
648307	161
648308	161
648309	161
648310	161
648314	160
648315	161
648316	161
648317	161
648318	161
648324	161
648327	161
648328	161
648338	161
648403	160
648404	160
648405	160
648406	160
648407	161
648408	161
648409	161
648410	161
648414	160
648415	161
648416	161
648417	161
648418	161
648424	161
648427	161
648428	161
648438	161
648503	160
648504	160
648505	160
648506	160
648507	161
648508	161
648514	160
648515	161
648516	161
648517	161
648518	161
648527	161
648528	161
648538	161
648824	160
648852	160
648853	160
648854	160
648855	160
648856	160
648857	160
648863	160
648864	160
648866	160
65	
651104	166
651106	166
651206	166
652101	166
652102	166
652103	166
652104	172
652105	172
652106	172
652108	172
652109	172
652114	166
652206	172
652224	172
652302	178
652303	178
652304	178
652305	178
652306	178
653104	166
653106	166
654101	166
654102	166
654103	166
654104	172
654105	172
654106	172
654108	172
654109	172
654114	166
654206	172
654224	172
654302	178
654303	178
654304	178
654305	178
654306	178
655302	178
655303	179
655305	179
655310	179
655316	179
655403	179
655412	178
655414	179
655415	179
655416	179
655502	178
655503	179
655504	179
655505	179
655506	179
655602	179
655603	179

ITEM NR.	PAGE
655605	179
655606	179
655614	179
655702	179
655703	179
655705	179
655706	179
655714	179
655802	179
655803	179
655805	179
655806	179
655814	179
656204	172
656205	172
656206	172
656214	172
656401	167
656402	167
656403	167
656404	167
656406	167
656414	167
656424	173
656425	173
656426	173
656434	173
656501	166
656502	166
656503	166
656504	166
656506	166
656514	166
656524	172
656525	172
656526	172
656534	172
656602	168
656603	168
656604	169
656606	169
656614	169
656624	174
656625	174
656626	174
656634	174
656801	167
656802	167
656803	167
656804	167
656806	167
656814	167

ITEM NR.	PAGE
656824	173
656825	173
656826	173
656834	173
656904	169
656906	169
656914	175
656915	175
656916	175
657014	169
657206	173
657214	173
657326	173
657334	173
657404	174
657405	174
657406	174
657414	174
657514	169
657602	168
657603	168
657604	169
657606	169
657704	169
657706	169
657714	169
657802	169
657803	169
657804	175
657805	175
657806	175
657808	175
657814	175
658104	166/168
658106	166/168
658112	166
658114	166/168
658201	166
658202	166
658203	166
658204	172
658205	172
658206	172/173
658214	172/173
658404	174
658405	174
658406	174
658414	174
658602	168
658603	168
658604	169
658606	169

ITEM NR.	PAGE
658614	169
658704	169
658706	169
658714	169
658802	169
658803	169
658804	175
658805	175
658806	175
658808	175
658814	175
659301	166
659302	166
659303	166
659304	166
659306	166
659312	166
659514	166
659604	168
659606	168
659614	168
659704	168
659706	168
659714	168

66 . . . .

ITEM NR.	PAGE
661101	182
661102	182
661103	182
661104	182
661105	182
661106	182
661108	182
661206	182
662101	182
662102	182
662103	182
662105	182
662106	182
662126	182
663101	182
663102	182
663103	182
663104	182
663105	182
663106	182
663108	182
663116	182
663201	182
663202	182
663203	182
663204	182

ITEM NR.	PAGE
663205	182
663206	182
663208	182
664101	182
664102	182
664103	182
664105	182
664106	182
664201	183
664202	183
664203	183
664204	183
664205	183
664206	183
664213	183
664304	187
664306	187
664401	185
664402	185
664403	185
664404	185
664405	185
664406	185
664501	183
664502	183
664503	183
664504	183
664505	183
664506	183
664513	183
664601	185
664602	185
664603	185
664604	185
664605	185
664606	185
664804	187
664806	187
665306	187
665401	185
665402	185
665403	185
665404	185
665405	185
665406	185
665601	185
665602	185
665603	185
665604	185
665605	185
665606	185
665701	183

ITEM NR.	PAGE
665702	183
665703	183
665704	183/187
665705	183
665706	183/187
665708	183
665713	183
665806	187
665901	183
665902	183
665903	183
665904	183/187
665905	183
665906	183/187
665913	183
666401	184
666402	184
666403	184
666404	184
666405	184
666406	184
666421	184
666422	184
666423	184
666424	184
666425	184
666426	184
666601	183
666602	183
666603	183
666604	183
666605	183
666606	183
666621	183
666622	183
666623	183
666624	183
666625	183
666626	183
666643	183
666653	183
666701	185
666702	185
666703	185
666704	185
666705	185
666706	185
666721	185
666722	185
666723	185
666724	185
666725	185

SPEED INDEX

ITEM NR.	PAGE
666726	185
667004	189
667005	189
667006	189
667102	188
667103	188
667114	189
667115	189
667116	189
667214	189
667215	189
667216	189
667302	188
667303	188
667314	189
667315	189
667316	189
667414	189
667415	189
667416	189
667504	188
667505	188
667506	188
667514	189
667515	189
667516	189
667604	188
667605	188
667606	188
667701	184
667702	184
667703	184
667704	184
667705	184
667706	184
667801	184
667802	184
667803	184
667804	184
667805	184
667806	184
667901	186
667902	186
667903	186
667904	186
667905	186
667906	186
668001	186
668002	186
668003	186
668004	186
668005	186
668006	186
668102	188
668103	188
668302	188
668303	188
668504	188
668505	188
668506	188
668604	188
668605	188
668606	188
668704	187
668706	187
668801	186
668802	186
668803	186
668804	186
668805	186
668806	186
668821	186
668822	186
668823	186
668824	186
668825	186
668826	186
668904	187
668906	187
669002	188
669003	188
669004	188
669005	188
669006	188
669102	188
669103	188
669104	188
669105	188
669106	188
669206	187
67	
672104	218
672106	218
672201	218
672202	218
672203	218
676101	219
676102	219
676103	219
676701	220
676702	220
676703	220
677004	221
677006	221
677101	218
677102	218
677103	218
677104	221
677106	221
677314	218
677316	218
677701	219
677702	219
677704	219
677706	219
677713	219
678101	218
678102	218
678103	218
678304	218
678306	218
678701	219
678702	219
678704	219
678706	219
678713	219
68	
681100	106
681103	106
681104	106
681105	106
681106	106
681108	106
681111	106
681112	106
681202	192
681203	192
681204	192
681206	192
682106	106
682202	192
682203	192
682204	192
682206	192
682213	192
683103	106
683104	106
683105	106
683106	106
683108	106
683111	106
683112	106
683116	106
683203	106
683204	106
683205	106
683206	106
683211	106
683212	106
683216	106
683306	106
683316	106
683402	192
683403	192
683404	192
683406	192
683413	192
683423	192
683424	192
683426	192
683502	224
683503	224
683602	224
683603	224
684108	107
684206	112
684306	112
684401	110
684402	110
684403	110
684404	110
684405	110
684406	110
684408	110
684500	107
684501	107
684502	107
684503	107
684504	107
684505	107
684506	107
684512	107
684513	107
684523	193
684601	110
684602	110
684603	110
684604	110
684605	110
684606	110
684608	110
684682	225
684683	225
684704	112
684706	112
684801	107
684802	107
684803	107
684804	107
684805	107
684806	107
684812	107
684813	107
684866	107
684873	193
684882	224
684883	224
684966	113
684972	193
684973	193
684974	194
684976	194
684993	194
685004	112
685006	112
685100	107
685101	107
685102	107
685103	107
685104	107/112
685105	107
685106	107/112
685108	107
685113	193
685142	107
685143	107
685166	107/112
685173	193
685182	224
685183	224
685301	107
685302	107
685303	107/112
685304	107/112
685305	107
685306	107/112
685322	107
685323	107
685366	113
685372	193
685373	193
685374	194
685376	194
685393	194
685401	110
685402	110
685403	110
685404	110

ITEM NR.	PAGE
685405	110
685406	110
685408	110
685601	110
685602	110
685603	110
685604	110
685605	110
685606	110
685608	110
685682	225
685683	225
685801	111
685802	111
685803	111
685804	111
685805	111
685806	111
685901	111
685902	111
685903	111
685904	111
685905	111
685906	111
685982	225
685983	225
686001	111
686002	111
686003	111
686004	111
686005	111
686006	111
686021	111
686022	111
686023	111
686024	111
686025	111
686026	111
686102	109
686103	109
686104	109
686106	109
686606	108
686701	108
686702	108
686703	108
686704	108
686705	108
686706	108
686721	108
686722	108
686723	108
686724	108
686725	108
686726	108
686801	107
686802	107
686803	107
686804	107
686805	107
686806	107
686813	193
686821	107
686822	107
686823	107
686824	107
686825	107
686826	107
686843	107
686846	107
686853	107
686863	193
686902	112
686903	112
686904	113
686905	113
686906	113
686912	193
686913	194
686914	194
686916	194
686922	112
686923	112
686924	113
686925	113
686926	113
686933	194
686946	113
686952	193
686953	193
686954	194
686956	194
687004	113
687005	113
687006	113
687013	194
687014	194
687016	194
687102	109
687103	109
687104	109
687106	109
687114	113
687115	113
687116	113
687123	194
687124	194
687126	194
687214	113
687215	113
687216	113
687224	194
687226	194
687314	113
687315	113
687316	113
687414	113
687415	113
687416	113
687502	112
687503	112
687504	113
687505	113
687506	113
687514	113
687515	113
687516	113
687522	193
687524	194
687526	194
687533	194
687602	112
687603	112
687604	113
687605	113
687606	113
687700	108
687701	108
687702	108
687703	108
687704	108
687705	108
687706	108
687901	108
687902	108
687903	108
687904	108
687905	108
687906	108
688006	108
688066	195
688072	195
688074	195
688082	224
688083	224
688166	195
688172	195
688174	195
688204	112
688206	112
688303	195
688304	195
688306	195
688307	114
688403	195
688404	195
688406	195
688407	114
688502	112
688503	112
688504	113
688505	113
688506	113
688522	193
688524	194
688526	194
688533	194
688602	112
688603	112
688604	113
688605	113
688606	113
688703	195
688704	195
688706	195
688707	114
689001	110
689002	110
689003	110
689004	110
689005	110
689006	110
689101	110
689102	110
689103	110
689104	110
689105	110
689106	110
689204	112
689206	112
689303	195
689304	195
689306	195
689403	195
689404	195
689406	195
689503	249
689504	249
689506	249
689513	249
689514	249
689516	249
689604	249
689606	249
689704	250
689706	250
689714	250
689716	250
689803	195
689804	195
689806	195

69 . . . .

ITEM NR.	PAGE
691102	198
691103	198
691104	198
691106	198
691112	198
691202	198
691203	198
691206	198
692102	198
692103	198
692104	198
692106	198
692122	198
692126	198
694102	198
694103	198
694104	198
694106	198
694802	199
694803	199
694804	199
694812	199
694902	199
694903	199
694904	199
695702	199
695703	199
695704	199
695712	199
695802	199
695803	199
695804	199
696203	200
696204	200
696206	200
696303	200
696304	200

SPEED INDEX

ITEM NR.	PAGE
696306	200
697504	200
697506	200
697603	200
697604	201
697606	201
697704	201
697706	201
697804	201
697806	201
698504	200
698506	200
698603	200
698804	201
698806	201

71 . . . .

ITEM NR.	PAGE
711101	76
711102	76
711103	76
711104	76
711105	76
711106	76
711132	76
711133	76
712201	76
712202	76
712203	76
713101	76
713102	76
713103	76
713104	76
713105	76
713106	76
713201	76
713202	76
713203	76
713204	76
713205	76
713206	76
714201	78
714202	78
714203	78
714204	78
714206	78
714211	78
714301	79
714302	79
714303	79
714401	80
714402	80
714403	80
714404	80
714406	80
714411	80
714501	78
714502	78
714503	78
714504	78
714506	78
714511	78
714601	80
714602	80
714603	80
714604	80
714606	80
714611	80
714701	78
714702	78
714703	78
714801	78
714802	78
714803	78
714901	78
714902	78
714903	78
715301	80
715302	80
715303	80
715304	80
715306	80
715311	80
715501	79
715502	79
715503	79
715601	80
715602	80
715603	80
715604	80
715606	80
715611	80
715701	78
715702	78
715703	78
715704	78
715706	78
715711	78
715801	77
715802	77
715803	77
715901	78
715902	78
715903	78
715904	78
715906	78
715911	78
716001	77
716002	77
716003	77
716101	77
716102	77
716103	77
716201	77
716202	77
716203	77
716301	77
716302	77
716303	77
716501	79
716502	79
716503	79
716504	79
716506	79
716511	79
716521	79
716522	79
716523	79
716524	79
716526	79
716531	79
716601	78
716602	78
716603	78
716604	78
716606	78
716611	78
716621	78
716622	78
716623	78
716624	78
716626	78
716631	78
716701	80
716702	80
716703	80
716704	80
716706	80
716711	80
716721	80
716722	80
716723	80
716724	80
716726	80
716731	80
717401	79
717402	79
717403	79
717404	79
717406	79
717411	79
717801	79
717802	79
717803	79
717804	79
717806	79
717811	79
717901	81
717902	81
717903	81
717904	81
717906	81
717911	81
718001	81
718002	81
718003	81
718004	81
718006	81
718011	81
718801	81
718802	81
718803	81
718804	81
718806	81
718811	81
718821	81
718822	81
718823	81
718824	81
718826	81
718831	81
719201	80
719202	80
719203	80
719301	80
719302	80
719303	80

72 . . . .

ITEM NR.	PAGE
721103	204
721106	204
721110	204
721202	204
721203	204
721205	204
721206	204
721208	204
721210	204
721213	204
722103	210
722104	210
722106	210
722108	210
722109	210
722124	210
722126	210
722129	210
722152	228
723003	204
723102	204
723103	204
723104	204
723105	204
723106	204
723108	204
723113	204
724103	210
724104	210
724106	210
724108	210
724109	210
724126	210
724304	210
724306	204
724313	210
724336	210
724402	204
724405	204
724410	204
724413	204
724452PF	228
724462PF	229
724504	211
724506	205
724536	211
724610	205
725204	210/211
725206	204/205
725213	210
725236	210/211
726202	204
726205	204
726210	204/205
726213	204
726252PF	228
726262PF	229
727106	204
727113	210
727124	210
727126	210
727152PF	228

ITEM NR.	PAGE
727162PF	229
727204	205
727205	205
727206	205/255
727224	211
727226	211
727302	204
727305	204
727310	204
727313	204
727324	212
727326	212
727352PF	228
727362PF	229
727452PF	228
727462PF	229
727504	211
727506	211
727513	211
727516	205/255
727602	205
727605	205
727610	205
727613	205
727706	205
727724	211
727726	211
727806	212
727808	212
727814	212
727816	212
727910	205
728062	206
728063	206
728066	213
728074	213
728076	213
728084	207
728086	207
728162	206
728163	206
728166	213
728174	213
728176	213
728184	207
728186	207
728303	206
728305	206
728306	206
728307	206
728314	206
728403	206

ITEM NR.	PAGE
728405	206
728406	206
728407	206
728414	206
728504	211
728506	211
728512	205
728513	211
728514	205
728515	205
728516	205/255
728523	205
728603	206
728605	206
728606	206
728607	206
728614	206
728806	212
728808	212
728814	212
728816	212
729303	212
729304	212
729306	212
729307	213
729308	213
729316	213
729403	212
729404	212
729406	212
729407	213
729408	213
729416	213
729603	212
729604	212
729606	212
729607	213
729608	213
729616	213

73 . . . .

ITEM NR.	PAGE
731102	118
731102AE	126
731103	118
731103AE	126
731104	118
731104AE	126
731105	118
731106	118
731106AE	126
732102	118
732102AE	126

ITEM NR.	PAGE
732103	118
732103AE	126
732104	118
732104AE	126
732105	118
732106	118
732106AE	126
732114	118
732115	118
732116	118
733102	118
733103	118
733104	118
733105	118
733106	118
733204	118
733205	118
733206	118
734102	118
734103	118
734104	118
734105	118
734106	118
735002	119
735002AE	127
735003	119
735003AE	127
735004	119
735004AE	127
735005	119
735006	119
735006AE	127
735102	119
735102AE	127
735103	119
735103AE	127
735104	119/121
735104AE	127
735105	119
735106	119/121
735106AE	127
735202	119
735202AE	127
735203	119
735203AE	127
735204	119
735204AE	127
735205	119
735206	119
735206AE	127
735302	119
735303	119

ITEM NR.	PAGE
735304	119
735305	119
735306	119
735402	119
735403	119
735404	119/121
735405	119
735406	119/121
735502	119
735503	119
735504	119
735505	119
735506	119
735602	119
735602AE	127
735603	119
735603AE	127
735604	119
735604AE	127
735605	119
735606	119
735606AE	127
735702	119
735702AE	127
735703	119
735703AE	127
735704	119/121
735704AE	127
735705	119
735706	119/121
735706AE	127
735802	119
735802AE	127
735803	119
735803AE	127
735804	119
735804AE	127
735805	119
735806	119
735806AE	127
735902	120
735903	120
735904	120
735905	120
735906	120
736002	122
736002AE	128
736003	122
736003AE	128
736004	122
736004AE	128
736005	122

ITEM NR.	PAGE
736006	122
736006AE	128
736102	122
736102AE	128
736103	122
736103AE	128
736104	122
736104AE	128
736105	122
736106	122
736106AE	128
736202	122
736202AE	128
736203	122
736203AE	128
736204	122
736204AE	128
736205	122
736206	122
736206AE	128
736302	122
736303	122
736304	122
736305	122
736306	122
736402	122
736403	122
736404	122
736405	122
736406	122
736502	122
736503	122
736504	122
736505	122
736506	122
736602	122
736602AE	128
736603	122
736603AE	128
736604	122
736604AE	128
736605	122
736606	122
736606AE	128
736702	122
736702AE	128
736703	122
736703AE	128
736704	122
736704AE	128
736705	122
736706	122

SPEED INDEX

ITEM NR.	PAGE
736706AE	128
736802	122
736802AE	128
736803	122
736803AE	128
736804	122
736804AE	128
736805	122
736806	122
736806AE	128
736904	121
736906	121
737004	123
737005	123
737006	123
737104	123
737105	123
737106	123
737204	123
737205	123
737206	123
737304	123
737305	123
737306	123
737404	123
737405	123
737406	123
737504	123
737505	123
737506	123
737604	121
737606	121
737702	120
737703	120
737704	120
737705	120
737706	120
737802	120
737803	120
737804	120
737805	120
737806	120
738202	120
738203	120
738204	120
738205	120
738206	120
738302	120
738303	120
738304	120
738305	120
738306	120

ITEM NR.	PAGE
738402	120
738403	120
738404	120
738405	120
738406	120
738702	121
738703	121
738704	121
738705	121
738706	121
738802	121
738803	121
738804	121
738805	121
738806	121
738904	121
738906	121
739004	121
739006	121
739104	121
739106	121
739204	121
739206	121

74 . . . .

ITEM NR.	PAGE
742105	234
742121	234
742122	234
742123	234
742125	234
742127	234
742202	234
742224	234
743201	234
743202	234
743203	234
743204	234
743205	234
743206	234
743224	234
744105	234
744121	234
744122	234
744123	234
744125	234
744127	234
744202	234
744224	234

75 . . . .

ITEM NR.	PAGE
752102	238
752105	238
752121	238
752122	238
752123	238
752125	238
752127	238
752132	238
752134	238
752135	238
752137	238
752223	238
753101	238
753102	238
753103	238
753104	238
753105	238
753106	238
753107	238
753108	238
753110	238
753223	238
753209	238
754102	238
754105	238
754121	238
754122	238
754123	238
754125	238
754127	238
754132	238
754134	238
754135	238
754137	238
754223	238
758301	239
758311	239
758321	239
758401	239
758411	239
758421	239

76 . . . .

ITEM NR.	PAGE
760001	241
760002	241
761011	241
761012	241
761014	241
761015	241
763011	241
763012	241
763014	241
763015	241

77 . . . .

ITEM NR.	PAGE
772122	243
772125	243
772132	243
772135	243
772137	243
774122	243
774125	243
774132	243
774135	243
774137	243

78 . . . .

ITEM NR.	PAGE
782101	245
782102	245
782103	245
782104	245
782105	245
784101	245
784102	245
784103	245
784104	245
784105	245

82 . . . .

ITEM NR.	PAGE
821601	83
821602	83
822601	83
822602	83
823601	83
823602	83
824601	83
824602	83
825601	83
825602	83
825701	83
825702	83
826601	83
826602	83
826701	83
826702	83

92 . . . .

ITEM NR.	PAGE
921070	294
921079	294
922028	294
922108	294
922112	294
925005	294
925006	294
925007	294
926006	294
926044	294
929324	294

94 . . . .

ITEM NR.	PAGE
940261	292
940262	292
940263	292
947015	294

tellureRôta

tellure Rôta

tellureRôta

tellure Rôta