

"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 an easy handling of heavy loads even with wheels of small diameter.

Examples of recommended applications: trolleys for indoor industrial handling, AGV trolleys, containers, electrical pallet trucks, tilt trucks.

Environments of use

Designed for industrial environments, even in 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 40.



Floors

Suitable for tiles and cement-resin.

Not suitable if large obstacles are present.



Force required to push or tow a wheel

 	150 kg	250 kg	350 kg	450 kg	550 kg	700 kg	850 kg
80 mm	3,2	----	----	----	----	----	
100 mm	2,3	5,2	----	----	----	----	
125 mm	1,7	4,5	6,5	----	----	----	
150 mm	1,2	3,8	6	7	8	----	
160 mm	<1	3,3	5	6,5	8	11,2	
200 mm	<1	3	4,9	6	7,8	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 flooring. For manual handling of a 4-wheeled trolley we recommend diameters that have values < 5 daN, for frequent handling we recommend diameters with 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 and centralised 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.



Heavy-duty PT brackets with hardened ball race grooves

Maximum carrying capacity 850 daN - available diameters 150-200 mm
Top plate fitting. Available with 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.

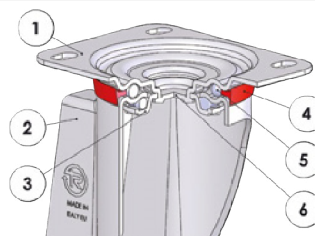
Options available to order:

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.



mm	mm	kg	COD.	kg	COD.	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	58	47	14	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

mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	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	659514	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-PT

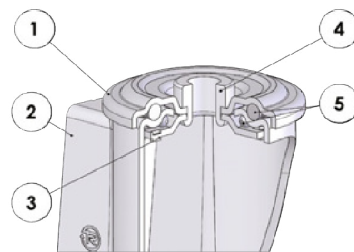
Standard-duty brackets NL - max carrying capacity 300 daN



mm	mm	kg	COD.	mm	mm	mm	mm	mm	mm	mm	mm	daN	
160	50	2,61	654804	199	140x110	105x80	11	56	M10x1,5	65		300	
200	50	3,96	654806	240	140x110	105x80	11	56	M10x1,5	65		300	



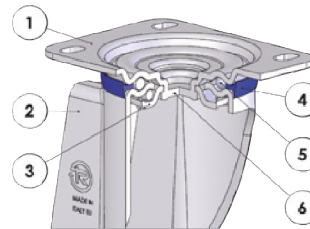
mm	mm	kg	COD.	mm	mm	mm	mm	mm	mm	mm	mm	mm	daN	
160	50	2,84	654710	199	140x110	105x80	11	56	40	17,5	35	18,5	300	
200	50	3,05	654716	240	140x110	105x80	11	56	40	17,5	35	18,5	300	



- 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	COD.	kg	COD.	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

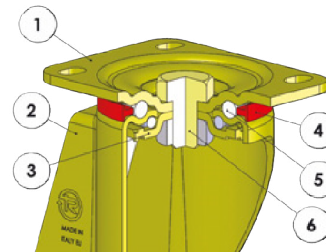
Medium-duty brackets M - max carrying capacity 500 daN



- 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-rieveted
- Available with adjustable total front foot brake

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

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:

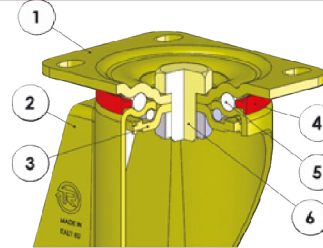


Directional lock for P-PT brackets d. 150-200 mm



Footguard for brackets NL-M-P-PT

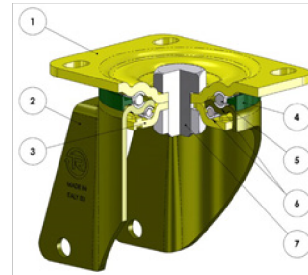
Medium-heavy duty brackets P - max carrying capacity 750 daN



- 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

mm		kg		kg		kg		mm						daN		
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	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	

Heavy-duty PT brackets with hardened ball race grooves - max carrying capacity 850 daN



- 1) Top Plate: electrolytically galvanised steel plate
 - 2) Fork: electrolytically galvanised steel plate
 - 3) Ball Race Ring: electrolytically galvanised steel plate
 - 4) Dust Seal: dark green polyamide 6
 - 5) Swivel actions: double ball ring with grease lubrication
 - 6) Ball race: hardened carbon steel grooves
 - 7) King pin: steel screw, class 8.8 and stainless steel nut
- Available with rear adjustable brake

mm		kg		kg		kg		mm						daN		
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	daN	daN
150	50	3,18	657544	2,19	658604	3,66	656674	200	140x110	105x80	11	70	126	600	480	
160	50	3,52	657554	2,53	658614	4,09	656684	205	140x110	105x80	11	70	126	800	640	
200	50	3,94	657546	2,48	658606	4,41	656676	250	140x110	105x80	11	70	126	850	680	

Options available to order:

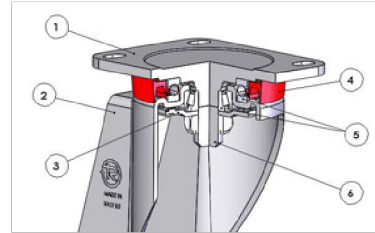


Directional lock for P-PT brackets d. 150-200 mm



Footguard for brackets NL-M-P-PT

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









- 1) Plate: white galvanised forged steel
 - 2) Fork: white 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

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



Technology at work

"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 machining 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 a manually handling of heavy loads. Examples of recommended applications: trolleys for indoor industrial handling, AGV trolleys, containers, electrical pallet trucks, tilt trucks.

Environments of use

Designed for industrial environments, even in 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 40.

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 flooring. For manual handling of a 4-wheeled trolley we recommend diameters that have values < 5 daN, for frequent handling we recommend diameters with 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 150-250 mm
Top plate fitting. Available with front brake and adjustable rear brake.



Heavy-duty PT brackets with hardened ball race grooves

Maximum carrying capacity 900 daN - available diameters 150-200 mm
Top plate fitting. Available with 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.

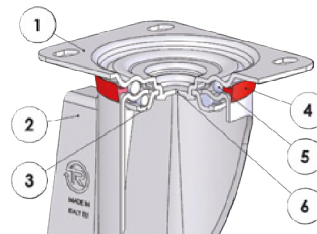
Options available to order:

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.



mm		kg		COD.		mm		mm		daN		daN		daN		daN	
mm	mm	kg	COD.	kg	COD.	mm	mm.	mm	mm	Static	4 km/h	4 km/h	6 km/h	6 km/h	6 km/h	6 km/h	6 km/h
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	5,50	652208	5,31	654108	20	50	52	15	1750	400	1200	960				
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

mm		kg		CODE		kg		CODE		kg		CODE		mm		mm		mm		mm		mm		daN	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	mm	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:

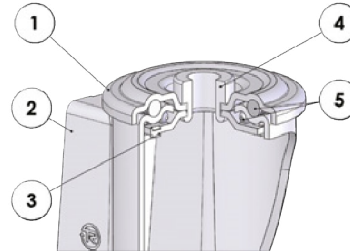


Directional lock for brackets d. 150-200 mm



Footguard for brackets NL-M-P-PT

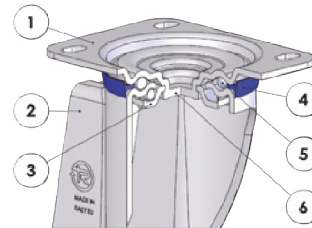
Standard-duty brackets NL - max carrying capacity 300 daN



- 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

mm		kg		COD.		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

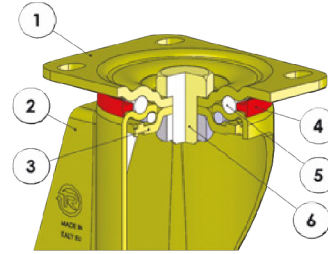
mm		kg		CODE		kg		CODE		kg		CODE		mm		mm		mm		mm		daN	
150	35	3.31	657214	2.60	658214	3.78	657334	194	140x110	105x80	11	58	178	490									
200	45	5.31	657206	4.70	658206	5.25	657326	240	140x110	105x80	11	50	178	500									

Options available to order:



Footguard
for brackets NL-
M-P-PT

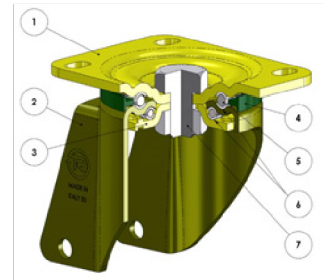
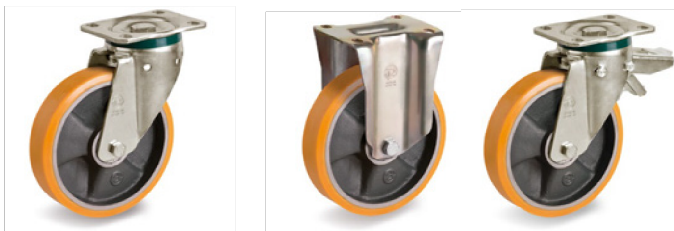
Medium-heavy duty brackets P - max carrying capacity 750 daN



- 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

mm		kg		COD.		kg		COD.		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	657406	4,43	658406	6,46	656626	250	140x110	105x80	11	70	126	750	600						
250	50	8,10	657408	7,00	658408	8,80	656628	298	140x110	105x80	11	66	173	750	600						

Heavy-duty PT brackets with hardened ball race grooves - max carrying capacity 900 daN



- 1) Top Plate: electrolytically galvanised steel plate
 - 2) Fork: electrolytically galvanised steel plate
 - 3) Ball Race Ring: electrolytically galvanised steel plate
 - 4) Dust Seal: dark green polyamide 6
 - 5) Swivel actions: double ball ring with grease lubrication
 - 6) Ball race: hardened carbon steel grooves
 - 7) King pin: steel screw, class 8.8 and stainless steel nut
- Available with rear adjustable brake

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		daN		daN	
150	35	3,95	657444	2,51	658414	4,52	658314	200	140x110	105x80	11	70	126	490	390						
175	35	4,42	657435	3,00	658405	4,99	658305	225	140x110	105x80	11	70	126	650	520						
200	45	5,89	657436	4,43	658406	6,20	658306	250	140x110	105x80	11	70	126	900	800						

Options available to order:

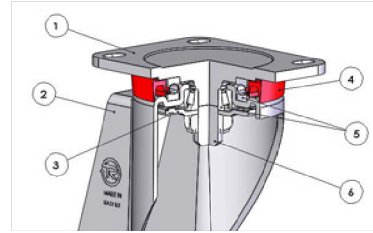


Directional lock for brackets d. 150-200 mm



Footguard for brackets NL-M-P-PT

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



- 1) Plate: white galvanised forged steel
 - 2) Fork: white 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

mm		kg		kg		kg		mm		mm		mm		mm		daN	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
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

WHEELS WITH THICK "TR" POLYURETHANE AND ALUMINIUM CENTRE

-  100-250 mm
-  95 Shore A
-  350-1000 daN
4 km/h
-  280-800 daN
6 km/h
-  270-380 daN
-  -20 / +80 °C



Technical features

Tyre: very thick "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

Designed to improve trolleys' handling under heavy loads on uneven surfaces.

The thick tread guarantees: excellent ability to overcome obstacles, reduced fatigue when pushing the trolley, excellent performance in presence of mechanical handling or mixed manual-mechanical handling, excellent performance over time, even at high speeds (up to 12 km/h).

Examples of recommended applications: trolleys for indoor handling in the logistics and automotive industry, electrical pallet trucks.

Environments of use

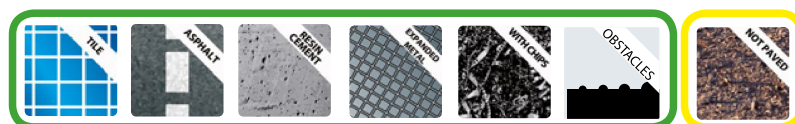
Designed for industrial environments, even in presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

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 40.

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 flooring. For manual handling of a 4-wheeled trolley we recommend diameters that have values < 5 daN, for frequent handling we recommend diameters with values < 3 daN.

Available with brackets



Medium-heavy duty brackets P

Maximum carrying capacity 750 daN - available diameters 100-250 mm
Top plate fitting. Available with front brake and adjustable rear brake.



Heavy-duty PT brackets with hardened ball race grooves

Maximum carrying capacity 800 daN - available diameters 160-200 mm
Top plate fitting. Available with 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.



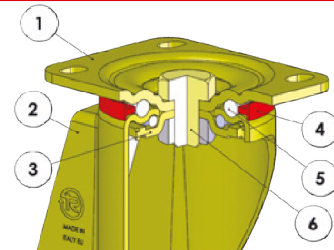
Electrowelded sprung-loaded brackets EES MHD

Maximum carrying capacity 1000 daN - available diameters 160-250 mm
Top plate fitting. Available with adjustable front brake.



mm		kg		kg		mm				Static	4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	daN	daN	daN	daN
100	40	0,45	652302	0,37	654302	15	40	32	9	500	270	350	280
125	40	0,76	652303	0,53	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	1,37	652305	1,15	654305	20	58	47	14	950	335	750	600
200	50	1,70	652306	1,47	654306	20	58	47	14	1000	350	800	640
250	50	2,40	652308	2,10	654308	20	55	52	15	1200	380	1000	800

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

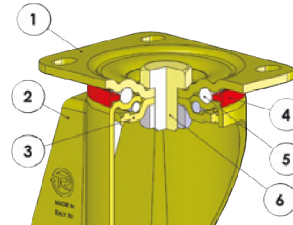
mm		kg		kg		mm				4 km/h	6 km/h	
mm	mm	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	daN	daN
100	40	1.33	655302	0.83	655412	138	100x85	80x60	9	46	350	280

Options available to order:



Footguard
for brackets M-
P-PT

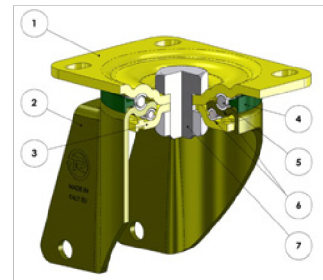
Medium-heavy duty brackets P - max carrying capacity 750 daN



- 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

mm		kg		kg		kg		mm		mm		mm		mm		daN	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
125	40	2.30	655303	1.63	655403	2.83	655503	170	140x110	105x80	11	70	126	126	126	450	360
160	50	3.53	655310	2.04	655414	4.10	655504	205	140x110	105x80	11	70	126	126	126	700	560
180	50	3.78	655305	2.36	655415	4.35	655505	228	140x110	105x80	11	70	126	126	126	750	600
200	50	4.22	655316	2.76	655416	4.82	655506	250	140x110	105x80	11	70	126	126	126	750	600
250	50	4.84	655318	3.74	655418	5.54	655508	298	140x110	105x80	11	66	126	126	126	750	600

Heavy-duty PT brackets with hardened ball race grooves - max carrying capacity 800 daN



- 1) Top Plate: electrolytically galvanised steel plate
 - 2) Fork: electrolytically galvanised steel plate
 - 3) Ball Race Ring: electrolytically galvanised steel plate
 - 4) Dust Seal: dark green polyamide 6
 - 5) Swivel actions: double ball ring with grease lubrication
 - 6) Ball race: hardened carbon steel grooves
 - 7) King pin: steel screw, class 8.8 and stainless steel nut
- Available with rear adjustable brake

mm		kg		kg		kg		mm		mm		mm		mm		daN	
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
160	50	3,34	655344	2,04	655414	3,97	655544	205	140x110	105x80	11	70	126	126	126	700	560
180	50	3,71	655335	2,36	655415	4,35	655535	228	140x110	105x80	11	70	126	126	126	750	600
200	50	4,36	655336	2,76	655416	4,89	655536	250	140x110	105x80	11	70	126	126	126	800	640

Options available to order:

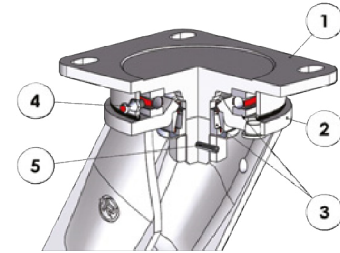


Directional lock for P brackets d. 150-200 mm



Footguard for brackets M-P-PT

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) Anti-loosening system nut
- Available with adjustable total rear foot brake

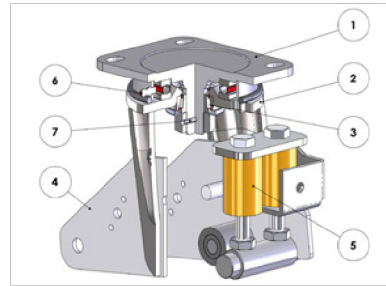
mm		kg		kg		kg		mm		mm		mm		mm		daN	
mm	mm	kg	CODE	kg	CODE	kg	CODE	mm	mm	mm	mm	mm	mm	mm	mm	4 km/h	6 km/h
100	40	3.36	655602	2.38	655702	4.24	655802	170	135x110	105x80	11	51	157			350	280
125	40	3.68	655603	2.70	655703	4.56	655803	182	135x110	105x80	11	51	157			450	360
160	50	4.18	655614	3.19	655714	5.06	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 brackets EE MHD
- EE HD - EEG MHD - EES MHD:
see page 365-367

Electrowelded sprung-loaded brackets EES MHD - max carrying capacity 1000 daN - damping up to 400 daN



- 1) Top plate: electrolytically galvanized forged steel with integrated pin.
 - 2) Main fork: deep-drawn legs electrowelded to the flange and electrolytically galvanized U-shaped component electrowelded to the legs.
 - 3) Swivel actions: axial ball bearing and tapered roller bearing
 - 4) spring-hinged plates: plates electrowelded to the axle
 - 5) Polyurethane springs
 - 6) Grease nipple
 - 7) Anti-loosening locknut system
- Available with adjustable front lock

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		mm		daN		daN		4 km/h		6 km/h	
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	mm	daN	daN	daN	daN	daN	daN	daN	daN	daN	daN	daN	
160	50	7,07	655004	5,82	657104	8,13	654904	248	135x110	105x80	11	100	240	25	50	400	700	560									
200	50	7,67	655006	6,42	657106	8,78	654906	268	135x110	105x80	11	100	265	25	50	400	800	640									
250	50	8,75	655008	7,54	657108	9,99	654908	316	135x110	105x80	11	110	315	25	50	400	1000	800									



Spring travel (mm): maximum difference in the total height of the group wheel + support depending on the spring tension



Initial tension (daN): in case of lighter loads than indicated, the bracket works with no damping



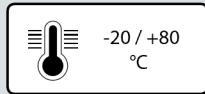
Spring tension (daN): in case of heavier loads than indicated, the bracket works with no damping

Options available to order:



Directional lock for brackets EE MHD
- EE HD - EEG MHD - EES MHD:
see page 365-367

"TR" POLYURETHANE WHEELS WITH ERGONOMIC ROUND PROFILE AND ALUMINIUM CENTRE



Description

Tyre: very thick TR-Roll polyurethane with ergonomic round profile; hardness 95 Shore A; 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

Designed to improve trolleys' manual handling under heavy loads. The round profile reduces the start-up coefficient when the castors are positioned at 90° from the line of movement and therefore greatly reduces the amount of effort required by the operators when handling trolleys.

Combined with appropriate brackets they guarantee excellent performance for mechanical handling up to 12 km/h.

Examples of application: trolleys for the automotive industry, lean manufacturing trolleys and electrical pallet trucks.

Environments of use

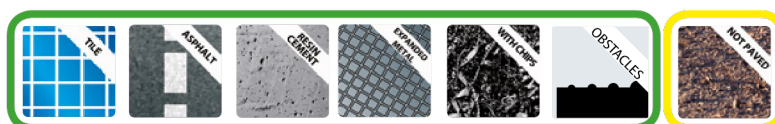
Designed for industrial environments, even in presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

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 40.

Floors

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



Force required to push or tow a wheel

 	100 kg	250 kg	400 kg	500 kg	650 kg	800 kg
125 mm	2,5	5	7	----	----	----
160 mm	1,8	4,7	6	7	11	----
200 mm	1,2	4,5	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 flooring. For manual handling of a 4-wheeled trolley we recommend diameters that have values < 5 daN, for frequent handling we recommend diameters with values < 3 daN.

Fittings with brackets



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 750 daN - available diameters 125-200 mm
Top plate fitting. Available with adjustable rear brake.



Heavy-duty PT brackets with hardened ball race grooves

Maximum carrying capacity 800 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable rear brake.



Extra-heavy duty brackets EP

Maximum carrying capacity 800 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable rear brake.



Electrowelded brackets EE MHD

Maximum carrying capacity 800 daN - available diameters 125-200 mm
Top plate fitting. Available with adjustable rear brake.



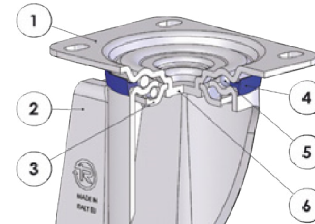
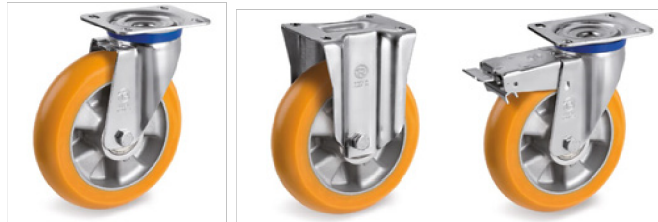
Electrowelded sprung-loaded brackets EES MHD

Maximum carrying capacity 800 daN - available diameters 160-200 mm
Top plate fitting. Available with adjustable front brake.



mm	mm	kg	COD.	kg	COD.	mm	mm.	mm	mm	daN	daN	daN	daN	daN	daN	daN	daN	daN	daN	daN	
125	40	0,73	652503	0,51	654503	20	50	47	14	650	250	450	360								
160	50	1,11	652504	0,89	654504	20	58	47	14,5	900	280	700	560								
200	50	1,68	652506	1,44	654506	20	58	47	14	1000	300	800	640								
250	50	2,40	652508	2,10	654508	20	55	52	15	1200	330	1000	800								

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-rieveted
- Available with adjustable total front foot brake

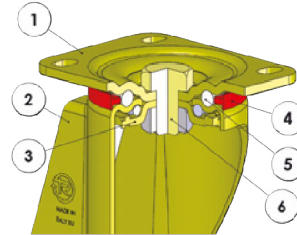
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	daN	daN	
160	50	2,81	655904	2,10	656004	3,28	656304	199	140x110	105x80	11	58	178	500			
200	50	3,52	655906	2,87	656006	3,90	656306	240	140x110	105x80	11	50	178	500			

Options available to order:



Footguard
for brackets NL-
M-P-PT

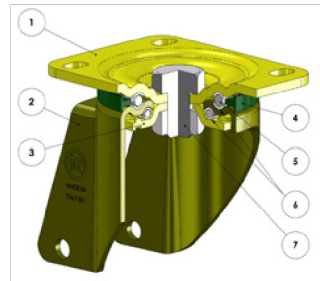
Heavy duty brackets P - max carrying capacity 750 daN



- 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

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		daN		daN	
125	40	2,27	655913	1,63	656013	2,83	656313	170	140x110	105x80	11	70	126	4 km/h	6 km/h	450	360				
160	50	3,46	655914	2,28	656014	4,27	656314	205	140x110	105x80	11	70	126			700	560				
200	50	4,14	655916	2,68	656016	4,74	656316	250	140x110	105x80	11	70	126			750	640				

Heavy-duty PT brackets with hardened ball race grooves - max carrying capacity 900 daN



- 1) Top Plate: electrolytically galvanised steel plate
 - 2) Fork: electrolytically galvanised steel plate
 - 3) Ball Race Ring: electrolytically galvanised steel plate
 - 4) Dust Seal: dark green polyamide
 - 5) Swivel actions: double ball ring with grease lubrication
 - 6) Ball race: hardened carbon steel grooves
 - 7) King pin: steel screw, class 8.8 and stainless steel nut
- Available with rear adjustable brake

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		daN		daN	
160	50	3,34	655954	2,28	656014	3,97	656354	205	140x110	105x80	11	70	126	4 km/h	6 km/h	700	560				
200	50	4,36	655956	2,68	656016	4,89	656356	250	140x110	105x80	11	70	126			800	640				

Options available to order:

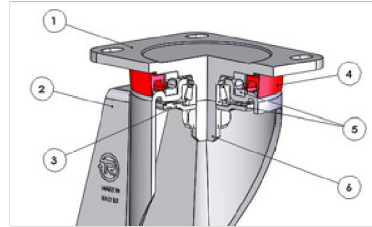


Footguard for brackets NL M-P-PT



Directional lock for brackets P-PT diam. 160-200 mm

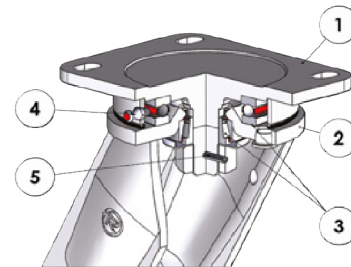
Extra-heavy duty brackets EP - max carrying capacity 800 daN



- 1) Plate: white galvanised forged steel
 - 2) Fork: white 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

mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	daN	daN
160	50	3,62	655924	3,21	656024	4,14	656324	205	135x110	105x80	11	70	126	700	560
200	50	4,40	655926	3,96	656026	4,97	656326	250	135x110	105x80	11	70	126	800	640

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) Anti-loosening system nut
- Available with adjustable total rear foot brake

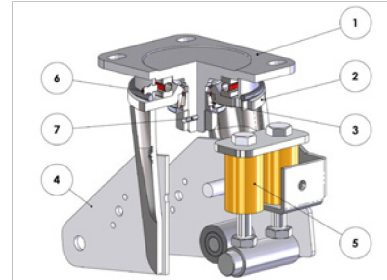
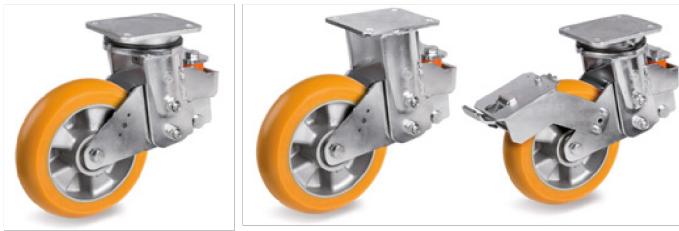
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	daN	daN
125	40	3,65	655933	2,67	656033	4,53	656333	182	135x110	105x80	11	51	157	450	360
160	50	4,11	655934	3,12	656034	4,99	656334	215	135x110	105x80	11	60	157	700	560
200	50	4,80	655936	3,82	656036	6,14	656336	252	135x110	105x80	11	70	157	800	640

Options available to order:



Directional lock
for brackets EE MHD
- EE HD - EEG MHD - EES MHD:
see page 365-367

Electrowelded sprung-loaded bracket EES MHD - max load capacity 800 daN - damping up to 400 daN



- 1) Top plate: electrolytically galvanised forged steel with integrated pin.
 - 2) Main fork: deep-drawn legs electrowelded to the flange and electrolytically galvanised U-shaped component electrowelded to the legs.
 - 3) Swivel actions: axial ball bearing and tapered roller bearing
 - 4) spring-hinged plates: plates electrowelded to the axle
 - 5) Polyurethane springs
 - 6) Grease nipple
 - 7) Anti-loosening locknut system
- Available with adjustable front lock

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		mm		daN		daN		4 km/h		6 km/h	
mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	daN	daN	daN	daN	daN	daN	daN	daN		
160	50	7,07	657904	5,82	658504	8,13	659904	248	135x110	105x80	11	100	240	25	50	400	700	560									
200	50	7,67	657906	6,42	658506	8,78	659906	268	135x110	105x80	11	100	265	25	50	400	800	640									



Spring travel (mm): maximum difference in the total height of the group wheel + support depending on the spring tension



Initial tension (daN): in case of lighter loads than indicated, the bracket works with no damping



Spring tension (daN): in case of heavier loads than indicated, the bracket works with no damping

Options available to order:



Directional lock
for brackets EE MHD
- EE HD - EEG MHD - EES MHD:
see page 365-367