Hira Walraven – A Joint Venture Company

Hira Walraven is a joint venture company between Hira Industries, a renowned construction material manufacturing company and the Walraven Group based in the Netherlands, one of the oldest piping system manufacturing company located in Mijdrecht.

Hira Industries, since its inception in 1980 have been serving UAE and Gulf region as the one of the best construction and building material manufacturing company, with three decades of experience in the building and construction industry, the company has been ranked in the top 10 SME's in UAE with offices in Australia, India, Oman, Qatar, Saudi Arabia, Srilanka and UAE.

The Walraven Group originated from the Metal work company J. van Walraven B.V., a family business which was established in 1942 in Mijdrecht (NL). Today Walraven has its own production and sales companies in 10 European countries, the United States of America and from 2012 also in China. In the Walraven Group over 750 enthusiastic employees are active with the development, production and sales of our innovative products.

diamond walraven is a brand of Hira Walraven

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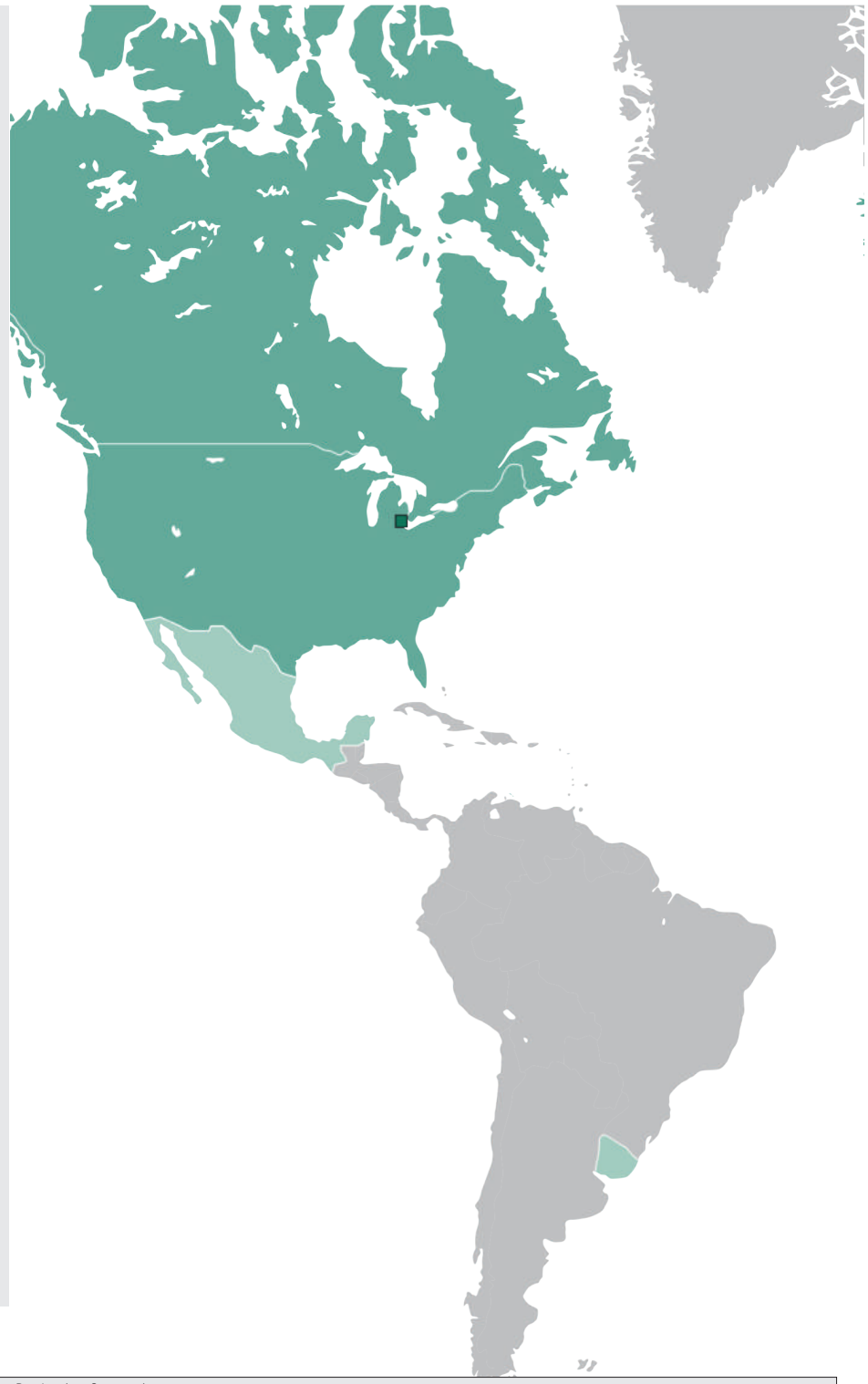
Subject to modifications

About Hira Walraven Group

Hira Walraven is dedicated to provide customers in the construction sector with product systems and services of the highest quality, by forging a successful partnership.

Exceeding their expectations and gaining their trust through outstanding performance by everymember of our team.

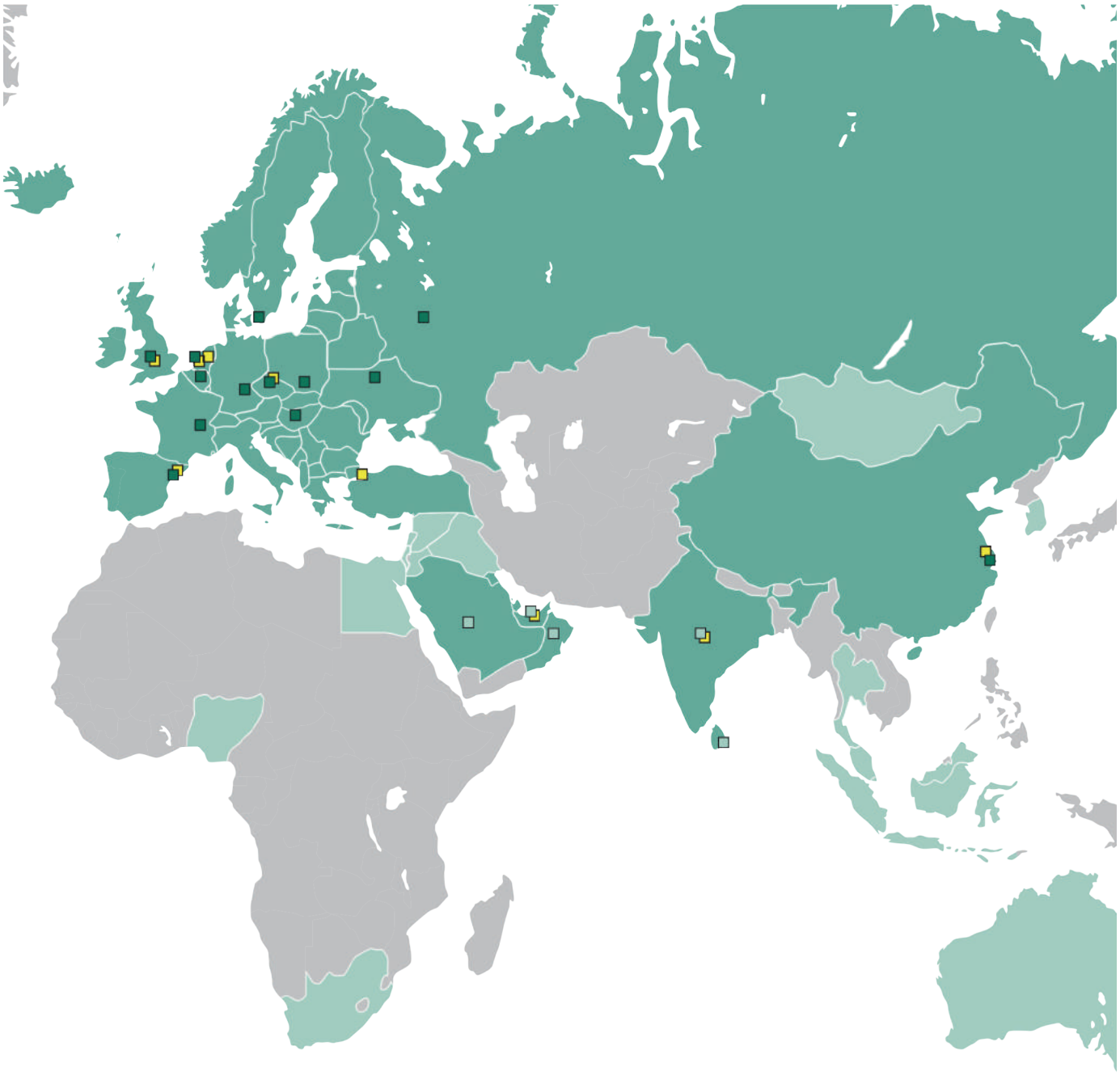
Our aim is to become the "Partner of Choice" within the Building Supply Industry in the "IMEA" (India Middle East and Africa) region.



Hira Walraven Sales companies Hira Walraven Production Companies

UAE	India	Saudi Arabia	Oman	Srilanka	Qatar
Abu Dhabi **Hira Industries LLC** **Dubai** **Hira Walraven AC Ind. LLC** P.O Box 241579 **Ras Al Khaima** **Hira Industries LLC**	**Hira Walraven Installations Systems Private Limited** 111-B, Hind Saurashtra Ind. Estate,Mumbai - 400059,Maharashtra, INDIA	**Jeddah, Riyadh, Al Khobar** Hira Industries LLC	**Hira & Partners Llc,** Flat No. 507, Bait Al Khalid Building, Near Al Raffa Hospital, Goubrah, P.O.Box:- 167, Pc	**Hira Industries** McLarens Building 2nd Floor ,No: 123,Baudhaloka Mawatha, Colombo – 04	**Hira LLC,** Office No. 1, Alzaman Building Ground Floor , Al Rawabi Street, Al Munthaza, Doha, PO Box- 31179

Subject to modifications

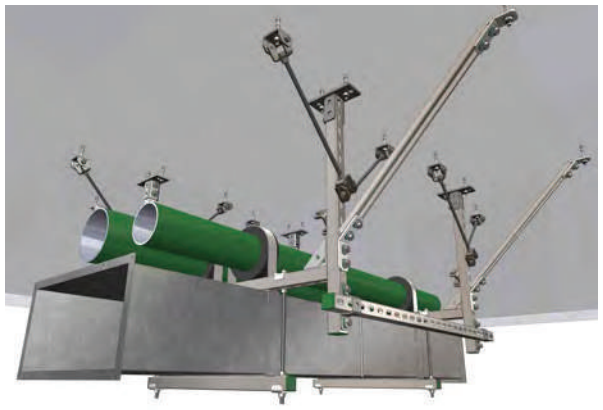


■ Walraven Sales Companies ■ Walraven Production Companies

Mijdrecht (NL) J. van Walraven Holding B.V. Headquarters Walraven B.V. The Netherlands Walraven International Other countries J. van Walraven B.V.	**Tienen (BE)** Walraven BVBA Belgium – Luxembourg	**Bayreuth (DE)** Walraven GmbH Germany – Austria – Switzerland Italy – South East Europe	**Grenoble (FR)** Walraven France Eurl France	**Banbury (UK)** Walraven Ltd. United Kingdom – Ireland	**Mladá Boleslav (CZ)** Walraven s.r.o. Czech republic – Slovak republic
	Barcelona (ES) Isofix Walraven Iberia S.L. Spain – Portugal	**Walled Lake (US)** Walraven, Inc. United States of America – Canada	**Moscow (RU)** Walraven LLC Russia	**Shanghai (CN)** Walraven Shanghai, Ltd. China	**Malmö (SE)** Walraven Nordic AB Sweden – Denmark – Norway – Finland – Iceland
	Kraków (PL) Walraven Sp. z o.o. Poland – Lithuania – Latvia – Estonia	**Cista (CZ)** Suchánek & Walraven s.r.o.	**Horka (CZ)** Suchánek & Walraven s.r.o.	**Barcelona (ES)** Isofix S.L.	**Banbury (UK)** Walraven Ltd.
Kyiv (UA) Walraven Ltd. Ukraine	**Budapest (HU)** Walraven Kft. Hungary – Romania	**Silivri - Istanbul (TR)** Jefleks Plastik Kauçuk	**Gramsbergen (NL)** Loko Gramsbergen B.V.	**Horka (CZ)** SWO Tooling s.r.o.	**Changshu (CN)** Walraven Metal Products (Changshu) Co. Ltd

Subject to modifications

Seismic Products Overview



Seismic Restraint system is used to protect electromechanical installations and equipment against earthquakes, to achieve life safety and minimize the damages.

BIS Seismic Support Products will add extra rigidibity to the supports assembly against Seismic forces with its easy and quick assembly features.



BIS Universal joint



BIS Rapid Strut Cross Connectors



BIS Rapid Strut Fixing Rail



BIS Strut Connectors 90° (Heavy)



BIS Strut Connectors 90°



BIS Rapid Strut Rail Connector 135°



BIS Threaded Rod Support



BIS Strut Connectors 135°

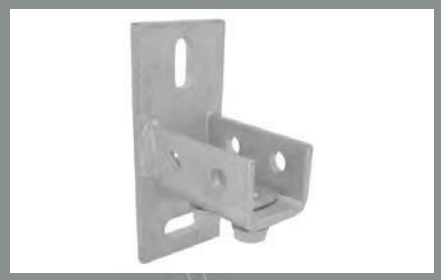


BIS Rail Props

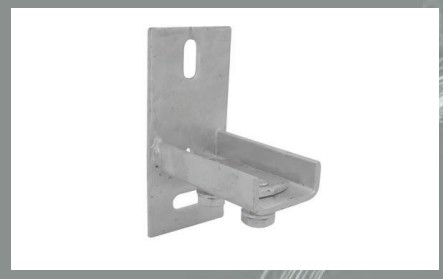
Subject to modifications



BIS Strut Wall Plate (Hinged)



BIS Strut Wall Plate (Heavy)



BIS Strut Wall Plate



BIS Strut Washer Flat



BIS Strut Washer U-Shaped



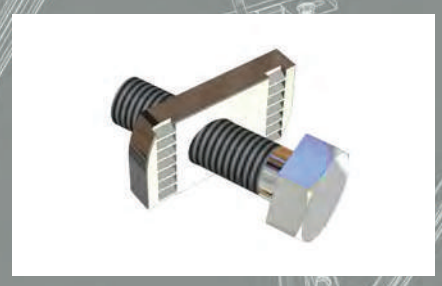
BIS Strut Slide Nuts



BIS Strut Slide Nuts G2



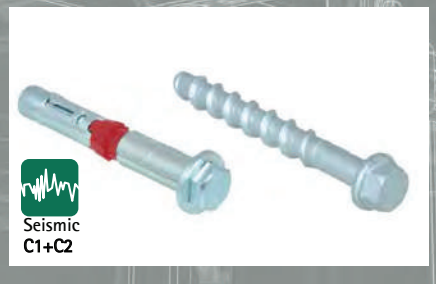
BIS Strut Slide Nuts with Plastic Tabs



BIS Threaded Rod Stiffener



BIS Threaded Rods



BIS Mechanical Anchor and Screw



BIS Chemical Anchors

Subject to modifications

Explanation Max. Allowed Load

Maximum allowed load:

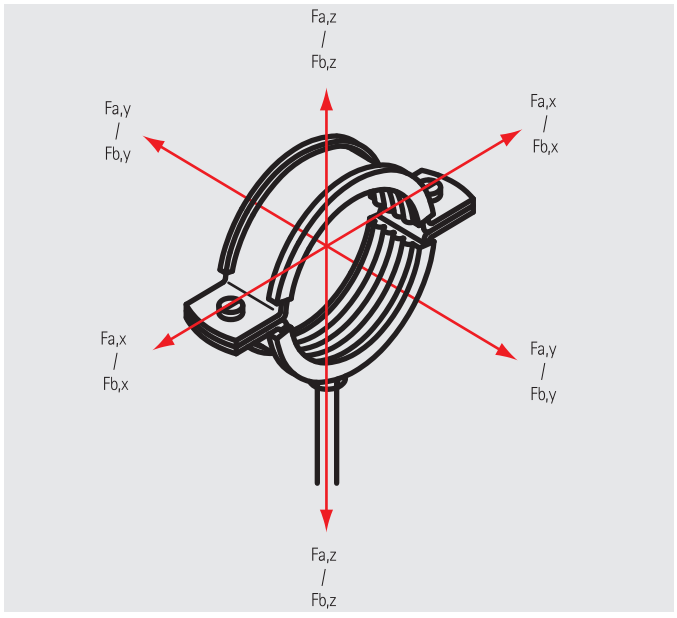
From most of our products a maximum allowed load is included in the article tables. Stated values are determined by:

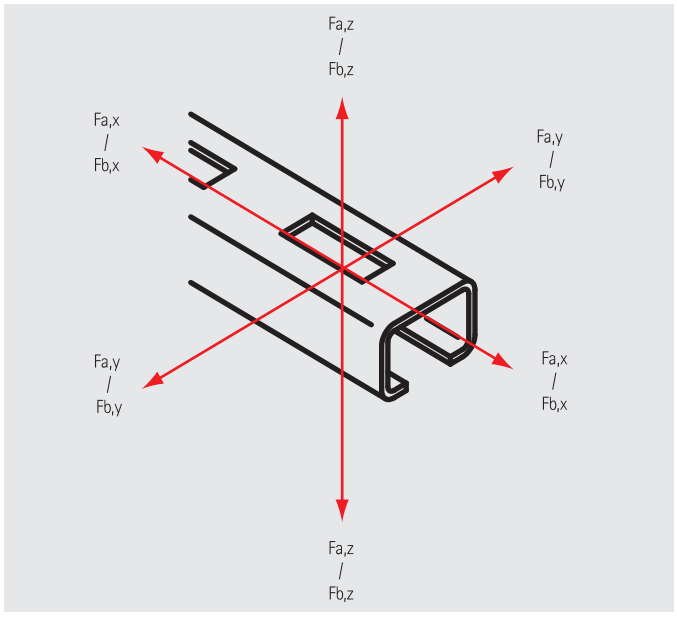
- a by Walraven developed measuring method
- the measuring method described in the testing prescriptions RAL-GZ 655, which is set up by the 'Gütegemeinschaft Rohrbefestigung'. If the product is provided with the 'RAL-Gütezeichen', the test results are checked by an independent testing institute.

For plastic clamps the breaking load is included.

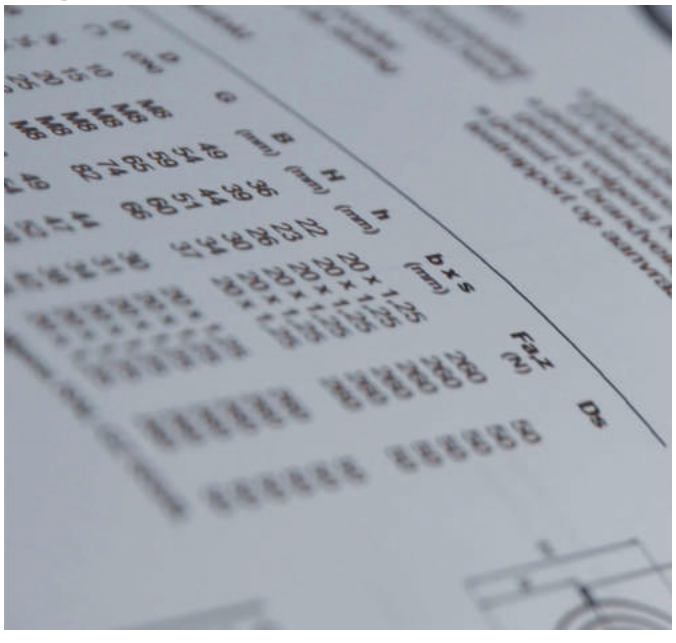
Force directions (F) x, y and z (at 20 °C)

Fa = maximum allowed load
Fb = breaking load





Explanation Article Tables



Packaging data

Pack 1 = small packaging
Pack 2 = large packaging
BndS = bundle small
BndL = bundle large
App. = appearance (pieces, roll, meter)

Subject to modifications

A BIS Metal Pipe Clamps with Lining



BIS Clamps
EPDM Lined Split Clamp 8



BIS Industrial Clamps
BIS Heavy Duty Clamp HD1501 (M8/10, M10/12) (BUP1000) 9
BIS Heavy Duty Clamp HD1501 (M16) (BUP1000) 10



BIS Sprinkler Clamps
EPDM Lined Sprinkler Clamp 11



U Bolt Clamps
EPDM Lined U Bolt 12
EPDM Two Bolt Clamp 13



BIS Industrial Saddles
EPDM Lined Riser Clamp 14



U-Strap Clamp
EPDM Lined U-Strap Clamp 15



Clevis Hangers
EPDM Lined Clevis Hanger 17

Subject to modifications

EPDM Lined Split Clamp

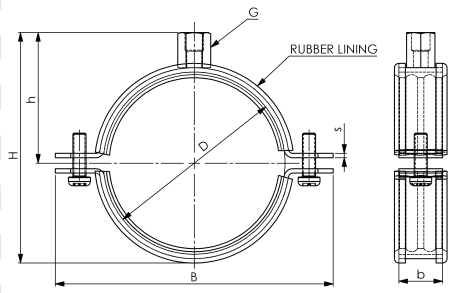




Features and Benefits

- lock bolts with combi cross recessed head
- for horizontal and vertical applications
- profiled for extra strength
- screws secured with anti-loss washer
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)

Part No.	D (mm)	D (")	Dia (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z (N)	Pack 1
DM C21 5 018	15 - 19	3/8	15	M8	60	36	26	19 x 1.2	1,500	450
DM C21 5 022	20 - 25	1/2	22	M8	65	43	29	19 x 1.2	1,500	400
DM C21 5 028	26 - 30	3/4	28	M8	70	50	32	19 x 1.2	1,500	350
DM C21 5 035	32 - 36	1	35	M8	85	56	36	19 x 1.2	1,500	300
DM C21 5 040	38 - 43	1 1/4	42	M8	92	63	39	19 x 1.2	1,500	250
DM C21 5 048	47 - 51	1 1/2	48	M8	98	72	42	19 x 1.2	1,500	200
DM C21 5 054	53 - 58	-	54	M8	104	75	45	19 x 1.2	1,500	200
DM C21 5 060	60 - 64	2	60	M8	110	81	48	19 x 1.2	1,500	125
DM C21 5 063	63 - 66	-	63	M8	115	88	51	19 x 1.2	1,500	125
DM C21 5 070	68 - 72	-	70	M8	120	91	53	19 x 1.2	1,500	125
DM C21 5 075	74 - 80	2 1/2	75	M8/10	125	96	56	19 x 1.5	2,000	100
DM C21 5 083	81 - 86	-	83	M8/10	139	108	60	19 x 1.5	2,000	100
DM C21 5 090	87 - 92	3	90	M8/10	146	111	63	19 x 1.5	2,000	100
DM C21 5 100	99 - 105	3 1/2	100	M8/10	156	121	68	19 x 1.5	2,000	75
DM C21 5 110	107 - 112	-	110	M8/10	166	131	73	19 x 1.5	2,000	75
DM C21 5 115	113 - 118	4	115	M8/10	171	136	76	19 x 1.5	2,000	70
DM C21 5 125	125 - 130	-	125	M8/10	181	146	81	19 x 2.0	2,000	70
DM C21 5 133	131 - 137	-	133	M8/10	184	154	85	19 x 2.0	2,000	50
DM C21 5 140	138 - 142	5	140	M8/10	196	161	88	19 x 2.0	2,000	50
DM C21 5 150	148 - 153	-	150	M8/10	206	171	93	19 x 2.0	2,000	50
DM C21 5 160	159 - 166	-	160	M8/10	216	181	98	19 x 2.0	2,000	50
DM C21 5 168	168 - 172	6	168	M8/10	224	189	102	19 x 2.0	2,000	50
DM C21 5 200	200 - 212	-	200	M8/10	256	221	118	19 x 2.0	3,000	50
DM C21 5 220	215 - 220	8	220	M8/10	276	241	128	19 x 2.0	3,000	40
DM C21 5 250	249	-	250	M8/10	306	271	143	19 x 2.0	3,000	40
DM C21 5 315	313 - 318	-	315	M8/10	371	336	176	19 x 2.0	3,000	25



Hot Dip Galvanized and Stainless Steel option available on request.
With connection nut M8/M10, M10/M12 available on request.
With M6 Side Nuts available on request.
This series replaces part number DMC115 series.

Subject to modifications

BIS Heavy Duty Clamp HD1501 (BUP1000)

for metal pipes Ø 15 - 227 mm

M8/10
M10/12





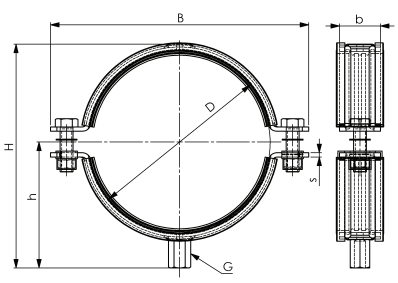
Features and Benefits

- two-part clamp with two locking bolts
- up to and including 5": locking nut is captive, hidden in plastic holder
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- noise insulating lining, EPDM rubber, black
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- age resistant lining
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- sound insulating lining according DIN 4109
- tested for fire safety

RAL-GZ 655/B
Cert.Nr. 2011-12a

RAL-GZ 656
Cert.Nr. 2011-14

Part No.	D (mm)	D (")	DN (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z (N)	RAL	Pack 1
3313 8 019	15 - 19	3/8	10	M8/10	81	55	35	30 x 2,5	1,500	RAL[2]	25
3313 8 023	19 - 23	1/2	15	M8/10	84	58	37	30 x 2,5	1,500	RAL[2]	25
3313 8 029	25 - 29	3/4	20	M8/10	91	64	40	30 x 2,5	1,500	RAL[2]	25
3313 8 035	30 - 35	1	25	M8/10	98	70	43	30 x 2,5	1,500	RAL[2]	25
3313 8 045	40 - 45	1 1/4	32	M8/10	109	80	48	30 x 2,5	1,500	RAL[2]	25
3313 8 051	46 - 51	1 1/2	40	M8/10	115	86	51	30 x 2,5	1,500	RAL[2]	25
3313 8 059	53 - 59	-	-	M8/10	122	93	55	30 x 2,5	1,500	RAL[2]	25
3313 8 064	59 - 64	2	50	M8/10	129	99	57	30 x 2,5	1,500	RAL[2]	25
3314 8 071	65 - 71	-	-	M10/12	136	116	71	30 x 3,0	2,300	RAL[2]	25
3314 8 078	72 - 78	2 1/2	65	M10/12	144	123	74	30 x 3,0	2,300	RAL[2]	25
3314 8 085	79 - 85	-	-	M10/12	152	130	78	30 x 3,0	2,300	RAL[2]	25
3314 8 092	86 - 92	3	80	M10/12	159	136	81	30 x 3,0	2,300	RAL[2]	25
3314 8 109	101 - 109	-	-	M10/12	175	154	90	30 x 3,0	2,300	RAL[2]	25
3314 8 116	108 - 116	4	100	M10/12	182	160	93	30 x 3,0	2,300	RAL[2]	25
3314 8 133	125 - 133	-	-	M10/12	200	178	102	30 x 3,0	2,300	RAL[2]	25
3314 8 140	132 - 140	5	125	M10/12	207	184	104	30 x 3,0	2,300	RAL[2]	15
3314 8 169	159 - 169	6	150	M10/12	254	223	124	38 x 4,0	2,300	RAL[2]	15
3314 8 188	178 - 188	-	-	M10/12	274	242	133	38 x 4,0	2,300	RAL[2]	15
3314 8 204	194 - 204	-	-	M10/12	290	258	141	38 x 4,0	2,300	RAL[2]	15
3314 8 213	203 - 213	-	-	M10/12	299	267	146	38 x 4,0	2,300	RAL[2]	15
3314 8 227	217 - 227	8	200	M10/12	322	282	152	38 x 4,0	2,300	RAL[2]	2



RAL[2] = tested, certified and externally monitored according to RAL-GZ 655/B and RAL-GZ 656.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/gb/en/catalogue/.

Subject to modifications

BIS Heavy Duty Clamp HD1501 (BUP1000)

for metal pipes Ø 217 - 509 mm

M16





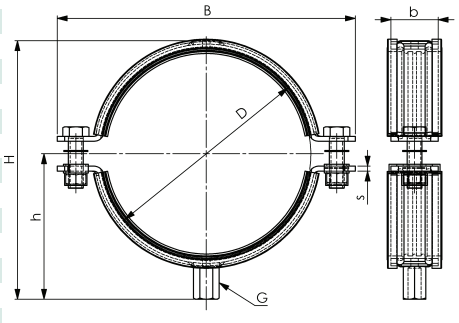
Features and Benefits

- two-part clamp with two locking bolts
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- noise insulating lining, EPDM rubber, black
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- age resistant lining
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- sound insulating lining according DIN 4109
- tested for fire safety

RAL-GZ 655/B
Cert.Nr. 2011-12a

RAL-GZ 656
Cert.Nr. 2011-14

Part No.	D (mm)	D (")	DN (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z (N)	RAL	Pack 1
3316 8 169	159 - 169	6	150	M16	254	220	120	38 x 4,0	3.800	RAL[2]	15
3316 8 188	178 - 188	-	-	M16	274	239	130	38 x 4,0	3.800	RAL[2]	15
3316 8 204	194 - 204	-	-	M16	290	255	138	38 x 4,0	3.800	RAL[2]	15
3316 8 213	203 - 213	-	-	M16	299	264	143	38 x 4,0	3.800	RAL[2]	15
3316 8 227	217 - 227	8	200	M16	322	278	150	38 x 4,0	3.800	RAL[2]	2
3316 8 250	240 - 250	-	-	M16	345	302	163	38 x 4,0	3.800	RAL[1]	2
3316 8 275	265 - 275	10	250	M16	367	327	175	48 x 5,0	9.200	RAL[1]	2
3316 8 325	315 - 325	12	300	M16	414	374	198	48 x 5,0	9.200	RAL[1]	2
3316 8 364	354 - 364	14	350	M16	453	412	217	48 x 5,0	9.200	RAL[1]	2
3316 8 408	398 - 408	16	400	M16	497	456	239	48 x 5,0	9.200	RAL[1]	2
3316 8 458	448 - 458	18	450	M16	548	506	264	48 x 5,0	9.200	RAL[1]	2
3316 8 509	499 - 509	20	500	M16	599	557	289	48 x 5,0	9.200	RAL[1]	2



RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/B.
RAL[2] = tested, certified and externally monitored according to RAL-GZ 655/B and RAL-GZ 656.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/gb/en/catalogue/.

Subject to modifications

EPDM Lined Sprinkler Clamp





Features and Benefits

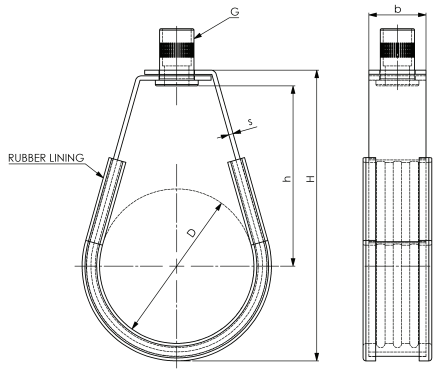
- for use in fire fighting and sprinkler installations
- easy to install and adjust, without tools
- high load capacity due to one piece design and side notches.
- knurled swivel nut allows vertical pipe alignment during and after installation
- material: steel
- pregalvanized as per ASTM A 653 G90
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS standard SP-58 type10 and SP-69

FM APPROVED

UL LISTED

Part No.	D (mm)	D (")	G	h (mm)	b x s (mm)	Fa,z Appr. (N)		Pack 1
DM C21 7 028	28	¾	M10	61	20 x 1.5	3,000	FM, UL	400
DM C21 7 035	35	1	M10	68	20 x 1.5	3,000	FM, UL	300
DM C21 7 040	42	1¼	M10	61	20 x 1.5	3,000	FM, UL	250
DM C21 7 048	48	1½	M10	81	20 x 1.5	3,000	FM, UL	200
DM C21 7 060	60	2	M10	100	20 x 1.5	3,000	FM, UL	180
DM C21 7 075	73	2½	M10	120	32 x 2.0	4,500	FM, UL	75
DM C21 7 090	89	3	M10	135	32 x 2.0	4,500	FM, UL	60
DM C21 7 100	105	3½	M10	150	32 x 2.0	4,500	FM, UL	40
DM C21 7 115	115	4	M10	165	32 x 2.5	5,500	FM, UL	40
DM C21 7 140	140	5	M12	195	40 x 2.5	6,500	FM, UL	25
DM C21 7 168	168	6	M12	320	40 x 3.0	7,500	FM, UL	20
DM C21 7 219	219	8	M12	290	50 x 3.0	9,000	FM, UL	10
DM C21 7 273	273	10	M12	315	50 x 3.0	9,000	-	8

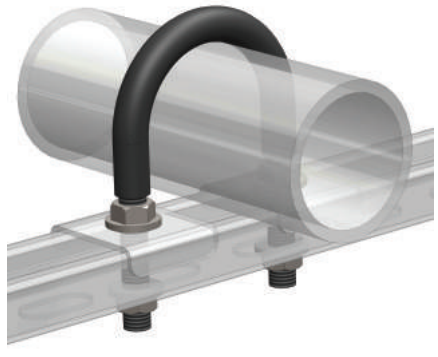
Hot Dip Galvanized and Stainless Steel option available on request.
Made in UAE.



Subject to modifications

EPDM Lined U Bolt

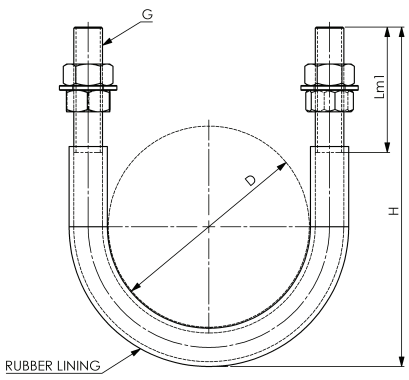




Features and Benefits

- high load capacity due to one piece design
- supplied with two or four nuts and two washes
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- noise insulating lining, EPDM, black
- designed to meet MSS Standard SP-58, type 24 and SP-69
- special U bolts with longer tangents and threads available on request
- temperature resistance from -20°C temp to +110°C

Part No.	D (mm)	D (")	G	H (mm)	Lm1 (mm)	Fa,z (N)	Pack 1
DM C24 4 022	21	½	M10	65	50	6,000	250
DM C24 4 028	27	¾	M10	77	50	6,000	200
DM C24 4 035	34	1	M10	85	50	6,000	200
DM C24 4 042	43	1¼	M10	93	50	6,000	175
DM C24 4 048	48	1½	M10	100	50	6,000	150
DM C24 4 060	60	2	M10	110	50	6,000	150
DM C24 4 075	76	2½	M12	127	50	10,000	100
DM C24 4 090	89	3	M12	140	50	10,000	75
DM C24 4 115	115	4	M12	165	50	10,000	75
DM C24 4 140	140	5	M12	190	50	10,000	70
DM C24 4 168	168	6	M12	220	50	10,000	50
DM C24 4 219	219	8	M16	295	75	20,000	20
DM C24 4 273	273	10	M20	370	100	32,500	10
DM C24 4 324	324	12	M20	420	100	32,500	10
DM C24 4 356	356	14	M20	455	100	32,500	10
DM C24 4 406	406	16	M20	505	100	32,500	10
DM C24 4 457	457	18	M24	555	100	45,000	5
DM C24 4 508	508	20	M24	605	100	45,000	5
DM C24 4 610	610	24	M24	710	100	45,000	5

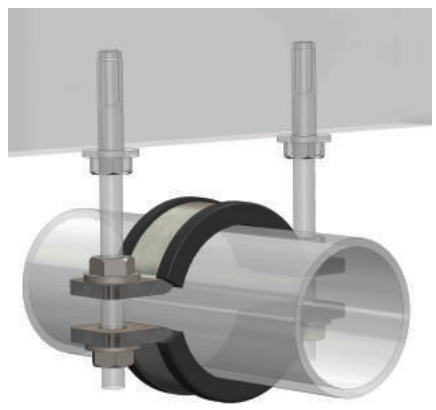


Hot Dip Galvanized option available on request.
Alternate rod sizes for different pipe sizes available on request.

Subject to modifications

EPDM Lined Two Bolt Clamp

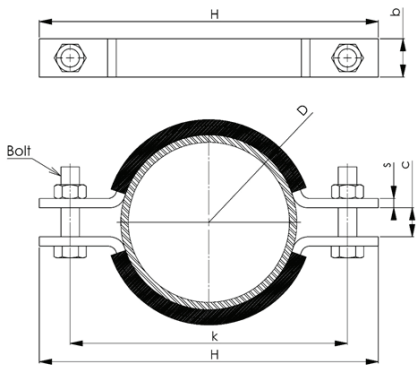




Features and Benefits

- designed to act as a horizontal support for heavier pipes
- two bolt arrangement provides sturdier support
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS Standard SP-58-2002, type 4 and SP-69

Part No	D (")	BOLT	bxs (mm)	k (mm)	H (mm)	C (mm)	Fa,z (N)	Pack 1
DMC212 022	1/2"	M10	25x5.0	68	97	12	1,700	60
DMC212 028	3/4"	M10	25x5.0	76	105	12	1,700	60
DMC212 035	1	M10	25x5.0	84	113	12	1,700	50
DMC 212 040	1-1/4"	M10	25x5.0	92	121	12	1,700	50
DMC212 048	1-1/2"	M10	25x5.0	98	127	12	1,700	40
DMC212 060	2"	M10	25x5.0	116	156	16	1,700	35
DMC212 075	2-1/2"	M12	25x6.0	142	182	16	4,000	35
DMC212 090	3"	M12	25x6.0	156	196	16	4,000	30
DMC212 100	3-1/2"	M12	25x6.0	168	208	16	4,000	30
DMC212 115	4"	M12	25x6.0	180	220	19	4,000	25
DMC212 140	5"	M16	40x6.0	214	252	19	6,000	20
DMC212 168	6"	M16	40x6.0	242	290	22	6,000	15
DMC212 220	8"	M16	40x9.0	152	352	25	11,000	10
DMC212 273	10"	M16	50x9.0	358	406	25	12,000	5
DMC212 323	12"	M20	50x12.0	430	490	25	15,000	4
DMC212 355	14"	M20	50x12.0	480	546	28	15,000	4
DMC212 406	16"	M20	60x16.0	532	597	28	22,000	2
DMC212 457	18"	M20	60x16.0	610	686	32	22,000	2
DMC212 508	20"	M20	60x16.0	680	776	35	22,000	1
DMC212 610	24"	M20	60x16.0	780	876	42	22,000	1



Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

EPDM Lined Riser Clamp

for all pipes



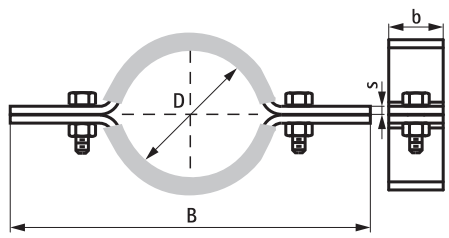


Features and Benefits

- designed to act as a rigid support or guide for vertical pipes
- suitable for use with all types of pipes
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS Standard SP-58-2002, type 8 and SP-69

Part No.	D (")	Bolt	B (mm)	b x s (mm)	Fa,z (N)	Pack 1
DM C11 2 022	½	M10	205	25 x 5.0	1,700	60
DM C11 2 028	¾	M10	215	25 x 5.0	1,700	60
DM C11 2 035	1	M10	235	25 x 5.0	1,700	50
DM C11 2 040	1¼	M10	265	25 x 5.0	1,700	50
DM C11 2 048	1½	M10	265	25 x 5.0	1,700	40
DM C11 2 060	2	M10	265	25 x 5.0	1,700	35
DM C11 2 075	2½	M12	295	25 x 6.0	4,000	35
DM C11 2 090	3	M12	295	25 x 6.0	4,000	30
DM C11 2 100	3½	M12	335	25 x 6.0	4,000	30
DM C11 2 115	4	M12	335	25 x 6.0	4,000	25
DM C11 2 140	5	M16	335	40 x 6.0	6,000	20
DM C11 2 168	6	M16	385	40 x 6.0	6,000	15
DM C11 2 220	8	M16	475	40 x 10.0	11,000	10
DM C11 2 273	10	M16	525	50 x 10.0	12,000	5
DM C11 2 323	12	M20	585	50 x 12.0	15,000	4
DM C11 2 355	14	M20	615	50 x 12.0	15,000	4
DM C11 2 406	16	M20	665	60 x 16.0	22,000	2
DM C11 2 457	18	M20	715	60 x 16.0	22,000	2
DM C11 2 508	20	M20	765	60 x 16.0	22,000	1
DM C11 2 610	24	M20	885	60 x 16.0	22,000	1

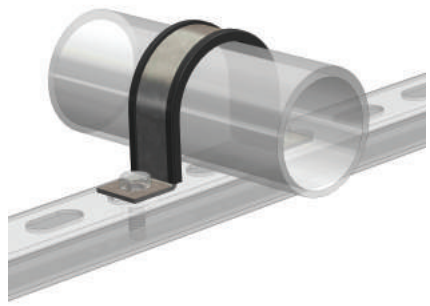
Hot Dip Galvanized and Stainless Steel option available on request.



Subject to modifications

EPDM Lined U-Strap Clamp

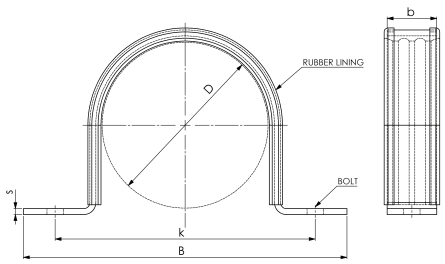




Features and Benefits

- for mounting plain or insulated pipes
- slotted holes on both sides allow convenient installation
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS Standard SP-58, type 26 and SP-69

Part No.	D (mm)	D (")	Bolt	B (mm)	b x s (mm)	k (mm)	Fa,z (N)	Pack 1
DM C18 8 022	22	½	M8	79	25 x 2.0	54	5,500	500
DM C18 8 028	28	¾	M8	85	25 x 2.0	60	5,500	400
DM C18 8 035	35	1	M8	92	25 x 2.0	67	5,500	400
DM C18 8 040	42	1¼	M8	99	25 x 2.0	74	5,500	350
DM C18 8 048	48	1½	M8	105	25 x 2.0	80	5,500	300
DM C18 8 054	54	-	M8	111	25 x 2.0	86	5,500	250
DM C18 8 060	2	2	M8	117	25 x 2.0	92	5,500	200
DM C18 8 067	67	-	M8	124	25 x 2.0	99	5,500	200
DM C18 8 075	75	2½	M8	148	25 x 3.0	116	6,500	150
DM C18 8 082	82	-	M8	155	25 x 3.0	123	6,500	150
DM C18 8 090	90	3	M8	163	25 x 3.0	131	6,500	150
DM C18 8 100	100	3½	M8	173	25 x 3.0	141	6,500	150
DM C18 8 108	108	-	M8	181	25 x 3.0	149	6,500	125
DM C18 8 115	115	4	M8	188	25 x 3.0	156	6,500	125
DM C18 8 126	126	-	M10	199	25 x 3.0	167	6,500	125
DM C18 8 140	140	5	M10	213	25 x 3.0	181	6,500	100
DM C18 8 148	148	-	M10	221	25 x 3.0	189	6,500	100
DM C18 8 155	155	-	M10	228	25 x 3.0	196	6,500	100
DM C18 8 168	168	6	M10	240	25 x 3.0	208	6,500	100
DM C18 8 179	179	-	M10	252	25 x 3.0	220	6,500	100
DM C18 8 190	190	-	M10	263	38 x 3.0	231	9,000	50
DM C18 8 205	205	-	M10	278	38 x 3.0	246	9,000	50
DM C18 8 219	219	8	M10	292	38 x 3.0	260	9,000	50
DM C18 8 230	230	-	M10	303	38 x 3.0	271	9,000	30

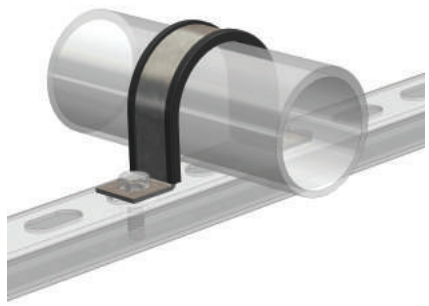


Other dimensions on request.
Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

EPDM Lined U-Strap Clamp

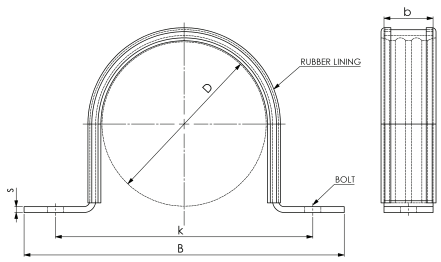




Features and Benefits

- for mounting plain or insulated pipes
- slotted holes on both sides allow convenient installation
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS Standard SP-58, type 26 and SP-69

Part No.	D (mm)	D (")	Bolt	B (mm)	b x s (mm)	k (mm)	Fa,z (N)	Pack 1
DM C18 8 241	241	-	M12	335	38 x 4.0	294	13,500	35
DM C18 8 263	263	-	M12	357	38 x 4.0	316	13,500	35
DM C18 8 273	273	10	M18	367	38 x 4.0	326	13,500	35
DM C18 8 295	295	-	M18	389	38 x 4.0	348	13,500	30
DM C18 8 323	323	12	M18	417	38 x 4.0	376	13,500	30
DM C18 8 356	356	14	M18	450	50 x 4.0	409	19,000	10
DM C18 8 374	374	-	M18	468	50 x 4.0	427	19,000	15
DM C18 8 406	406	16	M18	500	50 x 4.0	459	19,000	15
DM C18 8 432	432	-	M18	526	50 x 4.0	485	19,000	15
DM C18 8 456	456	18	M18	550	50 x 4..0	509	19,000	10
DM C18 8 482	482	-	M18	576	50 x 4.0	535	19,000	10
DM C18 8 508	508	20	M18	602	50 x 4.0	561	19,000	10
DM C18 8 533	533	-	M18	627	50 x 4.0	586	19,000	10
DM C18 8 559	559	-	M18	653	50 x 4.0	612	19,000	10
DM C18 8 583	583	-	M18	677	50 x 4.0	636	19,000	10
DM C18 8 610	610	24	M18	704	60 x 4.0	663	19,000	10
DM C18 8 658	658	-	M18	769	50 x 6.0	721	24,000	5
DM C18 8 690	690	-	M18	801	50 x 6.0	753	24,000	5
DM C18 8 760	760	-	M18	870	50 x 6.0	823	24,000	5
DM C18 8 863	863	-	M18	974	50 x 6.0	926	24,000	5
DM C18 8 918	918	-	M18	1,029	50 x 6.0	981	24,000	5

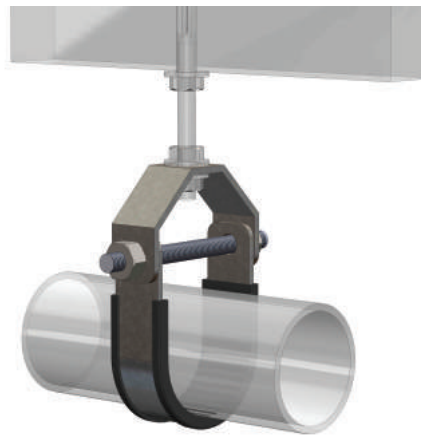


Other dimensions on request.
Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

EPDM Lined Clevis Hanger





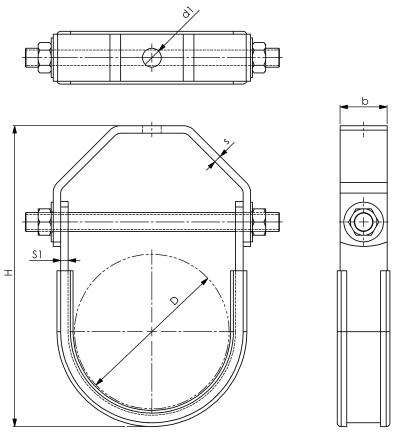
Features and Benefits

- designed for chilled water pipe work and fire fighting systems
- design permits vertical adjustment of pipe after installation
- hanger load nut above clevis must be tightened securely to ensure proper hanger performance
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- temperature resistance from -20 °C to +110 °C
- noise insulating lining, EPDM, black
- noise reduction up to 18dB (A)
- designed to meet MSS Standard SP-58, type 1 and SP-69

FM APPROVED

UL LISTED

Part No.	D (mm)	D (")	Bolt	H (mm)	b (mm)	s (mm)	s1 (mm)	d1 (mm)	Fa,z (N)	Appr.	Pack 1	
DM C22 2 022	22	½	M8 x 60 mm	73	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C22 2 028	28	¾	M8 x 68 mm	79	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C22 2 035	35	1	M8 x 78 mm	85	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C22 2 040	42	1¼	M8 x 82 mm	95	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C22 2 048	48	1½	M8 x 88 mm	103	25	3.0	3.0	10	4,000	FM, UL	100	*
DM C22 2 060	60	2	M10 x 110 mm	120	25	3.0	3.0	10	4,000	FM, UL	75	*
DM C22 2 075	73	2½	M10 x 125 mm	149	25	4.0	4.0	10	6,500	FM, UL	60	*
DM C22 2 090	89	3	M10 x 140 mm	176	25	4.0	4.0	10	6,500	FM, UL	50	*
DM C22 2 100	105	3½	M10 x 155 mm	176	25	4.0	4.0	10	6,500	FM, UL	40	*
DM C22 2 115	115	4	M10 x 170 mm	201	32	6.0	6.0	10	8,000	FM, UL	20	*
DM C22 2 140	140	5	M12 x 195 mm	235	32	6.0	6.0	12	8,000	FM, UL	15	*
DM C22 2 168	168	6	M12 x 225 mm	269	40	6.0	5.0	12	11,000	FM, UL	10	*
DM C22 2 219	219	8	M12 x 275 mm	341	40	6.0	5.0	12	11,000	FM, UL	15	*
DM C22 2 273	273	10	M16 x 360 mm	422	40	6.0	6.0	16	11,000	-	10	
DM C22 2 323	323	12	M20 x 420 mm	493	50	9.0	6.0	20	15,000	-	6	
DM C22 2 355	355	14	M20 x 455 mm	559	50	9.0	6.0	20	15,000	-	6	
DM C22 2 406	613	16	M24 x 510 mm	613	65	12.0	6.0	24	17,500	-	3	
DM C22 2 457	457	18	M24 x 555 mm	678	65	12.0	6.0	24	17,500	-	3	
DM C22 2 508	508	20	M24 x 610 mm	718	75	12.0	9.0	30	22,000	-	2	
DM C22 2 610	610	24	M24 x 710 mm	853	75	16.0	9.0	30	27,000	-	2	
DM C22 2 755	755	30	M24 x 890 mm	998	75	19.0	9.0	30	30,000	-	1	



Hot Dip Galvanized and Stainless Steel option available on request.
Custom made Clevis Hangers are available on request.

** = Made in UAE.*

Subject to modifications

Notes

Subject to modifications

B BIS Metal Pipe Clamps



BIS Clamps

Plain Split Clamp 20



BIS Industrial Clamps

BIS Heavy Duty Clamp HD500 (M8/10, M10/12) (BUP1000) 21
BIS Heavy Duty Clamp HD500 (M16) (BUP1000) 22



BIS Sprinkler Clamps

Sprinkler Clamp 23



U Bolt Clamps

U Bolt 24
Girder Clamp 25
Two Bolt Clamp 26



BIS Industrial Saddles

Riser Clamp 27
Two Bolt Riser Clamp 28



U-Strap Clamp

U-Strap Clamp 29
U-Strap Clamp 30



Clevis Hangers

Clevis Hanger 31



Clips and Hangers

Adjustable Roller Hanger 32
Pipe Roller Chair 33
Pipe Roller 34
Roller Stand 35

Subject to modifications

Plain Split Clamp

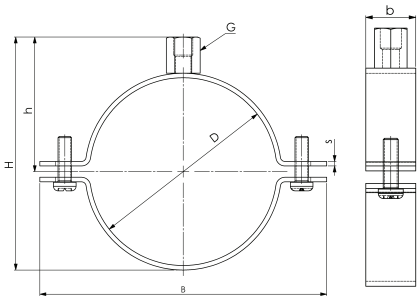




Features and Benefits

- lock bolts with combi cross recessed head
- for horizontal and vertical applications
- strenghtened lock bolts for high load capacity
- screws secured with anti-loss washer
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12

Part No.	D (mm)	D (")	Dia (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z (N)	Pack 1
DM C13 3 018	15 - 19	3/8	15	M8/10	59	30	23	20 x 2.0	2,000	600
DM C13 3 022	20 - 25	½	22	M8/10	66	37	26	20 x 2.0	2,000	500
DM C13 3 028	26 - 30	3/4	28	M8/10	72	43	29	20 x 2.0	2,000	400
DM C13 3 035	32 - 36	1	35	M8/10	79	50	33	20 x 2.0	2,000	350
DM C13 3 040	38 - 43	1¼	42	M8/10	86	57	36	20 x 2.0	2,000	300
DM C13 3 048	47 - 51	1½	48	M8/10	92	63	39	20 x 2.0	2,000	250
DM C13 3 054	53 - 58	-	54	M8/10	98	69	42	20 x 2.0	2,000	250
DM C13 3 060	60 - 64	2	60	M8/10	104	75	45	20 x 2.0	2,000	200
DM C13 3 063	63 - 66	-	63	M8/10	108	72	47	20 x 2.0	2,000	200
DM C13 3 070	68 - 72	-	70	M8/10	114	85	50	20 x 2.0	2,000	150
DM C13 3 075	74 - 80	2½	75	M8/10	119	90	53	20 x 2.0	2,000	150
DM C13 3 083	81 - 86	-	83	M8/10	127	98	57	20 x 2.0	2,000	125
DM C13 3 090	97 - 92	3	90	M8/10	134	105	60	20 x 2.0	2,000	125
DM C13 3 100	99 - 105	3½	100	M8/10	144	115	65	20 x 2.0	2,000	100
DM C13 3 110	107 - 112	-	110	M8/10	164	125	70	20 x 2.0	2,000	100
DM C13 3 115	113 - 118	4	115	M8/10	159	130	73	20 x 2.0	2,000	90
DM C13 3 125	125 - 130	-	125	M8/10	169	140	78	20 x 2.0	2,000	75
DM C13 3 133	131 - 137	-	133	M8/10	177	148	82	20 x 2.0	2,000	75
DM C13 3 140	137 - 142	5	140	M8/10	184	155	85	20 x 2.5	3,000	75
DM C13 3 150	148 - 153	-	150	M8/10	194	165	90	20 x 2.5	3,000	60
DM C13 3 160	159 - 166	-	160	M8/10	204	175	95	25 x 2.5	3,000	60
DM C13 3 168	168 - 172	6	168	M8/10	212	183	99	25 x 2.5	3,000	60
DM C13 3 200	200 - 212	-	200	M8/10	244	215	115	25 x 2.5	3,000	60
DM C13 3 220	215 - 220	8	200	M8/10	264	235	125	25 x 2.5	3,000	50
DM C13 3 250	248 - 252	-	250	M8/10	294	265	140	25 x 2.5	3,000	50
DM C13 3 315	313 - 318	-	315	M8/10	359	330	173	25 x 2.5	3,000	40



Hot Dip Galvanized and Stainless Steel option available on request.
With connection size M10/12 available on request.
With M6 Slide Nuts available on request.

Subject to modifications

BIS Heavy Duty Clamp HD500 (BUP1000)

for steel pipes Ø 19 - 227 mm

M8/10
M10/12





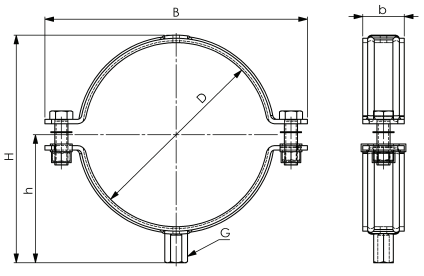
Features and Benefits

- two-part clamp with two locking bolts
- up to and including 5": locking nut is captive, hidden in plastic holder
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety

RAL GÜTEZEICHEN ROHRBEFESTIGUNG
RAL-GZ 655/B
Cert Nr 2011 13a

RAL GÜTEZEICHEN BRANDGEPRÜFTE ROHRBEFESTIGUNG
RAL-GZ 656
Cert Nr 2011 05

Part No.	D (mm)	D (")	DN (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z (N)	RAL	Pack 1
3303 8 019	15 - 19	3/8	10	M8/10	75	46	32	30 x 2,5	2,100	RAL[2]	25
3303 8 023	19 - 23	1/2	15	M8/10	78	50	34	30 x 2,5	2,100	RAL[2]	25
3303 8 030	25 - 30	3/4	20	M8/10	84	57	38	30 x 2,5	2,100	RAL[2]	25
3303 8 036	31 - 36	1	25	M8/10	91	63	41	30 x 2,5	2,100	RAL[2]	25
3303 8 042	37 - 42	-	-	M8/10	98	69	44	30 x 2,5	2,100	RAL[2]	25
3303 8 045	40 - 45	1 1/4	32	M8/10	101	72	45	30 x 2,5	2,100	RAL[2]	25
3303 8 052	47 - 52	1 1/2	40	M8/10	109	79	49	30 x 2,5	2,100	RAL[2]	25
3303 8 058	53 - 58	-	-	M8/10	115	85	52	30 x 2,5	2,100	RAL[2]	25
3303 8 065	59 - 65	2	50	M8/10	122	92	55	30 x 2,5	2,100	RAL[2]	25
3303 8 071	66 - 71	-	-	M8/10	129	98	58	30 x 2,5	2,100	RAL[2]	25
3304 8 078	72 - 78	2 1/2	65	M10/12	136	115	70	30 x 3,0	4,000	RAL[2]	25
3304 8 085	79 - 85	-	-	M10/12	144	122	75	30 x 3,0	4,000	RAL[2]	25
3304 8 092	86 - 92	3	80	M10/12	152	129	78	30 x 3,0	4,000	RAL[2]	25
3304 8 106	98 - 106	-	-	M10/12	165	143	85	30 x 3,0	4,000	RAL[2]	25
3304 8 116	108 - 116	4	100	M10/12	175	153	90	30 x 3,0	4,000	RAL[2]	25
3304 8 123	116 - 123	-	-	M10/12	182	160	94	30 x 3,0	4,000	RAL[2]	25
3304 8 133	125 - 133	-	-	M10/12	193	170	99	30 x 3,0	4,000	RAL[2]	25
3304 8 140	132 - 140	5	125	M10/12	200	177	102	30 x 3,0	4,000	RAL[2]	25
3304 8 154	148 - 154	-	-	M10/12	215	191	109	30 x 3,0	4,000	RAL[2]	15
3304 8 169	159 - 169	6	150	M10/12	240	207	117	38 x 4,0	8,200	RAL[2]	15
3304 8 183	173 - 183	-	-	M10/12	254	221	124	38 x 4,0	8,200	RAL[2]	15
3304 8 202	192 - 202	-	-	M10/12	274	240	133	38 x 4,0	8,200	RAL[2]	15
3304 8 219	208 - 219	-	-	M10/12	290	256	141	38 x 4,0	8,200	RAL[2]	15
3304 8 227	217 - 227	8	200	M10/12	299	265	146	38 x 4,0	8,200	RAL[2]	2



RAL[2] = tested, certified and externally monitored according to RAL-GZ 655/B and RAL-GZ 656.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/gb/en/catalogue/.

Subject to modifications

BIS Heavy Duty Clamp HD500 (BUP1000)

for steel pipes Ø 217 - 509 mm

M16





Features and Benefits

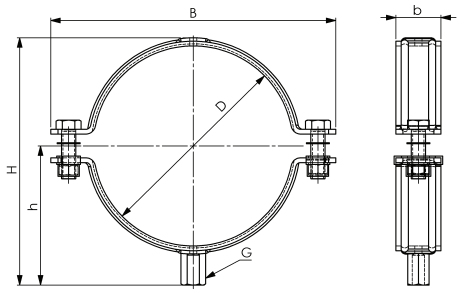
- two-part clamp with two locking bolts
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety

RAL GÜTEZEICHEN ROHRBEFESTIGUNG

RAL-GZ 655/B
Cert.Nr. 2011-13a

Part No.	D (mm)	D (")	DN (mm)	G	B (mm)	H (mm)	h (mm)	b x s (mm)	Fa,z RAL (N)	Pack 1
3306 8 169	159 - 169	6	150	M16	241	193	103	38 x 4,0	8.200 RAL[1]	2
3306 8 183	173 - 183	-	-	M16	255	207	110	38 x 4,0	8.200 RAL[1]	2
3306 8 202	192 - 202	-	-	M16	274	226	130	38 x 4,0	8.200 RAL[1]	2
3306 8 227	217 - 227	8	200	M16	299	263	144	38 x 4,0	8.200 RAL[1]	2
3306 8 241	229 - 241	-	-	M16	322	277	151	38 x 4,0	8.200 RAL[1]	2
3306 8 254	244 - 254	-	-	M16	335	290	158	38 x 4,0	8.200 RAL[1]	2
3306 8 264	254 - 264	-	-	M16	345	300	163	38 x 4,0	8.200 RAL[1]	2
3306 8 279	267 - 279	10	250	M16	360	315	170	38 x 4,0	8.200 RAL[1]	2
3306 8 289	279 - 289	-	-	M16	367	324	175	48 x 5,0	12.000 RAL[1]	2
3306 8 302	292 - 302	-	-	M16	380	337	181	48 x 5,0	12.000 RAL[1]	2
3306 8 325	315 - 325	12	300	M16	403	358	193	48 x 5,0	12.000 RAL[1]	2
3306 8 360	350 - 360	14	350	M16	439	395	210	48 x 5,0	12.000 RAL[1]	2
3306 8 374	364 - 374	-	-	M16	453	409	217	48 x 5,0	12.000 RAL[1]	2
3306 8 389	379 - 389	-	-	M16	468	424	225	48 x 5,0	12.000 RAL[1]	2
3306 8 408	398 - 408	16	400	M16	487	443	234	48 x 5,0	12.000 RAL[1]	2
3306 8 418	408 - 418	-	-	M16	498	441	227	48 x 5,0	12.000 RAL[1]	2
3306 8 436	424 - 436	-	-	M16	515	471	248	48 x 5,0	12.000 RAL[1]	2
3306 8 458	448 - 458	18	450	M16	537	493	259	48 x 5,0	12.000 RAL[1]	2
3306 8 509	499 - 509	20	500	M16	588	544	285	48 x 5,0	12.000 RAL[1]	2

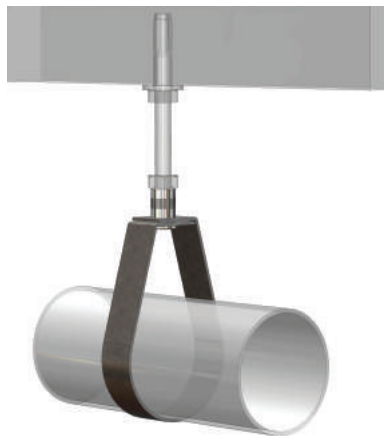
RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/B.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/gb/en/catalogue/.



Subject to modifications

Sprinkler Clamp





Features and Benefits

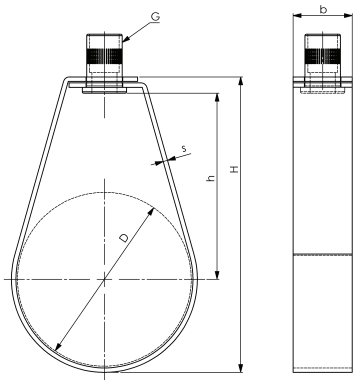
- for use in fire fighting and sprinkler installations
- easy to install, without tools
- high load capacity due to one piece design
- knurled swivel nut allows vertical pipe alignment during and after installation
- locking device allows easy pre-mounting
- material: steel
- pregalvanized as per ASTM A 653 G90
- designed to meet MSS Standard SP-58, type 10 and SP-69

FM APPROVED

UL LISTED

Part No.	D (mm)	D (")	G	h (mm)	b x s (mm)	Fa,z (N)	Appr.	Pack 1
DM C11 7 028	28	¾	M10	61	20 x 1.5	3,000	FM, UL	400
DM C11 7 035	35	1	M10	61	20 x 1.5	3,000	FM, UL	300
DM C11 7 040	42	1¼	M10	75	20 x 1.5	3,000	FM, UL	250
DM C11 7 048	48	1½	M10	81	20 x 1.5	3,000	FM, UL	200
DM C11 7 060	60	2	M10	100	20 x 1.5	3,000	FM, UL	180
DM C11 7 075	73	2½	M10	120	32 x 2.0	4,500	FM, UL	75
DM C11 7 090	89	3	M10	135	32 x 2.0	4,500	FM, UL	60
DM C11 7 100	105	3½	M10	150	32 x 2.0	4,500	FM, UL	40
DM C11 7 115	115	4	M10	165	32 x 2.5	5,500	FM, UL	40
DM C11 7 140	140	5	M12	195	40 x 2.5	6,500	FM, UL	25
DM C11 7 168	168	6	M12	230	40 x 3.0	7,500	FM, UL	20
DM C11 7 219	219	8	M12	290	50 x 3.0	9,000	FM, UL	10
DM C11 7 273	273	10	M12	315	50 x 3.0	9,000	-	8

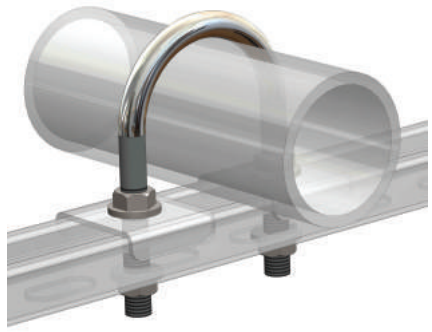
Made in UAE.



Subject to modifications

U Bolt

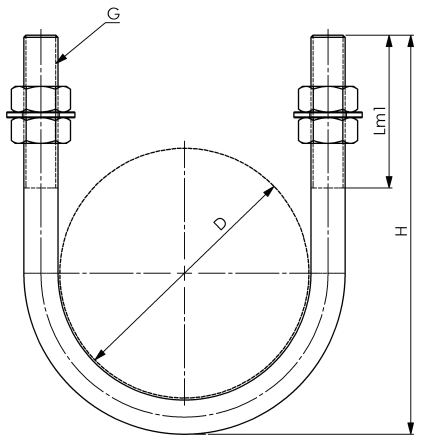




Features and Benefits

- high load capacity due to one piece design
- supplied with four nuts and two washes
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, type 24 and SP-69
- special U bolts with longer tangents and threads available on request

Part No.	D (mm)	D (")	G	H (mm)	Lm1 (mm)	Fa,z (N)	Pack 1
DM C14 4 022	21	½	M10	65	50	6,000	250
DM C14 4 028	27	¾	M10	77	50	6,000	200
DM C14 4 035	34	1	M10	85	50	6,000	200
DM C14 4 042	43	1¼	M10	93	50	6,000	175
DM C14 4 048	48	1½	M10	100	50	6,000	150
DM C14 4 060	60	2	M10	110	50	6,000	150
DM C14 4 075	76	2½	M12	127	50	10,000	100
DM C14 4 090	89	3	M12	140	50	10,000	75
DM C14 4 115	115	4	M12	165	50	10,000	75
DM C14 4 140	140	5	M12	190	50	10,000	70
DM C14 4 168	168	6	M12	220	50	10,000	50
DM C14 4 219	219	8	M16	295	75	20,000	20
DM C14 4 273	273	10	M20	370	100	32,500	10
DM C14 4 324	324	12	M20	420	100	32,500	10
DM C14 4 356	356	14	M20	455	100	32,500	10
DM C14 4 406	406	16	M20	505	100	32,500	10
DM C14 4 457	457	18	M24	555	100	45,000	5
DM C14 4 508	508	20	M24	605	100	45,000	5
DM C14 4 610	610	24	M24	710	100	45,000	5

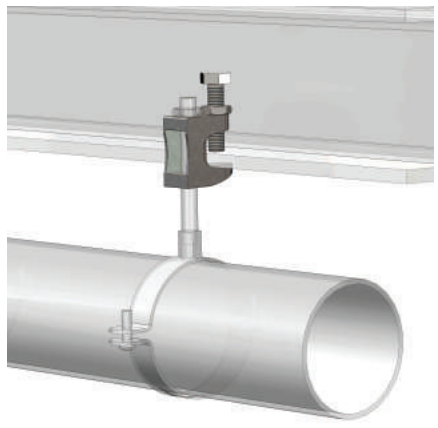


Hot Dip Galvanized option available on request.
Sizes of the U Bolts can be modified to be used with rubber support inserts.
Alternate rod sizes for different pipe sizes available on request.

Subject to modifications

Girder Clamp



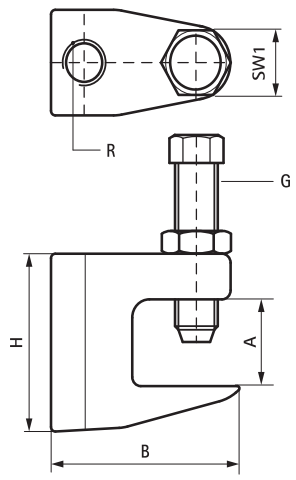


Features and Benefits

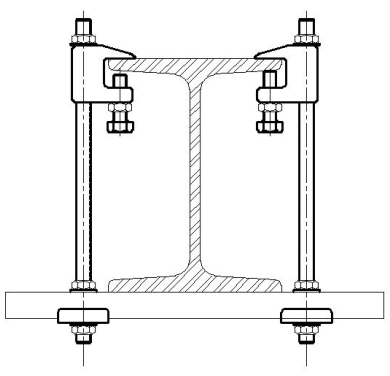
- for sprinkler systems, heating, ventilation and air conditioning, acoustic tubes and sanitary installations
- hexagon threaded head screw DIN938 8.8
- threaded with Cup Point (RS) according to EN ISO 4753 and lock nut
- Material:
  - body : cast iron
  - bolt: hardened steel
  - nut: steel zinc plated
- zinc plated casting tolerance according to DIN 1684 GTA/17
- for a solid fixing to steel connections upto 22mm flange thickness without welding or drilling.

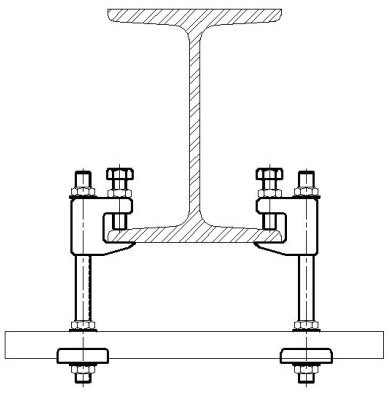
FM APPROVED

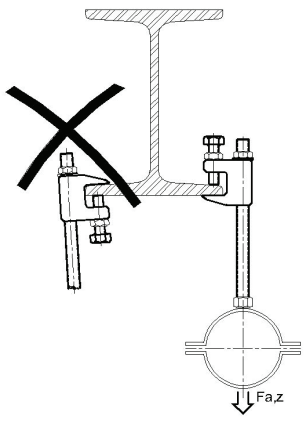
UL LISTED



Part No.	A (mm)	R	G	B (mm)	H (mm)	Fa,z (N)	Pack 1
DMC 1 998	18	M8	M8	35	35	1,200	50
DMC1 9 910	20	M10	M10	41	42	2,500	50
DMC1 9 912	26	M12	M10	48	54	3,500	50
DMC1 9 916	28	M16	M12	55	58	5,500	12



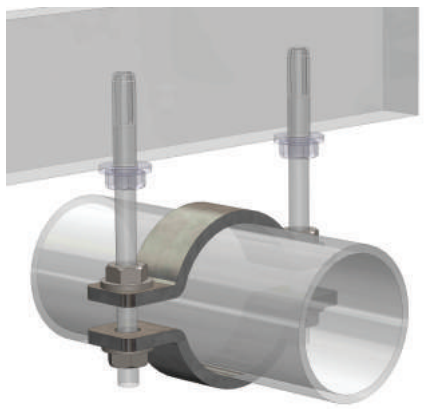




Subject to modifications

Two Bolt Clamp

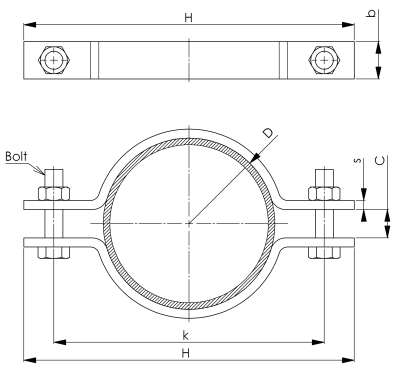




Features and Benefits

- designed to act as a horizontal support for heavier pipes
- two bolt arrangement provides sturdier support
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58-2002, type 4 and SP-69

Part No.	D (")	Bolt	bxs (mm)	k (mm)	H (mm)	C (mm)	Fa,z (N)	Pack 1
DMC211 022	1/2"	M10	25x5.0	68	97	12	1,700	60
DMC211 028	3/4"	M10	25x5.0	76	105	12	1,700	60
DMC211 035	1	M10	25x5.0	84	113	12	1,700	50
DMC 211 040	1-1/4"	M10	25x5.0	92	121	12	1,700	50
DMC211 048	1-1/2"	M10	25x5.0	98	127	12	1,700	40
DMC211 060	2"	M10	25x5.0	116	156	16	1,700	35
DMC211 075	2-1/2"	M12	25x6.0	142	182	16	4,000	35
DMC211 090	3"	M12	25x6.0	156	196	16	4,000	30
DMC211 100	3-1/2"	M12	25x6.0	168	208	16	4,000	30
DMC211 115	4"	M12	25x6.0	180	220	19	4,000	25
DMC211 140	5"	M16	40x6.0	214	252	19	6,000	20
DMC211 168	6"	M16	40x6.0	242	290	22	6,000	15
DMC211 220	8"	M16	40x9.0	152	352	25	11,000	10
DMC211 273	10"	M16	50x9.0	358	406	25	12,000	5
DMC211 323	12"	M20	50x12.0	430	490	25	15,000	4
DMC211 355	14"	M20	50x12.0	480	546	28	15,000	4
DMC211 406	16"	M20	60x16.0	532	597	28	22,000	2
DMC211 457	18"	M20	60x16.0	610	686	32	22,000	2
DMC211 508	20"	M20	60x16.0	680	776	35	22,000	1
DMC211 610	24"	M20	60x16.0	780	876	42	22,000	1



Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

Riser Clamp



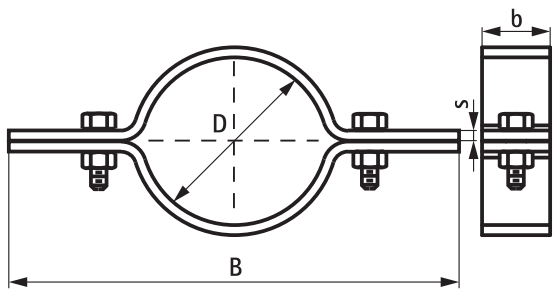


Features and Benefits

- designed to act as a rigid support or guide for vertical pipes
- suitable for use with all types of pipes
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58-2002, type 8 and SP-69

Part No.	D (")	Bolt	B (mm)	b x s (mm)	Fa,z (N)	Pack 1
DM C11 1 022	½	M10	200	25 x 5.0	1,700	60
DM C11 1 028	¾	M10	210	25 x 5.0	1,700	60
DM C11 1 035	1	M10	230	25 x 5.0	1,700	50
DM C11 1 040	1¼	M10	260	25 x 5.0	1,700	50
DM C11 1 048	1½	M10	260	25 x 5.0	1,700	40
DM C11 1 060	2	M10	260	25 x 5.0	1,700	35
DM C11 1 075	2½	M12	290	25 x 6.0	4,000	35
DM C11 1 090	3	M12	290	25 x 6.0	4,000	30
DM C11 1 100	3½	M12	330	25 x 6.0	4,000	30
DM C11 1 115	4	M12	330	25 x 6.0	4,000	25
DM C11 1 140	5	M16	350	40 x 6.0	6,000	20
DM C11 1 168	6	M16	380	40 x 6.0	6,000	15
DM C11 1 220	8	M16	470	40 x 10.0	11,000	10
DM C11 1 273	10	M16	520	50 x 10	12,000	5
DM C11 1 323	12	M20	580	50 x 12.0	15,000	4
DM C11 1 355	14	M20	610	50 x 12.0	15,000	4
DM C11 1 406	16	M20	660	60 x 16.0	22,000	2
DM C11 1 457	18	M20	710	60 x 16.0	22,000	2
DM C11 1 508	20	M20	760	60 x 16.0	22,000	1
DM C11 1 610	24	M20	880	60 x 16.0	22,000	1

Hot Dip Galvanized and Stainless Steel option available on request.



Subject to modifications

Two Bolt Riser Clamp



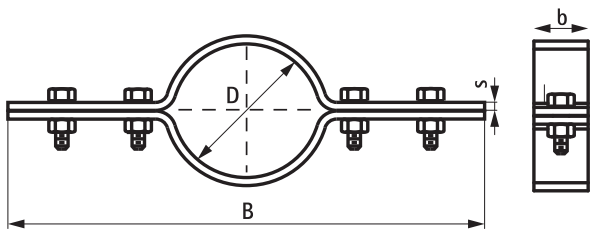


Features and Benefits

- designed to act as a rigid support or guide for vertical pipes
- suitable for use with all types of pipes
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58-2002, type 42

Part No.	D (")	Bolt	B (mm)	b x s (mm)	Fa,z (N)	Pack 1
DM C11 3 022	½	M10	200	25 x 2.5	1,700	60
DM C11 3 028	¾	M10	210	25 x 5.0	1,700	60
DM C11 3 035	1	M10	230	25 x 5.0	1,700	50
DM C11 3 040	1¼	M10	260	25 x 5.0	1,700	50
DM C11 3 048	1½	M10	260	25 x 5.0	1,700	40
DM C11 3 060	2	M10	260	25 x 5.0	1,700	35
DM C11 3 075	2½	M12	290	25 x 6.0	4,000	35
DM C11 3 090	3	M12	290	25 x 6.0	4,000	30
DM C11 3 100	3½	M12	330	25 x 6.0	4,000	30
DM C11 3 115	4	M12	330	25 x 6.0	4,000	25
DM C11 3 140	5	M16	350	40 x 6.0	6,000	20
DM C11 3 168	6	M16	380	40 x 6.0	6,000	15
DM C11 3 220	8	M16	470	40 x 9.0	11,000	10
DM C11 3 273	10	M16	520	50 x 9.0	12,000	5
DM C11 3 323	12	M20	580	50 x 12.0	15,000	4
DM C11 3 355	14	M20	610	50 x 12.0	15,000	4
DM C11 3 406	16	M20	660	60 x 16.0	22,000	2
DM C11 3 457	18	M20	710	60 x 16.0	22,000	2
DM C11 3 508	20	M20	760	60 x 16.0	22,000	1
DM C11 3 510	24	M20	880	60 x 16.0	22,000	1

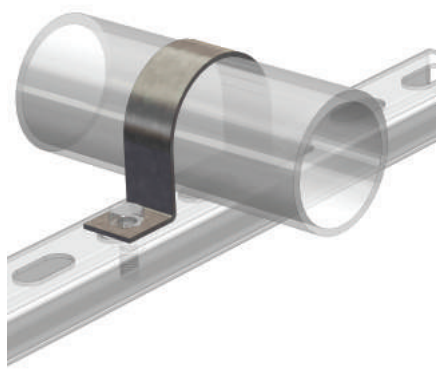
Hot Dip Galvanized and Stainless Steel option available on request.



Subject to modifications

U-Strap Clamp

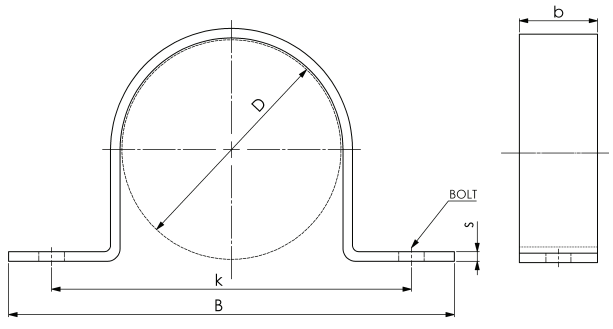




Features and Benefits

- for mounting plain or insulated pipes
- can be used with Rubber Support Inserts
- slotted holes on both sides allow convenient installation
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, type 26 and SP-69

Part No.	D (mm)	D (")	Bolt	B (mm)	b x s (mm)	k (mm)	Fa,z (N)	Pack 1
DM C15 5 022	22	½	M8	76	25 x 2.0	51	5,500	500
DM C15 5 028	28	¾	M8	82	25 x 2.0	57	5,500	400
DM C15 5 035	35	1	M8	89	25 x 2.0	64	5,500	400
DM C15 5 040	42	1¼	M8	96	25 x 2.0	71	5,500	350
DM C15 5 048	48	1½	M8	102	25 x 2.0	77	5,500	300
DM C15 5 054	54	-	M8	108	25 x 2.0	83	5,500	250
DM C15 5 060	60	2	M8	114	25 x 2.0	89	5,500	200
DM C15 5 067	67	-	M8	121	25 x 2.0	96	5,500	200
DM C15 5 075	75	2½	M8	145	25 x 3.0	113	6,500	150
DM C15 5 082	82	-	M8	152	25 x 3.0	120	6,500	150
DM C15 5 090	90	3	M8	160	25 x 3.0	128	6,500	150
DM C15 5 100	100	3½	M8	170	25 x 3.0	138	6,500	150
DM C15 5 108	108	-	M8	178	25 x 3.0	146	6,500	125
DM C15 5 115	115	4	M8	185	25 x 3.0	153	6,500	125
DM C15 5 126	126	-	M10	196	25 x 3.0	164	6,500	125
DM C15 5 140	140	5	M10	210	25 x 3.0	178	6,500	100
DM C15 5 148	148	-	M10	218	28 x 3.0	186	6,500	100
DM C15 5 155	155	-	M10	225	25 x 3.0	193	6,500	100
DM C15 5 168	168	6	M10	237	25 x 3.0	205	6,500	100
DM C15 5 179	179	-	M10	249	25 x 3.0	217	6,500	100
DM C15 5 190	190	-	M10	260	38 x 3.0	228	9,000	50
DM C15 5 205	205	-	M10	275	38 x 3.0	243	9,000	50
DM C15 5 219	219	8	M10	289	38 x 3.0	257	9,000	50
DM C15 5 230	230	-	M10	300	38 x 3.0	268	9,000	30

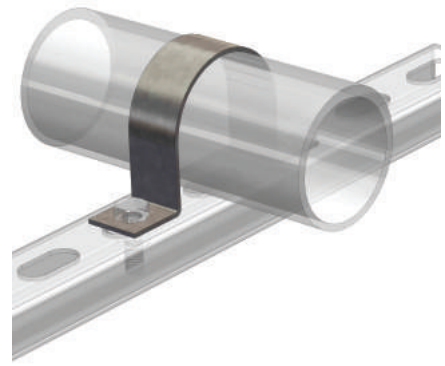


Other dimensions available on request.
Sizes of U Strap can be modified to be used with Rubber Support Inserts.
Hot Dip Galvanized and Stainless Steel option available on request,

Subject to modifications

U-Strap Clamp



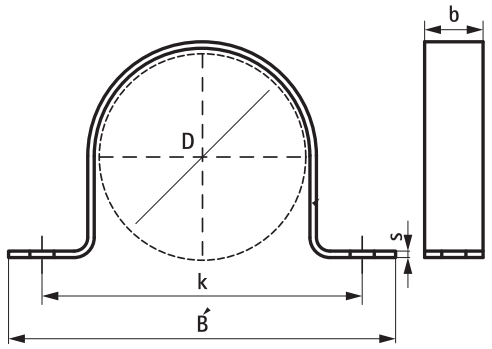


Features and Benefits

- for mounting plain or insulated pipes
- can be used with Rubber Support Inserts
- slotted hole same as used u strap
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, type 26 and SP-69

Part No.	D (mm)	D (")	Bolt	B (mm)	b x s (mm)	k (mm)	Fa,z (N)	Pack 1
DM C15 5 241	241	-	M12	332	38 x 4.0	291	13,500	35
DM C15 5 263	263	-	M12	354	38 x 4.0	313	13,500	35
DM C15 5 273	273	10	M18	364	38 x 4.0	323	13,500	35
DM C15 5 295	295	-	M18	386	38 x 4.0	345	13,500	30
DM C15 5 323	323	12	M18	414	38 x 4.0	373	13,500	30
DM C15 5 356	356	14	M18	447	50 x 4.0	406	19,000	10
DM C15 5 374	374	-	M18	465	50 x 4.0	424	19,000	15
DM C15 5 406	406	16	M18	497	50 x 4.0	456	19,000	15
DM C15 5 432	432	-	M18	523	50 x 4.0	482	19,000	15
DM C15 5 456	456	18	M18	547	50 x 4.0	506	19,000	10
DM C15 5 482	482	-	M18	573	50 x 4.0	532	19,000	10
DM C15 5 508	508	20	M18	599	50 x 4.0	558	19,000	10
DM C15 5 533	533	-	M18	624	50 x 4.0	583	19,000	10
DM C15 5 559	559	-	M18	650	50 x 4.0	609	19,000	10
DM C15 5 583	583	-	M18	674	50 x 4.0	633	19,000	10
DM C15 5 610	610	24	M18	701	50 x 4.0	660	19,000	10
DM C15 5 658	658	-	M18	766	50 x 6.0	718	24,000	5
DM C15 5 690	690	-	M18	798	50 x 6.0	750	24,000	5
DM C15 5 760	760	-	M18	868	50 x 6.0	820	24,000	5
DM C15 5 863	863	-	M18	971	50 x 6.0	923	24,000	5
DM C15 5 918	918	-	M18	1,026	50 x 6.0	978	24,000	5

Other dimensions available on request.
Sizes of U Strap can be modified to be used with Rubber Support Inserts.
Hot Dip Galvanized and Stainless Steel option available on request.



Subject to modifications

Clevis Hanger





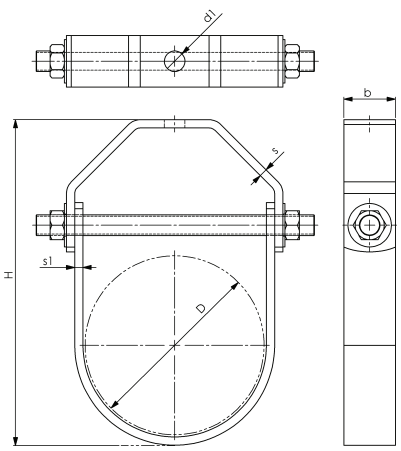
Features and Benefits

- designed for chilled water pipe work and fire fighting systems
- design permits vertical adjustment of pipe after installation
- hanger load nut above clevis must be tightened securely to ensure proper hanger performance
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, type 1 and SP-69

FM APPROVED

UL LISTED

Part No.	D (mm)	D (")	Bolt	H (mm)	b (mm)	s (mm)	s1 (mm)	d1 (mm)	Fa,z (N)	Appr.	Pack 1	
DM C12 2 022	22	½	M8 x 60 mm	70	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C12 2 028	28	¾	M8 x 68 mm	76	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C12 2 035	35	1	M8 x 78 mm	82	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C12 2 040	42	1¼	M8 x 82 mm	92	25	3.0	3.0	10	4,000	FM, UL	125	*
DM C12 2 048	48	1½	M8 x 88 mm	100	25	3.0	3.0	10	4,000	FM, UL	100	*
DM C12 2 060	60	2	M10 x 110 mm	117	25	3.0	3.0	10	4,000	FM, UL	75	*
DM C12 2 075	73	2½	M10 x 125 mm	146	25	4.0	4.0	10	6,500	FM, UL	60	*
DM C12 2 090	89	3	M10 x 140 mm	155	25	4.0	4.0	10	6,500	FM, UL	50	*
DM C12 2 100	105	3½	M10 x 155 mm	173	25	4.0	4.0	10	6,500	FM, UL	40	*
DM C12 2 115	115	4	M10 x 170 mm	198	32	6.0	6.0	10	8,000	FM, UL	20	*
DM C12 2 140	140	5	M12 x 195 mm	232	32	6.0	6.0	12	8,000	FM, UL	15	*
DM C12 2 168	168	6	M12 x 225 mm	266	40	5.0	6.0	12	11,000	FM, UL	10	*
DM C12 2 219	219	8	M12 x 275 mm	338	40	5.0	6.0	12	11,000	FM, UL	15	*
DM C12 2 273	273	10	M16 x 360 mm	419	40	6.0	6.0	16	11,000	-	10	
DM C12 2 323	323	12	M20 x 420 mm	490	50	6.0	10.0	20	15,000	-	6	
DM C12 2 355	355	14	M20 x 455 mm	556	50	6.0	10.0	20	15,000	-	6	
DM C12 2 406	406	16	M24 x 510 mm	610	65	6.0	12.0	24	17,500	-	3	
DM C12 2 457	457	18	M24 x 555 mm	675	65	6.0	12.0	24	17,500	-	3	
DM C12 2 508	508	20	M24 x 610 mm	715	75	10.0	12.0	30	22,000	-	2	
DM C12 2 610	610	24	M24 x 710 mm	850	75	10.0	16.0	30	27,000	-	2	
DM C12 2 755	755	30	M24 x 890 mm	995	75	10.0	20.0	30	30,000	-	1	



Hot Dip Galvanized and Stainless Steel option available on request.
The sizes of the Clevis Hangers can be modified to be used with Rubber Support Inserts.
Custom made Clevis Hangers are available on request.
** = Made in UAE.*

Subject to modifications

Adjustable Roller Hanger

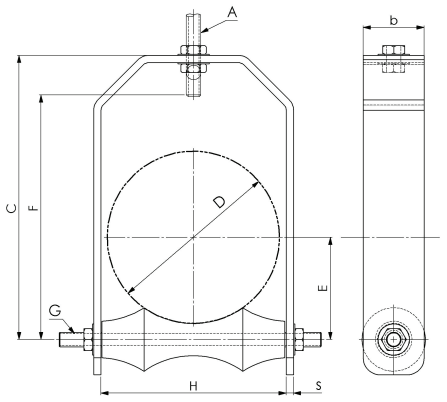




Features and Benefits

- for support of pipe where horizontal movement due to expansion and contraction may occur
- vertical adjustment up to 6" is possible
- Material
  - bracket : steel
  - roller : solid steel shaft
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58-2002, type 43 and SP-69

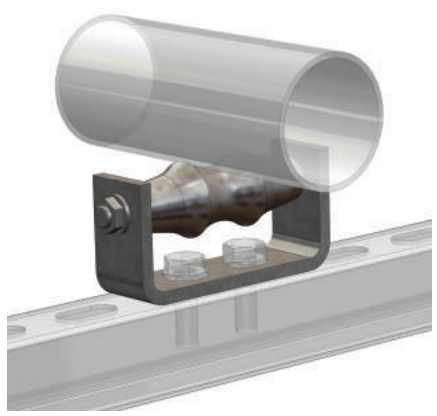
Part No.	D (")	A	C (mm)	E (mm)	F (mm)	H (mm)	G	bxs (mm)	Fa,z (N)
DMC177 060	2	M10	122	41	98	64	M12	25 x 3.0	1600
DMC177 075	2 ½	M12	148	50	124	92	M12	25 x 3.0	1600
DMC177 090	3	M12	161	56	137	94	M12	32 x 6.0	2100
DMC177 100	3 ½	M12	180	65	153	110	M12	32 x 6.0	2100
DMC177 115	4	M12	192	69	162	122	M12	40 x 6.0	2900
DMC177 140	5	M12	233	88	202	152	M12	50 x 6.0	5500
DMC177 168	6	M18	260	102	227	180	M20	50 x 6.0	5500
DMC177 220	8	M22	326	131	283	230	M20	65 x 10.0	6000
DMC177 273	10	M22	381	161	339	285	M20	65 x 10.0	6000
DMC177 323	12	M22	440	192	400	335	M24	65 x 12.0	7500
DMC177 355	14	M24	478	212	433	372	M24	65 x 12.0	7500
DMC177 406	16	M24	524	233	480	421	M32	65 x 12.0	7500
DMC177 457	18	M24	590	267	550	474	M32	65 x 12.0	7500
DMC177 508	20	M32	664	300	605	522	M36	75 x 16.0	9000
DMC177 610	24	M32	788	351	718	630	M36	75 x 16.0	11100



Subject to modifications

Pipe Roller Chair

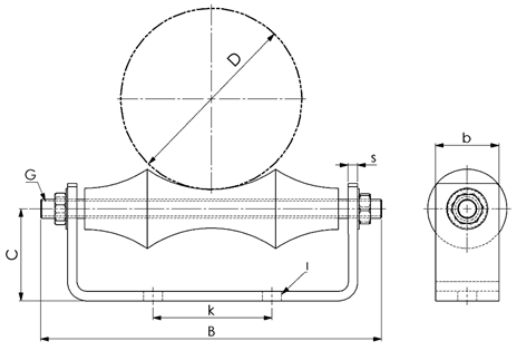




Features and Benefits

- for support of pipe where horizontal movement due to expansion and contraction may occur
- Material
  - bracket : steel
  - roller : solid steel shaft
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet BS3974-1 : 1974; MSS Standard SP-58-2002, type 44 and SP-69

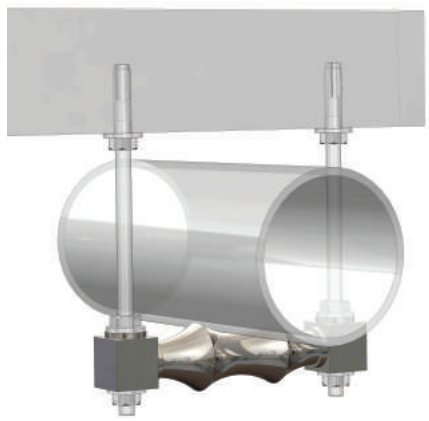
Part No.	D (")	B (mm)	C (mm)	k (mm)	l (mm)	G	bxs (mm)	Fa,z (N)
DMC166 060	2	110	40	35	12	M12	32 x 6.0	6700
DMC166 075	2 ½	110	40	35	12	M12	32 x 6.0	10000
DMC166 090	3	145	45	50	12	M12	32 x 6.0	13800
DMC166 100	3 ½	145	45	50	12	M12	32 x 6.0	17300
DMC166 115	4	180	50	50	16	M12	40 x 8.0	21100
DMC166 140	5	215	55	75	16	M12	40 x 8.0	30400
DMC166 168	6	250	60	80	16	M20	50 x 10.0	34700
DMC166 220	8	285	75	85	19	M20	50 x 10.0	34700
DMC166 273	10	345	90	130	19	M20	50 x 12.0	42900
DMC166 323	12	395	105	140	19	M24	50 x 12.0	53400
DMC166 355	14	440	120	165	25	M24	50 x 12.0	53400
DMC166 406	16	480	140	210	25	M32	75 x 12.0	53400
DMC166 457	18	525	155	235	25	M32	75 x 12.0	62300
DMC166 508	20	555	165	260	25	M36	75 x 12.0	71100
DMC166 610	24	665	200	310	25	M50	100 x 16.0	71100
DMC166 660	26	720	220	335	25	M50	100 x 16.0	76000
DMC166 712	28	771	240	360	25	M50	100 x 16.0	76000
DMC166 762	30	822	260	385	25	M50	100 x 16.0	80000



Subject to modifications

Pipe Roller

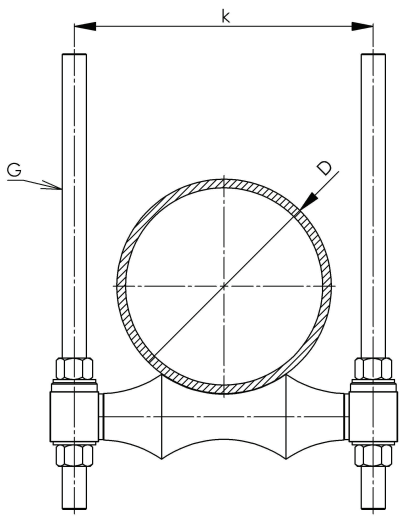




Features and Benefits

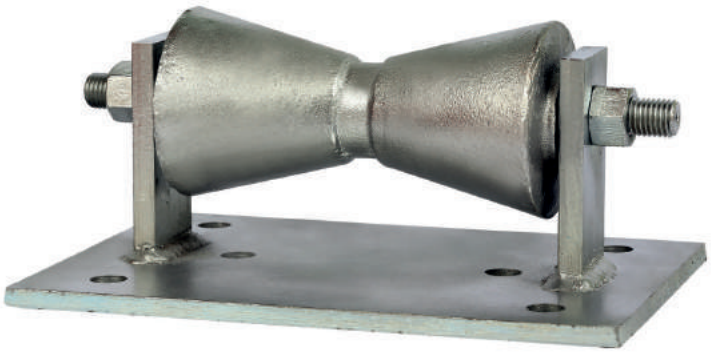
- for support of pipes to provide axial movement
- multiple pipe installations possible by using two rollers
- versatile design permits axial movement of pipe due to expansion and contraction
- standard installation would support a single pipe and design permits installation of two pipes in double banking arrangement. In such cases ensure that the total weight of the installation is less than the maximum load of the roller as mentioned in the table
- material
  - socket : steel
  - roller: solid steel shaft
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, type 41 and SP-69
- insulation protection products such as Rubber Support Inserts, Insulation Protection Shields and Pipe Covering Protection Saddles can be used with Pipe Rollers

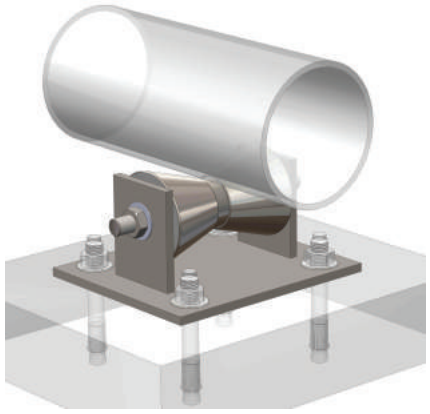
Part No.	D (")	G	k (mm)	Fa,z (N)
DM C28 8 060	2	M12	125	3,500
DM C28 8 075	2½	M12	144	3,500
DM C28 8 090	3	M12	157	3,500
DM C28 8 100	3½	M12	169	3,500
DM C28 8 115	4	M12	187	5,000
DM C28 8 140	5	M12	226	5,000
DM C28 8 168	6	M20	273	5,000
DM C28 8 220	8	M20	309	12,500
DM C28 8 273	10	M20	362	12,500
DM C28 8 323	12	M24	420	15,000
DM C28 8 355	14	M24	470	15,000
DM C28 8 406	16	M32	510	35,000
DM C28 8 457	18	M32	551	35,000
DM C28 8 508	20	M36	591	35,000
DM C28 8 610	24	M36	670	50,000



Subject to modifications

Roller Stand

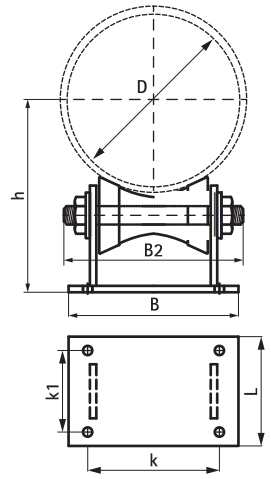




Features and Benefits

- for support of pipe where horizontal movement due to expansion and contraction may occur
- Material
  - bracket : steel
  - roller: solid steel shaft
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet BS476-1 : 1974; MSS Standard SP-58, type 44 and SP-69

Part No.	D (")	L	B (mm)	B2 (mm)	h (mm)	d1 (mm)	k (mm)	k1 (mm)	Fa,z (N)
DMC277060100	2 / 2½ / 3 / 3½	135 mm	120	150	93	16	115	100	5,500
DMC277115168	4 / 5 / 6	135	160	150	152	16	115	100	13,000
DMC277219273	8 / 10	165	235	215	242	20	160	110	17,500
DMC277323355	12 / 14	200	300	275	302	20	220	145	35,000
DMC277406508	16 / 18 / 20	215	340	310	396	24	245	150	52,500
DMC277558609	22 / 24	240	390	340	455	24	265	165	65,000
DMC277660762	26 / 28 / 30	270	470	430	545	28	345	185	84,500
DM C27 7 914	30	300	540	500	635	28	415	215	105,000



Subject to modifications

Notes

Subject to modifications

D BIS Clamps for Insulated Pipe



BIS Clamps with Insulation Shell
BISOFIX® PIR20 39
BISOFIX® PIR30 40
BISOFIX® PIR40 41
BISOFIX® PIR50 42



Rubber Support Insert 43
Rubber Support Insert for Steel Pipes 44
Rubber **Support Insert for Copper Pipes** 45
Insulation Protection Shield 46
Pipe Covering Protection Saddle 47
Pipe Covering Protection Saddle

Subject to modifications

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BISOFIX® Selection Table

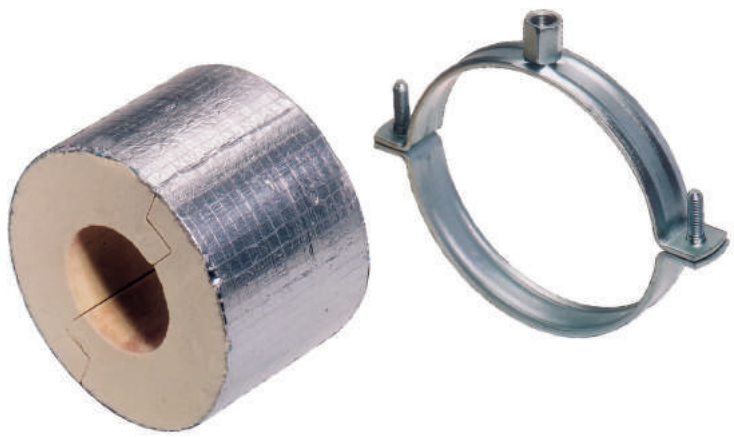
	BISOFIX® PIR
	
Scope of use	In combination with hard pipe insulation materials.
Specific weight DIN 53420	80 kg/m³ < 108 mm 120 kg/m³ > 108 mm
Compressive strength (at 10% deflection) DIN 53421	0,56 - 0,84 N/mm² <108 mm 1,20 - 1,40 N/mm² >108 mm
Minimal operating temperature	-180 °C
Maximal operating temperature	+140 °C
Thermal conductivity coefficient DIN 52612 (at 10 °C)	0,027 W/(m . K) <108 mm 0,031 W/(m . K) >108 mm
Vapour diffusion resistance DIN 52615 μ	7.000
Fire rating DIN 4102	B2
Max. allowed load*	370 N**
* pipe 1" ** BISOFIX® PIR 40 & 50	

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BISOFIX® PIR20

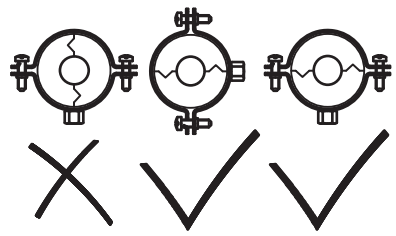
for insulated pipes Ø 15.0 - 48.3 mm

M8/10

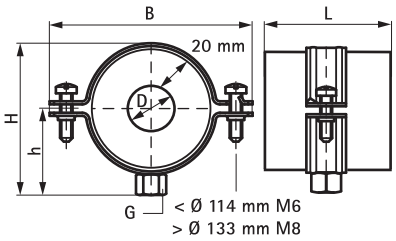


Features and Benefits

- insulation shell (thickness 20 mm) with pipe clamp BIS Bifix® 300
- for fixing of thermal isolated pipe of steel, copper or stainless steel
- to be used in combination with hard insulation material
- a vapour sealed connection with pipe insulation can easily be made by use of aluminium tape
- when installing the pipe support, always align the contact areas of the insulation shells horizontally (to prevent tensile and pressure forces)
- size and specific weight are tuned to pipe weight
- material: clamp of steel; insulation shell made of PIR thermally hardening foam with a moisture proof outer covering of glass-fibre reinforced aluminium foil
- does not contain CFC, HCFC, formaldehyde or cadmium
- excellent thermal and mechanical properties
- clamp: zinc plated



Part No.	D (mm)	D (")	DN (mm)	G	L	B (mm)	H (mm)	h (mm)	Fa,z (N)	Pack 1
221 2 015	15,0 - 16,0	-	-	M8/10	75 mm	92	76	46	160	12
221 2 017	17,2 - 18,0	3/8	10	M8/10	75 mm	92	76	46	170	12
221 2 021	21,3 - 22,0	1/2	15	M8/10	75 mm	91	81	48	180	12
221 2 027	26,9 - 28,0	3/4	20	M8/10	75 mm	102	91	53	200	12
221 2 033	33,7 - 35,0	1	25	M8/10	75 mm	109	98	57	220	12
221 2 042	42,0	1 1/4	32	M8/10	75 mm	117	104	60	280	12
221 2 048	48,3	1 1/2	40	M8/10	75 mm	123	112	63	300	12



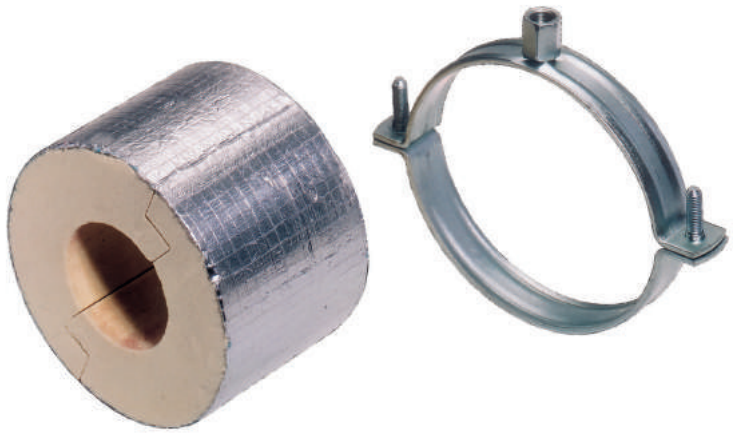
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BISOFIX® PIR30

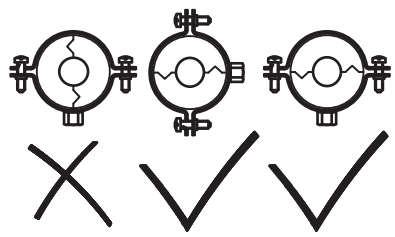
for insulated pipes Ø 15,0 - 323,9 mm

M8/10
M10/12
M16

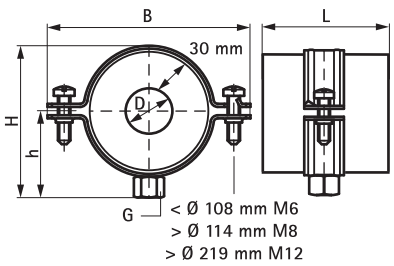


Features and Benefits

- insulation shell (thickness 30 mm) with pipe clamp BIS Bifix® 300
- for fixing of thermal isolated pipe of steel, copper or stainless steel
- to be used in combination with hard insulation material
- a vapour sealed connection with pipe insulation can easily be made by use of aluminium tape
- when installing the pipe support, always align the contact areas of the insulation shells horizontally (to prevent tensile and pressure forces)
- size and specific weight are tuned to pipe weight
- from pipe Ø 273 mm pipe support needed
- material: clamp of steel; insulation shell made of PIR thermally hardening foam with a moisture proof outer covering of glass-fibre reinforced aluminium foil
- does not contain CFC, HCFC, formaldehyde or cadmium
- excellent thermal and mechanical properties
- clamp: zinc plated



Part No.	D (mm)	D (")	DN (mm)	G	L	B (mm)	H (mm)	h (mm)	Fa,z (N)	Pack 1
221 3 015	15,0 - 16,0	-	-	M8/10	75 mm	109	99	56	170	12
221 3 017	17,2 - 18,0	3/8	10	M8/10	75 mm	109	99	57	190	12
221 3 021	21,3 - 22,0	1/2	15	M8/10	75 mm	117	102	59	230	12
221 3 027	26,9 - 28,0	3/4	20	M8/10	75 mm	123	108	61	300	12
221 3 033	33,7 - 35,0	1	25	M8/10	75 mm	129	113	64	320	12
221 3 042	42,4	1 1/4	32	M8/10	75 mm	138	123	69	350	12
221 3 048	48,3	1 1/2	40	M8/10	75 mm	144	128	72	370	12
221 3 054	54,0	-	-	M8/10	75 mm	153	138	77	380	12
221 3 057	56,0 - 57,0	-	-	M8/10	75 mm	153	138	77	390	12
221 3 060	60,3	2	50	M8/10	75 mm	160	144	80	410	12
221 3 064	63.5 - 64.0	-	-	M8/10	75 mm	160	144	80	420	12
221 3 076	76,1	2 1/2	65	M8/10	75 mm	178	163	89	460	24
221 3 089	88,9	3	80	M8/10	75 mm	187	171	93	500	24
221 3 108	108,0	-	-	M8/10	75 mm	204	197	102	620	18
221 3 114	114,3	4	100	M8/10	100 mm	233	200	108	1.370	8
221 3 133	133,0	-	-	M8/10	100 mm	256	223	119	1.520	8
221 3 140	139,7	5	125	M8/10	100 mm	256	223	119	1.570	8
221 3 159	159,0	-	-	M8/10	100 mm	273	242	128	1.720	8
221 3 168	168,3	6	150	M10/12	100 mm	303	248	129	2.720	8
221 3 219	219,1	8	200	M16	150 mm	358	306	160	4.210	6
221 3 273	273,1	10	250	M16	150 mm	421	352	181	5.020	6
221 3 324	323,9	12	300	M16	150 mm	465	410	212	5.790	6

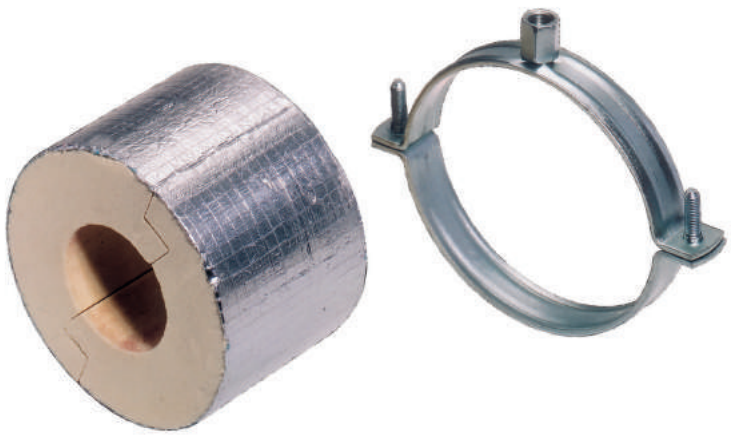


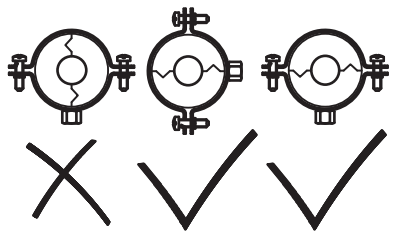
Subject to modifications

BISOFIX® PIR40

for insulated pipes Ø 60.3 - 406.4 mm

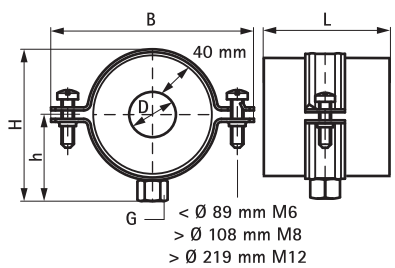
M8/10
M16





Features and Benefits

- insulation shell (thickness 40 mm) with pipe clamp BIS Bifix® 300
- for fixing of thermal isolated pipe of steel, copper or stainless steel
- to be used in combination with hard insulation material
- a vapour sealed connection with pipe insulation can easily be made by use of aluminium tape
- when installing the pipe support, always align the contact areas of the insulation shells horizontally (to prevent tensile and pressure forces)
- size and specific weight are tuned to pipe weight
- from pipe Ø 273 mm pipe support needed
- material: clamp of steel; insulation shell made of PIR thermally hardening foam with a moisture proof outer covering of glass-fibre reinforced aluminium foil
- does not contain CFC, HCFC, formaldehyde or cadmium
- excellent thermal and mechanical properties
- clamp: zinc plated



Part No.	D (mm)	D (")	DN (mm)	G	L	B (mm)	H (mm)	h (mm)	Fa,z (N)	Pack 1
221 4 060	60,3	2	50	M8/10	75 mm	178	163	89	470	24
221 4 070	70,0	-	-	M8/10	75 mm	187	171	93	510	24
221 4 076	76,1	2½	65	M8/10	75 mm	191	175	95	530	24
221 4 089	88,9	3	80	M8/10	75 mm	203	187	101	620	18
221 4 108	108,0	-	-	M8/10	75 mm	246	213	114	690	10
221 4 114	114,3	4	100	M8/10	100 mm	256	223	119	1.530	12
221 4 133	133,0	-	-	M8/10	100 mm	273	240	128	1.670	8
221 4 140	139,7	5	125	M8/10	100 mm	273	258	130	1.730	8
221 4 159	159,0	-	-	M16	100 mm	273	244	134	2.850	24
221 4 168	168,3	6	150	M16	100 mm	306	266	138	2.960	24
221 4 219	219,1	8	200	M16	150 mm	388	333	174	4.510	6
221 4 273	273,1	10	250	M16	150 mm	436	381	198	5.320	6
221 4 324	323,9	12	300	M16	150 mm	486	431	223	6.090	1
221 4 406	406,4	16	400	M16	150 mm	569	514	264	7.330	1

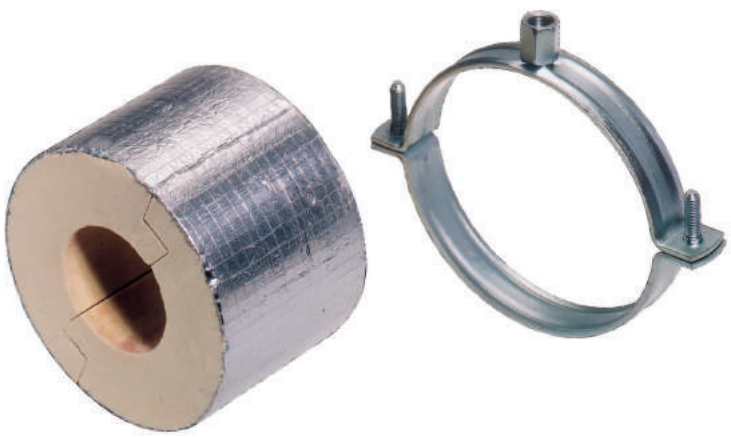
Subject to modifications

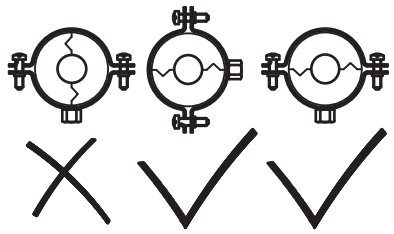
diamond walraven

BISOFIX® PIR50

for insulated pipes Ø 114.3 - 406.4 mm

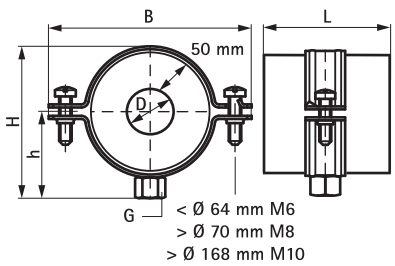
M8/10
M16





Features and Benefits

- insulation shell (thickness 50 mm) with pipe clamp BIS Bifix® 300
- for fixing of thermal isolated pipe of steel, copper or stainless steel
- to be used in combination with hard insulation material
- a vapour sealed connection with pipe insulation can easily be made by use of aluminium tape
- when installing the pipe support, always align the contact areas of the insulation shells horizontally (to prevent tensile and pressure forces)
- size and specific weight are tuned to pipe weight
- from pipe Ø 273 mm pipe support needed
- material: clamp of steel; insulation shell made of PIR thermally hardening foam with a moisture proof outer covering of glass-fibre reinforced aluminium foil
- does not contain CFC, HCFC, formaldehyde or cadmium
- excellent thermal and mechanical properties
- clamp: zinc plated

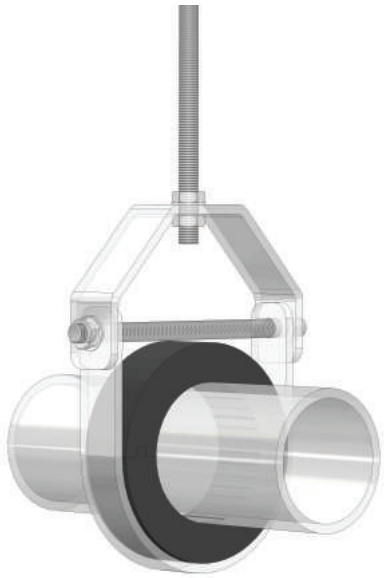


Part No.	D (mm)	D (")	DN (mm)	G	L	B (mm)	H (mm)	h (mm)	Fa,z (N)	Pack 1
221 5 114	114,3	4	100	M8/10	100 mm	273	240	128	1.680	8
221 5 133	133,0	-	-	M16	100 mm	272	251	131	2.780	24
221 5 140	139,7	5	125	M16	100 mm	303	259	135	2.860	24
221 5 159	159,0	-	-	M16	100 mm	328	277	143	3.090	10
221 5 168	168,3	6	150	M16	100 mm	348	291	151	3.200	10
221 5 219	219,1	8	200	M16	150 mm	347	393	181	4.810	6
221 5 273	273,1	10	250	M16	150 mm	450	395	205	5.620	6
221 5 324	323,9	12	300	M16	150 mm	501	446	230	6.390	1

Subject to modifications

Rubber Support Insert for Steel Pipes

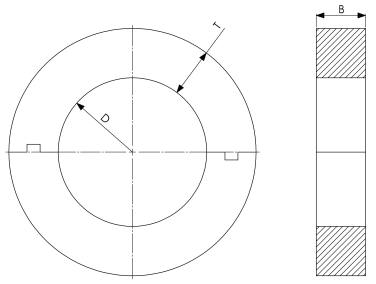




Features and Benefits

- used at the supporting points of insulated pipes to prevent crushing of insulation.
- inherently superior to wood.
- very high load bearing capacity
- dimensionally accurate as each piece is moulded.
- tounge and groove design.
- available with steel reinforcements for higher sizes.

- Standard width
  - 1/2" to 2" : 25mm
  - 2 1/2" to 5" : 38mm
  - 6" and above : 50mm
  - non standard widths also available
- non standard widths also available.
- excellent resistance to detoriation/distortion.
- density:1,100 – 1,400 kg/m^3
- thermal conductivity: 0.16 w/m Temperature
- resistance from -20°C to +110°
- designed to meet BS3974-1 : 1974



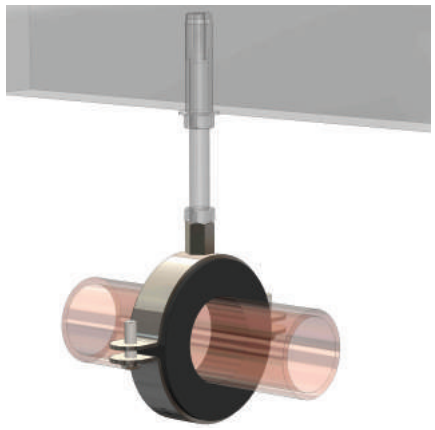
PIPE SIZE	DN	D (mm)	B	T (RSI THICKNESS IN MILLIMETER) 13	19	25	32	38	50	65	75
1/2"	15	21.3	25	DMRSI121325	DMRSI121925	DMRSI122525	DMRSI123225	DMRSI123825	DMRSI125025	DMRSI126525	DMRS127525
3/4"	20	26.7	25	DMRSI341325	DMRSI341925	DMRSI342525	DMRSI343225	DMRSI343825	DMRSI345025	DMRS346525	DMRS347525
1	25	33.4	25	DMRSI11325	DMRSI11925	DMRSI12525	DMRSI13225	DMRSI13825	DMRSI15025	DMRS16525	DMRS17525
1 1/4"	32	42.1	25	DMRSI1141325	DMRSI1141925	DMRSI1142525	DMRSI1143225	DMRSI1143825	DMRSI1145025	DMRS1146525	DMRS1147525
1 1/2"	40	48.2	25	DMRSI1121325	DMRSI1121925	DMRSI1122525	DMRSI1123225	DMRSI1123825	DMRSI1125025	DMRS1126525	DMRS1127525
2	50	60.3	25	DMRSI21325	DMRSI21925	DMRSI22525	DMRSI23225	DMRSI23825	DMRSI25025	DMRS26525	DMRS27525
2 1/2"	65	73.0	38	DMRSI2121338	DMRSI2121938	DMRSI2122538	DMRSI2123238	DMRSI2123838	DMRSI2125038	DMRS2126538	DMRS2127538
3"	80	88.9	38	DMRSI31338	DMRSI31938	DMRSI32538	DMRSI33238	DMRSI33838	DMRSI35038	DMRS36538	DMRS37538
3 1/2"	90	101.6	38	DMRSI3121338	DMRSI3121938	DMRSI3122538	DMRSI3123238	DMRSI3123838	DMRSI3125038	DMRS3126538	DMRS3127538
4"	100	114.3	38	DMRSI41338	DMRSI41938	DMRSI42538	DMRSI43238	DMRSI43838	DMRSI45038	DMRS46538	DMRS47538
5"	125	141.3	38	DMRSI51338	DMRSI51938	DMRSI52538	DMRSI53238	DMRSI53838	DMRSI55038	DMRS56538	DMRS57538
6"	150	168.3	50	DMRSI61350	DMRSI61950	DMRSI62550	DMRSI63250	DMRSI63850	DMRSI65050	DMRS66550	DMRS67550
8"	200	219.1	50	DMRSI81350	DMRSI81950	DMRSI82550	DMRSI83250	DMRSI83850	DMRSI85050	DMRS86550	DMRS87550
10"	250	273.0	50	-	-	DMRSI102550	DMRSI103250	DMRSI103850	DMRSI105050	DMRS106550	DMRS107550
12"	300	323.8	50	-	-	DMRSI122550	DMRSI123250	DMRSI123850	DMRSI125050	DMRS126550	DMRS127550
14"	350	355.6	50	-	-	DMRSI142550	DMRSI143250	DMRSI143850	DMRSI145050	DMRS146550	DMRS147550
16"	400	406.4	50	-	-	DMRSI162550	DMRSI163250	DMRSI163850	DMRSI165050	DMRS166550	DMRS167550
18"	450	457.2	50	-	-	-	DMRSI183250	DMRSI183850	DMRSI185050	DMRS186550	DMRS187550
20"	500	508.0	50	-	-	-	DMRSI203250	DMRSI203850	DMRSI205050	DMRS206550	DMRS207550
24"	600	609.6	50	-	-	-	DMRSI243250	DMRSI243850	DMRSI245050	DMRS246550	DMRS247550

Self-extinguishing rubber support inserts available on request.

Subject to modifications

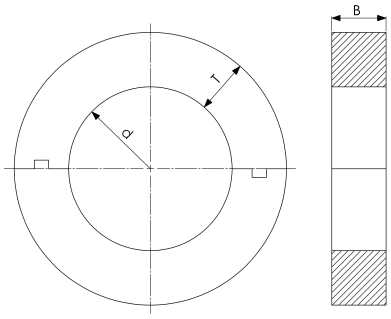
Rubber Support Insert for Copper Pipes





Features and Benefits

- used at the supporting points of insulated pipes to prevent crushing of insulation.
- inherently superior to wood.
- very high load bearing capacity.
- dimensionally accurate as each piece is moulded.
- tounge and groove design.
- available with steel reinforcements for higher sizes.
- Standard width
  - $^1/_2$" to 2" : 25mm
  - 2 $^1/_2$" to 5" : 38mm
  - 6" and above : 50mm
  - non standard widths also available
- non standard widths also available.
- excellent resistance to detoriation/distor
- density:1,100 – 1,400 kg/m^3
- temperature resistance from -20°C to +
- designed to meet BS3974-1 : 1974

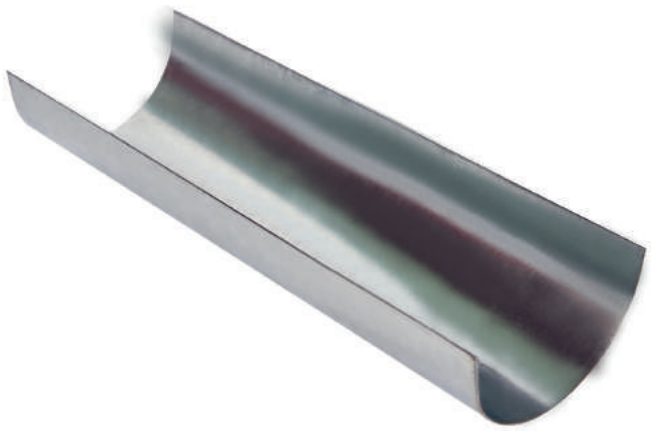


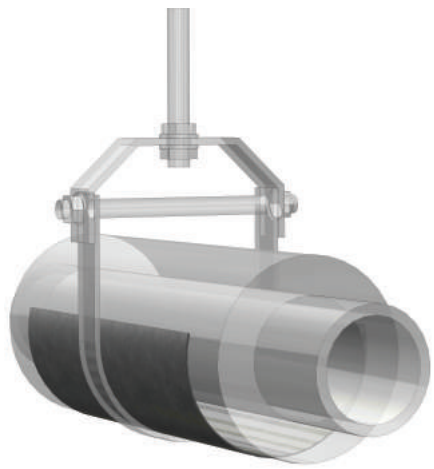
COPPER PIPE	d (mm)	B	T (RSI THICKNESS IN MILLIMETER)					
			13	19	25	32	38	50
16	16	25	DMRSI161325	DMRSI161925	-	DMRSI163225	-	DMRSI165025
22	22	25	DMRSI121325	DMRSI121925	DMRSI122525	DMRSI123225	DMRSI123825	DMRSI125025
28	28	25	DMRSI341325	DMRSI341925	DMRSI342525	DMRSI343225	DMRSI343825	DMRSI345025
35	35	25	DMRSI11325	DMRSI11925	DMRSI12525	DMRSI13225	DMRSI13825	DMRSI15025
42	42	25	DMRSI1141325	DMRSI1141925	DMRSI1142525	DMRSI1143225	DMRSI1143825	DMRSI1145025
54	54	25	DMRSI541325	DMRSI541925	DMRSI542525	DMRSI543225	DMRSI543825	DMRSI545025
67	67	25	DMRSI671325	DMRSI671925	DMRSI672525	DMRSI673225	DMRSI673825	DMRSI675025
76	76	38	DMRSI2121338	DMRSI2121938	DMRSI2122538	DMRSI2123238	DMRSI2123838	DMRSI2125038
108	108	38	DMRSI1081338	DMRSI1081938	DMRSI1082538	DMRSI1083238	DMRSI1083838	DMRSI1085038
133	133	38	DMRSI1331338	DMRSI1331938	DMRSI1332538	DMRSI1333238	DMRSI1333838	DMRSI1335038
160	160	50	DMRSI1601350	DMRSI1601950	DMRSI1602550	DMRSI1603250	DMRSI1603850	DMRSI1605050

Self-extinguishing rubber support inserts available on request.

Subject to modifications

Insulation Protection Shield



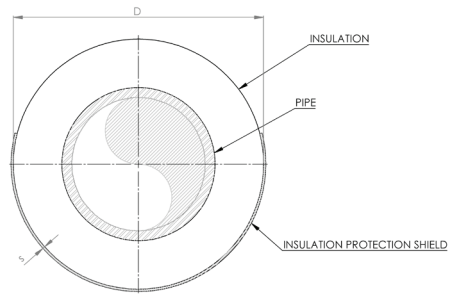


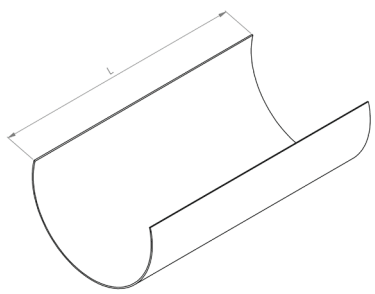
Features and Benefits

- used between hanger surface and insulated pipes to prevent crushing of insulation
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58-2002, type 40

Part No.	D (mm)	L	s (mm)	Gauge	Ø Matching Hanger (")	Ø Matching Hanger (mm)
DMI P S1A	48.2	305 mm	1.22	18	1½	40
DMI P S2A	60.4	305 mm	1.22	18	2	50
DMI P S3A	73.1	305 mm	1.22	18	2½	65
DMI P S4A	88.9	305 mm	1.22	18	3	80
DMI P S5A	101.6	305 mm	1.22	18	3½	90
DMI P S6A	114.3	305 mm	1.22	18	4	100
DMI P S7A	127.0	305 mm	1.22	18	5	125
DMI P S8A	141.2	305 mm	1.22	18	5	125
DMI P S9A	168.6	305 mm	1.22	16	6	150
DMIP S 10A	194.0	305 mm	1.22	16	8	200
DMIP S 11A	219.4	305 mm	1.22	16	8	200
DMIP S 10B	194.0	457 mm	1.52	16	8	200
DMIP S 11B	219.0	457 mm	1.52	16	8	200
DMIP S 12B	244.8	457 mm	1.52	16	10	250
DMIP S 13B	273.3	457 mm	1.52	16	10	250
DMIP S 14C	298.7	610 mm	1.91	14	12	300
DMIP S 15C	324.1	610 mm	1.91	14	12	300
DMIP S 16C	355.6	610 mm	1.91	14	14	350
DMIP S 17C	381.0	610 mm	1.91	14	16	400
DMIP S 18C	406.4	610 mm	1.91	14	16	400
DMIP S 19C	431.8	610 mm	1.91	14	18	450
DMIP S 20C	457.2	610 mm	2.67	12	18	450
DMIP S 21C	482.6	610 mm	2.67	12	20	500
DMIP S 22C	508.0	610 mm	2.67	12	20	500
DMIP S 23C	533.4	610 mm	2.67	12	24	600
DMIP S 24C	558.8	610 mm	2.67	12	24	600
DMIP S 25C	584.2	610 mm	2.67	12	24	600
DMIP S 26C	609.6	610 mm	2.67	12	24	600
DMIP S 27C	635.0	610 mm	2.67	12	30	750
DMIP S 28C	660.4	610 mm	2.67	12	30	750
DMIP S 29C	685.8	610 mm	2.67	12	30	750
DMIP S 30C	711.2	610 mm	2.67	12	30	750
DMIP S 31C	736.6	610 mm	2.67	12	30	750
DMIP S 32C	662.0	610 mm	2.67	12	30	750
DMIP S 33C	812.8	610 mm	2.67	12	36	900

Hot Dip Galvanized option available on request.



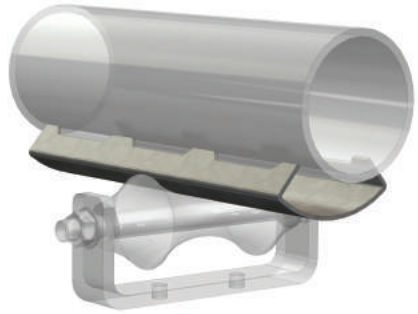


Subject to modifications

Pipe Covering Protection Saddle





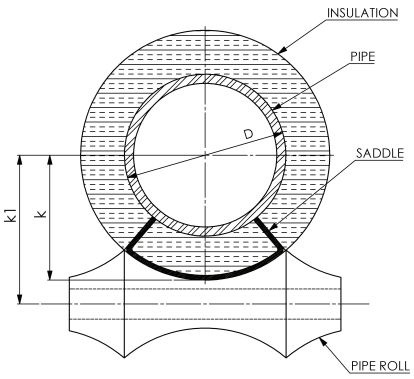


Features and Benefits

- recommended to be used with insulated pipes
- protects the pipe insulation over pipe lines
- length: 300 mm
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, SP-69, type 39A and 39B

Part No.	D (mm)	D (")	k (mm)	k1 (mm)	Fa,z (N)	Insulation Thickness (mm)	Matching Roller Chair
DM PPS2 5 -25	33.4	1	47	62	3,500	25	DMC166090
DM PPS2 5 -50	33.4	1	73	62	3,500	50	DMC166140
DM PPS3 2 -25	42.0	1¼	50	64	3,500	25	DMC166090
DM PPS3 2 -50	42.0	1¼	76	70	3,500	50	DMC166140
DM PPS4 0 -25	48.0	1½	54	72	3,500	25	DMC166090
DM PPS4 0 -50	48.0	1½	80	102	3,500	50	DMC166140
DM PPS5 0 -25	60.0	2	60	80	3,500	25	DMC166115
DM PPS5 0 -50	60.0	2	86	111	3,500	50	DMC166168
DM PPS5 0 -75	60.0	2	111	141	3,500	75	DMC166219
DM PPS6 5 -25	73.0	2½	68	90	6,000	25	DMC166140
DM PPS6 5 -50	73.0	2½	98	126	6,000	50	DMC166175
DM PPS6 5 -75	73.0	2½	119	149	6,000	75	DMC166220
DM PPS7 5 -25	90.0	3	77	99	6,000	25	DMC166140
DM PPS7 5 -50	90.0	3	103	131	6,000	50	DMC166175
DM PPS7 5 -75	90.0	3	128	164	6,000	75	DMC166273
DMPPS100-25	115.0	4	89	114	6,000	25	DMC166168
DMPPS100-50	115.0	4	115	145	6,000	50	DMC166219
DMPPS100-75	115.0	4	140	176	6,000	75	DMC166273
DMPPS125-25	140.0	5	103	131	9,500	25	DMC166193
DMPPS125-50	140.0	5	129	165	9,500	50	DMC166273
DMPPS125-75	140.0	5	154	196	9,500	75	DMC166323
DMPPS150-25	168.0	6	116	146	9,500	25	DMC166219
DMPPS150-50	168.0	6	142	178	9,500	50	DMC166273
DMPPS150-75	168.0	6	167	209	9,500	75	DMC166323

Custom made heavy Pipe Covering Protection Saddles are available on request. See second image for an example.

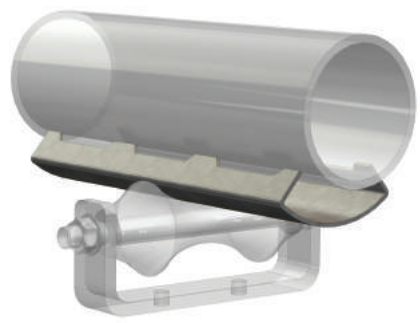


Subject to modifications

Pipe Covering Protection Saddle





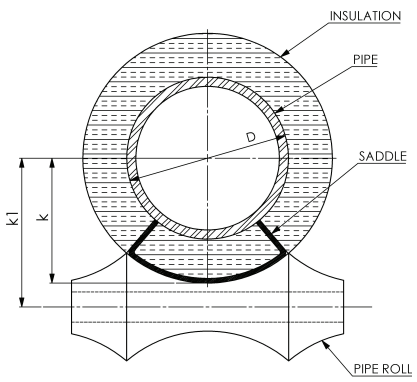


Features and Benefits

- recommended to be used with insulated pipes
- protects the pipe insulation over pipe lines
- length: 300 mm
- material: steel
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
- designed to meet MSS Standard SP-58, SP-69, type 39A and 39B

Part No.	D (mm)	D (")	k (mm)	k1 (mm)	Fa,z (N)	Insulation Thickness (mm)	Matching Roller Chair
DMPPS200-25	219	8	143	179	9,500	25	DMC166273
DMPPS200-50	219	8	169	211	9500	50	DMC166323
DMPPS200-75	219	8	194	244	9,500	75	DMC166355
DMPPS250-25	273	10	170	212	12,500	25	DMC166323
DMPPS250-50	273	10	196	261	12,500	50	DMC166406
DMPPS250-75	273	10	221	288	12,500	75	DMC166457
DMPPS300-25	323	12	196	261	12,500	25	DMC166406
DMPPS300-50	323	12	222	289	12,500	50	DMC166457
DMPPS300-75	323	12	247	322	12,500	75	DMC166508
DMPPS350-25	356	14	212	277	29,000	25	DMC166406
DMPPS350-50	356	14	238	305	29,000	50	DMC166457
DMPPS350-75	356	14	263	239	29,000	75	DMC166508
DMPPS400-50	406	16	263	239	29,000	50	DMC166508
DMPPS400-75	406	16	289	365	29,000	75	DMC166558
DMPPS450-50	457	18	289	365	29,000	50	DMC166558
DMPPS450-75	457	18	315	393	29,000	75	DMC166610
DMPPS500-50	508	20	315	393	29,000	50	DMC166610
DMPPS500-75	508	20	340	425	29,000	75	DMC166660
DMPPS600-50	610	24	366	457	45,000	50	DMC166711
DMPPS600-75	610	24	392	489	45,000	75	DMC166762
DMPPS750-50	762	30	442	554	45,000	50	DMC166863
DMPPS750-75	762	30	468	588	45,000	75	DMC166914

Custom made heavy Pipe Covering Protection Saddles are available on request. See second image for an example.



Subject to modifications

Support Selection Chart – Steel Pipe

Support Selection for RSI – 13mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 13mm x 25mm	47.3	DMC122048	DMC133048	DMC144048	DMC155048	DMC 111048
¾"	26.7	¾" x 13mm x 25mm	52.7	DMC122054	DMC133054	DMC144060	DMC155054	DMC111054
1"	33.4	1" x 13mm x 25mm	59.4	DMC122060	DMC133060	DMC144060	DMC155060	DMC111060
1 ¼"	42.1	1 ¼" x 13mm x 25mm	68.1	DMC122072	DMC133070	DMC144072	DMC155072	DMC111072
1 ½"	48.2	1 ½" x 13mm x 25mm	74.2	DMC122075	DMC133075	DMC144075	DMC155075	DMC111075
2"	60.3	2" x 13mm x 25mm	86.3	DMC122086	DMC133086	DMC144086	DMC155086	DMC111086
2½"	73.0	2 ½" x 13mm x 38mm	99.0	DMC122100	DMC133100	DMC1441098	DMC155100	DMC111100
3"	88.9	3" x 13mm x 38mm	114.9	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
3 ½"	101.6	3 ½" x 13mm x 38mm	127.6	DMC122125	DMC133125	DMC144125	DMC155125	DMC111125
4"	114.3	4" x 13mm x 38mm	140.3	DMC122140	DMC133140	DMC144140	DMC155140	DMC111140
5"	141.3	5" x 13mm x 38mm	167.3	DMC122168	DMC133168	DMC144168	DMC155168	DMC111168
6"	168.3	6" x 13mm x 50mm	194.3	DMC122195	-	DMC144195	DMC155195	DMC111192
8"	219.1	8" x 13mm x 50mm	245.1	DMC122245	-	DMC144242	DMC155245	DMC111245

Support Selection for RSI – 19mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 19mm x 25mm	59.3	DMC122060	DMC133060	DMC144060	DMC155060	DMC111060
¾"	26.7	¾" x 19mm x 25mm	64.7	DMC122065	DMC133063	DMC144065	DMC155066	DMC11065
1"	33.4	1" x 19mm x 25mm	71.4	DMC122072	DMC133070	DMC144072	DMC155072	DMC111072
1 ¼"	42.1	1¼" x 19mm x 25mm	80.1	DMC122080	DMC133080	DMC144080	DMC155080	DMC111080
1 ½"	48.2	1½" x 19mm x 25mm	86.2	DMC122086	DMC133086	DMC144086	DMC155086	DMC111086
2"	60.3	2" x 19mm x 25mm	98.3	DMC122099	DMC133100	DMC144098	DMC155098	DMC111098
2 ½"	73.0	2 ½" x 19mm x 38mm	111.0	DMC122111	DMC133110	DMC144110	DMC155110	DMC111110
3"	88.9	3" x 19mm x 38mm	126.9	DMC122127	DMC133125	DMC144127	DMC155127	DMC111125
3 ½"	101.6	3 ½" x 19mm x 38mm	139.6	DMC122140	DMC133140	DMC144140	DMC155140	DMC111140
4"	114.3	4" x 19mm x 38mm	152.3	DMC122153	DMC133150	DMC144153	DMC155153	DMC111150
5"	141.3	5" x 19mm x 38mm	179.3	DMC122179	-	DMC144179	DMC155179	DMC111180
6"	168.3	6" x 19mm x 50mm	206.3	DMC122206	-	DMC144206	DMC155205	DMC111206
8"	219.1	8" x 19mm x 50mm	257.1	DMC122258	-	DMC144258	DMC155258	DMC111258

Subject to modifications

Support Selection Chart – Steel Pipe

Support Selection for RSI – 25mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 25mm x 25mm	71.3	DMC122072	DMC133070	DMC144072	DMC155072	DMC111072
¾"	26.7	¾" x 25mm x 25mm	76.7	DMC122077	DMC133075	DMC144077	DMC155077	DMC111075
1"	33.4	1" x 25mm x 25mm	83.4	DMC122084	DMC133083	DMC144084	DMC155084	DMC111080
1 ¼"	42.1	1 ¼" x 25mm x 25mm	92.1	DMC122092	DMC133090	DMC144092	DMC155092	DMC111092
1 ½"	48.2	1 ½" x 25mm x 25mm	98.2	DMC122098	DMC133100	DMC144098	DMC155098	DMC111098
2"	60.3	2" x 25mm x 25mm	110.3	DMC122111	DMC133110	DMC144110	DMC155111	DMC111110
2 ½"	73.0	2 ½" x 25mm x 38mm	123.0	DMC122123	DMC133125	DMC144123	DMC155123	DMC111123
3"	88.9	3" x 25mm x 38mm	138.9	DMC122140	DMC133140	DMC144139	DMC155140	DMC111139
3 ½"	101.6	3 ½" x 25mm x 38mm	151.6	DMC122153	DMC133150	DMC144152	DMC155153	DMC111150
4"	114.3	4" x 25mm x 38mm	164.3	DMC122168	DMC133168	DMC144165	DMC155165	DMC111165
5"	141.3	5" x 25mm x 38mm	191.3	DMC122192	-	DMC144192	DMC155190	DMC111192
6"	168.3	6" x 25mm x 50mm	218.3	DMC122219	-	DMC144219	DMC155219	DMC111219
8"	219.1	8" x 25mm x 50mm	269.1	DMC122269	-	DMC144269	DMC155269	DMC111269
10"	273.0	10" x 25mm x 50mm	323.0	DMC122323	-	DMC144323	DMC155323	DMC111323
12"	323.8	12" x 25mm x 50mm	373.8	DMC122374	-	DMC144374	DMC155374	DMC111374
14"	355.6	14" x 25mm x 50mm	405.6	DMC122406	-	DMC144406	DMC155406	DMC111406
16"	406.4	16" x 25mm x 50mm	456.4	DMC122457	-	DMC144457	DMC155454	DMC111457

Support Selection for RSI – 32mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 32mm x 25mm	85.3	DMC122086	DMC133086	DMC14486	DMC155086	DMC111086
¾"	26.7	¾" x 32mm x 25mm	90.7	DMC122090	DMC133090	DMC144090	DMC155090	DMC111090
1"	33.4	1" x 32mm x 25mm	97.4	DMC122098	DMC133100	DMC144098	DMC155098	DMC111098
1 ¼"	42.1	1 ¼" x 32mm x 25mm	106.1	DMC122106	DMC133110	DMC144106	DMC155105	DMC111106
1 ½"	48.2	1 ½" x 32mm x 25mm	112.1	DMC122115	DMC133115	DMC144113	DMC155111	DMC111112
2"	60.3	2" x 32mm x 25mm	124.3	DMC122125	DMC133125	DMC144125	DMC155125	DMC111125
2 ½"	73.0	2 ½" x 32mm x 38mm	137.0	DMC122137	DMC133140	DMC144137	DMC155137	DMC111137
3"	88.9	3" x 32mm x 38mm	152.9	DMC122153	DMC133150	DMC144153	DMC155153	DMC111153
3 ½"	101.6	3 ½" x 32mm x 38mm	165.6	DMC122168	DMC133168	DMC144168	DMC155165	DMC111165
4"	114.3	4" x 32mm x 38mm	178.3	DMC122179	-	DMC144179	DMC155179	DMC111179
5"	141.3	5" x 32mm x 38mm	205.3	DMC122206	-	DMC144206	DMC155206	DMC111206
6"	168.3	6" x 32mm x 50mm	232.3	DMC122233	-	DMC144233	DMC155233	DMC111233
8"	219.1	8" x 32mm x 50mm	283.1	DMC122284	-	DMC144284	DMC155283	DMC111283
10"	273.0	10" x 32mm x 50mm	337.0	DMC122337	-	DMC144337	DMC155337	DMC111337
12"	323.8	12" x 32mm x 50mm	387.8	DMC122388	-	DMC144388	DMC155388	DMC111388
14"	355.6	14" x 32mm x 50mm	419.6	DMC122420	-	DMC144420	DMC155420	DMC111420
16"	406.4	16" x 32mm x 50mm	470.4	DMC122473	-	DMC144470	DMC155472	DMC111471
18"	457.2	18" x 32mm x 50mm	521.2	DMC122522	-	DMC144522	DMC155522	DMC111522
20"	508.0	20" x 32mm x 50mm	572.0	DMC122572	-	DMC144571	DMC155572	DMC111572
24"	609.6	24" x 32mm x 50mm	673.6	DMC122674	-	DMC144647	DMC155674	DMC111674

Subject to modifications

Support Selection Chart – Steel Pipe

Support Selection for RSI – 38mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 38mm x 25mm	97.3	DMC122098	DMC133100	DMC144098	DMC155098	DMC111098
¾"	26.7	¾" x 38mm x 25mm	102.7	DMC122103	DMC133100	DMC144103	DMC155100	DMC111100
1"	33.4	1"x 38mm x 25mm	109.4	DMC122110	DMC133110	DMC144110	DMC155111	DMC111110
1 ¼"	42.1	1 ¼" x 38mm x 25mm	118.1	DMC122120	DMC133115	DMC144119	DMC155119	DMC111115
1 ½"	48.2	1 ½" x 38mm x 25mm	124.2	DMC122125	DMC133125	DMC144125	DMC155125	DMC111125
2"	60.3	2" x 38mm x 25mm	136.3	DMC122137	DMC133140	DMC144137	DMC155137	DMC111134
2 ½"	73.0	2 ½" x 38mm x 38mm	149.0	DMC122148	DMC133150	DMC144148	DMC155148	DMC111150
3"	88.9	3" x 38mm x 38mm	164.9	DMC122165	DMC133168	DMC144165	DMC155165	DMC111165
3 ½"	101.6	3 ½" x 38mm x 38mm	177.6	DMC122179	-	DMC144179	DMC155179	DMC111179
4"	114.3	4" x 38mm x 38mm	190.3	DMC122192	-	DMC144190	DMC155191	DMC111191
5"	141.3	5" x 38mm x 38mm	217.3	DMC122219	-	DMC144219	DMC155219	DMC111218
6"	168.3	6" x 38mm x 50mm	244.3	DMC122245	-	DMC144245	DMC155245	DMC111245
8"	219.1	8" x 38mm x 50mm	295.1	DMC122295	-	DMC144299	DMC155295	DMC111291
10"	273.0	10" x 38mm x 50mm	349.0	DMC122349	-	DMC144350	DMC155349	DMC111349
12"	323.8	12" x 38mm x 50mm	399.8	DMC122400	-	DMC144400	DMC155404	DMC111400
14"	355.6	14" x 38mm x 50mm	431.6	DMC122432	-	DMC144435	DMC155432	DMC111432
16"	406.4	16" x 38mm x 50mm	482.4	DMC122486	-	DMC144486	DMC155482	DMC111483
18"	457.2	18" x 38mm x 50mm	533.2	DMC122534	-	DMC144536	DMC155534	DMC11534
20"	508.0	20" x 38mm x 50mm	584.0	DMC122584	-	DMC122584	DMC155580	DMC111584
24"	609.6	24" x 38mm x 50mm	685.6	DMC122686	-	DMC122686	DMC155686	DMC111686

Support Selection for RSI – 50mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 50mm x 25mm	121.3	DMC122122	DMC133120	DMC144122	DMC155119	DMC111123
¾"	26.7	¾" x 50mm x 25mm	126.7	DMC122127	DMC133125	DMC144127	DMC155127	DMC111125
1"	33.4	1" x 50mm x 25mm	133.4	DMC122137	DMC133133	DMC144134	DMC155133	DMC111134
1 ¼"	42.1	1 ¼" x 50mm x 25mm	142.1	DMC122140	DMC133140	DMC144142	DMC155142	DMC111140
1 ½"	48.2	1 ½" x 50mm x 25mm	148.2	DMC122148	DMC133150	DMC144148	DMC155148	DMC111148
2"	60.3	2" x 50mm x 25mm	160.3	DMC122160	DMC133160	DMC144160	DMC155160	DMC111160
2 ½"	73.0	2 ½" x 50mm x 38mm	173.0	DMC122173	-	DMC144173	DMC155173	DMC111173
3"	88.9	3" x 50mm x 38mm	188.9	DMC122191	-	DMC144190	DMC155190	DMC111190
3 ½"	101.6	3 ½" x 50mm x 38mm	201.6	DMC122202	-	DMC144203	DMC155203	DMC111200
4"	114.3	4" x 50mm x 38mm	214.3	DMC122215	-	DMC144215	DMC155215	DMC111215
5"	141.3	5" x 50mm x 38mm	241.3	DMC122242	-	DMC144242	DMC155242	DMC111240
6"	168.3	6" x 50mm x 50mm	268.3	DMC122269	-	DMC144269	DMC155269	DMC111269
8"	219.1	8" x 50mm x 50mm	319.1	DMC122320	-	DMC144320	DMC155319	DMC111320
10"	273.0	10" x 50mm x 50mm	373.0	DMC122374	-	DMC144374	DMC155374	DMC111373
12"	323.8	12" x 50mm x 50mm	423.8	DMC122424	-	DMC144424	DMC155423	DMC111423
14"	355.6	14" x 50mm x 50mm	455.6	DMC122456	-	DMC144457	DMC155456	DMC111456
16"	406.4	16" x 50mm x 50mm	506.4	DMC122506	-	DMC144508	DMC155508	DMC111508
18"	457.2	18" x 50mm x 50mm	557.2	DMC122558	-	DMC144556	DMC155557	DMC111558
20"	508.0	20" x 50mm x 50mm	608.0	DMC122608	-	DMC144607	DMC155608	DMC111608
24"	609.6	24" x 50mm x 50mm	709.6	DMC122710	-	DMC144710	DMC155710	DMC111710

Subject to modifications

Support Selection Chart – Steel Pipe

Support Selection for RSI – 65mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 65mm x 25mm	151.3	DMC122152	DMC133150	DMC144152	DMC155153	DMC111150
¾"	26.7	¾" x 65mm x 25mm	156.7	DMC122157	DMC133160	DMC144157	DMC155157	DMC111153
1"	33.4	1" x 65mm x 25mm	163.4	DMC122165	DMC133168	DMC144165	DMC155165	DMC111160
1 ¼"	42.1	1 ¼" x 65mm x 25mm	172.1	DMC122172	-	DMC144173	DMC155173	DMC111172
1 ½"	48.2	1 ½" x 65mm x 25mm	178.2	DMC122178	-	DMC144179	DMC155179	DMC111178
2"	60.3	2" x 65mm x 25mm	190.3	DMC122191	-	DMC144190	DMC155190	DMC111191
2 ½"	73.0	2 ½" x 65mm x 38mm	203.0	DMC122203	-	DMC144203	DMC155205	DMC111206
3"	88.9	3" x 65mm x 38mm	218.9	DMC122219	-	DMC144219	DMC155219	DMC111219
3 ½"	101.6	3 ½" x 65mm x 38mm	231.6	DMC122232	-	DMC144233	DMC155233	DMC111232
4"	114.3	4" x 65mm x 38mm	244.3	DMC122245	-	DMC144245	DMC155245	DMC111245
5"	141.3	5" x 65mm x 38mm	271.3	DMC122272	-	DMC144273	DMC155273	DMC111273
6"	168.3	6" x 65mm x 50mm	298.3	DMC122299	-	DMC144299	DMC155299	DMC111299
8"	219.1	8" x 65mm x 50mm	349.1	DMC122350	-	DMC144350	DMC155349	DMC111350
10"	273.0	10" x 65mm x 50mm	403.0	DMC122404	-	DMC144403	DMC155404	DMC111403
12"	323.8	12" x 65mm x 50mm	453.8	DMC122454	-	DMC144454	DMC155456	DMC111456
14"	355.6	14" x 65mm x 50mm	485.6	DMC122486	-	DMC144486	DMC155486	DMC111483
16"	406.4	16" x 65mm x 50mm	536.4	DMC122537	-	DMC144536	DMC155537	DMC111534
18"	457.2	18" x 65mm x 50mm	587.2	DMC122588	-	DMC144588	DMC155588	DMC111584
20"	508.0	20" x 65mm x 50mm	638.0	DMC122639	-	DMC144639	DMC155639	DMC111636
24"	609.6	24" x 65mm x 50mm	739.6	DMC122740	-	DMC144740	DMC155740	DMC111740

Support Selection for RSI – 75mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
½"	21.3	½" x 75mm x 25mm	171.3	DMC122172	-	DMC144173	DMC155173	DMC111173
¾"	26.7	¾" x 75mm x 25mm	176.7	DMC122177	-	DMC144176	DMC155179	DMC111179
1"	33.4	1" x 75mm x 25mm	183.4	DMC122184	-	DMC144184	DMC155185	DMC111179
1 ¼"	42.1	1 ¼" x 75mm x 25mm	192.1	DMC122193	-	DMC144192	DMC155190	DMC111192
1 ½"	48.2	1 ½" x 75mm x 25mm	198.2	DMC122199	-	DMC144195	DMC155200	DMC111200
2"	60.3	2" x 75mm x 25mm	210.3	DMC122211	-	DMC144210	DMC155210	DMC111206
2 ½"	73.0	2 ½" x 75mm x 38mm	223.0	DMC122223	-	DMC144223	DMC155223	DMC111223
3"	88.9	3" x 75mm x 38mm	238.9	DMC122239	-	DMC144239	DMC155241	DMC111240
3 ½"	101.6	3 ½" x 75mm x 38mm	251.6	DMC122252	-	DMC144250	DMC155250	DMC111245
4"	114.3	4" x 75mm x 38mm	264.3	DMC122265	-	DMC144265	DMC155263	DMC111265
5"	141.3	5" x 75mm x 38mm	291.3	DMC122295	-	DMC144292	DMC155292	DMC111291
6"	168.3	6" x 75mm x 50mm	318.3	DMC122320	-	DMC144319	DMC155319	DMC111319
8"	219.1	8" x 75mm x 50mm	369.1	DMC122369	-	DMC144370	DMC155369	DMC111369
10"	273.0	10" x 75mm x 50mm	423.0	DMC122424	-	DMC144424	DMC155423	DMC111423
12"	323.8	12" x 75mm x 50mm	473.8	DMC122473	-	DMC144474	DMC155472	DMC111471
14"	355.6	14" x 75mm x 50mm	505.6	DMC122508	-	DMC144508	DMC155506	DMC111508
16"	406.4	16" x 75mm x 50mm	556.4	DMC122558	-	DMC144556	DMC155557	DMC111558
18"	457.2	18" x 75mm x 50mm	607.2	DMC122608	-	DMC144610	DMC155608	DMC111608
20·	508.0	20" x 75mm x 50mm	658.0	DMC122660	-	DMC144660	DMC155658	DMC111660
24"	609.6	24" x 75mm x 50mm	759.6	DMC122760	-	DMC144760	DMC155760	DMC111755

Subject to modifications

Support Selection Chart – Copper Pipe

Support Selection for RSI – 13mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 13mm x 25mm	42	DMC122040	DMC133040	DMC144042	DMC155042	DMC111042
22	22	½" x 13mm x 25mm	48	DMC122048	DMC133048	DMC144048	DMC155048	DMC111048
28	28	¾" x 13mm x 25mm	54	DMC122054	DMC133054	DMC144054	DMC155054	DMC111054
35	35	1" x 13mm x 25mm	61	DMC122060	DMC133063	DMC144060	DMC155060	DMC111060
42	42	1 ¼" x 13mm x 25mm	68	DMC122070	DMC133070	DMC144070	DMC155070	DMC111070
54	54	54mm x 13mm x 25mm	80	DMC122080	DMC133080	DMC144080	DMC155080	DMC111080
67	67	67mm x 13mm x 25mm	93	DMC122093	DMC133090	DMC144090	DMC155090	DMC111090
76	76	2 ½" x 13mm x 38mm	102	DMC122105	DMC133105	DMC144105	DMC155105	DMC111105
108	108	108mm x 13mm x 38mm	134	DMC122137	DMC133133	DMC144137	DMC155137	DMC111137
133	133	133mm x 13mm x 38mm	159	DMC122160	DMC133160	DMC144160	DMC155160	DMC111160
160	160	160mm x 13mm x 50mm	186	DMC122192	-	DMC144192	DMC155191	DMC111191

Support Selection for RSI – 19mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 19mm x 25mm	54	DMC122054	DMC133054	DMC144054	DMC155054	DMC111054
22	22	½" x 19mm x 25mm	60	DMC122060	DMC133063	DMC144060	DMC155060	DMC111060
28	28	¾" x 19mm x 25mm	66	DMC122065	DMC133070	DMC144065	DMC155065	DMC111065
35	35	1" x 19mm x 25mm	73	DMC122075	DMC133075	DMC144075	DMC155075	DMC111075
42	42	1 ¼" x 19mm x 25mm	80	DMC122080	DMC133080	DMC144080	DMC155080	DMC111080
54	54	54mm x 19mm x 25mm	92	DMC122093	DMC133090	DMC144090	DMC155090	DMC111090
67	67	67mm x 19mm x 25mm	105	DMC122105	DMC133105	DMC144105	DMC155105	DMC111105
76	76	2 ½" x 19mm x 38mm	114	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
108	108	108mm x 19mm x 38mm	146	DMC122150	-	DMC144148	DMC155148	DMC111148
133	133	133mm x 19mm x 38mm	171	DMC122173	-	DMC144173	DMC155173	DMC111173
160	160	160mm x 19mm x 50mm	198	DMC122200	-	DMC144200	DMC155200	DMC111200

Support Selection for Copper Pipe RSI – 25mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 25mm x 25mm	66	DMC122065	DMC133063	DMC144065	DMC155065	DMC111065
22	22	½" x 25mm x 25mm	72	DMC122075	DMC133075	DMC144075	DMC155075	DMC111075
28	28	¾" x 25mm x 25mm	78	DMC122080	DMC133080	DMC144080	DMC155080	DMC111080
35	35	1" x 25mm x 25mm	85	DMC122086	DMC133083	DMC144086	DMC155086	DMC111086
42	42	1 ¼" x 25mm x 25mm	92	DMC122093	DMC133090	DMC144090	DMC155090	DMC111090
54	54	54mm x 25mm x 25mm	104	DMC122105	DMC133105	DMC144105	DMC155105	DMC111105
67	67	67mm x 25mm x 25mm	117	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
76	76	2 ½" x 25mm x 38mm	126	DMC122125	DMC133125	DMC144125	DMC155125	DMC111125
108	108	108mm x 25mm x 38mm	158	DMC122160	DMC133160	DMC144160	DMC155160	DMC111160
133	133	133mm x 25mm x 38mm	183	DMC122184	-	DMC144184	DMC155184	DMC111179
160	160	160mm x 25mm x 50mm	210	DMC122211	-	DMC144215	DMC155210	DMC111206

Subject to modifications

Support Selection Chart – Copper Pipe

Support Selection for RSI – 32mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 32mm x 25mm	80	DMC122080	DMC133080	DMC144080	DMC155080	DMC111080
22	22	½" x 32mm x 25mm	86	DMC122086	DMC133083	DMC144086	DMC155086	DMC111086
28	28	¾" x 32mm x 25mm	92	DMC122093	DMC133090	DMC144090	DMC155090	DMC111090
35	35	1" x 32mm x 25mm	99	DMC122098	DMC133100	DMC144100	DMC155098	DMC111100
42	42	1 ¼" x 32mm x 25mm	106	DMC122105	DMC133105	DMC144105	DMC155105	DMC111105
54	54	54mm x 32mm x 25mm	118	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
67	67	67mm x 32mm x 25mm	131	DMC122137	DMC133133	DMC144137	DMC155137	DMC111137
76	76	2 ½" x 32mm x 38mm	140	DMC122140	DMC133140	DMC144140	DMC155140	DMC111140
108	108	108mm x 32mm x 38mm	172	DMC122173	-	DMC144173	DMC155173	DMC111173
133	133	133mm x 32mm x 38mm	197	DMC122200	-	DMC144200	DMC155200	DMC111200
160	160	160mm x 32mm x 50mm	224	DMC122225	-	DMC144225	DMC155225	DMC111225

Support Selection for RSI – 38mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 38mm x 25mm	92	DMC122093	DMC133090	DMC144090	DMC155090	DMC111090
22	22	½" x 38mm x 25mm	98	DMC122098	DMC133100	DMC144100	DMC155100	DMC111100
28	28	¾" x 38mm x 25mm	104	DMC122105	DMC133105	DMC144105	DMC155105	DMC111105
35	35	1" x 38mm x 25mm	111	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
42	42	1 ¼" x 38mm x 25mm	118	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
54	54	54mm x 38mm x 25mm	130	DMC122135	DMC133133	DMC144135	DMC155135	DMC111135
67	67	67mm x 38mm x 25mm	143	DMC122140	DMC133140	DMC144140	DMC155140	DMC111140
76	76	2 ½" x 38mm x 38mm	152	DMC122153	DMC133150	DMC144153	DMC155153	DMC111153
108	108	108mm x 38mm x 38mm	184	DMC122185	-	DMC144185	DMC155185	DMC111185
133	133	133mm x 38mm x 38mm	209	DMC122215	-	DMC144215	DMC155210	DMC111210
160	160	160mm x 38mm x 50mm	236	DMC122240	-	DMC144235	DMC155235	DMC111235

Support Selection for Copper Pipe RSI – 50mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 50mm x 25mm	116	DMC122115	DMC133115	DMC144115	DMC155115	DMC111115
22	22	½" x 50mm x 25mm	122	DMC122125	DMC133125	DMC144125	DMC115125	DMC111125
28	28	¾" x 50mm x 25mm	128	DMC122130	DMC133125	DMC144125	DMC115125	DMC111125
35	35	1" x 50mm x 25mm	135	DMC122135	DMC133133	DMC144135	DMC155135	DMC111135
42	42	1 ¼" x 50mm x 25mm	142	DMC122140	DMC133140	DMC144140	DMC155140	DMC111140
54	54	54mm x 50mm x 25mm	154	DMC122153	DMC133150	DMC144153	DMC155153	DMC111153
67	67	67mm x 50mm x 25mm	167	DMC122168	DMC133168	DMC144168	DMC155168	DMC111168
76	76	2 ½" x 50mm x 38mm	176	DMC122179	-	DMC144179	DMC155179	DMC111179
108	108	108mm x 50mm x 38mm	208	DMC122215	-	DMC144215	DMC155210	DMC111210
133	133	133mm x 50mm x 38mm	233	DMC122240	-	DMC144235	DMC155235	DMC111235
160	160	160mm x 50mm x 50mm	260	DMC122260	-	DMC144260	DMC155260	DMC111260

Subject to modifications

Support Selection Chart - Copper Pipe

Support Selection for RSI - 65mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 65mm x 25mm	146	DMC122150	-	DMC144140	DMC155140	DMC111140
22	22	½" x 65mm x 25mm	152	DMC122153	-	DMC144153	DMC155153	DMC111153
28	28	¾" x 65mm x 25mm	158	DMC122160	DMC133160	DMC144160	DMC155160	DMC111160
35	35	1" x 65mm x 25mm	165	DMC122168	DMC133168	DMC144168	DMC155168	DMC111168
42	42	1 ¼" x 65mm x 25mm	172	DMC122173	-	DMC144173	DMC155173	DMC111173
54	54	54mm x 65mm x 25mm	184	DMC122184	-	DMC144185	DMC155185	DMC111185
67	67	67mm x 65mm x 25mm	197	DMC122200	-	DMC144200	DMC155200	DMC111200
76	76	2 ½" x 65mm x 38mm	206	DMC122215	-	DMC144215	DMC155210	DMC111210
108	108	108mm x 65mm x 38mm	238	DMC122239	-	DMC144239	DMC155241	DMC111240
133	133	133mm x 65mm x 38mm	263	DMC122265	-	DMC144269	DMC155263	DMC111268
160	160	160mm x 65mm x 50mm	290	DMC122295	-	DMC144292	DMC155292	DMC111291

Support Selection for RSI - 75mm Thickness

Size	OD	RSI Size	Total OD	Clevis Hanger	Split Clamp	U bolt	U Strap	Riser Clamp
16	16	16mm x 75mm x 25mm	166	DMC122168	DMC133168	DMC144168	DMC155168	DMC111168
22	22	½" x 75mm x 25mm	172	DMC122173	-	DMC144173	DMC155173	DMC111173
28	28	¾" x 75mm x 25mm	178	DMC122179	-	DMC144179	DMC155179	DMC111180
35	35	1" x 75mm x 25mm	185	DMC122192	-	DMC144192	DMC155191	DMC111191
42	42	1 ¼" x 75mm x 25mm	192	DMC122191	-	DMC144191	DMC155191	DMC111191
54	54	54mm x 75mm x 25mm	204	DMC122206	-	DMC144206	DMC155206	DMC111206
67	67	67mm x 75mm x 25mm	217	DMC122219	-	DMC144219	DMC155219	DMC111219
76	76	2 ½" x 75mm x 38mm	226	DMC122226	-	DMC144223	DMC155223	DMC111223
108	108	108mm x 75mm x 38mm	258	DMC122260	-	DMC144258	DMC155258	DMC111258
133	133	133mm x 75mm x 38mm	283	DMC122284	-	DMC144284	DMC155284	DMC111283
160	160	160mm x 75mm x 50mm	310	DMC122310	-	DMC144310	DMC155310	DMC111310

Subject to modifications

Insulation Protection Shields

Shield Size Selection Table

Pipe Size	Insulation Thickness							
	½"	¾"	1"	1 ¼"	1 ½"	2"	2 ½"	3"
½"	DMIPS1A	DMIPS2A	DMIPS3A	DMIPS4A	DMIPS5A	DMIPS7A	-	-
¾"	DMIPS2A	DMIPS3A	DMIPS3A	DMIPS5A	DMIPS5A	DMIPS7A	-	-
1"	DMIPS2A	DMIPS3A	DMIPS4A	DMIPS5A	DMIPS6A	DMIPSSA	-	-
1 ¼"	DMIPS3A	DMIPS4A	DMIPS4A	DMIPS6A	DMIPS7A	DMIPSSA	-	-
1 ½"	DMIPS3A	DMIPS4A	DMIPS5A	DMIPS6A	DMIPS7A	DMIPS9A	-	-
2"	DMIPS4A	DMIPS5A	DMIPS6A	DMIPS7A	DMIPS8A	DMIPS9A	DMIPS10A	-
2 ½"	DMIPS5A	DMIPS6A	DMIPS7A	DMIPS8A	DMIPS9A	DMIPS10A	DMIPS11A	DMIPS13B
3"	DMIPS6A	DMIPS7A	DMIPSSA	DMIPS9A	DMIPS9A	DMIPS10A	DMIPS11A	DMIPS14C
3 ½"	DMIPS7A	DMIPSSA	DMIPS9A	DMIPS9A	DMIPS10A	DMIPS11A	DMIPS12B	DMIPS15C
4"	DMIPS8A	DMIPS9A	DMIPS9A	DMIPS10B	DMIPS10A	DMIPS11A	DMIPS12B	DMIPS15C
5"	-	-	DMIPS10B	DMIPS11B	DMIPS11B	DMIPS12B	DMIPS13B	DMIPS16C
6"	-	-	DMIPS11B	DMIPS12B	DMIPS12B	DMIPS13B	DMIPS14C	DMIPS17C
8"	-	-	DMIPS13B	DMIPS14C	DMIPS14C	DMIPS15C	DMIPS16C	DMIPS19C
10"	-	-	DMIPS15C	DMIPS16C	DMIPS16C	DMIPS17C	DMIPS18C	DMIPS21C
12"	-	-	DMIPS17C	DMIPS18C	DMIPS18C	DMIPS19C	DMIPS20C	DMIPS23C
14"	-	-	DMIPS18C	DMIPS19C	DMIPS19C	DMIPS20C	DMIPS21C	DMIPS24C
16"	-	-	DMIPS20C	DMIPS21C	DMIPS21C	DMIPS22C	DMIPS23C	DMIPS26C
18"	-	-	DMIPS22C	DMIPS23C	DMIPS23C	DMIPS24C	DMIPS25C	DMIPS28C
20"	-	-	DMIPS24C	DMIPS25C	DMIPS25C	DMIPS26C	DMIPS27C	DMIPS30C
24"	-	-	DMIPS28C	DMIPS29C	DMIPS29C	DMIPS30C	DMIPS31C	DMIPS33C

Subject to modifications

Notes

Subject to modifications

E BIS Fixing Points and Sliding Devices



BIS Fixing Points

BIS dB-FiX® 40 Noise Insulating Fixing Point	58
BIS dB-FiX® 80 Fixing Point Assembly	59
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BIS dB-FiX® 80 Fixing Point Assembly Kit	61
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BIS Expansion Devices

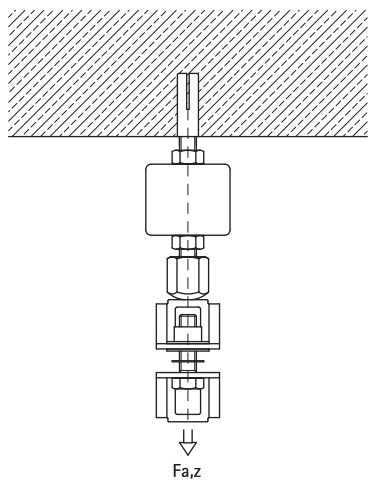
BIS Ball Swivel Hanger	70
BIS Sliding Stirrup	71
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BIS Expansion Device	74
BIS Expansion Guide Assembly (BUP1000)	75

Subject to modifications

BIS dB-FiX® 40 Noise Insulating Fixing Point

for noise insulation fixing point

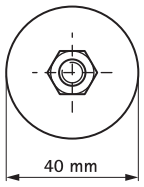


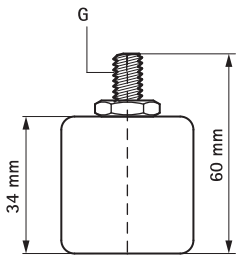


Features and Benefits

- noise insulating single fixing point
- material: stainless steel 1.4301 (AISI 304)
- noise insulation by moulded TPE rubber
- sound insulating lining according DIN 4109

Part No.	G	Fa,z (N)	Pack 1
669 7 004	M8	500	25
669 7 005	M10	500	25



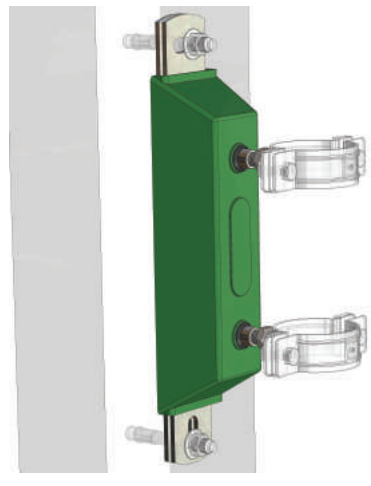


Subject to modifications

BIS dB-FiX® 80 Fixing Point Assembly

for noise insulation fixing point

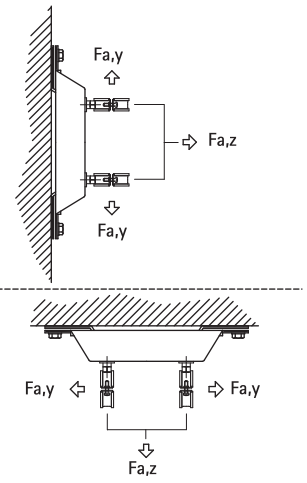


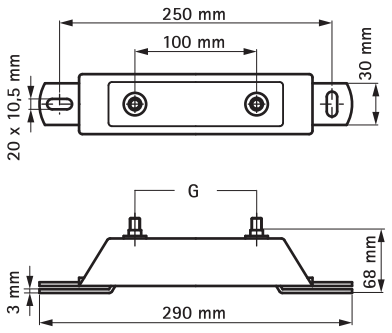


Features and Benefits

- noise insulating fixing point for pipes up to Ø 2" (clamp BIS HD500 Ø 59 - 65 mm)
- very stable
- material: steel
- zinc plated
- noise insulation by moulded EPDM rubber
- sound insulating lining according DIN 4109

Part No.	G	Fa,z (N)	Fa,y (N)	Pack 1
669 3 008	M10	3,000	2,700	10



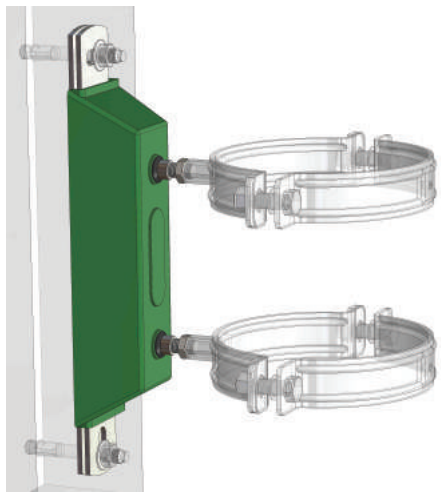


Subject to modifications

BIS dB-FiX® 200 Fixing Point Assembly

for noise insulation fixing point

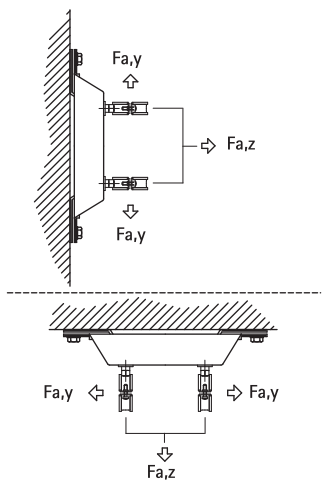


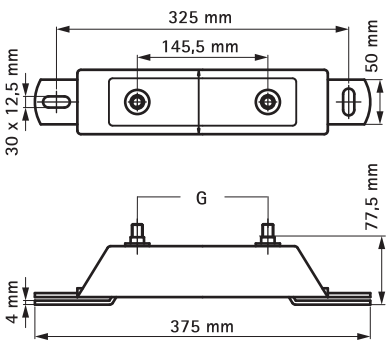


Features and Benefits

- noise insulating fixing point for pipes up to Ø 8" (clamp BIS HD500 Ø 217 - 227 mm)
- very stable
- material: steel
- zinc plated
- noise insulation by moulded EPDM rubber
- sound insulating lining according DIN 4109

Part No.	G	Fa,z (N)	Fa,y (N)	Pack 1
669 3 020	M12	7,000	6,600	5



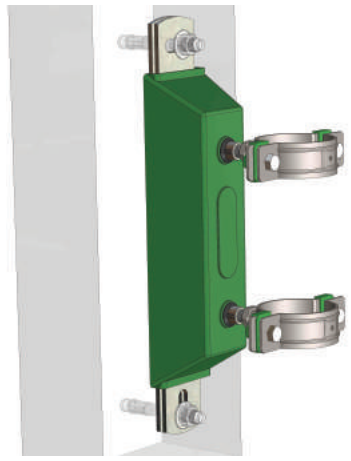


Subject to modifications

BIS dB-FiX® 80 Fixing Point Assembly Kit

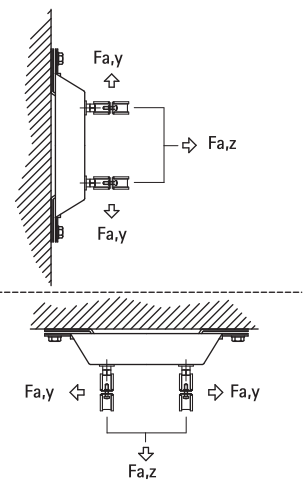
for noise insulation fixing point Ø 15 - 63 mm



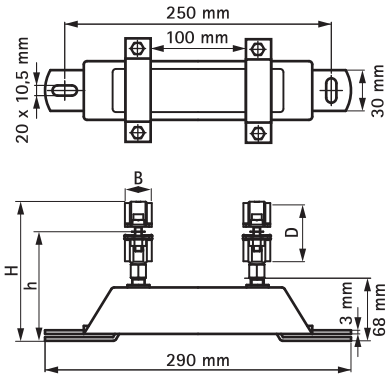


Features and Benefits

- very stable
- material: steel
- zinc plated
- noise insulation by moulded EPDM rubber
- sound insulating lining according DIN 4109
- consists of:
  - 1 Fixing point assembly BIS dB-FiX® 80 (Part No. 669 3 008)
  - 2 Heavy Duty Clamps HD500



Part No.	D (mm)	D (")	DN (mm)	H (mm)	h (mm)	Fa,z (N)	Fa,y (N)	Pack 1
262 2 010	15 - 19	3/8	10	108	93	3,000	2,700	1
262 2 015	19 - 23	1/2	15	112	95	3,000	2,700	1
262 2 020	25 - 30	3/4	20	119	98	3,000	2,700	1
262 2 025	30 - 35	1	25	131	109	3,000	2,700	1
262 2 032	40 - 45	1 1/4	32	140	114	3,000	2,700	1
262 2 040	47 - 52	1 1/2	40	147	118	3,000	2,700	1
262 2 050	57 - 63	2	50	160	123	3,000	2,700	1



Subject to modifications

BIS dB-FiX® 200 Fixing Point Assembly Kit

for noise insulation fixing point Ø 72 - 169 mm

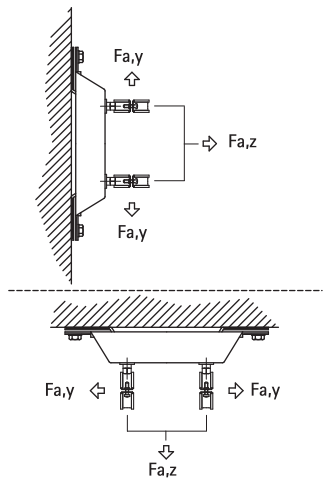


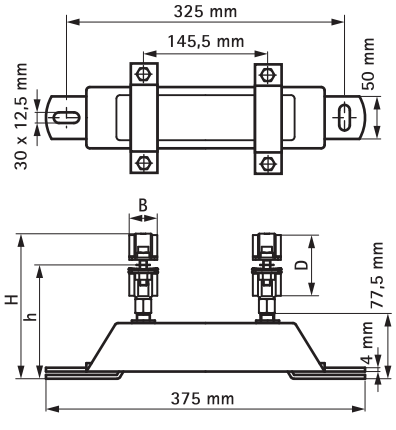


Features and Benefits

- very stable
- material: steel
- zinc plated
- noise insulation by moulded EPDM rubber
- sound insulating lining according DIN 4109
- consists of:
  - 1 Fixing point assembly BIS dB-FiX® 200 (Part No. 669 3 020)
  - 2 Heavy Duty Clamps HD500

Part No.	D (mm)	D (")	DN (mm)	H (mm)	h (mm)	Fa,z (N)	Fa,y (N)	Pack 1
262 2 065	72 - 78	2½	65	192	147	7,000	6,600	1
262 2 070	79 - 85	-	-	199	152	7,000	6,600	1
262 2 080	86 - 92	3	80	206	155	7,000	6,600	1
262 2 100	108 - 116	4	100	226	164	7,000	6,600	1
262 2 125	132 - 140	5	125	252	178	7,000	6,600	1
262 2 150	159 - 169	6	150	284	194	7,000	6,600	1

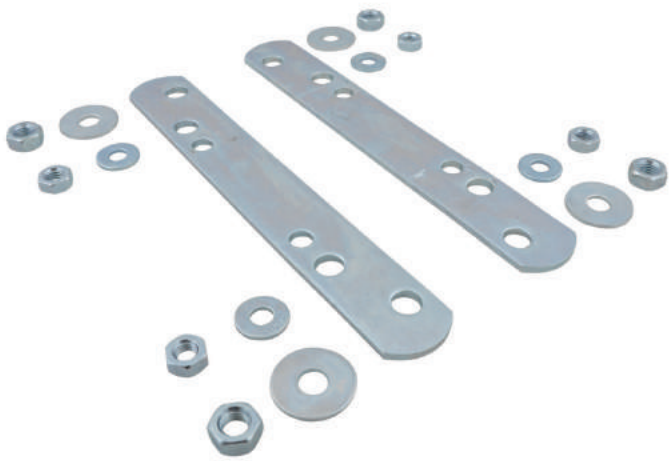




Subject to modifications

BIS dB-FiX® 80 / 200 Mounting Kit

for noise insulation fixing point

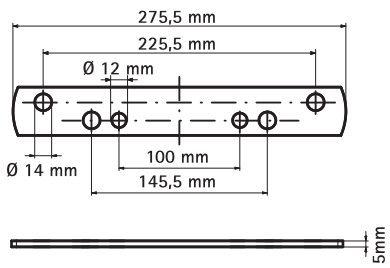




Features and Benefits

- kit for pipe fixing between 2 BIS dB-Fix® Fixpoint Assemblies
- clamps fixed to plates by their flanges
- suitable for all diameters and specially for clamps > Ø 114 mm
- also used if extra stability is required
- space saving
- material: steel
- zinc plated
- consists of:
  - 2 Mounting plates
  - 4 Washers Ø 12/25 mm
  - 4 Washers Ø 12/35 mm
  - 4 Hexagon nuts M10
  - 4 Hexagon nuts M12

Part No.	B (mm)	s (mm)	d1 (mm)	d2 (mm)	k (mm)	k1 (mm)	Pack 1	Pack 2
669 3 100	275,5	5,0	14,0	12,0	225,5	145,5	1	25

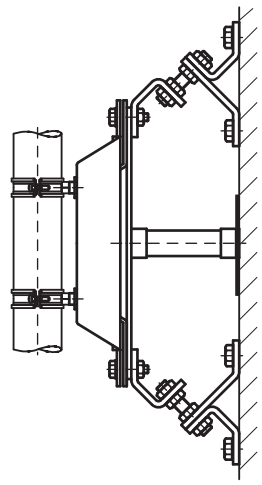


Subject to modifications

BIS dB-FiX® 80 / 200 Stand-off Fixing Kit

for noise insulation fixing point





Features and Benefits

- for mounting a BIS dB-FiX® fixing point console to a distance from wall or ceiling
- material: steel
- zinc plated
- Part No. 669 3 808:
  - 4 Distance brackets
  - 2 Angle brackets
  - 1 Bottom plate
  - 1 Wall plate 1"
  - 2 Hexagon nuts M10
  - 8 Hexagon nuts M12
  - 2 Hexagon head bolts
- Part No. 669 3 820:
  - 4 Distance brackets
  - 2 Angle brackets
  - 1 Bottom plate
  - 1 Wall plate 1"
  - 2 Hexagon nuts M12
  - 2 Hexagon nuts M16
  - 2 Hexagon head bolts

Part No.	For	Pack 1
669 3 808	dB-FiX® 80	5
669 3 820	dB-FiX® 200	5

Subject to modifications

BIS Silentbloc

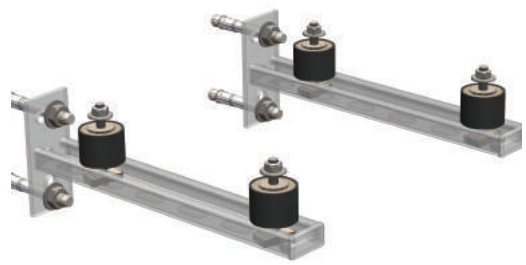
vibration free fixing of devices



412 5 009



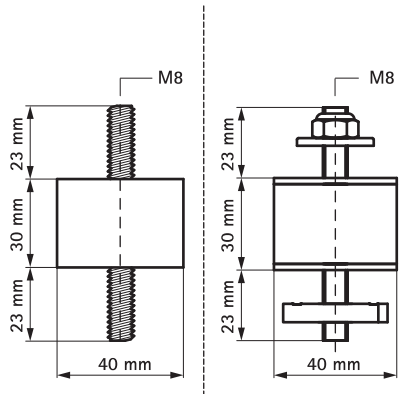
412 5 010



Features and Benefits

- for vibration free fixing of devices to eg cantilever arms
- suitable for WM1, 15, 2, 30 and/or Strut
- material: vulcanized rubber, black; metal parts zinc plated
- sound insulating lining according DIN 4109

Part No.	For Rail	Pack 1
412 5 009	WM1 - 30 + Strut	50
412 5 010	Strut	12



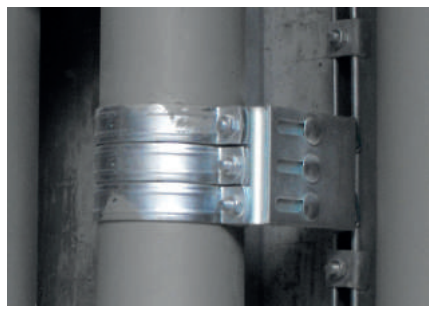
412 5 009 412 5 010

Subject to modifications

BIS Fixpoint Console 'Medium' (BUP1000)

for pipe ≤ 8" (219,1 mm)



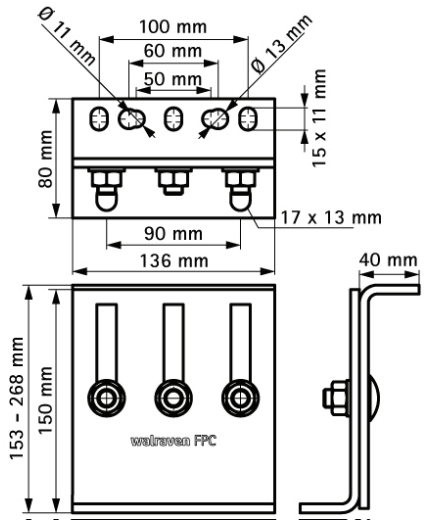


Features and Benefits

- suitable for BISOFIX® Cold FixPoint Clamps (see E 05 03)
- flexible use console module for high forces (depending on the situation, detailed design by technical service)
- can be used as a pipe connection point in conjunction with 2 or 3 heavy-duty clamps type HD500 up to max. 227
- ideal as fix point for insulated pipes in combination with BIS Wooden Blocks and Clamps (Part No. B25X0XXX)
- tightening torque 75Nm for the console fixing screws
- connection to the building is recommended with metal anchors M12
- infinitely adjustable height and inclination, high corrosion protection
- material: steel 1.0332
- surface protection:
  - product is part of the BIS Ultra Protect® 1000 system
  - suitable for in-and outdoor applications
  - stands min. 1,000 hours salt spray test (max 5% red rust) according to ISO 9227

Part No.	Model	H (mm)	Fa,z (N)	Fa,y (N)	Fa,x (N)	Pack 1
669 8 206	FPC Console 'Medium'	153-268	21,500	17,200	4,800	1

Note! Console, Clamps and Anchors are to be ordered separately.



Subject to modifications

BIS Fixpoint Console 'Heavy' (BUP1000)

for pipe ≥ 10" (273,0 mm)



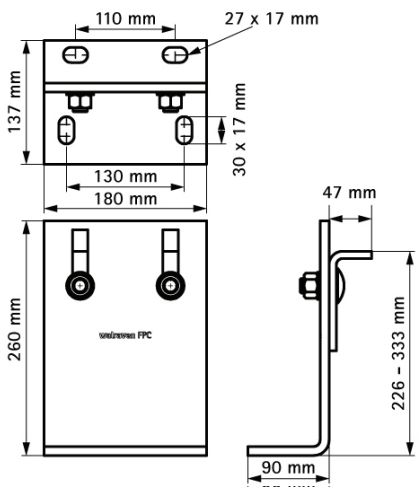


Features and Benefits

- suitable for BISOFIX® Cold FixPoint Clamps (see E 05 03)
- flexible use console module for high forces (depending on the situation, detailed design by technical service)
- can be used as a pipe connection point in conjunction with 2 heavy-duty clamps type HD500 up to max. 229mm up to max. 564mm
- ideal as fix point for insulated pipes in combination with BIS Wooden Blocks and Clamps (Part No. B25X0XXX)
- tightening torque 120 Nm for the console fixing screws
- connection to the building is recommended with metal anchors M16
- infinitely adjustable height and inclination, high corrosion protection
- material: steel 1.0332
- surface protection:
  - product is part of the BIS Ultra Protect® 1000 system
  - suitable for in-and outdoor applications
  - stands min. 1,000 hours salt spray test (max 5% red rust) according to ISO 9227

Part No.	Model	H (mm)	Fa,z (N)	Fa,y (N)	Fa,x (N)	Pack 1
669 8 208	FPC Console 'Heavy'	226-333	15,000	13,900	5,500	1

Note! Console, Clamps and Anchors are to be ordered separately.



Subject to modifications

BIS Fix Point Clamp

for pipe Ø 59 - 537 mm

33X0 3 XXXX

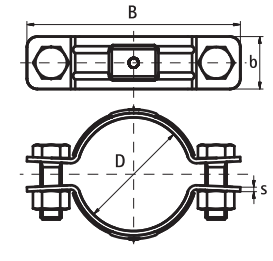


469 3 XXX

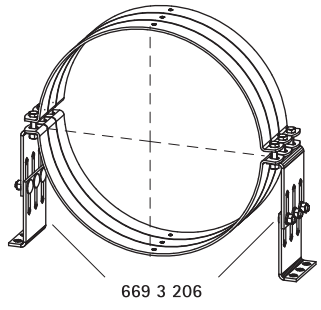


Features and Benefits

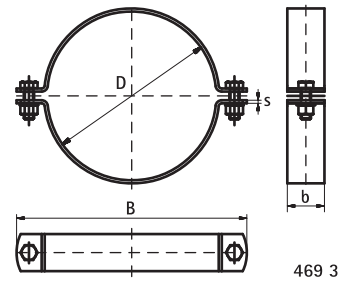
- two-part clamp for high axial and lateral loads
- material: steel 1.0332
- zinc plated
- Part No. 33X0 3 XXX for BIS Fix Console 669 8 206
- Part No. 469 3 XXX for BIS Fix Console 669 8 208



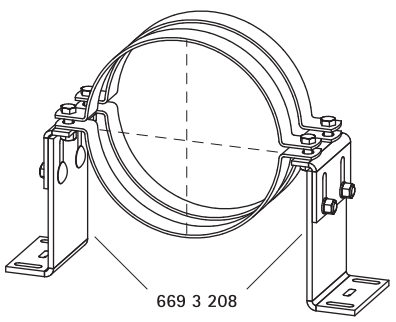
33X0 3 XXX



669 3 206



469 3 XXX



669 3 208

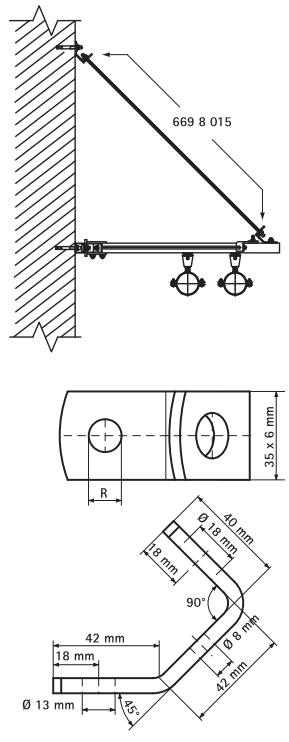
Part No.	D (mm)	D (")	DN (mm)	B (mm)	b x s (mm)	For	Pack 1
3300 3 065	59 - 65	2	50	122	30 x 2,5	669 3 206	25
3300 3 078	72 - 78	2½	65	136	30 x 3,0	669 3 206	25
3300 3 092	86 - 92	3	80	152	30 x 3,0	669 3 206	25
3300 3 116	108 - 116	4	100	175	30 x 3,0	669 3 206	25
3300 3 140	132 - 140	5	125	200	30 x 3,0	669 3 206	25
3300 3 169	159 - 169	6	150	240	38 x 4,0	669 3 206	15
3300 3 183	173 - 183	-	-	254	38 x 4,0	669 3 206	15
3300 3 227	217 - 227	8	200	299	38 x 4,0	669 3 206	2
3300 3 254	244 - 254	-	-	335	38 x 4,0	669 3 206	2
3300 3 302	292 - 302	-	-	378	38 x 4,0	669 3 206	2
3310 3 140	132 - 140	5	125	207	30 x 3,0	669 3 206	15
3310 3 169	159 - 169	6	150	254	38 x 4,0	669 3 206	15
3310 3 313	313	-	-	403	48 x 5,0	669 3 206	2
469 3 273	273	10	250	372	60 x 5,0	669 3 206 + 669 3 208	1
469 3 324	324	12	300	423	60 x 5,0	669 3 206 + 669 3 208	1
469 3 356	356	14	350	455	60 x 5,0	669 3 208	1
469 3 404	404	-	-	503	60 x 5,0	669 3 208	1
469 3 407	406	16	400	508	80 x 6,0	669 3 208	1
469 3 436	436	-	-	535	60 x 5,0	669 3 208	1
469 3 457	457	18	450	558	80 x 6,0	669 3 208	1
469 3 487	487	-	-	588	80 x 6,0	669 3 208	1
469 3 537	537	-	-	638	80 x 6,0	669 3 208	1

Note! Clamps, Console and Anchors are to be ordered separately.

Subject to modifications

BIS Threaded Rod Support





Features and Benefits

- for strengthening rail constructions with the aid of threaded rods M10 -M12
- also suitable for bracing cantilever arms
- material: steel 1.0332
- zinc plated

Part No.	R	Pack 1
669 8 015	M10 - M12	25

BIS Adjustable Support (BUP1000)

fixing to wall





Features and Benefits

- especially for angled installation with bracings
- suitable for fixing to walls or fixing rails
- adjustable angle up to 90°
- with holes Ø13mm
- material: steel
- surface protection:
  - product is a part of the BIS UltraProtect® 1000 system
  - suitable for in-and outdoor applications
  - stands min. 1000 hours salt spray test (5% red rust) according to ISO 9227
- zinc plated

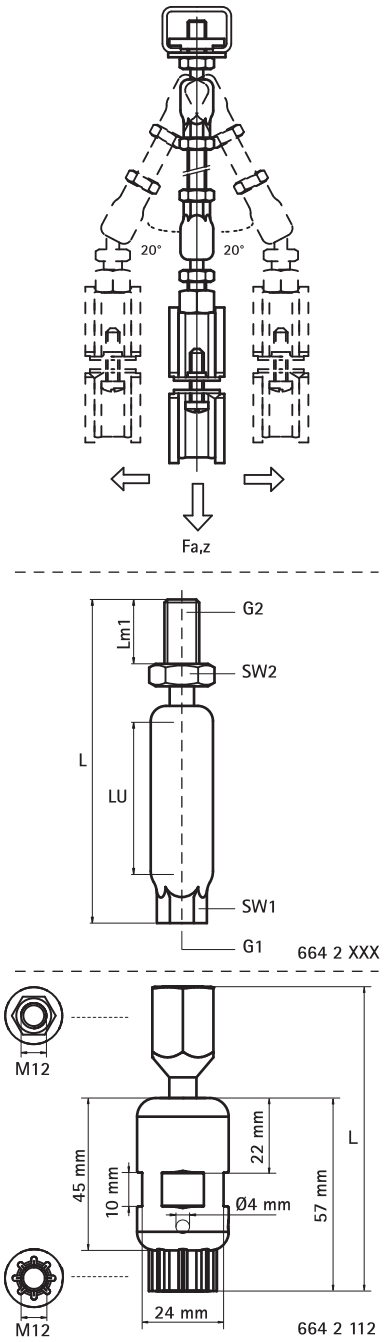
Part No.	For Rail	ST	Pack 1
6658 3 818	Strut	zinc plated	10
6658 8 818	Strut	BIS UltraProtect® 1000	10

Subject to modifications

BIS Ball Swivel Hanger

hinging fixing point





Features and Benefits

- recommended for metal pipes up to DN 50, plastic pipes up to DN 100
- for fixing to slide nut or on clamps
- with inspection hole to check screw-in depth (attention: when the threaded rod is screwed-in too deep, the ball swivel is blocked)
- screw-in depth is continuously variable (see LU)
- material: steel
- zinc plated

Part No.	L	LU (mm)	G1	G2	Lm1 (mm)	SW1 (mm)	SW2 (mm)	Fa,z (N)	Pack 1	Pack 2
664 2 008	49 mm	7	M8	M8	15	13	10	3,100	50	250
664 2 010	49 mm	7	M10	M10	15	13	12	3,100	50	250
664 4 010	64 mm	7	M10	M10	30	13	12	3,100	50	500
664 2 108	74 mm	32	M8	M8	15	13	10	3,100	25	250
664 2 110	74 mm	32	M10	M10	15	13	12	3,100	25	250
664 2 112	90 mm	-	M12/M12	-	-	-	-	5,000	10	100

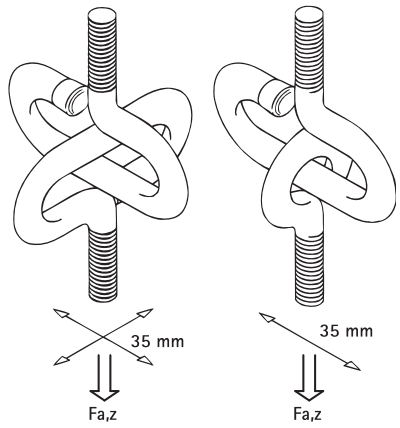
Please note. Always use 2 ball swivel hangers (see application picture). The maximum length change that can be dealt with, depends on the fixing distance (ceiling - pipe). The height difference that occurs as a result, needs to be taken into consideration.

Subject to modifications

BIS Sliding Stirrup

hinging fixing point



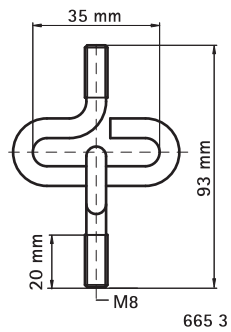


665 3 008 665 3 009

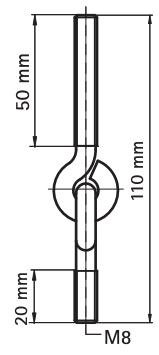
Features and Benefits

- for guiding linear expansion or contraction
- especially recommended for plastic pipes
- material: steel
- zinc plated

Part No.	Model	Fa,z (N)	Pack 1
665 3 008	2 directions	520	25
665 3 009	1 direction	520	25



665 3 008



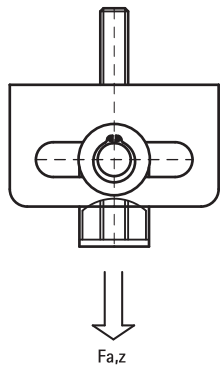
665 3 009

Subject to modifications

BIS Expansion Joint

fixing with sliding assemblies

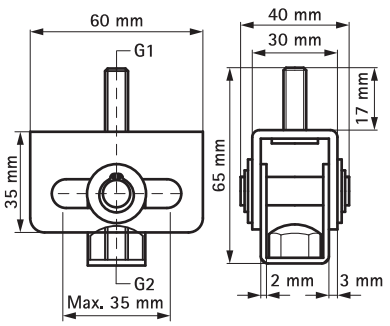




Features and Benefits

- for guiding linear expansion or contraction
- Part No. 665 3 3XX: bolt and nut CO_2 welded
- material: steel
- zinc plated

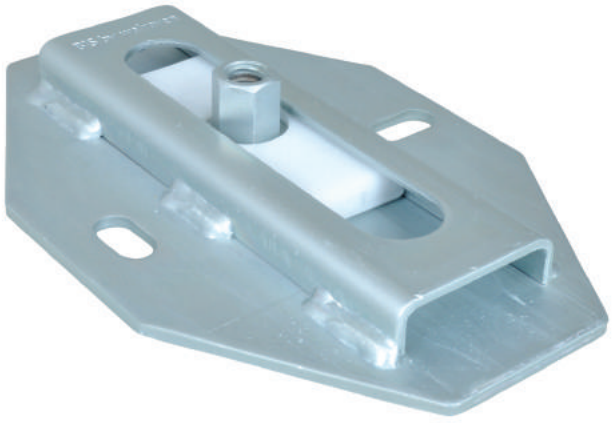
Part No.	G1	G2	Fa,z (N)	Pack 1
665 3 310	M10	M8/10	1.500	50



Subject to modifications

BIS Expansion Device (BUP1000)

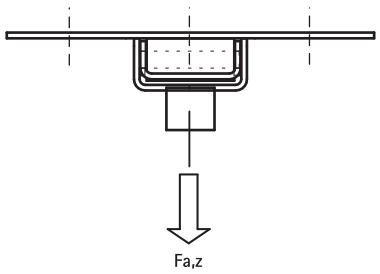
fixing with sliding assemblies



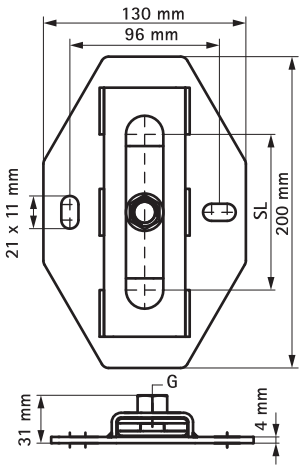


Features and Benefits

- single support for pipe expansion
- secure parts ensure mechanism will not slide out
- suitable for ceiling mounting (suspended) and floor mounting (standing mounted)
- fix directly on the building structure or in combination with rail systems
- very low installation height, useful in small spaces
- a variety of connection possibilities, can be combined with Bifix®G2 or HD1501 Pipe Clamps
- material: metal parts made of steel; plastic parts made of POM (polyoxymethylene)
- friction coefficient: μ_0 = 0.18; Sliding friction coefficient μ =0.14
- surface protection:
  - product is part of the BIS UltraProtect®1000 system
  - suitable for in-and outdoor applications
- stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- temperature resistance up to +120 °C



Part No.	Model	G	SL (max.) (mm)	Fa,z (N)	Pack 1
666 8 310	Single	M8/10	100	3.500	5
666 8 312	Single	M10/12	100	4.800	5
666 8 316	Single	M16	100	4.800	5



Subject to modifications

BIS Expansion Device

fixing with sliding assemblies



666 3 410



666 3 412



666 3 416

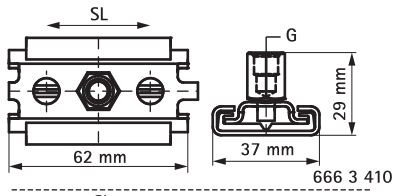


666 3 210

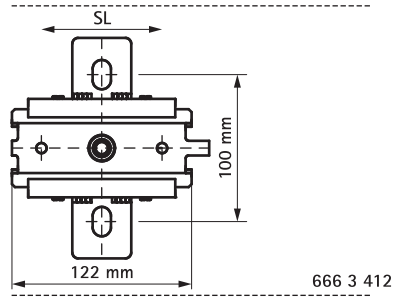
Features and Benefits

- for guiding linear expansion or contraction
- material: metal parts made of steel; plastic parts made of PPS (polyamphenylensulfid)
- Part no. 666 3 416: material: metal parts made of steel; plastic parts made of PPS (polyamphenylensulfid)
- friction coefficient: μ_0 = 0.18 - μ = 0.14
- zinc plated
- temperature resistance up to +120 °C
- Part No. 666 3 416: temperature resistance up to +240 °C

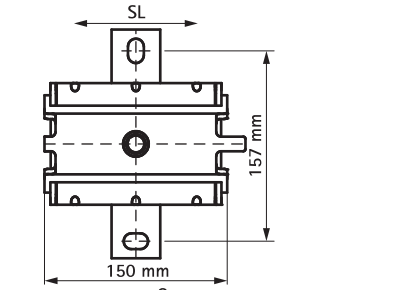
Part No.	Model	G	SL (max.) (mm)	Fa,z (N)	Fa,z 2 (N)	Pack 1
666 3 410	Single	M8/10	42	700	700	50
666 3 412	Single	M10/12	80	2.300	2.300	10
666 3 416	Single	M12/16	120	9.000	5.000	10
666 3 210	Double	M10/12	140	2.300	2.300	10

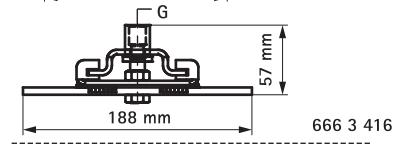


666 3 410

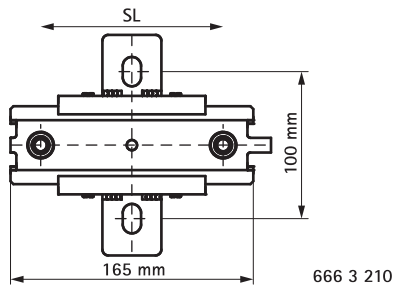


666 3 412

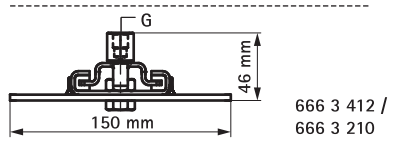




666 3 416



666 3 210



666 3 412 / 666 3 210

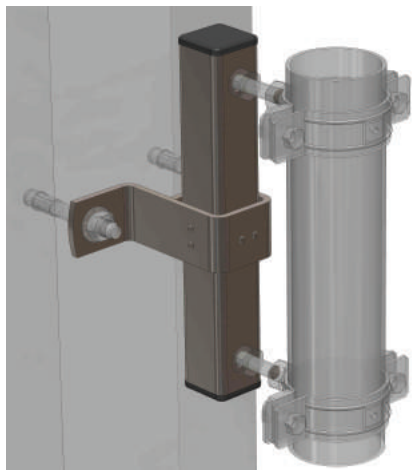
Subject to modifications

BIS Expansion Guide Assembly (BUP1000)

fixing with sliding assemblies



666 8 612 666 8 813

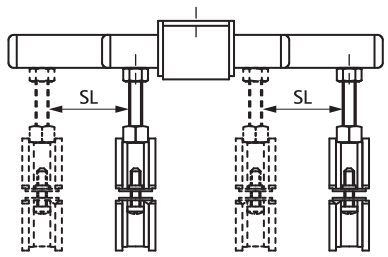


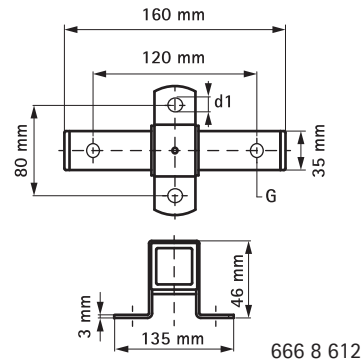
Features and Benefits

- stable and safe double support for pipe expansion
- fix directly on the building structure or in combination with rail systems
- suitable for ceiling mounting (suspended) and floor mounting (standing mounted)
- tapped with different sized threads on opposing faces
- a variety of connection possibilities, can be combined with Bifix®G2 or HD1501 pipe clamps
- material: metal parts made of steel; sliding plates made of PTFE (Teflon®)
- surface protection:
  - product is part of the BIS UltraProtect®1000 system
  - suitable for in-and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

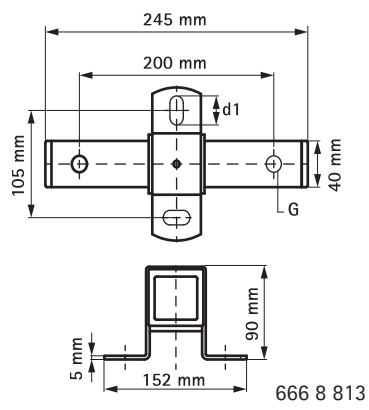
Part No.	Type	G	d1 (mm)	SL (max.) (mm)	Fa,z (N)	Pack 1
666 8 612	FG2	M10/12	Ø 13	60	1,500	5
666 8 813	FG3	Ø 13.0 mm/17.0 mm	23x13	120	7,500	5

Fa,z is total functional load.





666 8 612



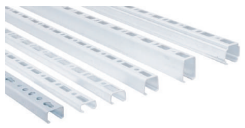
666 8 813

Subject to modifications

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Subject to modifications

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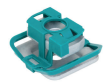
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H BIS RapidStrut® Fixing System



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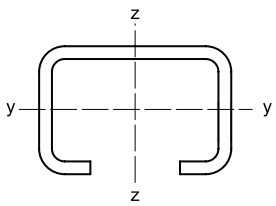
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Subject to modifications

Technical Details BIS RapidRail®

System BIS RapidRail® - Table of rail section properties

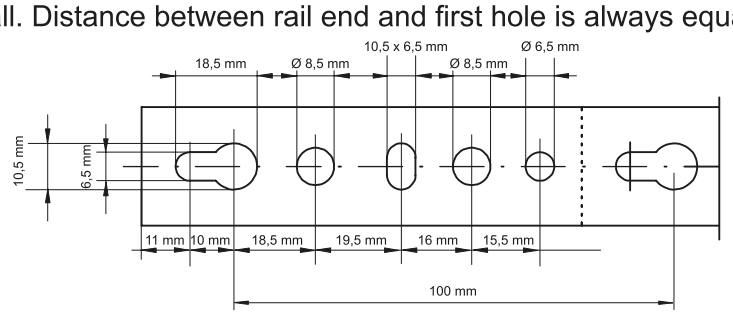


Type	Weight (kg / m)	Moment of inertia cm⁴ Iy	Iz	Section modulus cm³ Wy	Wz
WM0	0,57	0,28	0,91	0,30	0,67

The values of fixing rail in stainless steel are higher than those mentioned above.
See Rail load tables for safe working loads.

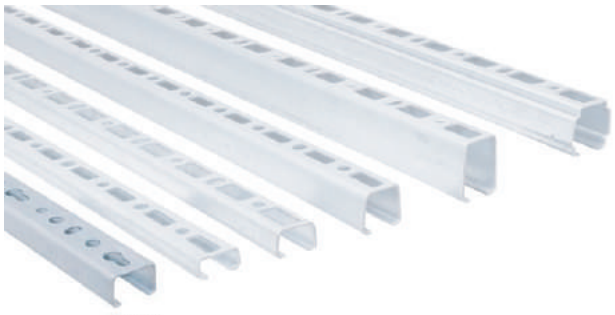
Perforation pattern for fixing to ceiling or wall. Distance between rail end and first hole is always equal.

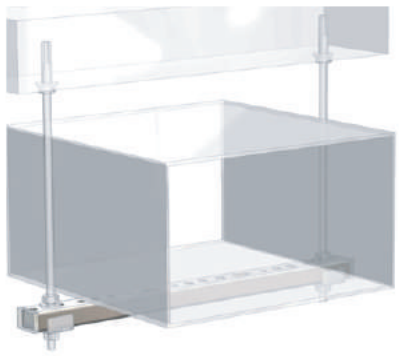
WM0 (27 x 18 mm)



BIS RapidRail® Fixing Rail

suspension and support





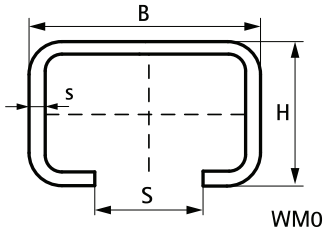
Features and Benefits

- C-profile
- for a quick and easy fixing
- with continuous perforation (on request without perforation)
- distance between rail end and first hole is always equal
- unique perforation on rail WM15, WM30 and rail WM35 allows for hanging on both sides
- a continuous graduated centimetre scale on one side
- material: steel 1.0242
- yield strength 240 N/mm²
- pre-galvanized
- for more information about the max. allowed load (Fa,z) please refer to the loading tables

RAL GÜTEZEICHEN
ROHRBEFESTIGUNG
RAL-GZ 655/C
Cert.Nr. 2012-03

Part No.	Type	L	B (mm)	H (mm)	s (mm)	S (mm)	RAL	BndS	BndL
650 5 000	WM0	2 m	27	18	1,20	15	RAL[1]	20	400
650 5 600	WM0	6 m	27	18	1,20	15	RAL[1]	60	1.200

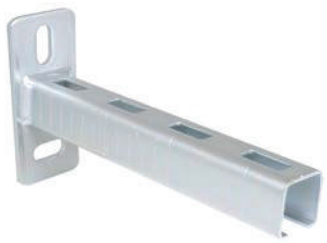
RAL[1] = tested and certified according to RAL-GZ 655/C.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/int/catalogue/.
For more information about the max. allowed load (Fa,z) please refer to the loading tables.

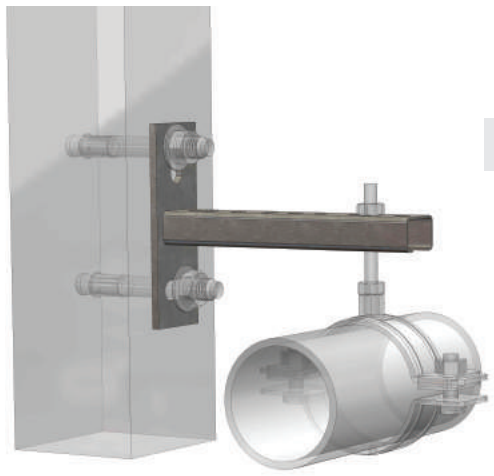


Subject to modifications

BIS RapidRail® Cantilever Arms (BUP1000)

fixing to wall or ceiling

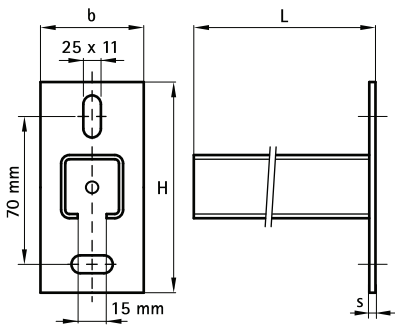




Features and Benefits

- wall plate with welded C-profile
- perfectly suitable for hanging to the ceiling
- slots at 90° to each other to simplify fixing
- CO_2 welded
- unique perforation on rail WM15, WM30 and rail WM35 allows for hanging on both sides
- a continuous graduated centimetre scale on one side
- material: steel
- surface treatment:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1.000 hours salt spray test (max. 5% red rust) according to ISO 9227
- for more information about the max. allowed load (Fa,z) please refer to the loading tables

Part No.	L	H (mm)	From Rail	b x s (mm)	Pack 1
660 3 015	150 mm	110	WM0 - 27x18	38 x 4,0	20
660 3 019	200 mm	110	WM0 - 27x18	38 x 4,0	20



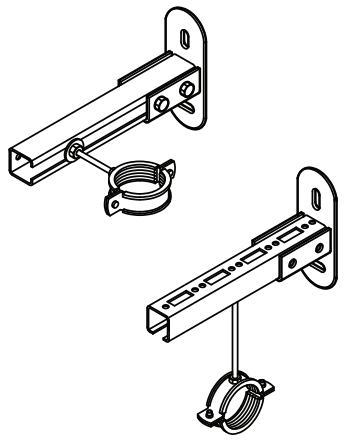
660 X XXX

For more information about the max. allowed load (Fa,z) please refer to the loading tables.

BIS RapidRail® Wall Plate

fixing to wall

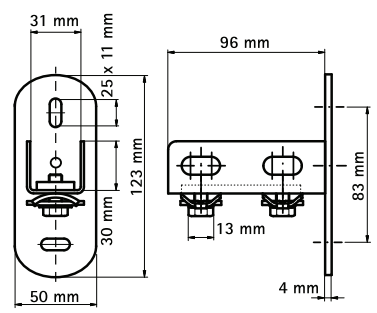




Features and Benefits

- U-profile welded on wall plate
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- Part No. 661 3 200: suitable for WM0, 1, 15, 2, 30
- Part No. 661 3 235: suitable for WM35
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with pre-assembled BIS RapidRail® Sliding nut(s) for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	For Rail	T (Nm)	Pack 1
661 3 200	WM0 - 30	15	25
661 3 235	WM35	15	25



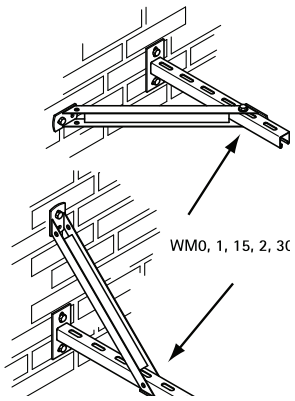
661 3 200

Subject to modifications

BIS Rail Props

reinforcement of cantilever arm



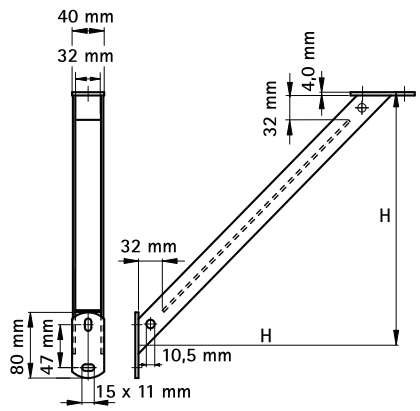


Features and Benefits

- 45° support bracket
- for fixing support under, top or on side of a cantilever arm
- also used to strengthen rail constructions
- cantilever arm of WM30 not suitable for 'run-through fixing'
- suitable for WM0, 1, 15, 2, 30
- CO_2 welded
- material: steel
- zinc plated

Part No.	H (mm)	For Rail	Pack 1
662 8 220	250	WM0 - 30	10
662 8 230	350	WM0 - 30	10

Rail Props for WM35 Rail? See Part No. 662 8 530 (page H 16 10).



BIS Double Slide Nut

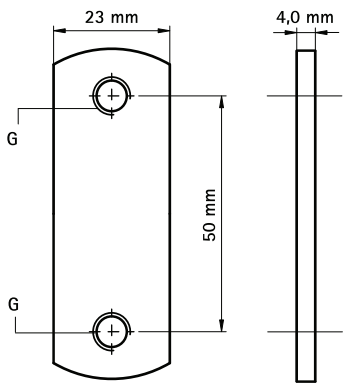
fixing to BIS RapidRail®



Features and Benefits

- suitable for WM0, 1, 15, 2, 30, 35
- material: steel
- zinc plated

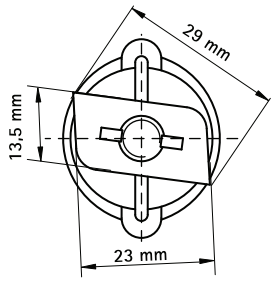
Part No.	G	For Rail	T (Nm)	Pack 1	Pack 2
651 3 208	M8	WM0 - 35	15	50	250

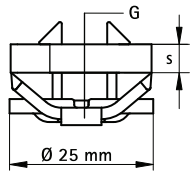


BIS RapidRail® Slide Nuts

fixing to BIS RapidRail®







Features and Benefits

- slide nut with washer and BIS RapidRail® spring
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

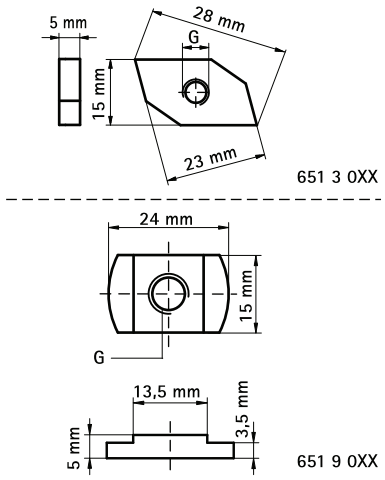
Part No.	G	For Rail	s (mm)	T (Nm)	Fa,z (N)	Pack 1	Pack 2
651 3 106	M6	WM0 - 35	4,0	7,5	2.000	50	500
651 3 108	M8	WM0 - 35	5,0	15	2.700	50	500
651 3 110	M10	WM0 - 35	5,0	15	2.900	50	500

BIS Slide Nuts 651

fixing to BIS RapidRail®







Features and Benefits

- suitable for WM0, 1, 15, 2, 30, 35
- because of shape the nut fits in rail
  - Part No. 651 3 0XX
- narrowing fits in slot of rail (locking against revolving in the same direction)
  - Part No. 651 9 0XX
- material: steel
- zinc plated

Part No.	Type	G	For Rail	T (Nm)	Fa,z (N)	Pack 1	Pack 2
651 3 006	651A	M6	WM0 (1 - 35)	7,5	-	100	2.000
651 3 008	651A	M8	WM0 (1 - 35)	15	-	100	2.000
651 3 010	651A	M10	WM0 (1 - 35)	15	-	100	2.000
651 9 006	651C	M6	WM0 - 35	7,5	3.100	50	1.000
651 9 008	651C	M8	WM0 - 35	15	3.100	50	2.000
651 9 010	651C	M10	WM0 - 35	15	3.100	50	1.000

Part No. 651 3 0XX recommended for WM0. Moderately suitable for other railtypes.

Subject to modifications

BIS RapidRail® Hammerfix

fixing to BIS RapidRail®

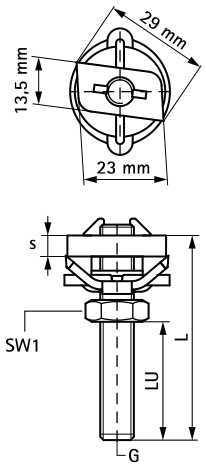




Features and Benefits

- slide nut with stud bolt, washer and BIS RapidRail® spring
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	G	L	LU (mm)	For Rail	s (mm)	SW1 (mm)	T (Nm)	Fa,z (N)	Pack 1	Pack 2
652 3 602	M6	20 mm	5	WM0 - 35	4,0	10	7,5	2.000	25	250
652 3 603	M6	30 mm	15	WM0 - 35	4,0	10	7,5	2.000	25	250
652 3 604	M6	40 mm	25	WM0 - 35	4,0	10	7,5	2.000	25	250
652 3 610	M6	100 mm	85	WM0 - 35	4,0	10	7,5	2.000	25	250
652 3 802	M8	25 mm	7	WM0 - 35	5,0	13	15	2.700	25	250
652 3 803	M8	30 mm	12	WM0 - 35	5,0	13	15	2.700	25	250
652 3 804	M8	40 mm	22	WM0 - 35	5,0	13	15	2.700	25	250
652 3 805	M8	50 mm	32	WM0 - 35	5,0	13	15	2.700	25	250
652 3 806	M8	60 mm	42	WM0 - 35	5,0	13	15	2.700	25	250
652 3 807	M8	70 mm	52	WM0 - 35	5,0	13	15	2.700	25	250
652 3 808	M8	80 mm	62	WM0 - 35	5,0	13	15	2.700	25	250
652 3 809	M8	90 mm	72	WM0 - 35	5,0	13	15	2.700	25	250
652 3 810	M8	100 mm	82	WM0 - 35	5,0	13	15	2.700	25	250
652 3 812	M8	120 mm	102	WM0 - 35	5,0	13	15	2.700	25	250
652 3 815	M8	150 mm	132	WM0 - 35	5,0	13	15	2.700	25	250
652 3 816	M8	160 mm	142	WM0 - 35	5,0	13	15	2.700	25	250
652 3 818	M8	180 mm	162	WM0 - 35	5,0	13	15	2.700	25	125
652 3 820	M8	200 mm	182	WM0 - 35	5,0	13	15	2.700	25	125
652 3 002	M10	25 mm	7	WM0 - 35	5,0	17	15	2.000	25	250
652 3 003	M10	30 mm	12	WM0 - 35	5,0	17	15	2.900	25	250
652 3 004	M10	40 mm	22	WM0 - 35	5,0	17	15	2.900	25	250
652 3 005	M10	50 mm	32	WM0 - 35	5,0	17	15	2.900	25	250
652 3 006	M10	60 mm	42	WM0 - 35	5,0	17	15	2.900	25	250
652 3 007	M10	70 mm	52	WM0 - 35	5,0	17	15	2.900	25	250
652 3 008	M10	80 mm	62	WM0 - 35	5,0	17	15	2.900	25	250
652 3 009	M10	90 mm	72	WM0 - 35	5,0	17	15	2.900	25	250
652 3 010	M10	100 mm	82	WM0 - 35	5,0	17	15	2.900	25	250
652 3 016	M10	160 mm	142	WM0 - 35	5,0	17	15	2.900	25	125
652 3 018	M10	180 mm	162	WM0 - 35	5,0	17	15	2.900	25	125

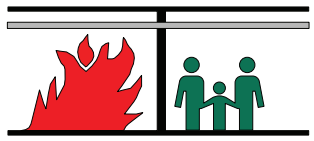


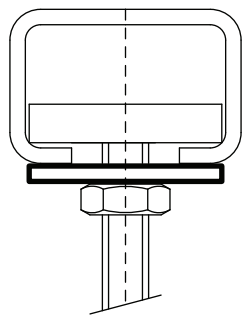
Subject to modifications

BIS Washers (Flat) (BUP1000)

fixing to BIS RapidRail®







Features and Benefits

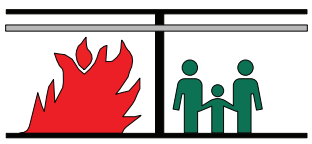
- suitable for WM0, 1, 15, 2, 30, 35
- material: steel
- surface treatment:
  - product is part of the BIS UltraProtect® 1000 system
- suitable for in- and outdoor applications
- stands min. 1.000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety

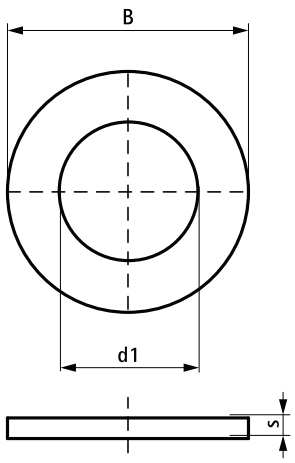
Part No.	B (mm)	For Rail	s (mm)	d1 (mm)	Pack 1	Pack 2
6538 1 008	25	WM0 - 35	2,5	Ø 8,4	100	2.500
6538 1 010	25	WM0 - 35	2,5	Ø 10,5	100	2.500
6538 1 012	25	WM0 - 35	2,5	Ø 13,0	100	2.500
6538 1 016	30	WM0 - 35	2,5	Ø 17,0	50	-

BIS Washers (Flat)

fixing to BIS RapidRail®







Features and Benefits

- suitable for WM0, 1, 15, 2, 30, 35
- material: steel
- zinc plated
- tested for fire safety

Part No.	B (mm)	For Rail	s (mm)	d1 (mm)	Pack 1	Pack 2
653 3 306	25	WM0 - 35	2,5	Ø 6,4	100	2.500
653 3 308	25	WM0 - 35	2,5	Ø 8,4	100	2.500
653 3 310	25	WM0 - 35	2,5	Ø 10,5	100	2.500
653 3 312	25	WM0 - 35	2,5	Ø 13,0	100	2.500
653 3 316	30	WM0 - 35	2,5	Ø 17,0	50	-

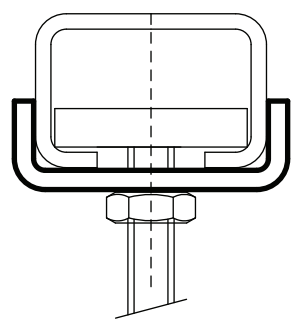
Tested for fire safety (except of Part No. 653 3 306).

Subject to modifications

BIS Washers (U-shaped)

fixing to BIS RapidRail®

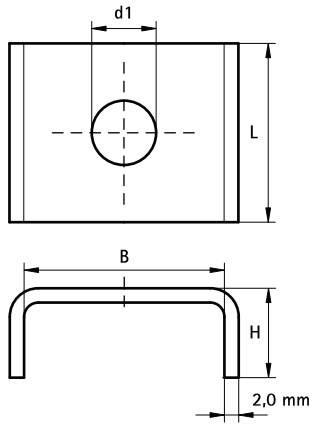




Features and Benefits

- U-shaped washer
- U-shaped for extra stability
- Part No. 653 5 0XX: suitable for WM0
- Part No. 653 5 1XX: suitable for WM1, 15, 2, 30, 35
- material: steel
- pre-galvanized

Part No.	L	B (mm)	H (mm)	For Rail	d1 (mm)	Pack 1	Pack 2
653 5 008	25 mm	28,0	10,5	WM0	Ø 9,0	50	250
653 5 010	25 mm	28,0	10,5	WM0	Ø 11,0	50	250
653 5 110	30 mm	30,5	11,0	WM1 - 35	Ø 10,5	50	250
653 5 112	30 mm	30,5	11,0	WM1 - 35	Ø 12,5	50	250



Subject to modifications

BIS RapidRail® Connectors 90°

to make BIS RapidRail® fabrications





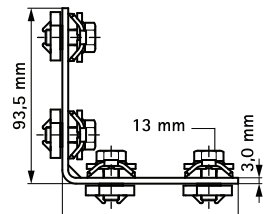
RAL-GZ 655/D
Cert.Nr. 2012-09

Features and Benefits

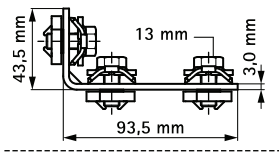
- connector with pre-assembled BIS RapidRail® Slide nut(s)
- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	Model	For Rail	a (°)	T (Nm)	Fa,z (N)	Fa,x (N)	RAL	Pack 1
658 4 001	Long / long	WM0 - 35	90°	15	1.562	1.109	RAL[1]	25
658 4 002	Short / long	WM0 - 35	90°	15	1.336	448	RAL[1]	25
658 4 003	Short / short	WM0 - 35	90°	15	1.336	448	RAL[1]	25
658 4 011	Long / long	WM0 - 35	90°	15	1.562	1.109	RAL[1]	25

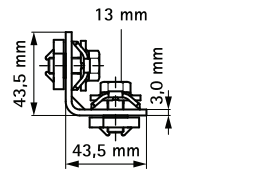
RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/D in combination with Rail WM1, 2, 15 and 30.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/int/catalogue/.



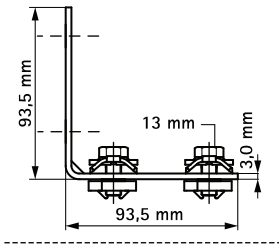
658 4 001



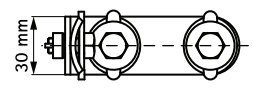
658 4 002



658 4 003



658 4 011



Subject to modifications

BIS RapidRail® Connectors 135°

to make BIS RapidRail® fabrications

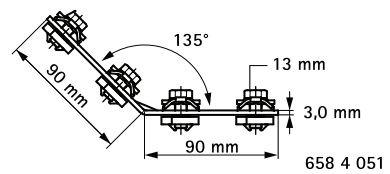




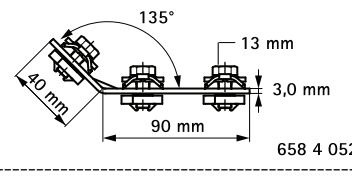
RAL GÜTEZEICHEN
ROHRBEFESTIGUNG
RAL-GZ 655/D
Cert.Nr. 2012-09

Features and Benefits

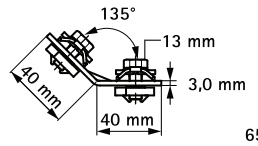
- connector with pre-assembled BIS RapidRail® Slide nut(s)
- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- with pre-assembled BIS RapidRail® Sliding nut(s) for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated



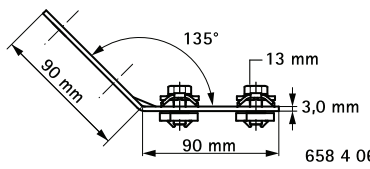
658 4 051



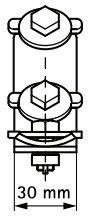
658 4 052



658 4 053



658 4 061



Part No.	Model	For Rail	a (°)	T (Nm)	Fa,z (N)	Fa,x (N)	RAL	Pack 1
658 4 051	Long / long	WM0 - 35	135°	15	1.562	1.109	RAL[1]	25
658 4 052	Short / long	WM0 - 35	135°	15	1.336	448	RAL[1]	25
658 4 053	Short / short	WM0 - 35	135°	15	1.336	448	RAL[1]	25
658 4 061	Long / long	WM0 - 35	135°	15	1.562	1.109	RAL[1]	25

RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/D in combination with Rail WM1, 2, 15 and 30.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/int/catalogue/.

Subject to modification

BIS Rail Connector with Slide Nuts

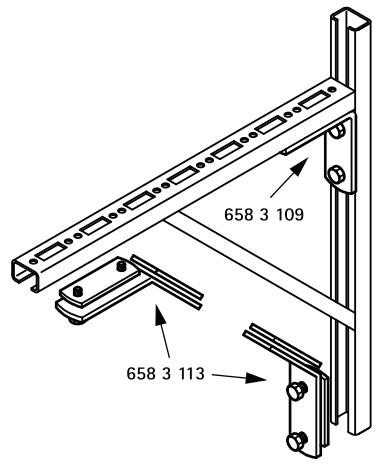
to make BIS RapidRail® fabrications



658 3 109



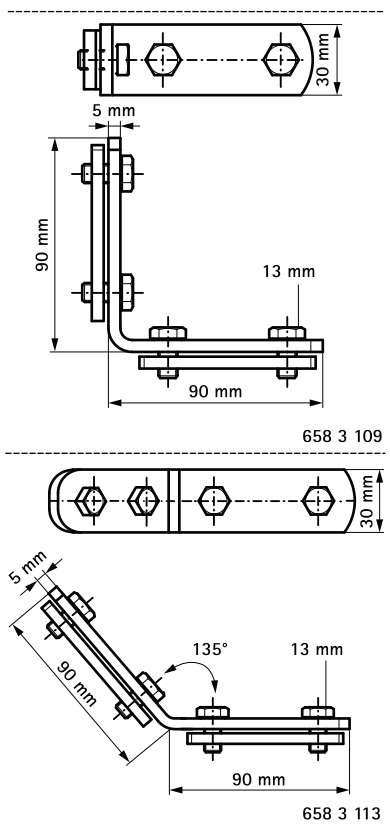
658 3 113



Features and Benefits

- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- with pre-assembled double slide nut
- material: steel
- zinc plated

Part No.	For Rail	a (°)	T (Nm)	Pack 1
658 3 109	WM0 - 35	90°	15	25
658 3 113	WM0 - 35	135°	15	25

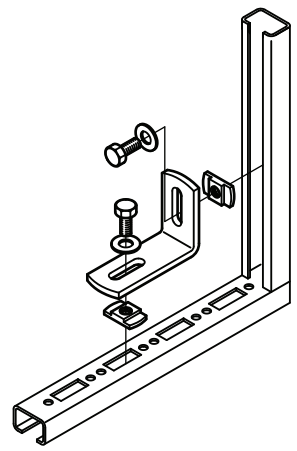


Subject to modifications

BIS Rail Connectors

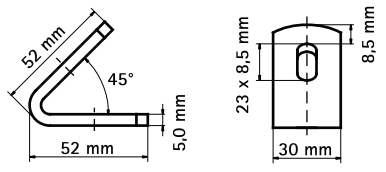
to make BIS RapidRail® fabrications





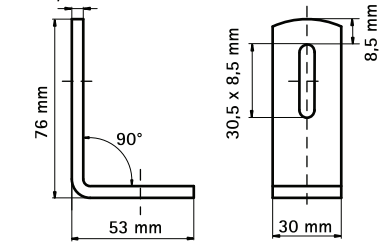
Features and Benefits

- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- material: steel
- zinc plated

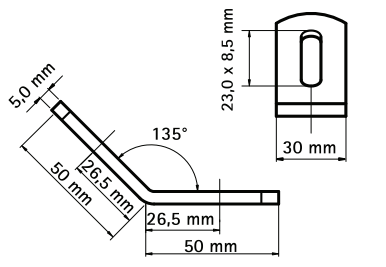


658 5 045

Part No.	For Rail	a	T	Pack 1
		(°)	(Nm)	
658 5 090	WM0 - 35	90°	15	50
658 5 135	WM0 - 35	135°	15	50



658 5 090

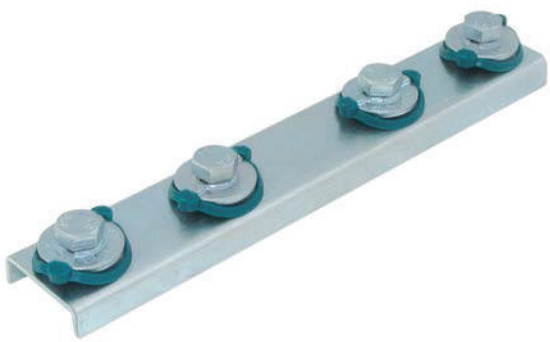


658 5 135

Subject to modifications

BIS RapidRail® Connector

to make BIS RapidRail® fabrications





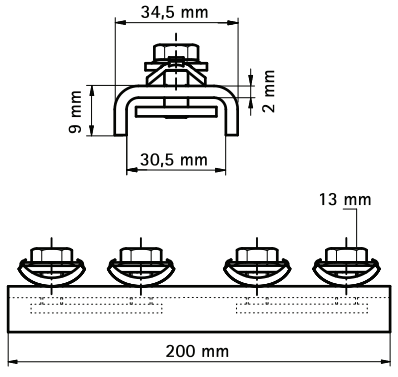
Features and Benefits

- connector with pre-assembled BIS RapidRail® Slide nut(s)
- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

RAL GÜTEZEICHEN ROHRBEFESTIGUNG
RAL-GZ 655/D
Cert.Nr. 2012-08

Part No.	For Rail	T (Nm)	Fa,x (N)	RAL	Pack 1
654 3 001	WM0 - 35	15	1.547	RAL[1]	25

RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/D in combination with Rail WM1, 2, 15 and 30.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/int/catalogue/.

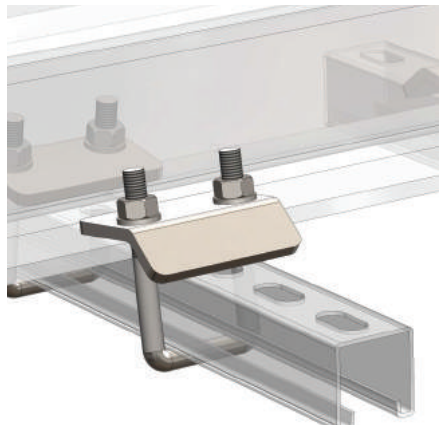


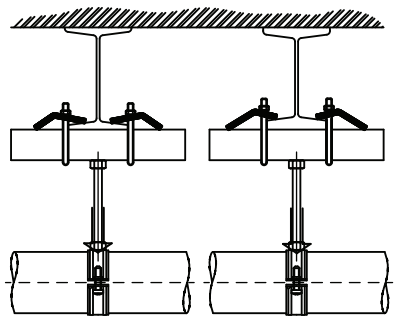
Subject to modifications

BIS RapidRail® Beam Clamp

fixing to steel beam





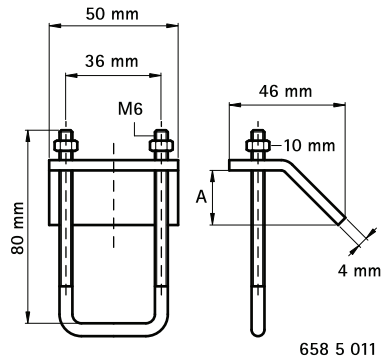


Features and Benefits

- for a solid fixing to steel constructions without welding or drilling
- always use 2 beam clamps per fixing
- Part No. 658 5 011: suitable for WM0, 1, 15, 2, 30
- Part No. 658 5 014: suitable for WM35
- material: steel
- zinc plated

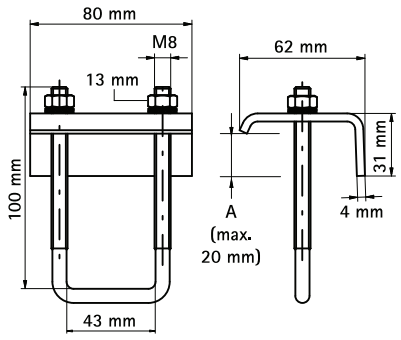
Part No.	A (mm)	For Rail	T (Nm)	Fa,z (N)	Pack 1
658 5 011	< 16	WM0 - 30	15	4.500	50
658 5 014	< 20	WM35	15	3.300	50

Fa,z



658 5 011

Fa,z

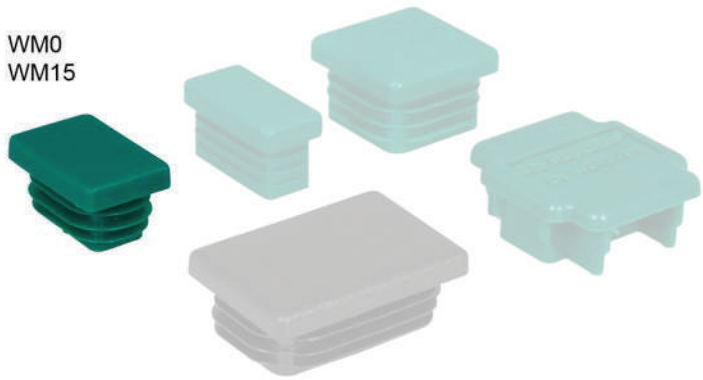


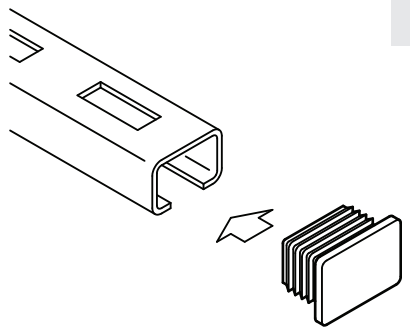
658 5 014

Subject to modifications

BIS Rail End Caps

finishing of BIS RapidRail®





Features and Benefits

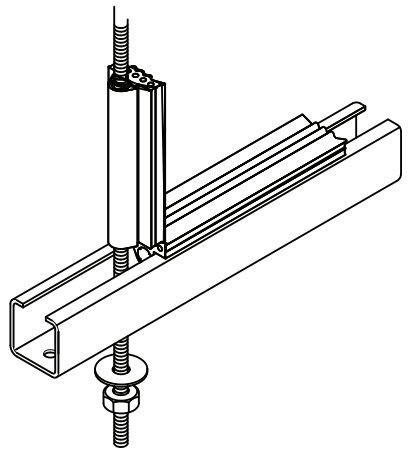
- for clean finishing of rail end, covers all burrs
- material: PE (polyethylene)
- easily fixed tightly

Part No.	For Rail	Colour	Pack 1	Pack 2
656 6 000	WM0, 15	Green	50	250

BIS Rubber Strip

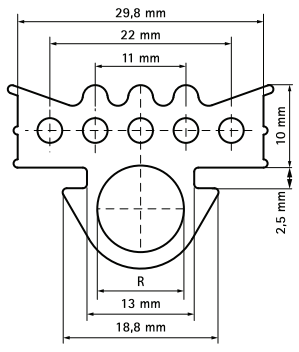
noise insulation lining for rail





Features and Benefits

- noise insulating lining for rail
- also usable for threaded rod M6, M8 or M10
- suitable for WM0, 1, 15, 2, 30, 35
- noise insulation tested according to DIN 4109
- material: EPDM rubber, black



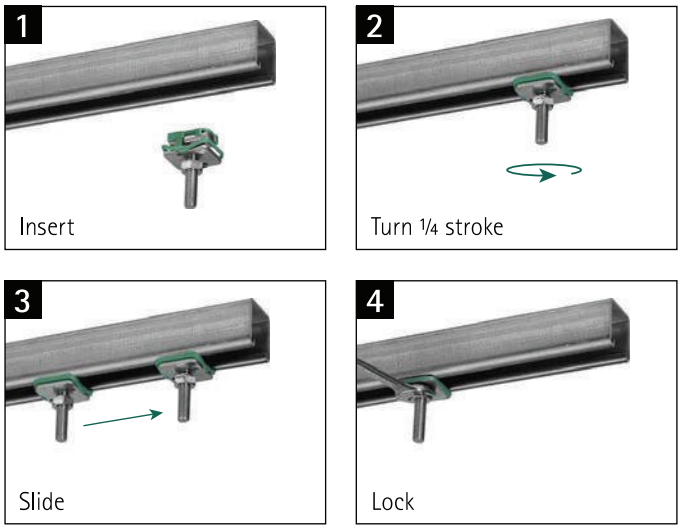
Part No.	R	L	For Rail	Pack 1	App.
656 8 001	¼ - ½"	30 m	WM0 - 35	30	m.

Subject to modifications

Notes

Subject to modifications

BIS RapidStrut® Info Page





The BIS RapidStrut® system consists of various rail profiles and an extensive range of accessories, such as slide nuts, T-bolt assemblies, ball swivel hangers and various rail connectors.

Insert, lock, done!

The accessories are pre-assembled and delivered 'ready-to-use' to the building site. The plastic spring allows the slide nut to be fixed into the rail easily. BIS RapidStrut® is so easy to use, that it is possible to save up to 40% fixing time!

Your benefits:

- for all middle heavy and heavy rail applications
- accessories pre-assembled 'ready-to-use'
- quick and easy fixing to the rail
- accessories suitable for all Strut profiles
- saves up to 40% fixing time!

A fitting rail, for each application

The BIS RapidStrut® system offers an unprecedented choice for rail profiles and cantilever arms.

- all common Strut profiles (length 2 or 6 mtr.)
- Cantilever arms (various lengths)
- Rail-wall plate



Extensive range of accessories

BIS RapidStrut® offers accessories for:

- Pipe fixing



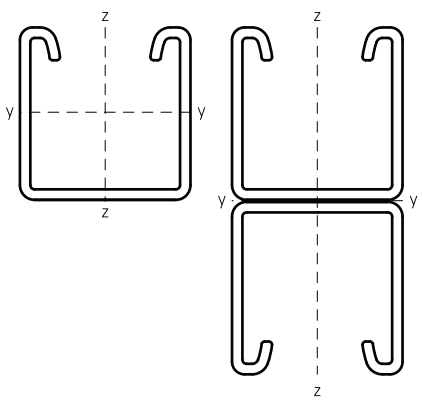
- Rail connection

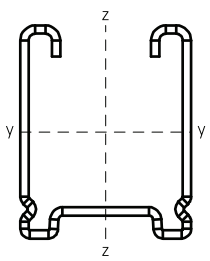


Subject to modifications

Technical Details BIS RapidStrut® Rail

System BIS RapidStrut® – Table of rail section properties





Type	Weight (kg / m)	Moment of inertia cm⁴		Section modulus cm³	
		Iy	Iz	Wy	Wz
41x21 - 1,5	1,15	0,78	3,70	0,72	1,80
41x41 - 1,5	1,65	4,46	6,20	2,12	3,00
41x41 - 2,0	2,35	5,34	7,79	2,56	3,77
41x21 - 2,5	1,78	1,01	5,40	0,93	2,61
41x41 - 2,5	2,45	6,26	9,30	2,97	4,50
41x62 - 2,5	3,33	18,03	13,20	5,75	6,39
41x82 - 2,5	4,08	37,31	16,89	9,00	8,18
41x51 - 2,0 (DS 5)	2,62	8,81	9,49	3,44	4,60
41x21D - 2,5*	3,68	5,70	10,76	2,77	5,21
41x41D - 2,5*	5,24	36,79	18,56	8,91	8,99
41x62D - 2,5*	6,90	111,21	26,37	17,94	12,77
41x82D - 2,5*	8,46	240,93	33,90	29,38	16,42

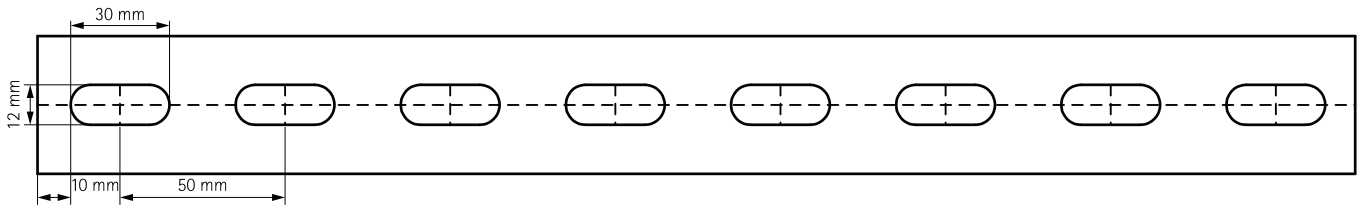
* non-perforated

The values of fixing rail in stainless steel are higher than those mentioned above.
See Rail load tables for safe working loads.

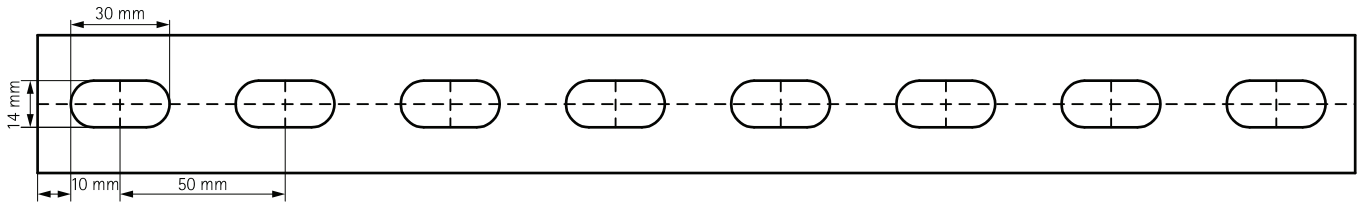
Perforation pattern for fixing to ceiling or wall.

Distance between rail end and first hole is always equal.

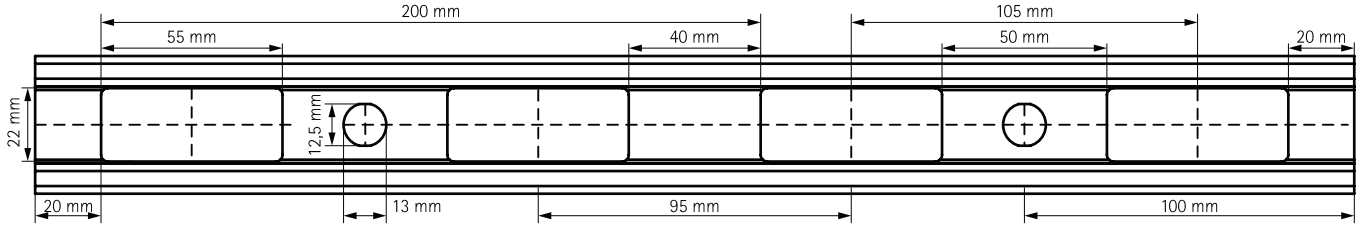
BIS RapidStrut® – 1,5 mm



BIS RapidStrut® – 2,0 / 2,5 mm

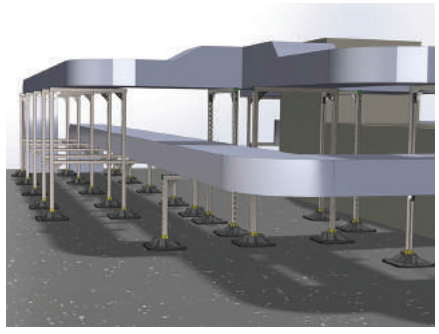
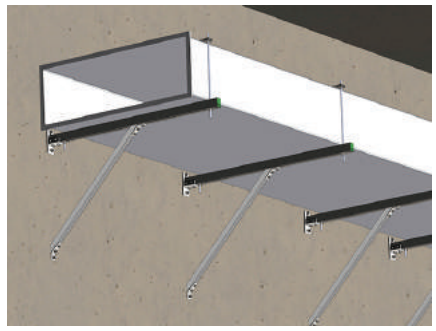
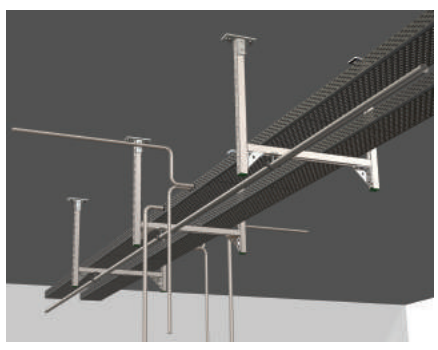


BIS RapidStrut® DS 5 – 2,0 mm



Subject to modifications

Applications

Air Conditioning equipment support		*Hot dipped Galvanized and stainless steel available that is highly protected against corrosion.*
Pipe support with expansion movement capability		*Complete pipe rings offer to be used in most of mechanical applications.*
Air Conditioning and ventilation supports		*System specially developed for ventilation and AC applications.*
Mechanical and electrical supports in mechanical room		*Modular design reduces the need For detailed planning work. High strength and stability.*
Electrical cable tray supports		*Can be quickly modified or adapted to accommodate changing site situations.*

Subject to modifications

BIS RapidStrut® Fixing Rail DS 5 (BUP1000)

suspension and support



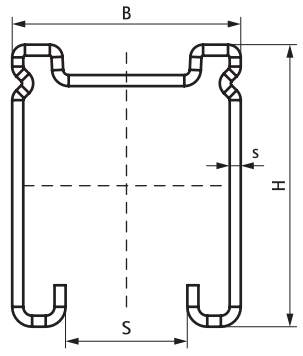


Features and benefits

- for a quick and easy fixing
- unique hole pattern, allowing BIS RapidStrut® Accessories to be mounted on both sides of the rail
- very high corrosion resistance (BIS UltraProtect® 1000)
- corrosion protection remains intact after cutting
- strength minimal equal to Strut 41x41x2.5 mm
- with continuous perforation
- distance between rail end and first hole is always equal
- a continuous graduated centimetre scale on one side
- material: steel 1.0242
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	L	B (mm)	H (mm)	s (mm)	S (mm)	BndS	BndL	App.
6505 8 252	2 m	41	51	2.0	22	20	80	m.
6505 8 352	3 m	41	51	2.0	22	30	120	m.
6505 8 652	6 m	41	51	2.0	22	60	240	m.

For more information about the max. allowed load (Fa,z) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.



Subject to modifications

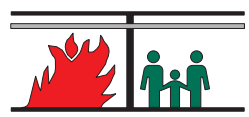
BIS RapidStrut® Fixing Rail (pg)

suspension and support



RAL GÜTEZEICHEN ROHRBEFESTIGUNG

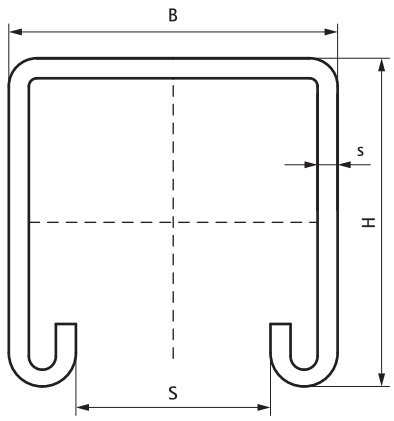
RAL-GZ 655/C
Cert.Nr. 2012-04



Features and benefits

- universal rail system
- with continuous perforation (on request without perforation)
- distance between rail end and first hole is always equal
- a continuous graduated centimetre scale on one side
- with inward formed flanges with serrated profile for extra grip
- material: steel 1.0242
- Part No. 650 5 X85 (Strut 2.5 mm) material: steel 1.0332
- yield strength 240 N/mm^2
- pre-galvanized
- tested for fire safety

Part No.	Model	L	B (mm)	H (mm)	s (mm)	S (mm)	RAL	BndS	BndL	App.
650 5 222	Perforated	2 m	41	21	2.00	22	RAL[1]	20	200	m.
650 5 322	Perforated	3 m	41	21	2.00	22	RAL[1]	30	300	m.
650 5 622	Perforated	6 m	41	21	2.00	22	RAL[1]	60	600	m.
650 5 225	Perforated	2 m	41	21	2.50	22	RAL[1]	20	200	m.
650 5 325	Perforated	3 m	41	21	2.50	22	RAL[1]	30	300	m.
650 5 625	Perforated	6 m	41	21	2.50	22	RAL[1]	60	600	m.
650 5 242	Perforated	2 m	41	41	2.00	22	RAL[1]	20	100	m.
650 5 342	Perforated	3 m	41	41	2.00	22	RAL[1]	30	150	m.
650 5 642	Perforated	6 m	41	41	2.00	22	RAL[1]	60	300	m.
650 5 245	Perforated	2 m	41	41	2.50	22	RAL[1]	20	100	m.
650 5 345	Perforated	3 m	41	41	2.50	22	RAL[1]	30	150	m.
650 5 645	Perforated	6 m	41	41	2.50	22	RAL[1]	60	300	m.
650 5 365	Perforated	3 m	41	62	2.50	22	-	30	90	m.
650 5 665	Perforated	6 m	41	62	2.50	22	-	60	180	m.
650 5 385	Perforated	3 m	41	82	2.50	22	-	30	-	m.
650 5 685	Perforated	6 m	41	82	2.50	22	-	60	180	m.
650 5 620	Not perforated	6 m	41	21	2.50	22	-	60	600	m.
650 5 640	Not perforated	6 m	41	41	2.50	22	-	60	300	m.



RAL[1] = tested, certified and externally monitored according to RAL-GZ 655/C.
Strut 41x41x2.5 and above tested for fire safety.

For detailed technical information about our RAL marked products, please see the RAL datasheet in our webcatalogue: www.walraven.com/gb/en/catalogue/.
For more information about the max. allowed load (Fa,z) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.

Subject to modifications

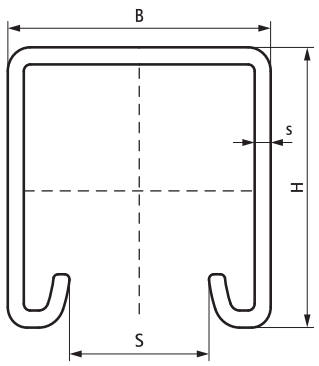
Support Channel

suspension and support

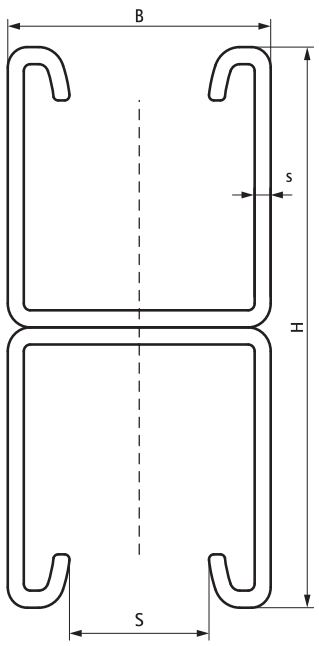


Features and benefits

- universal rail system
- for a quick and easy fixing
- material: steel
- pre-galvanized
- loading tables available for more information about the max. allowed load (Fa,z)



DMC55XXXXX



DMC55XXXXXD

Part No.	L	B (mm)	H (mm)	s (mm)	S (mm)	App.
DM C551 4 121	3 m	41	21	1.5	22	m.
DM C551 4 141	3 m	41	41	1.5	22	m.
DM C552 4 121	3 m	41	21	2.0	22	m.
DM C552 4 141	3 m	41	41	2.0	22	m.
DM C553 4 121	3 m	41	21	2.5	22	m.
DM C553 4 141	3 m	41	41	2.5	22	m.
DMC5514121D	3 m	41	42 (21x2)	1.5	22	m.
DMC5514141D	3 m	41	82 (41x2)	1.5	22	m.
DMC5524121D	3 m	41	42 (21x2)	2.0	22	m.
DMC5524141D	3 m	41	82 (41x2)	2.0	22	m.
DMC5534121D	3 m	41	42 (21x2)	2.5	22	m.
DMC5534141D	3 m	41	82 (42x2)	2.5	22	m.

Hot Dip Galvanized and Electrogalvanized option available on request.
Custom sizes available on request.
Made in UAE.

Subject to modifications

BIS RapidStrut® Fixing Rail Double (pg)

suspension and support

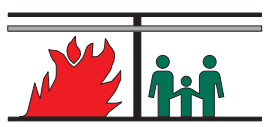


Features and benefits

- universal rail system
- with continuous perforation
- a continuous graduated centimetre scale on one side
- with inward formed flanges with serrated profile for extra grip
- material: steel 1.0332
- yield strength 240 N/mm^2
- pre-galvanized
- tested for fire safety

Part No.	L	B (mm)	H (mm)	s (mm)	S (mm)	BndS	BndL	App.
650 5 626	6 m	41	42 (21 x 2)	2,50	22	6	150	m.
650 5 646	6 m	41	82 (41 x 2)	2,50	22	6	300	m.
650 5 666	6 m	41	124 (62 x 2)	2,50	22	6	90	m.
650 5 686	6 m	41	164 (82 x 2)	2,50	22	6	180	m.

Strut 41x2 and above tested for fire safety.

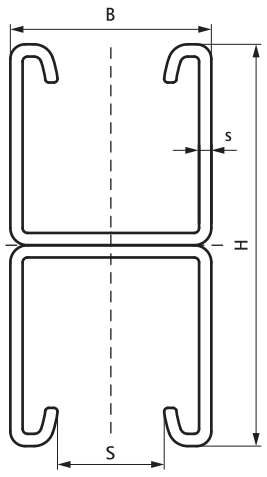


For more information about the max. allowed load (Fa,z) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.

BIS RapidStrut® Fixing Rail Double (hdg)

suspension and support





Features and benefits

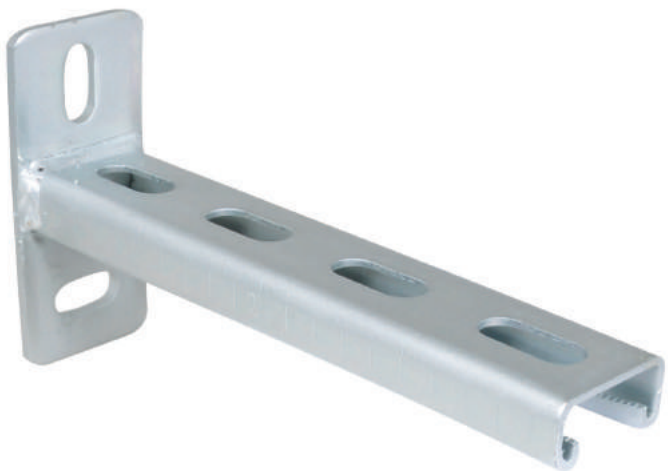
- universal rail system
- with continuous perforation
- a continuous graduated centimetre scale on one side
- with inward formed flanges with serrated profile for extra grip
- material: steel 1.0332
- yield strength 240 N/mm^2
- hot dip galvanized
- tested for fire safety

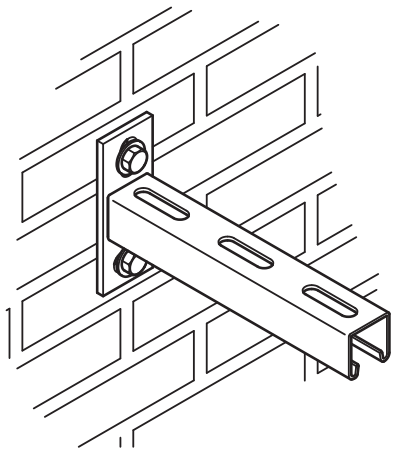
Part No.	L	B (mm)	H (mm)	s (mm)	S (mm)	BndS	BndL	App.
650 1 626	6 m	41	42 (21x2)	2,50	22	6	150	m.
650 1 646	6 m	41	82 (41x2)	2,50	22	6	150	m.
650 1 666	6 m	41	122 (61x2)	2,50	22	60	90	m.
650 1 686	6 m	41	164 (82x2)	2,50	22	6	90	m.

Subject to modifications

BIS RapidStrut® Cantilever Arms (BUP1000)

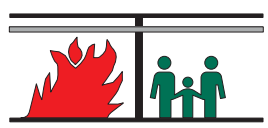
fixing to wall



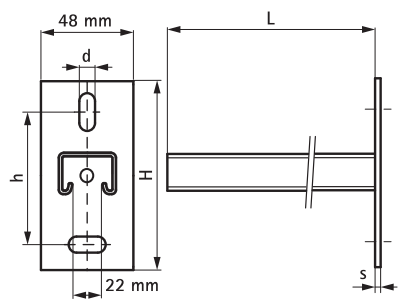


Features and Benefits

- wall plate welded on Strut Profile
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with inward formed flanges with serrated profile for extra grip
- material: steel 1.0226
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety



Part No.	L	H (mm)	h (mm)	s (mm)	From Rail	d1 (mm)	Pack 1
660 3 831	200 mm	110	70,0	5,0	Strut 41x21x2.5	25 x 11	10
660 3 832	300 mm	110	70,0	5,0	Strut 41x21x2.5	25 x 11	10
660 3 833	450 mm	110	70,0	5,0	Strut 41x21x2.5	25 x 11	10
660 3 834	600 mm	110	70,0	5,0	Strut 41x21x2.5	25 x 11	10
660 3 923	300 mm	130	87,5	7,0	Strut 41x41x2.0	30 x 13	10
660 3 926	450 mm	130	87,5	7,0	Strut 41x41x2.0	30 x 13	10
660 3 928	600 mm	130	87,5	7,0	Strut 41x41x2.0	30 x 13	8
660 3 861	150 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 870	200 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 862	300 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 871	400 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 863	450 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 873	500 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	10
660 3 864	600 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	8
660 3 865	750 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	8
660 3 866	1.000 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	1
660 3 867	1.200 mm	130	87,5	7,0	Strut 41x41x2.5	30 x 13	1



Strut 41x41x2,5 and above tested for fire safety.
For more information about the max. allowed load (Fa,z) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.

Subject to modifications

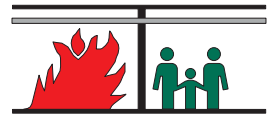
BIS RapidStrut® Cantilever Arms 41x41D (BUP1000)

fixing to wall



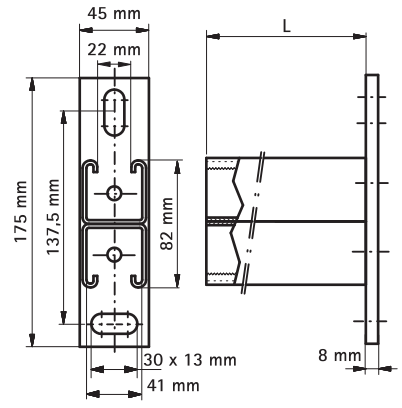
Features and Benefits

- wall plate welded on Strut Profile
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with inward formed flanges with serrated profile for extra grip
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety



Part No.	L	From Rail	Pack 1
660 3 883	450 mm	Strut 41x41Dx2.5	8
660 3 884	600 mm	Strut 41x41Dx2.5	4
660 3 885	750 mm	Strut 41x41Dx2.5	4
660 3 886	1.000 mm	Strut 41x41Dx2.5	1

Strut 41x2 and above tested for fire safety.
For more information about the max. allowed load (Fa,z) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.

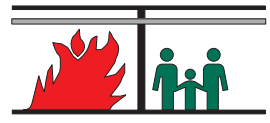


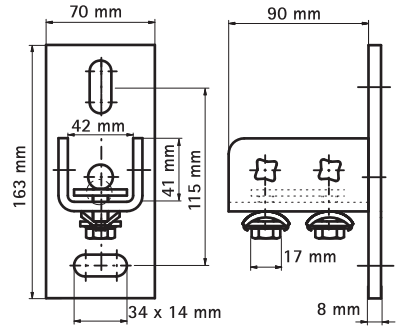
Subject to modifications

BIS RapidStrut® Wall Plate (BUP1000)

fixing to wall



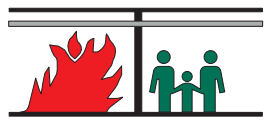




Features and Benefits

- U-profile welded on wall plate
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with pre-assembled BIS RapidStrut® sliding nuts for a quick fixing and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
- suitable for in- and outdoor applications
- stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety

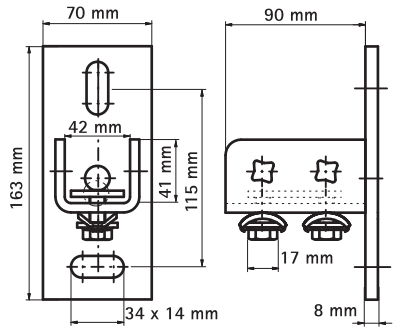
Part No.	For Rail	T (max.) (Nm)	Pack 1
6668 3 400	Strut	15.0	10



BIS RapidStrut® Wall Plate (zp)

fixing to wall





Features and Benefits

- U-profile welded on wall plate
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with pre-assembled BIS RapidStrut® sliding nuts for a quick fixing and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated
- tested for fire safety

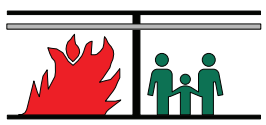
Part No.	For Rail	T (max.) (Nm)	Pack 1
6667 3 400	Strut	15.0	10

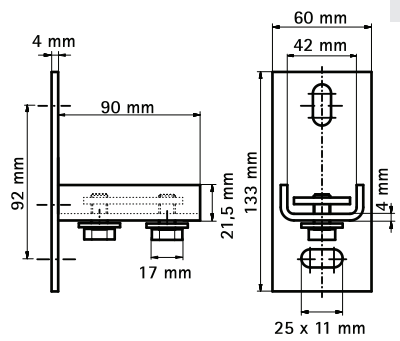
Subject to modifications

BIS Strut Wall Plate

fixing to wall







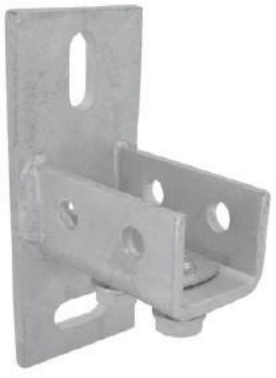
Features and Benefits

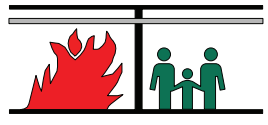
- U-profile welded on wall plate
- for wall fixing of rail
- slots at 90° to each other to simplify fixing
- with pre-assembled slide nuts
- material: steel 1.0332
- hot dip galvanized
- tested for fire safety

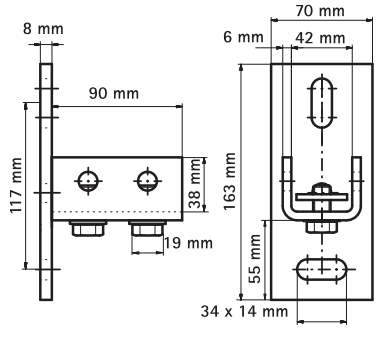
Part No.	For Rail	T (Nm)	Pack 1
6658 1 803	Strut	15	10

BIS Strut Wall Plate (Heavy)

fixing to wall







Features and Benefits

- U-profile welded on wall plate
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- with pre-assembled slide nuts
- heavy design
- material: steel 1.0332
- hot dip galvanized
- tested for fire safety

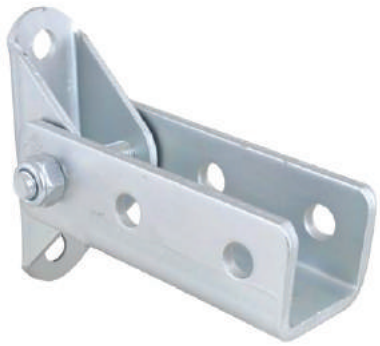
Part No.	For Rail	T (Nm)	Pack 1
6658 1 804	Strut	30	10

Also available in stainless steel 1.4401 (AISI-no. 316).

Subject to modifications

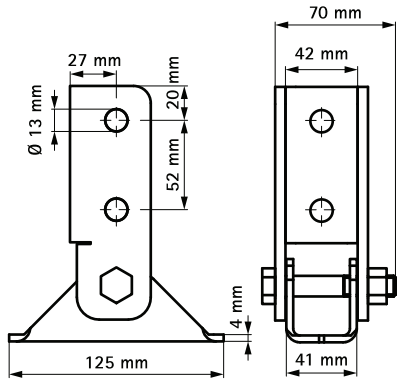
BIS Strut Wall Plate (Hinged) (BUP1000)

fixing to wall



Features and Benefits

- wall plate with hinging U-profile
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- also used to strengthen constructions with Strut 41x41
- material: steel 1.0332
- surface treatment:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1.000 hours salt spray test (max. 5% red rust) according to ISO 9227



Part No.	For Rail	Pack 1
6658 8 814	Strut	10

BIS Strut Wall Plate (Hinged)

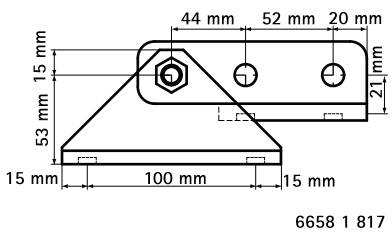
fixing to wall



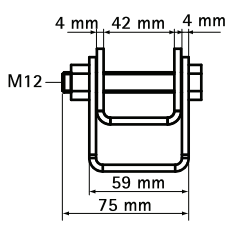
6658 1 814



6658 1 817

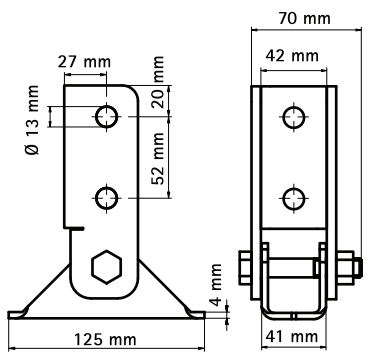


6658 1 817



Features and Benefits

- wall plate with hinging U-profile
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- also used to strengthen constructions with Strut 41x41
- material: steel 1.0332
- hot dip galvanized



6658 1 814

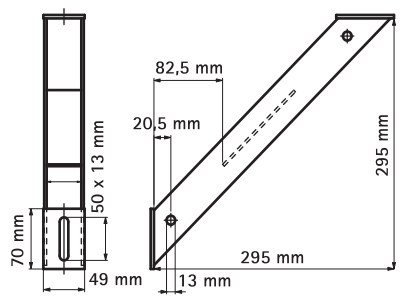
Part No.	For Rail	Pack 1
6658 1 814	Strut	10
6658 1 817	Strut	10

Subject to modifications

BIS Rail Prop (BUP1000)

reinforcement of cantilever arm





Features and Benefits

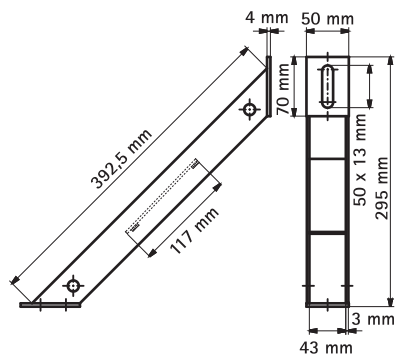
- 45° support bracket
- for fixing support under, top or on side of a cantilever arm
- also used to strengthen rail constructions
- CO_2 welded
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	For Rail	Pack 1
6628 8 530	Strut + WM35	10

BIS Strut Rail Prop

reinforcement of cantilever arm





Features and Benefits

- 45° support bracket
- for fixing support under, top or on side of a cantilever arm
- also used to strengthen rail constructions
- CO_2 welded
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	Pack 1
6658 1 930	Strut	10

Subject to modifications

BIS Rail Prop (zp)

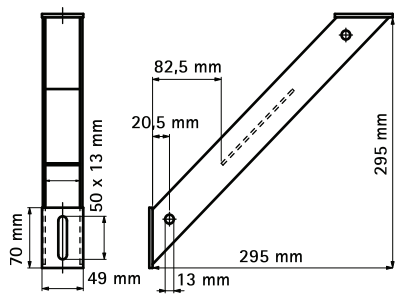
reinforcement of cantilever arm



Features and Benefits

- 45° support bracket
- for fixing support under, top or on side of a cantilever arm
- also used to strengthen rail constructions
- CO_2 welded
- material: steel 1.0332
- zinc plated

Part No.	For Rail	Pack 1
662 8 530	Strut + WM35	10

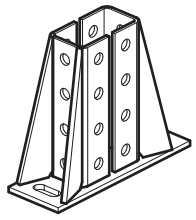


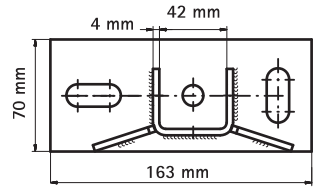
Subject to modifications

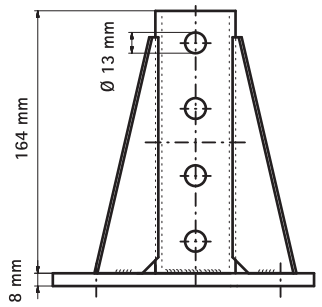
BIS Strut Floor Bracket 41, 82

to make Strut rail fabrications







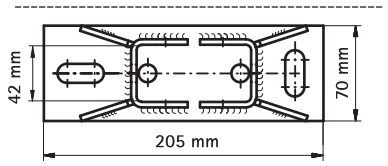


Features and Benefits

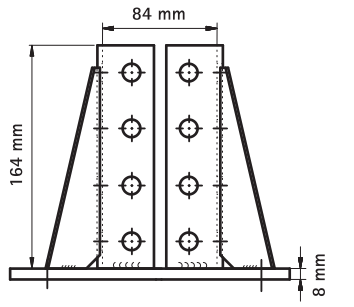
- to make fabrication with Strut Rail
- heavy design
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	Pack 1
6658 1 641	Strut 41x41	10
6658 1 682	Strut 41x82	5

Part No. 6658 1 641 also available in stainless steel 1.4404 (AISI-no. 316L).



6658 1 641



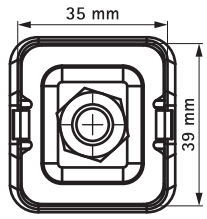
6658 1 682

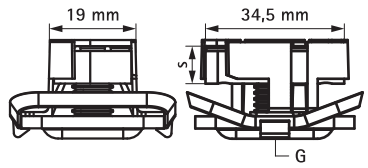
Subject to modifications

BIS RapidStrut® Slide Nuts G2 (BUP1000)

fixing to Strut rail







Features and Benefits

- slide nut with washer and BIS RapidStrut® spring
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

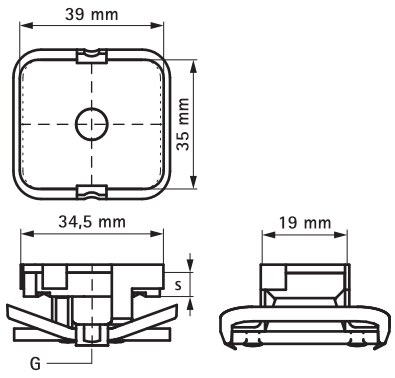
Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1	Pack 2
6651 8 5108	M8	6.0	Strut	15.0	6,000	20	200
6651 8 5110	M10	8.0	Strut	15.0	9,500	20	200
6651 8 5112	M12	10.0	Strut	30.0	10,000	20	200

Tested values in combination with BIS RapidStrut Rail 41x41x2.5mm.

BIS RapidStrut® Slide Nuts

fixing to Strut rail





Features and Benefits

- slide nut with washer and BIS RapidStrut® spring
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1	Pack 2
6651 7 106	M6	6.0	Strut	7.5	5.300	20	200

Subject to modifications

BIS Strut Slide Nuts (BUP1000)

fixing to Strut rail

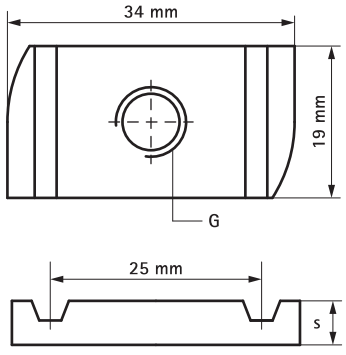


Features and Benefits

- for all types of Strut Rail
- for tight fixing of accessories (e.g. connectors) on rail
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
  - tested for fire safety

Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
6518 8 006	M6	5.0	Strut	7.5	5.300	100
6518 8 008	M8	6.0	Strut	15.0	6.000	100
6518 8 010	M10	8.0	Strut	15.0	9.500	100
6518 8 012	M12	9.0	Strut	30.0	10.000	100

M10 and above tested for fire safety.

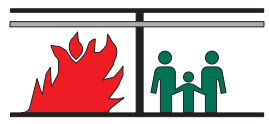


Subject to modifications

BIS Strut Slide Nuts (zp)

fixing to Strut rail

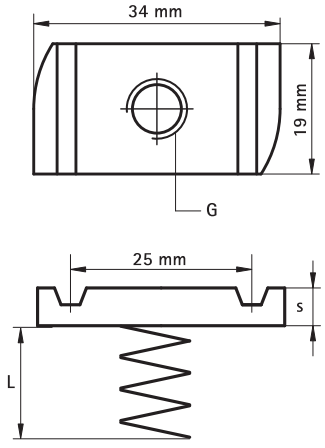




Features and Benefits

- material: slide nut made of steel 1.0332; spring made of spring steel DIN17223 (class A)
- zinc plated
- tested for fire safety

Part No.	G	L	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1	Pack 2
651 7 006	M6	-	5.0	Strut	7.5	5,300	100	600
651 7 008	M8	-	6.0	Strut	15.0	6,000	100	500
651 7 010	M10	-	8.0	Strut	15.0	9,500	100	600
651 7 012	M12	-	9.0	Strut	30.0	10,000	100	500
651 7 106	M6	13 mm	5.0	Strut 41x21	7.5	5,300	100	600
651 7 108	M8	13 mm	6.0	Strut 41x21	15.0	6,000	100	600
651 7 110	M10	13 mm	8.0	Strut 41x21	15.0	9,500	100	600
651 7 112	M12	13 mm	9.0	Strut 41x21	30.0	10,000	100	600
651 7 206	M6	33 mm	5.0	Strut 41x41	7.5	5,300	100	600
651 7 208	M8	33 mm	6.0	Strut 41x41	15.0	6,000	100	600
651 7 210	M10	33 mm	8.0	Strut 41x41	15.0	9,500	100	600
651 7 212	M12	33 mm	9.0	Strut 41x41	30.0	10,000	100	600

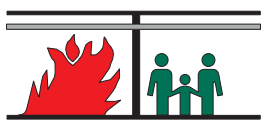


M10 and above tested for fire safety.

BIS Strut Slide Nuts (hdg)

fixing to Strut rail



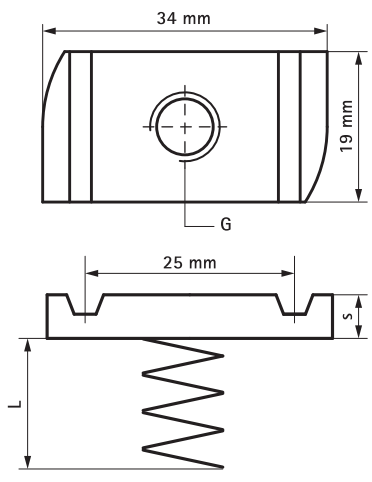


Features and Benefits

- material: slide nut made of steel 1.0332; spring made of spring steel DIN17223 (class A)
- hot dip galvanized
- tested for fire safety

Part No.	G	L	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
651 8 006	M6	-	5,0	Strut	7.5	5.300	100
651 8 008	M8	-	6,0	Strut	15.0	6.000	100
651 8 010	M10	-	8,0	Strut	15.0	9.500	100
651 8 012	M12	-	9,0	Strut	30.0	10.000	100
651 8 106	M6	13 mm	5,0	Strut 41x21	7.5	5.300	100
651 8 108	M8	13 mm	6,0	Strut 41x21	15.0	6.000	100
651 8 110	M10	13 mm	8,0	Strut 41x21	15.0	9.500	100
651 8 112	M12	13 mm	9,0	Strut 41x21	30.0	10.000	100
651 8 206	M6	33 mm	5,0	Strut 41x41	7.5	5.300	100
651 8 208	M8	33 mm	6,0	Strut 41x41	15.0	6.000	100
651 8 210	M10	33 mm	8,0	Strut 41x41	15.0	9.500	100
651 8 212	M12	33 mm	9,0	Strut 41x41	30.0	10.000	100

M10 and above tested for fire safety.



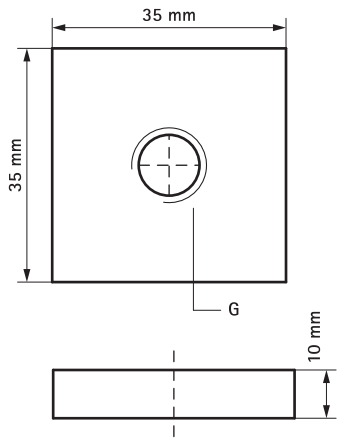
Subject to modifications

BIS Strut Square Slide Nut

fixing to Strut rail







Features and Benefits

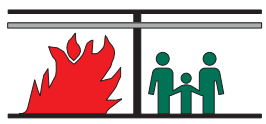
- material: steel 1.0332
- zinc plated
- tested for fire safety

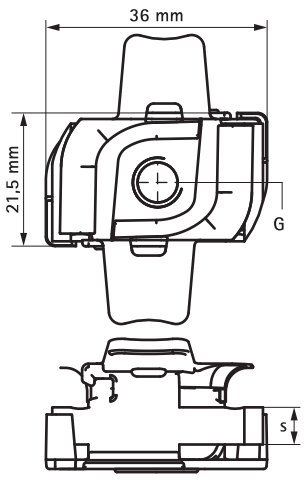
Part No.	G	For Rail	Pack 1	Pack 2
651 7 016	M16	Strut	50	250

BIS RapidStrut® Slide Nut Plastic Tabs (BUP1000)

fixing to Strut rail







Features and Benefits

- slide nut with plastic 'tabs'
- for all types of Strut Rail
- for tight fixing of accessories (e.g. connectors) on rail
- with plastic tabs which simplifies inserting and positioning
- material: slide nut made of steel 1.0332; tabs made of PP (polypropylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety

Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
6518 6 8006	M6	5,0	Strut	7.5	5,300	100
6518 6 8008	M8	6,0	Strut	15.0	6,000	100
6518 6 8010	M10	8,0	Strut	15.0	9,500	100
6518 6 8012	M12	9,0	Strut	30.0	10,000	100

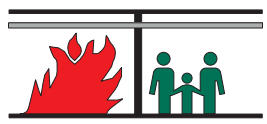
M10 and above tested for fire safety.

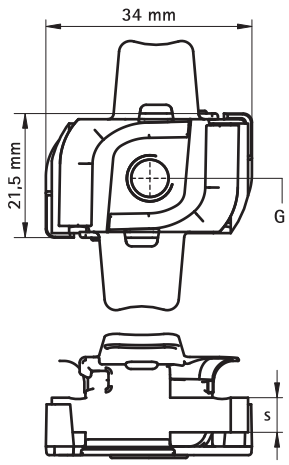
Subject to modifications

BIS RapidStrut® Slide Nuts with Plastic Tabs (zp)

fixing to Strut rail







Features and Benefits

- slide nut with plastic 'tabs'
- for all types of Strut Rail
- for tight fixing of accessories (e.g. connectors) on rail
- with plastic tabs which simplifies inserting and positioning
- material: slide nut made of steel 1.0332; tabs made of PP (polypropylene), green
- zinc plated
- tested for fire safety

Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
651 8 606	M6	5,0	Strut	7.5	5.300	100
651 8 608	M8	6,0	Strut	15.0	6.000	100
651 8 610	M10	8,0	Strut	15.0	9.500	100
651 8 612	M12	9,0	Strut	30.0	10.000	100

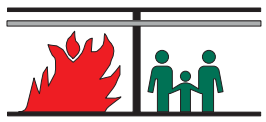
M10 and above tested for fire safety.

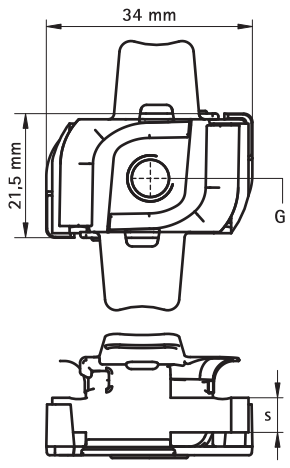
M10 and above tested for fire safety.

BIS RapidStrut® Slide Nut with Plastic Tabs (hdg)

fixing to Strut rail







Features and Benefits

- slide nut with plastic 'tabs'
- for all types of Strut Rail
- for tight fixing of accessories (e.g. connectors) on rail
- with plastic tabs which simplifies inserting and positioning
- material: slide nut made of steel 1.0332; tabs made of PP (polypropylene), green
- hot dip galvanized
- tested for fire safety

Part No.	G	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
6518 6 1008	M8	6,0	Strut	15.0	6.000	100
6518 6 1010	M10	8,0	Strut	15.0	9.500	100
6518 6 1012	M12	9,0	Strut	30.0	10.000	100

M10 and above tested for fire safety.

Subject to modifications

BIS RapidStrut® Hammerfix G2 (BUP1000)

fixing to Strut rail

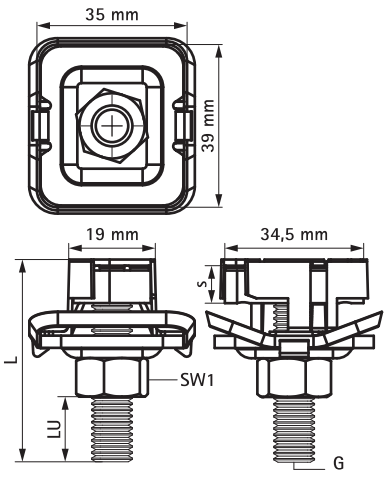


Features and Benefits

- slide nut with stud bolt, washer and BIS RapidStrut® spring
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	G	L	LU (mm)	s (mm)	SW1 (mm)	T (max.) (Nm)	Fa,z (N)	Pack 1	Pack 2
6527 8 5804	M8	40 mm	16	6,0	13	15.0	6,000	5	150
6527 8 5805	M8	50 mm	26	6,0	13	15.0	6,000	15	150
6527 8 5806	M8	60 mm	36	6,0	13	15.0	6,000	5	100
6527 8 5808	M8	80 mm	56	6,0	13	15.0	6,000	5	100
6527 8 5810	M8	100 mm	76	6,0	13	15.0	6,000	5	100
6527 8 5004	M10	40 mm	12	8,0	17	15.0	9,500	5	150
6527 8 5006	M10	60 mm	32	8,0	17	15.0	9,500	5	100
6527 8 5008	M10	80 mm	52	8,0	17	15.0	9,500	5	100
6527 8 5204	M12	40 mm	10	10,0	19	30.0	10,000	5	100
6527 8 5206	M12	60 mm	30	10,0	19	30.0	10,000	5	100

Tested values in combination with BIS RapidStrut Rail 41x41x2,5mm.



Subject to modifications

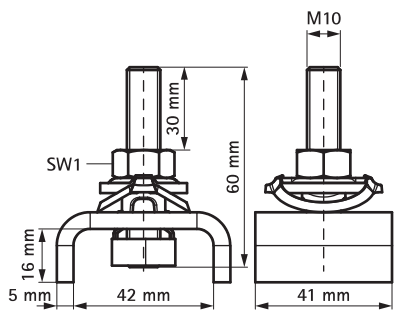
BIS RapidStrut® Hammerfix 'U' G2 (BUP1000)

fixing to Strut rail



Features and Benefits

- slide nut with stud bolt, U-shaped washer and BIS RapidStrut® spring
- U-shaped for extra stability
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- visual guide to check the position of the slide nut
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227



Part No.	For Rail	SW1 (mm)	T (max.) (Nm)	Fa,z (N)	Pack 1
6652 8 5006	Strut	17	15.0	10.000	50

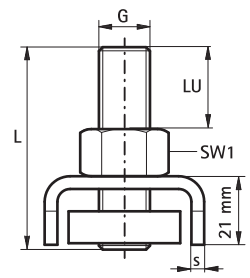
BIS Strut Tee-Bolt 'U' (BUP1000)

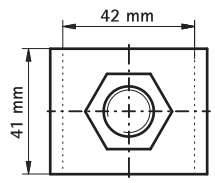
fixing to Strut rail



Features and Benefits

- slide nut with stud bolt and U-shaped washer
- U-shaped for extra stability
- ready-to-use pre-assembled
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety





Part No.	G	L	LU (mm)	s (mm)	For Rail	SW1 (mm)	Pack 1
6527 8 606	M16	60 mm	24	4,0	Strut	24	5

Subject to modifications

BIS RapidStrut® Hammerfix Female Thread

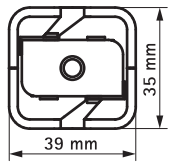
fixing to Strut rail

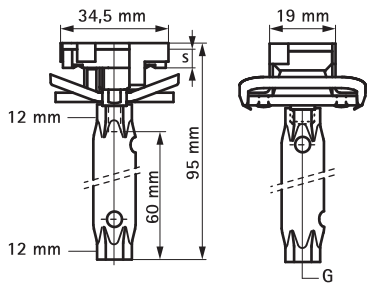


Features and Benefits

- slide nut with female thread, washer and BIS RapidStrut® spring
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- with inspection hole to check screw-in depth of threaded rod
- screw-in depth is continuously variable
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	G	L	s (mm)	For Rail	T (max.) (Nm)	Fa,z (N)	Pack 1
6652 9 808	M8	95 mm	6,0	Strut	15.0	7.500	25
6652 9 008	M10	95 mm	8,0	Strut	15.0	6,000	25



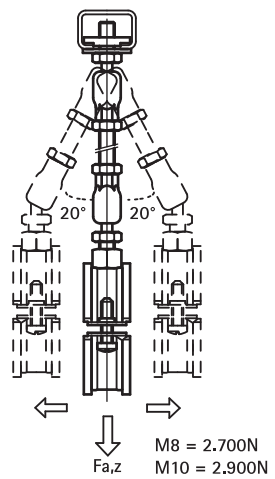


Subject to modifications

BIS RapidStrut® Ball Swivel Hangers

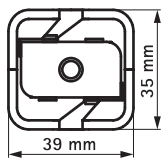
fixing to Strut rail

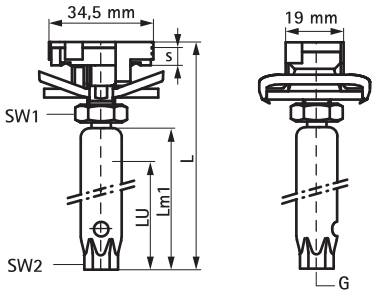




Features and Benefits

- slide nut with ball swivel hanger, washer and BIS RapidStrut® spring
- recommended for metal pipes up to DN 50, plastic pipes up to DN 100
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- with inspection hole to check screw-in depth (attention: when the threaded rod is screwed-in too deep, the ball swivel is blocked)
- screw-in depth is continuously variable (see LU)
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated





Part No.	G	L	LU (mm)	s (mm)	For Rail	Lm1 (mm)	SW1 (mm)	SW2 (mm)	T (max.) (Nm)	Fa,z (N)	Pack 1
6653 0 805	M8	80 mm	43	6,0	Strut	50	13	10	15.0	2,700	25
6653 0 005	M10	80 mm	43	8,0	Strut	50	13	12	15.0	2,900	25

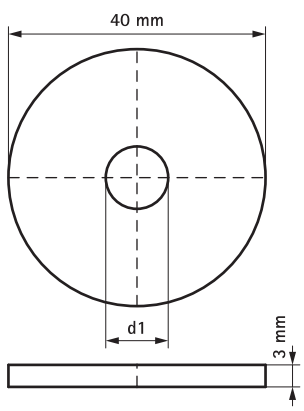
Please note. Always use 2 ball swivel hangers (see application picture). The maximum length change that can be dealt with, depends on the fixing distance (ceiling - pipe). The height difference that occurs as a result, needs to be taken into consideration.
To be used in combination with BIS Ball Swivel Hangers. Product can be found on page E 10 05.

Subject to modifications

BIS Strut Washers - Flat (BUP1000)

to make Strut rail fabrications





Features and Benefits

- flat washer
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

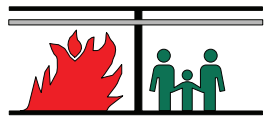
Part No.	B (mm)	For Rail	d1 (mm)	Pack 1
6538 1 508	40	Strut	Ø 8,4	50
6538 1 510	40	Strut	Ø 10,5	100
6538 1 512	40	Strut	Ø 13,0	100

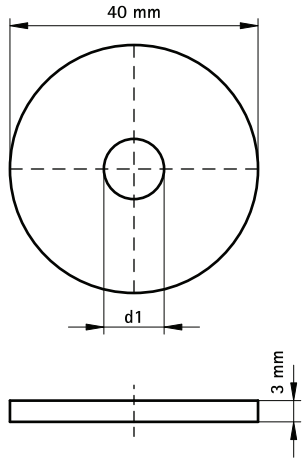
Ø 10,5 and above tested for fire safety.
Also available in stainless steel 1.4401 (AISI 316).

BIS Strut Washers - Flat (zp)

fixing to Strut rail







Features and Benefits

- flat washer
- material: steel 1.0332
- zinc plated
- tested for fire safety

Part No.	B (mm)	For Rail	d1 (mm)	Pack 1	Pack 2
653 3 506	40	Strut	Ø 6,4	50	250
653 3 508	40	Strut	Ø 8,4	50	250
653 3 510	40	Strut	Ø 10,5	50	250
653 3 512	40	Strut	Ø 13,0	50	250

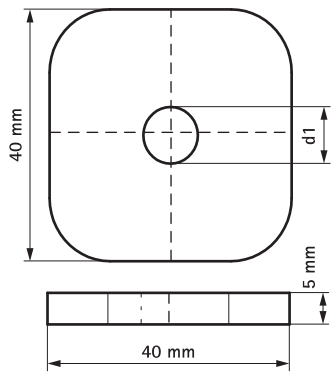
Ø 10,5 and above tested for fire safety.
Also available in stainless steel 1.4401 (AISI 316).

Subject to modifications

BIS Strut Washers - Flat (hdg)

to make Strut rail fabrications





Features and Benefits

- flat washer
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	d1 (mm)	Pack 1	Pack 2
6658 0 008	Strut	Ø 9,0	50	200
6658 0 010	Strut	Ø 11,0	50	200
6658 0 012	Strut	Ø 13,0	50	200

Also available in stainless steel 1.4401 (AISI 316).

Subject to modifications

BIS Strut Washers - U-shaped (BUP1000)

to make Strut rail fabrications



Features and Benefits

- U-shaped washer
- U-shaped for extra stability
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- tested for fire safety



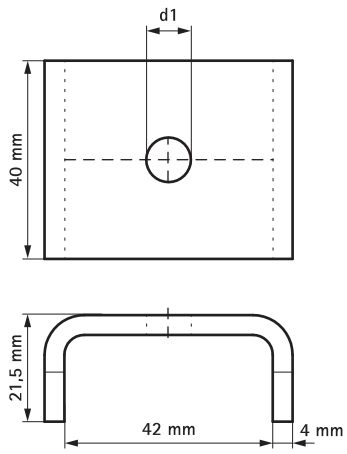
Part No.	For Rail	d1 (mm)	Pack 1
6658 8 008	Strut	Ø 9,0	50
6658 8 010	Strut	Ø 11,0	50
6658 8 012	Strut	Ø 13,0	50
6658 8 016	Strut	Ø 17,0	50

Also available in stainless steel 1.4401 (AISI 316).

BIS Strut Washers - U-shaped

to make Strut rail fabrications





Features and Benefits

- U-shaped washer
- U-shaped for extra stability
- material: steel 1.0332
- hot dip galvanized
- tested for fire safety

Part No.	For Rail	d1 (mm)	Pack 1
6658 1 008	Strut	Ø 9,0	50
6658 1 010	Strut	Ø 11,0	50
6658 1 012	Strut	Ø 13,0	50
6658 1 016	Strut	Ø 17,0	50

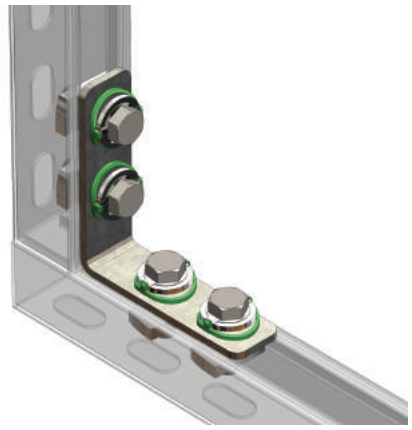
Ø 11,0 and above tested for fire safety.
Also available in stainless steel 1.4401 (AISI 316).

Subject to modifications

BIS RapidStrut® Rail Connectors 90° G2 (BUP1000)

to make Strut rail fabrications

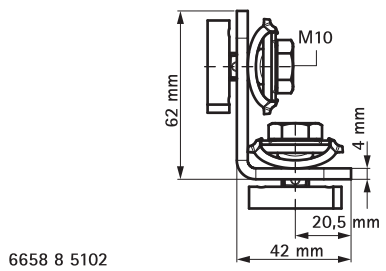




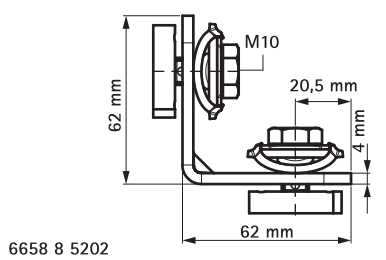
Features and Benefits

- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- 'Direct Twist' technology for easy and secure installation
- visual guide to check the position of the slide nut
- Part Nr. 6658 8 520X: optimized for easy installation with electrical tools
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
- stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

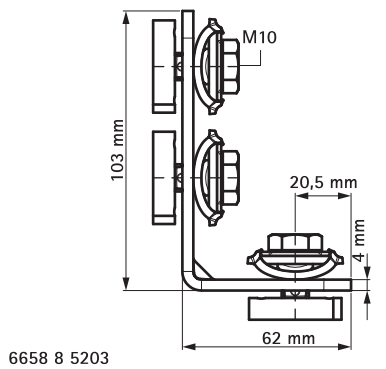
Part No.	Model	Type	For Rail	a (°)	T (max.) (Nm)	Pack 1
6658 8 5102	Short / short	2 sides pre-assembled	Strut	90°	15.0	50
6658 8 5202	Short / short	2 sides pre-assembled	Strut	90°	15.0	50
6658 8 5203	Short / long	2 sides pre-assembled	Strut	90°	15.0	25
6658 8 5205	Long / long	2 sides pre-assembled	Strut	90°	15.0	20



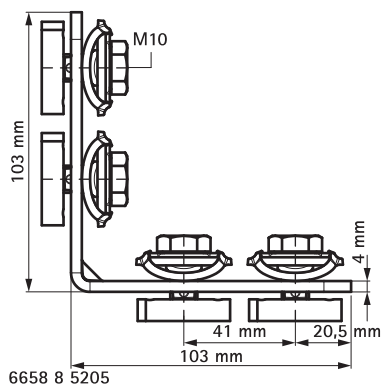
6658 8 5102



6658 8 5202



6658 8 5203



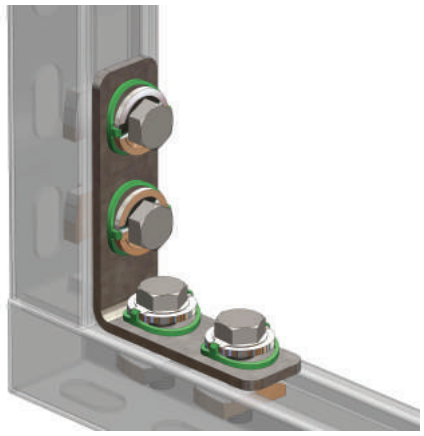
6658 8 5205

Subject to modifications

BIS RapidStrut® Rail Connectors 90° (BUP1000)

to make Strut rail fabrications

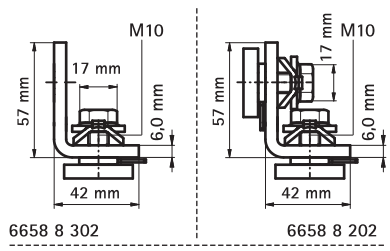


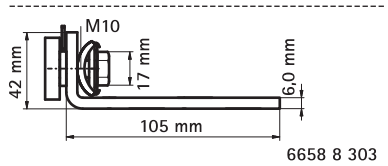


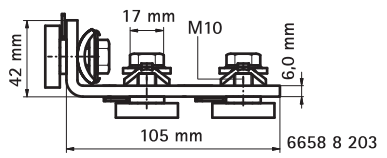
Features and Benefits

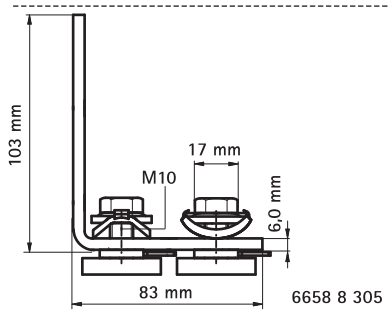
- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

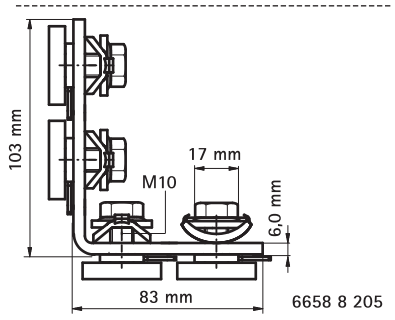
Part No.	Model	Type	For Rail	a (°)	T (max.) (Nm)	Pack 1
6658 8 302	Short / short	1 side pre-assembled	Strut	90°	15.0	50
6658 8 303	Short / long	1 side pre-assembled	Strut	90°	15.0	25
6658 8 305	Long / long	1 side pre-assembled	Strut	90°	15.0	20









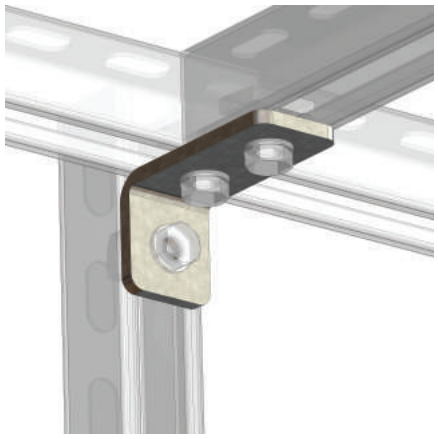


Subject to modifications

BIS Strut Connectors 90°

to make Strut rail fabrications



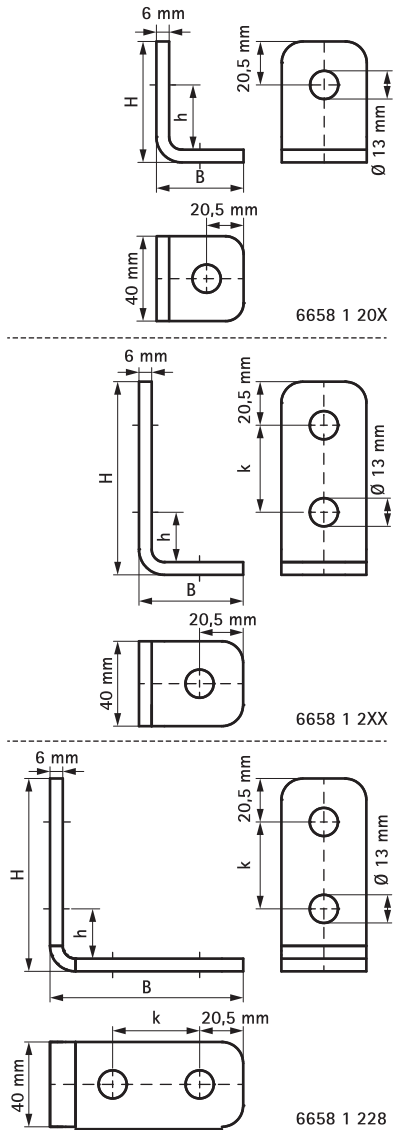


Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	Model	B (mm)	H (mm)	h (mm)	For Rail	k (mm)	a (°)	Pack 1
6658 1 201	2 holes	49	49	23	Strut	-	90°	50
6658 1 207	2 holes	57	41	15	Strut	-	90°	50
6658 1 214	3 holes	99	41	15	Strut	41	90°	25
6658 1 221	3 holes	91	49	23	Strut	41	90°	25
6658 1 228	4 holes	91	91	23	Strut	41	90°	25

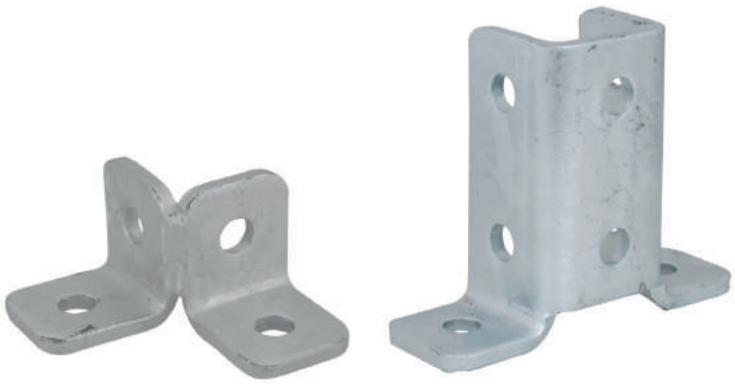
Also available in stainless steel.



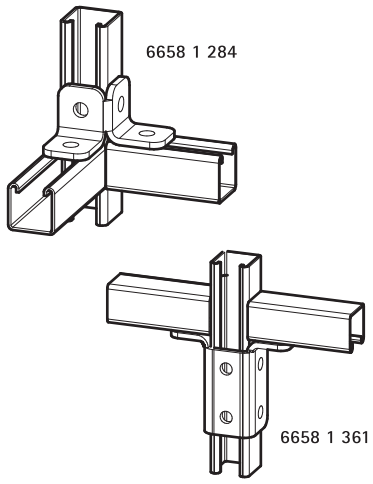
Subject to modifications

BIS Strut Connectors 90°

to make Strut rail fabrications



6658 1 284 6658 1 361

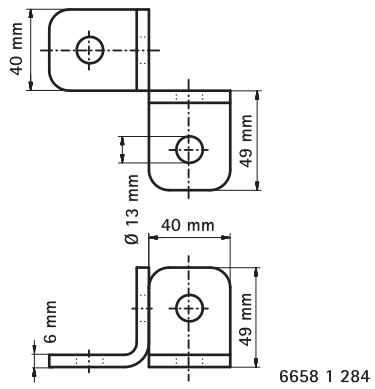


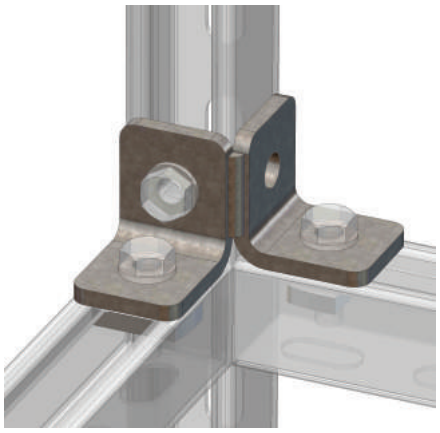
Features and Benefits

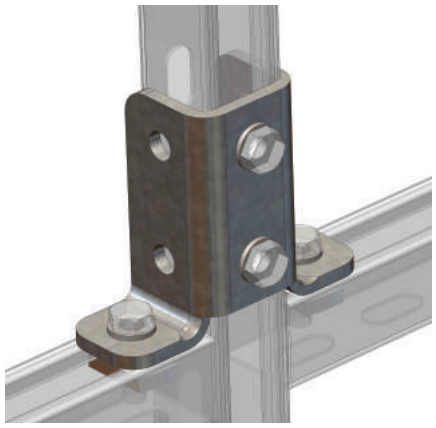
- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	a (°)	Pack 1
6658 1 284	Strut	90°	25
6658 1 361	Strut	90°	10

Part No. 6658 1 361 also available in stainless steel 1.4401 (AISI-no. 316).





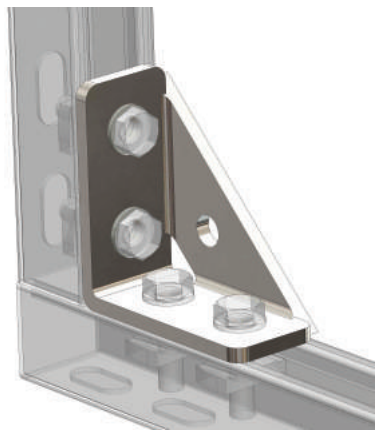


Subject to modifications

BIS Strut Connector 90°

to make Strut rail fabrications



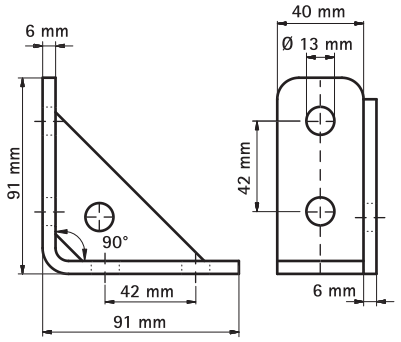


Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	a (°)	Pack 1
DMC6658 1 291	Strut	90°	25

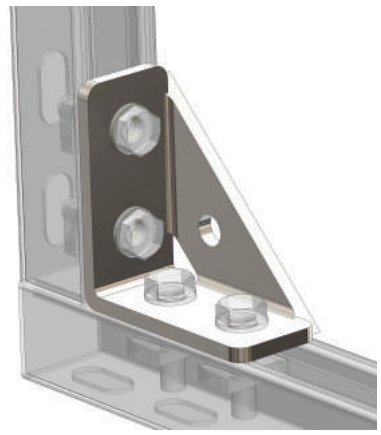
Also available in stainless steel 1.4401 (AISI-no. 316).



BIS Strut Connector 90° (BUP1000)

to make Strut rail fabrications



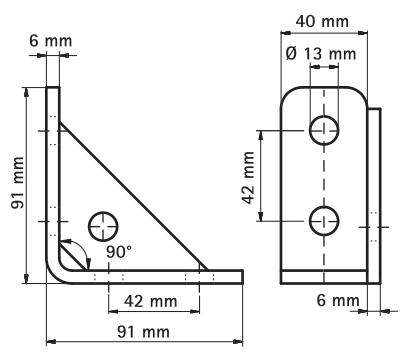


Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- surface protection:
  - product is part of the BIS UltraProtect®1000 system
  - suitable for in-and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	For Rail	a (°)	Pack 1
6658 8 291	Strut	90°	25

Also available in stainless steel 1.4401 (AISI-no. 316).

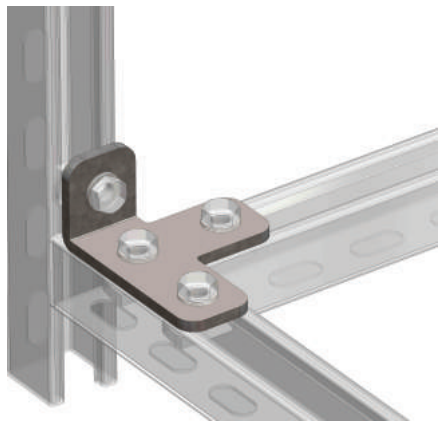


Subject to modifications

BIS Strut Connectors

to make Strut rail fabrications



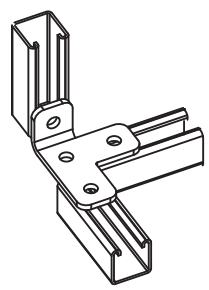


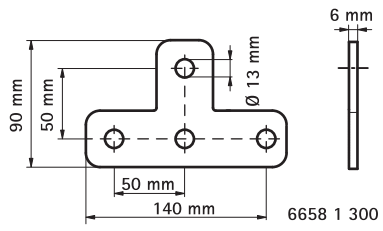
Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

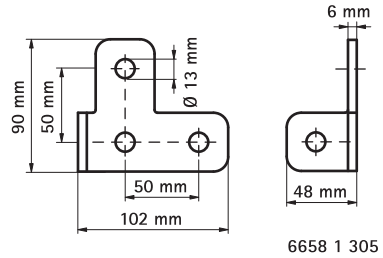
Part No.	For Rail	a (°)	Pack 1
6658 1 300	Strut	-	25
6658 1 305	Strut	90°	25
6658 1 307	Strut	90°	25

Also available in stainless steel 1.4404 (AISI-no. 316L).

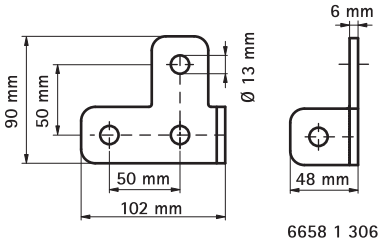




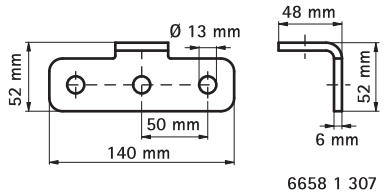
6658 1 300



6658 1 305



6658 1 306



6658 1 307

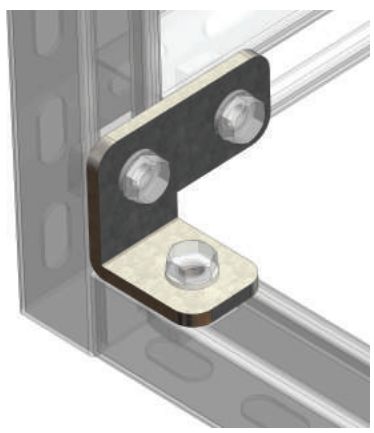
Subject to modifications

BIS Strut Connectors

to make Strut rail fabrications



6658 1 350 6658 1 352 6658 1 351

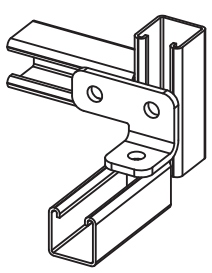


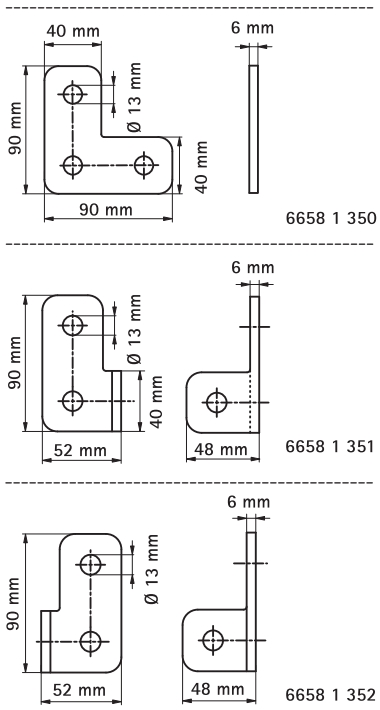
Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	a (°)	Pack 1
6658 1 350	Strut	90°	25
6658 1 351	Strut	90°	25
6658 1 352	Strut	90°	25

Also available in stainless steel 1.4404 (AISI-no. 316L).





Subject to modifications

BIS Strut Connectors 120°, 135°, 150°

to make Strut rail fabrications



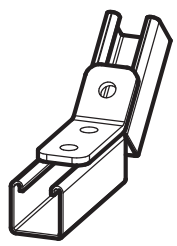


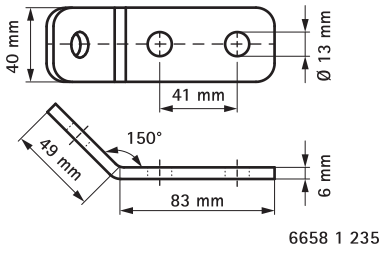
Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

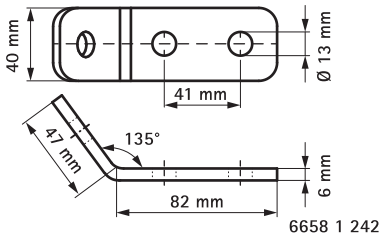
Part No.	For Rail	a (°)	Pack 1
6658 1 235	Strut	150°	25
6658 1 242	Strut	135°	25
6658 1 249	Strut	120°	25
6658 1 256	Strut	135°	25

Part No. 6658 1 256 also available in stainless steel 1.4401 (AISI-no. 316).

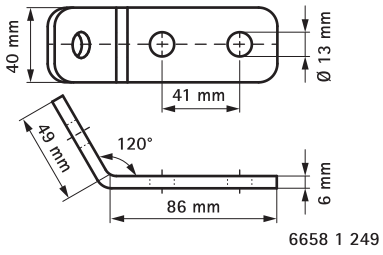




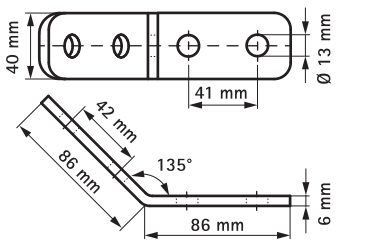
6658 1 235



6658 1 242



6658 1 249



6658 1 256

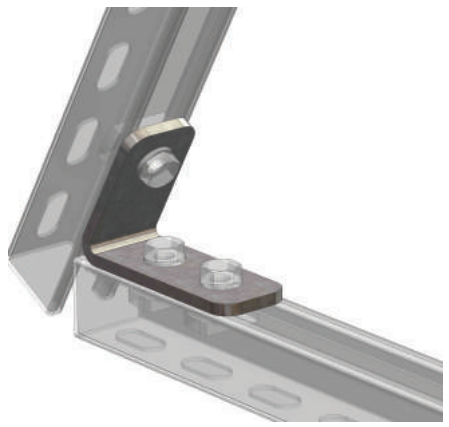
Subject to modifications

Subject to modifications

BIS Strut Connectors 30°, 45°, 60°

to make Strut rail fabrications

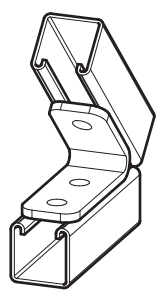


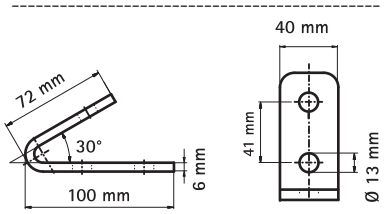


Features and Benefits

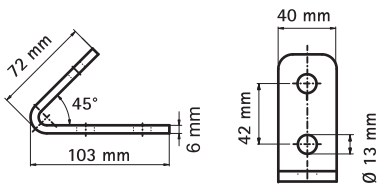
- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	a (°)	Pack 1
6658 1 263	Strut	30°	25
6658 1 270	Strut	45°	25
6658 1 277	Strut	60°	25

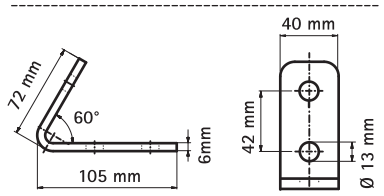




6658 1 263



6658 1 270

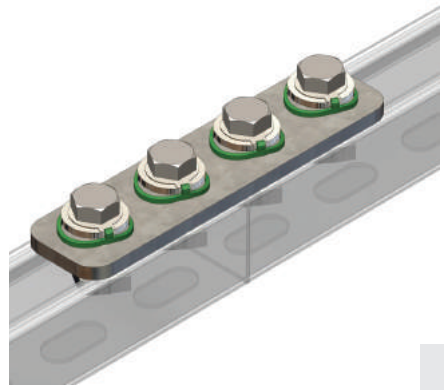


6658 1 277

BIS RapidStrut® Rail Connectors G2 (BUP1000)

to make Strut rail fabrications

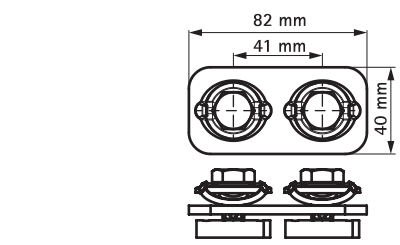




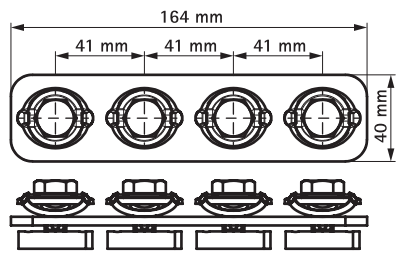
Features and Benefits

- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- 'Direct Twist' technology for easy and secure installation
- visual guide to check the position of the slide nut
- optimized for easy installation with electrical tools
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	Type	L	For Rail	T (max.) (Nm)	Pack 1
6658 8 5184	2 x M10	82 mm	Strut	15.0	50
6658 8 5186	4 x M10	164 mm	Strut	15.0	25



6658 8 5184



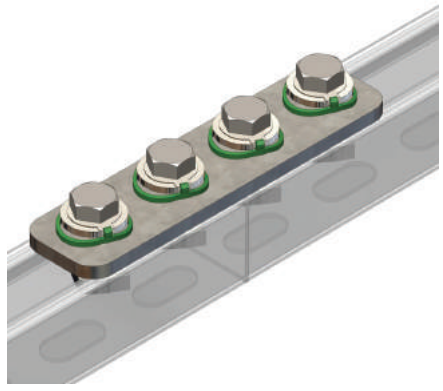
6658 8 5186

Subject to modifications

BIS RapidStrut® Rail Connectors

to make Strut rail fabrications

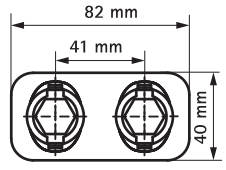


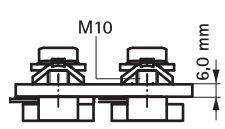


Features and Benefits

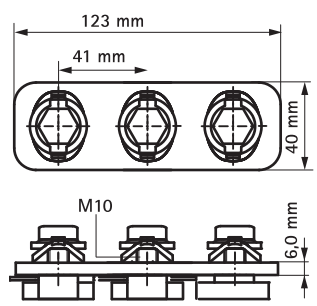
- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	Type	L	For Rail	T (max.) (Nm)	Pack 1
6658 7 185	3 x M10	123 mm	Strut	15.0	25

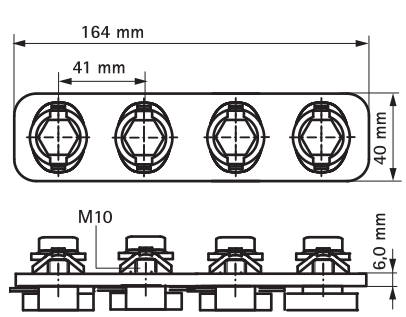




6658 7 184



6658 7 185



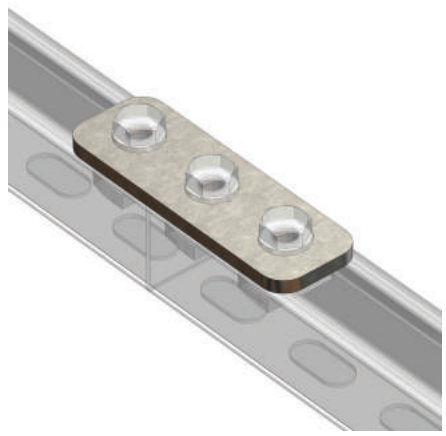
6658 7 186

Subject to modifications

BIS Rectangular Connectors

to make Strut rail fabrications



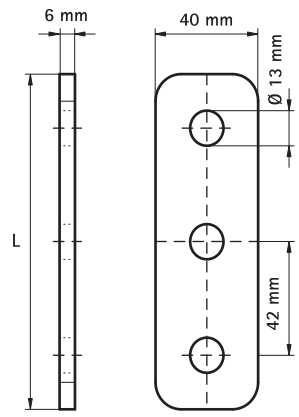


Features and Benefits

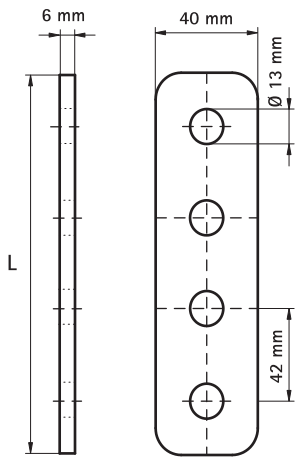
- flat connector
- to make fabrication with Strut Rail
- material: steel 1.0332
- hot dip galvanized

Part No.	L	For Rail	Pack 1
6658 0 312	124 mm	Strut	50
6658 0 412	166 mm	Strut	50

Also available in stainless steel 1.4404 (AISI-no. 316L).



6658 0 312



6658 0 412

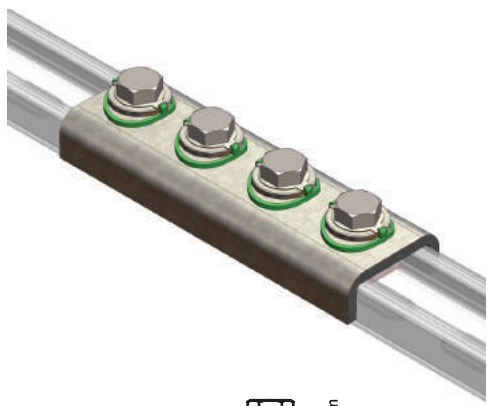
Subject to modifications

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BIS RapidStrut® Rail Connector – U-shaped G2

to make Strut rail fabrications

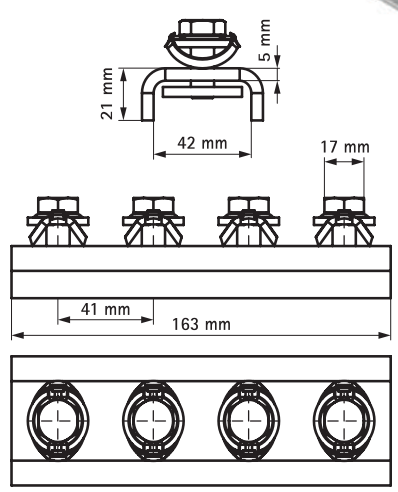




Features and Benefits

- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

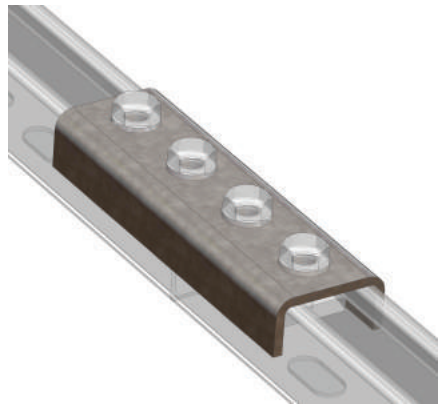
Part No.	For Rail	T (max.) (Nm)	Pack 1
6658 8 5421	Strut	15.0	20



BIS U-Shaped Connectors

to make Strut rail fabrications



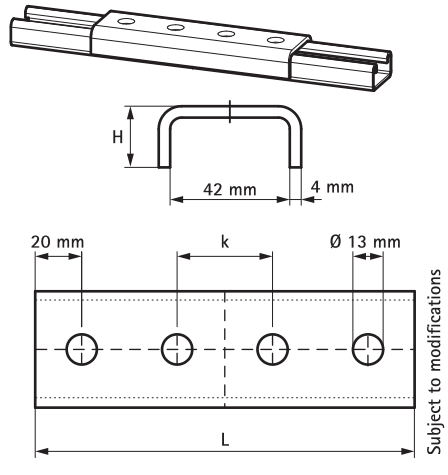


Features and Benefits

- U-shaped connector
- U-shaped for extra stability
- to make fabrication with Strut Rail
- material: steel 1.0332
- hot dip galvanized

Part No.	L	H (mm)	For Rail	k (mm)	Pack 1
6658 1 121	164 mm	25	Strut 41x21	41	20
6658 1 122	191 mm	25	Strut 41x21	50	20
6658 1 141	164 mm	45	Strut 41x41	41	10

Also available in stainless steel 1.4571 (AISI-no. 316Ti).

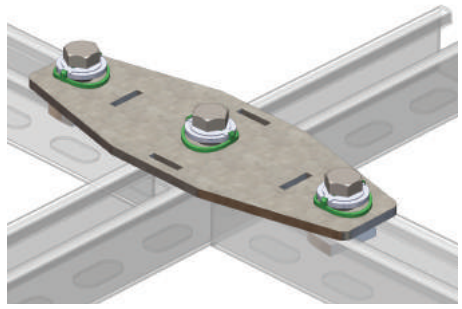


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BIS RapidStrut® Rail T- and X-Connector G2 (BUP1000)

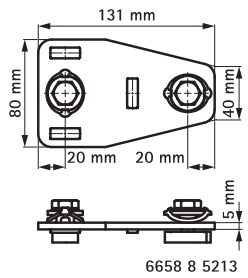
to make Strut rail fabrications

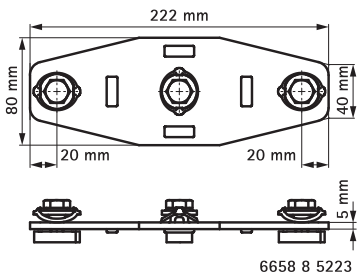




Features and Benefits

- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- 'Direct Twist' technology for easy and secure installation
- visual guide to check the position of the slide nut
- optimized for easy installation with electrical tools
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227



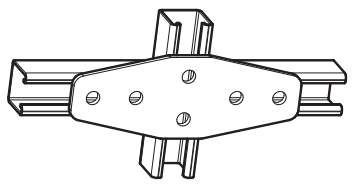


Part No.	Type	For Rail	T (max.) (Nm)	Pack 1
6658 8 5213	T	Strut	15.0	20
6658 8 5223	X	Strut	15.0	15

BIS Strut T- and X-Connector

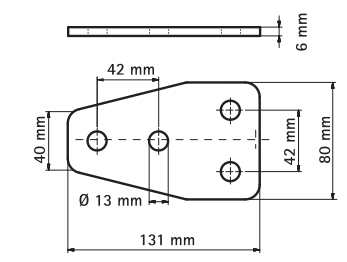
to make Strut rail fabrications

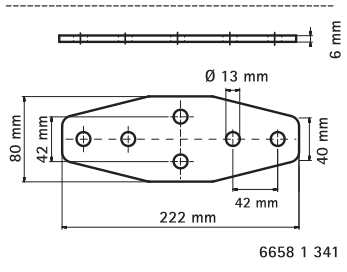




Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized





Part No.	Type	For Rail	Pack 1
6658 1 301	T	Strut	25
6658 1 341	X	Strut	15

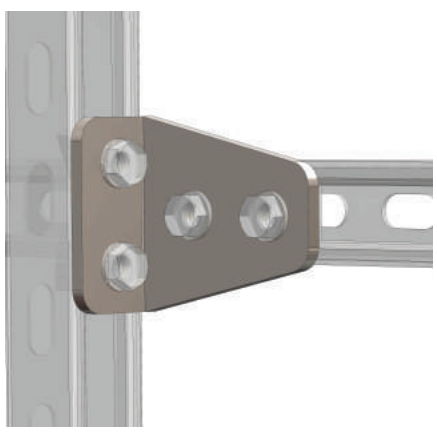
Part No. 6658 1 301 also available in stainless steel 1.4401 (AISI-no. 316).

Subject to modifications

BIS Strut T-Connectors 135°, 90°

to make Strut rail fabrications



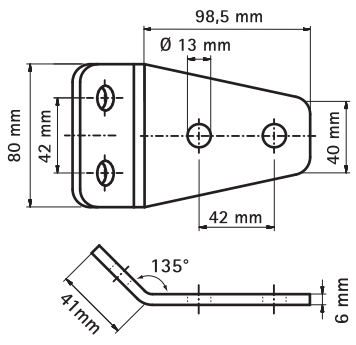


Features and Benefits

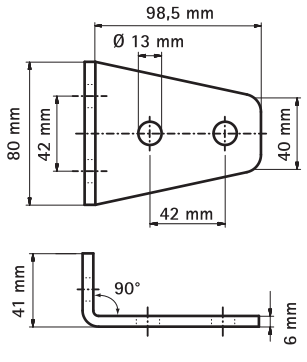
- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	a (°)	Pack 1
6658 1 311	Strut	135°	25
6658 1 321	Strut	90°	25

Part No. 6658 1 321 also available in stainless steel 1.4571 (AISI-no. 316Ti).



6658 1 311



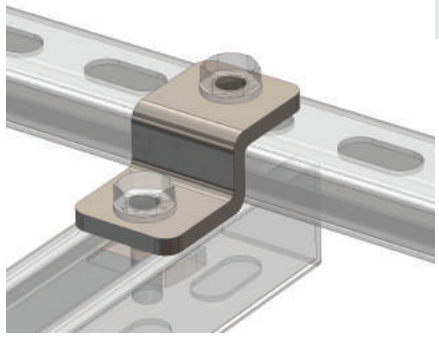
6658 1 321

Subject to modifications

BIS Strut Z-Connectors

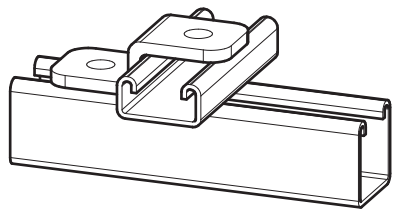
to make Strut rail fabrications





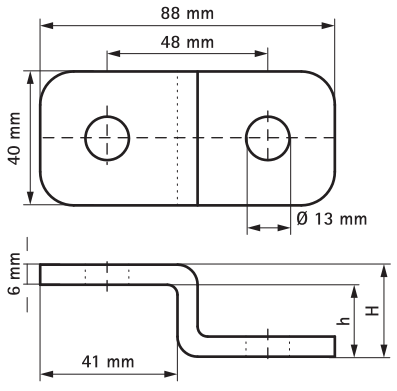
Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized



Part No.	H (mm)	h (mm)	For Rail	Pack 1
6658 1 502	27,5	21,5	Strut 41x21	50
6658 1 504	47,0	41,0	Strut 41x41 + Strut 41x21D	50
6658 1 506	68,0	62,0	Strut 41x62	25
6658 1 508	89,0	83,0	Strut 41x82 + Strut 41x41D	25

Also available in stainless steel 1.4404 (AISI-no. 316L).



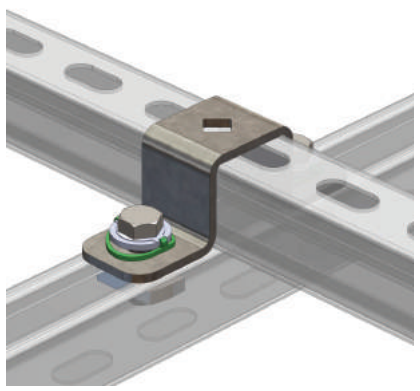
Sub ect to modifications

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BIS RapidStrut® Cross Connectors G2 (BUP1000)

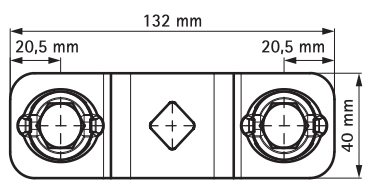
to make Strut rail fabrications

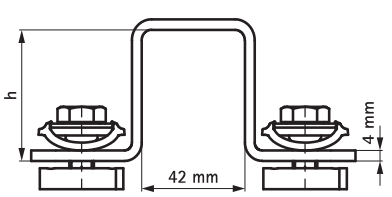




Features and Benefits

- connector with pre-assembled BIS RapidStrut® Slide nut(s)
- to make fabrication with Strut Rail
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- 'Direct Twist' technology for easy and secure installation
- visual guide to check the position of the slide nut
- optimized for easy installation with electrical tools
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227



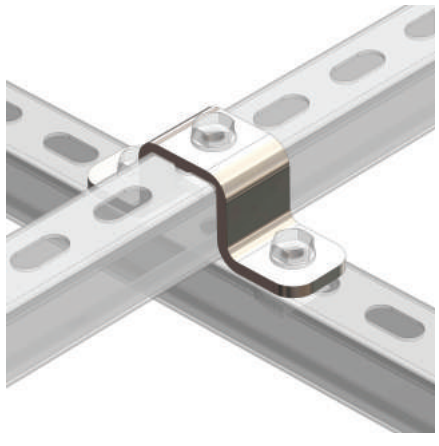


Part No.	h (mm)	For Rail	T (max.) (Nm)	Pack 1
6658 8 5402	20	Strut 41x21	15.0	25
6658 8 5404	40	Strut 41x41	15.0	25
6658 8 5405	50	Strut 41x51 (BIS RapidStrut® DS 5)	15.0	25
6658 8 5406	60	Strut 41x62	15.0	15
6658 8 5408	80	Strut 41x82	15.0	10

BIS Strut Cross Connectors

to make Strut rail fabrications



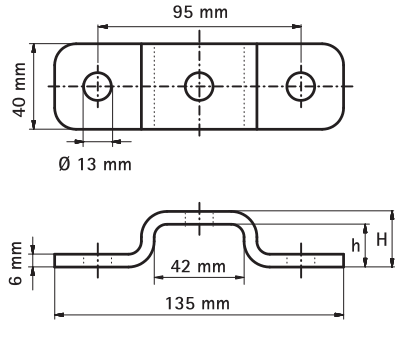


Features and Benefits

- to make fabrication with Strut Rail
- easy fitting due to rounded edges
- material: steel 1.0332
- hot dip galvanized

Part No.	H (mm)	h (mm)	For Rail	Pack 1
6658 1 402	26	20	Strut 41x21	25
6658 1 404	46	40	Strut 41x41	25
6658 1 406	66	60	Strut 41x62	20
6658 1 408	87	81	Strut 41x82	10

Also available in stainless steel 1.4404 (AISI-no. 316L).

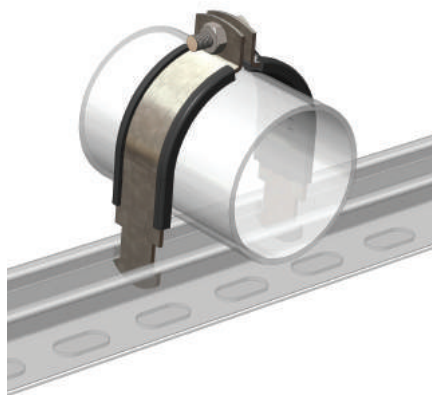


Subject to modifications

BIS Strut Clamps with Lining

for metal pipes Ø 85 - 315 mm

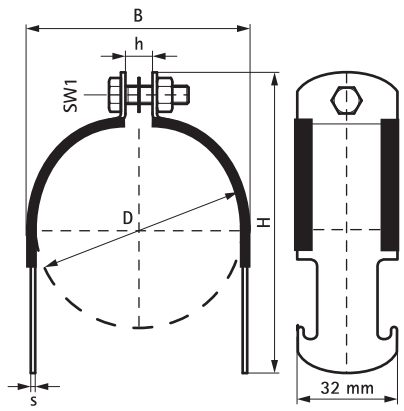




Features and Benefits

- two-part clamp
- for direct fixing of pipes to Strut Rail
- both ends suitable for locating into Strut Rail
- material: steel 1.0226
- pre-galvanized
- noise insulating lining, EPDM rubber, black
- sound insulating lining according DIN 4109

Part No.	D (mm)	D (")	DN (mm)	B (mm)	H (mm)	h (mm)	s (mm)	SW1 (mm)	Pack 1
210 5 090	85 - 90	3	80	98	134	12	2,0	13	50
210 5 110	105 - 110	-	-	117	159	17	2,5	17	50
210 5 140	130 - 140	5	125	147	189	17	2,5	17	25
210 5 160	150 - 160	-	-	165	210	17	3,0	17	25
210 5 200	190 - 200	-	-	208	244	17	3,0	17	25
210 5 225	215 - 225	8	200	233	276	17	3,0	17	25
210 5 250	240 - 250	-	-	258	301	17	3,0	17	25
210 5 315	315	-	-	323	366	17	3,0	17	25

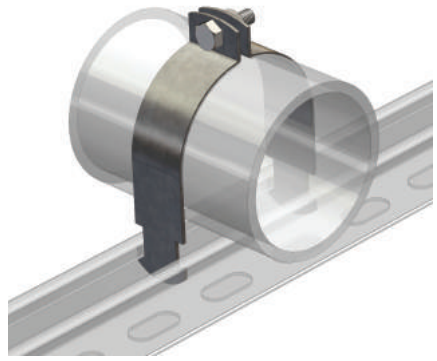


Subject to modifications

BIS Strut Clamps

for steel pipes Ø 9 - 250 mm

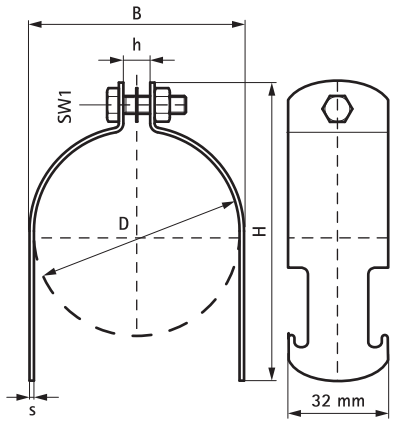




Features and Benefits

- two-part clamp
- for direct fixing of pipes to Strut Rail
- both ends suitable for locating into Strut Rail
- material: steel 1.0226
- pre-galvanized

Part No.	D (mm)	D (")	DN (mm)	B (mm)	H (mm)	h (mm)	s (mm)	SW1 (mm)	Pack 1
200 5 010	9 - 10	–	–	13	47	5,0	1,5	10	100
200 5 012	10 - 12	1/8	6	15	49	5,0	1,5	10	100
200 5 014	12 - 14	1/4	8	17	51	5,0	1,5	10	100
200 5 016	14 - 16	–	–	19	53	5,0	1,5	10	100
200 5 018	16 - 18	3/8	10	21	55	7,5	1,5	10	100
200 5 022	20 - 22	1/2	15	25	58	10,0	1,5	10	100
200 5 026	22 - 26	–	–	29	62	10,0	1,5	10	100
200 5 030	26 - 30	3/4	20	33	67	10,0	1,5	10	100
200 5 035	30 - 35	1	25	38	72	10,0	1,5	10	100
200 5 040	35 - 40	–	–	43	77	10,0	1,5	10	100
200 5 045	40 - 45	1 1/4	32	48	82	10,0	1,5	10	100
200 5 050	45 - 50	1 1/2	40	54	88	10,0	2,0	13	100
200 5 055	50 - 55	–	–	59	93	10,0	2,0	13	100
200 5 060	55 - 60	–	–	64	98	10,0	2,0	13	100
200 5 065	60 - 65	2	50	69	103	10,0	2,0	13	100
200 5 070	65 - 70	–	–	74	108	10,0	2,0	13	100
200 5 075	70 - 75	–	–	79	113	10,0	2,0	13	50
200 5 080	75 - 80	2 1/2	65	84	118	10,0	2,0	13	50
200 5 085	80 - 85	–	–	89	123	10,0	2,0	13	50
200 5 090	85 - 90	3	80	94	128	10,0	2,0	13	50
200 5 095	90 - 95	–	–	99	133	10,0	2,0	13	50
200 5 100	95 - 100	–	–	104	138	10,0	2,0	13	50
200 5 105	100 - 105	–	–	110	148	15,0	2,5	17	50
200 5 110	105 - 110	–	–	115	153	15,0	2,5	17	50
200 5 120	110 - 120	4	100	125	163	15,0	2,5	17	50
200 5 130	120 - 130	–	–	135	173	15,0	2,5	17	25
200 5 140	130 - 140	5	125	145	183	15,0	2,5	17	25
200 5 150	140 - 150		–	155	193	15,0	2,5	17	25
200 5 160	150 - 160	–	–	166	204	15,0	3,0	17	25
200 5 170	160 - 170	6	150	176	214	15,0	3,0	17	25
200 5 200	190 - 200	–	–	206	244	15,0	3,0	17	25
200 5 225	215 - 225	8	200	231	269	15,0	3,0	17	25
200 5 250	240 - 250	–	–	256	294	15,0	3,0	17	25

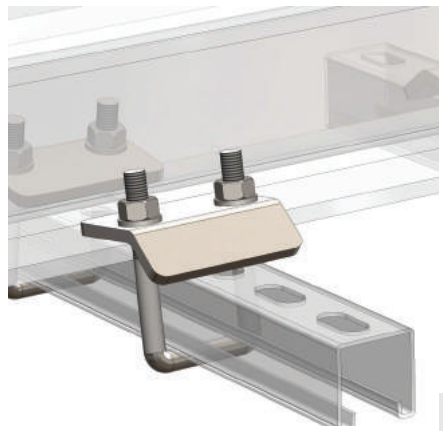


Subject to modifications

BIS Strut Rail Beam Clamps

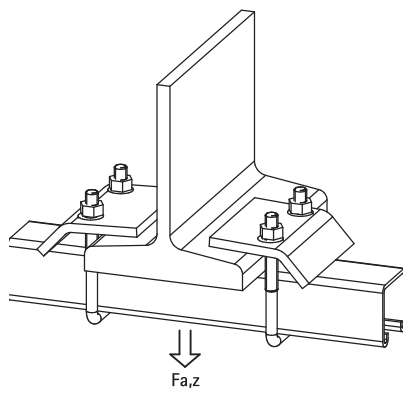
to make Strut rail fabrications





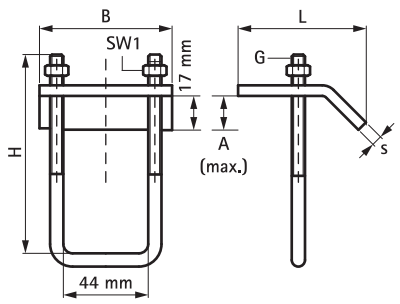
Features and Benefits

- for a solid fixing to steel construction without the need for welding or drilling
- always use 2 beam clamps per fixing
- material: steel 1.0332
- hot dip galvanized



Part No.	A (mm)	G	L	B (mm)	H (mm)	s (mm)	For Rail	SW1 (mm)	Fa,z (N)	Pack 1
6658 1 711	20	M10	69 mm	80	90	6.0	Strut 41x21 + 41x41 + 41x21D	17	5,700	25
6658 1 721	20	M10	69 mm	80	130	6.0	Strut 41x62 + 41x82 + 41x41D	17	5,700	25

Also available in stainless steel 1.4401 (AISI-no. 316).

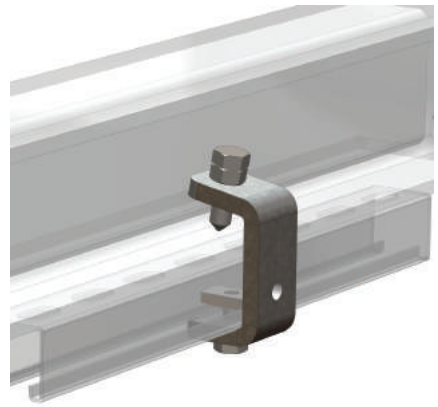


Subject to modifications

BIS Strut Beam Clamps

to make Strut rail fabrications



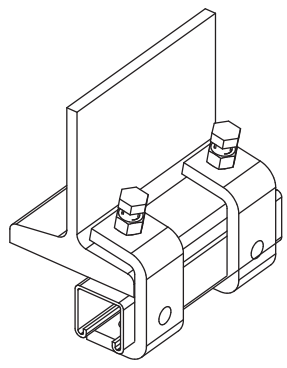


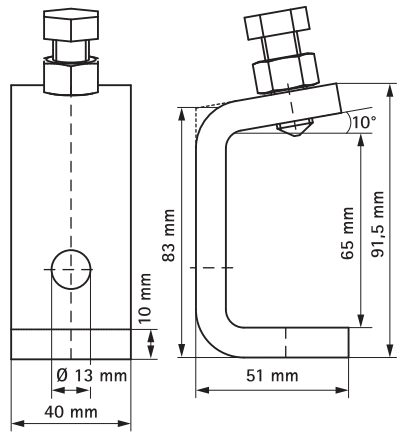
Features and Benefits

- for a solid fixing to steel construction without the need for welding or drilling
- always use 2 beam clamps per fixing
- material: steel 1.0332
- hot dip galvanized

Part No.	For Rail	Pack 1
6658 1 736	Strut 41x41 + Strut 41x21D	25

Also available in stainless steel 1.4404 (AISI-no. 316L).



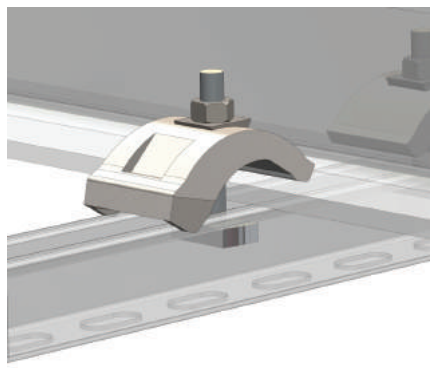


Subject to modifications

BIS Strut 'Heavy Duty' Beam Clamp

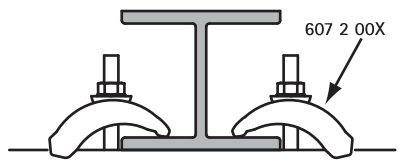
fixing to steel beam up to flange 35 mm



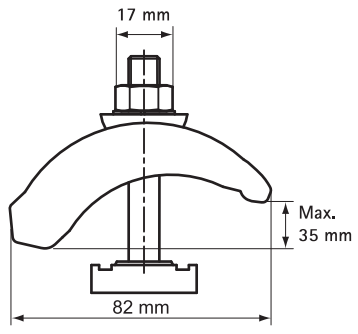


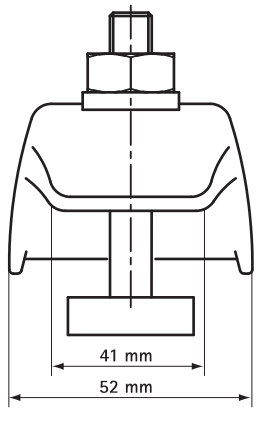
Features and Benefits

- for suspension of heavy components like cable trays, duct work, etc. onto beams without welding or drilling
- up to flange thickness 35 mm
- for fixing of Strut 41x21D or Strut 41x41D to a steel beam
- material: steel
- hot dip galvanized



Part No.	For Rail	T (max.) (Nm)	Pack 1
607 2 002	Strut	15.0	20





Subject to modifications

BIS Strut Rail End Caps (BUP1000)

finishing of Strut Rail



Features and Benefits

- for clean finishing of rail end, covers all burrs
- material: PE (polyethylene), green
- easy to fix securely

Part No.	For Rail	Pack 1	Pack 2
656 6 021	Strut 41x21	50	2.500
656 6 041	Strut 41x41	50	1.500
656 6 051	Strut 41x51 (BIS RapidStrut® DS 5)	40	200

For profile with 62/82/164 mm insert end caps next to each other.

BIS Strut Rubber Strips

noise insulation lining for Strut rail

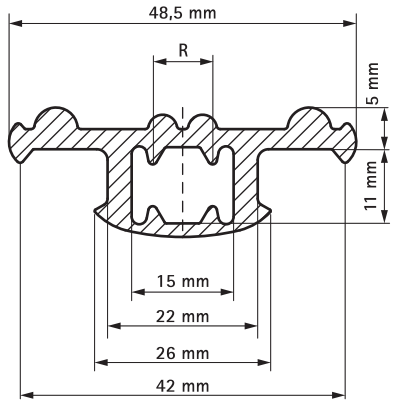




Features and Benefits

- push in strip
- noise insulating lining for rail
- also usable for threaded rod M6, M8 or M10
- material: EPDM rubber, black
- sound insulating lining according DIN 4109

Part No.	R	L	For Rail	Pack 1
656 8 041	¼ - ½"	30 m	Strut	30
656 8 042	¼ - ½"	50 mm	Strut	50



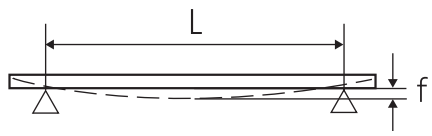
Subject to modifications

Use of Fixing Rail Loading Tables

Calculation method

The published safe working loads are based on tests with perforated (slotted) rail. For non perforated rail the safe working loads can be taken as 20 % higher.

Loads are calculated taking into consideration a maximum deflection (f) of length 1/200 x L and a maximum bending stress of 160 N/mm^2.



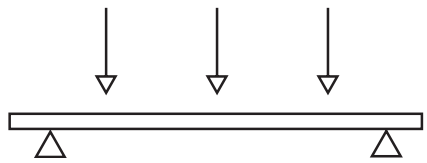
1 N (Newton) = 0,102 kg
1 kg = 9,8 N (Newton)

Fixing of rails to walls or ceilings

The strength of the anchoring of the rail has not been taken into consideration. The installer must verify that the bolts and wall plugs used are suitable for the maximum permitted loading of the rail.

Methods of loading

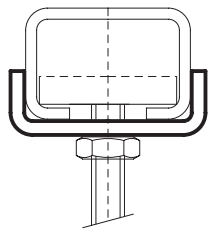
Where loads are suspended beneath rails, the load must not exceed the relevant safe load of the slide nut. To increase rigidity of the installation we recommend the use of a U-formed washer.



Reading the rail loading tables

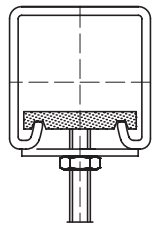
The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified. The stated maximum safe load is calculated for a static load at free bending support.

Where the segment is marked with a hyphen, the stated length cannot be safely loaded.



Special conditions

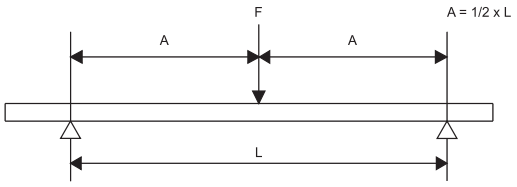
In case of doubt or for special conditions not stated in the loading tables, please do not hesitate to contact our technical department for their advice.



Subject to modifications

BIS RapidStrut® Fixing Rail

Suspension on 1 point



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WMO (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x62D	41x82D
250	758	1.848	2.381	5.427	6.556	7.611	14.730	23.035	8.812	7.081	22.804	32.686	42.030
300	631	1.540	1.984	4.523	5.463	6.342	12.275	19.196	7.343	5.901	19.004	27.238	35.025
350	541	1.320	1.701	3.877	4.683	5.436	10.522	16.453	6.294	5.058	16.289	23.347	30.021
400	474	1.155	1.488	3.392	4.098	4.757	9.206	14.397	5.507	4.426	14.253	20.429	26.269
450	421	1.027	1.323	3.015	3.642	4.228	8.183	12.797	4.895	3.934	12.669	18.159	23.350
500	379	924	1.190	2.714	3.278	3.805	7.365	11.517	4.406	3.540	11.402	16.343	21.015
600	316	770	992	2.261	2.732	3.171	6.138	9.598	3.671	2.950	9.502	13.619	17.513
700	266	660	850	1.938	2.341	2.718	5.261	8.227	3.147	2.529	8.144	11.674	15.011
800	204	557	719	1.696	2.049	2.378	4.603	7.198	2.754	2.213	7.126	10.214	13.134
900	161	440	568	1.508	1.821	2.114	4.092	6.399	2.448	1.967	6.335	9.079	11.675
1.000	130	356	460	1.357	1.639	1.903	3.683	5.759	2.203	1.770	5.701	8.172	10.508
1.200	91	247	320	1.131	1.366	1.586	3.069	4.799	1.836	1.475	4.751	6.810	8.756
1.400	67	182	235	969	1.171	1.359	2.630	4.113	1.573	1.264	4.072	5.837	7.505
1.600	51	139	180	794	952	1.114	2.302	3.599	1.377	1.015	3.563	5.107	6.567
1.800	40	110	142	628	752	881	2.046	3.199	1.224	802	3.167	4.540	5.838
2.000	33	89	115	508	609	713	1.841	2.879	1.004	650	2.851	-	-
2.250	26	70	91	402	481	564	1.624	2.559	794	513	2.534	-	-
2.500	21	57	74	325	390	456	1.315	2.303	643	416	2.280	-	-
2.750	17	47	61	269	322	377	1.087	2.094	531	344	2.073	-	-
3.000	14	40	51	226	271	317	913	1.890	446	289	1.864	-	-
3.250	12	34	44	193	231	270	778	1.611	380	246	1.588	-	-
3.500	11	29	38	166	199	233	671	1.389	328	212	1.370	-	-
3.750	-	25	33	145	173	203	584	1.210	286	185	1.193	-	-
4.000	-	22	29	127	152	178	514	1.063	251	162	1.049	-	-
4.250	-	20	25	113	135	158	455	942	222	144	929	-	-
4.500	-	18	23	100	120	141	406	840	198	128	828	-	-
4.750	-	16	20	90	108	126	364	754	178	115	744	-	-
5.000	-	14	18	81	97	114	329	680	161	104	671	-	-
5.250	-	13	17	74	88	104	298	617	146	94	609	-	-
5.500	-	12	15	67	81	94	272	562	133	86	555	-	-
5.750	-	11	14	62	74	86	249	515	122	79	507	-	-
6.000	-	-	13	56	68	79	228	473	112	72	466	-	-

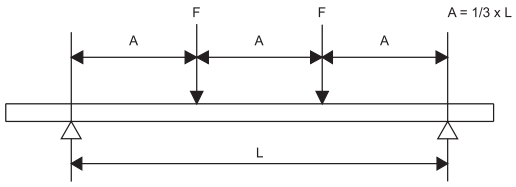
Max. allowed load in N.

The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

BIS RapidStrut® Fixing Rail

2 equal loads



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WMO (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x62D	41x82D
250	568	1.386	1.786	4.070	4.917	5.708	11.048	17.276	6.609	5.311	17.103	24.515	31.523
300	474	1.155	1.488	3.392	4.098	4.757	9.206	14.397	5.507	4.426	14.253	20.429	26.269
350	406	990	1.275	2.907	3.512	4.077	7.891	12.340	4.720	3.793	12.217	17.510	22.516
400	355	866	1.116	2.544	3.073	3.568	6.905	10.798	4.130	3.319	10.690	15.322	19.702
450	316	770	992	2.261	2.732	3.171	6.138	9.598	3.671	2.950	9.502	13.619	17.513
500	284	693	893	2.035	2.459	2.854	5.524	8.638	3.304	2.655	8.552	12.257	15.761
600	213	578	744	1.696	2.049	2.378	4.603	7.198	2.754	2.213	7.126	10.214	13.134
700	156	427	552	1.454	1.756	2.039	3.946	6.170	2.360	1.897	6.108	8.755	11.258
800	120	327	422	1.272	1.537	1.784	3.452	5.399	2.065	1.660	5.345	7.661	9.851
900	95	258	334	1.131	1.366	1.586	3.069	4.799	1.836	1.475	4.751	6.810	8.756
1.000	77	209	270	1.018	1.229	1.427	2.762	4.319	1.652	1.328	4.276	6.129	7.881
1.200	53	145	188	829	993	1.163	2.302	3.599	1.377	1.059	3.563	5.107	6.567
1.400	39	107	138	609	730	854	1.973	3.085	1.180	778	3.054	4.378	5.629
1.600	30	82	106	466	559	654	1.726	2.699	921	596	2.672	3.830	4.925
1.800	24	65	83	368	442	517	1.489	2.399	728	471	2.375	3.405	4.378
2.000	19	52	68	298	358	419	1.206	2.160	590	381	2.138	-	-
2.250	15	41	53	236	283	331	953	1.920	466	301	1.900	-	-
2.500	12	33	43	191	229	268	772	1.598	377	244	1.576	-	-
2.750	10	28	36	158	189	221	638	1.320	312	202	1.302	-	-
3.000	-	23	30	133	159	186	536	1.109	262	169	1.094	-	-
3.250	-	20	26	113	135	159	457	945	223	144	932	-	-
3.500	-	17	22	97	117	137	394	815	192	124	804	-	-
3.750	-	15	19	85	102	119	343	710	168	108	700	-	-
4.000	-	13	17	75	89	105	302	624	147	95	615	-	-
4.250	-	12	15	66	79	93	267	553	131	84	545	-	-
4.500	-	10	13	59	71	83	238	493	116	75	486	-	-
4.750	-	-	12	53	63	74	214	443	105	68	436	-	-
5.000	-	-	11	48	57	67	193	399	94	61	394	-	-
5.250	-	-	-	43	52	61	175	362	86	55	357	-	-
5.500	-	-	-	39	47	55	159	330	78	50	326	-	-
5.750	-	-	-	36	43	51	146	302	71	46	298	-	-
6.000	-	-	-	33	40	47	134	277	66	42	274	-	-

Max. allowed load in N. per suspension point (F).

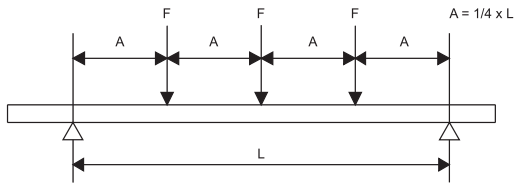
The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

diamond walraven

BIS RapidStrut® Fixing Rail

3 equal loads



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WMO (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x62D	41x82D
250	379	924	1.190	2.714	3.278	3.805	7.365	11.517	4406	3.540	11.402	16.343	21.015
300	316	770	992	2.261	2.732	3.171	6.138	9.598	3671	2.950	9.502	13.619	17.513
350	271	660	850	1.938	2.341	2.718	5.261	8.227	3147	2.529	8.144	11.674	15.011
400	237	578	744	1.696	2.049	2.378	4.603	7.198	2754	2.213	7.126	10.214	13.134
450	210	513	661	1.508	1.821	2.114	4.092	6.399	2448	1.967	6.335	9.079	11.675
500	189	462	595	1.357	1.639	1.903	3.683	5.759	2203	1.770	5.701	8.172	10.508
600	153	385	496	1.131	1.366	1.586	3.069	4.799	1836	1.475	4.751	6.810	8.756
700	112	306	396	969	1.171	1.359	2.630	4.113	1573	1.264	4.072	5.837	7.505
800	86	234	303	848	1.024	1.189	2.302	3.599	1377	1.106	3.563	5.107	6.567
900	68	185	239	754	911	1.057	2.046	3.199	1224	983	3.167	4.540	5.838
1.000	55	150	194	678	820	951	1.841	2.879	1101	885	2.851	4.086	5.254
1.200	38	104	135	565	683	793	1.534	2.399	918	738	2.375	3.405	4.378
1.400	28	77	99	437	524	613	1.315	2.057	787	558	2.036	2.918	3.753
1.600	21	59	76	335	401	469	1.151	1.800	661	427	1.782	2.554	3.284
1.800	17	46	60	264	317	371	1.023	1.600	522	338	1.584	2.270	2.919
2.000	14	38	48	214	257	300	865	1.440	423	274	1.425	-	-
2.250	11	30	38	169	203	237	684	1.280	334	216	1.267	-	-
2.500	-	24	31	137	164	192	554	1.146	271	175	1.130	-	-
2.750	-	20	26	113	136	159	458	947	224	145	934	-	-
3.000	-	17	22	95	114	133	385	796	188	122	785	-	-
3.250	-	14	18	81	97	114	328	678	160	104	669	-	-
3.500	-	12	16	70	84	98	283	585	138	89	577	-	-
3.750	-	11	14	61	73	85	246	509	120	78	502	-	-
4.000	-	-	12	54	64	75	216	448	106	68	441	-	-
4.250	-	-	11	47	57	67	192	397	94	61	391	-	-
4.500	-	-	-	42	51	59	171	354	84	54	349	-	-
4.750	-	-	-	38	45	53	153	317	75	48	313	-	-
5.000	-	-	-	34	41	48	138	287	68	44	283	-	-
5.250	-	-	-	31	37	44	126	260	61	40	256	-	-
5.500	-	-	-	28	34	40	114	237	56	36	234	-	-
5.750	-	-	-	26	31	36	105	217	51	33	214	-	-
6.000		-	-	24	29	33	96	199	47	30	196	-	-

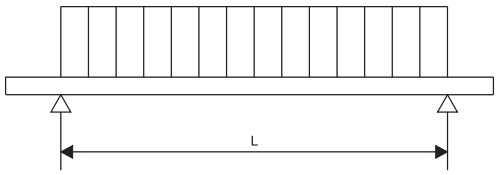
Max. allowed load in N. per suspension point (F).

The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

BIS RapidStrut® Fixing Rail

Uniformly distributed load



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WMO (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x62D	41x82D
250	1.516	3.697	4.762	10.854	13.112	15.222	29.460	46.070	17.623	14.162	45.609	65.372	84.060
300	1.263	3.081	3.968	9.045	10.927	12.685	24.550	38.391	14.686	11.802	38.007	54.477	70.050
350	1.083	2.640	3.401	7.753	9.366	10.873	21.043	32.907	12.588	10.116	32.578	46.694	60.043
400	947	2.310	2.976	6.784	8.195	9.514	18.413	28.794	11.014	8.851	28.506	40.858	52.538
450	842	2.054	2.645	6.030	7.285	8.457	16.367	25.594	9.791	7.868	25.338	36.318	46.700
500	758	1.848	2.381	5.427	6.556	7.611	14.730	23.035	8.812	7.081	22.804	32.686	42.030
600	580	1.540	1.984	4.523	5.463	6.342	12.275	19.196	7.343	5.901	19.004	27.238	35.025
700	426	1.163	1.503	3.877	4.683	5.436	10.522	16.453	6.294	5.058	16.289	23.347	30.021
800	326	891	1.151	3.392	4.098	4.757	9.206	14.397	5.507	4.426	14.253	20.429	26.269
900	258	704	909	3.015	3.642	4.228	8.183	12.797	4.895	3.934	12.669	18.159	23.350
1.000	209	570	737	2.714	3.278	3.805	7.365	11.517	4.406	3.540	11.402	16.343	21.015
1.200	145	396	512	2.260	2.708	3.170	6.138	9.598	3.671	2.887	9.502	13.619	17.513
1.400	106	291	376	1.660	1.989	2.329	5.261	8.227	3.147	2.121	8.144	11.674	15.011
1.600	82	223	288	1.271	1.523	1.783	4.603	7.198	2.511	1.624	7.126	10.214	13.134
1.800	64	176	227	1.004	1.204	1.409	4.059	6.399	1.984	1.283	6.335	9.079	11.675
2.000	52	143	184	814	975	1.141	3.288	5.759	1.607	1.039	5.701	-	-
2.250	41	113	146	643	770	902	2.598	5.119	1.270	821	5.068	-	-
2.500	33	91	118	521	624	730	2.104	4.355	1.028	665	4.295	-	-
2.750	28	75	97	430	516	604	1.739	3.599	850	550	3.549	-	-
3.000	23	63	82	362	433	507	1.461	3.024	714	462	2.983	-	-
3.250	20	54	70	308	369	432	1.245	2.577	609	394	2.541	-	-
3.500	17	47	60	266	318	373	1.074	2.222	525	339	2.191	-	-
3.750	15	41	52	231	277	325	935	1.936	457	296	1.909	-	-
4.000	13	36	46	203	244	285	822	1.701	402	260	1.678	-	-
4.250	12	32	41	180	216	253	728	1.507	356	230	1.486	-	-
4.500	10	28	36	161	193	225	649	1.344	317	205	1.326	-	-
4.750	-	25	33	144	173	202	583	1.206	285	184	1.190	-	-
5.000	-	23	29	130	156	183	526	1.089	257	166	1.074	-	-
5.250	-	21	27	118	141	166	477	988	233	151	974	-	-
5.500	-	19	24	108	129	151	435	900	212	137	887	-	-
5.750	-	17	22	98	118	138	398	823	194	126	812	-	-
6.000	-	16	20	90	108	127	365	756	179	115	746	-	-

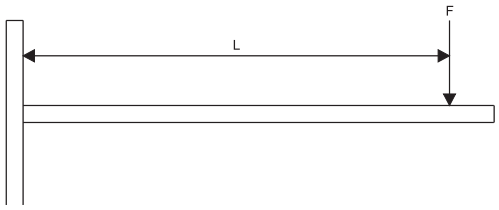
Max. allowed load in N.

The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

BIS RapidStrut® Cantilever Arms

Suspension on 1 point



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WM0 (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x62D	41x82D
100	474	1.155	1.488	3.392	4.098	4.757	9.206	14.397	5.507	4.426	14.253	20.429	26.269
150	316	770	992	2.261	2.732	3.171	6.138	9.598	3.671	2.950	9.502	13.619	17.513
200	204	557	719	1.696	2.049	2.378	4.603	7.198	2.754	2.213	7.126	10.214	13.134
250	130	356	460	1.357	1.639	1.903	3.683	5.759	2.203	1.770	5.701	8.172	10.508
300	91	247	320	1.131	1.366	1.586	3.069	4.799	1.836	1.475	4.751	6.810	8.756
350	67	182	235	969	1.171	1.359	2.630	4.113	1.573	1.264	4.072	5.837	7.505
400	51	139	180	794	952	1.114	2.302	3.599	1.377	1.015	3.563	5.107	6.567
450	40	110	142	628	752	881	2.046	3.199	1.224	802	3.167	4.540	5.838
500	33	89	115	508	609	713	1.841	2.879	1.004	650	2.851	4.086	5.254
550	27	74	95	420	504	589	1.674	2.618	830	537	2.591	3.714	4.776
600	23	62	80	353	423	495	1.427	2.399	697	451	2.375	3.405	4.378
700	17	45	59	259	311	364	1.048	2.057	512	331	2.036	2.918	3.753
800	13	35	45	199	238	279	803	1.661	392	254	1.638	2.554	3.284
900	10	27	36	157	188	220	634	1.313	310	200	1.295	2.270	2.919
1.000	-	22	29	127	152	178	514	1.063	251	162	1.049	2.043	2.627
1.100	-	18	24	105	126	147	425	879	208	134	867	1.857	2.388
1.200	-	15	20	88	106	124	357	738	174	113	728	1.702	2.189
1.300	-	13	17	75	90	106	304	629	149	96	620	1.571	2.021
1.400	-	11	15	65	78	91	262	542	128	83	535	1.459	1.876
1.500	-	-	13	56	68	79	228	473	112	72	466	1.362	1.751

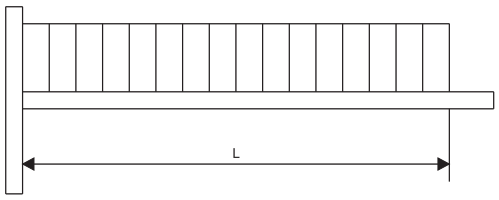
Max. allowed load in N.

The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

BIS RapidStrut® Cantilever Arms

Uniformly distributed load



	BIS RapidStrut® single								DS 5	BIS RapidStrut® double			
L (mm)	WM0 (27 x 18)	41x21 1,5	41x21 2,5	41x41 1,5	41x41 2,0	41x41 2,5	41x62 2,5	41x82 2,5	41x51 2,0	41x21D	41x41D	41x61D	41x81D
100	947	2.310	2.976	6.784	8.195	9.514	18.413	28.794	11.014	8.851	28.506	40.858	52.538
150	631	1.540	1.984	4.523	5.463	6.342	12.275	19.196	7.343	5.901	19.004	27.238	35.025
200	474	1.155	1.488	3.392	4.098	4.757	9.206	14.397	5.507	4.426	14.253	20.429	26.269
250	348	924	1.190	2.714	3.278	3.805	7.365	11.517	4.406	3.540	11.402	16.343	21.015
300	242	660	853	2.261	2.732	3.171	6.138	9.598	3.671	2.950	9.502	13.619	17.513
350	177	485	626	1.938	2.341	2.718	5.261	8.227	3.147	2.529	8.144	11.674	15.011
400	136	371	480	1.696	2.049	2.378	4.603	7.198	2.754	2.213	7.126	10.214	13.134
450	107	293	379	1.508	1.821	2.114	4.092	6.399	2.448	1.967	6.335	9.079	11.675
500	87	238	307	1.356	1.625	1.902	3.683	5.759	2.203	1.732	5.701	8.172	10.508
550	72	196	254	1.121	1.343	1.572	3.348	5.235	2.003	1.432	5.183	7.429	9.552
600	60	165	213	942	1.128	1.321	3.069	4.799	1.836	1.203	4.751	6.810	8.756
700	44	121	157	692	829	970	2.630	4.113	1.367	884	4.072	5.837	7.505
800	34	93	120	530	635	743	2.140	3.599	1.046	677	3.563	5.107	6.567
900	27	73	95	418	501	587	1.691	3.199	827	535	3.167	4.540	5.838
1.000	22	59	77	339	406	476	1.370	2.835	670	433	2.796	4.086	5.254
1.100	18	49	63	280	336	393	1.132	2.343	553	358	2.311	3.714	4.776
1.200	15	41	53	235	282	330	951	1.969	465	301	1.942	3.405	4.378
1.300	13	35	45	201	240	281	811	1.678	396	256	1.655	3.143	4.041
1.400	11	30	39	173	207	243	699	1.447	342	221	1.427	2.918	3.753
1.500	-	26	34	151	181	211	609	1.260	298	192	1.243	2.724	3.503

Max. allowed load in N.

The stated values are only valid for the fixing rail.
The maximum safe load of all other construction parts have to be verified.

Subject to modifications

Notes

Subject to modifications

BIS Rooftop + Solar Fixings



BIS Support System for Rooftop Installations

BIS Yeti® 480 Support System (BUP1000) 154
BIS Yeti® 335 Support System (BUP1000) 155
BIS Yeti® 335 Frame Set 156
BIS Ursus Foot Support System (BUP1000) 157



BIS Solar Panel Fixings

BIS Spectrum® PV Mounting System 158



BIS Thermal Panel Fixings

BIS Solar Fixing Thermal Collector (BUP1000) 159

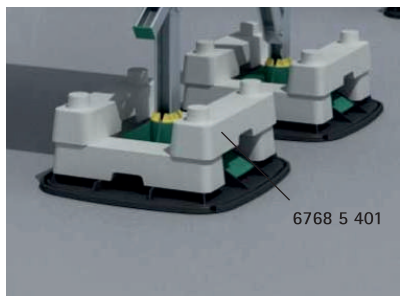
Subject to modifications

BIS Yeti® 480 Support System (BUP1000)

for Rooftop Installations

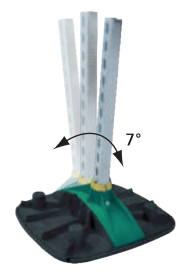




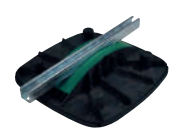


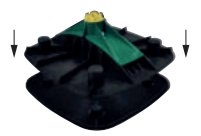
Features and Benefits

- modular supporting system for climate installations, solar panels, walkways, pipe work, cable ways, etc.
- for flat and low pitched roofs
- adjustable up to 7° to compensate roof pitch
- 360° rotatable insert for BIS RapidStrut® 41x41 or BIS RapidStrut® DS 5 (41x52 mm)
- with non-slip anti-vibration mat
- with optional stackable ballast block for increased weight / stability
- mouldings made of WPC, a composite of recycled plastic and wood fibre
- resistant to UV and chemical influences
- BIS Yeti 480 H-set consisting of:
  - 2 x BIS Yeti® 480 vertical, including non-slip anti-vibration mat (made of rubber)
  - 2 x BIS Strut Rail End Cap
  - 2 x BIS Strut Connector 90°
  - 6 x hexagon head bolts and slide nuts



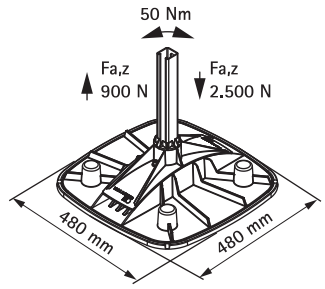






Part No.	Model	For Rail	Pack 1	Pack 2
6768 5 001	Vertical, including non-slip anti-vibration mat	Strut 41x41 + DS 5 (41x51)	1	25
6768 5 101	Horizontal, including non-slip anti-vibration mat	Strut 41x41 + DS 5 (41x51)	1	30
6768 5 301	H-set (without Strut Rail)	Strut 41x41 + DS 5 (41x51)	1	-
6768 5 401	Ballast block	-	1	100

Fa,z load is break load only, for a detailed load calculation please contact Walraven technical support. In cases where a foot is used in roof applications, the installer is obliged to verify maximum load capacity of roof before installation.



Subject to modifications

BIS Yeti® 335 Support System (BUP1000)

for Rooftop Installations



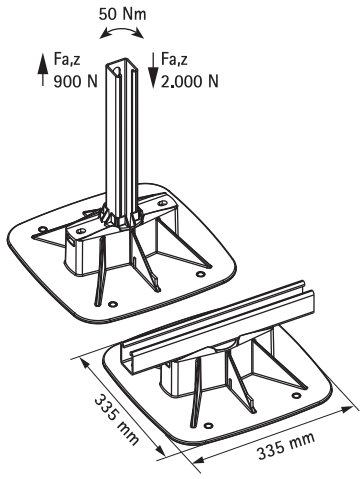


Features and Benefits

- modular supporting system for climate installations, solar panels, walkways, pipe work, cable ways, etc.
- for flat roofs
- for horizontal and vertical applications
- 360° rotatable insert for BIS RapidStrut® 41x41 or BIS RapidStrut® DS 5 (41x52 mm)
- with non-slip anti-vibration mat
- mouldings made of WPC, a composite of recycled plastic and wood fibre
- resistant to UV and chemical influences
- BIS Yeti 335 H-set consisting of:
  - 2 x BIS Yeti® 335 including non-slip anti-vibration mat (made of rubber)
  - 2 x BIS Strut Rail End Cap
  - 2 x BIS Strut Connector 90°
  - 6 x hexagon head bolts and slide nuts

Part No.	Model	For Rail	Pack 1	Pack 2
6768 5 201	Including non-slip anti-vibration mat	Strut 41x41 + DS 5 (41x51)	1	75
6768 5 211	Including non-slip anti-vibration mat	Strut 41x41 + DS 5 (41x51)	2	54
6768 5 302	H-set (without Strut Rail)	Strut 41x41 + DS 5 (41x51)	1	27

Fa,z load is break load only, for a detailed load calculation please contact Walraven technical support. In cases where a foot is used in roof applications, the installer is obliged to verify maximum load capacity of roof before installation.



Subject to modifications

BIS Yeti® 335 Frame Set

for Rooftop Installations



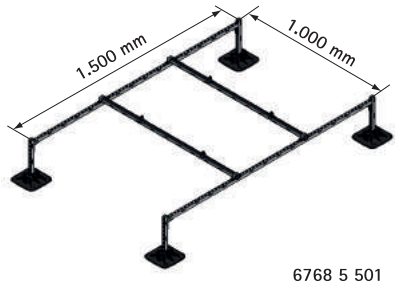


Features and Benefits

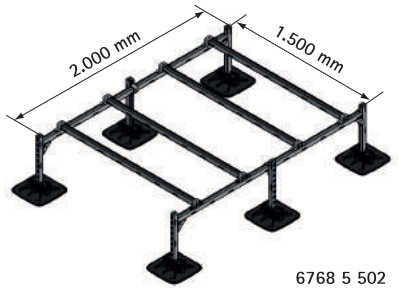
- complete set for supporting installation appliances on flat roofs
- suitable for wide range of commonly used airco's, ventilation units, etc.
- with non-slip anti-vibration mat
- predefined load capacity: calculation not necessary
- device can't be heavier than 150 kg
- top of device can't be higher than 1.2 m over the roof level
- mouldings made of WPC, a composite of recycled plastic and wood fibre

Part No.	Model	Pack 1
6768 5 501	BIS Yeti® 335 for 1 installation appliance	1
6768 5 502	BIS Yeti® 335 for 2 installation appliances	1

Before mounting, the roof load capacity has to be confirmed by a structural engineer.
If changes to the mounting parameters is necessary then please contact Walraven Technical Department.



6768 5 501



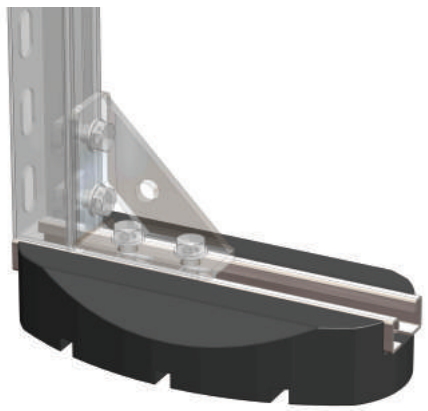
6768 5 502

Subject to modifications

BIS Ursus Foot Support System (BUP1000)

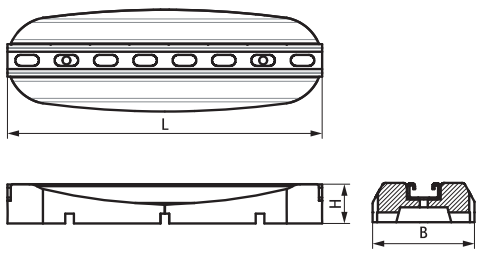
for Rooftop Installations





Features and Benefits

- for supporting small pipework systems, ductwork runs and cable trays
- to support climate installations, walkways on flat roofs, etc.
- does not penetrate the waterproof membrane
- material: vulcanized rubber, black; Strut Rail made of steel 1.0242
- UV resistant
- Strut Rail: surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

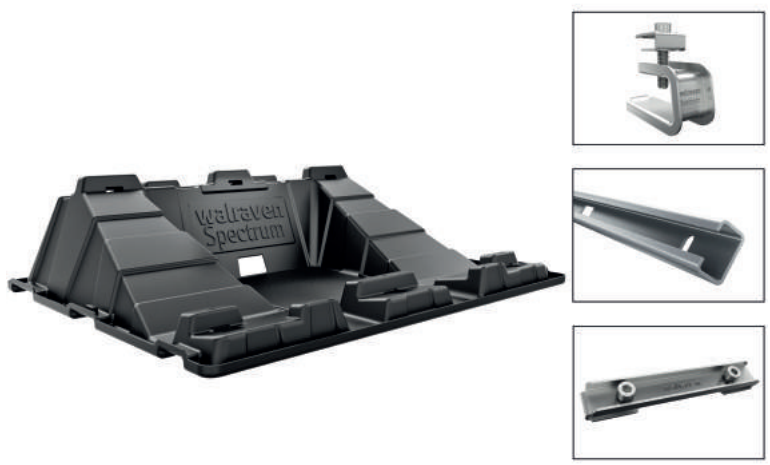


Part No.	Model	L	B (mm)	H (mm)	Fa,z (N)	Pack 1	Pack 2
6768 7 250	Horizontal, including rail	250 mm	130	50	1.000	1	400
6768 7 400	Horizontal, including rail	400 mm	130	50	2.000	1	350
6768 7 600	Horizontal, including rail	600 mm	240	95	3.000	1	80

Fa,z load is break load only, for a detailed load calculation please contact Walraven technical support. In cases where a foot is used in roof applications, the installer is obliged to verify maximum load capacity of roof before installation.

Subject to modifications

BIS Spectrum® PV Mounting System





Features and Benefits

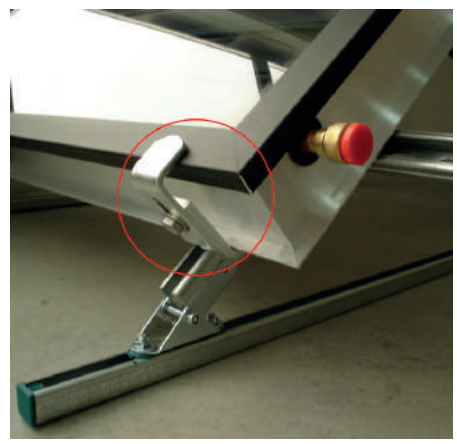
- solid construction
- quick and easy assembly
- minimum ballast
- non-penetrating system

Part No.	Model	Pack 1
790 9 900	BIS Spectrum® Mounting Unit	1
790 8 100	BIS Spectrum® Universal Clip	1
790 8 615	BIS Spectrum® Rail	1
790 8 101	BIS Spectrum® Rail Connector	1

Subject to modifications

BIS Solar Fixing Thermal Collector (BUP1000)

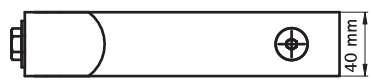


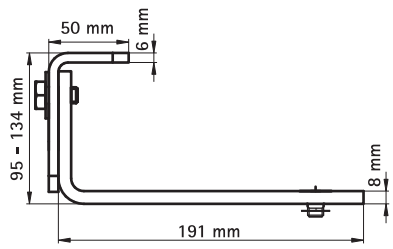


Features and Benefits

- to fix thermal solar collectors to the building
- quick installation
- suitable for solar collectors in thickness 80 - 110 mm
- material: steel 1.0037; bolts made of stainless steel
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227

Part No.	Pack 1
790 0 000	10





Subject to modifications

Notes

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Subject to modifications

K BIS Fixing Accessories



BIS Wall Plates

BIS Wall Plates 670 162
BIS Wall Plates 671 and 675 162



BIS Screws, Bolts, Washers, Nuts

BIS Suspension Eyes (Female Threaded) 163
Flat Washer 163
Hex Nut 164
Hardware Eye Rod 164
Hardware Turn Buckle 165
Hardware Forged Clevis 165



BIS Stud Bolts, Stud Connectors

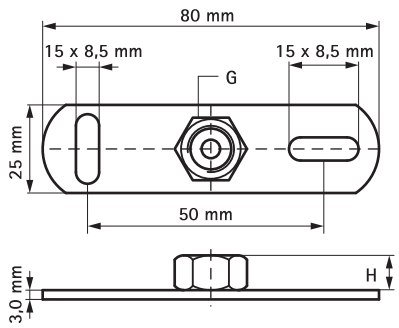
BIS Threaded Rods 166
Threaded Rod 167
Hexagonal Coupling Nut 167

Subject to modifications

BIS Wall Plates 670

fixing to wall or ceiling





Features and Benefits

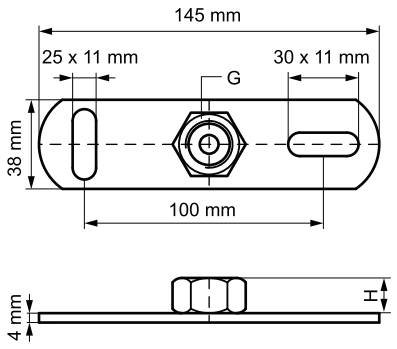
- slots at 90° to each other to simplify fixing
- with resistance welded connection nut
- material: steel
- zinc plated

Part No.	G	H (mm)	Fa,z (N)	Pack 1	Pack 2
670 3 006	M6	6	2,500	50	250
670 3 008	M8	8	2,500	50	250
670 3 009	M8/10	18	2,500	50	250
670 3 010	M10	10	2,500	50	250
670 3 012	M12	12	2,500	50	250
670 3 016	M16	13	2,500	50	250
670 3 021	G½"	15	2,500	50	250

BIS Wall Plates 671 and 675

fixing to wall or ceiling





Features and Benefits

- slots at 90° to each other to simplify fixing
- Part No. 671 3 0XX: with resistance welded connection nut
- Part No. 671 9 0XX: with CO_2 welded connection nut
- material: steel
- zinc plated

Part No.	Type	G	H (mm)	Fa,z (N)	Pack 1
671 3 008	671	M8	8	3.800	40
671 3 010	671	M10	10	3.800	40
671 3 012	671	M12	10	3.800	40
671 3 016	671	M16	13	3.800	50
671 3 021	671	G½"	15	3.800	50
671 9 012	675	M12	14	6.000	50
671 9 016	675	M16	17	6.000	50
671 9 021	675	G½"	19	6.000	50
671 9 027	675	G¾"	22	6.000	50
671 9 033	675	G1"	24	6.000	50

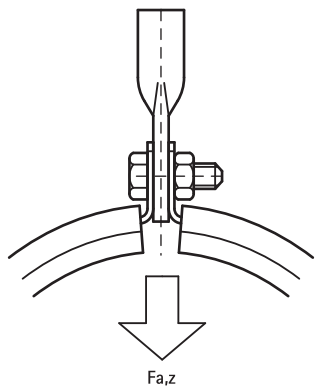
Subject to modifications

BIS Suspension Eyes

to make a suspension point

680

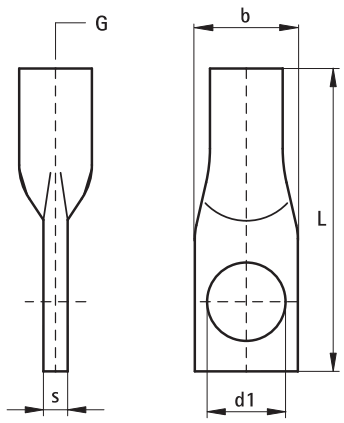




Features and Benefits

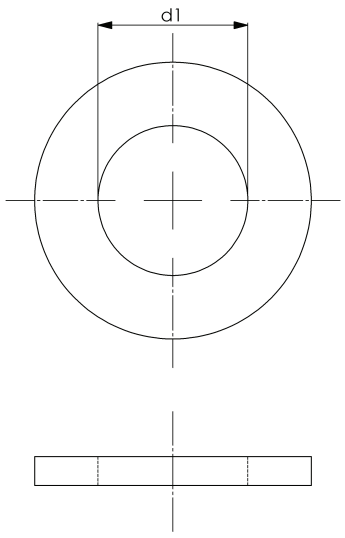
- closed design to maximize loading
- material: steel
- zinc plated

Part No.	G	L	b x s (mm)	d1 (mm)	Fa,z (N)	Pack 1	Pack 2
680 3 008	M8	45 mm	13,5 x 3,5	Ø 8.5	2.580	100	500
680 3 010	M10	50 mm	17,0 x 4,0	Ø 10.5	3.540	100	500
680 3 012	M12	55 mm	20,5 x 5,5	Ø 10.5	7.750	100	500



Flat Washer





Features and Benefits

- material: steel
- zinc plated

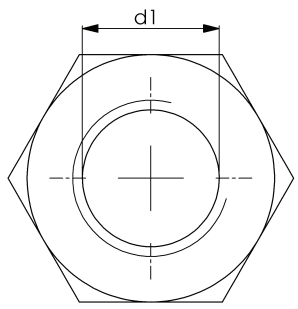
Part No.	d1 (mm)
DMC3 3 206	6
DMC3 3 208	8
DMC3 3 210	10
DMC3 3 212	12
DMC3 3 216	16
DMC3 3 218	18
DMC3 3 220	20
DMC3 3 222	22
DMC3 3 224	24

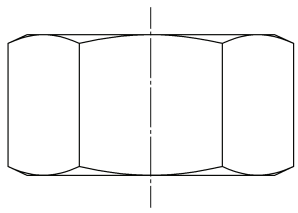
Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

Hex Nut







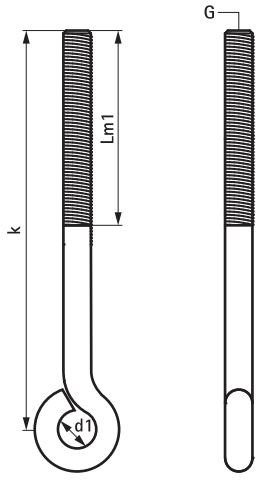
Features and Benefits

- material: steel
- zinc plated

Part No.	G
DMC3 3 106	M6
DMC3 3 108	M8
DMC3 3 110	M10
DMC3 3 112	M12
DMC3 3 116	M16
DMC3 3 118	M18
DMC3 3 120	M20
DMC3 3 122	M22
DMC3 3 124	M24

Hardware Eye Rod





Features and Benefits

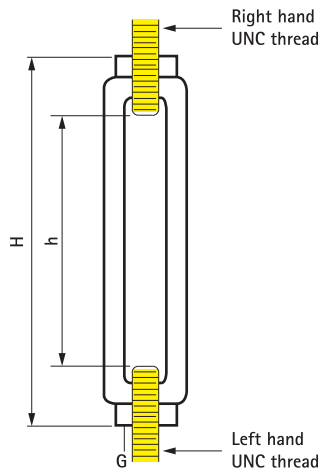
- structural attachment as a hanger rod
- electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12

Part No.	G	d1 (mm)	Lm1 (mm)	k (mm)	Fa,z (N)
DM C43 2 100	M10	22	65	100	1,000
DM C43 2 150	M10	22	65	150	1,000
DM C43 2 200	M10	22	65	200	1,000

Subject to modifications

Hardware Turn Buckle





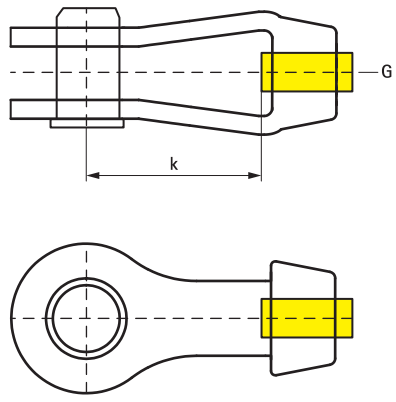
Features and Benefits

- used to provide vertical adjustment up to 140 mm
- ends are threaded in opposite directions
- designed to meet MSS Standard SP-58, type 13

Part No.	G	H (mm)	h (mm)	Fa,z (N)
DMC4 3 010	M10	180	145	5,000
DMC4 3 012	M12	190	145	10,000
DMC4 3 016	M16	200	140	16,000
DMC4 3 020	M20	210	140	25,000
DMC4 3 022	M22	220	140	32,500

Hardware Forged Clevis





Features and Benefits

- used to attach to vertical plates hat have been welded to structure or pipe
- designed to meet MSS Standard SP-58, type 14

Part No.	G	k (mm)	Fa,z (N)
DMC4 3 110	M10	90	2,500
DMC4 3 112	M12	90	5,000
DMC4 3 116	M16	90	8,000
DMC4 3 120	M20	100	12,000
DMC4 3 122	M22	100	17,000
DMC4 3 125	M25	125	22,000
DMC4 3 132	M32	125	36,000
DMC4 3 138	M38	150	50,000
DMC4 3 145	M45	150	70,000
DMC4 3 160	M60	175	90,000

Subject to modifications

BIS Threaded Rods

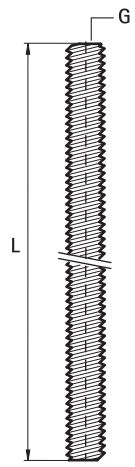
fixing to rail, wall plates, etc.



Features and Benefits

- according to DIN 976-1
- material: steel
- zinc plated
- tested for fire safety

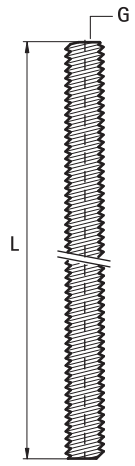
Part No.	Type	G	L	BndS
630 3 006	DIN 976-1	M6	1 m	100
630 3 206	DIN 976-1	M6	2 m	50
630 3 306	DIN 976-1	M6	3 m	50
630 3 008	DIN 976-1	M8	1 m	50
630 3 208	DIN 976-1	M8	2 m	25
630 3 308	DIN 976-1	M8	3 m	25
630 3 010	DIN 976-1	M10	1 m	25
630 3 210	DIN 976-1	M10	2 m	20
630 3 310	DIN 976-1	M10	3 m	20
630 3 012	DIN 976-1	M12	1 m	20
630 3 212	DIN 976-1	M12	2 m	15
630 3 312	DIN 976-1	M12	3 m	15
630 3 014	DIN 976-1	M14	1 m	10
630 3 016	DIN 976-1	M16	1 m	10
630 3 216	DIN 976-1	M16	2 m	10
630 3 316	DIN 976-1	M16	3 m	1
630 3 018	DIN 976-1	M18	1 m	10
630 3 020	DIN 976-1	M20	1 m	5
630 3 024	DIN 976-1	M24	1 m	5



Subject to modifications

Threaded Rod





Features and Benefits

- material: steel
- zinc plated

Part No.	G	L
DMC3 3 006	M6	2 m.
DMC3 3 008	M8	2 m.
DMC3 3 010	M10	2 m.
DMC3 3 012	M12	2 m.
DMC3 3 016	M16	2 m.
DMC3 3 018	M18	2 m.
DMC3 3 020	M20	2 m.
DMC3 3 022	M22	2 m.
DMC3 3 024	M24	2 m.
DMC3 3 030	M30	2 m.

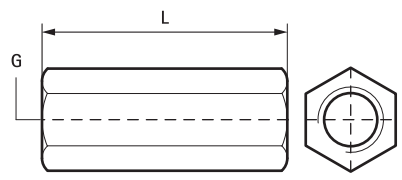
Hot Dip Galvanized and Stainless Steel option available on request.

Hexagonal Coupling Nut



Features and Benefits

- to connect 2 male threaded components
- material: steel
- zinc plated



Part No.	G	L
DM C33 7 006	M6	22 mm
DM C33 7 008	M8	22 mm
DM C33 7 010	M10	44 mm
DM C33 7 012	M12	44 mm
DM C33 7 016	M16	53 mm
DM C33 7 018	M18	56 mm
DM C33 7 022	M22	65 mm
DM C33 7 024	M24	65 mm

Hot Dip Galvanized and Stainless Steel option available on request.

Subject to modifications

Notes

Subject to modifications

L BIS Fastenings



BIS Anchors
BIS Drop-in Anchors 170
BIS Draw-in Anchors 170
BIS Brass Wall Plugs 171



BIS Plugs
BIS Universal Plugs 172

BIS Hammer-in Studs
BIS Hammer-in Plugs NA 173

Subject to modifications

Drop-in Anchors

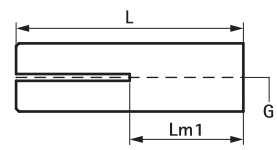
fixing to concrete, brick



610 3 0XX

Features and Benefits

- suitable for concrete (cracked and non-cracked)
- technical details and approval certificates on request
- material: steel
- zinc plated
- tested for fire safety



610 3 XXX

Part No.	Model	G	L	Lm1 (mm)	HØ (mm)	Hd (mm)	T (max.) (Nm)	Fa,z (N)	Fa,x (N)	Pack 1
610 3 006	Anchor	M6	25 mm	11	8	30	4.5	1,520	1,520	100
610 3 008	Anchor	M8	30 mm	13	10	32	11.0	3,000	3,000	100
610 3 010	Anchor	M10	40 mm	15	12	42	22.0	4,570	4,570	100
610 3 012	Anchor	M12	50 mm	20	15	53	38.0	6,430	6,430	50
610 3 016	Anchor	M16	65 mm	25	20	70	98.0	13,310	13,310	25

Max. allowed load (Fa,z and Fa,x, known as characteristic tension and shear load) in concrete C20/25 to C50/60.

Draw-in Anchor



Features and Benefits

- material: steel

Part No.	G	Fa,z (N)
DMC3 3 406	M6	800
DMC3 3 408	M8	3,500
DMC3 3 410	M10	5,000
DMC3 3 412	M12	7,400
DMC3 3 416	M16	8,400

Subject to modifications

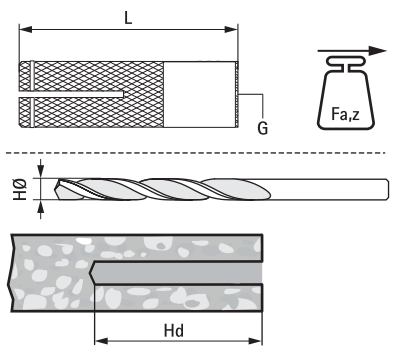
BIS Brass Wall Plugs

fixing to concrete, brick



Features and Benefits

- for fixing to concrete, brick, natural stone, sand-lime brick, solid wood, etc.
- star plug for metric screws
- reduced built-in depth
- special profile prevents rotating in drill hole
- material: brass



Part No.	G	L	HØ (mm)	Hd (mm)	Fa,z (N)	Pack 1	Pack 2
610 7 006	M6	22.0 mm	8	27	650	400	2.000
610 7 007	M7B	27.5 mm	10	34	900	100	500
610 7 008	M8	28.0 mm	11	35	1.100	150	750
610 7 010	M10	32.0 mm	13	39	1.600	100	500
610 7 012	M12	38.0 mm	18	46	2.200	50	250

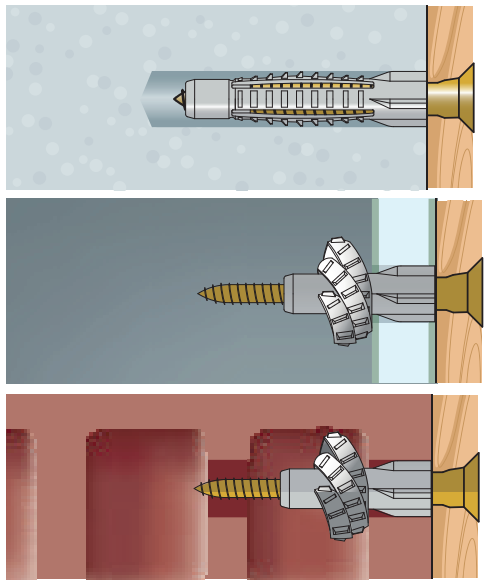
Max. allowed load (Fa,z) in concrete ≥25N/mm^2. Other materials on demand.

Subject to modifications

BIS Universal Plugs

with collar

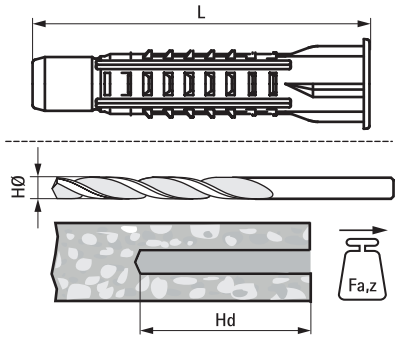




Features and Benefits

- for light and medium duty applications
- universal solution for standard fixing jobs
- suitable for wood and chipboard screws with different diameters
- centric screw guide prevents break out of the screw during installation
- expansion behaviour ensures safe fixing in most common building materials
- in solid building materials the plug expands within the drill hole, in perforated building materials the plug knots
- the collar prevents slipping into the drilled hole or falling into the hollow material
- material of high-quality polyethylene guarantees lasting elasticity, and ensures no brittle breaks

Part No.	L	HØ (mm)	Hd (mm)	Fa,z (N)	Pack 1	Pack 2
610 0 306	30 mm	6	40	300	200	5.400
610 0 308	49 mm	8	60	520	100	1.800
610 0 310	60 mm	10	70	1.560	50	900
610 0 312	72 mm	12	80	2.020	50	600

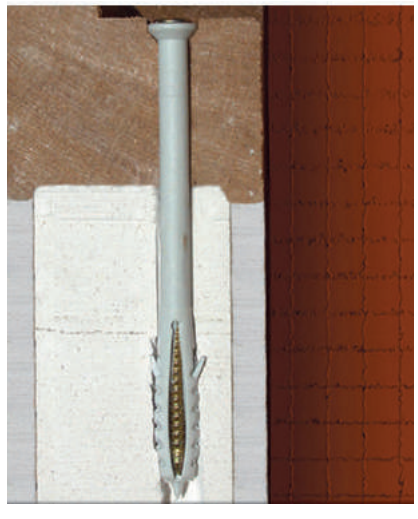


Subject to modifications

BIS Hammer-in Plugs NA

fixing on wall and ceiling



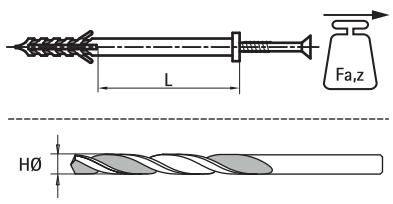


Features and Benefits

- hammer-in instead of screw-in
- for light applications into solid or hollow materials
- plug with shoulder
- material: hammer-in stud made of steel; plug made of PA (polyamide), grey
- zinc plated, passivated

Part No.	L	HØ (mm)	Fa,z (N)	Pack 1	Pack 2
6225 5 036	30 mm	5	150	200	1.200
6225 5 055	50 mm	5	150	100	600
6225 6 046	40 mm	6	200	200	600
6225 6 047	40 mm	6	200	300	900
6225 6 062	60 mm	6	200	15	150
6225 6 065	60 mm	6	200	100	600
6225 6 082	80 mm	6	200	15	150
6225 6 085	80 mm	6	200	100	300
6225 8 065	60 mm	8	400	100	300
6225 8 081	80 mm	8	400	10	100
6225 8 085	80 mm	8	400	100	300
6225 8 100	100 mm	8	400	8	80
6225 8 105	100 mm	8	400	100	300
6225 8 120	120 mm	8	400	8	80
6225 8 124	120 mm	8	400	50	150

Max. allowed load in concrete (safety margin 1:2).



Subject to modifications

Notes

Subject to modifications

N BIS Pipe Connectors



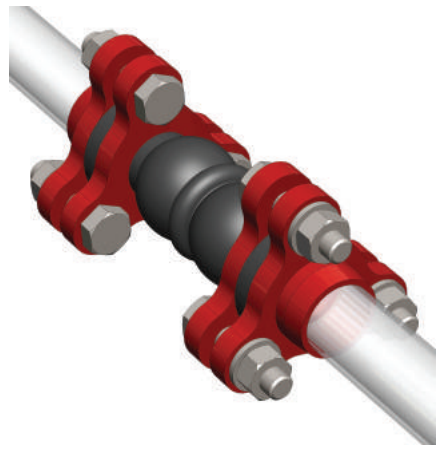
BIS Pipe Connectors

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Subject to modifications

Flexible Pipe Connector

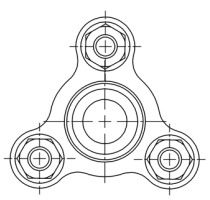


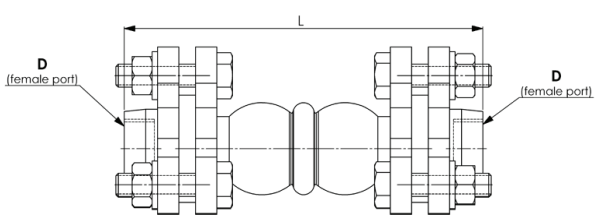


Features and Benefits

- can be applied in combination with:
  - inlet and outlet of fan coil units, air handling units, chillers and condensers
  - air suction and discharge of pumps
  - intervals in chilled water piping
- installation of Flexible Pipe Connectors is recommended to allow for axial pipe movements due to thermal expansion or contraction, thereby protecting the building structure from damaging stress. These connectors also help to isolate the low and high frequency vibrations transmitted through pipe walls
- allows for axial, angular and transverse pipe movements
- the triangular flange design offers much better reliability, safety and convenience as compared to union type connectors
- unique pressurized steel wire strand for additional safety
- Construction Features
  - bellow: Neoprene (NBR and EPDM available on request)
  - reinforcement: nylon cord fabric
  - pressurized ring: steel wire strand
  - flanges: forged steel, threaded to BS21 (NPT available on request); epoxy powder coated for corrosion resistance; nuts and bolts electrogalvanized; floating triangular thread design
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - burst pressure: 650 PSI / 45 bar
  - temperature resistance: from -15 °C to +115 °C
  - working media: water, compressed air, oil, weak acids / alkalines
  - vacuum: 700 mm Hg
  - standards: testing as per BS5150 : 1974

Part No.	D (")	L	Elongation (mm)	Compression (mm)	Deflection Angle
DMF P C15	½	155 mm	6	22	45°
DMF P C20	¾	155 mm	6	22	45°
DMF P C25	1	155 mm	6	22	45°
DMF P C30	1¼	155 mm	6	22	45°
DMF P C40	1½	175 mm	6	22	45°
DMF P C50	2	175 mm	6	22	45°
DMF P C65	2½	240 mm	10	24	45°

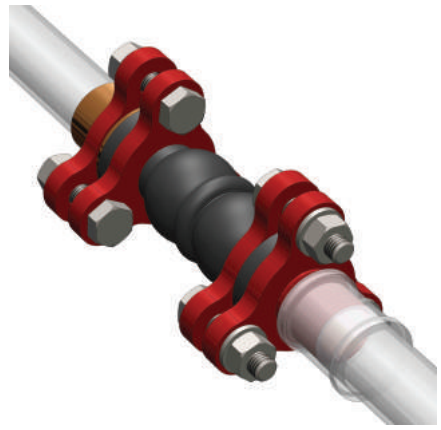




Subject to modifications

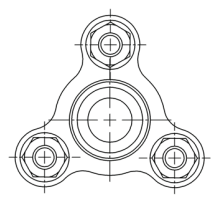
Flexible Pipe Connector (Brass Coupler)

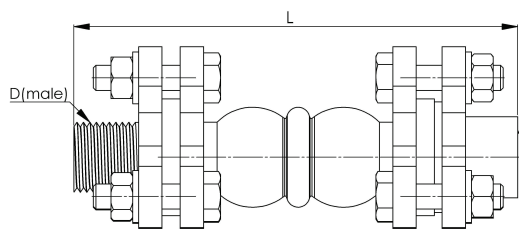




Features and Benefits

- can be applied in combination with:
  - inlet and outlet of fan coil units, air handling units, chillers and condensers
  - air suction and discharge of pumps
  - intervals in chilled water piping
- installation of Flexible Pipe Connectors is recommended to allow for axial pipe movement due to thermal expansion or contraction, thereby protecting the building structure from damaging stress. These connectors also help to isolate the low and high frequency vibrations transmitted through pipe walls
- allows for axial, angular and transverse pipe movements
- the triangular flange design offers much better reliability, safety and convenience as compared to union type connectors
- unique pressurized steel wire strand for additional safety
- Construction Features
  - bellow: Neoprene (NBR and EPDM available on request)
  - reinforcement: nylon cord fabric
  - pressurized ring: steel wire strand
  - flanges: forged steel, threaded to BS21 (NPT available on request); epoxy powder coated for corrosion resistance; nuts and bolts electrogalvanized; floating triangular thread design
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - burst pressure: 650 PSI / 45 bar
  - temperature resistance: from -15 °C to +115 °C
  - working media: water, compressed air, oil, weak acids / alkalines
  - vacuum: 700 mm Hg
  - standards: testing as per BS5150 : 1974





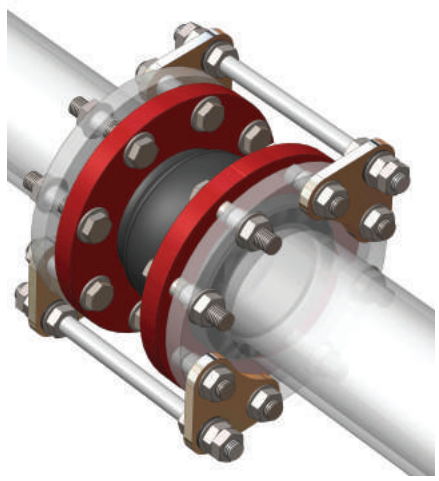
Part No.	D (mm)	D (")	L	Elongation (mm)	Compression (mm)	Deflection Angle
DMFP C 16C	16	½	155 mm	6	22	45°
DMFP C 22C	22	¾	155 mm	6	22	45°
DMFP C 28C	28	1	155 mm	6	22	45°
DMFP C 35C	35	1¼	155 mm	6	22	45°
DMFP C 42C	42	1½	175 mm	6	22	45°
DMFP C 54C	54	2	175 mm	6	22	45°
DMFP C 67C	67	2½	240 mm	6	22	45°
DMFP C 76C	76	3	260 mm	10	24	45°
DMFP C 80C	80	3	260 mm	10	24	45°

Subject to modifications

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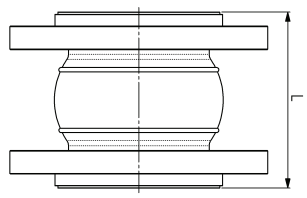
Flexible Expansion Joint

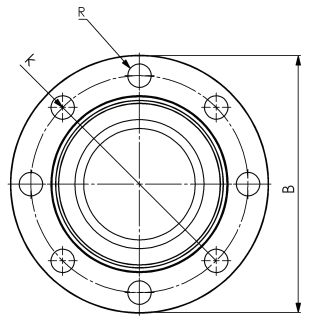




Features and Benefits

- can be applied in combination with:
  - inlet and outlet of air handling units, chillers, cooling towers and condensers
  - air suction and discharge of pumps
  - intervals in chilled water piping
- installation of Flexible Expansion Joints is recommended to compensate for axial, transverse and angular pipe movements, protecting the system from stress due to thermal pipe expansion or contraction
- due to the spherical shape of the bellow the flow of the fluid is smooth, resulting in negligible pressure drop across the joint
- control units for the flanges are available as optional attachments and are recommended to be used at installations where the rated movements of the joint are likely to be exceeded even if the piping system is anchored on both sides
- the control units consist of neoprene grommets, gusset plate, counter flange and control rod
- designed to protect the joint from damage due to excessive pipeline movements
- set comprises control rods with gusset plates titled with new preme gromments providing acoustic insulation
- Construction Features
  - bellow: Neoprene (NBR and EPDM available on request)
  - reinforcement: nylon cord fabric and spring steel wire
  - flanges: floating forged steel, drilled to BS4504 PN 16 (ANSI standards on request); epoxy powder coated for corrosion resistance
- Technical Data
  - temperature resistance: from -15 °C to +115 °C
  - working media: water, compressed air, oil, weak acids / alkalines
  - vacuum: 700 mm Hg
- Technical Data:
  - maximum pressure: 2" to 12": 250 PSI / 17 bar
  - maximum pressure: 14" to 20": 140 PSI / 10 bar
  - burst pressure: 2" to 12": 650 PSI / 45 bar
  - burst pressure: 14" to 20": 550 PSI / 40 bar





Part No.	D (")	R	L	B (mm)	k (mm)	Elongation (mm)	Compression (mm)	Holes (dia. - no. holes)	Control Rod Part No.
DMEJ50	2	M18	130 mm	165	125	10	13	18-4	DMCR50
DMEJ65	2½	M18	150 mm	185	145	10	13	18-4	DMCR65
DMEJ80	3	M20	150 mm	200	160	10	13	18-8	DMCR80
DME J 100	4	M20	152 mm	220	180	10	16	18-8	DMCR100
DME J 125	5	M22	152 mm	250	210	10	16	18-8	DMCR125
DME J 150	6	M22	152 mm	285	240	10	16	22-8	DMCR150
DME J 200	8	M24	165 mm	340	295	13	16	22-12	DMCR200
DME J 250	10	M26	203 mm	405	355	13	20	26-12	DMCR250
DME J 300	12	M28	203 mm	460	410	13	20	26-12	DMCR300
DME J 350	14	M30	255 mm	520	470	13	25	26-16	DMCR350
DME J 400	16	M32	255 mm	580	525	13	25	30-16	DMCR400
DME J 450	18	M34	255 mm	640	585	13	25	30-20	DMCR450
DME J 500	20	M36	255 mm	715	650	13	25	33-20	DMCR500
DME J 600	24	M40	260 mm	840	770	13	25	36-20	DMCR600

Subject to modifications

Di Electric Union Model A

steel female thread to copper solder connection



Part No.	D (")	Model
DM DEU A 022	½	Steel FT ½" x Copper Solder ½" (16 mm)
DM DEU A 028	¾	Steel FT ¾" x Copper Solder ¾" (22 mm)
DM DEU A 035	1	Steel FT 1" x Copper Solder 1" (28mm)
DM DEU A 040	1¼	Steel FT 1¾" x Copper Solder 1¾" (35mm)
DM DEU A 048	1½	Steel FT x Copper Solder (42 mm)
DM DEU A 060	2	Steel MT x Copper Solder (84 mm)

Features and Benefits

- designed for installation of two non similar pipes to prevent corrosion and detoriation in piping systems due to galvanic and stray current
- Construction Features
  - electrogalvanized threaded steel body with integral sweat end on one side with brass threaded/solder coupler
  - dielectric coupler sleeve and separator gasket to prevent metal to metal contact
  - lead free construction to comply with lead free installation requirements
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - temperature resistance: from -30 °C to +120 °C
  - electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
  - dielectric strength: ASTM D149, BS 2782, DIN 53483
  - threading: BS21 : 1985 (NPT available on request)

Di Electric Union Model B

steel female thread to copper female thread



Part No.	D (")	Model
DM DEU B 022	½	Steel FT ½" x Copper FT ½"
DM DEU B 028	¾	Steel FT ¾" x Copper FT ¾"
DM DEU B 035	1	Steel FT 1" x Copper FT 1"
DM DEU B 040	1¼	Steel FT 1¼" x Copper FT 1¼"
DM DEU B 048	1½	Steel FT 1½" x Copper FT 1½"
DM DEU B 060	2	Steel FT 2" x Copper FT 2"

Features and Benefits

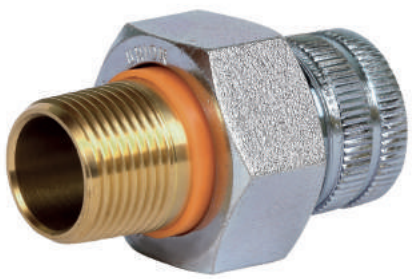
- designed for installation of two non similar pipes to prevent corrosion and detoriation in piping systems due to galvanic and stray current
- Construction Features
  - electrogalvanized threaded steel body with integral sweat end on one side with brass threaded/solder coupler
  - dielectric coupler sleeve and separator gasket to prevent metal to metal contact
  - lead free construction to comply with lead free installation requirements
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - temperature resistance: from -30 °C to +120 °C
  - electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
  - dielectric strength: ASTM D149, BS 2782, DIN 53483
  - threading: BS21 : 1985 (NPT available on request)

Subject to modifications

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Di Electric Union Model C

steel female thread to copper male thread



Part No.	D (")	Model
DM DEU C 022	½	Steel FT ½" x Copper MT ½"
DM DEU C 028	¾	Steel FT ¾" x Copper MT ¾"
DM DEU C 035	1	Steel FT 1" x Copper MT 1"
DM DEU C 040	1¼	Steel FT 1¼" x Copper MT 1¼"
DM DEU C 048	1½	Steel FT 1½" x Copper MT 1½"
DM DEU C 060	2	Steel FT 2" x Copper MT 2"

Features and Benefits

- designed for installation of two non similar pipes to prevent corrosion and detoriation in piping systems due to galvanic and stray current
- Construction Features
  - electrogalvanized threaded steel body with integral sweat end on one side with brass threaded/solder coupler
  - dielectric coupler sleeve and separator gasket to prevent metal to metal contact
  - lead free construction to comply with lead free installation requirements
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - temperature resistance: from -30 °C to +120 °C
  - electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
  - dielectric strength: ASTM D149, BS 2782, DIN 53483
  - threading: BS21 : 1985 (NPT available on request)

Di Electric Union Model D

steel male thread to copper solder connection



Part No.	D (")	Model
DM DEU D 022	½	Steel MT ½" x Copper Solder ½" (16 mm)
DM DEU D 028	¾	Steel MT ¾" x Copper Solder ¾" (22 mm)
DM DEU D 035	1	Steel MT 1" x Copper Solder 1" (28 mm)

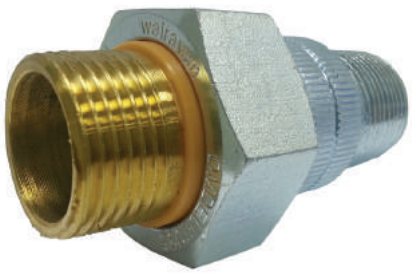
Features and Benefits

- designed for installation of two non similar pipes to prevent corrosion and detoriation in piping systems due to galvanic and stray current
- Construction Features
  - electrogalvanized threaded steel body with integral sweat end on one side with brass threaded/solder coupler
  - dielectric coupler sleeve and separator gasket to prevent metal to metal contact
  - lead free construction to comply with lead free installation requirements
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - temperature resistance: from -30 °C to +120 °C
  - electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
  - dielectric strength: ASTM D149, BS 2782, DIN 53483
  - threading: BS21 : 1985 (NPT available on request)

Subject to modifications

Di Electric Union Model E

steel male thread to copper male thread



Features and Benefits

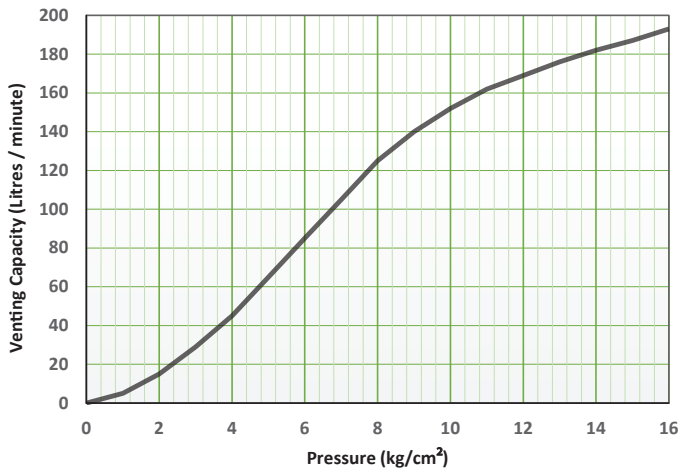
- designed for installation of two non similar pipes to prevent corrosion and detoriation in piping systems due to galvanic and stray current
- Construction Features
  - electrogalvanized threaded steel body with integral sweat end on one side with brass threaded/solder coupler
  - dielectric coupler sleeve and separator gasket to prevent metal to metal contact
  - lead free construction to comply with lead free installation requirements
- Technical Data
  - maximum pressure: 250 PSI / 17 bar
  - temperature resistance: from -30 °C to +120 °C
  - electrogalvanized as per ASTM B 633 Standards (SC3), BS 1706 FE/ZN 12
  - dielectric strength: ASTM D149, BS 2782, DIN 53483
  - threading: BS21 : 1985 (NPT available on request)

Part No.	D (")	Model
DM DEU E 022	½	Steel MT ½" x Copper MT ½"
DM DEU E 028	¾	Steel MT ¾" x Copper MT ¾"
DM DEU E 035	1	Steel MT 1" x Copper MT 1"
DM DEU E 040	1¼	Steel MT 1¼" x Copper MT 1¼"
DM DEU E 048	1½	Steel MT 1½" x Copper MT 1½"
DM DEU E 060	2	Steel MT ½" x Copper MT ½" (16 mm)

Subject to modifications

Automatic Air Vent

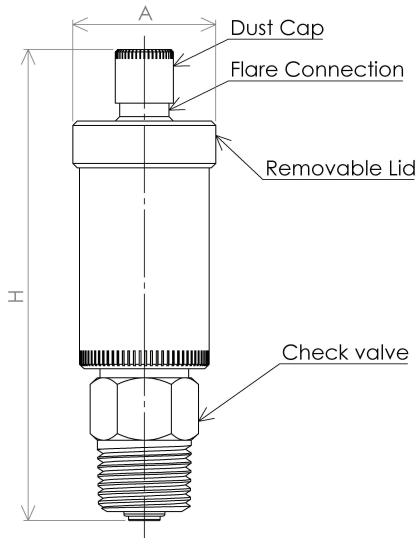




Features and Benefits

- Construction Features
  - body : brass
  - float : polypropylene
  - maximum operating pressure: 16 bar
  - maximum operating temperature: +110 °C
  - to be installed vertically in highest point of the system of airbottles, riser pipes, air separators, heat exchangers and air valves
- air outlet: ¼" flare connection
- check valve attachment provides cost savings and increases convenience
- prevents corrosion and premature wear of components

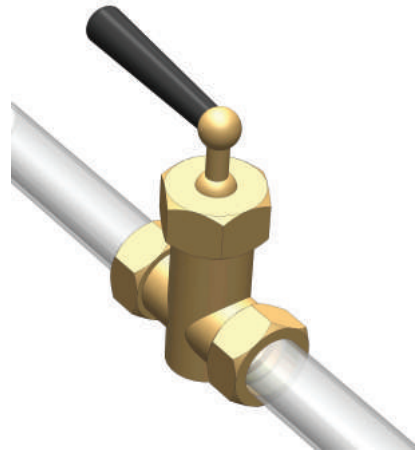
Part No.	Check valve	H (mm)	A (mm)
DMA A V38	3/8"	103	32
DMA A V12	1/2"	103	32
DMA A V34	3/4"	103	32



Subject to modifications

Gauge Cock





Features and Benefits

- gauge cocks provide an economical way to shut off the flow of air to the pressure device, allowing the device to be isolated from the pressure media or removed from the service
- Construction Features
  - forged brass body
  - glass reinforced nylon handle
  - integral teflon sealing
- Technical Data
  - rated for 25 kg/m^3 operating pressure

Part No.	D (")
DMGC38	3/8
DMGC12	1/2

Siphon



Features and Benefits

- siphon tube is connected between the pressure gauge and the process in applications where high temperature vapours or fluids are present
- it acts as a cooling coil and protects the gauge from high temperature vapours by dissipating heat
- Construction Features
  - forged brass body
  - mild steel epoxy powder coated
- Technical Data
  - rated for 25 kg/m^3 operating pressure

Part No.	D (")	Model
DMUS38	3/8	U Shape
DMUS12	1/2	U Shape
DMOS38	3/8	O Shape
DMOS12	1/2	O Shape

Subject to modifications

Pressure Temperature Test Plug



Features and Benefits

- test plugs provide an economical solution to installing pressure and temperature gauges in chilled water systems
- the unique "Dual Core" design allows for the bottom seal to close, sealing the system before the probe is fully removed through the top core
- extensions allow the same test plug to be used for insulated pipe lines, as the core is always on top
- nylon retainer cap is supplied as an option
- Construction Features
  - full brass / stainless steel body
  - nordel core
- Technical Data
  - pressure rated up to 1,000 PSI / 68 bar
  - maximum temperature -350 °F / 175°C
- test kit is available which has a complete range of thermometers, pressure gauges and a gauge adaptor in a rugged case

Part No.	D (")	Model
DMBT P N14	¼	Test Plug: material: brass; connection: NPT
DMBT P N12	½	Test Plug: material: brass; connection: NPT
DMBT P B14	¼	Test Plug: material: brass; connection: BSP
DMBT P B12	½	Test Plug: material: brass; connection: BSP
DM SST P N14	¼	Test Plug: material: stainless steel; connection: NPT
DM SST P N12	½	Test Plug: material: stainless steel; connection: NPT
DM SST P B14	¼	Test Plug: material: stainless steel; connection: BSP
DM SST P B12	½	Test Plug: material: stainless steel; connection: BSP
DMEX T 14N	¼	Accessory: brass extension 1¾"; connection: NPT
DMEX T 12N	½	Accessory: brass extension 1¾"; connection: NPT
DMEX T 14B	¼	Accessory: brass extension 1¾"; connection: BSP
DMEX T 12B	½	Accessory: brass extension 1¾"; connection: BSP
DMG A 123	⅛	Accessory: Gauge Adaptor

Pressure Temperature Test Kits



Part No.	D (")	Model
DM TK1 - 2.5	-	Test Kit consisting of: 1x 2½" Gauge, 2x Thermometers and 1 Gauge Adaptor
DM TK2 - 2.5	-	Test Kit consisting of: 2x 2½" Gauges, 2x Thermometers and 2 Gauge Adaptors
DMP G -30	¼	Pressure Gauge Thread: NPT; Range: 0-30 PSI
DMP G -60	¼	Pressure Gauge Thread: NPT; Range: 0-60 PSI
DMPG - 100	¼	Pressure Gauge Thread: NPT; Range: 0-100 PSI
DMPG - 160	¼	Pressure Gauge Thread: NPT; Range: 0-160 PSI
DMPG - 200	¼	Pressure Gauge Thread: NPT; Range: 0-200 PSI
DMT M 125	-	Thermometer temperature range: 25°F to 125°F
DMT M 160	-	Thermometer temperature range: -40°F to 160°F
DMT M 220	-	Thermometer temperature range: 0°F to 220°F
DMT M 550	-	Thermometer temperature range: 50°F to 500°F

Subject to modifications

Q Anti Vibration



Anti Vibration

Spring Hanger	186
Cup Spring Mount	187
Housed Spring Mount	188
Inertia Base	189
Anti Vibration Hanger	191
Anti Vibration Mount	191
Ribbed Mounting Pad	192
Waffle Pad	192
Square Cell Pad	193
Cork Sandwich Pad	193
Metal Sandwich Pad	194
Ribbed Multi Layer Pad	194
Square Cell Multi Layer Pad	195

Subject to modifications

Spring Hanger

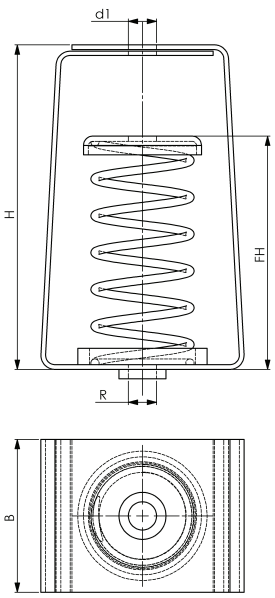




Features and Benefits

- spring hangers are used to isolate suspended sources of both noise and vibration
- suspended mechanical equipment such as air handling units, FCU's, cabinet fans, piping and ductwork in close proximity to rotating mechanical equipment are typical applications of spring hangers
- color coded springs as per load ratings
- outer diameter equal to at least 85% of working height
- springs designed for 50% overload capacity
- brackets and springs powder coated
- designed to meet BS1726, class B

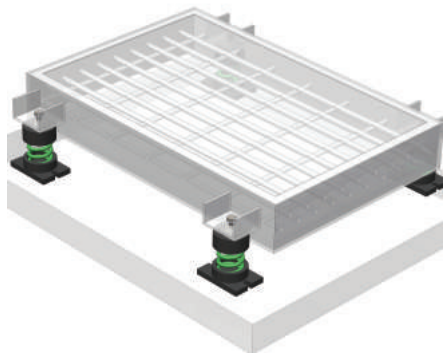
Part No.	R	L	B (mm)	H (mm)	d1 (mm)	FH (mm)	Deflection (mm)	Fa,z (N)	Colour
DM SH2 5 /10	M10	60 mm	52	104	10.5	80	25	100	Red
DM SH2 5 /15	M10	60 mm	52	104	10.5	80	25	150	Purple
DM SH2 5 /20	M10	60 mm	52	104	10.5	80	25	200	Grey
DM SH2 5 /30	M10	60 mm	52	104	10.5	80	25	300	Green
DM SH2 5 /40	M10	60 mm	52	104	10.5	80	25	400	Blue
DM SH2 5 /60	M12	87 mm	65	138	12.5	96	25	600	Yellow
DM SH25 / 100	M12	87 mm	65	138	12.5	96	25	1,000	Black
DM SH25 / 160	M12	87 mm	65	138	12.5	96	25	1,600	White
DM SH25 / 200	M12	87 mm	65	138	12.5	96	25	2,000	Green
DM SH25 / 250	M12	87 mm	65	138	12.5	96	25	2,500	Blue
DM SH25 / 300	M16	100 mm	85	157	16.5	115	25	3,000	Red
DM SH25 / 400	M16	100 mm	85	157	16.5	115	25	4,000	Purple
DM SH25 / 500	M16	100 mm	85	157	16.5	115	25	5,000	Grey
DM SH25 / 600	M16	100 mm	85	157	16.5	115	25	6,000	Green
DM SH25 / 800	M16	100 mm	85	157	16.5	115	25	8,000	Blue
DMSH25/1050	M16	100 mm	85	157	16.5	115	25	10,500	Yellow
DMSH25/1250	M16	100 mm	85	157	16.5	115	25	12,500	Black



Subject to modifications

Cup Spring Mount

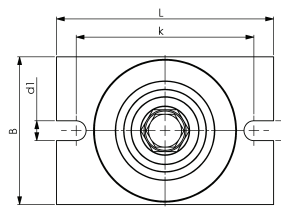


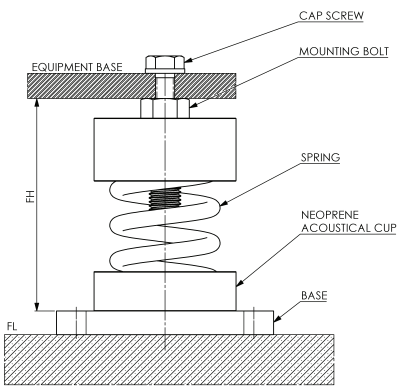


Features and Benefits

- Cup Spring Mounts are used to isolate noise and vibration from floor mounting equipents
- pumps, packaged air handling units, air conditioning units, centrifugal and axial fans, inertia bases etc.
- color coded springs as per load ratings
- outer diameter equal to at least 85% of working height
- springs designed for 50% overload capacity
- neoprene top and bottom with non-skid bolt down base
- plated leveling / lock bolt
- springs powder coated
- designed to meet BS1726, class B

Part No.	Bolt	L	B (mm)	d1 (mm)	k (mm)	FH (mm)	Deflection (mm)	Fa,z (N)	Colour
DM CS2 5 -10	M16	110 mm	65	M10	90	115	25	100	Red
DM CS2 5 -15	M16	110 mm	65	M10	90	115	25	150	Purple
DM CS2 5 -20	M16	110 mm	65	M10	90	115	25	200	Grey
DM CS2 5 -30	M16	110 mm	65	M10	90	115	25	300	Green
DM CS2 5 -40	M16	110 mm	65	M10	90	115	25	400	Blue
DM CS2 5 -60	M16	110 mm	75	M10	90	125	25	600	Yellow
DM CS25 - 100	M16	110 mm	75	M10	90	125	25	1,000	Black
DM CS25 - 160	M16	110 mm	75	M10	90	125	25	1,600	White
DM CS25 - 200	M16	110 mm	75	M10	90	125	25	2,000	Green
DM CS25 - 250	M16	110 mm	75	M10	90	125	25	2,500	Blue
DM CS25 - 300	M20	140 mm	100	M12	120	168	25	3,000	Red
DM CS25 - 400	M20	140 mm	100	M12	120	168	25	4,000	Purple
DM CS25 - 500	M20	140 mm	100	M12	120	168	25	5,000	Grey
DM CS25 - 600	M20	140 mm	100	M12	120	168	25	6,000	Green
DM CS25-800	M20	140 mm	100	M12	120	168	25	8,000	Blue
DMCS25-1050	M20	140 mm	100	M12	120	168	25	10,500	Yellow
DMCS25-1250	M20	140 mm	100	M12	120	168	25	12,500	Black



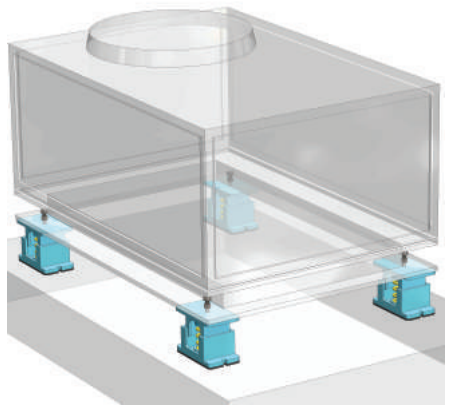


Subject to modifications

diamond walraven

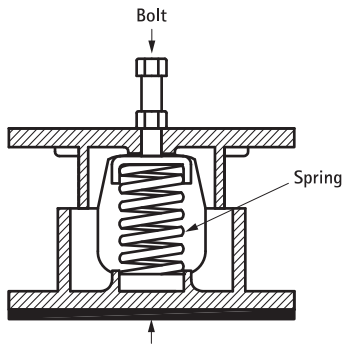
Housed Spring Mount



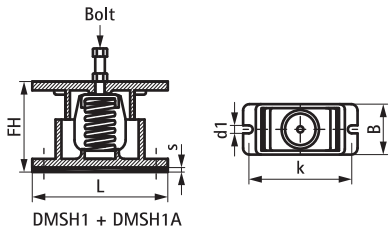


Features and Benefits

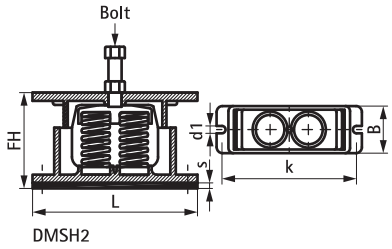
- Housed Spring Mount design provides horizontal stability, high loading capacity and protective spring enclosure
- all mounts have external leveling arrangement, capable of compensating for full static deflection
- inner walls of lower casing have resilient rubber snubbers
- deflection is at rated load with 15% tolerance
- all mounts have approximately 50% overload capacity
- mountings must be adjusted so that upper housing clears lower housing by at least 6 mm and not more than 12 mm
- application examples include: chiller, AHU's, pumps, centrifugal / axial fans, condensing units, roof top packaged units, reciprocating compressors, DG sets, punch presses, drop hammers and floor pipe supports (normally at first few pipe support points leading from isolated equipment)
- springs powder coated
- designed to meet BS1726, class B



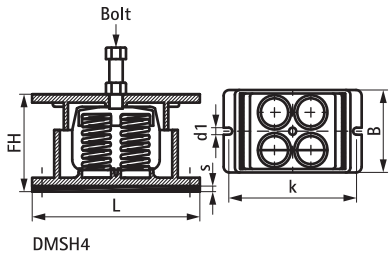
Part No.	Bolt	L	B (mm)	s (mm)	d1 (mm)	k (mm)	FH (mm)	Deflection (mm)	Fa,z (N)	Colour
DMHS 1 -60	M12	160 mm	92	5.0	Ø 10.0	147	116	25	600	Yellow
DM HS1 - 100	M12	160 mm	92	5	Ø 10.0	147	116	25	1,000	Black
DM HS1 - 160	M12	160 mm	92	5	Ø 10.0	147	116	25	1,600	White
DM HS1 - 200	M12	160 mm	92	5	Ø 10.0	147	116	25	2,000	Green
DM HS1 - 250	M12	160 mm	92	5	Ø 10.0	147	116	25	2,500	Blue
DM HS1A - 300	M16	200 mm	115	10	Ø 12.0	180	158	25	3,000	Red
DM HS1A - 400	M16	200 mm	115	10	Ø 12.0	180	158	25	4,000	Purple
DM HS1A - 500	M16	200 mm	115	5	Ø 12.0	147	116	25	5,000	Grey
DM HS1A - 600	M16	200 mm	115	10	Ø 12.0	180	158	25	6,000	Green
DM HS1A - 800	M16	200 mm	115	10	Ø 12.0	180	158	25	8,000	Blue
DMHS1A-1050	M16	200 mm	115	10	Ø 12.0	180	158	25	10,500	Yellow
DMHS1A-1250	M16	200 mm	115	10	Ø 12.0	180	158	25	12,500	Black
DM HS2 - 600	M20	285 mm	115	10	Ø 16.0	265	163	25	6,000	Red
DM HS2 - 800	M20	285 mm	115	10	Ø 16.0	265	163	25	8,000	Purple
DM HS2- 1 000	M20	285 mm	115	10	Ø 16.0	265	163	25	10,000	Grey
DM HS2- 1 200	M20	285 mm	115	10	Ø 16.0	265	163	25	12,000	Green
DM HS2- 1 600	M20	285 mm	115	10	Ø 16.0	265	163	25	16,000	Blue
DM HS2- 2 100	M20	285 mm	115	10	Ø 16.0	265	163	25	21,000	Yellow
DM HS2- 2 500	M20	285 mm	115	10	Ø 16.0	265	163	25	25,000	Black
DM HS4- 1 200	M20	285 mm	210	10	Ø 16.0	265	163	25	12,000	Red
DM HS4- 1 600	M20	285 mm	210	10	Ø 16.0	265	163	25	16,000	Purple
DM HS4- 2 000	M20	285 mm	210	10	Ø 16.0	265	163	25	20,000	Grey
DM HS4- 2 400	M20	285 mm	210	10	Ø 16.0	265	163	25	24,000	Green
DM HS4- 3 200	M20	285 mm	210	10	Ø 16.0	265	163	25	32,000	Blue
DM HS4- 4 200	M20	285 mm	210	10	Ø 16.0	265	163	25	42,000	Yellow
DM HS4- 5 000	M20	285 mm	210	10	Ø 16.0	265	163	25	50,000	Black



DMSH1 + DMSH1A



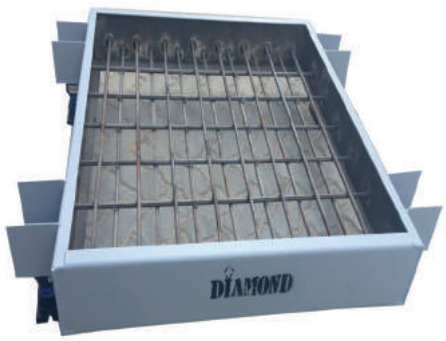
DMSH2

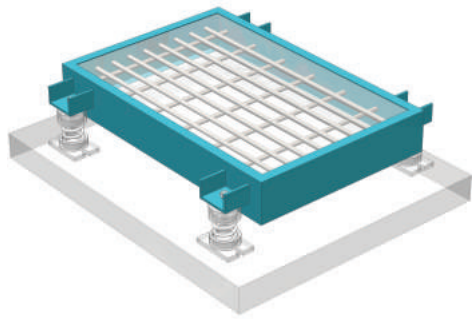


DMSH4

Subject to modifications

Inertia Base

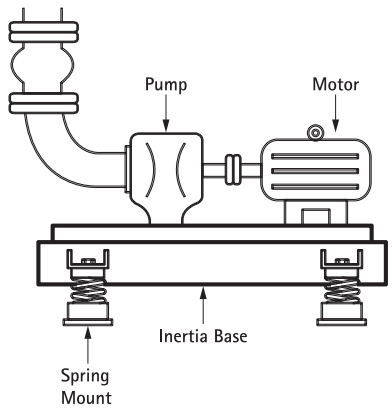




Features and Benefits

- Inertia Base is specially designed and engineered to pour concrete, which after curing is used as mechanical vibration isolated reinforced inertia base for the equipments
- these Inertia Base are recommended to use under heavy start up and shut down vibration amplitude equipments such as generators, IC engines, large fans, centrifugal chillers etc.
- Inertia Base made from standard structural channel or formed steel channel depend upon the design. It is used 12 mm reinforcement rod welded in 150 mm spacing for better concrete strength. Inertia Base is suplied with red oxide primer coating.
- Diamond Walraven Vibration Isolator Spring Mount will be supplied together as per design

Part No.
DMI B 500
DMI B 750
DMIB 1 000
DMIB 1 250
DMIB 1 500
DMIB 1 750
DMIB 2 000
DMIB 2 250
DMIB 2 500
DMIB 2 750
DMIB 3 000



Subject to modifications

Base Thickness Chart

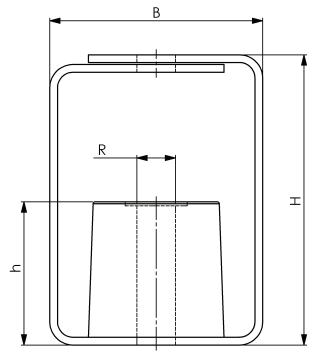
The length and width dimensions shown include the actual frame size and may not include the length and width of the bracket

Part Number		Base width in mm					
		500	750	1,000	1,250	1,500	1,750
Base length in mm	DMIB500	150	-	-	-	-	-
	DMIB750	150	150	-	-	-	-
	DMIB1000	150	150	150, 200, 250	-	-	-
	DMIB1250	150	150	150, 200, 250	150, 200, 250, 300	-	-
	DMIB1500	150	150, 200	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	-
	DMIB1750	150	150, 200	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300
	DMIB2000	-	150, 200	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300
	DMIB2250	-	150, 200	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300
	DMIB2500	-	-	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300
	DMIB2750	-	-	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300
	DMIB3000	-	-	-	150, 200, 250, 300	150, 200, 250, 300	150, 200, 250, 300

Subject to modifications

Anti Vibration Hanger





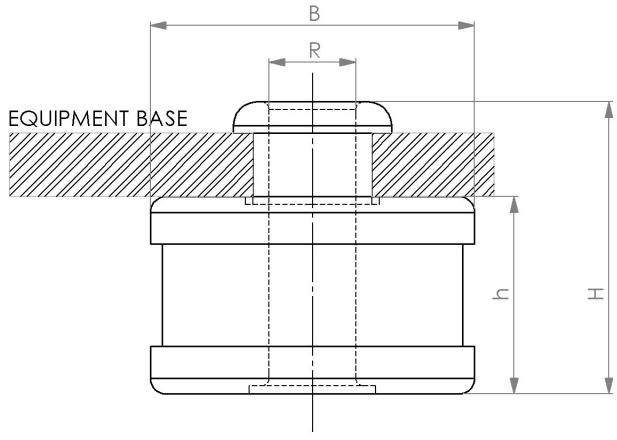
Part No.	R	B (mm)	H (mm)	h (mm)	Deflection (mm)	Fa,z (N)	Colour
DMRH10	M10	55	75	40	8	100	Blue
DMRH20	M10	55	75	40	8	200	Green
DMRH30	M10	55	75	40	8	300	Red
DMRH50	M10	55	75	40	8	500	Yellow
DMRH70	M10	55	75	40	10	700	Brown
DMR H 120	M10	55	75	40	10	1,200	Orange

Features and Benefits

- constructed of a neoprene element in a square powder coated bracket

Anti Vibration Mount





Part No.	R	B (mm)	H (mm)	h (mm)	Deflection (mm)	Fa,z (N)
DMAVM	M10	41	37	25	4	900
DMAVMC	M10	32	27	19	4	600

Features and Benefits

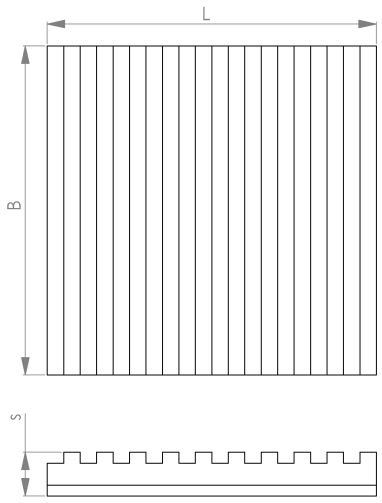
- constructed of a neoprene element encased within two steel caps electrogalvanized
- compact model for space saving installations
- extended design prevents metal to metal contact

Subject to modifications

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Ribbed Mounting Pad



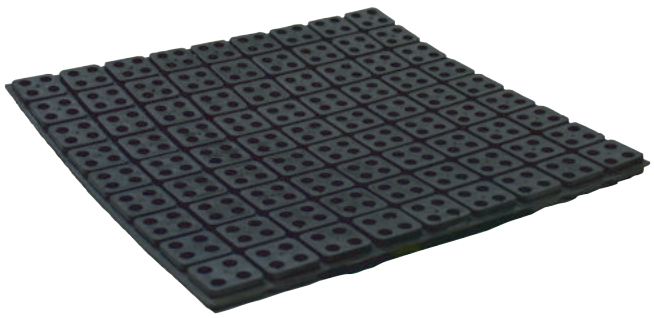


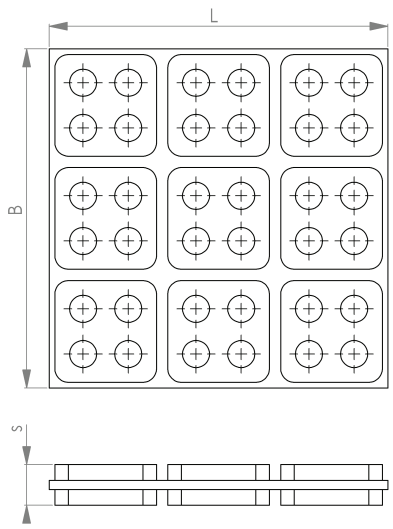
Features and Benefits

- alternate high-low ribbed construction
- pads can be cut to be slightly larger than the size of the leg or machine, using shears or knife
- easy field installation
- multiple layers of Ribbed Mounting Pad can be used to increase deflection

Part No.	L	B (mm)	s (mm)	Rec. Load (N)	Fa,z (N)
HIMOAVP381818	450 mm	450	10	4,100	4,800
HIMOAVP381212	300 mm	300	10	2,750	3,100
HIMOAVP380808	200 mm	200	10	1,800	2,050
HIMOAVP380606	150 mm	150	10	1,350	1,500
HIMOAVP380404	100 mm	100	10	900	1,050
HIMOAVP380303	75 mm	75	10	650	750

Waffle Pad





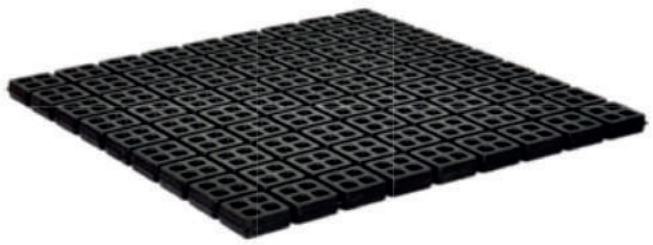
Features and Benefits

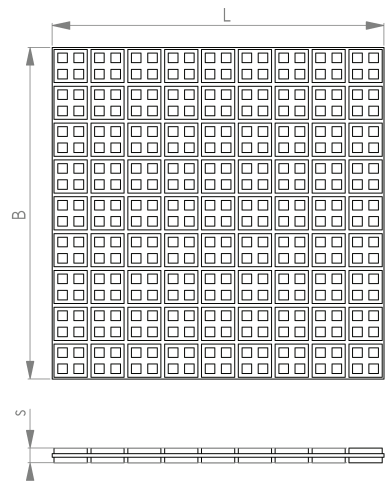
- easy field installation
- no need for bolting
- designed with in-built section cups
- easy cut design without tools allows job site flexibility

Part No.	L	B (mm)	s (mm)	Rec. Load (N)	Fa,z (N)
DMAVWP341818	450 mm	450	20	4,100	4,800
DMAVWP341212	300 mm	300	20	2,750	3,100
DMAVWP340808	200 mm	200	20	1,800	2,050
DMAVWP340606	150 mm	150	20	1,350	1,500
DMAVWP340404	100 mm	100	20	900	1,050

Subject to modifications

Square Cell Pad





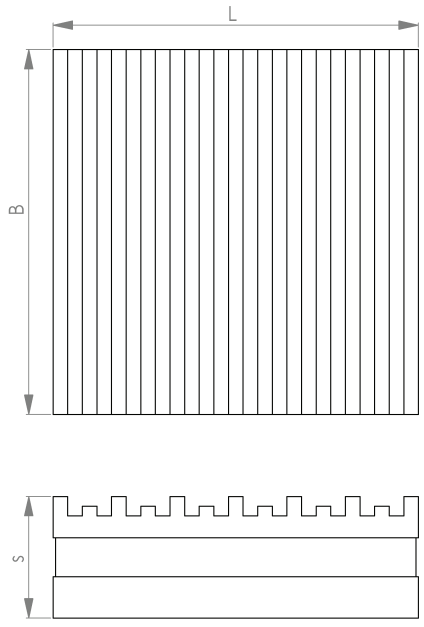
Features and Benefits

- Square Cell Pad consist of 81 sections of size 50 mm x 50 mm seperated by a thin web which can be easily cut to fit loading requirements
- excellent high frequency sound attentuation as compared to waffle pads
- standard size for ease of handling

Part No.	L	B (mm)	s (mm)	Rec. Load (N)	Fa,z (N)
DMACMSC341818	450 mm	450	20	4,500	6,000

Cork Sandwich Pad





Features and Benefits

- Cork Sandwich Pad are laminated pads having ⅜" thick close grained cork securely bonded between two layers of ¼" alternate low-high ribbed neoprene rubber pads
- easy field installation
- no need for bolting
- offers highest level of sound attentuation and vibration insulation

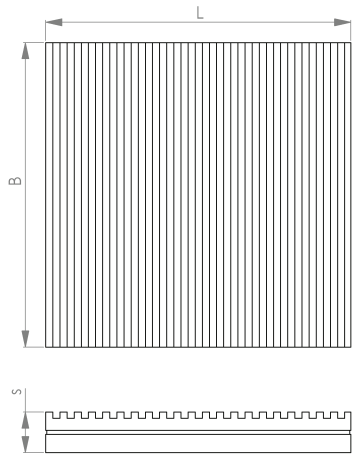
Part No.	L	B (mm)	s (mm)	Rec. Load (N)	Fa,z (N)
HIMOAVSP781818	450 mm	450	22	7,200	9,000
HIMOAVSP781212	300 mm	300	22	7,200	6,000
HIMOAVSP780808	200 mm	200	22	3,200	4,000
HIMOAVSP780606	150 mm	150	22	2,400	3,000
HIMOAVSP780404	100 mm	100	22	1,600	2,000
HIMOAVSP780303	75 mm	75	22	1,200	1,500

Subject to modifications

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Metal Sandwich Pad





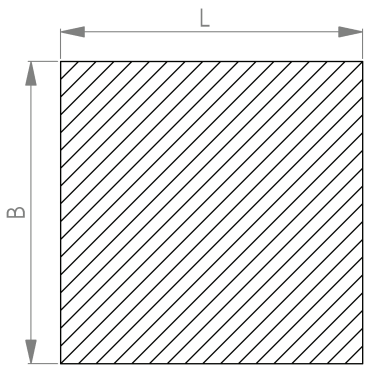
Features and Benefits

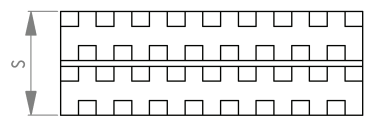
- Metal Sandwich Pads are constructed of a steel plate bonded between ribbed and vibration pads
- designed for very high load capacity

Part No.	L	B (mm)	s (mm)	Rec. Load (N)	Fa,z (N)
HIMOAVMP11818	450 mm	450	25	22,000	33,000
HIMOAVMP11212	300 mm	300	25	18,000	27,000
HIMOAVMP10808	200 mm	200	25	15,000	22,500
HIMOAVMP341818	450 mm	450	20	22,000	33,000
HIMOAVMP341212	300 mm	300	20	18,000	27,000
HIMOAVMP340808	200 mm	200	20	15,000	22,500
HIMOAVMP340606	150 mm	150	20	12,500	18,750
HIMOAVMP340404	100 mm	100	20	7,500	11,250
HIMOAVMP340303	75 mm	75	20	6,000	9,000

Ribbed Multi Layer Pad







Features and Benefits

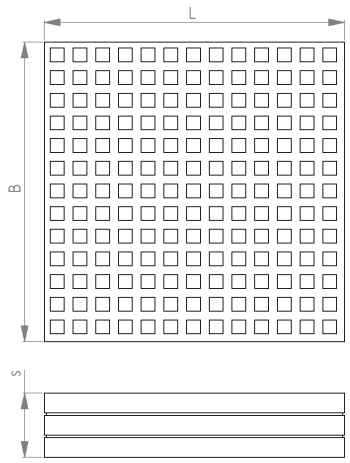
- Ribbed Multi Layer Pads are constructed of two layers of thick ribbed pads encasing one 1.5 mm thickness steel plate in the center
- alternate rib design with the ribs below and above joined at right angles to each other to eliminate skidding
- diagonal ribs help to distribute load evenly

Part No.	L	B (mm)	s (mm)	Deflection (mm)	Rec. Load (N)	Fa,z (N)
HIMOAVMLP1380606	152 mm	152	35	4.5	6,300	9,000
HIMOAVMLP1380404	102 mm	102	35	4.5	2,800	4,000

Subject to modifications

Square Cell Multi Layer Pad





Features and Benefits

- Square Cell Multi Layer Pads are constructed of three layers of square cell rubber sheets with two steel plates of 1.5 mm thickness
- due to suction pockets formed by the square cell design the pad offers better grip on the floor surface
- higher load capacity than Ribbed Multi Layer Pad

Part No.	L	B (mm)	s (mm)	Deflection (mm)	Rec. Load (N)	Fa,z (N)
HIMOAVSCP1380606	152 mm	152	32	4.5	7,900	10,000
HIMOAVSCP1380404	102 mm	102	32	4.5	3,500	4,500

Subject to modifications

Notes

Subject to modifications

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UL Certificate	213
FM Certificate	214
ISO Certificate	215

Subject to modifications

Reference Data

Pipe Support Recommended Spacing – Hanger Spacing

Normal Pipe or Dia	Standard Weight Steel Pipe				Copper Tube			
	Water Service		Vapour Service		Water Service		Vapour Service	
	Ft	M*	Ft	M*	Ft	M*	Ft	M*
1/4"	7	2.1	8	2.4	5	1.5	5	1.5
3/8"	7	2.1	8	2.4	5	1.5	6	1.8
1/2"	7	2.1	8	2.4	5	1.5	6	1.8
3/4"	7	2.1	9	2.7	5	1.5	7	2.1
1"	7	2.1	9	2.7	6	1.8	8	2.4
1-1/4"	7	2.1	9	2.7	7	2.1	9	2.7
1-1/2"	9	2.7	12	3.7	8	2.4	10	3.0
2"	10	3.0	13	4.0	8	2.4	11	3.4
2-1/2"	11	3.4	14	4.3	9	2.7	13	4.0
3"	12	3.7	15	4.6	10	3.0	14	4.3
3-1/2"	13	4.0	16	4.9	11	3.4	15	4.6
4"	14	4.3	17	5.2	12	3.7	16	4.9
5"	16	4.9	19	5.8	13	4.0	18	5.5
6"	17	5.2	21	6.4	14	4.3	20	6.1
8"	19	5.8	24	7.3	16	4.9	23	7.0
10"	20	6.1	26	7.9	18	5.5	25	7.6
12"	23	7.0	30	9.1	19	5.8	28	8.5
14"	25	7.6	32	9.8	-	-	-	-
16"	27	8.2	35	10.7	-	-	-	-
18"	28	8.5	37	11.3	-	-	-	-
20"	30	9.1	39	11.9	-	-	-	-
24"	32	9.8	42	12.8	-	-	-	-
30"	33	10.4	44	13.4	-	-	-	-

Note: These spacings do not apply where span calculations are made or where there are concentrated between supports such as Flanges, Valves, Speciallities, etc. or changes in direction requiring loads additional supports.

Spacing Of Hangers For Schedule 40 PVC Plastic Pipe

Temperature		Support Spacing in Ft. (Meter) For Pipe Sizes of													
		½"-¾"	(15-20)	1"-1¼"	(25-32)	1½"-2"	(40-50)	2½"	(65)	3"	(80)	4"	(100)	6"	(150)
20 °F	(-6.6 °C)	5.00	1.52	5.50	1.67	5.80	1.77	6.66	2.03	6.80	2.07	7.33	2.23	7.80	2.38
40 °F	(4.4 °C)	4.75	1.45	5.25	1.60	5.50	1.67	6.33	1.93	6.50	1.98	7.00	2.13	7.50	2.28
60 °F	(15.5 °C)	4.50	1.37	5.00	1.52	5.25	1.60	6.00	1.83	6.25	1.90	6.50	1.98	7.00	2.13
80 °F	(26.6 °C)	4.25	1.29	4.66	1.42	5.00	1.52	5.50	1.67	5.80	1.83	6.25	1.90	6.80	2.07
100 °F	(37.8 °C)	4.00	1.22	4.33	1.32	4.66	1.42	5.25	1.60	5.50	1.67	5.80	1.77	6.33	1.93
110 °F	(43.3 °C)	3.75	1.14	4.00	1.22	4.33	1.32	4.80	1.46	5.25	1.60	5.50	1.67	5.80	1.77
120 °F	(48.9 °C)	3.33	1.01	3.75	1.14	3.80	1.16	4.50	1.37	4.75	1.45	5.00	1.52	5.33	1.62
130 °F	(54.4 °C)	3.00	0.91	3.33	1.01	3.50	1.06	4.00	1.22	4.25	1.29	4.50	1.37	4.80	1.46
140 °F	(60.0 °C)	2.66	0.81	2.80	0.85	3.00	0.91	3.50	1.06	3.66	1.11	3.80	1.16	4.25	1.29
150 °F	(65.5 °C)	2.00	0.61	2.25	0.68	2.50	0.76	2.80	0.85	3.00	0.91	3.25	0.99	3.50	1.06

Subject to modifications

Reference Data

Spacing Of Hangers For Schedule 80 PVC Plastic Pipes

Temperature		Support Spacing in Ft. (Meter) For Pipe Sizes of															
		½"-¾"	(15-20)	1"	(25)	1"-1¼"	(32-40)	2"	(50)	2½"	(65)	3"	(80)	4"	(100)	6"	(150)
20 °F	(-6.6 °C)	5.75	1.75	6.33	1.93	6.66	2.03	7.00	2.13	7.80	2.38	8.20	2.50	8.66	2.64	9.80	2.99
40 °F	(4.4 °C)	5.50	1.67	6.00	1.83	6.33	1.93	6.50	1.98	7.50	2.28	7.75	2.36	8.25	2.51	9.33	2.84
60 °F	(15.5 °C)	5.25	1.60	5.75	1.75	6.00	1.83	6.25	1.90	7.00	2.13	7.33	2.23	7.80	2.38	8.80	2.68
80 °F	(26.6 °C)	4.80	1.46	5.33	1.62	5.66	1.72	6.00	1.83	6.66	2.03	7.00	2.13	7.33	2.23	8.33	2.54
100 °F	(37.8 °C)	4.50	1.37	5.00	1.52	5.25	1.60	5.50	1.67	6.33	1.93	6.50	1.98	6.80	2.07	7.80	2.38
110 °F	(43.3 °C)	4.33	1.32	4.60	1.40	4.80	1.46	5.12	1.56	5.80	1.77	6.00	1.83	6.33	1.93	7.33	2.23
120 °F	(48.9 °C)	3.80	1.16	4.33	1.32	4.50	1.37	4.75	1.45	5.33	1.62	5.50	1.67	5.80	1.77	6.50	1.98
130 °F	(54.4 °C)	3.50	1.06	3.80	1.16	4.00	1.22	4.33	1.32	4.75	1.45	5.00	1.52	5.25	1.60	6.00	1.83
140 °F	(60.0 °C)	3.00	0.91	3.33	1.01	3.50	1.06	3.66	1.11	4.25	1.29	4.33	1.32	4.66	1.42	5.12	1.56
150 °F	(65.5 °C)	2.50	0.76	2.75	0.84	3.00	0.91	3.12	0.95	3.33	1.01	3.50	1.06	3.75	1.14	4.25	1.29

Note: Higher spacing for PVC plastic Pipe assumes fluid loads up to 1.35 specific gravity [85 Lbs./Ft.3 (1.6.5Kg/m^3) but not concentrated loads.

Cross Reference of Part Numbers with International Standards

MSS SP & MSS 59	
Type 1	DMC122
Type 1	DMC222
Type 41	DMC211
Type 8	DMC111
Type 10	DMC117
Type 10	DMC217
Type 24	DMC144
Type 24	DMC166
Type 26	DMC155
Type 35	DMC140
Type 35	DMC142
Type 37	DMC443
Type 39A	DMPPS
Type 39B	DMPPS
Type 40	DMIPS
Type 41	DMC288

BS 3974
DMC166
DMC177
DMC277
DMC140
DMC142
DMRSI

FM Approved / UL Listed
DMC117
DMC122
DMC217
DMC222

BS 1726
DMSH
DMCS
DMHS

Subject to modifications

Information: Steel Pipes

Steel pipe suitable for screwing				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
10.2	1/8	6	2.00	0.41	0.44	0.59	1.25
13.5	1/4	8	2.35	0.65	0.71	0.88	1.50
17.2	3/8	10	2.35	0.85	0.97	1.17	2.25
21.3	1/2	15	2.65	1.22	1.42	1.63	2.75
26.9	3/4	20	2.65	1.58	1.95	2.20	3.00
33.7	1	25	3.25	2.44	3.02	3.51	3.50
42.4	1 1/4	32	3.25	3.14	4.15	4.86	3.75
48.3	1 1/2	40	3.25	3.61	4.98	5.94	4.25
60.3	2	50	3.65	5.10	7.31	8.83	4.75
76.1	2 1/2	65	3.65	6.51	10.23	12.77	5.50
88.9	3	80	4.05	8.47	13.59	17.08	6.00
114.3	4	100	4.50	12.10	20.80	26.31	6.00
139.7	5	125	4.85	16.20	29.47	35.45	6.00
165.1	6	150	4.85	19.20	38.16	44.83	6.00

Norm:
DIN EN 10255 - 11/2004

Material:
Steel 33-2, according to DIN 17100

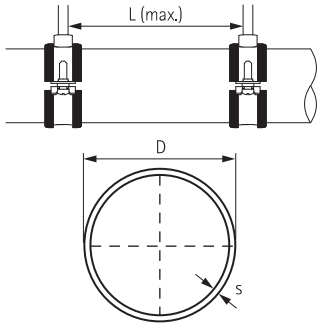
Insulation:
mineral wool (density = 80 kg/m³)

Steel pipe (seamless)				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
10.2	1/8	6	1.6	0.34	0.38	0.53	1.25
13.5	1/4	8	1.8	0.52	0.60	0.77	1.50
17.2	3/8	10	1.8	0.68	0.83	1.02	2.25
21.3	1/2	15	2.0	0.96	1.19	1.40	2.75
26.9	3/4	20	2.3	1.40	1.79	2.22	3.00
33.7	1	25	2.6	1.99	2.63	3.12	3.50
42.4	1 1/4	32	2.6	2.55	3.64	4.39	3.75
48.3	1 1/2	40	2.6	2.93	4.39	5.39	4.25
60.3	2	50	2.9	4.11	6.44	8.03	4.75
76.1	2 1/2	65	2.9	5.24	9.12	11.70	5.50
88.9	3	80	3.2	6.76	12.10	15.72	6.00
114.3	4	100	3.6	9.83	18.83	24.25	6.00
139.7	5	125	4.0	13.40	27.02	33.05	6.00
168.3	6	150	4.5	18.20	38.37	43.66	6.00
219.1	8	200	6.3	33.10	67.75	72.95	6.00
273.0	10	250	6.3	41.40	96.11	104.15	6.00
323.9	12	300	7.1	55.50	131.57	141.56	6.00
355.6	14	350	8.0	68.60	160.95	170.74	6.00
406.4	16	400	8.8	86.30	207.05	217.91	6.00
457.0	18	450	10.0	110.00	262.67	274.44	6.00
508.0	20	500	11.0	135.00	323.79	335.87	6.00
610.0	24	600	12.5	184.00	457.26	471.16	6.00

Norm:
DIN EN 10220 - 03/2003

Material:
Steel 37

Insulation:
mineral wool (density = 80 kg/m³)



This datasheet is to be used as a tool for selecting the correct fixing materials only. Although Walraven does everything possible to ensure the accuracy of all data within this sheet, we cannot be held responsible for information supplied by third parties, i.e. standardisation institutes and pipe manufacturers.
* Maximum recommended fixing distance according to DIN 1988-2 (TRWI). The exact distances depend on the specific pipe-type and -manufacturer!

Subject to modifications

Information: Steel Pipes / Cast Iron Pipe

Welded steel pipe				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
10.2	1/8	6	1.6	0.34	0.38	0.53	1.25
13.5	1/4	8	1.8	0.52	0.60	0.77	1.50
17.2	3/8	10	1.8	0.68	0.83	1.02	2.25
21.3	1/2	15	2.0	0.95	1.19	1.40	2.75
26.9	3/4	20	2.0	1.23	1.64	2.07	3.00
33.7	1	25	2.0	1.56	2.25	2.74	3.50
42.4	1 1/4	32	2.3	2.27	3.39	4.17	3.75
48.3	1 1/2	40	2.3	2.61	4.11	5.13	4.25
60.3	2	50	2.3	3.29	5.73	7.38	4.75
76.1	2 1/2	65	2.6	4.71	8.66	11.29	5.50
88.9	3	80	2.9	6.15	11.57	15.17	6.00
114.3	4	100	3.2	8.77	17.91	23.31	6.00
139.7	5	125	3.6	12.10	25.88	31.92	6.00
168.3	6	150	4.0	16.20	36.57	43.16	6.00
219.1	8	200	4.5	23.80	58.78	66.55	6.00
273.0	10	250	5.0	33.00	88.13	96.81	6.00
323.9	12	300	5.6	44.00	121.84	131.49	6.00
355.6	14	350	5.6	48.30	142.06	153.04	6.00
406.4	16	400	6.3	62.20	184.80	196.81	6.00
457.0	18	450	6.3	70.00	226.01	239.27	6.00
508.0	20	500	6.3	77.90	270.56	286.13	6.00

Norm:
DIN EN 10220 - 03/2003

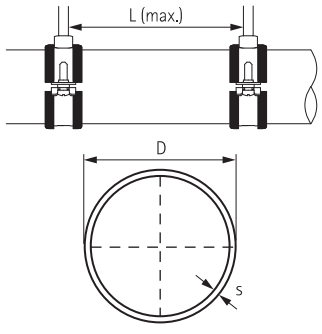
Material:
Steel 37-2

Insulation:
mineral wool (density = 80 kg/m³)

Cast iron pipe				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	Tol. (mm)	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
48		40	3.0	3.10	4.48	-	2.00
58		50	3.5	4.30	6.34	-	2.00
78	+2.0 / -1.0	70	3.5	5.90	9.86	-	2.00
83		75	3.5	6.30	10.83	-	2.00
110		100	3.5	8.40	16.73	-	1.50
135		125	4.0	11.80	24.46	-	1.50
160	+2.0 / -2.0	150	4.0	14.10	32.24	-	1.50
210		200	5.0	23.10	54.50	-	1.50
274	+2.5 / -2.5	250	5.5	33.30	87.60	-	1.50
326		300	6.0	43.20	120.60	-	1.50
429	+2.0 / -3.0	400	8.1	77.65	211.49	-	1.50
532	+2.0 / -3.5	500	9.0	107.21	314.71	-	1.50
635	+2.0 / -4.0	600	9.9	140.95	438.20	-	1.50

Norm:
DIN 19522 - 01/2000

Material:
Cast iron according to ISO 185 (EN 587)



This datasheet is to be used as a tool for selecting the correct fixing materials only. Although Walraven does everything possible to ensure the accuracy of all data within this sheet, we cannot be held responsible for information supplied by third parties, i.e. standardisation institutes and pipe manufacturers.
* Maximum recommended fixing distance according to DIN 1988-2 (TRWI). The exact distances depend on the specific pipe-type and -manufacturer!

Subject to modifications

Reference Data

Schedule 40 Steel Pipe Data

				Wall Thickness		Weight Of Pipe		Weight Of Pipe Filled With Water	
In.	mm	In.	mm	In.	mm	Lbs./Ft.	kg/m	Lbs./Ft.	kg/m
3/8"	(10)	0.675	(17.1)	.091	(2.3)	.6	(.9)	0.7	(1.0)
1/2"	(15)	0.840	(21.3)	.109	(2.7)	.8	(1.2)	0.9	(1.3)
3/4"	(20)	1.050	(26.7)	.113	(2.9)	1.1	(1.7)	1.3	(2.0)
1"	(25)	1.315	(33.4)	.133	(3.4)	1.7	(2.5)	2.1	(3.0)
1 1/4"	(32)	1.660	(42.1)	.140	(3.5)	2.3	(3.4)	2.9	(4.3)
1 1/2"	(40)	1.900	(48.2)	.145	(3.7)	2.7	(4.0)	3.6	(5.3)
2"	(50)	2.375	(60.3)	.154	(3.9)	3.6	(5.4)	5	(7.5)
2 1/2"	(65)	2.875	(73.0)	.203	(5.1)	5.8	(8.6)	7.9	(11.7)
3"	(80)	3.500	(88.9)	.216	(5.5)	7.6	(11.2)	10.8	(15.9)
3 1/2"	(90)	4.000	(101.6)	.226	(5.7)	9.1	(13.5)	13.4	(19.8)
4"	(100)	4.500	(114.3)	.237	(6.0)	10.8	(16.0)	16.3	(24.2)
5"	(125)	5.563	(141.3)	.258	(6.5)	14.6	(21.7)	23.2	(34.6)
6"	(150)	6.625	(168.3)	.280	(7.1)	19.0	(28.2)	31.5	(46.8)
8"	(200)	8.625	(219.1)	.322	(8.2)	28.5	(42.5)	50.1	(74.6)
10"	(250)	10.750	(273.0)	.365	(9.3)	40.5	(60.2)	74.6	(110.9)
12"	(300)	12.750	(323.8)	.406	(10.3)	51.1	(75.9)	102.1	(151.9)
14"	(350)	14.000	(355.6)	.437	(11.1)	63.0	(93.7)	121.5	(180.7)
16"	(400)	16.000	(406.4)	.500	(12.7)	83.0	(123.5)	159.5	(237.3)
18"	(450)	18.000	(457.2)	.563	(14.3)	105.0	(156.2)	202.2	(300.8)
20"	(500)	20.000	(508.0)	.593	(15.1)	123.0	(183.0)	243.4	(361.8)
24"	(600)	24.000	(609.6)	.687	(17.4)	171.0	(254.5)	345.2	(513.7)

Schedule 80 Steel Pipe Data

Nominal Pipe Size		Pipe O.D.		Wall Thickness		Weight Of Pipe		Weight Of Pipe Filled With Water	
In.	mm	In.	mm	In.	mm	Lbs./Ft.	kg/m	Lbs./Ft.	kg/m
3/8"	(10)	0.675	(17.1)	.126	(3.2)	.7	(1.1)	.8	(1.2)
1/2"	(15)	0.840	(21.3)	.147	(3.7)	1.1	(1.6)	1.2	(1.7)
3/4"	(20)	1.050	(26.7)	.154	(3.9)	1.5	(2.2)	1.7	(2.5)
1"	(25)	1.315	(33.4)	.179	(4.5)	2.2	(3.2)	2.5	(3.6)
1 1/4"	(32)	1.660	(42.1)	.191	(4.8)	3.0	(4.4)	3.5	(5.2)
1 1/2"	(40)	1.900	(48.2)	.200	(5.1)	3.6	(5.4)	4.3	(6.5)
2"	(50)	2.375	(60.3)	.218	(5.5)	5.0	(7.5)	6.3	(9.4)
2 1/2"	(65)	2.875	(73.0)	.276	(7.0)	7.6	(11.4)	9.4	(14.1)
3"	(80)	3.500	(88.9)	.300	(7.6)	10.2	(15.2)	13.0	(19.4)
3 1/2"	(90)	4.000	(101.6)	.318	(8.1)	12.5	(18.6)	16.3	(24.3)
4"	(100)	4.500	(114.3)	.337	(8.5)	15.0	(22.3)	20.0	(29.7)
5"	(125)	5.563	(141.3)	.375	(9.5)	20.8	(30.9)	28.7	(42.6)
6"	(150)	6.625	(168.3)	.432	(11.0)	28.6	(42.5)	39.9	(59.3)
8"	(200)	8.625	(219.1)	.500	(12.7)	43.4	(64.5)	63.1	(93.9)
10"	(250)	10.750	(273.0)	.593	(15.0)	64.4	(95.8)	95.5	(142.1)
12"	(300)	12.750	(323.8)	.687	(17.4)	88.6	(131.8)	132.6	(197.3)
14"	(350)	14.000	(355.6)	.750	(19.0)	107.0	(159.2)	158.2	(235.4)
16"	(400)	16.000	(406.4)	.843	(21.4)	137.0	(203.9)	206.7	(306.6)
18"	(450)	18.000	(457.2)	.937	(23.8)	171.0	(254.5)	259.5	(386.2)
20"	(500)	20.000	(508.0)	1.031	(26.2)	209.0	(311.0)	318.4	(473.8)
24"	(600)	24.000	(609.6)	1.218	(30.9)	297.0	(442.0)	455.2	(677.4)

Dimensions taken from

ASTM A53-86

1 cubic ft. of water weighs

62.41 lbs.

1 cubic meter of water weighs

999.97 kg.

1 gallon (U.S.) weighs 8.335 lbs.

1 litre weighs .999 kg.

Subject to modifications

Reference Data

Copper Tubing (Type L) Data

Nominal Tubing Size		O.D. Size		Wall Thickness		Weight Of Tubing		Weight Of Pipe Filled With Water	
In.	mm	In.	mm	In.	mm	Lbs./Ft.	kg/m	Lbs./Ft.	kg/m
1/4"	(6)	.375	(9.5)	.030	(.7)	.12	(.17)	.15	(.21)
3/8"	(10)	.500	(12.7)	.035	(.9)	.20	(.30)	.26	(.39)
1/2"	(15)	.625	(15.9)	.040	(1.0)	.28	(.41)	.38	(.56)
5/8"	(17)	.750	(19.0)	.042	(1.0)	.36	(.53)	.51	(.75)
3/4"	(20)	.875	(22.2)	.045	(1.1)	.45	(.67)	.66	(.98)
1"	(25)	1.125	(28.6)	.050	(1.3)	.65	(.97)	1.01	(1.50)
1 1/4"	(32)	1.375	(34.9)	.055	(1.4)	.88	(1.31)	1.42	(2.11)
1 1/2"	(40)	1.625	(41.3)	.060	(1.5)	1.14	(1.69)	1.91	(2.83)
2"	(50)	2.125	(54.0)	.070	(1.8)	1.75	(2.60)	3.09	(4.59)
2 1/2"	(65)	2.625	(66.7)	.080	(2.0)	2.48	(3.69)	4.54	(6.75)
3"	(80)	3.125	(79.4)	.090	(2.3)	3.33	(4.95)	6.28	(9.34)
3 1/2"	(90)	3.625	(92.1)	.100	(2.5)	4.29	(6.38)	8.28	(12.32)
4"	(100)	4.125	(104.8)	.110	(2.8)	5.38	(8.00)	10.57	(15.72)
5"	(125)	5.125	(130.2)	.125	(3.2)	7.61	(11.32)	15.69	(23.34)
6"	(150)	6.125	(155.6)	.140	(3.5)	10.20	(15.18)	21.81	(32.46)
8"	(200)	8.125	(206.4)	.200	(5.1)	19.29	(28.70)	39.49	(58.89)

Dimensions taken from ASTM B88-83.

Copper Tubing (Type K) Data

Nominal Tubing Size		O.D. Size		Wall Thickness		Weight Of Tubing		Weight Of Pipe Filled With Water	
In.	mm	In.	mm	In.	mm	Lbs./Ft.	kg/m	Lbs./Ft.	kg/m
1/4"	(6)	.375	(9.5)	.035	(.9)	.14	(.21)	.17	(.25)
3/8"	(10)	.500	(12.7)	.049	(1.2)	.27	(.40)	.32	(.47)
1/2"	(15)	.625	(15.9)	.049	(1.2)	.34	(.50)	.43	(.63)
5/8"	(17)	.750	(19.0)	.049	(1.2)	.42	(.62)	.56	(.83)
3/4"	(20)	.875	(22.2)	.065	(1.6)	.64	(.95)	.83	(1.23)
1"	(25)	1.125	(28.6)	.065	(1.6)	.84	(1.25)	1.18	(1.75)
1 1/4"	(32)	1.375	(34.9)	.065	(1.6)	1.04	(1.55)	1.57	(2.34)
1 1/2"	(40)	1.625	(41.3)	.072	(1.8)	1.36	(2.02)	2.10	(3.12)
2"	(50)	2.125	(54.0)	.083	(2.1)	2.06	(3.06)	3.37	(5.01)
2 1/2"	(65)	2.625	(66.7)	.095	(2.4)	2.92	(4.34)	4.92	(7.31)
3"	(80)	3.125	(79.4)	.109	(2.8)	4.00	(5.95)	6.96	(10.35)
3 1/2"	(90)	3.625	(92.1)	.120	(3.0)	5.12	(7.72)	9.02	(13.42)
4"	(100)	4.125	(104.8)	.134	(3.4)	6.51	(9.69)	11.57	(17.22)
5"	(125)	5.125	(130.2)	.160	(4.0)	9.67	(14.39)	17.67	(26.29)
6"	(150)	6.125	(155.6)	.192	(4.9)	13.87	(20.60)	25.07	(37.27)
8"	(200)	8.125	(206.4)	.271	(6.9)	25.90	(38.50)	45.40	(67.52)

Dimensions taken from ASTM B88-83.

1 cubic ft. of water weighs 62.41 lbs.

1 cubic meter of water weighs 999.97 kg.

1 gallon (U.S.) weighs 8.335 lbs.

1 litre weighs .999 kg.

Subject to modifications

Reference Data

Schedule 40 PVC Plastic Pipe Data

Nominal Pipe Size		Pipe O.D.		Wall Thickness		Weight Of Pipe		Weight Of Pipe Filled With Water	
In.	mm	In.	mm	In.	mm	Lbs /Ft.	kg/m	Lbs./Ft.	kg/m
1/8"	(3)	.405	(10.3)	.068	(1.7)	.04	(.06)	.06	(.09)
1/4"	(6)	.540	(13.7)	.088	(2.2)	.07	(.11)	.11	(.17)
3/8"	(10)	.675	(17.1)	.091	(2.3)	.10	(.14)	.18	(.26)
1/2"	(15)	.840	(21.3)	.109	(2.7)	.15	(.20)	.25	(.40)
3/4"	(20)	1.050	(26.7)	.113	(2.9)	.20	(.30)	.40	(.60)
1"	(25)	1.315	(33.4)	.133	(3.4)	.30	(.40)	.70	(.90)
1 1/4"	(32)	1.660	(42.1)	.140	(3.5)	.40	(.60)	1.00	(1.50)
1 1/2"	(40)	1.900	(48.2)	.145	(3.7)	.50	(.70)	1.40	(2.00)
2"	(50)	2.375	(60.3)	.154	(3.9)	.60	(.90)	2.00	(3.00)
2 1/2"	(65)	2.875	(73.0)	.203	(5.1)	1.00	(1.50)	3.10	(4.51)
3"	(80)	3.500	(88.9)	.216	(5.5)	1.30	(2.00)	4.50	(6.70)
3 1/2"	(90)	4.000	(101.6)	.226	(5.7)	1.60	(2.40)	5.90	(8.70)
4"	(100)	4.500	(114.3)	.237	(6.0)	1.90	(2.80)	7.40	(11.00)
5"	(125)	5.563	(141.3)	.258	(6.5)	2.80	(4.10)	11.40	(17.00)
6"	(150)	6.625	(168.3)	.280	(7.1)	3.30	(4.90)	15.40	(23.00)
8"	(200)	8.625	(219.1)	.322	(8.2)	5.30	(7.80)	26.90	(39.90)
10"	(250)	10.750	(273.0)	.366	(9.3)	7.50	(11.10)	41.60	(61.80)
12"	(300)	12.750	(323.8)	.406	(10.3)	10.00	(14.90)	58.50	(87.00)

Schedule 80 PVC Plastic Pipe Data

Nominal Pipe Size		Pipe O.D.		Wall Thickness		Weight Of Pipe		Weight Of Pipe Filled With Water	
In.	mm	In	mm	In.	mm	Lbs./Ft.	kg/m	Lbs./Ft.	kg/m
1/8"	(3)	.405	(10.3)	.095	(2.4)	.05	(.08)	.06	(.10)
1/4"	(6)	.540	(13.7)	.119	(3.0)	.09	(.14)	.12	(.18)
3/8"	(10)	.675	(17.1)	.126	(3.2)	.10	(.19)	.16	(.28)
1/2"	(15)	.840	(21.3)	.147	(3.7)	.10	(.20)	.20	(.30)
3/4"	(20)	1.050	(26.7)	.154	(3.9)	.20	(.40)	.40	(.70)
1"	(25)	1.315	(33.4)	.179	(4.5)	.40	(.50)	.70	(.90)
1 1/4"	(32)	1.660	(42.1)	.191	(4.8)	.50	(.80)	1.00	(1.60)
1 1/2"	(40)	1.900	(48.2)	.200	(5.1)	.60	(.90)	1.30	(2.00)
2"	(50)	2.375	(60.3)	.218	(5.5)	.90	(1.30)	2.20	(3.20)
2 1/2"	(65)	2.875	(73.0)	.276	(7.0)	1.30	(2.00)	3.10	(4.70)
3"	(80)	3.500	(88.9)	.300	(7.6)	1.8	(2.70)	4.60	(6.90)
3 1/2"	(90)	4.000	(101.6)	.318	(8.1)	2.2	(3.20)	6.00	(8.90)
4"	(100)	4.500	(114.3)	.337	(8.5)	2.6	(3.90)	7.60	(11.30)
5"	(125)	5.563	(141.3)	.375	(9.5)	4.1	(6.10)	12.00	(17.80)
6"	(150)	6.625	(168.3)	.432	(11.0)	5.00	(7.50)	16.30	(24.30)
8"	(200)	8.625	(219.1)	.500	(12.7)	8.00	(11.90)	27.80	(41.30)
10"	(250)	10.750	(273.0)	.593	(15.0)	11.90	(17.70)	43.20	(77.60)
12"	(300)	12.750	(323.8)	.687	(17.4)	16.30	(24.30)	60.30	(89.80)

1 cubic ft. of water weighs 62.41 lbs.

1 cubic meter of water weighs 999.97 kg.

1 gallon (U.S.) weighs 8.335 lbs.

1 liter weighs .999 kg.

Subject to modifications

Information: Copper Pipe / PE-Pipe

Copper pipe				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
10.0	-	-	1.0	0.25	0.30	0.45	1.00
12.0	-	10	1.0	0.31	0.39	0.55	1.25
15.0	-	-	1.0	0.39	0.52	0.70	1.25
18.0	-	15	1.0	0.48	0.68	0.87	1.50
22.0	-	20	1.0	0.59	0.90	1.11	2.00
28.0	-	25	1.5	1.11	1.60	2.05	2.25
35.0	-	32	1.5	1.41	2.21	2.70	2.75
42.0	-	40	1.5	1.70	2.89	3.69	3.00
54.0	-	50	2.0	2.91	4.87	6.19	3.50
64.0	-	-	2.0	3.47	6.29	8.19	4.00
76.1	-	65	2.0	4.14	8.22	10.93	4.25
88.9	-	80	2.0	4.86	10.52	14.26	4.75
108.0	-	-	2.5	7.37	15.70	20.98	5.00
133.0	-	-	3.0	10.90	23.57	29.50	5.00
159.0	-	-	3.0	13.09	31.46	38.06	5.00
219.0	-	-	3.0	18.12	53.73	61.87	5.00
267.0	-	-	3.0	22.10	75.60	-	5.00

Norm:
EN 1057 - 05/1996 (ex. DIN 1786)

Material:
Copper according to EN 1412

Insulation:
mineral wool (density = 80 kg/m³)

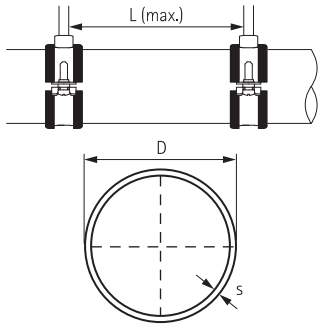
PE pipe				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
50	-	-	1.8	0.29	1.98	-	1.05
63	-	-	2.0	0.40	3.13	-	1.20
75	-	-	2.3	0.55	4.44	-	1.30
90	-	-	2.8	0.79	6.38	-	1.45
110	-	-	3.4	1.17	9.53	-	1.60
125	-	-	3.9	1.51	12.29	-	1.70
140	-	-	4.3	1.88	15.43	-	1.80
160	-	-	4.9	2.42	19.13	-	1.90
180	-	-	5.5	3.07	25.49	-	2.00
200	-	-	6.2	3.84	31.47	-	2.00
225	-	-	6.9	4.77	39.79	-	2.25
250	-	-	7.7	5.92	49.12	-	2.50
280	-	-	8.6	7.40	61.64	-	2.80
315	-	-	9.7	9.37	77.96	-	3.15

Norm:
DIN 8074 - 08/1999

Series: 16

SDR: 33

Material:
HD PE



Subject to modifications

This datasheet is to be used as a tool for selecting the correct fixing materials only. Although Walraven does everything possible to ensure the accuracy of all data within this sheet, we cannot be held responsible for information supplied by third parties, i.e. standardisation institutes and pipe manufacturers.
* Maximum recommended fixing distance according to DIN 1988-2 (TRWI). The exact distances depend on the specific pipe-type and -manufacturer!

Information: PE-Pipe / PVC-Pipe

PE pipe				Weight			L
D			s	empty	filled	in ulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
40	-	-	1.8	0.23	1.27	-	0.95
50	-	-	2.0	0.31	1.98	-	1.05
63	-	-	2.5	0.49	3.13	-	1.20
75	-	-	2.9	0.68	4.43	-	1.30
90	-	-	3.5	0.98	6.39	-	1.45
110	-	-	4.2	1.43	9.53	-	1.60
125	-	-	4.8	1.84	12.29	-	1.70
140	-	-	5.4	2.32	15.42	-	1.80
160	-	-	6.2	3.04	20.14	-	1.90
180	-	-	6.9	3.79	25.47	-	2.00
200	-	-	7.7	4.69	31.44	-	2.00
225	-	-	8.6	5.89	39.79	-	2.25
250	-	-	9.6	7.30	49.12	-	2.50
280	-	-	10.7	9.10	61.60	-	2.80
315	-	-	12.1	11.60	77.98	-	3.00

Norm:
DIN 8074 - 08/1999

Series:
12,5

SDR:
26

Material:
HD PE

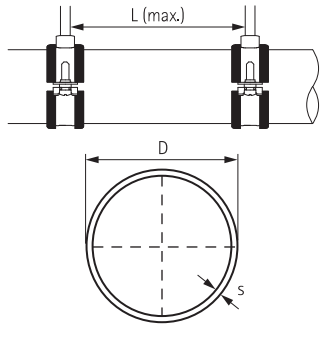
PVC pipe				Weight			L
D			s	empty	filled	in ulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
40	-	-	1.8	0.33	1.37	-	0.90
50	-	-	1.8	0.42	2.11	-	1.10
63	-	-	1.9	0.56	3.31	-	1.20
75	-	-	2.2	0.78	4.69	-	1.35
90	-	-	2.7	1.13	6.75	-	1.50
110	-	-	3.2	1.64	10.07	-	1.70
125	-	-	3.7	2.13	12.99	-	1.80
140	-	-	4.1	2.65	16.29	-	1.95
160	-	-	4.7	3.44	21.24	-	2.10
180	-	-	5.3	4.37	26.90	-	2.20
200	-	-	5.9	5.37	33.17	-	2.30
225	-	-	6.6	6.76	41.97	-	2.40
250	-	-	7.3	8.31	51.81	-	2.50
280	-	-	8.2	10.40	64.95	-	2.80
315	-	-	9.2	13.20	82.26	-	3.00

Norm:
DIN 8062 - 11/1988

Series:
3

SDR:
34,3

Material:
PVC-U (unplasticized)



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Subject to modifications

Information: PVC-Pipe

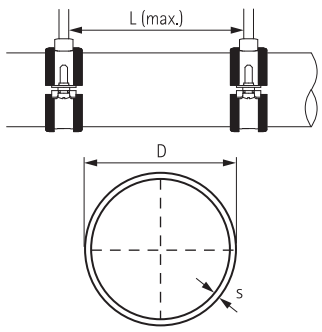
PVC pipe				Weight			L
D			s	empty	filled	insulated	(max.)*
(mm)	(")	(DN)	(mm)	(kg / m)	(kg / m)	(kg / m)	m
25	-	-	1.5	0.17	0.55	-	0.65
32	-	-	1.8	0.26	0.90	-	0.70
40	-	-	1.9	0.35	1.38	-	0.90
50	-	-	2.4	0.55	2.16	-	1.10
63	-	-	3.0	0.85	3.40	-	1.20
75	-	-	3.6	1.22	4.83	-	1.35
90	-	-	4.3	1.75	6.95	-	1.50
110	-	-	5.3	2.61	10.37	-	1.70
125	-	-	6.0	3.34	13.36	-	1.80
140	-	-	6.7	4.18	16.76	-	1.95
160	-	-	7.7	5.47	21.88	-	2.10
180	-	-	8.6	6.88	27.69	-	2.20
200	-	-	9.6	8.51	34.17	-	2.30
225	-	-	10.8	10.80	43.28	-	2.40
250	-	-	11.9	13.20	53.37	-	2.50
280	-	-	13.4	16.60	66.93	-	2.80
315	-	-	15.0	20.90	84.66	-	3.00

Norm:
DIN 8062 - 11/1988

Series:
4

SDR:
21

Material:
PVC-U (unplasticized)

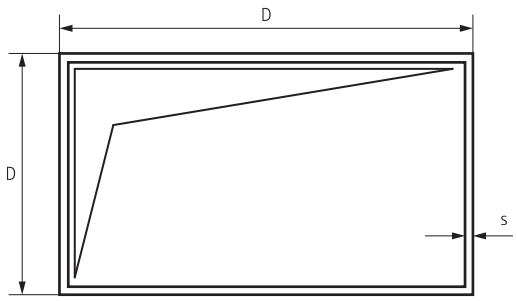


Subject to modifications

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* Maximum recommended fixing distance according to DIN 1988-2 (TRWI). The exact distances depend on the specific pipe-type and -manufacturer!

Information: Air Ducts (Non-Insulated)

Declaration of weight in kg/m



D	s = 0.75 mm			s = 0.88 mm						D
(mm)	200	224	250	280	315	355	400	450	500	(mm)
200	6.1	6.5	6.9	8.6	9.2	10.0	10.8	11.7	12.6	200
224	-	6.9	7.3	9.1	9.7	10.4	11.2	12.1	13.0	224
250	-	-	7.7	9.5	10.1	10.9	11.7	12.6	13.5	250
280	-	-	-	10.1	10.7	11.4	12.2	13.1	14.0	280
315	-	-	-	-	11.3	12.0	12.8	13.7	14.6	315
355	-	-	-	-	-	12.8	13.6	14.5	15.4	355
400	-	-	-	-	-	-	14.4	15.3	16.2	400
450	-	-	-	-	-	-	-	16.2	17.1	450
500	-	-	-	-	-	-	-	-	18.0	500

Values for the calculation:
Density air duct: Steel plate zp. = 7,850 kg/m³

Weights for flanges and duct bracing were estimated.

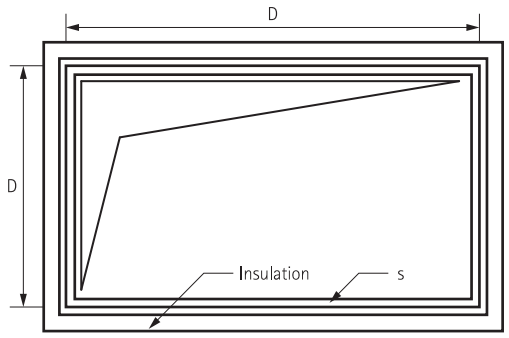
D	s = 1.00 mm						s= 1.13 mm						s = 1.5 mm				D
(mm)	560	630	710	800	900	1,000	1,120	1,250	1,400	1,600	1,800	2,000	2,240	2,500	2,800	3,150	(mm)
200	15.5	16.9	18.6	20.4	22.5	24.5	30.4	33.4	36.9	41.5	46.1	50.7	62.3	68.9	76.5	85.5	200
224	16.0	17.4	19.1	20.9	22.9	25.0	31.0	34.0	37.5	42.1	46.7	51.3	62.9	69.5	77.1	86.1	224
250	16.5	18.0	19.6	21.4	23.5	25.5	31.6	34.6	38.1	42.7	47.3	51.9	63.5	70.2	77.8	86.7	250
280	17.1	18.6	20.2	22.0	24.1	26.1	32.3	35.3	38.7	43.4	48.0	52.6	64.3	70.9	78.6	87.5	280
315	17.9	19.3	20.9	22.8	24.8	26.8	33.1	36.1	39.6	44.2	48.8	53.4	65.2	71.8	79.5	88.4	315
355	18.7	20.1	21.7	23.6	25.6	27.7	34.0	37.0	40.5	45.1	49.7	54.3	66.2	72.8	80.5	89.4	355
400	19.6	21.0	22.7	24.5	26.5	28.6	35.1	38.1	41.5	46.1	50.7	55.4	67.4	74.0	81.6	90.6	400
450	20.6	22.0	23.7	25.5	27.6	29.6	36.2	39.2	42.7	47.3	51.9	56.5	68.6	75.3	82.9	91.8	450
500	21.6	23.1	24.7	26.5	28.6	30.6	37.4	40.4	43.8	48.4	53.0	57.7	69.9	76.5	84.2	93.1	500
560	22.9	24.3	25.9	27.8	29.8	31.8	38.7	41.7	45.2	49.8	54.4	59.0	71.4	78.1	85.7	94.7	560
630	-	25.7	27.3	29.2	31.2	33.3	40.4	43.4	46.8	51.4	56.0	60.7	73.2	79.9	87.5	96.4	630
710	-	-	29.0	30.8	32.9	34.9	42.2	45.2	48.7	53.3	57.9	62.5	75.3	81.9	89.5	98.5	710
800	-	-	-	32.7	34.7	36.7	44.3	47.3	50.7	55.4	60.0	64.6	77.6	84.2	91.8	100.8	800
900	-	-	-	-	36.7	38.8	46.6	49.6	53.0	57.7	62.3	67.3	80.1	86.7	94.4	103.3	900
1,000	-	-	-	-	-	40.8	48.9	51.9	55.4	60.0	64.6	69.2	82.7	89.3	96.9	105.9	1,000
1,120	-	-	-	-	-	-	51.7	54.7	58.1	62.7	67.3	72.0	85.7	92.4	100.0	108.9	1,120
1,250	-	-	-	-	-	-	-	57.7	61.1	65.7	70.3	75.0	89.0	95.7	103.3	112.3	1,250
1,400	-	-	-	-	-	-	-	-	64.6	69.2	73.8	78.4	92.9	99.5	107.2	116.1	1,400
1,600	-	-	-	-	-	-	-	-	-	73.8	78.4	83.0	98.0	104.6	112.3	121.2	1,600
1,800	-	-	-	-	-	-	-	-	-	-	83.0	87.6	103.1	109.7	117.4	126.3	1,800
2,000	-	-	-	-	-	-	-	-	-	-	-	92.3	108.2	114.8	122.5	131.4	2,000
2,240	-	-	-	-	-	-	-	-		-	-	-	114.3	120.9	128.6	137.5	2,240
2,500	-	-	-	-	-	-	-	-	-	-	-	-	-	127.6	135.2	144.1	2,500
2,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	142.9	151.8	2,800
3,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160.7	3,150

This datasheet is to be used as a tool for selecting the correct fixing materials only. Although Walraven does everything possible to ensure the accuracy of all data within this sheet, we cannot be held responsible for information supplied by third parties, i.e. standardisation institutes and pipe manufacturers.

Subject to modifications

Information: Air Ducts (Insulated)

Declaration of weight in kg/m



D	S = 0.75 mm			S = 0.88 mm						D
(mm)	200	224	250	280	315	355	400	450	500	(mm)
200	9.2	9.9	10.3	12.2	13.1	14.0	15.1	16.3	17.6	200
224	-	10.4	10.8	12.8	13.6	14.6	15.7	16.9	18.1	224
250	-	-	11.4	13.4	14.3	15.3	16.3	17.6	18.8	250
280	-	-	-	14.2	15.0	16.0	17.1	18.3	19.5	280
315	-	-	-	-	15.9	16.8	17.9	19.1	20.4	315
355	-	-	-	-	-	17.8	18.9	20.1	21.3	355
400	-	-	-	-	-	-	20.0	21.2	22.4	400
450	-	-	-	-	-	-	-	22.4	23.7	450
500	-	-	-	-	-	-	-	-	24.9	500

Values for the calculation:
Density air duct: Steel plate zp. = 7,850 kg/m³
Density insulation: Mineral wool = approx. 80 kg/m³

Weights for flanges and duct bracing were estimated.

D	s = 1.0 mm						s = 1.13 mm						s = 1.25 mm				D
(mm)	560	630	710	800	900	1,000	1,120	1,250	1,400	1,600	1,800	2,000	2,240	2,500	2,800	3,150	(mm)
200	20.9	22.8	24.9	27.3	30.0	32.7	39.4	43.2	47.7	53.5	59.4	65.3	78.4	86.7	96.2	107.4	200
224	21.5	23.4	25.6	28.0	30.6	33.3	40.1	43.9	48.4	54.3	60.1	66.0	79.1	87.4	97.0	108.2	224
250	22.2	24.1	26.2	28.7	31.3	34.0	40.9	44.7	49.1	55.0	60.9	66.8	80.0	88.3	97.8	109.0	250
280	23.0	24.9	27.1	29.5	32.1	34.8	41.8	45.6	50.0	55.9	61.8	67.7	80.9	89.2	98.8	110.0	280
315	24.0	25.8	28.0	30.4	33.1	35.8	42.8	46.6	51.0	56.9	62.8	68.7	82.0	90.3	99.9	111.1	315
355	25.0	26.9	29.1	31.4	34.2	36.8	44.0	47.8	52.2	58.1	64.0	69.9	83.3	91.6	101.2	112.4	355
400	26.2	28.1	30.3	32.7	35.4	38.0	45.3	49.1	53.5	59.4	65.3	71.2	84.8	93.1	102.6	113.8	400
450	27.6	29.5	31.6	34.0	36.7	39.4	46.8	50.6	55.0	60.9	66.8	72.7	86.4	94.7	104.2	115.4	450
500	28.9	30.8	33.0	35.4	38.0	40.7	48.2	52.1	56.5	62.4	68.3	74.2	88.0	96.2	105.8	117.0	500
560	30.5	32.4	34.6	37.0	39.7	42.3	50.0	53.8	58.3	64.2	70.0	75.9	89.9	98.2	107.7	118.9	560
630	-	34.3	36.4	38.9	41.5	44.2	52.1	55.9	60.3	66.2	72.1	78.0	92.1	100.4	110.0	121.1	630
710	-	-	38.6	41.0	43.7	46.4	54.4	58.3	62.7	68.6	74.5	80.4	94.7	103.0	112.5	123.7	710
800	-	-	-	43.4	46.1	48.8	57.1	60.9	65.3	71.2	77.1	83.0	97.5	105.8	115.4	126.6	800
900	-	-	-	-	48.8	51.5	60.0	63.9	68.3	74.2	80.1	86.0	100.7	109.0	118.6	129.8	900
1,000	-	-	-	-	-	54.1	63.0	66.8	71.2	77.1	83.0	88.9	103.9	112.2	121.8	132.9	1,000
1,120	-	-	-	-	-	-	66.5	70.3	74.8	80.7	86.5	92.4	107.7	116.0	125.6	136.8	1,120
1,250	-	-	-	-	-	-	-	74.2	78.6	84.5	90.4	96.3	111.9	120.2	129.8	140.9	1,250
1,400	-	-	-	-	-	-	-	-	83.0	88.9	94.8	100.7	116.7	125.0	134.5	145.7	1,400
1,600	-	-	-	-	-	-	-	-	-	94.8	100.7	106.6	123.1	131.4	140.9	152.1	1,600
1,800	-	-	-	-	-	-	-	-	-	-	106.6	112.5	129.4	137.7	147.3	158.5	1,800
2,000	-	-	-	-	-	-	-	-	-	-	-	118.4	135.8	144.1	153.7	164.9	2,000
2,240	-	-	-	-	-	-	-	-	-	-	-	-	143.5	151.8	161.4	172.5	2,240
2,500	-	-	-	-	-	-	-	-	-	-	-	-	-	160.1	169.6	180.8	2,500
2,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179.2	190.4	2,800
3,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	201.6	3,150

This datasheet is to be used as a tool for selecting the correct fixing materials only. Although Walraven does everything possible to ensure the accuracy of all data within this sheet, we cannot be held responsible for information supplied by third parties, i.e. standardisation institutes and pipe manufacturers.

Subject to modifications

Information: Surface Treatment

To improve the corrosion resistance of steel products, Walraven uses all kinds of methods. Here below you will find an overview:

BIS UltraProtect® 1000 system

The BIS UltraProtect® 1000 system is the ideal and most durable solution for securing or supporting mechanical installations, solar systems and many other types of installations.
The products in the BIS UltraProtect® 1000 system have very high corrosion resistance. They effortlessly withstand a salt spray test of at least 1000 hours* (in accordance with ISO 9227). The salt spray test shows that the corrosion resistance of BIS UltraProtect® 1000 products is considerably higher than that of, for example, Hot Dip Galvanised products (approximately 300-600 hours).

Although the system utilises a relatively thin protective coating, the corrosion resistance is high. Not only does the BIS UltraProtect® 1000 system offer a smooth and fine finish, the products are also visually appealing. An additional benefit of the relatively thin protective coating is that threaded products are also well protected against corrosion.
The BIS UltraProtect® 1000 products, including threaded items such as bolts, nuts and threaded rods, have superior corrosion resistance and will last at least 20 years**!

Zinc plating

The products to be treated are cleaned, degreased and pickled. The protective coating is then applied in an electrolytic process. The thickness of the layer of zinc is between 1 and 20 µm (0,001 – 0,020 mm) and is determined by the current intensity and the duration of the galvanizing process. After the galvanizing process the products are passivated to extend the protection period.

Pre-galvanized

Also known as Sendzimir galvanization. Pre-galvanizing is a continuous thermal galvanizing process. The strip steel is guided through a bath containing liquid zinc after having been cleaned, degreased and pickled. Later the steel is cut to the required width. The sides of this cut material are not galvanized. This is also the case with any holes that may be drilled in the Pre-galvanized material.
The sides of material thinner than 1,5 mm are protected somewhat by the zinc layer on the top and bottom by the electrolytic process of 'pulling together'.
This method is excellently suited for products with a screw thread, which are to be used indoors or in a non-corrosive environment.

Hot Dip galvanizing

Also known as 'thermal galvanizing', 'full bath galvanizing' or 'centrifugal galvanizing'. The products to be treated are cleaned, de-greased and pickled and subsequently put into an immersion bath of liquid zinc. The immersion bath has a temperature of 550 °C. In this process an alloy of zinc/iron develops on the surface and is then covered by a layer of pure zinc.

The thickness of the zinc layer varies between 50 and 150 µm (0,050 – 0,150 mm). In consequence the process is less suitable for products with screw thread. Hot Dip galvanized products are suitable for inside as well as outside use and also for damp and light-corrosive environments.

Dacromet

With Dacromet, in an immersion/centrifugal process, steel is provided with a metallic coating based upon zinc and aluminium flakes in a chrome solution and is then dried at a temperature of 321 °C.

Through the immersion process an even layer covers the whole product. This process results in a protective layer of approximately 8 µm.

In contrast to electrolytic and thermal galvanizing, with Dacromet there is no danger of hydrogen embrittlement in materials with an increased carbon content, such as spring steel. As the zinc is embedded with the chromium particles the corrosion process develops very slowly in comparison with a protection layer of pure zinc.

Dacromet retains its corrosion protecting properties at temperatures up to approximately 250 °C. Products protected by Dacromet are suitable for outside use as well as moderate corrosive environments.

* Until the occurrence of maximum 5% red rust

** The warranty conditions can be found on our website www.bis-ultraprotect.com

Subject to modifications

Information: Surface Treatment (cont.)

Delta-Tone 9000

Delta-Tone 9000 consists of zinc and aluminium particles that are held together by an inorganic binder. This offers an effective protection against corrosion even with a limited layer of thickness.

Delta-Tone 9000 is applied in an immersion/centrifugal or spray process and then dried at a temperature of 200 °C. With this method an even layer is formed over the whole product with a thickness of 10 – 12 µm. Subsequently Delta-Tone 9000 forms a connection with the metal underneath and the surface consists of a layer of inorganic material with zinc and aluminium flakes.
In contrast to electrolytic and thermal galvanizing, with Delta-Tone 9000 there is no danger of hydrogen embrittlement in materials with an increased carbon content, such as spring steel.
To improve the corrosion resistance, the process can be repeated which increases the thickness each time by 10 - 12 µm.

Products protected by Delta-Tone 9000 are suitable for outside use as well as moderate corrosive environments.

Stainless steel 316 (1.4401)

Stainless steel 316 is one of the best corrosion resistant types of stainless steel. It offers a superior corrosion resistance compared to many other types of stainless steel in very many corrosive environments.

The protective layer is damaged by treatments such as punching, rilling and welding. That is why, after the last treatment, all stainless steel products receive an extra treatment which pickles and passivates to repair the protective layer.

Products from stainless steel 316 can be applied in aggressive situations such as a sea climate and industry.

Salt-spray test

To compare the protection duration of various surface treatments, a salt-spray test is carried out according to ISO 9227. In this test products are placed in a space and sprayed with a salt solution. The products will start to corrode. The point at which 'white' and then 'red' rust appears is noted down.

This test does not give a perfect protection duration (this depends on the surroundings in which the product is applied), but does offer a comparative view of the various surface treatments.

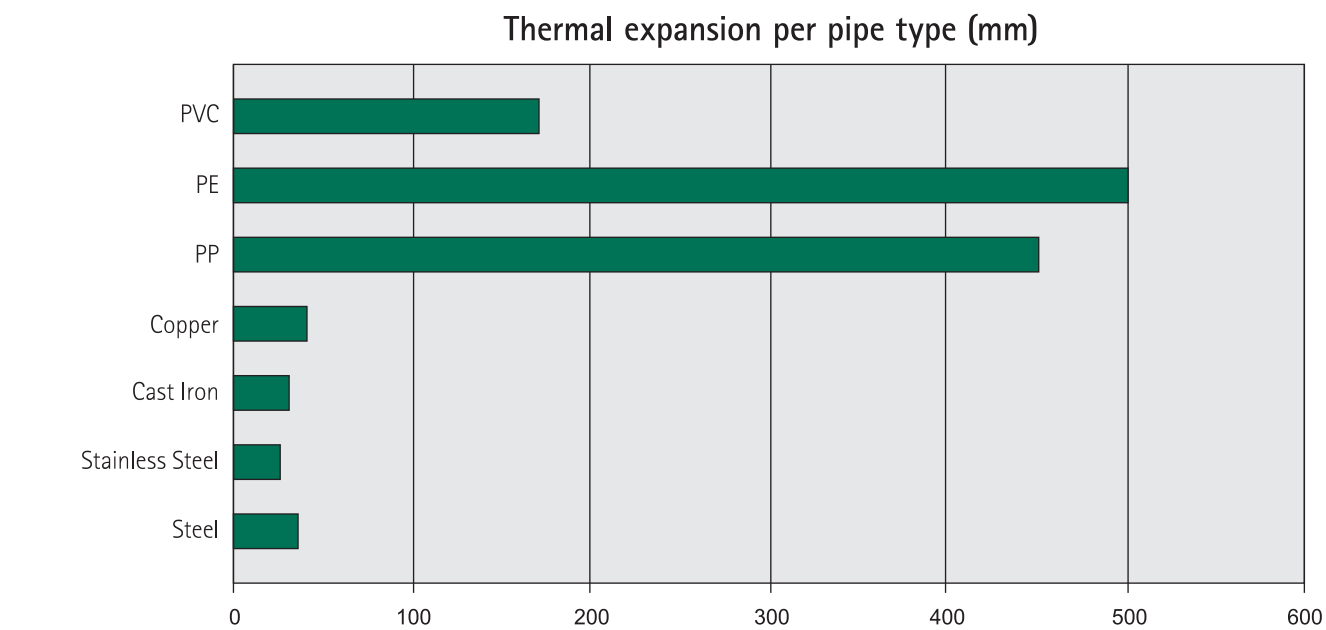
Table 1: results of salt-spray test

	Thickness protection layer (µm)	Hours until 5% red rust*
BIS UltraProtect® 1000 system	- **	1.000
Surface treatment		
Zinc plating, blue passivation	8 - 10	72
Zinc plating, yellow passivation	8 - 10	80
Pre-galvanized	25	150
Hot-dip galvanizing	50 - 80	300 - 600
Dacromet	8	600***
Delta-Tone 9000	10 - 12	480

* Until the occurrence of maximum 5% red rust
** Method and thickness protection layer differ per product
*** Test stopped

Subject to modifications

Information: Thermal Expansion



Pipe length: 50 meter
Temperature difference: +50 °C

Calculation method:

ΔL = L x α x ΔT
ΔL = length change in mm
L = pipe length in meter
α = linear expansion coefficient
ΔT = temperature difference T-max. - T-min.

Pipe material	Expansion (mm/m °C)*
PVC	0.0700
PE	0.2000
PP	0.1800
Copper	0.0170
Cast iron	0.0115
Stainless Steel	0.0100
Steel	0.0120
* indication	

Example 1:

Pipe material: Steel
Pipe length: 20 meters
T-max. = +60 °C
T-min. = +20 °C
Installation temperature: +20 °C
ΔT = +60 °C - +20 °C = 40 °C (difference minimum/maximum temperature)
ΔL = 20 x 0.012 x 40 = 9.6 mm (expansion in mm = 20 x 40 x α = 9.6 mm)

Please note: if the installation temperature is higher than T-min. (for example coolant pipes) the pipe will contract a certain length.

Example 2:

Pipe material: Stainless Steel
Pipe length: 50 meter
T-min. = -30 °C
T-max. = +30 °C
Installation temperature: +20 °C
ΔT warm = +30 °C - +20 °C = 10 °C
ΔT cold = +20 °C - -30 °C = 50 °C
ΔT total = ΔT warm + ΔT cold = 10 °C + 50 °C = 60 °C
ΔL warm = 50 x 0.01 x 10 = 5 mm expansion
ΔL cold = 50 x 0.01 x 50 = 25 mm contraction

Subject to modifications

CERTIFICATE OF COMPLIANCE

Certificate Number	20120216-EX15794
Report Reference	EX15794-2011-08-26
Issue Date	2012 February 16
Issued to:	Hira Industries L L C Dubai Investments Park – 2 Dubai, AE
This is to certify that representative samples of	Hangers, Pipe Pipe hangers Models: DMC117, DMC122 Trademark and/or Tradename: DIAMOND
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	ANSI/UL 203, "Pipe Hanger Equipment for Fire Protection Service." – Edition 9 - Revisions Date 2010/06/01
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle: (UL) with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.

William R. Carney, Director, North American Certification Programs

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at www.ul.com/contactus

FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Product Designation	Hanger Rod Size	Component Description	For Nominal Pipe Sizes, in.
Diamond Clevis Hanger	M10	Clevis Hanger	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4
Diamond Clevis Hanger	M12	Clevis Hanger	5, 6, 8
Diamond Sprinkler Clamp	M10	Band Hanger	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4
Diamond Sprinkler Clamp	M12	Band Hanger	5, 6, 8
DMC 19910	M10	Beam C-Clamp	3/4 through 4 inch
DMC 19911	M11	Beam C-Clamp	3/4 through 4 inch
DMC 19912	M12	Beam Clamp	3/4 through 4 inch
DMC 19913	M13	Beam Clamp	3/4 through 4 inch

Prepared for:
Diamond Pipe Supports LLC
PO Box 50673
Dubai
United Arab Emirates

Manufactured at:
Diamond Pipe Supports LLC
c/o Hira Industries LLC
Dubai Investments Park – Phase II
PO Box 50673 Dubai, United Arab Emirates

FM Approvals Class: 1951

Approval Identification: 0003040427 Approval Granted: April 11, 2011

Said Approval is subject to satisfactory field performance, continuing follow-up Facilities and Procedures Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

For more than 160 years FM Approvals has partnered with business and industry to reduce property losses.

Richard B. Dunne
Group Manager -Hydraulics
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062

April 18, 2011
Date

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NIMBUS

CERTIFICATE OF REGISTRATION

Diamond Pipe Supports Pvt. Ltd.

Krishna House, Plot No. 46, Survey No. 66/75, Village Waliv,
Waliv Phata, Vasai (E), Thane - 401 208, Maharashtra, INDIA

This is to certify that the Quality Management System
of above organisation has been assessed and registered by
Nimbus Certifications Private Limited against the scope of supply and provision of

ISO 9001:2015

Scope : Manufacture And Export of Pipe Hangers And Supports, Piping Accessories, Damper And Duct Accessories.

Certificate No. : MAH/Q - 1336/C2

Initial Certificate Date: 24 February 2010
Certificate Date : 24 February 2016
Valid Until : 23 February 2019

NACE Code : C 24.2

IRQAO

ASCB(E) Accrediting Certifying Bodies UK

Managing Director

This registration is subject to the company maintaining a management system, to the above standard, which will be monitored by Nimbus Certifications Pvt. Ltd.

This is an accredited certificate authorised for issued by Accreditation Services for Certifying Bodies (Europe) Limited in accordance with ISO 17021:2011 "Requirement for Bodies providing Audit and Certification of Management Systems".

This certificate is the property of Nimbus Certification Pvt. Ltd. and must be returned on request.
This Certificate is valid when confirmed by data listed in the International Register Of Quality Assessed Organisations www.irqao.com. The status of this certificate may be checked at www.nimbuscertifications.com

Nimbus Certification Pvt. Ltd.
401, Ghanshyam Enclave, Link Road, Kandivali (W), Mumbai - 400067, INDIA

Notes

Subject to modifications