

SYSTEM 2000

Flange for PE and PVC pipes



Design features

- With push socket for high-tensile restraint connection with PE and PVC pipes
- Flange sized according to EN 1092-2, drilled according to EN 1092-2 | PN 10 standard; EN 1092-2 | PN 16 DN 200 to DN 600 please specify on order - other standards on request
- With integrated flange seal made of elastomer

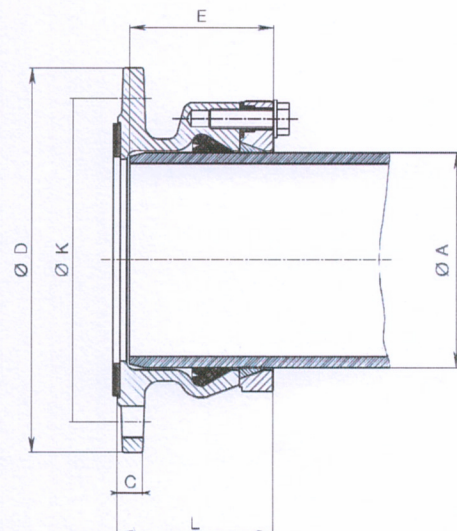
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Order No.	MOP (PN)	Dimension/DN												
		50	60	65	80	100	125	150	200	250	300	400	500	600
0400	16 (DN 50 - DN 150) 10 (DN 200 - DN 600)	Ø pipe A	63	63	63	63	90	110	140	200	250	315	400	500
				75	75	75	110	125	160	225	280	355	450	560
						90	125	140	180	250				
							160							

*DN 200-600, PN 16 on request

Flange DN	Ø pipe A	Ø D	Ø K	C	L	E	Bolts		Weight
							Qty	Thread	
50	63	165	125	19	90	80	4	M 16	3,7
60	63	175	135	19	90	80	4	M 16	3,8
60	75	175	138	19	92	82	4	M 16	4,0
65	63	185	145	19	90	80	4	M 16	4,3
65	75	185	145	19	92	82	4	M 16	4,6
80	63	200	160	19	90	80	8	M 16	4,7
80	75	200	160	19	92	82	8	M 16	4,8
80	90	200	160	19	95	85	8	M 16	5,5
100	90	220	180	19	95	85	8	M 16	6,8
100	110	220	180	19	95	85	8	M 16	6,3
100	125	220	180	19	97	87	8	M 16	6,6
125	110	250	210	19	95	85	8	M 16	7,7
125	125	250	210	19	97	87	8	M 16	7,8
125	140	250	210	19	103	93	8	M 16	10,3
125	160	250	210	19	145	110	8	M 16	11,5
150	140	285	240	19	103	93	8	M 20	11,3
150	160	285	240	19	115	105	8	M 20	10,5
150	180	285	240	19	125	115	8	M 20	12,5
200	200	340	295	20	135	125	8	M 20	16,8
200	225	340	295	20	138	128	8	M 20	18,0
200	250	340	295	20	225	145	8	M 20	27,0
250	250	400	350	22	155	145	12	M 20	28,4
250	280	400	350	22	158	148	12	M 20	29,0
300	315	455	400	25	184	174	12	M 20	43,0
300	355	455	400	25	277	237	12	M 20	63,0
400	400	565	515	25	242	230	16	M 24	76,5
400	450	565	515	25	302	260	16	M 24	84,0
500	500	715	620	32	365	346	20	M 27	144,0
500	560	715	620	32	450	372	20	M 27	167,0
600	630	840	725	36	459	399	20	M 27	256,0



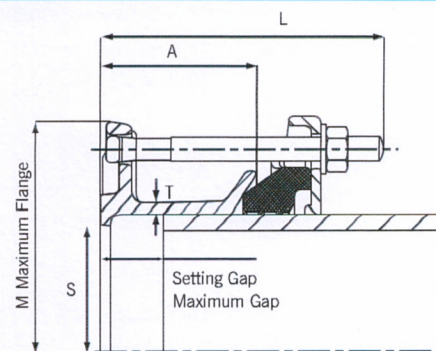
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MaxiDaptor Flange Adaptors

Specifications

Working Pressure = 16bar (water)
6bar (gas)



Flange Adaptor

Nom Size	Size Range (mm)		Diameter (mm)	Bores (mm)	Overall Length (mm)	Sleeve Length x Thickness (A) x (T)	Flange Drilling	Setting Gap (mm)		Bolts No.-Dia x Length	Gasket Mould No.	Weight (kg)	MaxiFit Plus Available
	Min	Max						Min	Max				
50	57.0	74.0	163.4	59.0	124.0	75.0 x 5.0	50 PN10:16, 2.5" BS10 Table ADE, 2" ANSI125	20.0	40.0	4-M12 x 115	12392/1	2.7	
65	63.0	85.0	196.9	75.0	124.0	75.0 x 5.0	60 PN10:16, 65 PN10:16, 80 PN10:16, 3" BS10 Table ADE, 2.5" ANSI125, 3" ANSI125 80 AS2129 CD, 80 AS4087 16	20.0	40.0	4-M12 x 115	12392/2	3.5	✓
80	85.0	107.0	202.5	101.0	124.0	75.0 x 5.0	80 PN10:16, 3" ANSI125, 3.5" BS10 Table AD, 3.5" BS10 Table E	20.0	40.0	4-M12 x 115	12392/3	3.7	✓
100	107.0	132.0	228.0	121.0	134.0	75.0 x 5.0	100 PN 10:16, 4" BS10 Table AD, 4" BS10 Table E, 4" AWWA C207 D, 100 AS2129 CD, 100 AS4087 16	20.0	40.0	4-M12 x 125	12392/4	4.4	✓
125	132.0	158.0	281.5	150.0	134.0	75.0 x 5.0	125 PN10:16, 150 PN10:16 5" BS10 Table A, 5" BS10 Table DE, 6" BS10 Table A, 6" BS10 Table D, 6" BS10 Table E, 6" AWWA C207 D, 125 AS2129 CD, 150 AS2129 CD, 125 AS4087 16, 150 AS4087 16	20.0	40.0	4-M12 x 125	12392/6	5.6	
150	158.0	184.0	281.2	173.0	134.0	75.0 x 5.0	150 PN10:16, 6" BS10 Table A, 6" BS10 Table D, 6" AWWA, C207 D, 150 AS4087 16, 150 AS2129 CD,	20.0	40.0	4-M12 x 125	12392/7	6.0	
175	189.0	212.0	336.5	202.0	133.0	75.0 x 5.0	200 PN10:16, 8" BS10 Table AD, 8" AWWA C207 D, 200 AS2129 CD, 200 AS4087 16	25.0	40.0	4-M12 x 125	12392/9	8.3	
200	218.0	244.0	337.8	225.0	134.0	75.0 x 5.0	200 PN10:16, 8" BS10 Table AD, 8" AWWA C207 D, 200 AS2129 CD	25.0	40.0	4-M12 x 125	12392/10	8.3	
225	243.0	269.0	401.5	252.0	144.0	85.0 x 5.0	250 PN10:16, 250 AS4087 16	25.0	50.0	6-M12 x 135	12392/11	10.9	
250	266.0	295.0	402.1	277.0	146.0	85.0 x 5.0	250 PN10:16, 250 AS4087 16	25.0	50.0	6-M12 x 135	12392/12	11.4	
300	315.0	349.0	457.8	329.0	155.0	100.0 x 5.0	300 PN10:16, 12" BS10 Table D, 300 AS2129 CD	25.0	60.0	6-M12 x 145	12392/14	14.8	

Couplings & Flange Adaptors

Wide Tolerance

Materials & Relevant Standards

End Ring and Adaptor Body/Centre Sleeve

Ductile Iron to BS EN 1563 Symbol EN GJS-450-10

Gasket

EPDM compound Grade E to BS EN 681-1, Type WA, WC
Nitrile compound to Grade G BS EN 682, Type G

Tee Bolts/Bolts

Standard - Steel to BS EN ISO 898-1: property class 4.8
Option - Stainless Steel to BS EN ISO 3506-1: grade A4 property class 50

Bolt Torque/Spanner

Bolt torque 55-65Nm, Spanner size A/F 19mm

Nuts/Washers

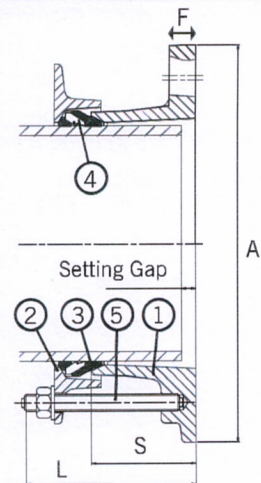
Nuts
Standard - Steel to BS EN 4190 Grade 4
Option - Stainless Steel to BS EN ISO 3506-2: grade A4 property class 80

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FlexLock Flange Adaptor

Specifications

- 1) Flange Adaptor
- 2) End Ring
- 3) Gasket
- 4) Gripper Teeth
- 5) Stud



FlexLock Flange Adaptors

Pipe Nom	Pipe OD (mm)	Pipe Material	Bolt Size No.-Dia x Length	Flange OD (A)	Overall Length (L)	Flange Thickness (mm) (F)	Sleeve Length (mm) (S)	Flange Nominal Drilling BS EN 1092-1	Working Pressure (bar)		Setting Gap		Gasket Mould	FA Weight (kg)
									Water	Gas	Min	Max		
DN50/2"	60.3	Steel	2-M12 x 115	160	123	16	75	50 PN10/16	16	6	10	30	1375	2.3
DN65/2.5"	76.1	Steel	2-M12 x 115	180	123	16	75	60/65 PN10/16	16	6	10	30	1394	2.6
DN80/3"	88.9	Steel	4-M12 x 115	195	123	16	75	80 PN10/16 90 PN6	16	6	10	30	1382	3.4
DN80/3"	98	Ductile Iron	4-M12 x 115	195	123	16	75	80 PN10/16 90 PN6	16	6	10	30	1630	4.0
DN100/4"	114.3	Steel	4-M12 x 115	215	123	16	75	100 PN10/16 110 PN6	16	6	10	30	1367	4.5
DN100/4"	118	Ductile Iron	4-M12 x 115	215	123	16	75	100 PN10/16	16	6	10	30	1618	4.4
DN150/6"	165.1	Steel	8-M12 x 115	285	127	25	75	150 PN10/16 6"E 6"ANSI 150	16	6	10	30	1369	9.3
DN150/6"	168.3	Steel	8-M12 x 115	286	123	19	75	150 PN10/16	16	6	10	30	1369	8.0
DN150/6"	170	Ductile Iron	8-M12 x 115	286	123	19	75	150 PN10/16	16	6	10	30	1369	8.0
DN200/8"	219.1	Steel	8-M12 x 115	341	123	19	75	200 PN10	10	6	10	30	1370	9.7
DN200/8"	219.1	Steel	8-M12 x 115	340	127	25	73	200 PN16	16	6	10	30	1370	15.2
DN200/8"	222	Ductile Iron	6-M16 x 125	341	137	19	75	200 PN16	16	6	10	30	1631	10.6
DN200/8"	222	Ductile Iron	8-M16 x 125	340	137	25	75	200 PN10 8"E	10	6	10	30	1631	13.9
DN250/10"	273.0	Steel	12-M16 x 125	405	137	19	90	250 PN10/16*	10	6	10	30	1737	16.4
DN250/10"	274	Ductile Iron	12-M16 x 125	405	137	19	90	250 PN10/16*	10	6	10	30	1737	16.4
DN300/12"	323.9	Steel	12-M16 x 125	467	137	19	90	300 PN10/16*	10	6	10	30	7667/8	22.7
DN300/12"	326	Ductile Iron	12-M16 x 125	467	137	19	90	300 PN10/16*	10	6	10	30	7667/8	22.7

FlexLock bolt torques: M12 = 55-65Nm M16 = 95-120Nm
* Working pressure rating is less than flange rating.

Materials & Relevant Standards

End Rings

SG. Iron to BS 1563: Symbol EN-GJS-450-10
or Rolled Steel to: BS EN 10025: Grade S275.

Flange Adaptor Body

Ductile Iron to BS EN 1563 EN-GJS-450-10.
or Mild Steel to: BS EN 10025: Grade S275.

Studs/Nuts/Washers

Studs - Cold Forged Steel Fasteners to: BS EN ISO898-1:
Property Class 8.8

Nuts - Steel BS EN 20898-2: Property Class 8

Washers - BS 4320 Form B Stainless Steel BS 1449:PT2: Grade 304 S15

Coating

Body, Centre Sleeve, End Rings are coated in Rilsan Nylon 11
to WIS 4-52-01 Part 1.

Studs and nuts are Sheraplex coated to WIS 4-52-03.

Gaskets

EPDM compound Grade 'E' to BS EN 681-1 WRAS listed.

Suitable for: water, sewage, many strong and oxidising
chemicals and food applications.

Nitrile compound Grade 'G' to BS EN 682-1.

Suitable for: natural gas, petroleum products, low aromatic fuels, compressed
air, sewage and drainage.

Stainless Steel teeth in gaskets

BS 3146: Part 2 Grade ANC2.

Approvals/Standards

Designed and manufactured under quality management systems to BS EN
ISO 9001. They have been tested in accordance with the requirements of
WRc Water Bye-laws Scheme and conform to the American Water Works
Associations standard AWWA/ANSI C.219 for bolted couplings.

Note: 1) For coated steel pipe the maximum permitted coating thickness is 500µ DFT. This is to ensure the stainless steel teeth properly grip onto the pipe surface to mobilize the end load capability of the products. 2) Due to the surface characteristics of stainless steel pipe, FlexLock grippers are unable to achieve a guaranteed grip on the pipe surface. 3) FlexLock is suitable for use on cold potable water pipelines and has a maximum operating temperature of 40°C.

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Next Generation UltraGrip Flange Adaptors

Specifications

Flange Adaptors

- Full flange sealing face can be used on wafer-type butterfly valves
- Up to 4° angular deflection

Nom Size	Size Range		Flange Nom Size	Flange Drilling	Type	Insertion Depth (D)		Dimensions				Bolts		Weight Kg
	Min	Max				Min	Max	C	A	B	T	No-size	Type	
40	43.5	63.5	40	PN10.16	1	65	110	150	168	164	17.0	3-M12x70	HRH	4.4
40	43.5	63.5	50	PN10.16	1	65	110	165	168	164	17.0	3-M12x70	HRH	4.83
50	48.0	71.0	50	PN10.16	1	65	110	165	178	163	17.0	3-M12x70	CSX	4.83
65	63.0	83.7	60/65	PN10.16	1	65	110	185	189	162	17.0	3-M12x70	HRH	5.68
65	63.0	83.7	65	PN10.16	1	65	110	185	189	164	17.0	3-M12x70	HRH	5.87
80	85.7	107.0	80	PN10.16	1	65	110	200	212	164	17.0	3-M12x70	HRH	6.82
100	107.0	133.2	100	PN10.16	2	90	125	220	280	212	17.0	3-M16x90	HRH	10.17
125	132.2	160.2	125	PN10.16	1	90	135	257	305	193	17.0	3-M16x90	HRH	11.19
150	158.2	192.2	150	PN10.16	2	90	125	285	339	232	17.0	4-M16x90	HRH	14.72
175	192.2	226.9	200	PN10.16	2	125	165	340	403	263	18.0	5-M16x93	CSX	24.32
200	218.1	256.0	200	PN10.16	2	125	165	340	432	263	18.0	5-M16x93	CSX	25.75
250	266.2	310.0	250	PN10.16	2	125	165	404	476	323	20.0	6-M16x120	HRH	36.23
300	315.0	356.0	300	PN10.16	2	125	200	469	522	324	21.5	8-M16x120	HRH	44.5
350	352.2	396.0	350	PN10.16	2	125	200	520	577	333	21.5	9-M16x120	CSX	51.75
400	398.2	442.0	400	PN10.16	2	125	200	580	623	333	21.5	10-M16x120	CSX	58.46
450	448.0	492.0	400	PN10.16	2	135	215	580	713	413	24.0	12-M16 x 140	HRH	97.42
500	498.0	552.0	500	PN10.16	2	155	215	715	803	398	27.5	9-M20 x 150	HRH	115.78
500	558.0	608.0	500	PN10.16	2	155	215	715	860	448	27.5	10-M20 x 150	HRH	130.09
600	604.0	648.0	600	PN10.16	2	195	255	840	900	454	31.0	12-M20 x 150	HRH	170.97
600	676.0	726.0	600	PN10.16	2	195	255	840	975	454	31.0	14-M20 x 150	HRH	195.36

Flange Drilling - All flanges are drilled to BS EN 1092 (formerly BS 4504) 7005* with the rating as per table

* There are several parts to these standards to suit different flange materials:

1. BS EN 1092 PT1 2. BS EN 1092 PT2 3. BS EN 1092 PT3 4. BS EN 1092 PT4 5. ISO 7005-1 6. ISO 7005-2 7. ISO 7005-3

Working Pressure & Temperature Ratings

Nominal Size	Gripping Product		Flex Product		Operating Temperature
	Gas	Water	Gas	Water	
DN40 to DN300	5bar	16bar	5bar	16bar	-20°C to +30°C
DN350 to DN400	5bar	10bar	5bar	10bar	
DN450 to DN600	N/A	10bar	N/A	10bar	

Notes:

- 1) Site Test Pressure – 1.5 times working pressure.
- 2) Factory Test Pressure – The minimum requirement in European Standards is 1.5 times working pressure plus 5bar (e.g. 29bar for 16bar working pressure).
- 3) All water contact components are approved for use with Potable Water.

Bolt Torque	
	Nm
M12	55 - 70
M16	95 - 120
M20	200 - 225

UltraGrip Product Notes

Gripping product suitable for

Steel/Ductile iron/Grey cast iron/ PE/PVC

Flex product suitable for

Steel/Ductile iron/Grey cast iron/ PVC/Asbestos cement

Support liners – PE and PVC pipes

A close fit support liner is required when used on:

- All PE pipes
- Thin walled PVC pipes

When used on thick walled PVC pipes a support liner is not required.

Please contact Viking Johnson for further details.

Use of restrained couplings on exposed pipework

Above ground exposed pipework is subject to both loads from the internal pressure and those from temperature changes / thermal expansion, which can be substantially higher than those from internal pressure and cannot always be safely determined. For this reason it is recommended that the use of UltraGrip be restricted to buried pipelines, valve chambers and above ground indoor applications and not exposed to direct sunlight or excessive temperature changes (e.g. pump houses).

Materials & Relevant Standards

End Rings, Adaptor Body

S.G. Iron to BS EN 1563 Symbol EN-GJS-450-10

Gaskets

EPDM: EPDM Compound Grade E to

BS EN 681-1 WA KTW & DVGW approved

NBR: Nitrile Compound EN682 DVGW Approved

Gripper and Carrier

Acetal Copolymer Grade M25 or equivalent

Bolts/Nuts/Washers

Bolts - Stainless steel to BS EN 3506-1 Grade A2 Property Class 80 or 70

Nuts - Stainless Steel to BS EN 3506-2 Grade A4 Property Class 80

Washer - Stainless steel – BS1449:PT2 Grade 304 S15

Coatings

Cast/Metal Components - Rilsan Nylon 11 (Black)

Bolts - Gleitmo Coated (Dry Film Lubricant)

Nuts - Geomet Coated

Approvals

Rilsan Nylon 11 (Black):

WRAS approved for use with potable water

Gasket: WRAS as well as KTW, DVGW & W270 approvals

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