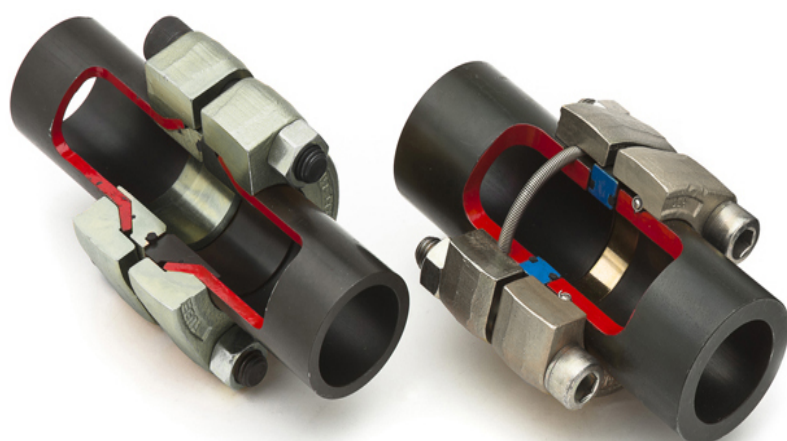




BUTZ FLARE FLANGE SYSTEM

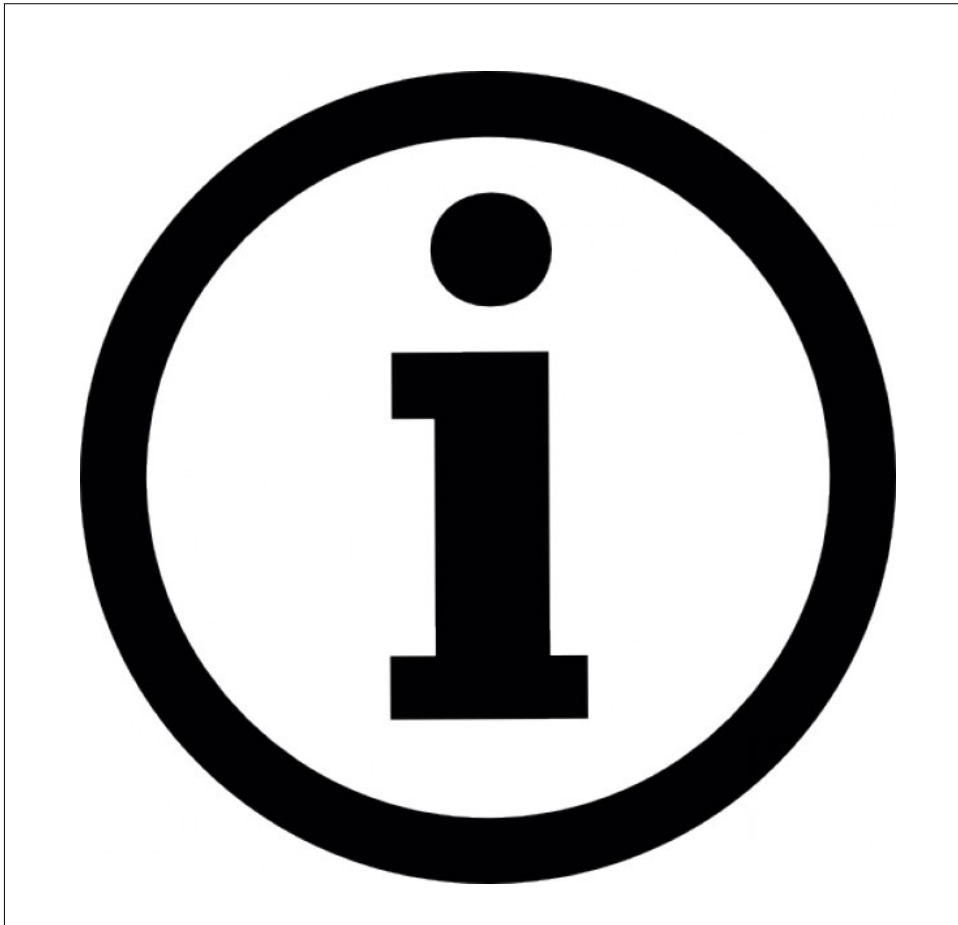
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QUALITY MAKES THE DIFFERENCE

Notes



General information

BUTZ Flange Technology

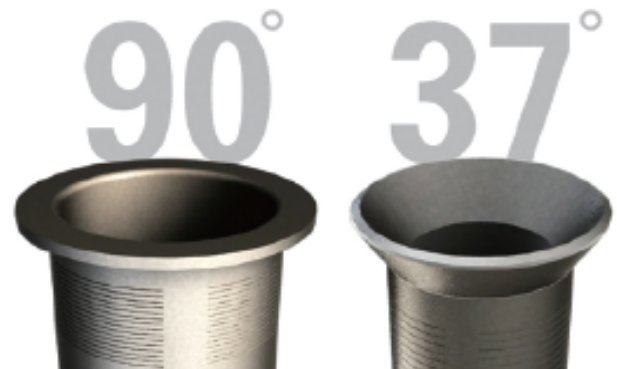
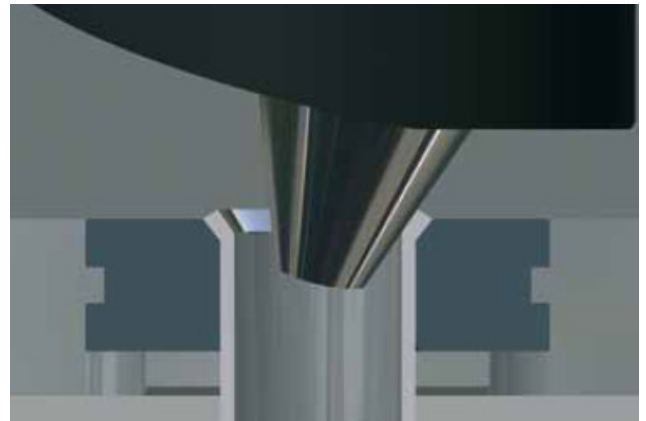
The BUTZ flange system is utilising this flared tube forming technology for tubing assemblies from 6 to 170mm (1/4" to 6" flanges) outside diameter.

It is intended for tube wallthickness up to 9 mm and pressure up to 420 bar.

For those connections, where there is no possibility to assemble a pre-flared tube or where manufacturing is limited, BUTZ provides the Retaining Ring System. This system utilizes a Retaining Ring for flange retention along with a highly-engineered seal carrier for leak free performance. It is available as a high pressure version from 1 1/2" to 10".

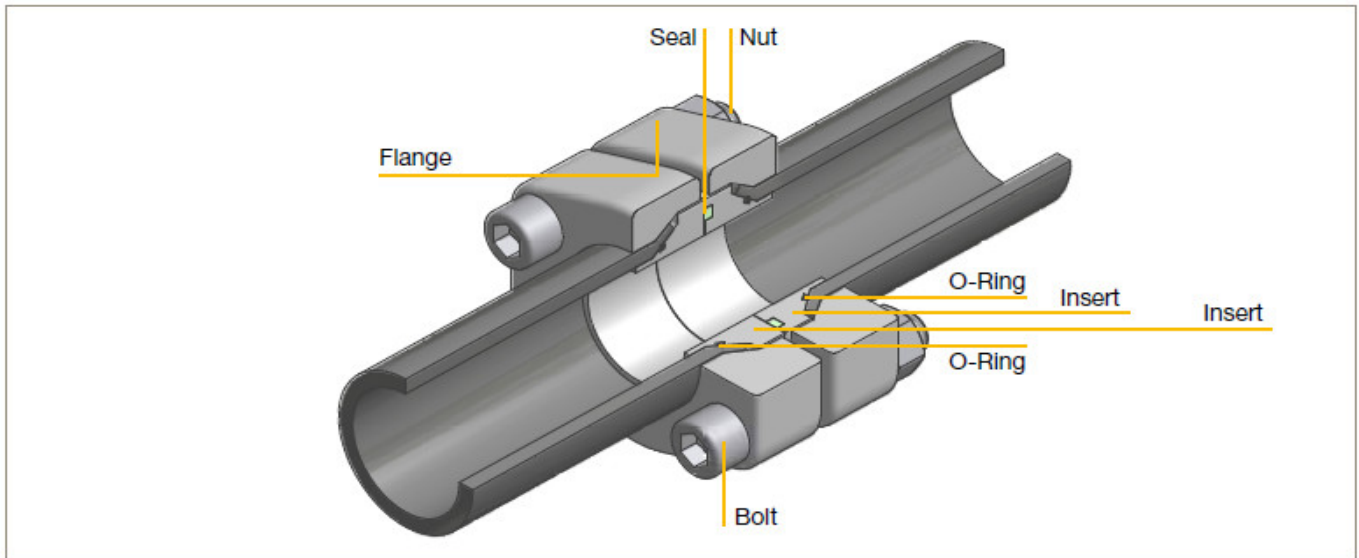
The BUTZ flange system corresponds to hole patterns according to ISO 6162-1; SAE J518; bore pattern 3000(code 61), ISO 6162-2; bore pattern 6000(code 62) and also ISO 6164 bore pattern.

It is type approved by ABS and other major classification companies

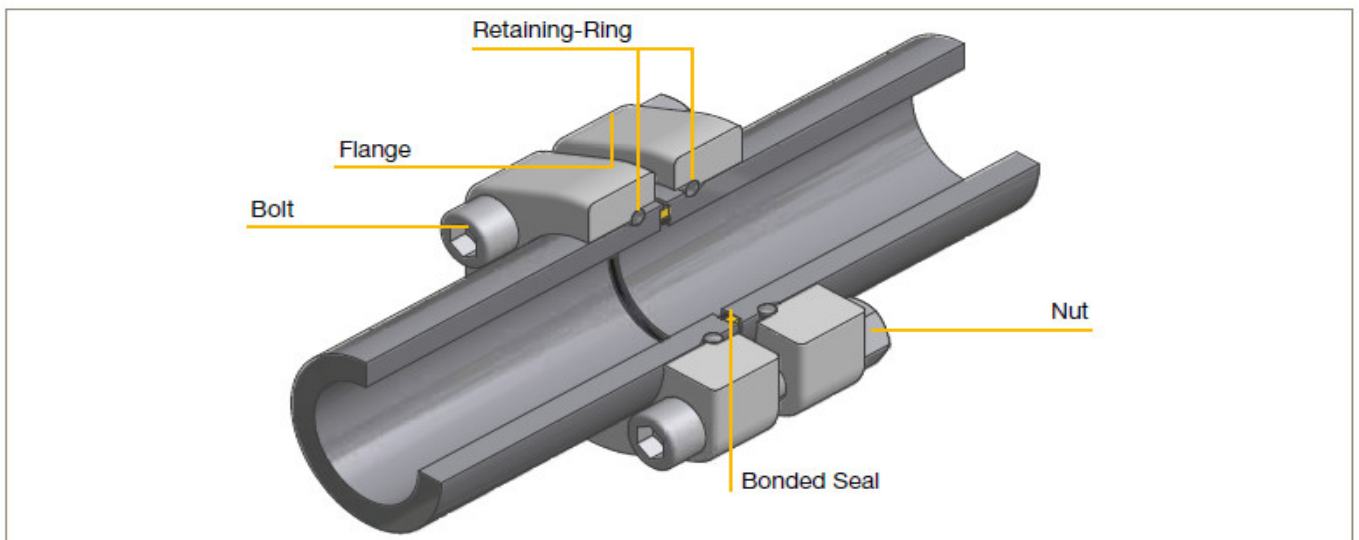


Connection technology

The BUTZ flange program consists of two flange connection technologies: The BUTZ flare flange connection and the Retaining Ring Connection.



BUTZ Flare Flange-In this configuration, the deburred tube end is flared orbitally to 37 degree by flange technology. An insert, soft sealed by an O-ring, is located into each pipe end. In between a seal (bonded seal or O-ring) is placed. By tightening the flanges together, a soft sealed, high pressure tube connection is made. Available as tube-to-tube connection or tube-to-port connection



Retaining Ring Connection-The retaining ring used in this connection is a stainless steel segmented ring covered by a stainless steel spring. It is assembled in a machine groove on the tube end or adapter. When tightening this system, the flange is pushed against the retaining ring, thus giving a form tight connection. Retaining ring connections complete the flange range with bulkhead, male, female, weld and tube bend connections.



Equipments and tools



MMPCS642

The MMPCS642 is used for the pre-assembly of DIN2353 single-bite, multi-bite and Parker EO-2 cutting rings.

Tube OD:	6-42mm
Unit processing time:	30-60s
Production quantity:	Max. 50 times/day
Dimensions:	750x360x260mm
Weight:	28kg
Power supply:	Hand pump



MBM642

The MBM642 flaring tool is a portable device for easy and workmanlike 37 degree flaring for tube connections.

Tube OD:	6-42mm
Unit processing time:	30-60s
Production quantity:	Max. 50 times/day
Dimensions:	750x360x260mm
Weight:	29kg
Power supply:	Hand pump



EMPCS642

EMPCS642 is a common workshop equipment for the pre-assembly of DIN2353 cutting rings and the 37 degree tube flarings. The device can be easily operated and widely used.

Tube OD:	6-42mm
Unit processing time:	12-15s
Production quantity:	Max. 300 times/day
Dimensions:	535x515x285mm
Weight:	66kg
Power supply:	380V 3P 50HZ(standard version)



SPC642

Steel pipe processing center SPC642 is a compact workstation for OD 6-42mm steel and stainless steel pipes. Integrated with bending, deburring, flaring and cutting ring pre-assembly functions, SPC642 is an ideal workshop and on-site working equipment.

Bending capacity:	6-42x5mm
Deburring:	6-42mm
Pre-assembly:	6-42mm
Flaring:	6-42mm
Dimensions:	850x500x1200mm
Weight:	110kg
Power supply:	380V 3P 50HZ(standard version)



PFE170B

PFE170B is a simple flaring machine for flare flange connections. Through the flaring process, the tube achieves an excellent sealing surface which ensures a high-strength tube connection. This machine can be used for both 37 & 90 degree tube flarings.

Tube OD:	6-170mm
Max tube OD and thickness:	170x5mm
Unit processing time:	30-60s
Production quantity:	Max. 300 times/day
Dimensions:	880x780x1575mm
Weight:	approx. 700kg
Power supply:	380V 3P 50HZ(standard version)



PMM642

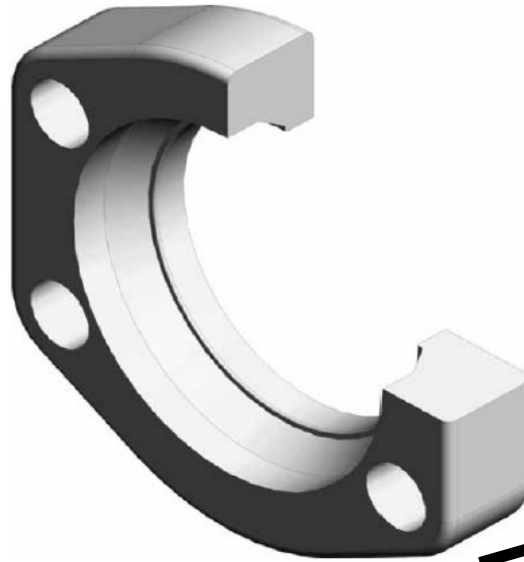
The PMM642 workcenter is designed to cold-form hydraulic tubes for both EO2-FORM and WALFORM connections, and this workcenter is ideal for workshop use and project work.

Tube OD:	6-42mm
Unit processing time:	15-20s
Production quantity:	Max. 200 times/day
Dimensions:	650x750x1200mm
Weight:	approx. 300kg
Power supply:	380V 3P 50HZ(standard version)

Flare flange

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



HOW TO ORDER?

Size	Pipe O.D. [mm]	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1 1/2"	50	B124F	B124FHDG	B124FSS	50	0.43
2"	60	B132F	B132FHDG	B132FSS	50	0.59
2 1/2"	73	B140F	B140FHDG	B140FSS	50	0.71
3"	90	B148F	B148FHDG	B148FSS	50	1.12
4"	115	B164F	B164FHDG	B164FSS	50	1.53
5"	140	B180F	B180FHDG	B180FSS	50	2.63
6"	165	B196F	B196FHDG	B196FSS	50	4.39
8"	220	B228F	B228FHDG	B228FSS	50	8.98
10"	273	B260F	B260FHDG	B260FSS	50	23.4

Material possibilities:

Standard= carbon steel, zinc plated

-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Part No

Flange code	Face type	Pressure	Size
1	SAE J518	50 bar	1 1/2"-5"
1/2	round	50 bar	6"-8"
3	SAE J518	3000 psi	1/2"-3"
6	SAE J518	6000 psi	1/2"-3"

Pipe size

16X2
Pipe O.D.x wall thickness[mm]

B 3 08 / 16X2 FC

B308/16x2FC includes:

B308F	1 pc
B08/16x2FC	1 pc
B08/16	1 pc
B0823	1 pc
OR12x1.0	1 pc

BUTZ-size code

08	12	16	20	24	32	40
1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
48	56	60	64	80	96	28
3"	3 1/2"	3 3/4"	4"	5"	6"	8"

Insert Cone Code

Inset Cone Code	Sealing Surface
FA	O-ring groove
FB	Flat face
FC	Bonded seal groove



QUALITY MAKES THE DIFFERENCE

Notes

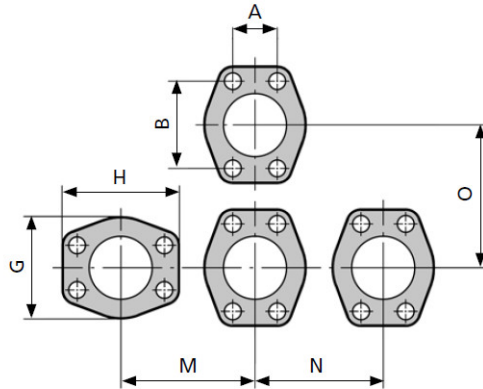
BUTZ Flange System

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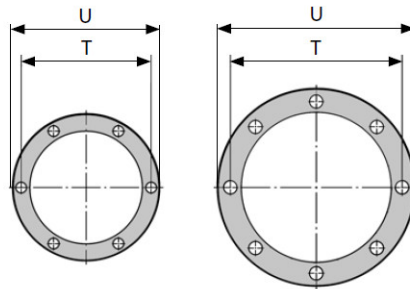
Flange dimensions

ISO 6162-1(SAE J518 Code 61)

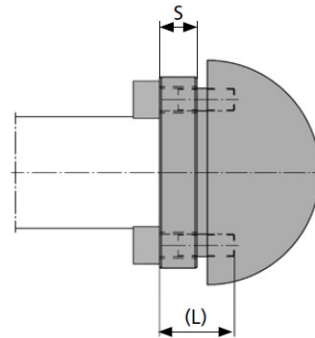
SAE 50 BAR



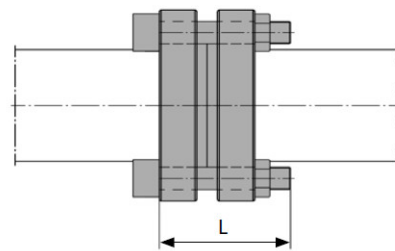
124-180



196-260



Flange to block



Flange to flange

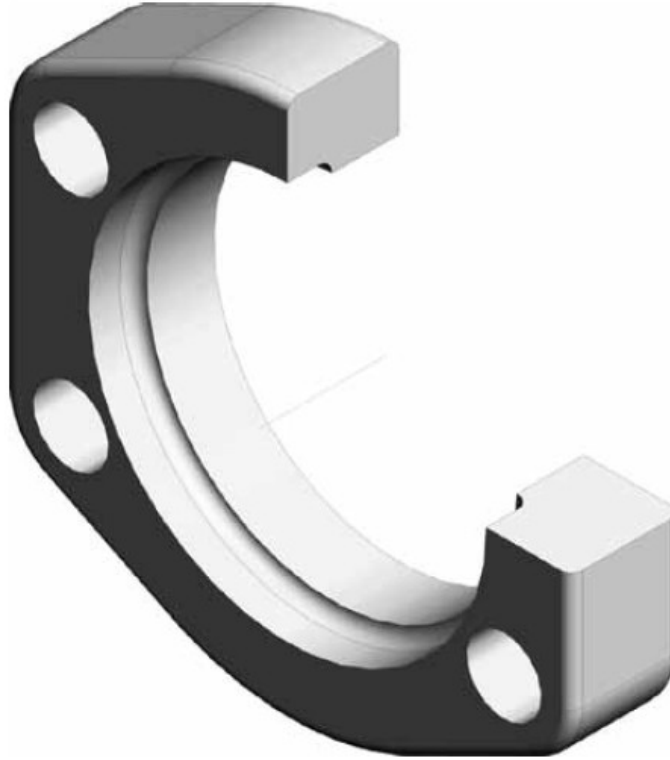
Size	BUTZ flange type	A	B	G	H	M	N	O	T	U	S	Bolt L DIN 912,8.8	W.P. [bar]
1 1/2"	B124	35.7	69.9	83	94	90	85	96			20	M12X70(40)	50
2"	B132	42.9	77.8	97	102	102	99	104			20	M12X70(40)	50
2 1/2"	B140	50.8	88.9	109	114	114	111	117			20	M12X70(40)	50
3"	B148	61.9	106.4	131	135	136	133	137			25	M16X80(50)	50
4"	B164	77.8	130.2	152	162	160	155	164			30	M16X90(50)	50
5"	B180	92.1	152.4	180	184	185	183	186			40	M16X120(60)	50
6"	B196								208	236	40	M16X110(60)	50
8"	B228								275	317	40	M20X120(70)	50
10"	B260								345	410	50	M20X140(80)	50

L=flange to flange

(L)=flange to block

Retain ring flange

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Size	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1 1/2"	B124	B124HDG	B124SS	50	0.43
2"	B132	B132HDG	B132SS	50	0.59
2 1/2"	B140	B140HDG	B140SS	50	0.71
3"	B148	B148HDG	B148SS	50	1.12
4"	B164	B164HDG	B164SS	50	1.53
5"	B180	B180HDG	B180SS	50	2.63
6"	B196	B196HDG	B196SS	50	4.39
8"	B228	B228HDG	B228SS	50	8.98
10"	B260	B260HDG	B260SS	50	23.4

Material possibilities:

Standard= carbon steel, zinc plated

-HDG= carbon steel, hot dip galvanized

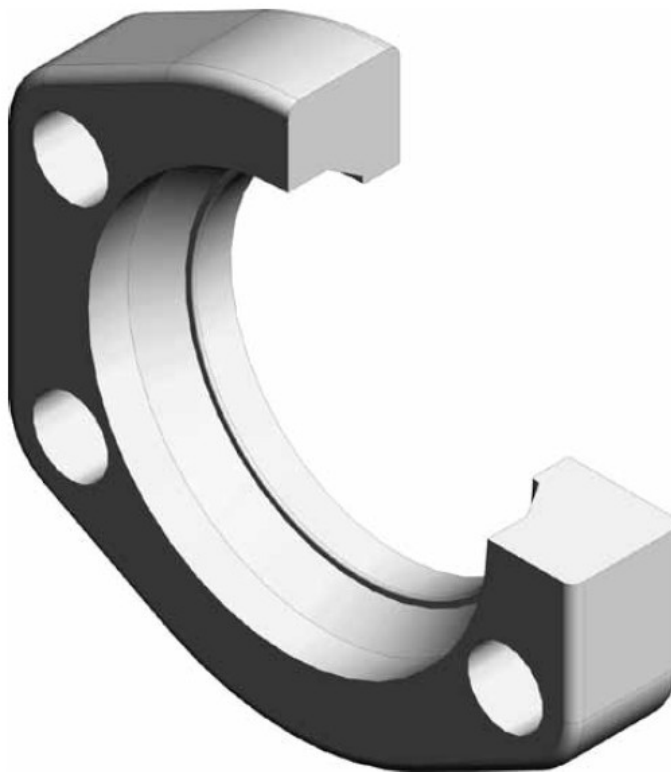
-SS= stainless steel

Other materials on request.

Flare flange

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Size	Pipe O.D. [mm]	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1 1/2"	50	B124F	B124FHDG	B124FSS	50	0.43
2"	60	B132F	B132FHDG	B132FSS	50	0.59
2 1/2"	73	B140F	B140FHDG	B140FSS	50	0.71
3"	90	B148F	B148FHDG	B148FSS	50	1.12
4"	115	B164F	B164FHDG	B164FSS	50	1.53
5"	140	B180F	B180FHDG	B180FSS	50	2.63
6"	165	B196F	B196FHDG	B196FSS	50	4.39
8"	220	B228F	B228FHDG	B228FSS	50	8.98
10"	273	B260F	B260FHDG	B260FSS	50	23.4

Material possibilities:

Standard= carbon steel, zinc plated

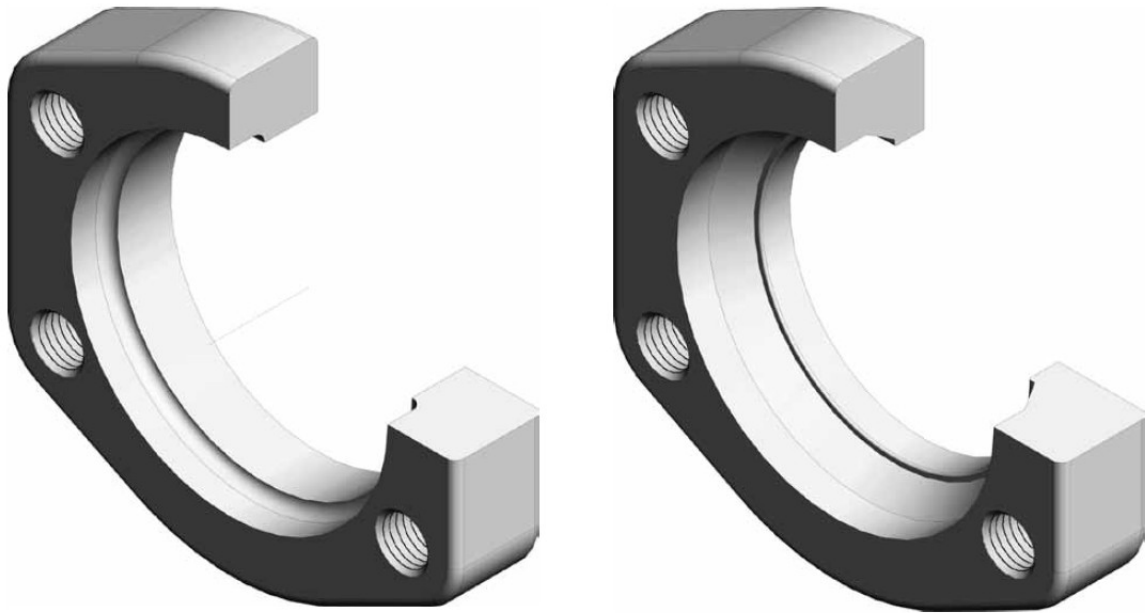
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Counter flange

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Retain ring flange

Size	Part No	Bolt	Weight[kg]
1 1/2"	B124/M12	M12x40	0.43
2"	B132/M12	M12x40	0.59
2 1/2"	B140/M12	M12x40	0.71
3"	B148/M16	M16x50	1.12

Flare flange

Size	Part No	Bolt	Weight[kg]
1 1/2"	B124F/M12	M12x40	0.43
2"	B132F/M12	M12x40	0.59
2 1/2"	B140F/M12	M12x40	0.71
3"	B148F/M16	M16x50	1.12

Material possibilities:

Standard= carbon steel, zinc plated

-HDG= carbon steel, hot dip galvanized

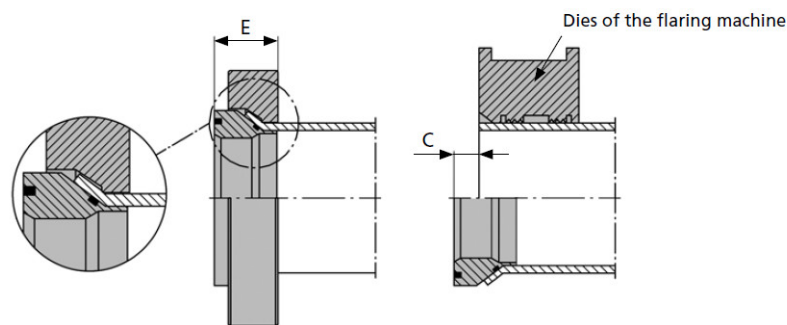
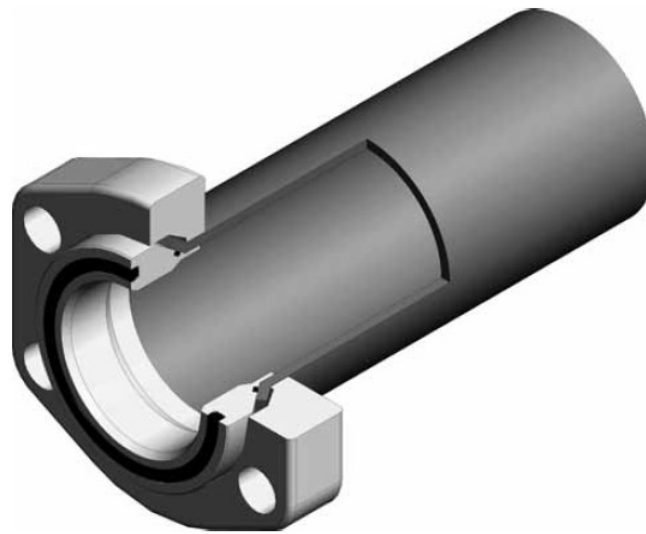
-SS= stainless steel

Other materials on request.

Flare flange connection - Type A

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Complete Part No example:
B124/50x3FA includes:
 B124F 1 pc
 B24/50x3FA 1 pc
 OR47.22X3.53 1 pc
 OR41X1.78 1 pc

Size	Pipe Size	Complete Part No	C	E	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No
1 1/2"	50x3	B124/50x3FA	13	28	0.68	B24/50x3FA	OR47.22X3.53	OR41X1.78
2"	60x3	B132/60x3FA	13	27	0.91	B32/60x3FA	OR56.75X3.53	OR52.5X1.78
2 1/2"	73x3	B140/73x3FA	12	25	1.00	B40/73x3FA	OR69.44X3.53	OR66.4X1.78
3"	90x3.5	B148/90x3.5FA	16	30	1.59	B48/90x3.5FA	OR85.32X3.53	OR82.27X1.78
4"	115x4	B164/115x4FA	16	36	2.46	BL64/115x4FA	OR110.72X3.53	OR107.67X1.78
5"	140x4.5	B180/140x4.5FA	17	47	3.90	BL80/140x4.5FA	OR136.12X3.53	OR126.67X2.62
6"	165x5	B196/165x5FA	16	42	6.55	BL96/165x5FA	OR158.34X3.53	OR152.07X2.62
8"	220x6	B228/220x6FA	20	48	12.7	BL28/220x6FA	OR219.3X5.7	OR209.22X2.62
10"	273x6	B260/273x6FA	18	58	26.1	BL60/273x6FA	OR269.3X5.7	OR247.32X2.62

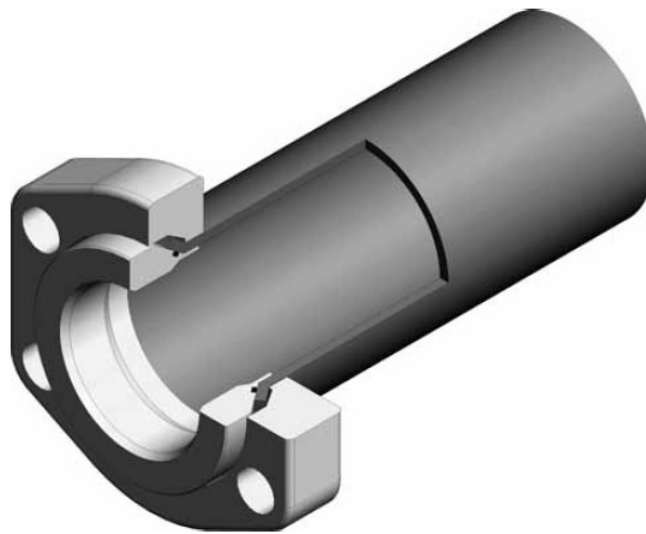
Flare flange connection components for ANSI 36.10/36.19 pipes are available on request.

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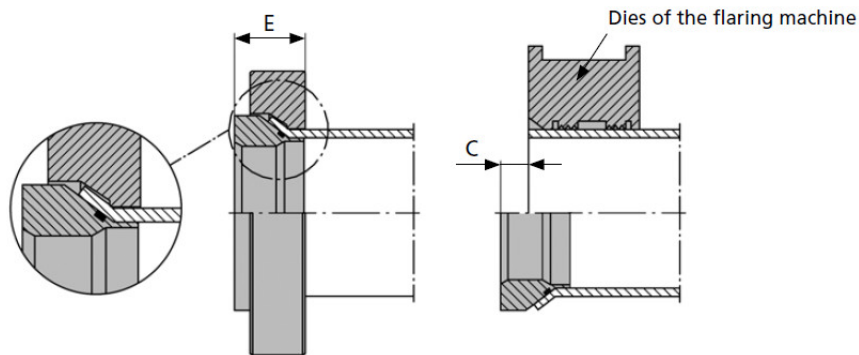
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Flare flange connection - Type B

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR



Complete Part No example:
B124/50x3FB includes:
 B124F 1 pc
 B24/50x3FB 1 pc
 OR41X1.78 1 pc

Size	Pipe Size	Complete Part No	C	E	Weight [kg]	Insert Part No	O-Ring 2 Part No
1 1/2"	50x3	B124/50x3FB	13	28	0.68	B24/50x3FB	OR4 1X1.78
2"	60x3	B132/60x3FB	13	27	0.91	B32/60x3FB	OR52.5X1.78
2 1/2"	73x3	B140/73x3FB	12	25	1.00	B40/73x3FB	OR66.4X1.78
3"	90x3.5	B148/90x3.5FB	16	30	1.59	B48/90x3.5FB	OR82.27X1.78
4"	115x4	B164/115x4FB	16	36	2.46	BL64/115x4FB	OR107.67X1.78
5"	140x4.5	B180/140x4.5FB	17	47	3.90	BL80/140x4.5FB	OR126.67X2.62
6"	165x5	B196/165x5FB	16	42	6.55	BL96/165x5FB	OR152.07X2.62
8"	220x6	B228/220X6FB	20	48	12.7	BL28/220X6FB	OR209.22X2.62
10"	273x6	B260/273X6FB	18	58	26.1	BL60/273X6FB	OR247.32X2.62

Flare flange connection components for ANSI 36.10/36.19 pipes are available on request.

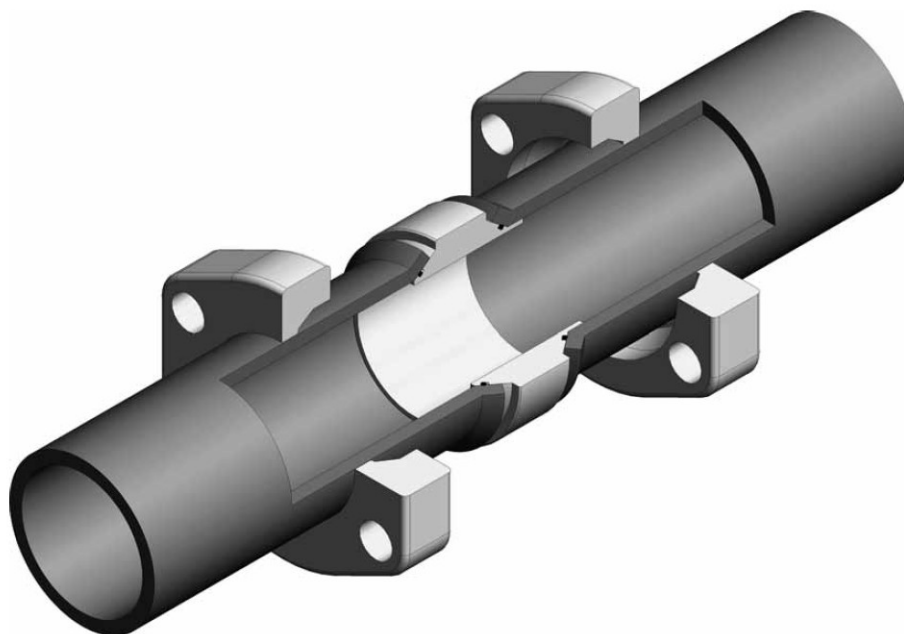
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Flare flange connection - Type D

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1 1/2"	50x3	B124/50x3FD	1.40	B24/50x3FD	OR41X1.78
2"	60x3	B132/60x3FD	1.73	B32/60x3FD	OR52.5X1.78
2 1/2"	73x3	B140/73x3FD	1.98	B40/73x3FD	OR66.4X1.78
3"	90x3.5	B148/90x3.5FD	3.22	B48/90x3.5FD	OR82.27X1.78
4"	115x4	B164/115x4FD	5.02	BL64/115x4FD	OR107.67X1.78
5"	140x4.5	B180/140x4.5FD	7.86	BL80/140x4.5FD	OR126.67X2.62
6"	165x5	B196/165x5FD	13.5	BL96/165x5FD	OR152.07X2.62
8"	220x6	B228/220x6FD	25.4	BL28/220x6FD	OR209.22X2.62
10"	273x6	B260/273x6FD	54.7	BL60/273x6FD	OR247.32X2.62

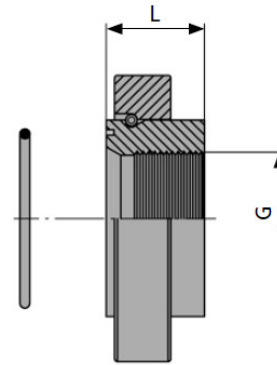
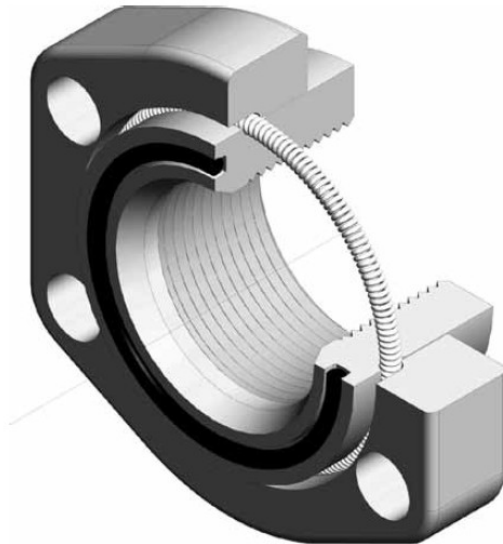
Flare flange connection components for ANSI 36.10/36.19 pipes are available on request.

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Female thread flange, BSPP

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Complete Part No example:
124013 includes:
 124 1 pc
 L24013 1 pc
 L24 1 pc
 OR47.22X3.53 1 pc

Size	Complete Part No	L	G	Weight [kg]	Body Part No
1 1/2"	B124013	35	1 1/4"	0.7	BL24013
2"	B132013	35	1 1/2"	1.0	BL32013
2 1/2"	B140013	35	2"	1.3	BL40013
3"	B148013	40	2 1/2"	1.5	BL48013

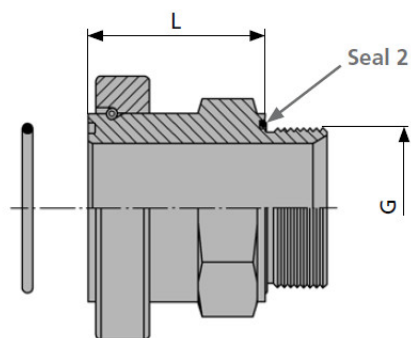
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

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 Retain rings page 30
 O-rings page 31

Male thread flange, BSPP

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Complete Part No example:

B124014 includes:

B124 1 pc
BL24014(seal2 included) 1 pc
OR47.22X3.53 1 pc

Size	Complete Part No	L	G	Seal 2	A/F	Weight [kg]	Body Part No
1 1/2"	B124014	64	1 1/2"	ED R11/2+M82X2 VI	60	1.1	BL24014
2"	B132014	66	2"	OR59.99X2.62VI	70	1.2	BL32014
2 1/2"	B140014	66	2 1/2"	OR75.87X2.62VI	85	1.5	BL40014
3"	B148014	80	3"	OR88.57X2.62VI	100	2.6	BL48014
4"	B164014	76	4"	OR117.07X3.53VI	-	4.90	BL64014

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

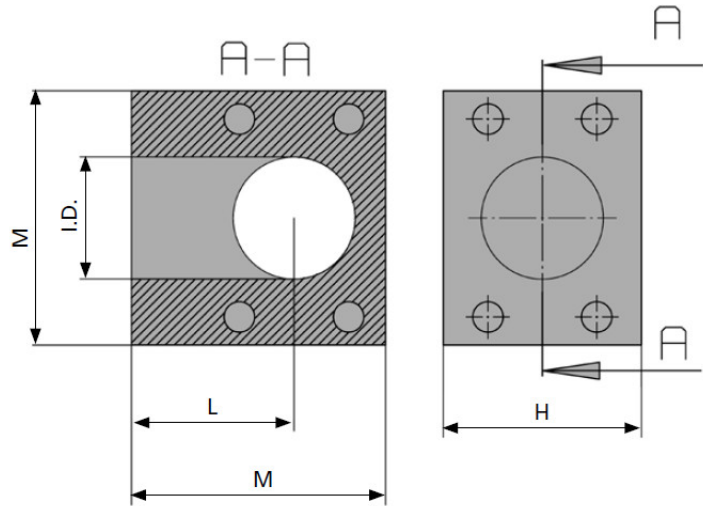
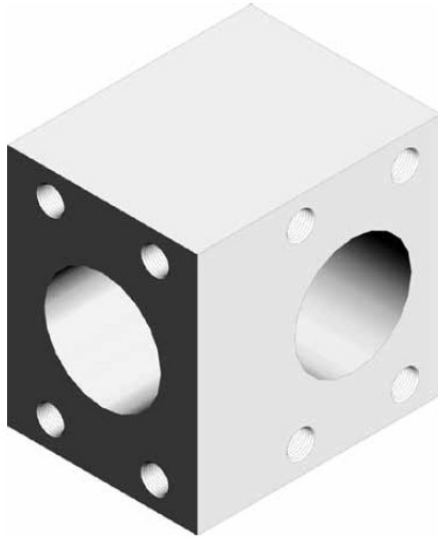
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Tee block

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Size	Part No	H	L	M	I.D.	Weight [kg]
1 1/2"	B324116	68	59	90	38	2.96
1 1/2"-1 1/4"	B324/320/324116	68	59	90	38/30/38	3.16
1 1/2"-1"	B324/316/324116	68	59	90	38/23/38	3.22
2"	B332116	78	64	100	48	4.05
2"-1 1/2"	B332/324/332116	78	64	100	48/38/48	4.26
2"-1 1/4"	B332/320/332116	78	64	100	48/30/48	4.45
2 1/2"	B340116	88	65	110	60	5.05
2 1/2"-2"	B340/332/340116	88	65	110	60/48/60	5.49
2 1/2"-1 1/2"	B340/324/340116	88	65	110	60/38/60	5.60
3"	B348116	110	80	135	72	9.97
3"-2 1/2"	B348/340/348116	110	80	135	72/60/72	10.6
3"-2"	B348/332/348116	110	80	135	72/48/72	11.1

Component material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

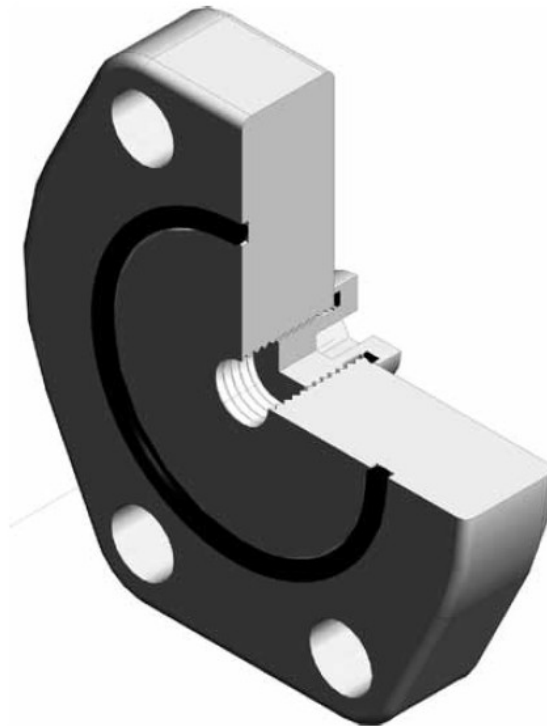
Other material on request

The block for 50 bar are the same as SAE 3000 psi

Blind flange

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Size	Part No	Weight [kg]
1 1/2"	B124125	0.83
2"	B132125	1.16
2 1/2"	B140125	1.50
3"	B148125	2.54
4"	B164125	4.48
5"	B180125	8.11
6"	B196125	11.5
8"	B228125	23.8

Component material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

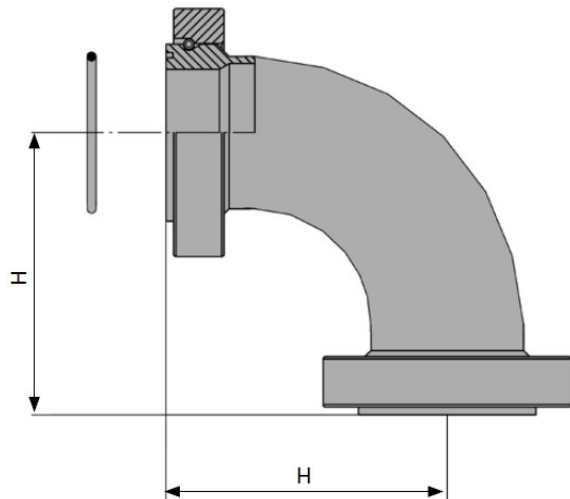
Other material on request

O-ring, ED-seal and plug included in a Part No

O-rings 31

Flange bend

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Complete Part No example:
B124018 includes:
 B124 2 pcs
 BL24018 1 pc
 BL24 1 pc
 OR47.22X3.53 1 pc

Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
1 1/2"	B124018	92	57	2.26	BL24018
2"	B132018	111	76	2.86	BL32018
2 1/2"	B140018	130	95	3.88	BL40018
3"	B148018	155	114.5	6.32	BL48018
4"	B164018	193	152.5	9.56	BL64018
5"	B180018	236	190.5	14.80	BL80018
6"	B196018	279	228.5	20.60	BL96018
8"	B228018	365	305.0	44.80	BL28018

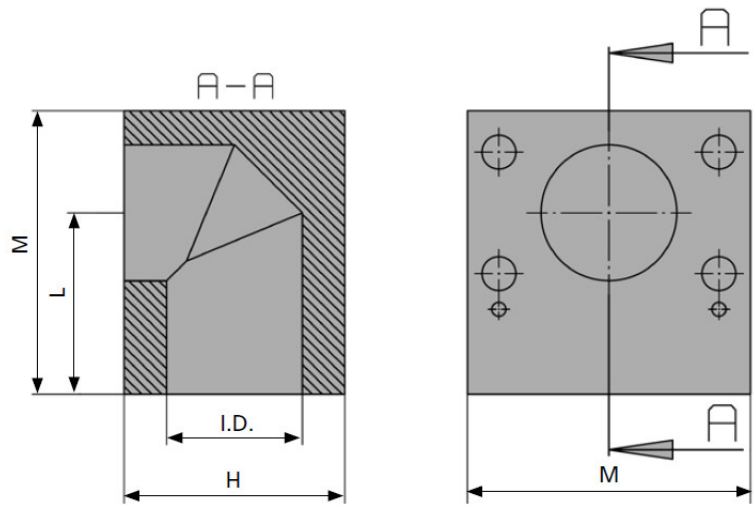
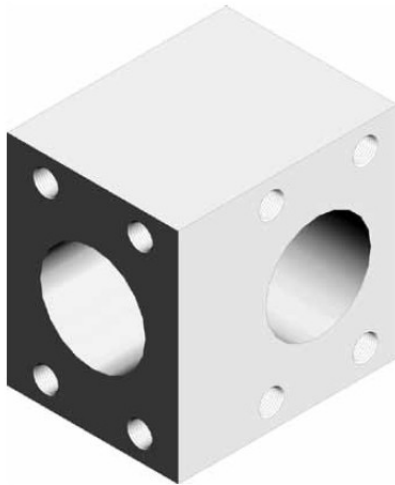
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

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Elbow block

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Size	Part No	H	L	M	I.D.	Weight [kg]
1 1/2"	B324115	68	59	90	38	3.16
2"	B332115	78	64	100	48	4.31
2 1/2"	B340115	88	65	110	60	5.45
3"	B348115	110	80	135	72	11.1

Component material:

Standard= carbon steel, zinc plated

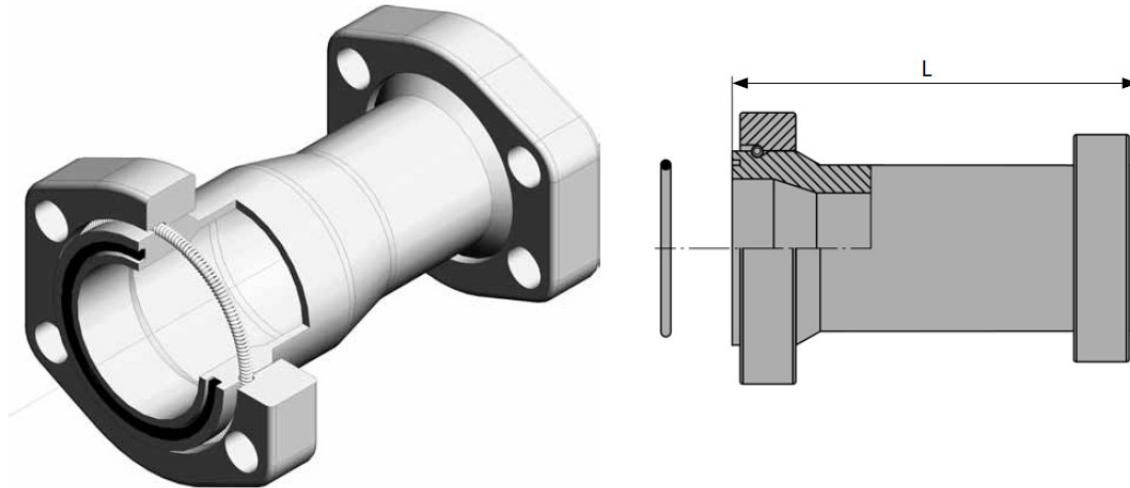
Stainless steel= add SS after Part No

Other material on request

The block for 50 bar are the same as SAE 3000 psi

Reducer flange

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Complete Part No example:

BRF132-124 includes:

B132	1 pc
B124	1 pc
BL32-24	1 pc
BL32	1 pc
BL24	1 pc
OR56.75X3.53	1 pc

Size	Complete Part No	L	Weight [kg]	Body Part No
2"-1 1/2"	BRF132-124	146	2.51	BL32-24
2 1/2"-1 1/2"	BRF140-124	160	3.03	BL40-24
2 1/2"-2"	BRF140-132	160	3.23	BL40-32
3"-1 1/2"	BRF148-124	165	3.85	BL48-24
3"-2"	BRF148-132	165	4.36	BL48-32
3"-2 1/2"	BRF148-140	165	4.71	BL48-40
4"-3"	BRF164-148	180	7.14	BL64-48
5"-4"	BRF180-164	212	10.70	BL80-64
5"-3"	BRF180-148	212	10.20	BL80-48
6"-4"	BRF196-164	230	13.20	BL96-64
6"-5"	BRF196-180	235	15.00	BL96-80
8"-5"	BRF228-180	257	23.10	BL28-80
8"-6"	BRF228-196	262	24.80	BL28-96

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

Flanges page 15

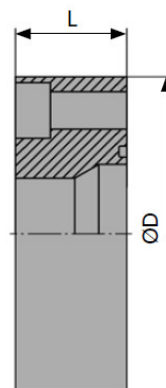
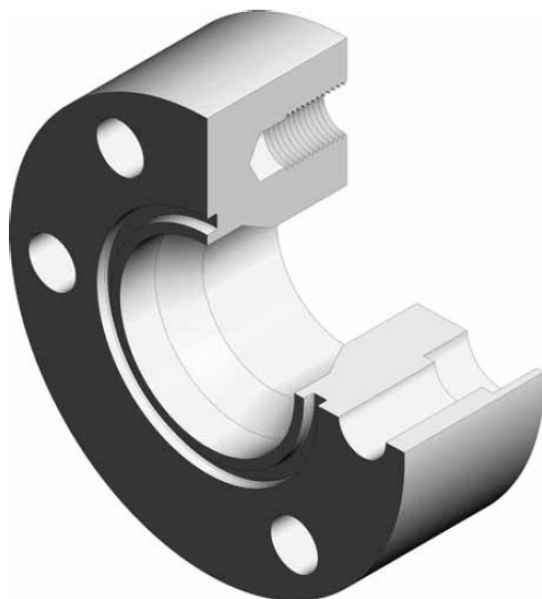
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Reducer block

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR



Size	Complete Part No	D	L	Bolt size DIN 912,8.8	Weight [kg]
2"-1 1/2"	BRBE132-124	113	40	M12x40	2.43
2 1/2"-2"	BRBE140-132	128	40	M12x40	3.06
2 1/2"-1 1/2"	BRBE140-124	128	40	M12x40	5.21
3"-2 1/2"	BRBE148-140	158	40	M16x40	4.67
3"-2"	BRBE148-132	158	40	M16x40	4.89
3"-1 1/2"	BRBE148-124	158	40	M16x40	5.30
4"-3"	BRBE164-148	185	45	M16x45	6.42
4"-2 1/2"	BRBE164-140	185	45	M16x45	6.77
5"-4"	BRBE180-164	211	45	M16x45	8.18
5"-3"	BRBE180-148	211	45	M16x45	9.37
6"-5"	BRBE196-180	242	55	M16x55	12.7
6"-4"	BRBE196-164	242	55	M16x55	14.0
8"-6"	BRBE228-196	320	50	M20x50	22.1
8"-5"	BRBE228-180	320	70	M20x70	33.0
8"-4"	BRBE228-164	320	100	M20x100	50.4

Body material:

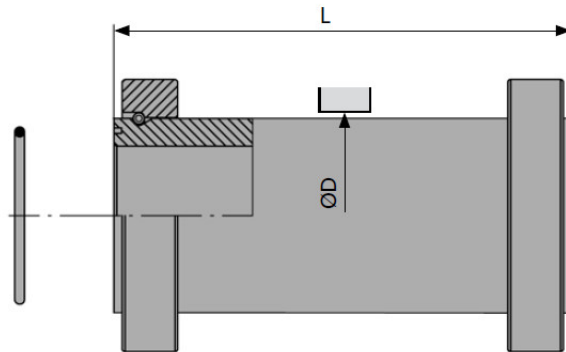
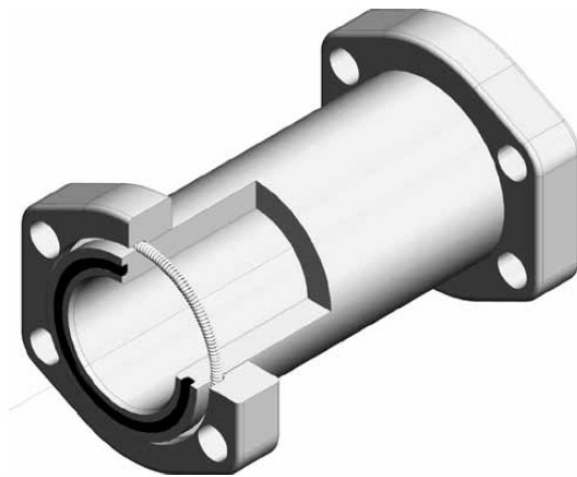
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

Bulkhead flange

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

Complete Part No example:
B124019 includes:
 B124 2 pcs
 BL24019 1 pc
 BL24 2 pcs
 OR47.22X3.53 1 pc

Size	Complete Part No	Required bulkhead opening OD	L	Weight [kg]	Body Part No
1 1/2"	B124019	62	165	3.8	BL24019
2"	B132019	72	165	4.5	BL32019
2 1/2"	B140019	84	175	5.45	BL40019
3"	B148019	102	200	7.8	BL48019
4"	B164019	128	200	11.7	BL64019
5"	B180019	153	200	16.4	BL80019
6"	B196019	183	215	22.9	BL96019
8"	B228019	243	240	28.0	BL28019

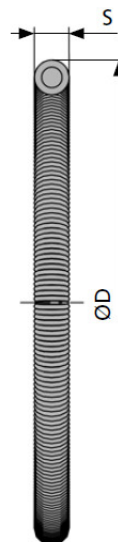
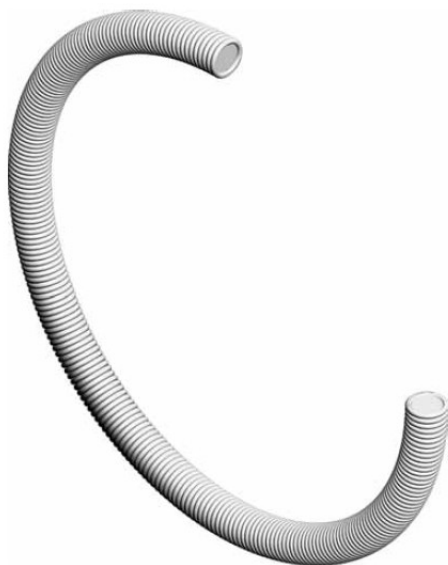
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

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Retain ring

ISO 6162-1(SAE J518 Code 61)

SAE 50 BAR

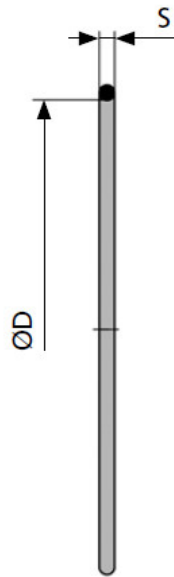


Size	Part No	DxS
1 1/2"	BL42	64x4
2"	BL32	74x4
2 1/2"	BL40	85x4
3"	BL48	103x5
4"	BL64	130x5
5"	BL80	156x6
6"	BL96	186x6
8"	BL28	248x8
10"	BL60	303x8

Component material:
AISI 316, special treated.

O-ring

ISO 6162-1(SAE J518 Code 61)



SAE 50 BAR

O-ring between flange connections

Size	BUTZ Size	Part No	DxS
1 1/2"	24	OR47.22X3.53	47.22x3.53
2"	32	OR56.75X3.53	56.75x3.53
2 1/2"	40	OR69.44X3.53	69.44x3.53
3"	48	OR85.32X3.53	85.32x3.53
4"	64	OR110.72X3.53	110.72x3.53
5"	80	OR136.12X3.53	136.12x3.53
6"	96	OR158.34X3.53	158.34x3.53
8"	28	OR219.3X5.7	219.3x5.70
10"	60	OR269.3X5.7	269.3x5.70

O-ring 2 in insert cones

Size	BUTZ Size	Part No	DxS
1 1/2"	24	OR41X1.78	41.00x1.78
2"	32	OR52.5X1.78	52.50x1.78
2 1/2"	40	OR66.4X1.78	66.40x1.78
3"	48	OR82.27X1.78	82.27x1.78
4"	64	OR107.67X1.78	107.67x1.78
5"	80	OR126.67X2.62	126.67x2.62
6"	96	OR152.07X2.62	152.07x2.62
8"	28	OR209.22X2.62	209.22X2.62
10"	60	OR247.32X2.62	247.32x2.62

Material possibilities:

Standard= NBR, Shore 90 A

FPM, Shore 90 A= add VI after Part No

Other materials on request



QUALITY MAKES THE DIFFERENCE

Notes

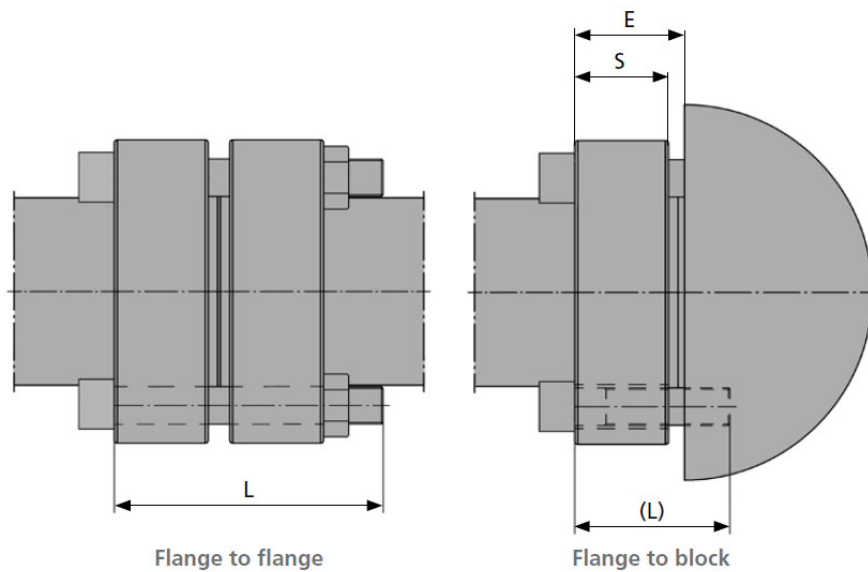
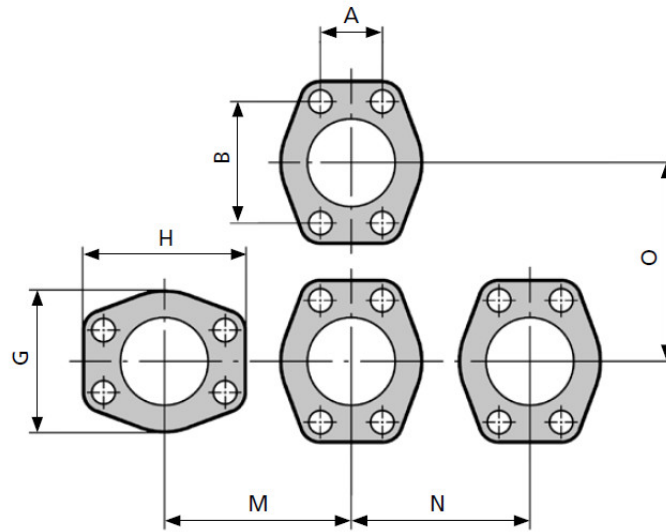
SAE 50 BAR

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Flange dimensions

ISO 6162-1(SAE J518 Code 61)



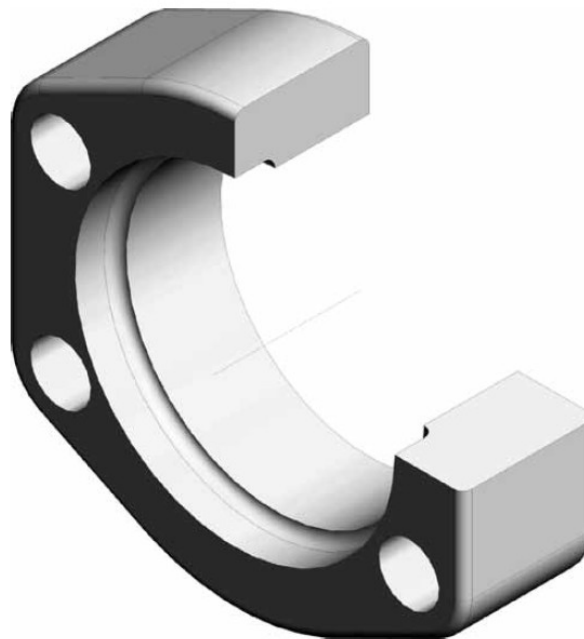
Size	BUTZ flange type	A	B	G	H	M	N	O	S	E	Bolt L DIN 912,8.8	W.P. [bar]
1/2"	308	17.5	38.1	46	54	52	49	56	20	24	M8X60(35)	350
3/4"	312	22.2	47.6	52	66	61	55	68	20	24	M10X60(35)	350
1"	316	26.2	52.4	59	70	67	61	72	20	24	M10X60(35)	350
1 1/4"	320	30.2	58.7	73	79	78	75	82	20	25	M10X70(35)	280
1 1/2"	324	35.7	69.9	83	94	90	85	96	25	30	M12X80(45)	280
2"	332	42.9	77.8	97	102	102	99	104	30	35	M12X80(50)	280
2 1/2"	340	50.8	88.9	109	114	114	111	117	40	45	M12X110(60)	210
3"	348	61.9	106.4	131	135	136	133	137	50	58	M16X130(80)	210

L=flange to flange

(L)=flange to block

Retain ring flanges

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	26	B308	B308HDG	B308SS	350	0.17
3/4"	36	B312	B312HDG	B312SS	350	0.21
1"	39	B316	B316HDG	B316SS	350	0.27
1 1/4"	46	B320	B320HDG	B320SS	280	0.38
1 1/2"	56	B324	B324HDG	B324SS	280	0.63
2"	66	B332	B332HDG	B332SS	280	0.94
2 1/2"	80	B340	B340HDG	B340SS	210	1.51
3"	97	B348	B348HDG	B348SS	210	2.29

ANSI 36.10/36.19 pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	21.3	B308/21.3	B308/21.3HDG	B308/21.3SS	350	0.17
3/4"	26.7	B312/26.7	B312/26.7HDG	B312/26.7SS	350	0.21
1"	33.4	B316/33.4	B316/33.4HDG	B316/33.4SS	350	0.27
1 1/4"	42.2	B320/42.2	B320/42.2HDG	B320/42.2SS	280	0.38
1 1/2"	48.3	B324/48.3	B324/48.3HDG	B324/48.3SS	280	0.63
2"	60.3	B332/60.3	B332/60.3HDG	B332/60.3SS	280	0.94
2 1/2"	73	B340/73	B340/73HDG	B340/73SS	210	1.51
3"	88.9	B348/88.9	B348/88.9HDG	B348/88.9SS	210	2.29

Material possibilities:

Standard= carbon steel, zinc plated

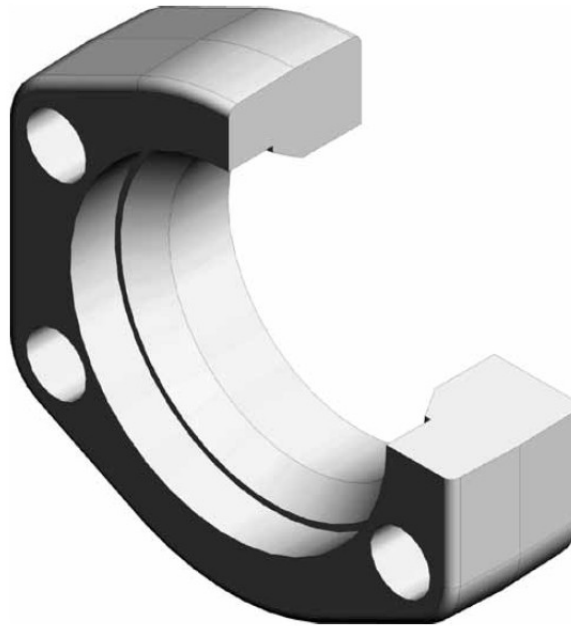
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Flare flanges

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	25	B308F	B308FHDG	B308FSS	350	0.17
3/4"	30	B312F	B312FHDG	B312FSS	350	0.23
1"	38	B316F	B316FHDG	B316FSS	350	0.27
1 1/4"	42	B320F	B320FHDG	B320FSS	280	0.39
1 1/2"	50	B324F	B324FHDG	B324FSS	280	0.65
2"	60	B332F	B332FHDG	B332FSS	280	0.98
2 1/2"	73	B340F	B340FHDG	B340FSS	210	1.61
3"	90	B348F	B348FHDG	B348FSS	210	2.52

ANSI 36.10/36.19 pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	21.3	B308F/21.3	B308F/21.3HDG	B308F/21.3SS	350	0.21
3/4"	26.7	B312F/26.7	B312F/26.7HDG	B312F/26.7SS	350	0.32
1"	33.4	B316F/33.4	B316F/33.4HDG	B316F/33.4SS	350	0.39
1 1/4"	42.2	B320F/42.2	B320F/42.2HDG	B320F/42.2SS	280	0.45
1 1/2"	48.3	B324F/48.3	B324F/48.3HDG	B324F/48.3SS	280	0.80
2"	60.3	B332F/60.3	B332F/60.3HDG	B332F/60.3SS	280	1.15
2 1/2"	73	B340F	B340FHDG	B340FSS	210	1.61
3"	88.9	B348F/88.9	B348F/88.9HDG	B348F/88.9SS	210	2.71

Material possibilities:

Standard= carbon steel, zinc plated

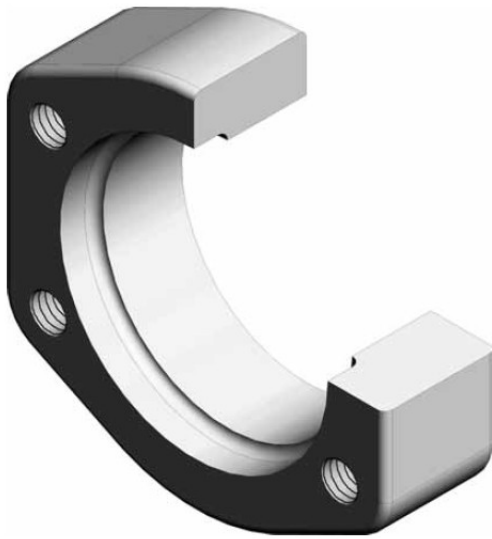
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

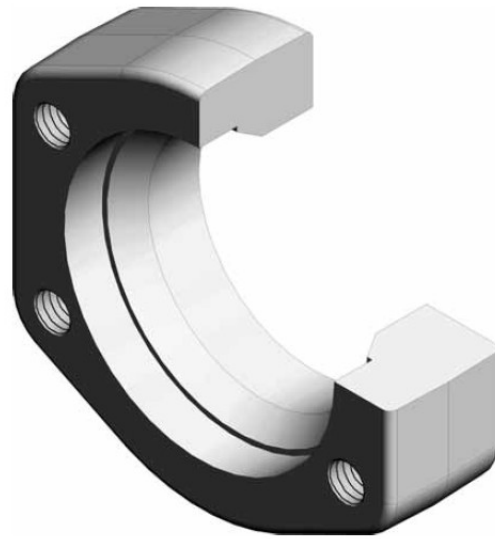
Other materials on request.

Counter flanges

ISO 6162-1(SAE J518 Code 61)



Retain ring flange with threads



Flare flange with threads

SAE 3000 PSI

Retain ring flange

Size	Part No	Bolt	Weight[kg]
1/2"	B308/M8	M8x45	0.17
3/4"	B312/M10	M10x50	0.21
1"	B316/M10	M10x50	0.27
1 1/4"	B320/M10	M10x50	0.38
1 1/2"	B324/M12	M12x60	0.63
2"	B332/M12	M12x70	0.94

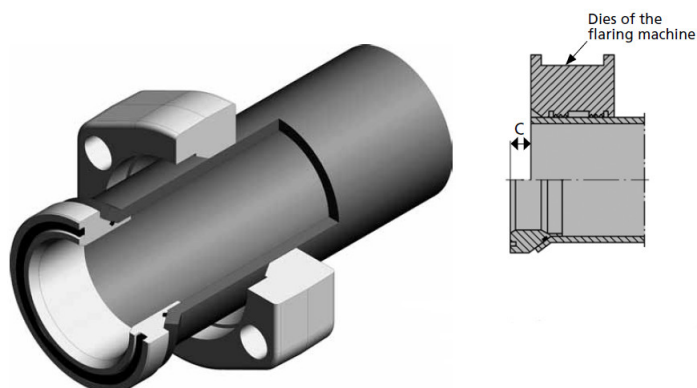
Flare flange

Size	Part No	Bolt	Weight[kg]
1/2"	B308F/M8	M8x45	0.17
3/4"	B312F/M10	M10x50	0.23
1"	B316F/M10	M10x50	0.27
1 1/4"	B320F/M10	M10x50	0.39
1 1/2"	B324F/M12	M12x60	0.65
2"	B332F/M12	M12x70	0.98

Material possibilities:
Standard= carbon steel, zinc plated
-SS= stainless steel
Other materials on request.

Flare flange connection - Type A

ISO 6162-1(SAE J518 Code 61)



Complete Part No example:

B308/16x2FA includes:

B308F	1 pc
B08/16X2FA	1 pc
B08/16F	1 pc
OR18.64X3.53	1 pc
OR12X1.0	1pc

Metric pipes

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B308/16X2FA	10	0.22	B08/16X2FA	OR18.64X3.53	OR12X1.0	08/16F
1/2"	18x2.0	B308/18X2FA	11	0.21	B08/18X2FA	OR18.64X3.53	OR14X1.0	08/18F
1/2"	20x2.0	B308/20X2FA	9	0.22	B08/20X2FA	OR18.64X3.53	OR16X1.0	08/20F
1/2"	25x2.5	B308/25X2.5FA	9	0.22	B08/25X2.5FA	OR18.64X3.53	OR20X1.0	None
1/2"	25x3.0	B308/25X3FA	9	0.22	B08/25X3FA	OR18.64X3.53	OR19X1.0	None
3/4"	20x2.0	B312/20X2FA	12	0.36	B12/20X2FA	OR24.99X3.53	OR16X1.0	12/20F
3/4"	20x2.5	B312/20X2.5FA	12	0.31	B12/20X2.5FA	OR24.99X3.53	OR15X1.0	12/20F
3/4"	25x2.5	B312/25X2.5FA	9	0.34	B12/25X2.5FA	OR24.99X3.53	OR20X1.0	12/25F
3/4"	25x3.0	B312/25X3FA	10	0.34	B12/25X3FA	OR24.99X3.53	OR19X1.0	12/25F
3/4"	30x3.0	B312/30X3FA	9	0.31	B12/30X3FA	OR24.99X3.53	OR23X1.0	None
1"	25x2.5	B316/25X2.5FA	9	0.46	B16/25X2.5FA	OR32.92X3.53	OR20X1.0	16/25F
1"	25x3.0	B316/25X3FA	9	0.46	B16/25X3FA	OR32.92X3.53	OR19X1.0	16/25F
1"	30x3.0	B316/30X3FA	7	0.43	B16/30X3FA	OR32.92X3.53	OR23X1.0	16/30F
1"	30x4.0	B316/30X4FA	7	0.43	B16/30X4FA	OR32.92X3.53	OR22X1.0	16/30F
1"	38x4.0	B316/38X4FA	10	0.37	B16/38X4FA	OR32.92X3.53	OR30X1.0	None
1 1/4"	30x3.0	B320/30X3FA	10	0.61	B20/30X3FA	OR37.69X3.53	OR23X1.0	20/30F
1 1/4"	30x4.0	B320/30X4FA	10	0.50	B20/30X4FA	OR37.69X3.53	OR22X1.0	20/30F
1 1/4"	38x4.0	B320/38X4FA	9	0.56	B20/38X4FA	OR37.69X3.53	OR30X1.0	20/38F
1 1/4"	38x5.0	B320/38X5FA	9	0.53	B20/38X5FA	OR37.69X3.53	OR28X1.0	20/38F
1 1/4"	42x4.0	B320/42X4FA	11	0.51	B20/42X4FA	OR37.69X3.53	OR34X1.0	None
1 1/2"	30x3.0	B324/30X3FA	14	0.91	B24/30X3FA	OR47.22X3.53	OR23X1.0	24/30F
1 1/2"	38x4.0	B324/38X4FA	13	1.02	B24/38X4FA	OR47.22X3.53	OR30X1.0	24/38F
1 1/2"	42x4.0	B324/42X4FA	13	0.97	B24/42X4FA	OR47.22X3.53	OR34X1.0	24/42F
1 1/2"	50x5.0	B324/50X5FA	11	0.86	B24/50X5FA	OR47.22X3.53	OR41X1.78	None
2"	50x5.0	B332/50X5FA	11	1.41	B32/50X5FA	OR56.75X3.53	OR41X1.78	32/50F
2"	60x5.0	B332/60X5FA	11	1.23	B32/60X5FA	OR56.75X3.53	OR50.52X1.78	None
2"	60x6.0	B332/60X6FA	11	1.23	B32/60X6FA	OR56.75X3.53	OR47.35X1.78	None
2 1/2"	60x5.0	B340/60X5FA	12	2.11	B40/60X5FA	OR69.44X3.53	OR50.52X1.78	40/60F
2 1/2"	73x7.0	B340/73X7FA	12	1.90	B40/73X7FA	OR69.44X3.53	OR56.87X1.78	None
2 1/2"	73x5.0	B340/73X5FA	12	1.87	B40/73X5FA	OR69.44X3.53	OR63.22X1.78	None
3"	73x5.0	B348/73X5FA	12	2.90	B48/73X5FA	OR85.32X3.53	OR63.22X1.78	48/73F
3"	90x5.0	B348/90X5FA	14	3.07	B48/90X5FA	OR85.32X3.53	OR79X1.78	None

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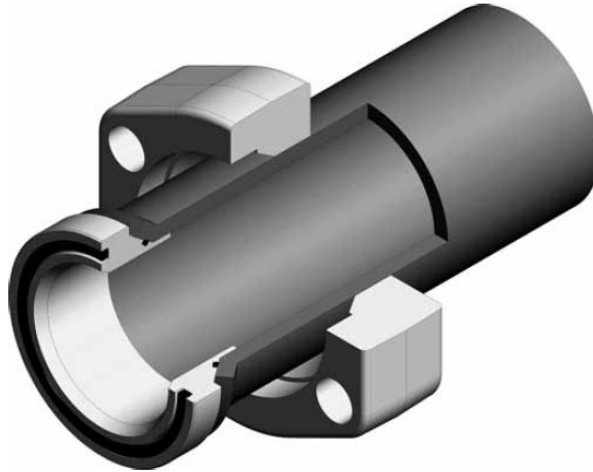
Inserts page 63

Sleeves page 65

O-rings page 70, 71

Flare flange connection - Type A

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B308/21.3X3.73FA includes:
 B308F/21.3 1 pc
 B08/21.3X3.73FA 1 pc
 OR18.64X3.53 1 pc
 OR14X1.0 1 pc

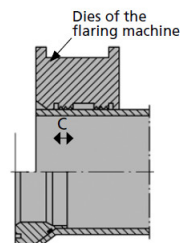
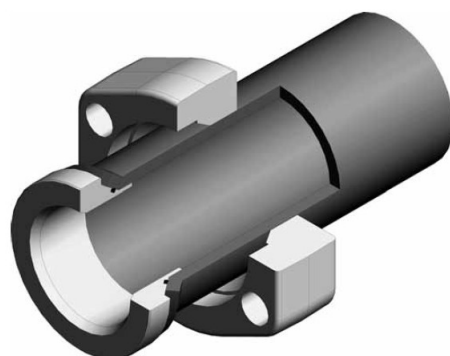
ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B308/21.3X3.73FA	0.2	B08/21.3X3.73FA	OR18.64X3.53	OR14X1.0
1/2"	21.3x4.78	B308/21.3X4.78FA	0.2	B08/21.3X4.78FA	OR18.64X3.53	OR12X1.0
3/4"	26.7x3.91	B312/26.7X3.91FA	0.3	B12/26.7X3.91FA	OR24.99X3.53	OR20X1.0
3/4"	26.7x5.56	B312/26.7X5.56FA	0.3	B12/26.7X5.56FA	OR24.99X3.53	OR16X1.0
1"	33.4x3.38	B316/33.4X3.38FA	0.5	B16/33.4X3.38FA	OR32.92X3.53	OR28X1.0
1"	33.4x4.55	B316/33.4X4.55FA	0.5	B16/33.4X4.55FA	OR32.92X3.53	OR23X1.0
1 1/4"	42.2x3.56	B320/42.2X3.56FA	0.6	B20/42.2X3.56FA	OR37.69X3.53	OR34X1.0
1 1/4"	42.2x4.85	B320/42.2X4.85FA	0.6	B20/42.2X4.85FA	OR37.69X3.53	OR32X1.0
1 1/2"	48.3x3.68	B324/48.3X3.68FA	0.9	B24/48.3X3.68FA	OR47.22X3.53	OR41X1.78
1 1/2"	48.3x5.08	B324/48.3X5.08FA	0.9	B24/48.3X5.08FA	OR47.22X3.53	OR37.82X1.78
2"	60.3x3.91	B332/60.3X3.91FA	1.4	B32/60.3X3.91FA	OR56.75X3.53	OR50.52X1.78
2"	60.3x5.54	B332/60.3X5.54FA	1.4	B32/60.3X5.54FA	OR56.75X3.53	OR47.35X1.78
2 1/2"	73x5.16	B340/73X5.16FA	2.1	B40/73X5.16FA	OR69.44X3.53	OR63.22X1.78
2 1/2"	73x7.01	B340/73X7FA	2.1	B40/73X7FA	OR69.44X3.53	OR56.87X1.78
3"	88.9x5.49	B348/88.9X5.49FA	3.6	B48/88.9X5.49FA	OR85.32X3.53	OR79X1.78
3"	88.9x7.62	B348/88.9X7.62FA	3.6	B48/88.9X7.62FA	OR85.32X3.53	OR72.75X1.78

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Flare flange connection - Type B

ISO 6162-1(SAE J518 Code 61)



Complete Part No example:

124013 includes:

124	1 pc
L24013	1 pc
L24	1 pc
OR47.22X3.53	1 pc

Metric pipes

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B308/16X2FB	10	0.22	B08/16X2FB	OR12X1.0	08/16F
1/2"	18x2.0	B308/18X2FB	11	0.21	B08/18X2FB	OR14X1.0	08/18F
1/2"	20x2.0	B308/20X2FB	9	0.22	B08/20X2FB	OR16X1.0	08/20F
1/2"	25x2.5	B308/25X2.5FB	9	0.22	B08/25X2.5FB	OR20X1.0	None
1/2"	25x3.0	B308/25X3FB	9	0.22	B08/25X3FB	OR19X1.0	None
3/4"	20x2.0	B312/20X2FB	12	0.36	B12/20X2FB	OR16X1.0	12/20F
3/4"	20x2.5	B312/20X2.5FB	12	0.31	B12/20X2.5FB	OR15X1.0	12/20F
3/4"	25x2.5	B312/25X2.5FB	9	0.34	B12/25X2.5FB	OR20X1.0	12/25F
3/4"	25x3.0	B312/25X3FB	10	0.34	B12/25X3FB	OR19X1.0	12/25F
3/4"	30x3.0	B312/30X3FB	9	0.31	B12/30X3FB	OR23X1.0	None
1"	25x2.5	B316/25X2.5FB	9	0.46	B16/25X2.5FB	OR20X1.0	16/25F
1"	25x3.0	B316/25X3FB	9	0.46	B16/25X3FB	OR19X1.0	16/25F
1"	30x3.0	B316/30X3FB	7	0.43	B16/30X3FB	OR23X1.0	16/30F
1"	30x4.0	B316/30X4FB	7	0.43	B16/30X4FB	OR22X1.0	16/30F
1"	38x4.0	B316/38X4FB	10	0.37	B16/38X4FB	OR30X1.0	None
1 1/4"	30x3.0	B320/30X3FB	10	0.61	B20/30X3FB	OR23X1.0	20/30F
1 1/4"	30x4.0	B320/30X4FB	10	0.50	B20/30X4FB	OR22X1.0	20/30F
1 1/4"	38x4.0	B320/38X4FB	9	0.56	B20/38X4FB	OR30X1.0	20/38F
1 1/4"	38x5.0	B320/38X5FB	9	0.53	B20/38X5FB	OR28X1.0	20/38F
1 1/4"	42x4.0	B320/42X4FB	11	0.51	B20/42X4FB	OR34X1.0	None
1 1/2"	30x3.0	B324/30X3FB	14	0.91	B24/30X3FB	OR23X1.0	24/30F
1 1/2"	38x4.0	B324/38X4FB	13	1.02	B24/38X4FB	OR30X1.0	24/38F
1 1/2"	42x4.0	B324/42X4FB	13	0.97	B24/42X4FB	OR34X1.0	24/42F
1 1/2"	50x5.0	B324/50X5FB	11	0.86	B24/50X5FB	OR41X1.78	None
2"	50x5.0	B332/50X5FB	11	1.41	B32/50X5FB	OR41X1.78	32/50F
2"	60x5.0	B332/60X5FB	11	1.23	B32/60X5FB	OR50.52X1.78	None
2"	60x6.0	B332/60X6FB	11	1.23	B32/60X6FB	OR47.35X1.78	None
2 1/2"	60x5.0	B340/60X5FB	12	2.11	B40/60X5FB	OR50.52X1.78	40/60F
2 1/2"	73x7.0	B340/73X7FB	12	1.90	B40/73X7FB	OR56.87X1.78	None
2 1/2"	73x5.0	B340/73X5FB	12	1.87	B40/73X5FB	OR63.22X1.78	None
3"	73x5.0	B348/73X5FB	12	2.90	B48/73X5FB	OR63.22X1.78	48/73F
3"	90x5.0	B348/90X5FB	14	3.07	B48/90X5FB	OR79X1.78	None

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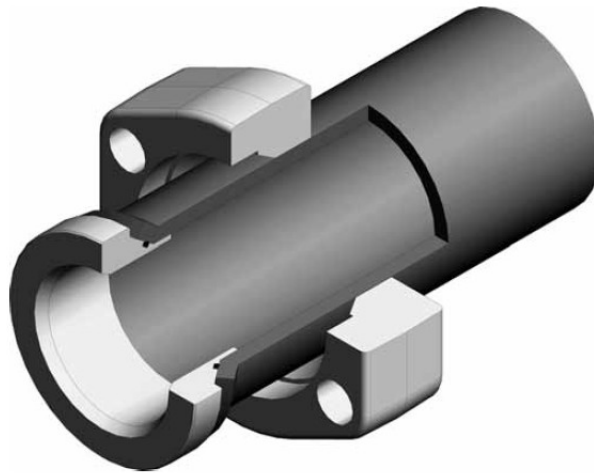
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Flare flange connection - Type B

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B308/21.3X3.73FB includes:
 B308F/21.3 1 pc
 B08/21.3X3.73FB 1 pc
 OR14X1.0 1 pc

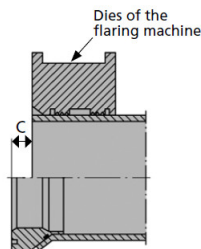
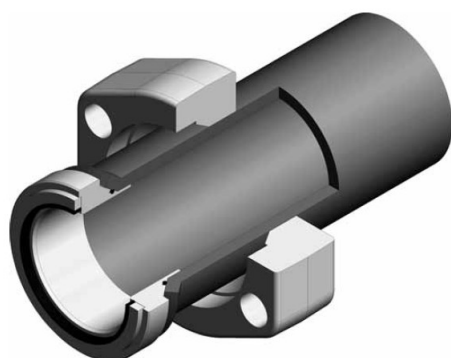
ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B308/21.3X3.73FB	0.2	B08/21.3X3.73FB	OR14X1.0
1/2"	21.3x4.78	B308/21.3X4.78FB	0.2	B08/21.3X4.78FB	OR12X1.0
3/4"	26.7x3.91	B312/26.7X3.91FB	0.3	B12/26.7X3.91FB	OR20X1.0
3/4"	26.7x5.56	B312/26.7X5.56FB	0.3	B12/26.7X5.56FB	OR16X1.0
1"	33.4x3.38	B316/33.4X3.38FB	0.5	B16/33.4X3.38FB	OR28X1.0
1"	33.4x4.55	B316/33.4X4.55FB	0.5	B16/33.4X4.55FB	OR23X1.0
1 1/4"	42.2x3.56	B320/42.2X3.56FB	0.6	B20/42.2X3.56FB	OR34X1.0
1 1/4"	42.2x4.85	B320/42.2X4.85FB	0.6	B20/42.2X4.85FB	OR32X1.0
1 1/2"	48.3x3.68	B324/48.3X3.68FB	0.9	B24/48.3X3.68FB	OR41X1.78
1 1/2"	48.3x5.08	B324/48.3X5.08FB	0.9	B24/48.3X5.08FB	OR37.82X1.78
2"	60.3x3.91	B332/60.3X3.91FB	1.4	B32/60.3X3.91FB	OR50.52X1.78
2"	60.3x5.54	B332/60.3X5.54FB	1.4	B32/60.3X5.54FB	OR47.35X1.78
2 1/2"	73x5.16	B340/73X5.16FB	2.1	B40/73X5.16FB	OR63.22X1.78
2 1/2"	73x7.01	B340/73X7FB	2.1	B40/73X7FB	OR56.87X1.78
3"	88.9x5.49	B348/88.9X5.49FB	3.6	B48/88.9X5.49FB	OR79X1.78
3"	88.9x7.62	B348/88.9X7.62FB	3.6	B48/88.9X7.62FB	OR72.75X1.78

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Flare flange connection - Type C

ISO 6162-1(SAE J518 Code 61)



Complete Part No example:
B308/16X2FC includes:
 B308F 1 pc
 B08/16X2FC 1 pc
 B08/16F 1 pc
 B0823 1 pc
 OR12X1.0 1 pc

Metric pipes

SAE 3000 PSI

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B308/16X2FC	10	0.22	B08/16X2FC	OR12X1.0	08/16F
1/2"	18x2.0	B308/18X2FC	11	0.21	B08/18X2FC	OR14X1.0	08/18F
1/2"	20x2.0	B308/20X2FC	9	0.22	B08/20X2FC	OR16X1.0	08/20F
1/2"	25x2.5	B308/25X2.5FC	9	0.22	B08/25X2.5FC	OR20X1.0	None
1/2"	25x3.0	B308/25X3FC	9	0.22	B08/25X3FC	OR19X1.0	None
3/4"	20x2.0	B312/20X2FC	12	0.36	B12/20X2FC	OR16X1.0	12/20F
3/4"	20x2.5	B312/20X2.5FC	12	0.31	B12/20X2.5FC	OR15X1.0	12/20F
3/4"	25x2.5	B312/25X2.5FC	9	0.34	B12/25X2.5FC	OR20X1.0	12/25F
3/4"	25x3.0	B312/25X3FC	10	0.34	B12/25X3FC	OR19X1.0	12/25F
3/4"	30x3.0	B312/30X3FC	9	0.31	B12/30X3FC	OR23X1.0	None
1"	25x2.5	B316/25X2.5FC	9	0.46	B16/25X2.5FC	OR20X1.0	16/25F
1"	25x3.0	B316/25X3FC	9	0.46	B16/25X3FC	OR19X1.0	16/25F
1"	30x3.0	B316/30X3FC	7	0.43	B16/30X3FC	OR23X1.0	16/30F
1"	30x4.0	B316/30X4FC	7	0.43	B16/30X4FC	OR22X1.0	16/30F
1"	38x4.0	B316/38X4FC	10	0.37	B16/38X4FC	OR30X1.0	None
1 1/4"	30x3.0	B320/30X3FC	10	0.61	B20/30X3FC	OR23X1.0	20/30F
1 1/4"	30x4.0	B320/30X4FC	10	0.50	B20/30X4FC	OR22X1.0	20/30F
1 1/4"	38x4.0	B320/38X4FC	9	0.56	B20/38X4FC	OR30X1.0	20/38F
1 1/4"	38x5.0	B320/38X5FC	9	0.53	B20/38X5FC	OR28X1.0	20/38F
1 1/4"	42x4.0	B320/42X4FC	11	0.51	B20/42X4FC	OR34X1.0	None
1 1/2"	30x3.0	B324/30X3FC	14	0.91	B24/30X3FC	OR23X1.0	24/30F
1 1/2"	38x4.0	B324/38X4FC	13	1.02	B24/38X4FC	OR30X1.0	24/38F
1 1/2"	42x4.0	B324/42X4FC	13	0.97	B24/42X4FC	OR34X1.0	24/42F
1 1/2"	50x5.0	B324/50X5FC	11	0.86	B24/50X5FC	OR41X1.78	None
2"	50x5.0	B332/50X5FC	11	1.41	B32/50X5FC	OR41X1.78	32/50F
2"	60x5.0	B332/60X5FC	11	1.23	B32/60X5FC	OR50.52X1.78	None
2"	60x6.0	B332/60X6FC	11	1.23	B32/60X6FC	OR47.35X1.78	None
2 1/2"	60x5.0	B340/60X5FC	12	2.11	B40/60X5FC	OR50.52X1.78	40/60F
2 1/2"	73x7.0	B340/73X7FC	12	1.90	B40/73X7FC	OR56.87X1.78	None
2 1/2"	73x5.0	B340/73X5FC	12	1.87	B40/73X5FC	OR63.22X1.78	None
3"	73x5.0	B348/73X5FC	12	2.90	B48/73X5FC	OR63.22X1.78	48/73F
3"	90x5.0	B348/90X5FC	14	3.07	B48/90X5FC	OR79X1.78	None

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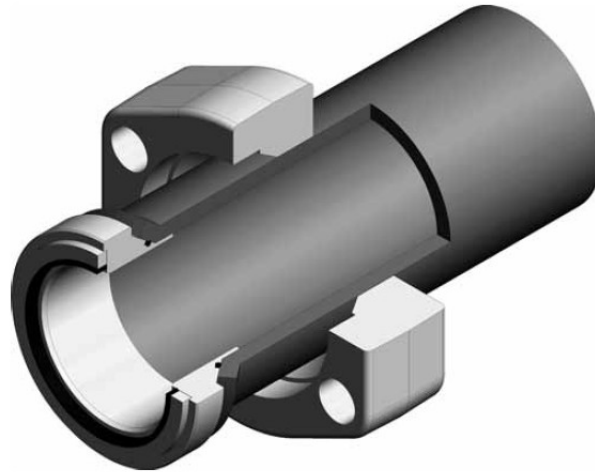
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Bonded seals page 69

Flare flange connection - Type C

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B308/21.3X3.73FC includes:
 B308F/21.3 1 pc
 B08/21.3X3.73FD 1 pc
 B0823 1 pc
 OR14X1.0 1 pc

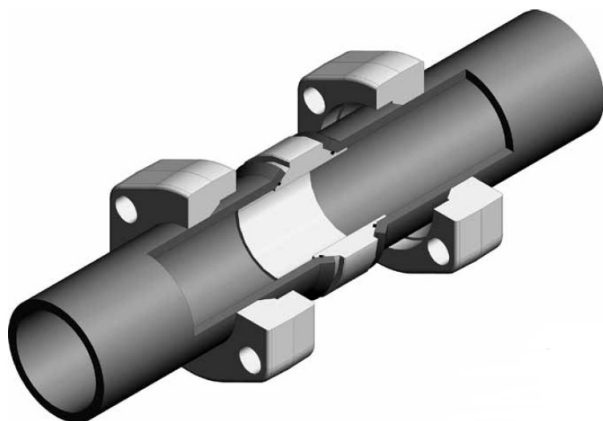
ANSI 36.10/36.19 pipes(with standard bonder seal)

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	Bonded seal Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B308/21.3X3.73FC	0.2	B08/21.3X3.73FC	B0823	OR14X1.0
1/2"	21.3x4.78	B308/21.3X4.78FC	0.2	B08/21.3X4.78FC	B0823	OR12X1.0
3/4"	26.7x3.91	B312/26.7X3.91FC	0.3	B12/26.7X3.91FC	B1213	OR20X1.0
3/4"	26.7x5.56	B312/26.7X5.56FC	0.3	B12/26.7X5.56FC	B1213	OR16X1.0
1"	33.4x3.38	B316/33.4X3.38FC	0.5	B16/33.4X3.38FC	B1629	OR28X1.0
1"	33.4x4.55	B316/33.4X4.55FC	0.5	B16/33.4X4.55FC	B1629	OR23X1.0
1 1/4"	42.2x3.56	B320/42.2X3.56FC	0.6	B20/42.2X3.56FC	B2030	OR34X1.0
1 1/4"	42.2x4.85	B320/42.2X4.85FC	0.6	B20/42.2X4.85FC	B2030	OR32X1.0
1 1/2"	48.3x3.68	B324/48.3X3.68FC	0.9	B24/48.3X3.68FC	B2432	OR41X1.78
1 1/2"	48.3x5.08	B324/48.3X5.08FC	0.9	B24/48.3X5.08FC	B2432	OR37.82X1.78
2"	60.3x3.91	B332/60.3X3.91FC	1.4	B32/60.3X3.91FC	B3219	OR50.52X1.78
2"	60.3x5.54	B332/60.3X5.54FC	1.4	B32/60.3X5.54FC	B3219	OR47.35X1.78
2 1/2"	73x5.16	B340/73X5.16FC	2.1	B40/73X5.16FC	B4037	OR63.22X1.78
2 1/2"	73x7.01	B340/73X7FC	2.1	B40/73X7FC	B4037	OR56.87X1.78
3"	88.9x5.49	B348/88.9X5.49FC	3.6	B48/88.9X5.49FC	B4839	OR79X1.78
3"	88.9x7.62	B348/88.9X7.62FC	3.6	B48/88.9X7.62FC	B4839	OR72.75X1.78

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Flare flange connection - Type D

ISO 6162-1(SAE J518 Code 61)



Complete Part No example:
B308/16X2FD includes:
 B308F 2 pcs
 B08/16X2FD 1 pc
 B08/16F 2 pcs
 OR12X1.0 2 pcs

Metric pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B308/16X2FD	0.39	B08/16X2FD	OR12X1.0	08/16F
1/2"	18x2.0	B308/18X2FD	0.38	B08/18X2FD	OR14X1.0	08/18F
1/2"	20x2.0	B308/20X2FD	0.39	B08/20X2FD	OR16X1.0	08/20F
1/2"	25x2.5	B308/25X2.5FD	0.39	B08/25X2.5FD	OR20X1.0	None
1/2"	25x3.0	B308/25X3FD	0.39	B08/25X3FD	OR19X1.0	None
3/4"	20x2.0	B312/20X2FD	0.60	B12/20X2FD	OR16X1.0	12/20F
3/4"	20x2.5	B312/20X2.5FD	0.55	B12/20X2.5FD	OR15X1.0	12/20F
3/4"	25x2.5	B312/25X2.5FD	0.57	B12/25X2.5FD	OR20X1.0	12/25F
3/4"	25x3.0	B312/25X3FD	0.57	B12/25X3FD	OR19X1.0	12/25F
3/4"	30x3.0	B312/30X3FD	0.55	B12/30X3FD	OR23X1.0	None
1"	25x2.5	B316/25X2.5FD	0.72	B16/25X2.5FD	OR20X1.0	16/25F
1"	25x3.0	B316/25X3FD	0.72	B16/25X3FD	OR19X1.0	16/25F
1"	30x3.0	B316/30X3FD	0.69	B16/30X3FD	OR23X1.0	16/30F
1"	30x4.0	B316/30X4FD	0.69	B16/30X4FD	OR22X1.0	16/30F
1"	38x4.0	B316/38X4FD	0.62	B16/38X4FD	OR30X1.0	None
1 1/4"	30x3.0	B320/30X3FD	1.01	B20/30X3FD	OR23X1.0	20/30F
1 1/4"	30x4.0	B320/30X4FD	0.90	B20/30X4FD	OR22X1.0	20/30F
1 1/4"	38x4.0	B320/38X4FD	0.96	B20/38X4FD	OR30X1.0	20/38F
1 1/4"	38x5.0	B320/38X5FD	0.93	B20/38X5FD	OR28X1.0	20/38F
1 1/4"	42x4.0	B320/42X4FD	0.91	B20/42X4FD	OR34X1.0	None
1 1/2"	30x3.0	B324/30X3FD	1.57	B24/30X3FD	OR23X1.0	24/30F
1 1/2"	38x4.0	B324/38X4FD	1.67	B24/38X4FD	OR30X1.0	24/38F
1 1/2"	42x4.0	B324/42X4FD	1.63	B24/42X4FD	OR34X1.0	24/42F
1 1/2"	50x5.0	B324/50X5FD	1.52	B24/50X5FD	OR41X1.78	None
2"	50x5.0	B332/50X5FD	2.42	B32/50X5FD	OR41X1.78	32/50F
2"	60x5.0	B332/60X5FD	2.24	B32/60X5FD	OR50.52X1.78	None
2"	60x6.0	B332/60X6FD	2.24	B32/60X6FD	OR47.35X1.78	None
2 1/2"	60x5.0	B340/60X5FD	3.61	B40/60X5FD	OR50.52X1.78	40/60F
2 1/2"	73x7.0	B340/73X7FD	3.40	B40/73X7FD	OR56.87X1.78	None
2 1/2"	73x5.0	B340/73X5FD	3.34	B40/73X5FD	OR63.22X1.78	None
3"	73x5.0	B348/73X5FD	4.45	B48/73X5FD	OR63.22X1.78	48/73F
3"	90x5.0	B348/90X5FD	5.64	B48/90X5FD	OR79X1.78	None

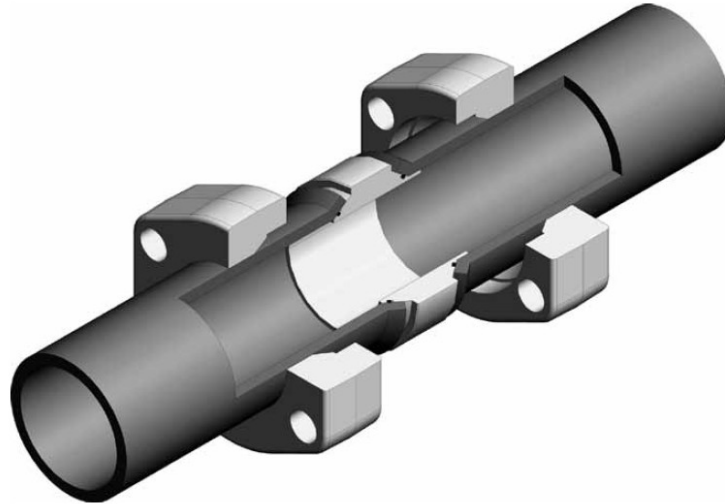
Flanges page 36

Inserts page 63

O-rings page 71

Flare flange connection - Type D

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B308/21.3X3.73FD includes:
 B308F/21.3 2 pcs
 B08/21.3X3.73FD 1 pc
 OR14X1.0 2 pcs

ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B308/21.3X3.73FD	0.39	B08/21.3X3.73FD	OR14X1.0
1/2"	21.3x4.78	B308/21.3X4.78FD	0.38	B08/21.3X4.78FD	OR12X1.0
3/4"	26.7x3.91	B312/26.7X3.91FD	0.60	B12/26.7X3.91FD	OR20X1.0
3/4"	26.7x5.56	B312/26.7X5.56FD	0.57	B12/26.7X5.56FD	OR16X1.0
1"	33.4x3.38	B316/33.4X3.38FD	0.72	B16/33.4X3.38FD	OR28X1.0
1"	33.4x4.55	B316/33.4X4.55FD	0.70	B16/33.4X4.55FD	OR23X1.0
1 1/4"	42.2x3.56	B320/42.2X3.56FD	1.01	B20/42.2X3.56FD	OR34X1.0
1 1/4"	42.2x4.85	B320/42.2X4.85FD	0.96	B20/42.2X4.85FD	OR32X1.0
1 1/2"	48.3x3.68	B324/48.3X3.68FD	1.57	B24/48.3X3.68FD	OR41X1.78
1 1/2"	48.3x5.08	B324/48.3X5.08FD	1.63	B24/48.3X5.08FD	OR37.82X1.78
2"	60.3x3.91	B332/60.3X3.91FD	2.24	B32/60.3X3.91FD	OR50.52X1.78
2"	60.3x5.54	B332/60.3X5.54FD	2.25	B32/60.3X5.54FD	OR47.35X1.78
2 1/2"	73x5.16	B340/73X5.16FD	3.61	B40/73X5.16FD	OR63.22X1.78
2 1/2"	73x7.01	B340/73X7FD	3.45	B40/73X7FD	OR56.87X1.78
3"	88.9x5.49	B348/88.9X5.49FD	6.14	B48/88.9X5.49FD	OR79X1.78
3"	88.9x7.62	B348/88.9X7.62FD	5.70	B48/88.9X7.62FD	OR72.75X1.78

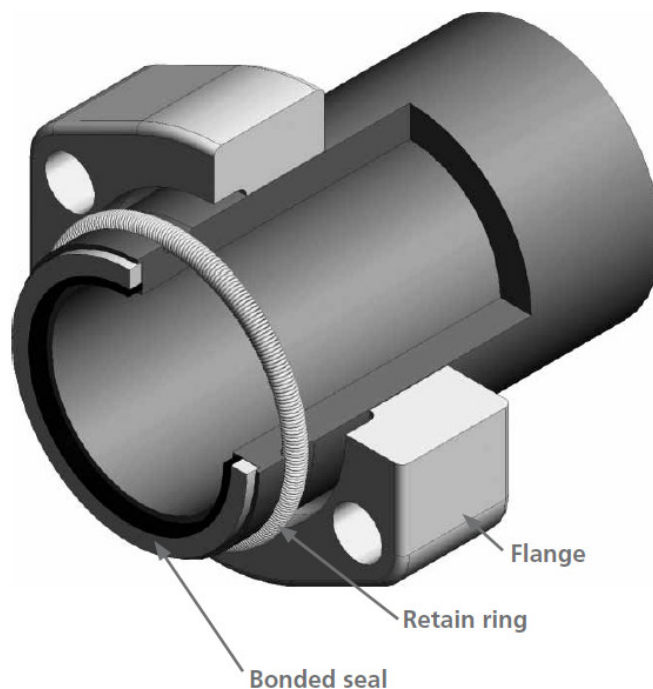
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Grooving direct on to pipe

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Metric pipes

Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
1"	39x7.5	B316	B16	B1629
1 1/4"	46x8	B320	B20	B2030
1 1/2"	56x8.5	B324	B24	B2432
2"	66x8.5	B332	B32	B3219
2 1/2"	80x10	B340	B40	B4037
3"	97x12	B348	B48	B4839

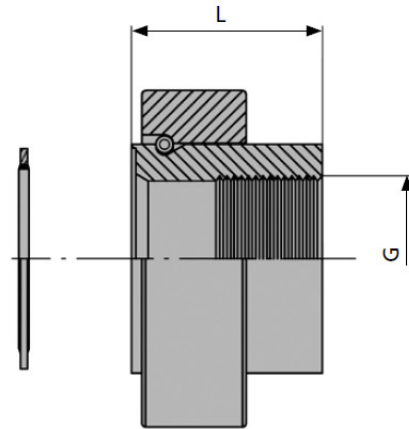
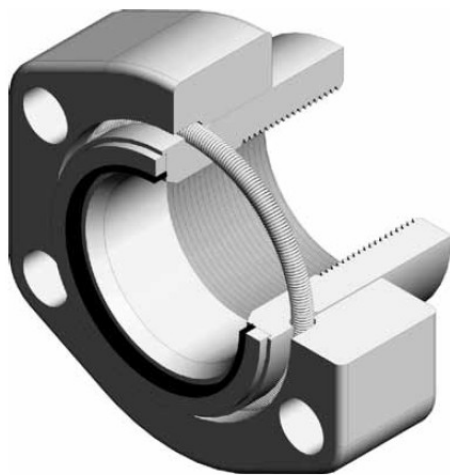
ANSI 36.10/36.19 pipes

Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
1"	39x7.5	B316	B16	B1629
1 1/4"	46x8	B320	B20	B2030
1 1/2"	56x8.5	B324	B24	B2432
2"	66x8.5	B332	B32	B3219
2 1/2"	80x10	B340	B40	B4037
3"	97x12	B348	B48	B4839

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Bonded seals page 69

Female thread flange, BSP

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B 308013 includes:
 B308 1 pc
 B08013 1 pc
 B08 1 pc
 B0823 1 pc

Size	Complete Part No	L	G	Weight [kg]	Body Part No
1/2"	B308013	35	1/4"	0.29	B08013
3/4"	B312013	40	1/2"	0.43	B12013
1"	B316013	40	3/4"	0.48	B16013
1 1/4"	B320013	42	1"	0.67	B20013
1 1/2"	B324013	45	1 1/4"	1.05	B24013
2"	B332013	55	1 1/2"	1.67	B32013

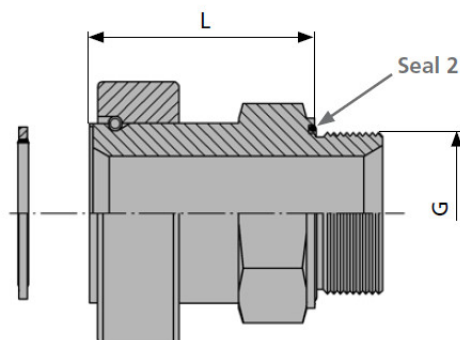
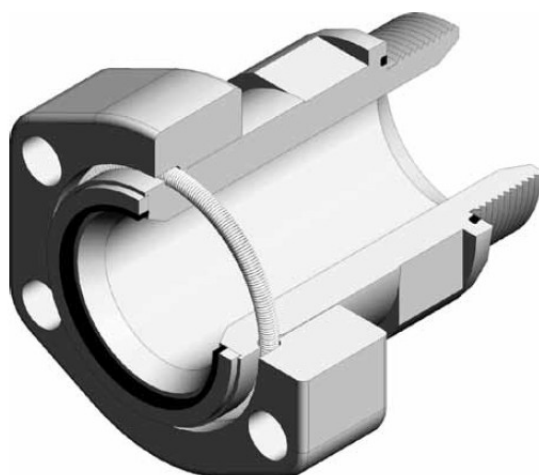
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

Standard thread BSPP,
 Others on request.

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 Retain rings page 68
 Bonded seals page 69

Male thread flange, BSPP

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:

B 308014 includes:

B308	1 pc
B08014	1 pc
B08	1 pc
B0823	1 pc
BSCBC1/2	1 pc

Size	Complete Part No	L	G	Bonded seal 2	A/F	Weight [kg]	Body Part No
1/2"	B308014	50.3	1/2"	SCBC1/2	27	0.35	B08014
1/2"	B308014-R1/4	50.3	1/4"	SCBC1/4	27	0.37B	B08014-R1/4
3/4"	B312014	61.3	3/4"	SCBC3/4	32	0.60	B12014
3/4"	B312014-R1/2	61.3	1/2"	SCBC1/2	32	0.62	B12014-R1/2
1"	B316014	65.2	1"	SCBC1	41	0.78	B16014
1"	B316014-R3/4	64.3	3/4"	SCBC3/4	32	0.80	B16014-R3/4
1 1/4"	B320014	68.2	1 1/4"	SCBC1 1/4	46	1.08	B20014
1 1/4"	B320014-R1	68.2	1"	SCBC1	41	1.16	B20014-R1
1 1/2"	B324014	78.2	1 1/2"	SCBC1 1/2	50	1.71	B24014
1 1/2"	B324014-R1 1/4	78.2	1 1/4"	SCBC1 1/4	46	1.80	B24014-R1 1/4
2"	B332014	83.2	2"	SCBC2	65	2.55	B32014
2"	B332014-R1 1/2	83.2	1 1/2"	SCBC1 1/2	50	2.71	B32014-R1 1/2

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Flanges page 35

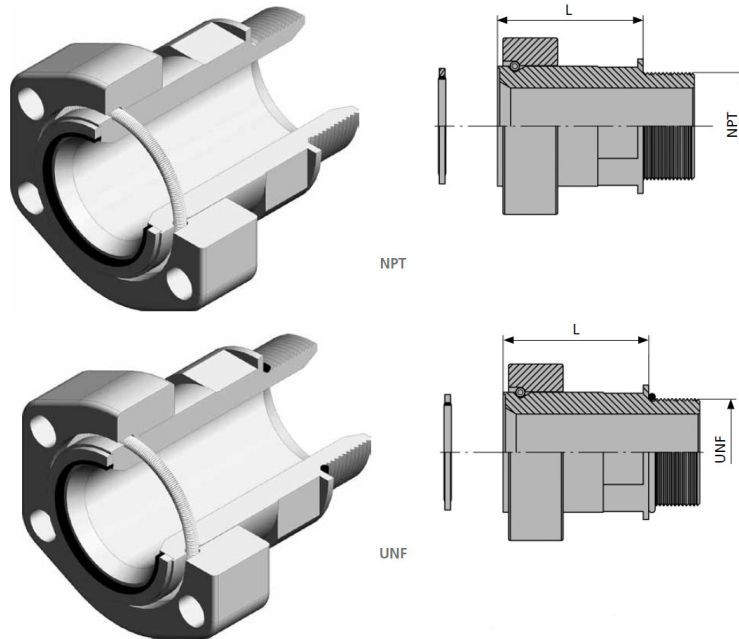
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ED-seals page 72

Male thread flange, NPT & UNF

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:

B308114 includes:

B308	1 pc
B08114	1 pc
B08	1 pc
B0823	1 pc

Complete Part No example:

B308214 includes:

B308	1 pc
B08214	1 pc
B08	1 pc
B0823	1 pc
OR16.4X2.2	1 pc

Male thread flange, NPT

Size	Complete Part No	L	NPT	Weight [kg]	Body Part No
1/2"	B308114	50	1/2"	0.4	B08114
3/4"	B312114	63	3/4"	0.5	B12114
1"	B316114	63	1"	0.7	B16114
1 1/4"	B320114	67	1 1/4"	1.0	B20114
1 1/2"	B324114	75	1 1/2"	1.8	B24114
2"	B332114	80	2"	2.5	B32114

Male thread flange, UNF

Size	Complete Part No	L	UNF	Weight [kg]	O-ring Part No	Body Part No
1/2"	B308214	48.0	3/4-16	0.4	OR16.4X2.2	B08214
3/4"	B312214	61.3	1 1/16-12	0.5	OR23X3.0	B12214
1"	B316214	62.0	1 5/16-12	0.7	OR29.2X3.0	B16214
1 1/4"	B320214	65.0	1 5/8-12	1.0	OR37.2X3.0	B20214
1 1/2"	B324214	78.2	1 7/8-12	1.8	OR43X3.0	B24214
2"	B332214	83.2	2 1/2-12	2.5	OR59.5X3.0	B32214

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

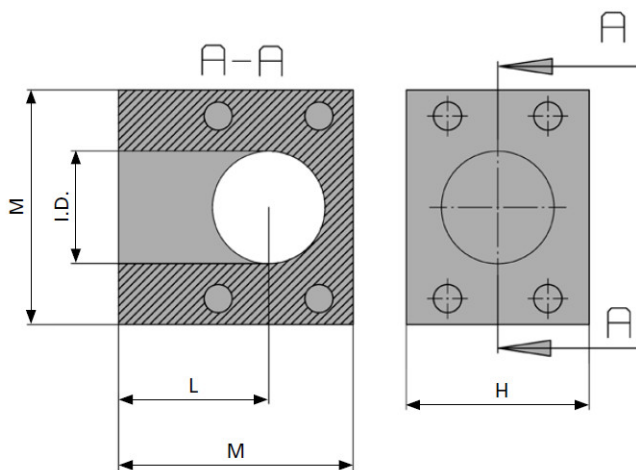
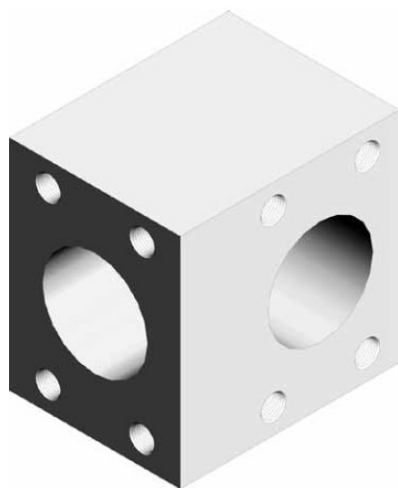
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Bonded seals page 69

Tee block

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Size	Part No	H	L	M	I.D.	Weight [kg]
1/2"	B308116	40	36	56	13	0.81
3/4"	B312116	40	50	70	20	1.18
3/4"-1/2"	B312/308/312116	40	50	70	20/13/20	1.26
1"	B316116	48	47	70	23	1.38
1"-3/4"	B316/312/316116	48	47	70	23/20/23	1.41
1"-1/2"	B316/308/316116	48	47	70	23/13/23	1.49
1 1/4"	B320116	58	55	80	30	2.12
1 1/4"-1"	B320/316/320116	58	55	80	30/23/30	2.23
1 1/4"-3/4"	B320/312/320116	58	55	80	30/20/30	2.27
1 1/2"	B324116	68	59	90	38	2.96
1 1/2"-1 1/4"	B324/320/324116	68	59	90	38/30/38	3.16
1 1/2"-1"	B324/316/324116	68	59	90	38/23/38	3.22
2"	B332116	78	64	100	48	4.05
2"-1 1/2"	B332/324/332116	78	64	100	48/38/48	4.26
2"-1 1/4"	B332/320/332116	78	64	100	48/30/48	4.45
2 1/2"	B340116	88	65	110	60	5.05
2 1/2"-2"	B340/332/340116	88	65	110	60/48/60	5.49
2 1/2"-1 1/2"	B340/324/340116	88	65	110	60/38/60	5.60
3"	B348116	110	80	135	72	9.97
3"-2 1/2"	B348/340/348116	110	80	135	72/60/72	10.6
3"-2"	B348/332/348116	110	80	135	72/48/72	11.1

Body material:

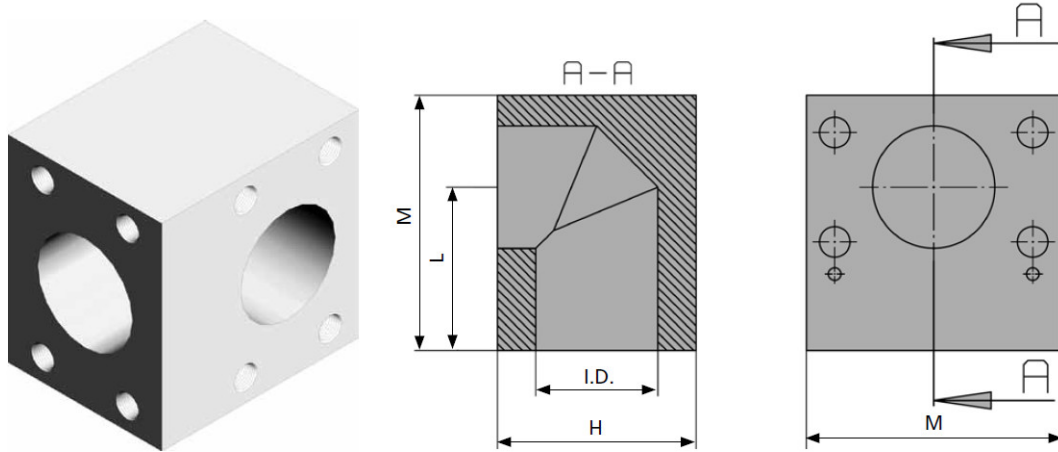
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Elbow block

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Size	Part No	H	L	M	I.D.	Weight [kg]
1/2"	B308115	40	36	56	13	0.83
3/4"	B312115	40	50	70	20	1.22
1"	B316115	48	47	70	23	1.46
1 1/4"	B320115	58	55	80	30	2.24
1 1/2"	B324115	68	59	90	38	3.16
2"	B332115	78	64	100	48	4.31
2 1/2"	B340115	88	65	110	60	5.45
3"	B348115	110	80	135	72	11.1

Body material:

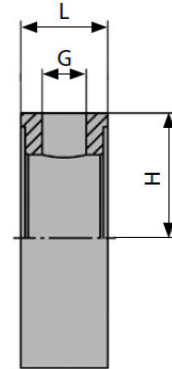
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Tee between, BSPP

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Please add measure L to bolt lengths mentioned on page 34.

Size	Part No	L	H	G	Weight [kg]
1/2"	B08035	25	13.5	1/4"	0.12
3/4"	B12035	25	17.6	1/4"	0.18
1"	B16035	25	20.5	1/4"	0.22
1 1/4"	B20035	25	24.3	1/4"	0.27
1 1/2"	B24035	25	31.3	1/4"	0.41
2"	B32035	25	36.0	1/4"	0.47
1 1/4"	B20036	35	22.5	1/2"	0.35
1 1/2"	B24036	35	29.6	1/2"	0.56
2"	B32036	35	34.6	1/2"	0.65
2 1/2"	B40036	35	42.6	1/2"	0.90
2 1/2"	B40037	40	41	3/4"	1.30
3"	B48038	60	48	1"	1.90

Body material:

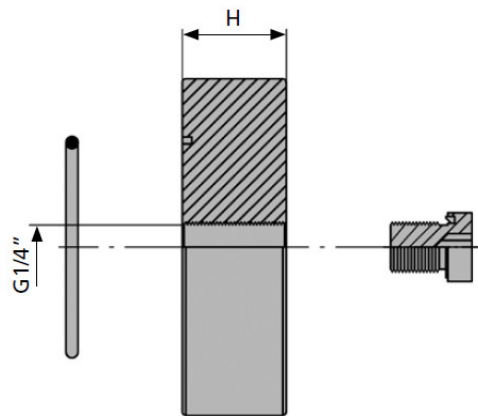
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Blind flange

ISO 6162-1(SAE J518 Code 61)



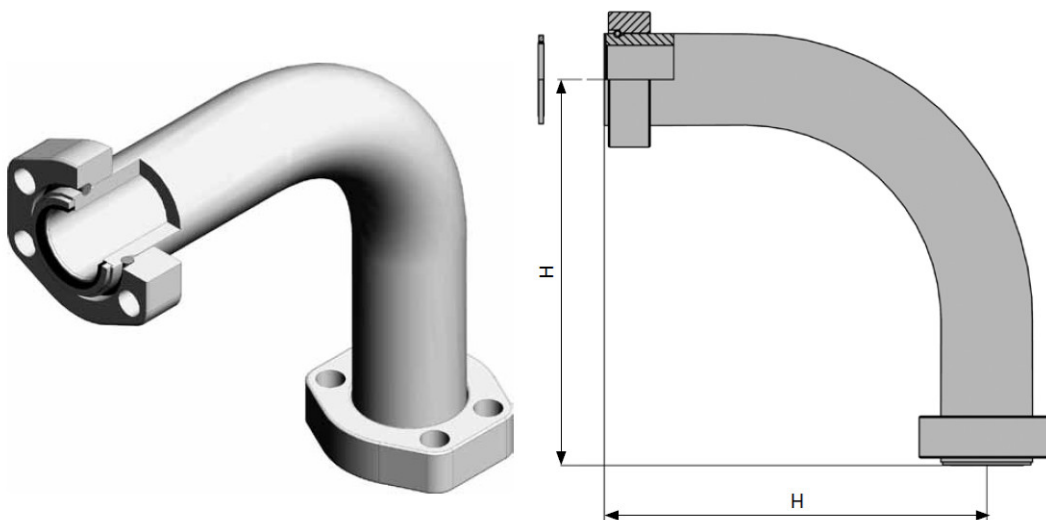
SAE 3000 PSI

Size	Part No	O-ring Part No	H	Weight [kg]
1/2"	B308125	OR18.64X3.53	20	0.24
3/4"	B312125	OR24.99X3.53	20	0.36
1"	B316125	OR32.92X3.53	20	0.45
1 1/4"	B320125	OR37.69X3.53	20	0.62
1 1/2"	B324125	OR47.22X3.53	25	1.10
2"	B332125	OR56.75X3.53	30	1.73
2 1/2"	B340125	OR69.44X3.53	40	2.61
3"	B348125	OR85.32X3.53	50	4.19

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request
 O-ring, ED-seal and plug included in a Part No

Flange bend

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B 312018 includes:
 B312 2 pcs
 B12018 1 pc
 B12 2 pcs
 B1213 2 pcs

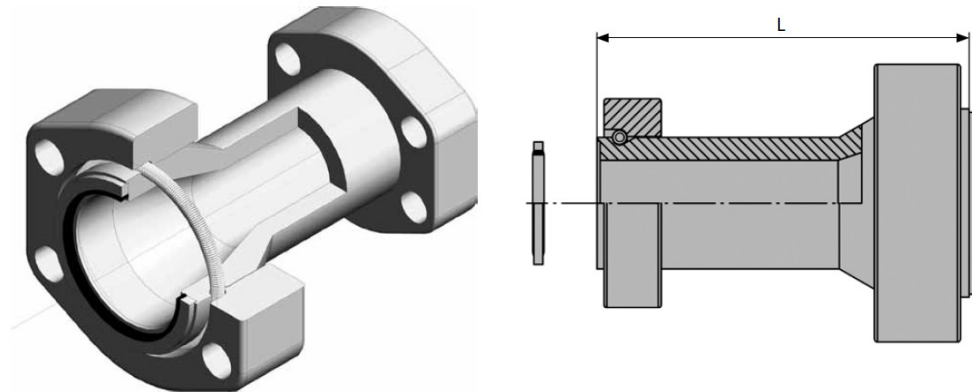
Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
3/4"	B312018	180	90	1.43	B12018
1"	B316018	180	97.5	1.64	B16018
1 1/4"	B320018	190	96	2.42	B20018
1 1/2"	B324018	240	116	3.63	B24018
2"	B332018	275	165	5.45	B32018
2 1/2"	B340018	450	200	8.21	B40018
3"	B348018	540	244	14.6	B48018

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Sizes 2 1/2" and 3" are not available in stainless steel
 Other materials on request

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 Retain rings page 68
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Reducer flange

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:

BRF312-308 includes:

B312	1 pc
B308	1 pc
B12-08	1 pc
B12	1 pc
B1213	1 pc
B08	1 pc
B0823	1 pc

Size	Complete Part No	L	Weight [kg]	Body Part No
3/4"-1/2"	BRF312-308	65	0.75	B12-08
1"-3/4"	BRF316-312	110	1.10	B16-12
1"-1/2"	BRF316-308	80	1.10	B16-08
1 1/4"-1"	BRF320-316	110	1.38	B20-16
1 1/4"-3/4"	BRF320-312	110	1.28	B20-12
1 1/2"-1 1/4"	BRF324-320	130	2.10	B24-20
1 1/2"-1"	BRF324-316	110	1.76	B24-16
2"-1 1/2"	BRF332-324	130	3.01	B32-24
2"-1 1/4"	BRF332-320	130	2.52	B32-20
2 1/2"-2"	BRF340-332	150	4.62	B40-32
2 1/2"-1 1/2"	BRF340-324	150	4.08	B40-24
3"-2 1/2"	BRF348-340	180	7.63	B48-40
3"-2"	BRF348-332	180	6.62	B48-32

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

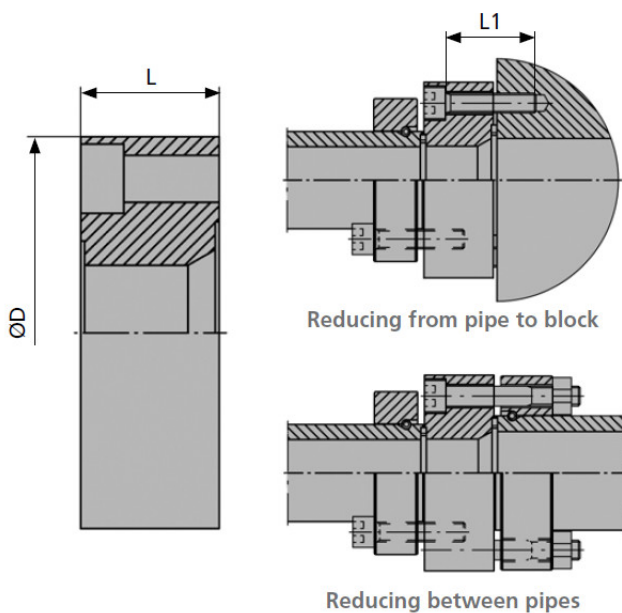
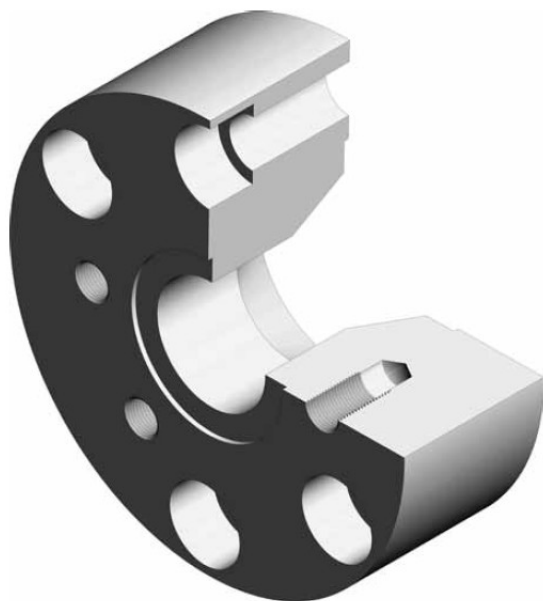
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Bonded seals page 69

Reducer block

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Size	Complete Part No	D	L	Bolt size DIN 912,8.8	Weight [kg]
3/4"-1/2"	BRBE312-308	80	25	M10x25	0.70
1"-3/4"	BRBE316-312	84	30	M10x30	0.90
1"-1/2"	BRBE316-308	84	30	M10x30	0.96
1 1/4"-1"	BRBE320-316	88	35	M10x35	1.40
1 1/4"-3/4"	BRBE320-312	88	35	M10x35	1.40
1 1/4"-1/2"	BRBE320-308	88	35	M12x45	1.46
1 1/2"-1 1/4"	BRBE324-320	103	40	M12x45	2.17
1 1/2"-1"	BRBE324-316	103	40	M12x45	2.22
1 1/2"-3/4"	BRBE324-312	103	40	M12x45	2.23
2"-1 1/2"	BRBE332-324	113	40	M12x45	2.50
2"-1 1/4"	BRBE332-320	113	40	M12x45	2.63
2"-1"	BRBE332-316	113	40	M12x45	2.35
2 1/2"-2"	BRBE340-332	128	40	M12x45	3.15
2 1/2"-1 1/2"	BRBE340-324	128	40	M12x45	3.28
2 1/2"-1 1/4"	BRBE340-320	128	40	M12x45	3.35
3"-2 1/2"	BRBE348-340	158	40	M16x45	4.86
3"-2"	BRBE348-332	158	40	M16x45	5.04
3"-1 1/2"	BRBE348-324	158	40	M16x45	5.11

Body material:

Standard= carbon steel, zinc plated

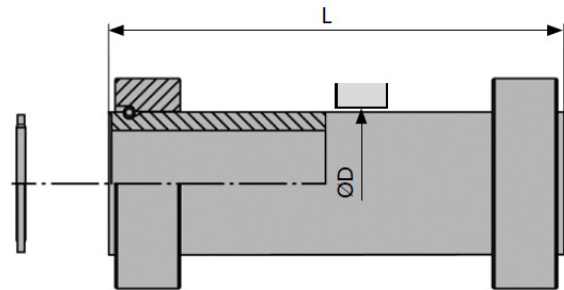
Stainless steel= add SS after Part No

Other material on request

L1= reducer block to block

Bulkhead flange

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:

B308019 includes:

B308	2 pcs
B08019	1 pc
B08	2 pcs
B0823	2 pcs

Size	Complete Part No	Required bulkhead opening OD	L	Weight [kg]	Body Part No
1/2"	B308109	27	170	1.20	B08019
3/4"	B312019	37	170	1.37	B12019
1"	B316019	40	170	1.51	B16019
1 1/4"	B320019	47	180	2.10	B20019
1 1/2"	B324019	57	180	3.04	B24019
2"	B332019	68	210	4.37	B32019
2 1/2"	B340019	82	220	6.77	B40019
3"	B348019	99	240	10.6	B48019

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

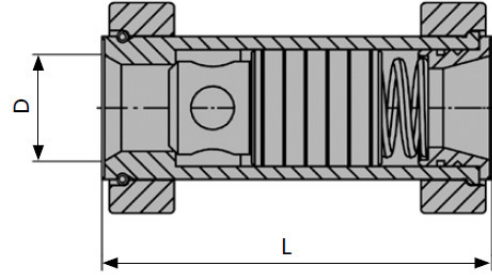
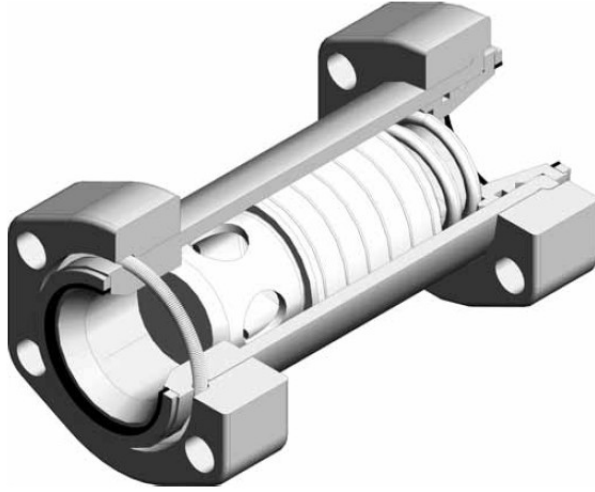
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Retain rings page 68

Bonded seals page 69

Non return valve

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:

B 312135 includes:

B312 2 pcs

B12135 1 pc

B12 2 pcs

B1213 2 pcs

Size	Complete Part No	W.P. [bar]	D	L	Weight [kg]
3/4"	B312135	350	21	100	1.3
1"	B316135	350	24	120	1.3
1 1/4"	B320135	280	31	140	2.0
1 1/2"	B324135	280	38	155	3.5
2"	B332135	280	49	180	4.4
2 1/2"	B340135	210	61	190	6.6
3"	B348135	210	73	200	9.6

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Standard opening pressure= 0.5 bar. On request 1 bar to 3 bar.

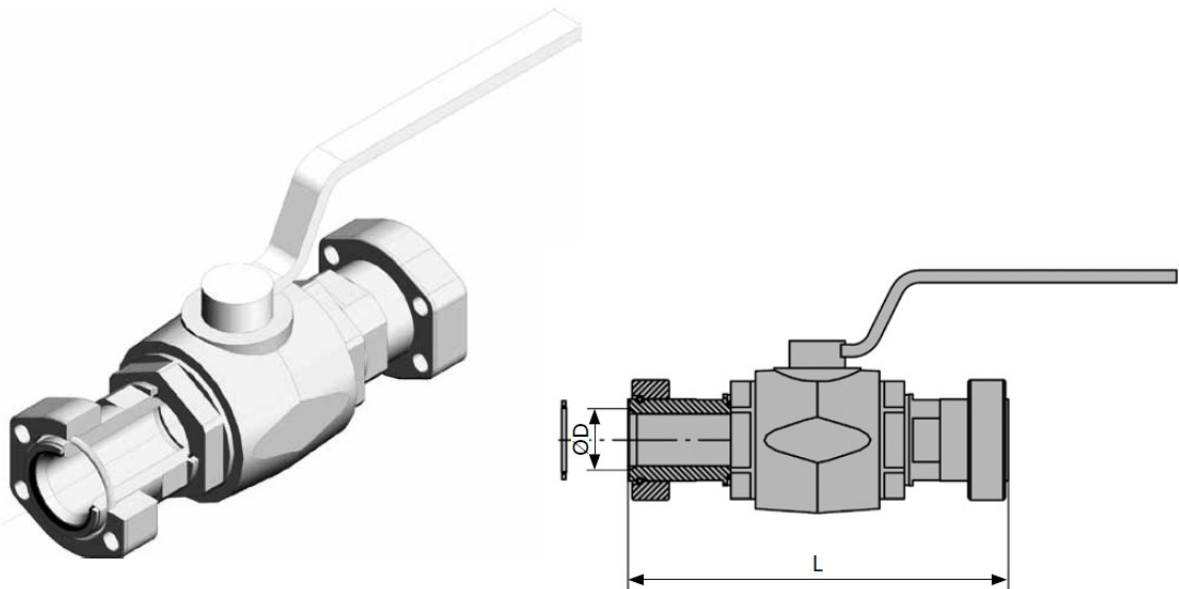
Flanges page 35

Retain rings page 68

Bonded seals page 69

Ball valve

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Complete Part No example:
B308129 includes:
 B308 2 pcs
 B08014 1 pc
 B08 2 pcs
 B0823 2 pcs
 xxx 2 pcs
 BKH 1/2" R 1 pc

Ball valve with BUTZ flange connection SAE 3000 psi

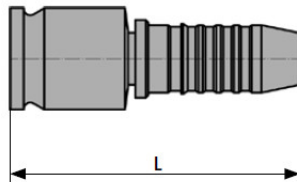
Size	Complete Part No	W.P. [bar]	Ball valve Part No.	L	D	Weight [kg]
1/2"	B308129	350	BKH 1/2 R	184	14	1.5
3/4"	B312129	350	BKH 3/4 R	218	21	2.6
1"	B316129	350	BKH 1 R	243	24	3.7
1 1/4"	B320129	280	MKHP 1 1/4 R	247	31	5.5
1 1/2"	B324129	280	MKHP 1 1/2 R	286	38	9.0
2"	B332129	280	MKHP 2 R	306	49	12.9

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No

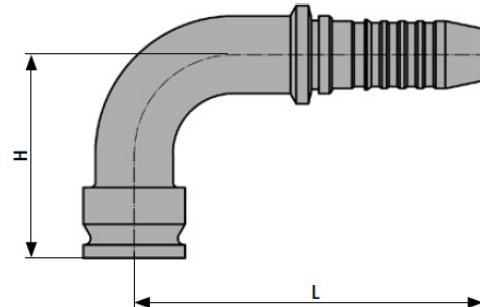
Flanges page 35
 Retain rings page 68
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BUTZ-retain ring hose couplings

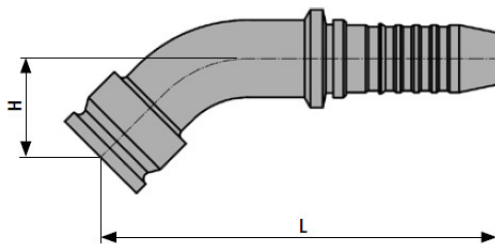
ISO 6162-1(SAE J518 Code 61)



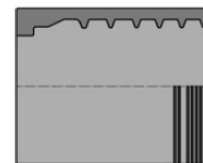
Straight



90°



45°



Ferrule

BUTZ-hOSE COUPLING, STRAIGHT

Size	Part No	L
3/4"	B12020G	100
1"	B16020G	111
1 1/4"	B20020G	128
1 1/2"	B24020G	134
2"	B32020G	200

BUTZ-hOSE COUPLING, 90°

Size	Part No	L	H
3/4"	B12021G	100	69
1"	B16021G	111	78
1 1/4"	B20021G	128	88
1 1/2"	B24021G	134	102
2"	B32021G	200	126

BUTZ-hOSE COUPLING, 45°

Size	Part No	L	H
3/4"	B12022G	132	36
1"	B16022G	152	38
1 1/4"	B20022G	186	44
1 1/2"	B24022G	200	52
2"	B32022G	274	60

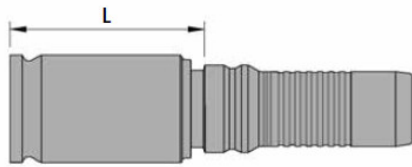
Ferrule

Size	Part No	D(after crimping)
3/4"	BG599-12	37.4-37.8
1"	BG599-16	44.3-44.7
1 1/4"	BG596-20	56.2-56.6
1 1/2"	BG599-24	63.3-63.7
2"	integrated in couplings	76.6-78.1

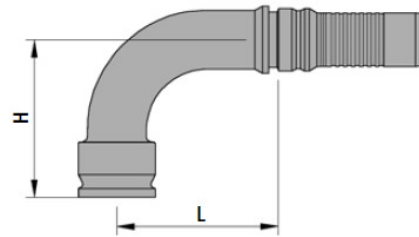
Component material:
Carbon steel, zinc plated

BUTZ-retain ring hose couplings, I-Series

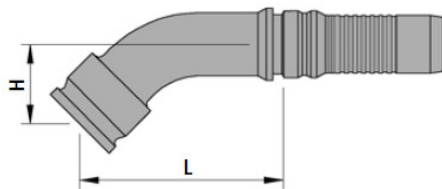
ISO 6162-1(SAE J518 Code 61)



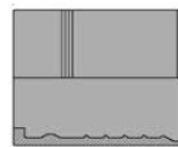
Straight



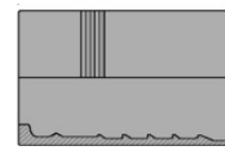
90°



45°



Type 594-



Type 596-

Ferrules

SAE 3000 PSI

BUTZ-hOSE COUPLING, straight

Size	Part No	L
3/4"	B12020-IT	44.2
1"	B16020-IT	48.3
1 1/4"	B20020-IT	82.3
1 1/2"	B24020-IT	83.4
2"	B32020-IT	96.9

BUTZ-hOSE COUPLING, 90°

Size	Part No	L	H
3/4"	B12021-IT	59.2	64
1"	B16021-IT	76.3	75
1 1/4"	B20021-IT	95.1	93
1 1/2"	B24021-IT	111.8	110
2"	B32021-IT	149.5	140

BUTZ-hOSE COUPLING, 45°

Size	Part No	L	H
3/4"	B12022-IT	72.2	32.0
1"	B16022-IT	88.3	36.1
1 1/4"	B20022-IT	112.1	43.8
1 1/2"	B24022-IT	128.8	51.7
2"	B32022-IT	166.4	65.9

Ferrules

Size	Gates hoses		Intertraco hoses		
	G5K/EFG5K	G6K/EFG6K	B4SH	BR13	BR15
	Part No	Part No	Part No	Part No	Part No
3/4"	B594-12	B594-12	B594-12	B594-12	B594-12
1"	B594-16	B594-16	B594-16	B594-16	B594-16
1 1/4"	B594-20	B594-20	B594-20	B594-20	B594-20
1 1/2"	B594-24	B594-24	B594-24	B594-24	B594-24
2"	B594-32	B594-32	B594-32	B594-32	B594-32

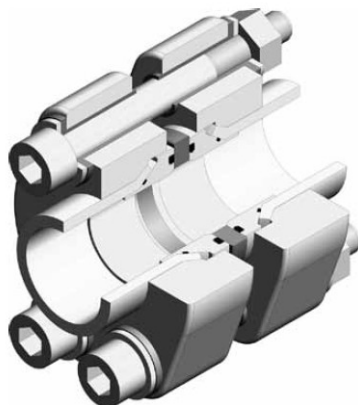
Component material:

Carbon steel, zinc plated

Straight couplings and ferrules available in stainless steel on request

Non-conductive flange connection

ISO 6162-1(SAE J518 Code 61)



Complete Part No example:

B 308/16x2FA-NC includes:

B308F	2 pcs
B08/16X2FA	2 pcs
B08/16F	2 pcs
OR18.64X3.53	2 pcs
OR12X1.0	2 pcs
B08099B/B-NC	1 pc
M6DIN125	8 pcs
M08-PF-308	8 pcs
M6X70DIN912-12.9	4 pcs
M6DIN934-10	4 pcs

Metric pipes

Size	Pipe Size	Complete Part No	Bolt Torque [Nm]	Weight [kg]
1/2"	16x2.0	B308/16X2FA-NC	15	0.46
1/2"	18x2.0	B308/18X2FA-NC	15	0.44
1/2"	20x2.0	B308/20X2FA-NC	15	0.46
1/2"	25x2.5	B308/25X2.5FA-NC	15	0.46
1/2"	25x3.0	B308/25X3FA-NC	15	0.46
3/4"	20x2.0	B312/20X2FA-NC	22	0.76
3/4"	20x2.5	B312/20X2.5FA-NC	22	0.65
3/4"	25x2.5	B312/25X2.5FA-NC	22	0.71
3/4"	25x3.0	B312/25X3FA-NC	22	0.71
3/4"	30x3.0	B312/30X3FA-NC	22	0.65
1"	25x2.5	B316/25X2.5FA-NC	30	0.97
1"	25x3.0	B316/25X3FA-NC	30	0.97
1"	30x3.0	B316/30X3FA-NC	30	0.90
1"	30x4.0	B316/30X4FA-NC	30	0.90
1"	38x4.0	B316/38X4FA-NC	30	0.78
1 1/4"	30x3.0	B320/30X3FA-NC	38	1.28
1 1/4"	30x4.0	B320/30X4FA-NC	38	1.05
1 1/4"	38x4.0	B320/38X4FA-NC	38	1.18
1 1/4"	38x5.0	B320/38X5FA-NC	38	1.11
1 1/4"	42x4.0	B320/42X4FA-NC	38	1.07
1 1/2"	30x3.0	B324/30X3FA-NC	52	1.91
1 1/2"	38x4.0	B324/38X4FA-NC	52	2.14
1 1/2"	42x4.0	B324/42X4FA-NC	52	2.04
1 1/2"	50x5.0	B324/50X5FA-NC	52	1.81
2"	50x5.0	B332/50X5FA-NC	61	2.96
2"	60x5.0	B332/60X5FA-NC	61	2.58
2"	60x6.0	B332/60X6FA-NC	61	2.58
2 1/2"	60x5.0	B340/60X5FA-NC	87	4.43
2 1/2"	73x7.0	B340/73X7FA-NC	87	4.12
2 1/2"	73x5.0	B340/73X5FA-NC	87	4.10
3"	73x5.0	B348/73X5FA-NC	139	7.50
3"	90x5.0	B348/90X5FA-NC	139	6.45

Flanges page 35

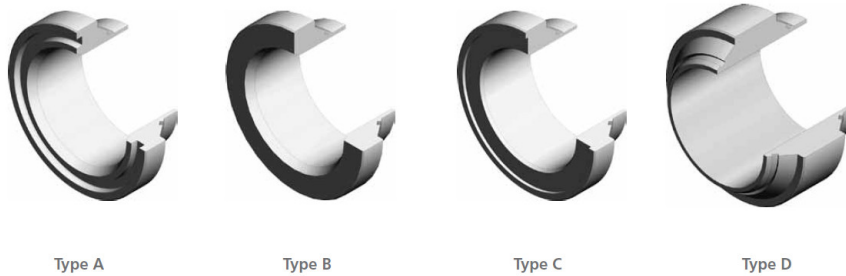
Inserts page 63

Sleeves page 65

O-rings page 71

Insert cones for flare flange connections

ISO 6162-1(SAE J518 Code 61)



Metric pipes

Size	Part No Type A	Part No Type B	Part No Type C	Part No Type D	Pipe Size
1/2"	B08/16X2FA	B08/16X2FB	B08/16X2FC	B08/16X2FD	16x2.0
1/2"	B08/18X2FA	B08/18X2FB	B08/18X2FC	B08/18X2FD	18x2.0
1/2"	B08/20X2FA	B08/20X2FB	B08/20X2FC	B08/20X2FD	20x2.0
1/2"	B08/25X2.5FA	B08/25X2.5FB	B08/25X2.5FC	B08/25X2.5FD	25x2.5
1/2"	B08/25X3FA	B08/25X3FB	B08/25X3FC	B08/25X3FD	25x3.0
3/4"	B12/20X2FA	B12/20X2FB	B12/20X2FC	B12/20X2FD	20x2.0
3/4"	B12/20X2.5FA	B12/20X2.5FB	B12/20X2.5FC	B12/20X2.5FD	20x2.5
3/4"	B12/25X2.5FA	B12/25X2.5FB	B12/25X2.5FC	B12/25X2.5FD	25x2.5
3/4"	B12/25X3FA	B12/25X3FB	B12/25X3FC	B12/25X3FD	25x3.0
3/4"	B12/30X3FA	B12/30X3FB	B12/30X3FC	B12/30X3FD	30x3.0
1"	B16/25X2.5FA	B16/25X2.5FB	B16/25X2.5FC	B16/25X2.5FD	25x2.5
1"	B16/25X3FA	B16/25X3FB	B16/25X3FC	B16/25X3FD	25x3.0
1"	B16/30X3FA	B16/30X3FB	B16/30X3FC	B16/30X3FD	30x3.0
1"	B16/30X4FA	B16/30X4FB	B16/30X4FC	B16/30X4FD	30x4.0
1"	B16/38X4FA	B16/38X4FB	B16/38X4FC	B16/38X4FD	38x4.0
1 1/4"	B20/30X3FA	B20/30X3FB	B20/30X3FC	B20/30X3FD	30x3.0
1 1/4"	B20/30X4FA	B20/30X4FB	B20/30X4FC	B20/30X4FD	30x4.0
1 1/4"	B20/38X4FA	B20/38X4FB	B20/38X4FC	B20/38X4FD	38x4.0
1 1/4"	B20/38X5FA	B20/38X5FB	B20/38X5FC	B20/38X5FD	38x5.0
1 1/4"	B20/42X4FA	B20/42X4FB	B20/42X4FC	B20/42X4FD	42x4.0
1 1/2"	B24/30X3FA	B24/30X3FB	B24/30X3FC	B24/30X3FD	30x3.0
1 1/2"	B24/38X4FA	B24/38X4FB	B24/38X4FC	B24/38X4FD	38x4.0
1 1/2"	B24/42X4FA	B24/42X4FB	B24/42X4FC	B24/42X4FD	42x4.0
1 1/2"	B24/50X5FA	B24/50X5FB	B24/50X5FC	B24/50X5FD	50x5.0
2"	B32/50X5FA	B32/50X5FB	B32/50X5FC	B32/50X5FD	50x5.0
2"	B32/60X5FA	B32/60X5FB	B32/60X5FC	B32/60X5FD	60x5.0
2"	B32/60X6FA	B32/60X6FB	B32/60X6FC	B32/60X6FD	60x6.0
2 1/2"	B40/60X5FA	B40/60X5FB	B40/60X5FC	B40/60X5FD	60x5.0
2 1/2"	B40/73X7FA	B40/73X7FB	B40/73X7FC	B40/73X7FD	73x7.0
2 1/2"	B40/73X5FA	B40/73X5FB	B40/73X5FC	B40/73X5FD	73x5.0
3"	B48/73X5FA	B48/73X5FB	B48/73X5FC	B48/73X5FD	73x5.0
3"	B48/90X5FA	B48/90X5FB	B48/90X5FC	B48/90X5FD	90x5.0

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request(Bonded seals and O-rings not included)

SAE 3000 PSI

Insert cones for flare flange connections

ISO 6162-1(SAE J518 Code 61)



Type A



Type B



Type C



Type D

SAE 3000 PSI

ANSI 36.10/36.19 pipes

Size	Part No Type A	Part No Type B	Part No Type C	Part No Type D	Pipe Size
1/2"	B08/32.3X3.73FA	B08/32.3X3.73FB	B08/32.3X3.73FC	B08/32.3X3.73FD	21.3X3.73
1/2"	B08/21.3X4.78FA	B08/21.3X4.78FB	B08/21.3X4.78FC	B08/21.3X4.78FD	21.3X4.78
3/4"	B12/26.7X3.91FA	B12/26.7X3.91FB	B12/26.7X3.91FC	B12/26.7X3.91FD	26.7X3.91
3/4"	B12/26.7X5.56FA	B12/26.7X5.56FB	B12/26.7X5.56FC	B12/26.7X5.56FD	26.7X5.56
1"	B16/33.4X3.38FA	B16/33.4X3.38FB	B16/33.4X3.38FC	B16/33.4X3.38FD	33.4X3.38
1"	B16/33.4X4.55FA	B16/33.4X4.55FB	B16/33.4X4.55FC	B16/33.4X4.55FD	33.4X4.55
1 1/4"	B20/42.2X3.56FA	B20/42.2X3.56FB	B20/42.2X3.56FC	B20/42.2X3.56FD	42.2X3.56
1 1/4"	B20/42.2X4.85FA	B20/42.2X4.85FB	B20/42.2X4.85FC	B20/42.2X4.85FD	42.2X4.85
1 1/2"	B24/48.3X3.68FA	B24/48.3X3.68FB	B24/48.3X3.68FC	B24/48.3X3.68FD	48.3X3.68
1 1/2"	B24/48.3X5.08FA	B24/48.3X5.08FB	B24/48.3X5.08FC	B24/48.3X5.08FD	48.3X5.08
2"	B32/60.3X3.91FA	B32/60.3X3.91FB	B32/60.3X3.91FC	B32/60.3X3.91FD	60.3X3.91
2"	B32/60.3X5.54FA	B32/60.3X5.54FB	B32/60.3X5.54FC	B32/60.3X5.54FD	60.3X5.54
2 1/2"	B40/73X5.16FA	B40/73X5.16FB	B40/73X5.16FC	B40/73X5.16FD	73X5.16
2 1/2"	B40/73X7FA	B40/73X7FB	B40/73X7FC	B40/73X7FD	73X7.01
3"	B48/88.9X5.49FA	B48/88.9X5.49FB	B48/88.9X5.49FC	B48/88.9X5.49FD	88.9X5.49
3"	B48/88.9X7.62FA	B48/88.9X7.62FB	B48/88.9X7.62FC	B48/88.9X7.62FD	88.9X7.62

Body material:

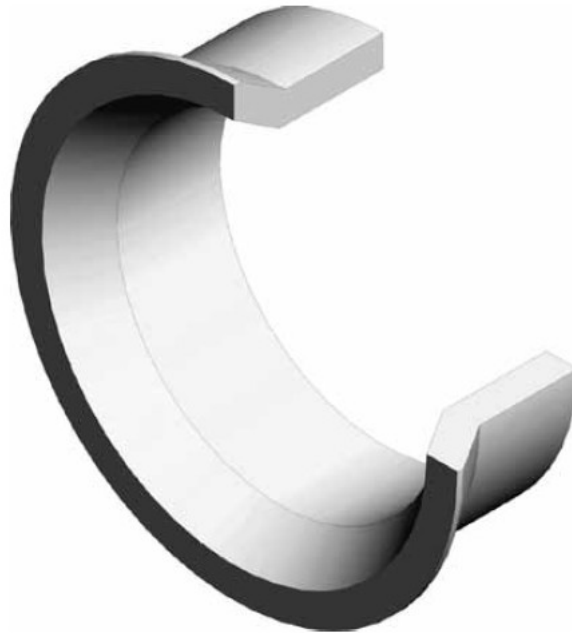
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request(Bonded seals and O-rings not included)

Sleeve

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Size	Part No	Pipe O.D. [mm]
1/2"	B08/16F	16
1/2"	B08/18F	18
1/2"	B08/20F	20
3/4"	B12/20F	20
3/4"	B12/25F	25
1"	B16/25F	25
1"	B16/30F	30
1 1/4"	B20/30F	30
1 1/4"	B20/38F	38
1 1/2"	B24/38F	38
1 1/2"	B24/42F	42
2"	B32/50F	50
2 1/2"	B40/60F	60
3"	B48/73F	73

Body material:

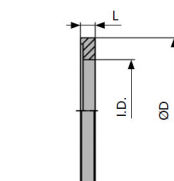
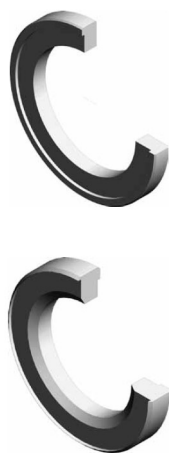
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Adapter

ISO 6162-1(SAE J518 Code 61)



Adapter between O-ring and bonded seal



Adapter between metric and ANSI 36.19

Please add 10 mm to bolt lengths mentioned on page 34.

Adapter between O-ring and standard bonded seal, metric pipes

Size	Part No	L	D	ID	Weight [kg]
1/2"	B08099	7	30	14	0.02
3/4"	B12099	7	40	20	0.05
1"	B16099	7	45	24	0.06
1 1/4"	B20099	7	50	30	0.07
1 1/2"	B24099	7	60	39	0.09
2"	B32099	7	70	49	0.12
2 1/2"	B40099	7	84	60	0.16
3"	B48099	7	102	72	0.22

Adapter between metric and ANSI 36.10/16.19 pipes

Size	Part No	A-Pipe	B-Pipe	Bonded seal		L	Weight [kg]
				1	2		
1/2"	B08087	26x6.0	21.3x7.5	0823	0821	10	0.03
3/4"	B12087	36x8.0	26.7x7.8	1213	0823	10	0.06
1"	B16087	39x7.5	33.4x6.4	1629	1633	10	0.06
1"	B16088	39x7.5	33.4x9.1	1629	1633	10	0.07
1 1/4"	B20087	46x8.5	42.2x6.4	2030	2042	10	0.07
1 1/4"	B20088	46x8.5	42.2x9.7	2030	2042	10	0.08
1 1/2"	B24087	56x8.5	48.3x7.1	2432	2448	10	0.10
1 1/2"	B24088	56x8.5	48.3x10.2	2432	2448	10	0.11
2"	B32087	66x8.5	60.3x8.7	3219	3260	10	0.13
2"	B32088	66x8.5	60.3x11.1	3219	3260	10	0.14

Body material:

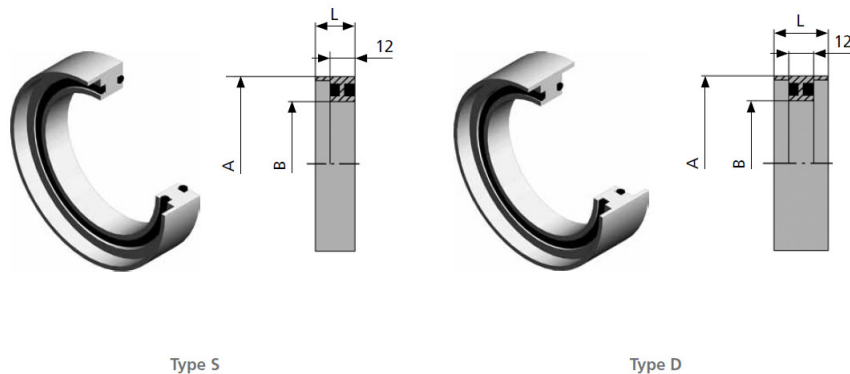
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Seal carrier

ISO 6162-1(SAE J518 Code 61)



Please add 10mm to bolt lengths mentioned on page 34.

Type S with O-rings between flange and block-metric pipes

Size	Part No	O-ring	A	B	L	Pipe Size
1/2"	B3220S	OR53.57X3.53	70	49	18	66x8.5
2 1/2"	B4020S	OR66.27X3.53	84	60	18	80x10
3"	B4820S	OR82.14X3.53	102	73	18	97x12

Type S with O-rings between flange and block-ANSI 36.10/36.19 pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220/60.3X8.7S	OR47.22X3.53	65	42.9	18	60.3x8.7
2 1/2"	B4020/73X9.53S	OR58.74X3.53	79	53.9	18	73.0x9.53
3"	B4820/88.9X11.13S	OR77.62X3.53	93	89.4	18	88.9x11.1

Type D with O-rings between flanges-metric pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220D	OR53.57X3.53	70	49	15	66x8.5
2 1/2"	B4020D	OR66.27X3.53	84	60	15	80x10
3"	B4820D	OR82.14X3.53	102	73	15	97x12

Type D with O-rings between flanges-ANSI 36.10/36.19 pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220/60.3X8.7D	OR47.22X3.53	65	42.9	15	60.3x8.7
2 1/2"	B4020/73X9.53D	OR58.74X3.53	79	53.9	15	73.0x9.53
3"	B4820/88.9X11.13D	OR77.62X3.53	93	89.4	15	88.9x11.1

Body material:

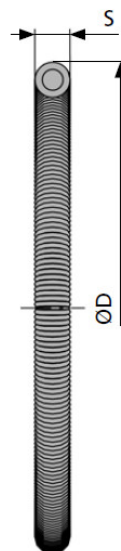
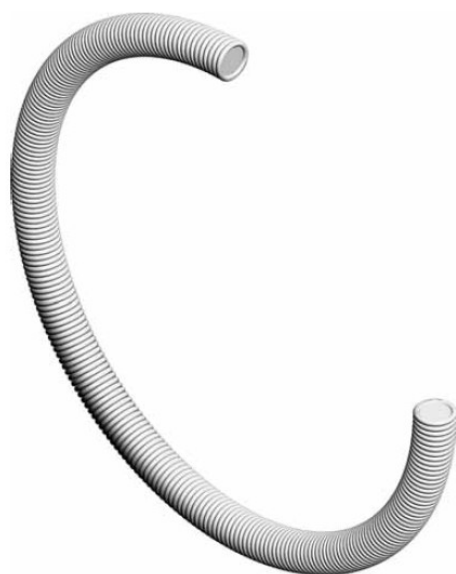
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Retain ring

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Metric pipes

Size	Part No	Pipe Size	D	S
1/2"	B08	26x6	30	4
3/4"	B12	36x8	39.3	4
1"	B16	39x7.5	44	5
1 1/4"	B20	46x8	51	5
1 1/2"	B24	56x8.5	61	5
2"	B32	66x8.5	71	5
2 1/2"	B40	80x10	85	5
3"	B48	97x12	103	6

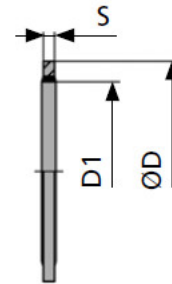
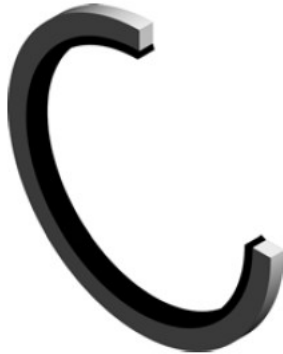
ANSI 36.10/36.19 pipes

Size	Part No	Pipe Size	D	S
1/2"	B08/21.3	21.3x7.5	25.2	4
3/4"	B12/26.7	26.7x7.8	30.4	4
1"	B16/33.4	33.4x9.1	38.4	5
1 1/4"	B20/42.2	42.2x9.7	47.4	5
1 1/2"	B24/48.3	48.3x10.2	53.4	5
2"	B32/60.3	60.3x11.1	65.2	5
2 1/2"	B40/73	73.0x14.02	77.9	5
3"	B48/88.9	88.9x15.2	94.7	6

Component material:
AISI 316, special treated

Bonded seals

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Bonded seal for metric pipe ends

Size	Standard Part No	SS Part No	S	D	D1
1/2"	B0823	B0823SS	2.03	23.80	17.28
3/4"	B1213	B1213SS	2.34	33.27	24.26
1"	B1629	B1629SS	2.34	34.93	27.05
1 1/4"	B2030	B2030SS	3.25	42.80	33.89
1 1/2"	B2432	B2432SS	3.25	52.38	42.93
2"	B3219	B3219SS	3.25	63.50	51.69
2 1/2"	B4037	B4037SS	3.25	75.00	64.39
3"	B4839	B4839SS	3.25	90.17	76.08

Bonded seal for ANSI 36.10/36.19 pipe ends

Size	Standard Part No	SS Part No	S	D	D1
1/2"	B0821	B0821SS	2.00	15.88	10.37
3/4"	B0823	B0823SS	2.03	23.80	17.28
1"	B1633	B1633SS	2.34	28.58	21.54
1 1/4"	B2042	B2042SS	3.34	39.00	31.00
1 1/2"	B2448	B2448SS	3.25	44.45	35.94
2"	B3260	B3260SS	3.25	55.50	46.50
2 1/2"	B4073	B4073SS	3.25	69.85	54.89
3"	B4888	B4888SS	4.00	83.80	70.00

Material possibilities:

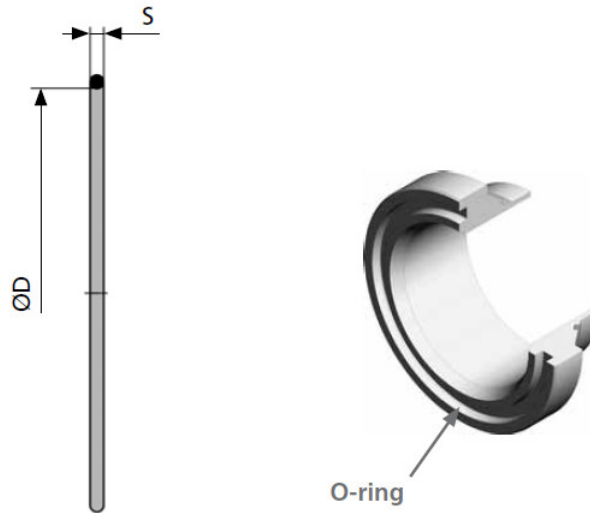
Standard= carbon steel, zinc plated with NBR

SS= stainless steel with NBR

Other materials and combinations on request.

O-ring between 37° insert cones

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Size	Part No	BUTZ Size
1/2"	OR18.64X3.53	08
3/4"	OR24.99X3.53	12
1"	OR32.92X3.53	16
1 1/4"	OR37.69X3.53	20
1 1/2"	OR47.22X3.53	24
2"	OR56.75X3.53	32
2 1/2"	OR69.44X3.53	40
3"	OR85.32X3.53	48

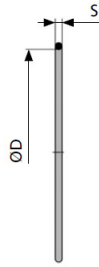
Material possibilities:

Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add V after Part No

Other materials on request.

O-ring 2 for insert cones ISO 6162-1(SAE J518 Code 61)



Metric pipes

Pipe Size	Part No
16x2.0	OR12X1.0
18x2.0	OR14X1.0
20x2.0	OR16X1.0
20x2.5	OR15X1.0
25x2.5	OR20X1.0
25x3.0	OR19X1.0
30x3.0	OR23X1.0
30x4.0	OR22X1.0
38x4.0	OR30X1.0
38x5.0	OR28X1.0
42x3.0	OR34X1.0
42x4.0	OR34X1.0
50x5.0	OR41X1.78
60x5.0	OR50.52X1.78
60x6.0	OR47.35X1.78
73x7.0	OR56.87X1.78
73x5.0	OR63.22X1.78
90x5.0	OR79X1.78

ANSI 36.10/36.19 pipes

Pipe Size	Part No
21.3x3.73	OR14X1.0
21.3x4.78	OR12X1.0
26.7x3.91	OR20X1.0
26.7x5.56	OR16X1.0
33.4x3.38	OR25X1.0
33.4x4.55	OR23X1.0
42.2x3.56	OR34X1.0
42.2x4.85	OR32X1.0
48.3x3.68	OR41X1.78
48.3x5.08	OR37.82X1.78
60.3x3.91	OR50.52X1.78
60.3x5.54	OR47.35X1.78
73.0x5.16	OR63.22X1.78
73.0x7.01	OR56.87X1.78
88.9x5.49	OR79X1.78
88.9x7.62	OR72.75X1.78

Material possibilities:

Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add VI after Part No

Other materials on request.



QUALITY MAKES THE DIFFERENCE

ED-Seal for male thread couplings

ISO 6162-1(SAE J518 Code 61)



SAE 3000 PSI

Part No
ED R 1/2 VI
ED R 3/4 M26X1.5 27X2 VI
ED R 1 + M33X2 VI
ED R 1 1/4 + M42X2 VI
ED R 1 1/2 + M48X2 VI

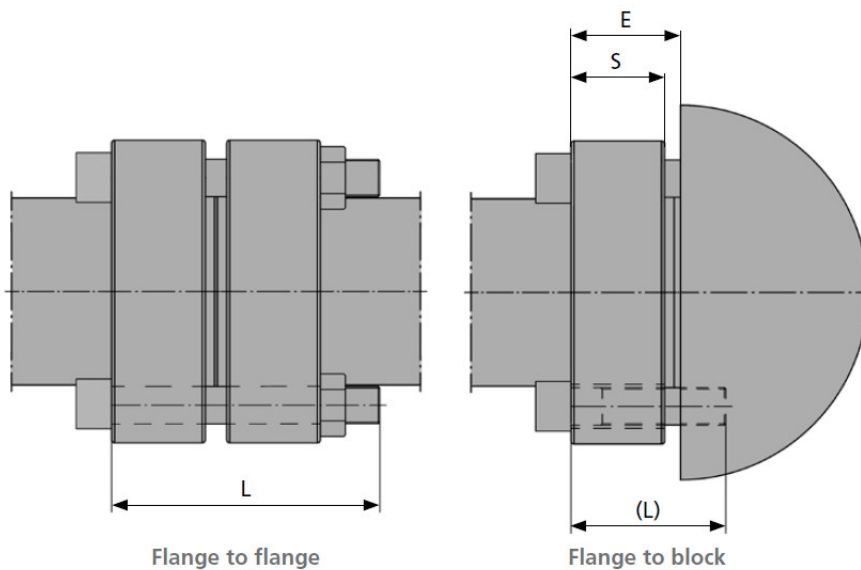
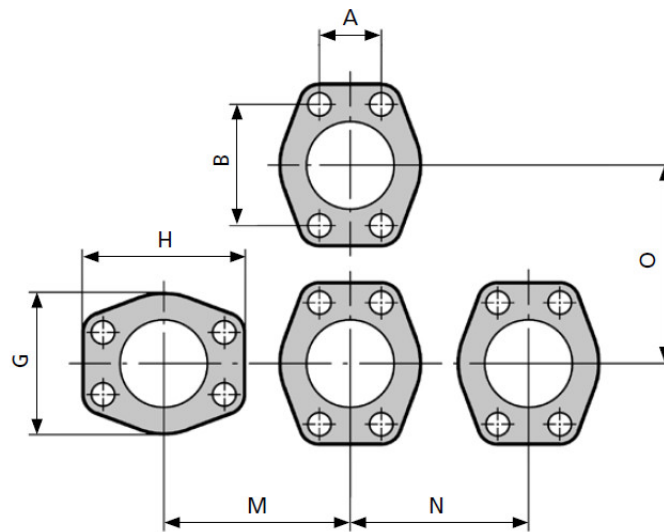
Material: FPM

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Flange dimensions

ISO 6162-2(SAE J518 Code 62)



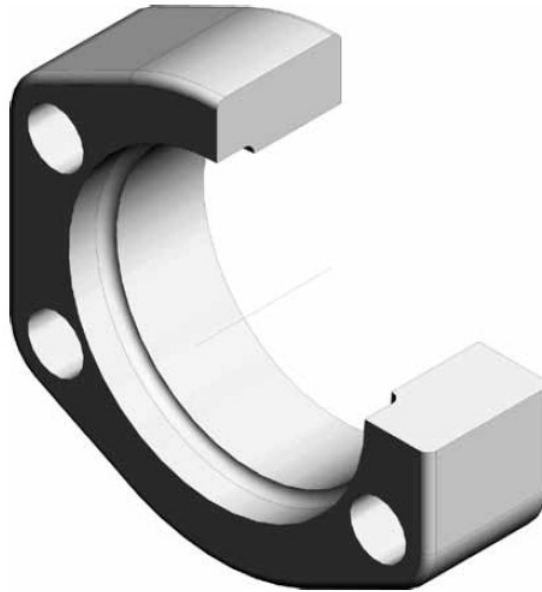
Size	Part No	A	B	G	H	M	N	O	S	E	Bolt L DIN 912,8.8	W.P. [bar]
1/2"	B608	18.2	40.5	48	56	56	53	59	20	24	M8X60(35)	420
3/4"	B612	23.9	50.8	60	71	70	66	75	25	29	M10X70(40)	420
1"	B616	27.8	57.2	70	81	80	75	84	25	29	M12X70(45)	420
1 1/4"	B620	31.7	66.7	78	95	90	83	99	30	35	M14X90(50)	420
1 1/2"	B624	36.5	79.4	95	113	108	101	116	35	40	M16X100(60)	420
2"	B632	44.5	96.8	114	133	128	120	137	40	45	M20X110(70)	420
2 1/2"	B640	58.7	123.8	150	175	167	156	180	50	55	M24X130(90)	420
3"	B648	71.4	152.4	178	215	201	184	220	50	58	M30X130(100)	420

L=flange to flange

(L)=flange to block

Retain ring flanges

ISO 6162-2(SAE J518 Code 62)



Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	26	B608	B608HDG	B608SS	420	0.20
3/4"	36	B612	B612HDG	B612SS	420	0.38
1"	39	B616	B616HDG	B616SS	420	0.50
1 1/4"	46	B620	B620HDG	B620SS	420	0.87
1 1/2"	56	B624	B624HDG	B624SS	420	1.40
2"	66	B632	B632HDG	B632SS	420	2.18
2 1/2"	80	B640	B640HDG	B640SS	420	5.69
3"	97	B648	B648HDG	B648SS	420	7.80

ANSI 36.10/36.19 pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	21.3	B608/21.3	B608/21.3HDG	B608/21.3SS	420	0.28
3/4"	26.7	B612/26.7	B612/26.7HDG	B612/26.7SS	420	0.46
1"	33.4	B616/33.4	B616/33.4HDG	B616/33.4SS	420	0.58
1 1/4"	42.2	B620/42.2	B620/42.2HDG	B620/42.2SS	420	1.00
1 1/2"	48.3	B624/48.3	B624/48.3HDG	B624/48.3SS	420	1.80
2"	60.3	B632/60.3	B632/60.3HDG	B632/60.3SS	420	2.35
2 1/2"	73	B640/73	B640/73HDG	B640/73SS	420	5.95
3"	88.9	B648/88.9	B648/88.9HDG	B648/88.9SS	420	8.10

Material possibilities:

Standard= carbon steel, zinc plated

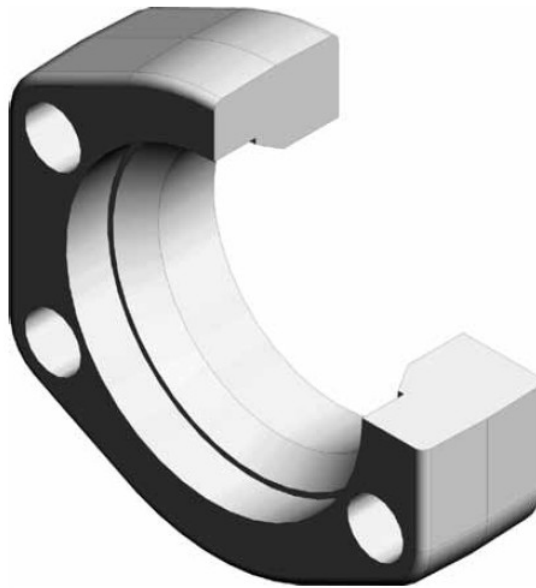
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Flare flanges

ISO 6162-2(SAE J518 Code 62)



Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	25	B608F	B608FHDG	B608FSS	420	0.20
3/4"	30	B612F	B612FHDG	B612FSS	420	0.42
1"	38	B616F	B616FHDG	B616FSS	420	0.51
1 1/4"	42	B620F	B620FHDG	B620FSS	420	0.86
1 1/2"	50	B624F	B624FHDG	B624FSS	420	1.45
2"	60	B632F	B632FHDG	B632FSS	420	2.31
2 1/2"	73	B640F	B640FHDG	B640FSS	420	5.95
3"	90	B648F	B648FHDG	B648FSS	420	7.95

ANSI 36.10/36.19 pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1/2"	21.3	B608F/21.3	B608F/21.3HDG	B608F/21.3SS	420	0.30
3/4"	26.7	B612F/26.7	B612F/26.7HDG	B612F/26.7SS	420	0.50
1"	33.4	B616F/33.4	B616F/33.4HDG	B616F/33.4SS	420	0.60
1 1/4"	42.2	B620F/42.2	B620F/42.2HDG	B620F/42.2SS	420	1.00
1 1/2"	48.3	B624F/48.3	B624F/48.3HDG	B624F/48.3SS	420	1.90
2"	60.3	B632F/60.3	B632F/60.3HDG	B632F/60.3SS	420	2.50
2 1/2"	73	B640F	B640FHDG	B640FSS	420	5.95
3"	88.9	B648F/88.9	B648F/88.9HDG	B648F/88.9SS	420	8.10

Material possibilities:

Standard= carbon steel, zinc plated

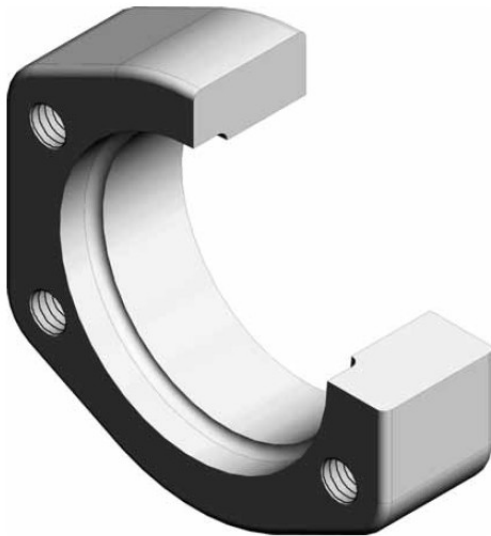
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

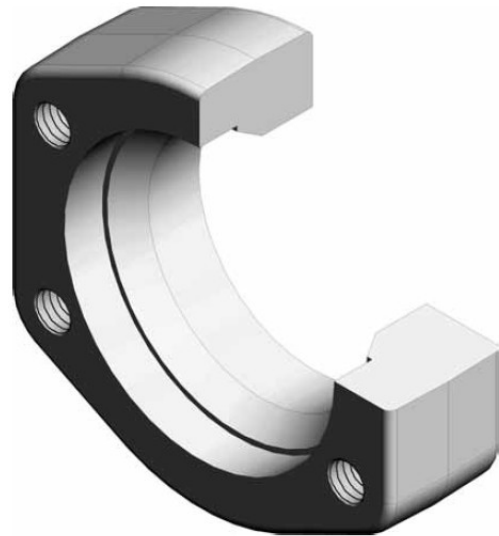
Other materials on request.

Counter flanges

ISO 6162-2(SAE J518 Code 62)



Retain ring flange with threads



Flare flange with threads

SAE 6000 PSI

Retain ring flange

Size	Part No	Bolt, DIN 912, 8.8	Weight[kg]
1/2"	B608/M8	M8x45	0.20
3/4"	B612/M10	M10x60	0.38
1"	B616/M12	M12x60	0.50
1 1/4"	B620/M14	M14x70	0.87
1 1/2"	B624/M16	M16x80	1.40
2"	B632/M20	M20x90	2.18

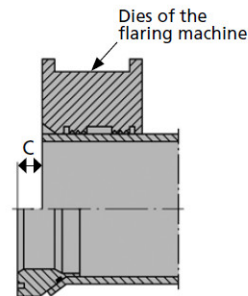
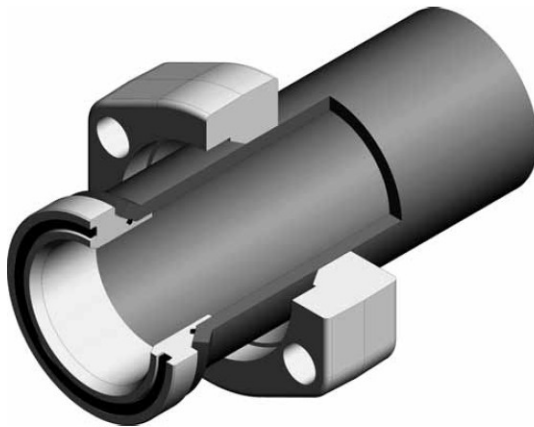
Flare flange

Size	Part No	Bolt, DIN 912, 8.8	Weight[kg]
1/2"	B608F/M8	M8x45	0.20
3/4"	B612F/M10	M10x60	0.42
1"	B616F/M12	M12x60	0.51
1 1/4"	B620F/M14	M14x70	0.86
1 1/2"	B624F/M16	M16x80	1.45
2"	B632F/M20	M20x90	2.35

Material possibilities:
 Standard= carbon steel, zinc plated
 -SS= stainless steel
 Other materials on request.

Flare flange connection - Type A

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/16x2FA includes:
 B608F 1 pc
 B08/16X2FA 1 pc
 B08/16F 1 pc
 OR18.64X3.53 1 pc
 OR12X1.0 1pc

Metric pipes

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B608/16X2FA	10	0.27	B08/16X2FA	OR18.64X3.53	OR12X1.0	B08/16F
1/2"	18x2.0	B608/18X2FA	11	0.27	B08/18X2FA	OR18.64X3.53	OR14X1.0	B08/18F
1/2"	20x2.0	B608/20X2FA	9	0.26	B08/20X2FA	OR18.64X3.53	OR16X1.0	B08/20F
1/2"	25x2.5	B608/25X2.5FA	9	0.26	B08/25X2.5FA	OR18.64X3.53	OR20X1.0	None
1/2"	25x3.0	B608/25X3FA	9	0.24	B08/25X3FA	OR18.64X3.53	OR19X1.0	None
3/4"	20x2.0	B612/20X2FA	12	0.53	B12/20X2FA	OR24.99X3.53	OR16X1.0	B12/20F
3/4"	20x2.5	B612/20X2.5FA	12	0.54	B12/20X2.5FA	OR24.99X3.53	OR15X1.0	B12/20F
3/4"	25x2.5	B612/25X2.5FA	9	0.50	B12/25X2.5FA	OR24.99X3.53	OR20X1.0	B12/25F
3/4"	25x3.0	B612/25X3FA	10	0.51	B12/25X3FA	OR24.99X3.53	OR19X1.0	B12/25F
3/4"	30x3.0	B612/30X3FA	9	0.48	B12/30X3FA	OR24.99X3.53	OR23X1.0	None
3/4"	30x4.0	B612/30X4FA	9	0.50	B12/30X4FA	OR24.99X3.53	OR22X1.0	None
1"	25x2.5	B616/25X2.5FA	9	0.69	B16/25X2.5FA	OR32.92X3.53	OR20X1.0	B16/25F
1"	25x3.0	B616/25X3FA	9	0.66	B16/25X3FA	OR32.92X3.53	OR19X1.0	B16/25F
1"	30x3.0	B616/30X3FA	7	0.66	B16/30X3FA	OR32.92X3.53	OR23X1.0	B16/30F
1"	30x4.0	B616/30X4FA	7	0.66	B16/30X4FA	OR32.92X3.53	OR22X1.0	B16/30F
1"	38x4.0	B616/38X4FA	10	0.60	B16/38X4FA	OR32.92X3.53	OR30X1.0	None
1 1/4"	30x3.0	B620/30X3FA	10	1.08	B20/30X3FA	OR37.69X3.53	OR23X1.0	B20/30F
1 1/4"	30x4.0	B620/30X4FA	10	1.08	B20/30X4FA	OR37.69X3.53	OR22X1.0	B20/30F
1 1/4"	38x4.0	B620/38X4FA	9	1.01	B20/38X4FA	OR37.69X3.53	OR30X1.0	B20/38F
1 1/4"	38x5.0	B620/38X5FA	9	1.00	B20/38X5FA	OR37.69X3.53	OR28X1.0	B20/38F
1 1/4"	42x4.0	B620/42X4FA	11	0.98	B20/42X4FA	OR37.69X3.53	OR34X1.0	None
1 1/2"	30x3.0	B624/30X3FA	14	1.16	B24/30X3FA	OR47.22X3.53	OR23X1.0	B24/30F
1 1/2"	38x4.0	B624/38X4FA	13	1.76	B24/38X4FA	OR47.22X3.53	OR30X1.0	B24/38F
1 1/2"	38x5.0	B624/38X5FA	13	1.73	B24/38X5FA	OR47.22X3.53	OR28X1.0	B24/38F
1 1/2"	42x4.0	B624/42X4FA	13	1.71	B24/42X4FA	OR47.22X3.53	OR34X1.0	B24/42F
1 1/2"	50x5.0	B624/50X5FA	11	1.60	B24/50X5FA	OR47.22X3.53	OR41X1.78	None
1 1/2"	50x6.0	B624/50X6FA	11	1.70	B24/50X6FA	OR47.22X3.53	OR37.82X1.78	None
2"	50x5.0	B332/50X5FA	11	2.70	B32/50X5FA	OR56.75X3.53	OR41X1.78	B32/50F
2"	60x5.0	B332/60X5FA	11	2.52	B32/60X5FA	OR56.75X3.53	OR50.52X1.78	None
2"	60x6.0	B332/60X6FA	11	2.56	B32/60X6FA	OR56.75X3.53	OR47.37X1.78	None

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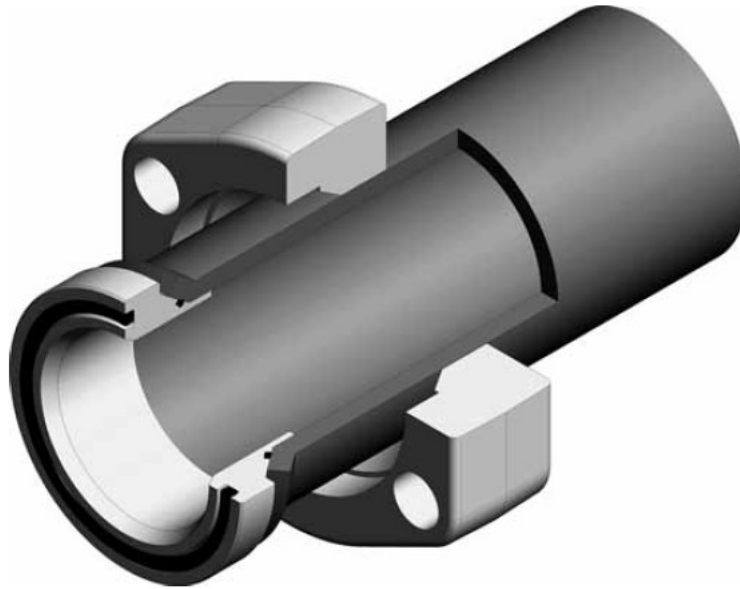
Inserts page 103

Sleeves page 105

O-rings page 110, 111

Flare flange connection - Type A

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/21.3X3.73FA includes:
 B608F/21.3 1 pc
 B08/21.3X3.73FA 1 pc
 OR18.64X3.53 1 pc
 OR14X1.0 1 pc

SAE 6000 PSI

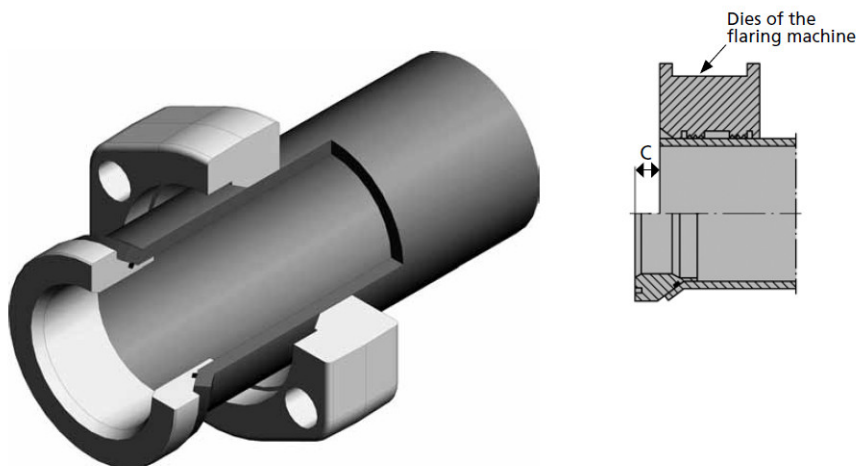
ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B608/21.3X3.73FA	0.2	B08/21.3X3.73FA	OR18.64X3.53	OR14X1.0
1/2"	21.3x4.78	B608/21.3X4.78FA	0.2	B08/21.3X4.78FA	OR18.64X3.53	OR12X1.0
3/4"	26.7x3.91	B612/26.7X3.91FA	0.3	B12/26.7X3.91FA	OR25X3.53	OR20X1.0
3/4"	26.7x5.56	B612/26.7X5.56FA	0.3	B12/26.7X5.56FA	OR25X3.53	OR16X1.0
1"	33.4x3.38	B616/33.4X3.38FA	0.5	B16/33.4X3.38FA	OR32.92X3.53	OR28X1.0
1"	33.4x4.55	B616/33.4X4.55FA	0.5	B16/33.4X4.55FA	OR32.92X3.53	OR23X1.0
1 1/4"	42.2x3.56	B620/42.2X3.56FA	0.6	B20/42.2X3.56FA	OR37.69X3.53	OR34X1.0
1 1/4"	42.2x4.85	B620/42.2X4.85FA	0.6	B20/42.2X4.85FA	OR37.69X3.53	OR32X1.0
1 1/2"	48.3x3.68	B624/48.3X3.68FA	0.9	B24/48.3X3.68FA	OR47.22X3.53	OR41X1.78
1 1/2"	48.3x5.08	B624/48.3X5.08FA	0.9	B24/48.3X5.08FA	OR47.22X3.53	OR37.82X1.78
2"	60.3x3.91	B632/60.3X3.91FA	1.4	B32/60.3X3.91FA	OR56.75X3.53	OR53.70X1.78
2"	60.3x5.54	B632/60.3X5.54FA	1.4	B32/60.3X5.54FA	OR56.75X3.53	OR47.35X1.78

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Flare flange connection - Type B

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/16X2FB includes:
 B608F 1 pc
 B08/16X2FB 1 pc
 B08/16F 1 pc
 OR12X1.0 1 pc

Metric pipes

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B608/16X2FB	10	0.27	B08/16X2FB	OR12X1.0	B08/16F
1/2"	18x2.0	B608/18X2FB	11	0.27	B08/18X2FB	OR14X1.0	B08/18F
1/2"	20x2.0	B608/20X2FB	9	0.26	B08/20X2FB	OR16X1.0	B08/20F
1/2"	25x2.5	B608/25X2.5FB	9	0.26	B08/25X2.5FB	OR20X1.0	None
1/2"	25x3.0	B608/25X3FB	9	0.24	B08/25X3FB	OR19X1.0	None
3/4"	20x2.0	B612/20X2FB	12	0.53	B12/20X2FB	OR16X1.0	B12/20F
3/4"	20x2.5	B612/20X2.5FB	12	0.54	B12/20X2.5FB	OR15X1.0	B12/20F
3/4"	25x2.5	B612/25X2.5FB	9	0.50	B12/25X2.5FB	OR20X1.0	B12/25F
3/4"	25x3.0	B612/25X3FB	10	0.51	B12/25X3FB	OR19X1.0	B12/25F
3/4"	30x3.0	B612/30X3FB	9	0.48	B12/30X3FB	OR23X1.0	None
3/4"	30x4.0	B612/30X4FB	9	0.50	B12/30X4FB	OR22X1.0	None
1"	25x2.5	B616/25X2.5FB	9	0.69	B16/25X2.5FB	OR20X1.0	B16/25F
1"	25x3.0	B616/25X3FB	9	0.66	B16/25X3FB	OR19X1.0	B16/25F
1"	30x3.0	B616/30X3FB	7	0.66	B16/30X3FB	OR23X1.0	B16/30F
1"	30x4.0	B616/30X4FB	7	0.66	B16/30X4FB	OR22X1.0	B16/30F
1"	38x4.0	B616/38X4FB	10	0.60	B16/38X4FB	OR30X1.0	None
1 1/4"	30x3.0	B620/30X3FB	10	1.08	B20/30X3FB	OR23X1.0	B20/30F
1 1/4"	30x4.0	B620/30X4FB	10	1.08	B20/30X4FB	OR22X1.0	B20/30F
1 1/4"	38x4.0	B620/38X4FB	9	1.01	B20/38X4FB	OR30X1.0	B20/38F
1 1/4"	38x5.0	B620/38X5FB	9	1.00	B20/38X5FB	OR28X1.0	B20/38F
1 1/4"	42x4.0	B620/42X4FB	11	0.98	B20/42X4FB	OR34X1.0	None
1 1/2"	30x3.0	B624/30X3FB	14	1.16	B24/30X3FB	OR23X1.0	B24/30F
1 1/2"	38x4.0	B624/38X4FB	13	1.76	B24/38X4FB	OR30X1.0	B24/38F
1 1/2"	38x5.0	B624/38X5FB	13	1.73	B24/38X5FB	OR28X1.0	B24/38F
1 1/2"	42x4.0	B624/42X4FB	13	1.71	B24/42X4FB	OR34X1.0	B24/42F
1 1/2"	50x5.0	B624/50X5FB	11	1.60	B24/50X5FB	OR41X1.78	None
1 1/2"	50x6.0	B624/50X6FB	11	1.70	B24/50X6FB	OR37.82X1.78	None
2"	50x5.0	B332/50X5FB	11	2.70	B32/50X5FB	OR41X1.78	B32/50F
2"	60x5.0	B332/60X5FB	11	2.52	B32/60X5FB	OR50.52X1.78	None
2"	60x6.0	B332/60X6FB	11	2.56	B32/60X6FB	OR47.37X1.78	None

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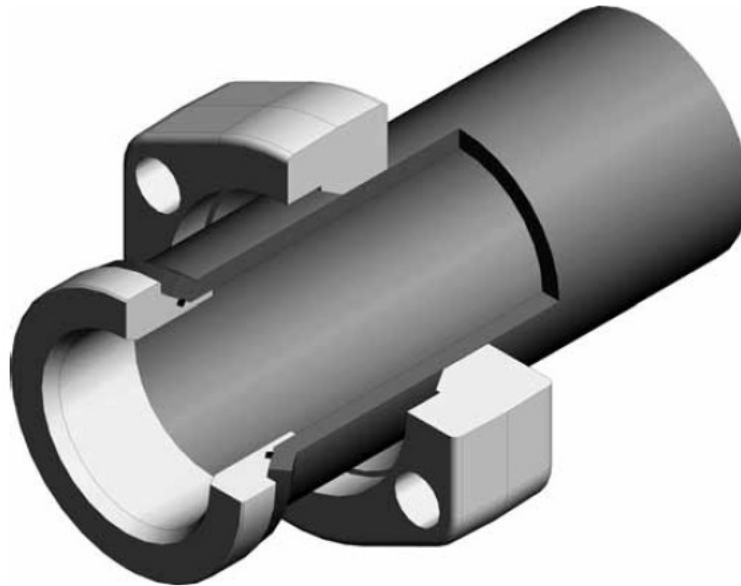
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Flare flange connection - Type B

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/21.3X3.73FB includes:
 B608F/21.3 1 pc
 B08/21.3X3.73FB 1 pc
 OR14X1.0 1 pc

SAE 6000 PSI

ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B608/21.3X3.73FB	0.2	B08/21.3X3.73FB	OR14X1.0
1/2"	21.3x4.78	B608/21.3X4.78FB	0.2	B08/21.3X4.78FB	OR12X1.0
3/4"	26.7x3.91	B612/26.7X3.91FB	0.3	B12/26.7X3.91FB	OR20X1.0
3/4"	26.7x5.56	B612/26.7X5.56FB	0.3	B12/26.7X5.56FB	OR16X1.0
1"	33.4x3.38	B616/33.4X3.38FB	0.5	B16/33.4X3.38FB	OR28X1.0
1"	33.4x4.55	B616/33.4X4.55FB	0.5	B16/33.4X4.55FB	OR23X1.0
1 1/4"	42.2x3.56	B620/42.2X3.56FB	0.6	B20/42.2X3.56FB	OR34X1.0
1 1/4"	42.2x4.85	B620/42.2X4.85FB	0.6	B20/42.2X4.85FB	OR32X1.0
1 1/2"	48.3x3.68	B624/48.3X3.68FB	0.9	B24/48.3X3.68FB	OR41X1.78
1 1/2"	48.3x5.08	B624/48.3X5.08FB	0.9	B24/48.3X5.08FB	OR37.82X1.78
2"	60.3x3.91	B632/60.3X3.91FB	1.4	B32/60.3X3.91FB	OR53.70X1.78
2"	60.3x5.54	B632/60.3X5.54FB	1.4	B32/60.3X5.54FB	OR47.35X1.78

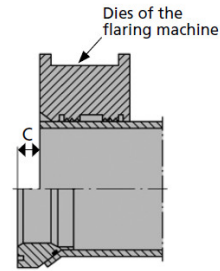
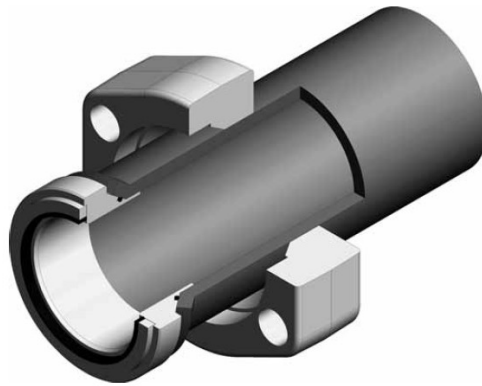
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Flare flange connection - Type C

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/16X2FC includes:
 B608F 1 pc
 B08/16X2FC 1 pc
 B08/16 1 pc
 B0823 1 pc
 OR12X1.0 1 pc

Metric pipes

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring 2 Part No	Bonded Seal Part No	Sleeve Part No
1/2"	16x2.0	B608/16X2FC	10	0.27	B08/16X2FC	OR12X1.0	0823	B08/16F
1/2"	18x2.0	B608/18X2FC	11	0.27	B08/18X2FC	OR14X1.0	0823	B08/18F
1/2"	20x2.0	B608/20X2FC	9	0.26	B08/20X2FC	OR16X1.0	0823	B08/20F
1/2"	25x2.5	B608/25X2.5FC	9	0.26	B08/25X2.5FC	OR20X1.0	0823	None
1/2"	25x3.0	B608/25X3FC	9	0.24	B08/25X3FC	OR19X1.0	0823	None
3/4"	20x2.0	B612/20X2FC	12	0.53	B12/20X2FC	OR16X1.0	1213	B12/20F
3/4"	20x2.5	B612/20X2.5FC	12	0.54	B12/20X2.5FC	OR15X1.0	1213	B12/20F
3/4"	25x2.5	B612/25X2.5FC	9	0.50	B12/25X2.5FC	OR20X1.0	1213	B12/25F
3/4"	25x3.0	B612/25X3FC	10	0.51	B12/25X3FC	OR19X1.0	1213	B12/25F
3/4"	30x3.0	B612/30X3FC	9	0.48	B12/30X3FC	OR23X1.0	1213	None
3/4"	30x4.0	B612/30X4FC	9	0.50	B12/30X4FC	OR22X1.0	1213	None
1"	25x2.5	B616/25X2.5FC	9	0.69	B16/25X2.5FC	OR20X1.0	1629	B16/25F
1"	25x3.0	B616/25X3FC	9	0.66	B16/25X3FC	OR19X1.0	1629	B16/25F
1"	30x3.0	B616/30X3FC	7	0.66	B16/30X3FC	OR23X1.0	1629	B16/30F
1"	30x4.0	B616/30X4FC	7	0.66	B16/30X4FC	OR22X1.0	1629	B16/30F
1"	38x4.0	B616/38X4FC	10	0.60	B16/38X4FC	OR30X1.0	1629	None
1 1/4"	30x3.0	B620/30X3FC	10	1.08	B20/30X3FC	OR23X1.0	2030	B20/30F
1 1/4"	30x4.0	B620/30X4FC	10	1.08	B20/30X4FC	OR22X1.0	2030	B20/30F
1 1/4"	38x4.0	B620/38X4FC	9	1.01	B20/38X4FC	OR30X1.0	2030	B20/38F
1 1/4"	38x5.0	B620/38X5FC	9	1.00	B20/38X5FC	OR28X1.0	2030	B20/38F
1 1/4"	42x4.0	B620/42X4FC	11	0.98	B20/42X4FC	OR34X1.0	2030	None
1 1/2"	30x3.0	B624/30X3FC	14	1.16	B24/30X3FC	OR23X1.0	2432	B24/30F
1 1/2"	38x4.0	B624/38X4FC	13	1.76	B24/38X4FC	OR30X1.0	2432	B24/38F
1 1/2"	38x5.0	B624/38X5FC	13	1.73	B24/38X5FC	OR28X1.0	2432	B24/38F
1 1/2"	42x4.0	B624/42X4FC	13	1.71	B24/42X4FC	OR34X1.0	2432	B24/42F
1 1/2"	50x5.0	B624/50X5FC	11	1.60	B24/50X5FC	OR41X1.78	2432	None
1 1/2"	50x6.0	B62450X6FC	11	1.70	B24/50X6FC	OR37.82X1.78	2432	None
2"	50x5.0	B332/50X5FC	11	2.70	B32/50X5FC	OR41X1.78	3219	B32/50F
2"	60x5.0	B332/60X5FC	11	2.52	B32/60X5FC	OR50.52X1.78	3219	None
2"	60x6.0	B332/60X6FC	11	2.60	B32/60X6FC	OR47.37X1.78	3219	None

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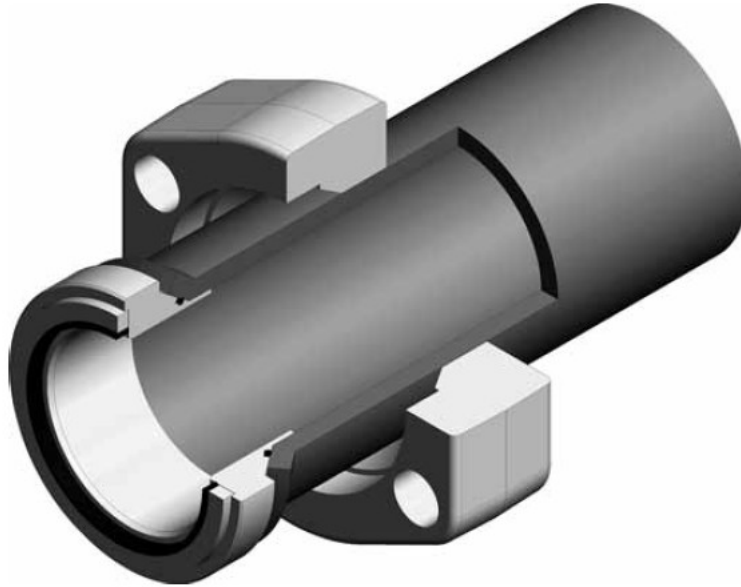
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Flare flange connection - Type C

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/21.3X3.73FC includes:
 B608F/21.3 1 pc
 B08/21.3X3.73FD 1 pc
 B0823 1 pc
 OR14X1.0 1 pc

SAE 6000 PSI

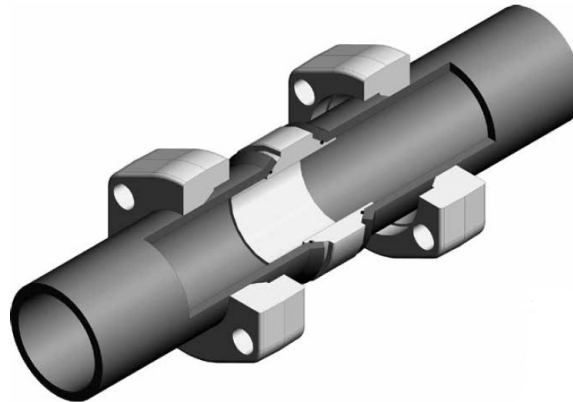
ANSI 36.10/36.19 pipes(with standard bonder seal)

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	Bonded seal Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B608/21.3X3.73FC	0.20	B08/21.3X3.73FC	B0823	OR14X1.0
1/2"	21.3x4.78	B608/21.3X4.78FC	0.20	B08/21.3X4.78FC	B0823	OR12X1.0
3/4"	26.7x3.91	B612/26.7X3.91FC	0.30	B12/26.7X3.91FC	B1213	OR20X1.0
3/4"	26.7x5.56	B612/26.7X5.56FC	0.30	B12/26.7X5.56FC	B1213	OR16X1.0
1"	33.4x3.38	B616/33.4X3.38FC	0.50	B16/33.4X3.38FC	B1629	OR28X1.0
1"	33.4x4.55	B616/33.4X4.55FC	0.50	B16/33.4X4.55FC	B1629	OR23X1.0
1 1/4"	42.2x3.56	B620/42.2X3.56FC	0.60	B20/42.2X3.56FC	B2030	OR34X1.0
1 1/4"	42.2x4.85	B620/42.2X4.85FC	0.60	B20/42.2X4.85FC	B2030	OR32X1.0
1 1/2"	48.3x3.68	B624/48.3X3.68FC	0.90	B24/48.3X3.68FC	B2432	OR41X1.78
1 1/2"	48.3x5.08	B624/48.3X5.08FC	0.90	B24/48.3X5.08FC	B2432	OR37.82X1.78
2"	60.3x3.91	B632/60.3X3.91FC	1.40	B32/60.3X3.91FC	B3219	OR53.70X1.78
2"	60.3x5.54	B632/60.3X5.54FC	1.40	B32/60.3X5.54FC	B3219	OR47.35X1.78

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Flare flange connection - Type D

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/16X2FD includes:
 B608F 2 pcs
 B08/16X2FD 1 pc
 B08/16F 2 pcs
 OR12X1.0 2 pcs

Metric pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No	Sleeve Part No
1/2"	16x2.0	B608/16X2FD	0.52	B08/16X2FD	OR12X1.0	08/16F
1/2"	18x2.0	B608/18X2FD	0.53	B08/18X2FD	OR14X1.0	08/18F
1/2"	20x2.0	B608/20X2FD	0.51	B08/20X2FD	OR16X1.0	08/20F
1/2"	25x2.5	B608/25X2.5FD	0.50	B08/25X2.5FD	OR20X1.0	None
1/2"	25x3.0	B608/25X3FD	0.49	B08/25X3FD	OR19X1.0	None
3/4"	20x2.0	B612/20X2FD	1.05	B12/20X2FD	OR16X1.0	12/20F
3/4"	20x2.5	B612/20X2.5FD	1.06	B12/20X2.5FD	OR15X1.0	12/20F
3/4"	25x2.5	B612/25X2.5FD	1.01	B12/25X2.5FD	OR20X1.0	12/25F
3/4"	25x3.0	B612/25X3FD	1.01	B12/25X3FD	OR19X1.0	12/25F
3/4"	30x3.0	B612/30X3FD	1.00	B12/30X3FD	OR23X1.0	None
3/4"	30x4.0	B612/30X4FD	1.00	B12/30X4FD	OR23X1.0	None
1"	25x2.5	B616/25X2.5FD	1.34	B16/25X2.5FD	OR20X1.0	16/25F
1"	25x3.0	B616/25X3FD	1.33	B16/25X3FD	OR19X1.0	16/25F
1"	30x3.0	B616/30X3FD	1.27	B16/30X3FD	OR23X1.0	16/30F
1"	30x4.0	B616/30X4FD	1.28	B16/30X4FD	OR22X1.0	16/30F
1"	38x4.0	B616/38X4FD	1.20	B16/38X4FD	OR30X1.0	None
1 1/4"	30x3.0	B620/30X3FD	2.12	B20/30X3FD	OR23X1.0	20/30F
1 1/4"	30x4.0	B620/30X4FD	2.11	B20/30X4FD	OR22X1.0	20/30F
1 1/4"	38x4.0	B620/38X4FD	2.03	B20/38X4FD	OR30X1.0	20/38F
1 1/4"	38x5.0	B620/38X5FD	2.02	B20/38X5FD	OR28X1.0	20/38F
1 1/4"	42x4.0	B620/42X4FD	2.01	B20/42X4FD	OR34X1.0	None
1 1/2"	30x3.0	B624/30X3FD	2.95	B24/30X3FD	OR23X1.0	24/30F
1 1/2"	38x4.0	B624/38X4FD	3.54	B24/38X4FD	OR30X1.0	24/38F
1 1/2"	38x5.0	B624/38X5FD	3.43	B24/38X5FD	OR34X1.0	24/42F
1 1/2"	42x4.0	B624/42X4FD	3.45	B24/42X4FD	OR41X1.78	None
1 1/2"	50x5.0	B624/50X5FD	3.29	B24/50X5FD	OR34X1.0	24/42F
1 1/2"	50x6.0	B624/50X6FD	3.40	B24/50X6FD	OR41X1.78	None
2"	50x5.0	B632/50X5FD	5.27	B32/50X5FD	OR41X1.78	32/50F
2"	60x5.0	B632/60X5FD	5.06	B32/60X5FD	OR50.52X1.78	None
2"	60x6.0	B632/60X6FD	5.06	B32/60X6FD	OR47.35X1.78	None
2 1/2"	60x6.0	B640/60X6FD	11.55	B40/60X6FD	OR50.52X1.78	40/60F
2 1/2"	73x7.0	B640/73X7FD	11.10	B40/73X7FD	OR56.87X1.78	None

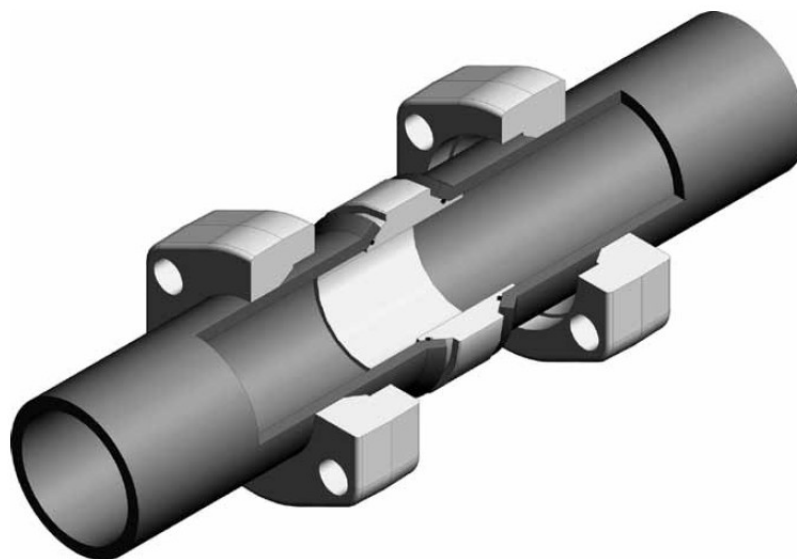
Flanges page 76

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Flare flange connection - Type D

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/21.3X3.73FD includes:
 B608F/21.3 2 pcs
 B08/21.3X3.73FD 1 pc
 OR14X1.0 2 pcs

SAE 6000 PSI

ANSI 36.10/36.19 pipes

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1/2"	21.3x3.73	B608/21.3X3.73FD	0.52	B08/21.3X3.73FD	OR14X1.0
1/2"	21.3x4.78	B608/21.3X4.78FD	0.53	B08/21.3X4.78FD	OR12X1.0
3/4"	26.7x3.91	B612/26.7X3.91FD	1.05	B12/26.7X3.91FD	OR20X1.0
3/4"	26.7x5.56	B612/26.7X5.56FD	1.06	B12/26.7X5.56FD	OR16X1.0
1"	33.4x3.38	B616/33.4X3.38FD	1.34	B16/33.4X3.38FD	OR25X1.0
1"	33.4x4.55	B616/33.4X4.55FD	1.33	B16/33.4X4.55FD	OR23X1.0
1 1/4"	42.2x3.56	B620/42.2X3.56FD	2.12	B20/42.2X3.56FD	OR34X1.0
1 1/4"	42.2x4.85	B620/42.2X4.85FD	2.03	B20/42.2X4.85FD	OR32X1.0
1 1/2"	48.3x3.68	B624/48.3X3.68FD	2.96	B24/48.3X3.68FD	OR41X1.78
1 1/2"	48.3x5.08	B624/48.3X5.08FD	3.43	B24/48.3X5.08FD	OR37.82X1.78
2"	60.3x3.91	B632/60.3X3.91FD	5.27	B32/60.3X3.91FD	OR53.70X1.78
2"	60.3x5.54	B632/60.3X5.54FD	5.08	B32/60.3X5.54FD	OR47.35X1.78
2 1/2"	73x7.01	B640/73X7FD	11.10	B40/73X7FD	OR56.87X1.78

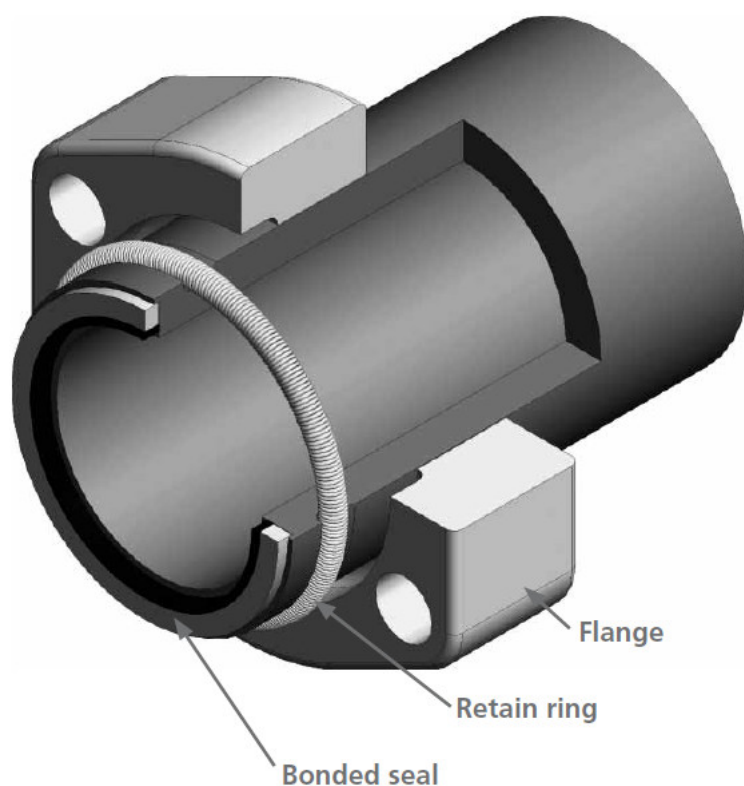
Flanges page 76

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O-rings page 111

Grooving direct on to pipe

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Metric pipes

Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
1"	39x7.5	B616	B16	B1629
1 1/4"	46x8	B620	B20	B2030
1 1/2"	56x8.5	B624	B24	B2432
2"	66x8.5	B632	B32	B3219
2 1/2"	80x10	B640	B40	B4037
3"	97x12	B648	B48	B4839

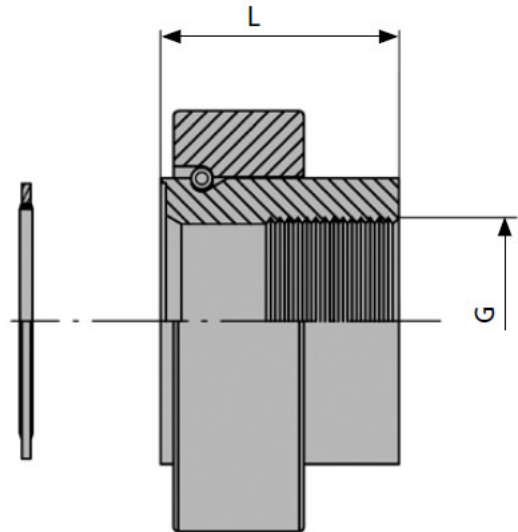
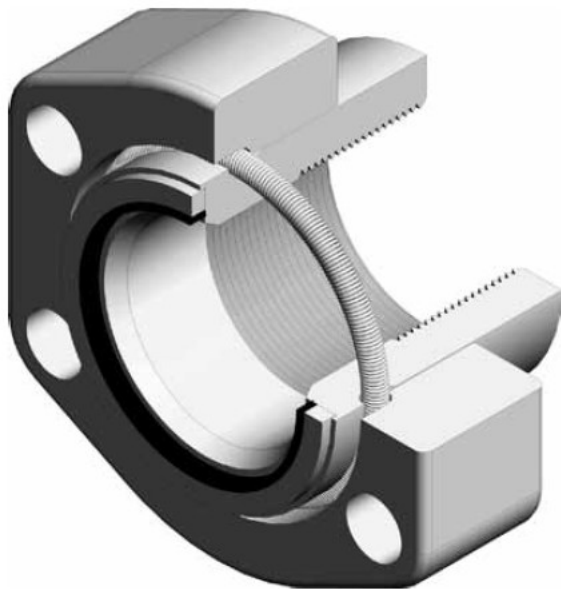
ANSI 36.10/36.19 pipes

Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
1/2"	21.3x7.5	B608/21.3	B08/21.3	B0821
3/4"	26.7x7.8	B612/26.7	B12/26.7	B0823
1"	33.4x9.1	B616/33.4	B16/33.4	B1633
1 1/4"	42.2x9.7	B620/42.2	B20/42.2	B2024
1 1/2"	48.3x10.2	B624/48.3	B24/48.3	B2448
2"	60.3x8.7	B632/60.3	B32/60.3	B3260
2 1/2"	73X9.53/14.02	B640/73	B40/73	B4073
3"	88.9X11.13/15.24	B648/88.9	B48/88.9	B4888

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 Retain rings page 108
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Female thread flange, BSPP

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:
B608013 includes:
 B608 1 pc
 B08013 1 pc
 B08 1 pc
 B0823 1 pc

Size	Complete Part No	L	G	Weight [kg]	Body Part No
1/2"	B608013	35	1/4"	0.31	B08013
3/4"	B612013	40	1/2"	0.60	B12013
1"	B616013	40	3/4"	0.68	B16013
1 1/4"	B620013	42	1"	1.16	B20013
1 1/2"	B624013	45	1 1/4"	1.84	B24013
2"	B632013	55	1 1/2"	2.93	B32013

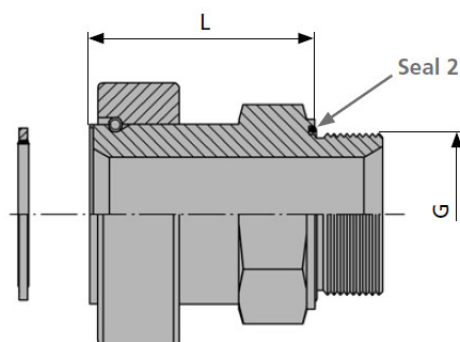
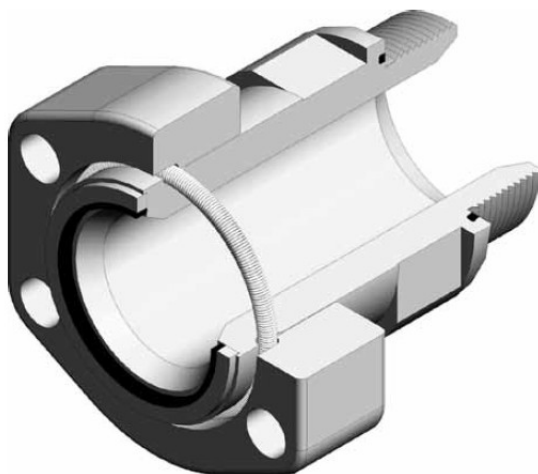
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

Standard thread BSPP,
 Others on request.

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 Retain rings page 108
 Bonded seals page 109

Male thread flange, BSPP

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:

B608014	includes:	
B608		1 pc
B08014		1 pc
B08		1 pc
B0823		1 pc
BSCBC1/2		1 pc

Size	Complete Part No	L	G	Bonded seal 2	A/F	Weight [kg]	Body Part No
1/2"	B608014	50.3	1/2"	SCBC1/2	27	0.35	B08014
1/2"	B608014-R1/4	50.3	1/4"	SCBC1/4	27	0.37	B08014-R1/4
3/4"	B612014	61.3	3/4"	SCBC3/4	32	0.60	B12014
3/4"	B612014-R1/2	61.3	1/2"	SCBC1/2	32	0.62	B12014-R1/2
1"	B616014	65.2	1"	SCBC1	41	0.78	B16014
1"	B616014-R3/4	64.3	3/4"	SCBC3/4	32	0.80	B16014-R3/4
1 1/4"	B620014	68.2	1 1/4"	SCBC1 1/4	46	1.08	B20014
1 1/4"	B620014-R1	68.2	1"	SCBC1	41	1.16	B20014-R1
1 1/2"	B624014	78.2	1 1/2"	SCBC1 1/2	50	1.71	B24014
1 1/2"	B624014-R1 1/4	78.2	1 1/4"	SCBC1 1/4	46	1.80	B24014-R1 1/4
2"	B632014	83.2	2"	SCBC2	65	2.55	B32014
2"	B632014-R1 1/2	83.2	1 1/2"	SCBC1 1/2	50	2.71	B32014-R1 1/2

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

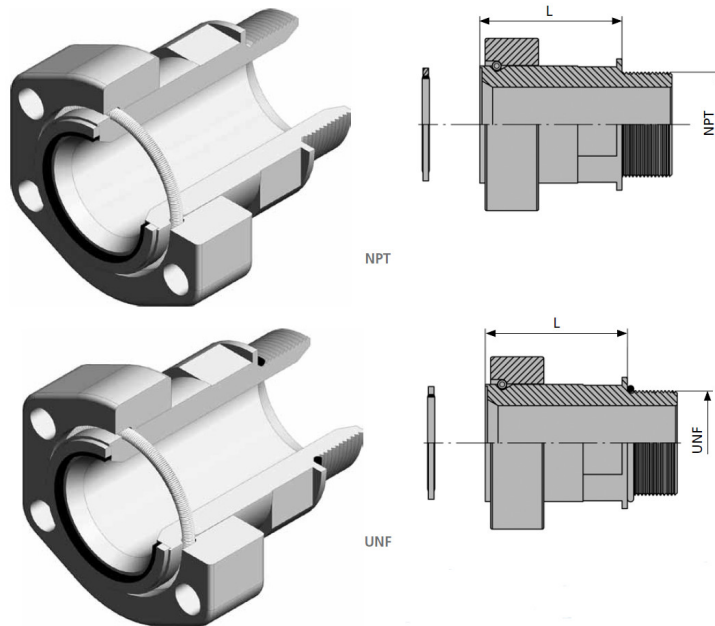
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Male thread flange, NPT & UNF

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608114 includes:

B608	1 pc
B08114	1 pc
B08	1 pc
B0823	1 pc

Complete Part No example:
B608214 includes:

B608	1 pc
B08214	1 pc
B08	1 pc
B0823	1 pc
OR16.4X2.2	1 pc

Male thread flange, NPT

Size	Complete Part No	L	NPT	Weight [kg]	Body Part No
1/2"	B608114	50	1/2"	0.40	B08114
3/4"	B612114	63	3/4"	0.50	B12114
1"	B616114	63	1"	0.70	B16114
1 1/4"	B620114	67	1 1/4"	1.00	B20114
1 1/2"	B624114	75	1 1/2"	1.80	B24114
2"	B632114	80	2"	2.50	B32114

Male thread flange, UNF

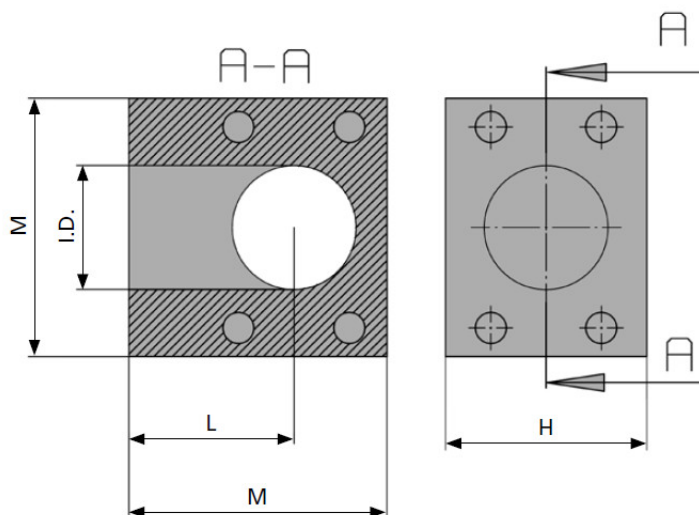
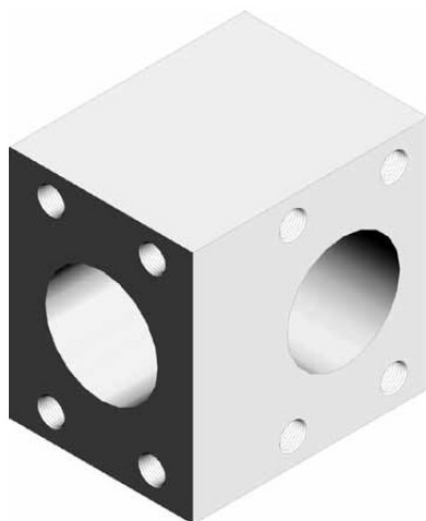
Size	Complete Part No	L	UNF	Weight [kg]	O-ring Part No	Body Part No
1/2"	B608214	48.0	3/4-16	0.40	OR16.4X2.2	B08214
3/4"	B612214	61.3	1 1/16-12	0.50	OR23X3.0	B12214
1"	B616214	62.0	1 5/16-12	0.70	OR29.2X3.0	B16214
1 1/4"	B620214	65.0	1 5/8-12	1.00	OR37.2X3.0	B20214
1 1/2"	B624214	78.2	1 7/8-12	1.80	OR43X3.0	B24214
2"	B632214	83.2	2 1/2-12	2.50	OR59.5X3.0	B32214

Body material:
Standard= carbon steel, zinc plated
Stainless steel= add SS after Part No
Other materials on request

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Tee block

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Size	Part No	H	L	M	I.D.	Weight [kg]
1/2"	B608116	40	36	56	13	0.81
3/4"	B612116	48	49	70	20	1.14
3/4"-1/2"	B612/608/612116	48	49	70	20/13/20	1.53
1"	B616116	48	55	80	23	1.81
1"-3/4"	B616/612/616116	48	55	80	23/20/23	1.91
1"-1/2"	B616/608/616116	48	55	80	23/13/23	2.06
1 1/4"	B620116	58	63	90	30	2.65
1 1/4"-1"	B620/616/620116	58	63	90	30/23/30	2.79
1 1/4"-3/4"	B620/612/620116	58	63	90	30/20/30	2.92
1 1/2"	B624116	68	68	100	38	3.62
1 1/2"-1 1/4"	B624/620/624116	68	68	100	38/30/38	3.85
1 1/2"-1"	B624/616/624116	68	68	100	38/23/38	4.01
2"	B632116	88	90	130	48	8.05
2"-1 1/2"	B632/624/632116	88	90	130	48/38/48	8.68
2"-1 1/4"	B632/620/632116	88	90	130	48/30/48	9.03

Body material:

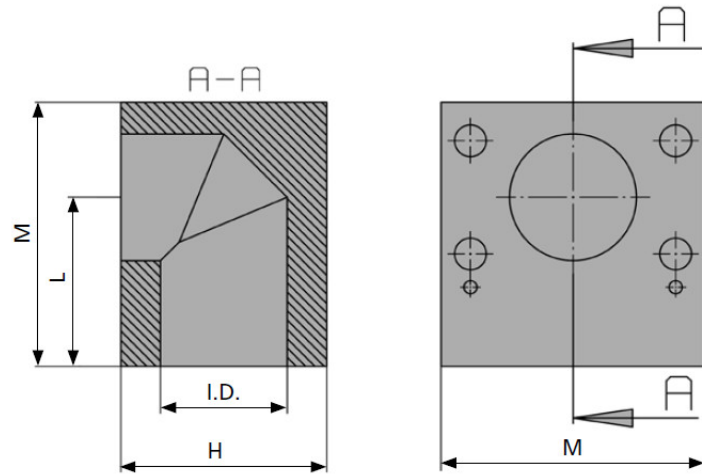
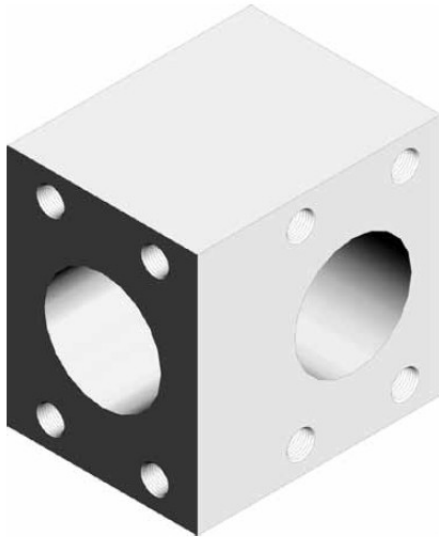
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Elbow block

ISO 6162-2(SAE J518 Code 62)



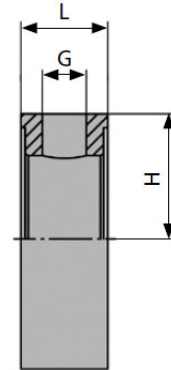
SAE 6000 PSI

Size	Part No	H	L	M	I.D.	Weight [kg]
1/2"	B608115	40	36	56	13	0.83
3/4"	B612115	48	49	70	20	1.48
1"	B616115	48	55	80	23	1.88
1 1/4"	B620115	58	63	90	30	2.77
1 1/2"	B624115	68	68	100	38	3.85
2"	B632115	88	90	130	48	8.55

Body material:
Standard= carbon steel, zinc plated
Stainless steel= add SS after Part No
Other materials on request

Tee between, BSPP

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Please add measure L to bolt lengths mentioned on page 74.

Size	Part No	L	H	G	Weight [kg]
1/2"	B08035	25	13.5	1/4"	0.12
3/4"	B12035	25	17.6	1/4"	0.18
1"	B16035	25	20.5	1/4"	0.22
1 1/4"	B20035	25	24.3	1/4"	0.27
1 1/2"	B24035	25	31.3	1/4"	0.41
2"	B32035	25	36.0	1/4"	0.47
1 1/4"	B20036	35	22.5	1/2"	0.35
1 1/2"	B24036	35	29.6	1/2"	0.56
2"	B32036	35	34.6	1/2"	0.65
2 1/2"	B40036	35	42.6	1/2"	0.90
2 1/2"	B40037	40	41	3/4"	1.30
3"	B48038	60	48	1"	1.90

Body material:

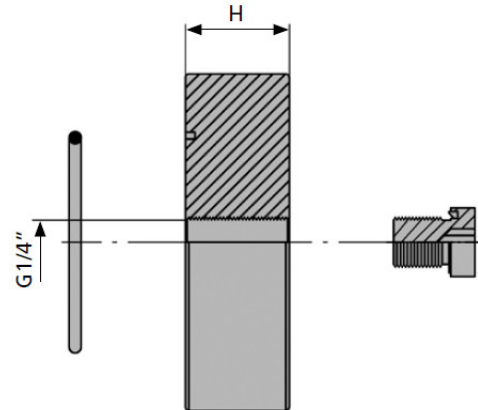
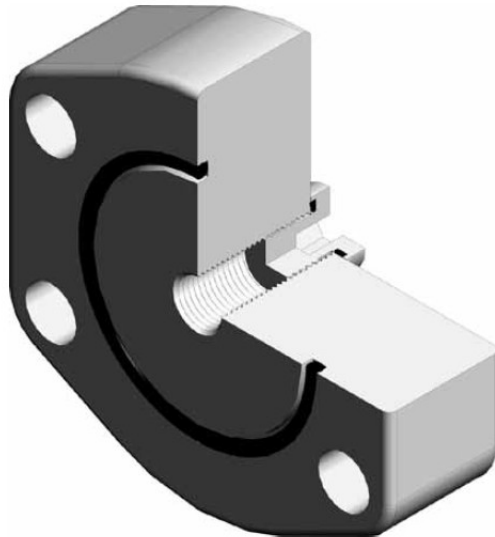
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Blind flange

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Size	Part No	O-ring Part No	H	Weight [kg]
1/2"	B608125	OR18.64X3.53	20	0.27
3/4"	B612125	OR24.99X3.53	25	0.58
1"	B616125	OR32.92X3.53	25	0.69
1 1/4"	B620125	OR37.69X3.53	30	1.10
1 1/2"	B624125	OR47.22X3.53	35	1.89
2"	B632125	OR56.75X3.53	40	3.31
2 1/2"	B640125	OR69.44X3.53	50	7.50
3"	B648125	OR85.32X3.53	50	9.19

Body material:

Standard= carbon steel, zinc plated

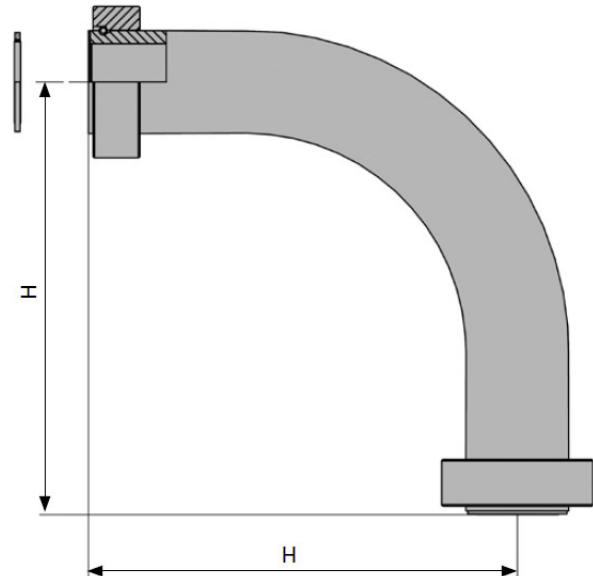
Stainless steel= add SS after Part No

Other materials on request

O-ring, ED-seal and plug included in a Part No

Flange bend

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:
B 612018 includes:
 B612 2 pcs
 B12018 1 pc
 B12 2 pcs
 B1213 2 pcs

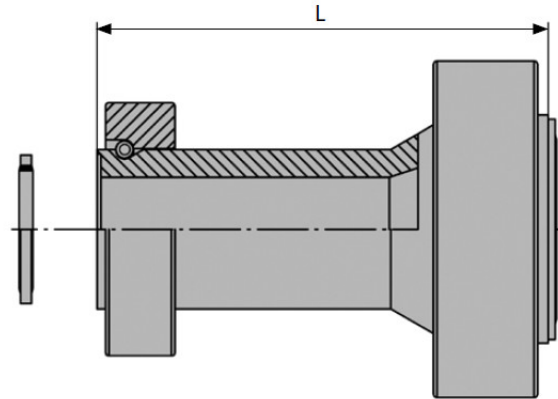
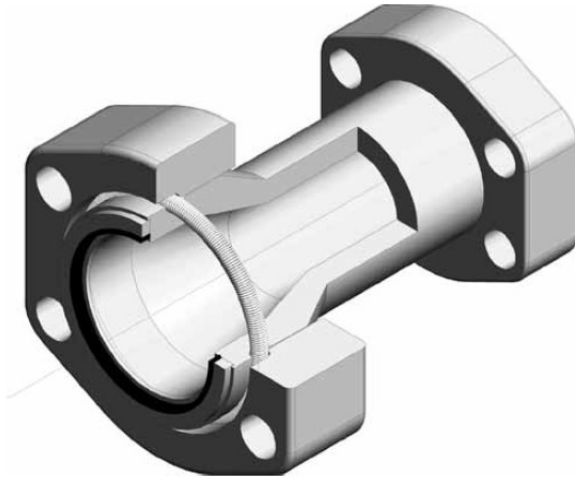
Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
3/4"	B612018	180	90	2.48	B12018
1"	B616018	180	97.5	2.92	B16018
1 1/4"	B620018	190	96	4.12	B20018
1 1/2"	B624018	240	116	6.90	B24018
2"	B632018	275	165	10.0	B32018
2 1/2"	B640018	450	200	24.0	B40018
3"	B648018	540	244	36.8	B48018

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

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 Retain rings page 108
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Reducer flange

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
BRF612-608 includes:

B612	1 pc
B608	1 pc
B12-08	1 pc
B12	1 pc
B1213	1 pc
B08	1 pc
B0823	1 pc

SAE 6000 PSI

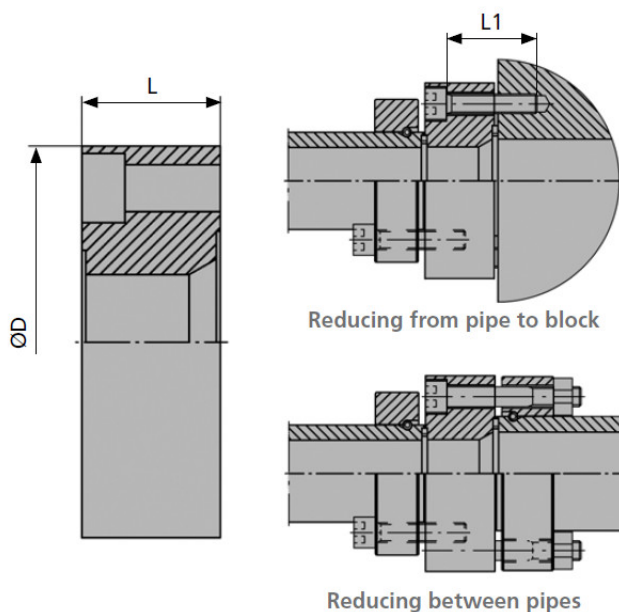
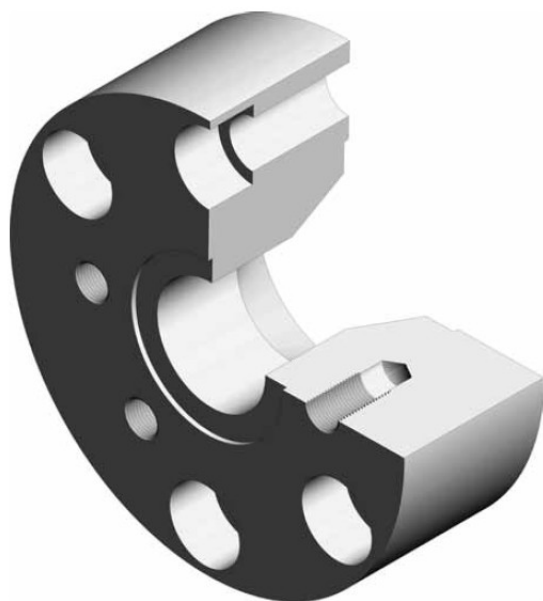
Size	Complete Part No	L	Weight [kg]	Body Part No
3/4"-1/2"	BRF612-608	65	0.86	B12-08
1"-3/4"	BRF616-612	110	1.55	B16-12
1"-1/2"	BRF616-608	80	1.12	B16-08
1 1/4"-1"	BRF620-616	110	2.09	B20-16
1 1/4"-3/4"	BRF620-612	110	1.87	B20-12
1 1/2"-1 1/4"	BRF624-620	130	3.25	B24-20
1 1/2"-1"	BRF624-616	110	2.76	B24-16
2"-1 1/2"	BRF632-624	130	4.98	B32-24
2"-1 1/4"	BRF632-620	130	4.19	B32-20
2 1/2"-2"	BRF640-632	150	8.91	B40-32
2 1/2"-1 1/2"	BRF640-624	150	8.50	B40-24
3"-2 1/2"	BRF648-640	180	15.68	B48-40
3"-2"	BRF648-632	180	11.58	B48-32

Body material:
Standard= carbon steel, zinc plated
Stainless steel= add SS after Part No
Other material on request

Flanges page 75
Retain ring page 108
Bonded seals page 109

Reducer block

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Size	Complete Part No	D	L	Bolt size DIN 912,8.8	Weight [kg]
3/4"-1/2"	BRBE612-608	80	25	M10x25	0.82
1"-3/4"	BRBE616-612	88	30	M12x35	1.21
1"-1/2"	BRBE616-608	88	30	M12x35	1.26
1 1/4"-1"	BRBE620-616	103	35	M14x40	1.88
1 1/4"-3/4"	BRBE620-612	103	35	M14x40	1.97
1 1/4"-1/2"	BRBE620-608	103	35	M14x40	2.02
1 1/2"-1 1/4"	BRBE624-620	120	40	M16x45	2.81
1 1/2"-1"	BRBE624-616	120	40	M16x45	2.93
1 1/2"-3/4"	BRBE624-612	120	40	M16x45	2.98
2"-1 1/2"	BRBE632-624	148	40	M20x45	4.43
2"-1 1/4"	BRBE632-620	148	40	M20x45	4.59
2"-1"	BRBE632-626	148	40	M20x45	4.68
2 1/2"-2"	BRBE640-632	191	45	M24x55	7.59
2 1/2"-1 1/2"	BRBE640-624	191	45	M24x55	7.80
2 1/2"-1 1/4"	BRBE640-620	191	45	M24x55	8.00
3"-2 1/2"	BRBE648-640	229	60	M30x70	14.51
3"-2"	BRBE648-632	229	60	M30x70	15.00
3"-1 1/2"	BRBE648-624	229	60	M30x70	16.00

Body material:

Standard= carbon steel, zinc plated

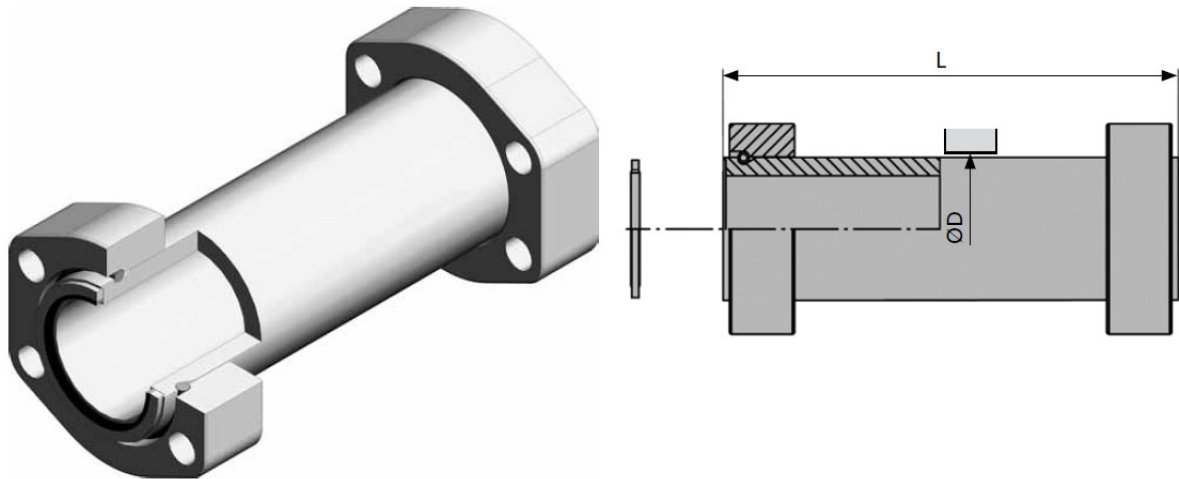
Stainless steel= add SS after Part No

Other material on request

L1= reducer block to block

Bulkhead flange

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:
B608019 includes:
 B608 2 pcs
 B08019 1 pc
 B08 2 pcs
 B0823 2 pcs

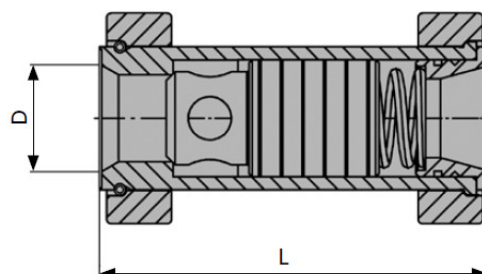
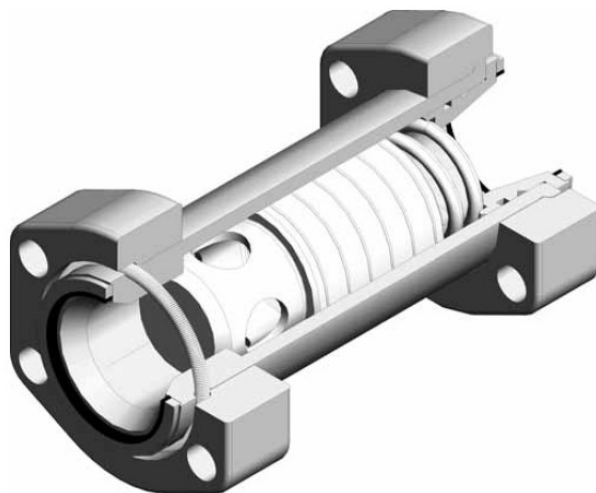
Size	Complete Part No	Required bulkhead opening OD	L	Weight [kg]	Body Part No
1/2"	B608109	27	170	0.53	B08019
3/4"	B612019	37	170	1.71	B12019
1"	B616019	40	170	2.09	B16019
1 1/4"	B620019	47	180	2.97	B20019
1 1/2"	B624019	57	180	4.50	B24019
2"	B632019	68	210	6.92	B32019
2 1/2"	B640019	82	220	14.20	B40019
3"	B648019	99	240	20.0	B48019

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

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 Retain rings page 108
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Non return valve

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:

B 312135 includes:

B312 2 pcs

B12135 1 pc

B12 2 pcs

B1213 2 pcs

Size	Complete Part No	W.P. [bar]	D	L	Weight [kg]
3/4"	B612135	420	21	100	1.30
1"	B616135	420	24	120	1.70
1 1/4"	B620135	420	31	140	2.70
1 1/2"	B624135	420	38	155	4.00
2"	B632135	420	49	180	6.70
2 1/2"	B640135	420	61	190	12.6
3"	B648135	420	73	200	15.6

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Standard opening pressure= 0.5 bar. On request 1 bar to 3 bar.

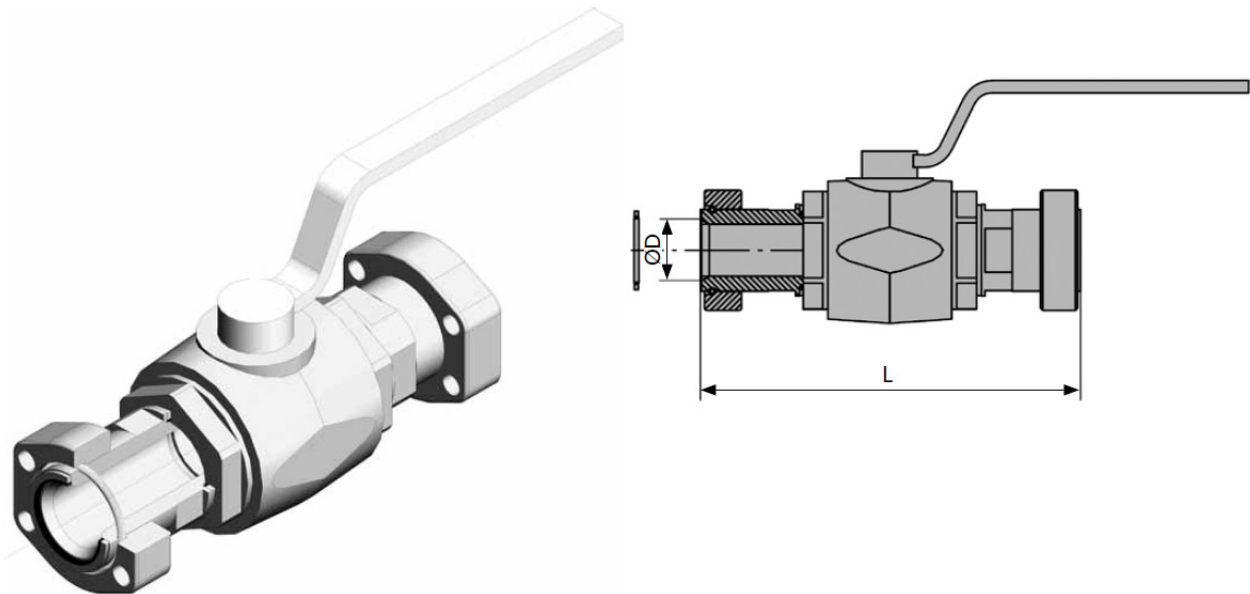
Flanges page 75

Retain rings page 108

Bonded seals page 109

Ball valve

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Complete Part No example:
B608129 includes:
 B608 2 pcs
 B08014 1 pc
 B08 2 pcs
 B0823 2 pcs
 SCBC1/2 2 pcs
 BKH 1/2" R 1 pc

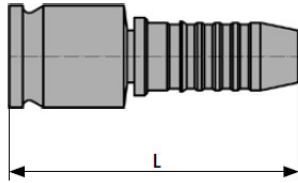
Size	Complete Part No	W.P. [bar]	Ball valve Part No.	L	D	Weight [kg]
1/2"	B608129	420	BKH 1/2 R	184	14	1.70
3/4"	B612129	420	BKH 3/4 R	218	21	3.00
1"	B616129	420	BKH 1 R	248	24	4.10
1 1/4"	B620129	420	MKHP 1 1/4 R	247	31	6.30
1 1/2"	B624129	420	MKHP 1 1/2 R	286	38	10.4
2"	B632129	420	MKHP 2 R	306	49	15.1

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No

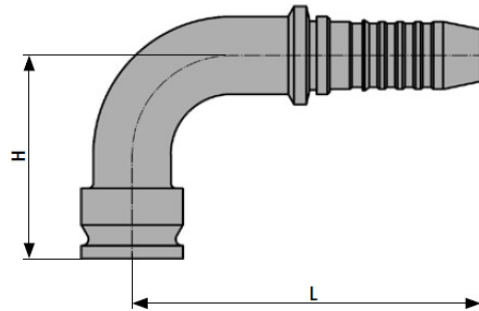
Flanges page 75
 Retain rings page 108
 Bonded seals page 109

BUTZ-hose couplings

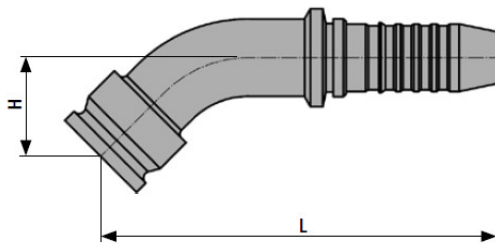
ISO 6162-2(SAE J518 Code 62)



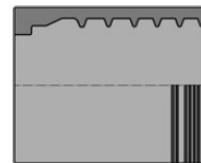
Straight



90°



45°



Ferrule

BUTZ-hOSE COUPLING, STRAIGHT

Size	Part No	L
3/4"	B12020G	100
1"	B16020G	111
1 1/4"	B20020G	128
1 1/2"	B24020G	134
2"	B32020G	200

BUTZ-hOSE COUPLING, 90°

Size	Part No	L	H
3/4"	B12021G	115	69
1"	B16021G	134	78
1 1/4"	B20021G	137	88
1 1/2"	B24021G	177	102
2"	B32021G	254	126

BUTZ-hOSE COUPLING, 45°

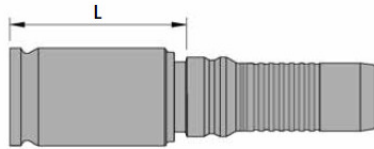
Size	Part No	L	H
3/4"	B12022G	132	36
1"	B16022G	152	38
1 1/4"	B20022G	186	44
1 1/2"	B24022G	200	52
2"	B32022G	274	60

Ferrule

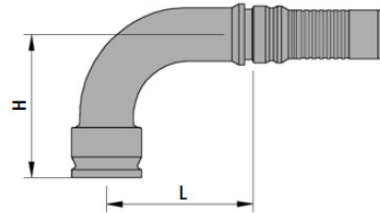
Size	Part No	D(after crimping)
3/4"	BG599-12	37.4-37.8
1"	BG599-16	44.3-44.7
1 1/4"	BG596-20	56.2-56.6
1 1/2"	BG599-24	63.3-63.7
2"	integrated in couplings	76.6-78.1

BUTZ-hose couplings

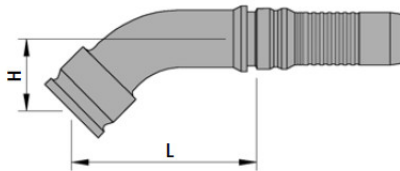
ISO 6162-2(SAE J518 Code 62)



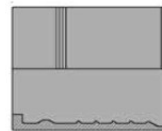
Straight



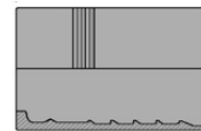
90°



45°



Type 594-



Type 596-

Ferrules

BUTZ-hOSE COUPLING, straight

Size	Part No	L
3/4"	B12020-IT	44.2
1"	B16020-IT	48.3
1 1/4"	B20020-IT	82.3
1 1/2"	B24020-IT	83.4
2"	B32020-IT	96.9

BUTZ-hOSE COUPLING, 90°

Size	Part No	L	H
3/4"	B12021-IT	59.2	64
1"	B16021-IT	76.3	75
1 1/4"	B20021-IT	95.1	93
1 1/2"	B24021-IT	111.8	110
2"	B32021-IT	149.5	140

BUTZ-hOSE COUPLING, 45°

Size	Part No	L	H
3/4"	B12022-IT	72.2	32.0
1"	B16022-IT	88.3	36.1
1 1/4"	B20022-IT	112.1	43.8
1 1/2"	B24022-IT	128.8	51.7
2"	B32022-IT	166.4	65.9

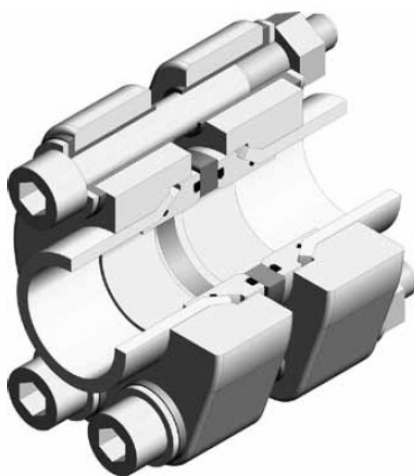
Ferrules

Size	Gates hoses		Intertraco hoses		
	G5K/EFG5K	G6K/EFG6K	B4SH	BR13	BR15
	Part No	Part No	Part No	Part No	Part No
3/4"	B594-12	B594-12	B594-12	B594-12	B594-12
1"	B594-16	B594-16	B594-16	B594-16	B594-16
1 1/4"	B594-20	B594-20	B594-20	B594-20	B594-20
1 1/2"	B594-24	B594-24	B594-24	B594-24	B594-24
2"	B594-32	B594-32	B594-32	B594-32	B594-32

Component material:
Carbon steel, zinc plated

Non-conductive flange connection

ISO 6162-2(SAE J518 Code 62)



Complete Part No example:
B608/16x2FA-NC includes:
 B608F 2 pcs
 B08/16X2FA 2 pcs
 B08/16F 2 pcs
 OR18.64X3.53 2 pcs
 OR12X1.0 2 pcs
 B08099B/B-NC 1 pc
 M6DIN125-308 8 pcs
 M08-PTFE-308 8 pcs
 M6X70DIN912-12.9 4 pcs
 M6DIN934-10 4 pcs

Metric pipes

Size	Pipe Size	Complete Part No	Bolt Torque [Nm]	Weight [kg]
1/2"	16x2.0	B608/16X2FA-NC	15	0.57
1/2"	18x2.0	B608/18X2FA-NC	15	0.57
1/2"	20x2.0	B608/20X2FA-NC	15	0.55
1/2"	25x2.5	B608/25X2.5FA-NC	15	0.55
1/2"	25x3.0	B608/25X3FA-NC	15	0.50
3/4"	20x2.0	B612/20X2FA-NC	27	1.11
3/4"	20x2.5	B612/20X2.5FA-NC	27	1.13
3/4"	25x2.5	B612/25X2.5FA-NC	27	1.05
3/4"	25x3.0	B612/25X3FA-NC	27	1.07
3/4"	30x3.0	B612/30X3FA-NC	27	1.01
3/4"	30x4.0	B616/30X4FA-NC	27	1.05
1"	25x2.5	B616/25X2.5FA-NC	48	1.45
1"	25x3.0	B616/25X3FA-NC	48	1.39
1"	30x3.0	B616/30X3FA-NC	48	1.39
1"	30x4.0	B616/30X4FA-NC	48	1.39
1"	38x4.0	B620/38X4FA-NC	48	1.26
1 1/4"	30x3.0	B620/30X3FA-NC	72	2.27
1 1/4"	30x4.0	B620/30X4FA-NC	72	2.12
1 1/4"	38x4.0	B620/38X4FA-NC	72	2.10
1 1/4"	38x5.0	B620/38X5FA-NC	72	2.10
1 1/4"	42x4.0	B624/42X4FA-NC	72	2.06
1 1/2"	30x3.0	B624/30X3FA-NC	119	2.39
1 1/2"	38x4.0	B624/38X4FA-NC	119	3.70
1 1/2"	38x5.0	B624/38X5FA-NC	119	3.70
1 1/2"	42x4.0	B632/42X4FA-NC	119	3.59
1 1/2"	50x5.0	B632/50X5FA-NC	119	3.36
2"	50x5.0	B632/50X5FA-NC	200	5.67
2"	60x5.0	B640/60X5FA-NC	200	5.29
2"	60x6.0	B640/60X6FA-NC	200	5.29

SAE 6000 PSI

Flanges page 76
 Inserts page 103
 Sleeves page 105
 O-rings page 110, 111

Insert cones for flare flange connections

ISO 6162-2(SAE J518 Code 62)



Type A



Type B



Type C



Type D

Metric pipes

Size	Part No Type A	Part No Type B	Part No Type C	Part No Type D	Pipe Size
1/2"	B08/16X2FA	B08/16X2FB	B08/16X2FC	B08/16X2FD	16x2.0
1/2"	B08/18X2FA	B08/18X2FB	B08/18X2FC	B08/18X2FD	18x2.0
1/2"	B08/20X2FA	B08/20X2FB	B08/20X2FC	B08/20X2FD	20x2.0
1/2"	B08/25X2.5FA	B08/25X2.5FB	B08/25X2.5FC	B08/25X2.5FD	25x2.5
1/2"	B08/25X3FA	B08/25X3FB	B08/25X3FC	B08/25X3FD	25x3.0
3/4"	B12/20X2FA	B12/20X2FB	B12/20X2FC	B12/20X2FD	20x2.0
3/4"	B12/20X2.5FA	B12/20X2.5FB	B12/20X2.5FC	B12/20X2.5FD	20x2.5
3/4"	B12/25X2.5FA	B12/25X2.5FB	B12/25X2.5FC	B12/25X2.5FD	25x2.5
3/4"	B12/25X3FA	B12/25X3FB	B12/25X3FC	B12/25X3FD	25x3.0
3/4"	B12/30X3FA	B12/30X3FB	B12/30X3FC	B12/30X3FD	30x3.0
1"	B16/25X2.5FA	B16/25X2.5FB	B16/25X2.5FC	B16/25X2.5FD	25x2.5
1"	B16/25X3FA	B16/25X3FB	B16/25X3FC	B16/25X3FD	25x3.0
1"	B16/30X3FA	B16/30X3FB	B16/30X3FC	B16/30X3FD	30x3.0
1"	B16/30X4FA	B16/30X4FB	B16/30X4FC	B16/30X4FD	30x4.0
1"	B16/38X4FA	B16/38X4FB	B16/38X4FC	B16/38X4FD	38x4.0
1 1/4"	B20/30X3FA	B20/30X3FB	B20/30X3FC	B20/30X3FD	30x3.0
1 1/4"	B20/30X4FA	B20/30X4FB	B20/30X4FC	B20/30X4FD	30x4.0
1 1/4"	B20/38X4FA	B20/38X4FB	B20/38X4FC	B20/38X4FD	38x4.0
1 1/4"	B20/38X5FA	B20/38X5FB	B20/38X5FC	B20/38X5FD	38x5.0
1 1/4"	B20/42X4FA	B20/42X4FB	B20/42X4FC	B20/42X4FD	42x4.0
1 1/2"	B24/30X3FA	B24/30X3FB	B24/30X3FC	B24/30X3FD	30x3.0
1 1/2"	B24/38X4FA	B24/38X4FB	B24/38X4FC	B24/38X4FD	38x4.0
1 1/2"	B24/42X4FA	B24/42X4FB	B24/42X4FC	B24/42X4FD	42x4.0
1 1/2"	B24/50X5FA	B24/50X5FB	B24/50X5FC	B24/50X5FD	50x5.0
1 1/2"	B24/50X6FA	B24/50X6FB	B24/50X6FC	B24/50X6FD	50x6.0
2"	B32/50X5FA	B32/50X5FB	B32/50X5FC	B32/50X5FD	50x5.0
2"	B32/60X5FA	B32/60X5FB	B32/60X5FC	B32/60X5FD	60x5.0
2"	B32/60X6FA	B32/60X6FB	B32/60X6FC	B32/60X6FD	60x6.0
2 1/2"	B40/60X6FA	B40/60X6FB	B40/60X6FC	B40/60X6FD	60x6.0
2 1/2"	B40/73X7FA	B40/73X7FB	B40/73X7FC	B40/73X7FD	73x7.0

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request(Bonded seals and O-rings not included)

SAE 6000 PSI

Insert cones for flare flange connections

ISO 6162-2(SAE J518 Code 62)



Type A



Type B



Type C



Type D

SAE 6000 PSI

ANSI 36.10/36.19 pipes

Size	Part No Type A	Part No Type B	Part No Type C	Part No Type D	Pipe Size
1/2"	B08/21.3X3.73FA	B08/21.3X3.73FB	B08/21.3X3.73FC	B08/21.3X3.73FD	21.3X3.73
1/2"	B08/21.3X4.78FA	B08/21.3X4.78FB	B08/21.3X4.78FC	B08/21.3X4.78FD	21.3X4.78
3/4"	B12/26.7X3.91FA	B12/26.7X3.91FB	B12/26.7X3.91FC	B12/26.7X3.91FD	26.7X3.91
3/4"	B12/26.7X5.56FA	B12/26.7X5.56FB	B12/26.7X5.56FC	B12/26.7X5.56FD	26.7X5.56
1"	B16/33.4X3.38FA	B16/33.4X3.38FB	B16/33.4X3.38FC	B16/33.4X3.38FD	33.4X3.38
1"	B16/33.4X4.55FA	B16/33.4X4.55FB	B16/33.4X4.55FC	B16/33.4X4.55FD	33.4X4.55
1 1/4"	B20/42.2X3.56FA	B20/42.2X3.56FB	B20/42.2X3.56FC	B20/42.2X3.56FD	42.2X3.56
1 1/4"	B20/42.2X4.85FA	B20/42.2X4.85FB	B20/42.2X4.85FC	B20/42.2X4.85FD	42.2X4.85
1 1/2"	B24/48.3X3.68FA	B24/48.3X3.68FB	B24/48.3X3.68FC	B24/48.3X3.68FD	48.3X3.68
1 1/2"	B24/48.3X5.08FA	B24/48.3X5.08FB	B24/48.3X5.08FC	B24/48.3X5.08FD	48.3X5.08
2"	B32/60.3X3.91FA	B32/60.3X3.91FB	B32/60.3X3.91FC	B32/60.3X3.91FD	60.3X3.91
2"	B32/60.3X5.54FA	B32/60.3X5.54FB	B32/60.3X5.54FC	B32/60.3X5.54FD	60.3X5.54
2 1/2"	B40/73X7FA	B40/73X7FA	B40/73X7FA	B40/73X5.16FA	73X7.01

Body material:

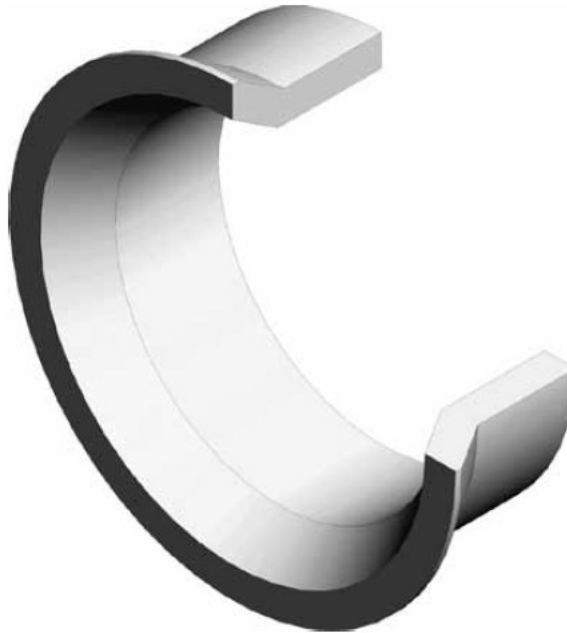
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request(Bonded seals and O-rings not included)

Sleeve

ISO 6162-2(SAE J518 Code 62)



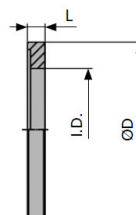
SAE 6000 PSI

Size	Part No	Pipe O.D. [mm]
1/2"	B08/16F	16
1/2"	B08/18F	18
1/2"	B08/20F	20
3/4"	B12/20F	20
3/4"	B12/25F	25
1"	B16/25F	25
1"	B16/30F	30
1 1/4"	B20/30F	30
1 1/4"	B20/38F	38
1 1/2"	B24/38F	38
1 1/2"	B24/42F	42
2"	B32/50F	50
2 1/2"	B40/60F	60

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

Adapter

ISO 6162-2(SAE J518 Code 62)



Adapter between O-ring and bonded seal



Adapter between metric and ANSI 36.10/36.19

Please add 10 mm to bolt lengths mentioned on page 74.

Adapter between O-ring and standard bonded seal, metric pipes

Size	Part No	L	D	ID	Weight [kg]
1/2"	B08099	7	30	14	0.02
3/4"	B12099	7	40	20	0.05
1"	B16099	7	45	24	0.06
1 1/4"	B20099	7	50	30	0.07
1 1/2"	B24099	7	60	39	0.09
2"	B32099	7	70	49	0.12

Adapter between metric and ANSI 36.10/36.19 pipes

Size	Part No	A-Pipe	B-Pipe	Bonded seal		L	Weight [kg]
				1	2		
1/2"	B08087	26x6.0	21.3x7.5	0823	0821	10	0.03
3/4"	B12087	36x8.0	26.7x7.8	1213	0823	10	0.06
1"	B16087	39x7.5	33.4x6.4	1629	1633	10	0.06
1"	B16088	39x7.5	33.4x9.1	1629	1633	10	0.07
1 1/4"	B20087	46x8.5	42.2x6.4	2030	2042	10	0.07
1 1/4"	B20088	46x8.5	42.2x9.7	2030	2042	10	0.08
1 1/2"	B24087	56x8.5	48.3x7.1	2432	2448	10	0.10
1 1/2"	B24088	56x8.5	48.3x10.2	2432	2448	10	0.11
2"	B32087	66x8.5	60.3x8.7	3219	3260	10	0.13
2"	B32088	66x8.5	60.3x11.1	3219	3260	10	0.14

Body material:

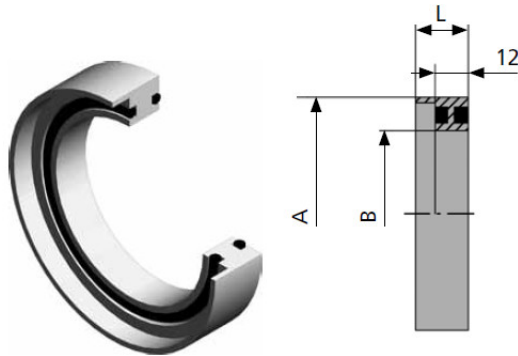
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

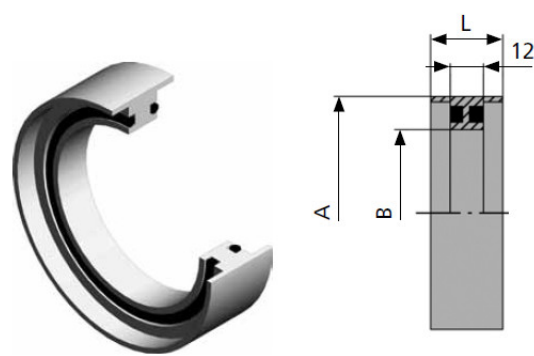
Other materials on request

Seal carrier

ISO 6162-2(SAE J518 Code 62)



Type S



Type D

Please add 10 mm to bolt lengths mentioned on page 74.

Type S with O-rings between flange and block-metric pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220S	OR53.57X3.53	70	49	18	66x8.5

Type S with O-rings between flange and block-ANSI 36.10/36.19 pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220/60.3X8.7S	OR47.22X3.53	65	42.9	18	60.3x8.7

Type D with O-rings between flanges-metric pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220D	OR53.57X3.53	70	49	15	66x8.5

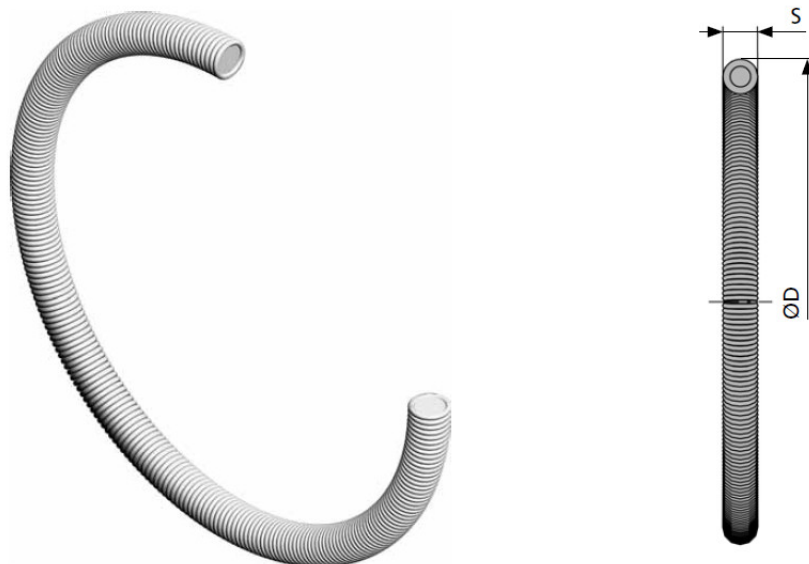
Type D with O-rings between flanges-ANSI 36.10/36.19 pipes

Size	Part No	O-ring	A	B	L	Pipe Size
2"	B3220/60.3X8.7D	OR47.22X3.53	65	42.9	15	60.3x8.7

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

Retain ring

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Metric pipes

Size	Part No	Pipe Size	D	S
1/2"	B08	26x6	30	4
3/4"	B12	36x8	40	4
1"	B16	39x7.5	44	5
1 1/4"	B20	46x8	51	5
1 1/2"	B24	56x8.5	61	5
2"	B32	66x8.5	71	5
2 1/2"	B40	80x10	85	5
3"	B48	97x12	103	6

ANSI 36.10/36.19 pipes

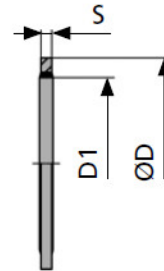
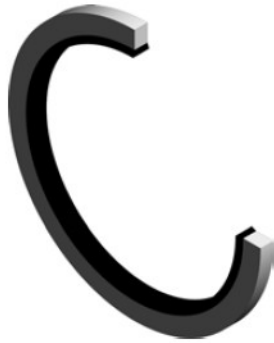
Size	Part No	Pipe Size	D	S
1/2"	B08/21.3	21.3x7.5	25.3	4
3/4"	B12/26.7	26.7x7.8	30.7	4
1"	B16/33.4	33.4x9.1	38.4	5
1 1/4"	B20/42.2	42.2x9.7	47.2	5
1 1/2"	B24/48.3	48.3x10.2	53.3	5
2"	B32/60.3	60.3x11.1	65.3	5
2 1/2"	B40/73	73.0x14.02	78	5
3"	B48/88.9	88.9x15.2	94.9	6

Component material:

AISI 316, special treated

Bonded seal

ISO 6162-2(SAE J518 Code 62)



Bonded seal for metric pipe ends

Size	Standard Part No	SS Part No	S	D	D1
1/2"	B0823	B0823SS	2.03	23.80	17.28
3/4"	B1213	B1213SS	2.34	33.27	24.26
1"	B1629	B1629SS	2.34	34.93	27.05
1 1/4"	B2030	B2030SS	3.25	42.80	33.89
1 1/2"	B2432	B2432SS	3.25	52.38	42.93
2"	B3219	B3219SS	3.25	63.50	51.69
2 1/2"	B4037	B4037SS	3.25	75.00	64.39
3"	B4839	B4839SS	3.25	90.17	76.08

Bonded seal for ANSI 36.10/36.19 pipe ends

Size	Standard Part No	SS Part No	S	D	D1
1/2"	B0821	B0821SS	2.00	15.88	10.37
3/4"	B0823	B0823SS	2.03	23.80	17.28
1"	B1633	B1633SS	2.34	28.58	21.54
1 1/4"	B2042	B2042SS	3.34	39.00	31.00
1 1/2"	B2448	B2448SS	3.25	44.45	35.94
2"	B3260	B3260SS	3.25	55.50	46.50
2 1/2"	B4073	B4073SS	3.25	69.85	54.89
3"	B4888	B4888SS	4.00	83.80	70.00

Material possibilities:

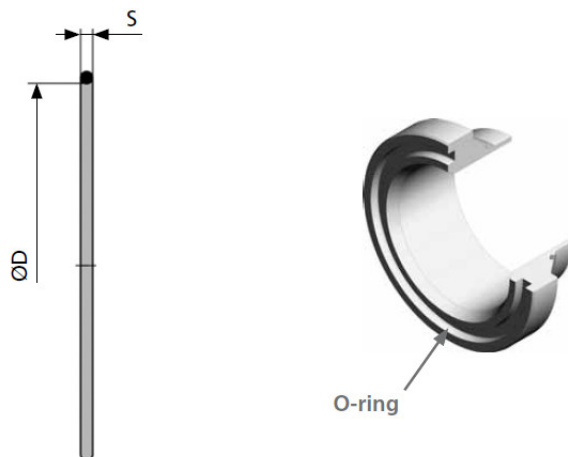
Standard= carbon steel, zinc plated with NBR

SS= stainless steel with NBR

Other materials and combinations on request.

O-ring between 37° insert cones

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Size	Part No	BUTZ Size
1/2"	OR18.64X3.53	08
3/4"	OR24.99X3.53	12
1"	OR32.92X3.53	16
1 1/4"	OR37.69X3.53	20
1 1/2"	OR47.22X3.53	24
2"	OR56.75X3.53	32
2 1/2"	OR69.44X3.53	40

Material possibilities:

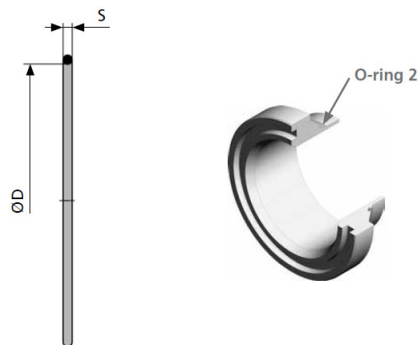
Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add V after Part No

Other materials on request.

O-ring 2 for insert cones

ISO 6162-2(SAE J518 Code 62)



Metric pipes

Pipe Size	Part No
16x2.0	OR12X1.0
18x2.0	OR14X1.0
20x2.0	OR16X1.0
20x2.5	OR15X1.0
25x2.5	OR20X1.0
25x3.0	OR19X1.0
30x3.0	OR23X1.0
30x4.0	OR22X1.0
38x4.0	OR30X1.0
38x5.0	OR28X1.0
42x4.0	OR34X1.0
50x5.0	OR41X1.78
50x6.0	OR37.82X1.78
60x5.0	OR50.52X1.78
60x6.0	OR47.35X1.78
73x7.0	OR56.87X1.78

ANSI 36.10/36.19 pipes

Pipe Size	Part No
21.3x3.73	OR14X1.0
21.3x4.78	OR12X1.0
26.7x3.91	OR20X1.0
26.7x5.56	OR16X1.0
33.4x3.38	OR28X1.0
33.4x4.55	OR23X1.0
42.2x3.56	OR34X1.0
42.2x4.85	OR32X1.0
48.3x3.68	OR41X1.78
48.3x5.08	OR37.82X1.78
60.3x3.91	OR53.70X1.78
60.3x5.54	OR47.35X1.78
73x7.01	OR56.87X1.78

Material possibilities:

Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add VI after Part No

Other materials on request.

SAE 6000 PSI



QUALITY MAKES THE DIFFERENCE

ED-Seal for male thread nipple

ISO 6162-2(SAE J518 Code 62)



SAE 6000 PSI

Part No
ED R 1/2 VI
ED R 3/4 M26X1.5 27X2 VI
ED R 1 + M33X2 VI
ED R 1 1/4 + M42X2 VI
ED R 1 1/2 + M48X2 VI

Material possibilities:

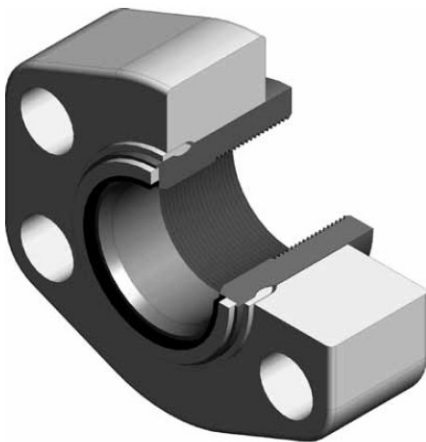
Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add V after Part No

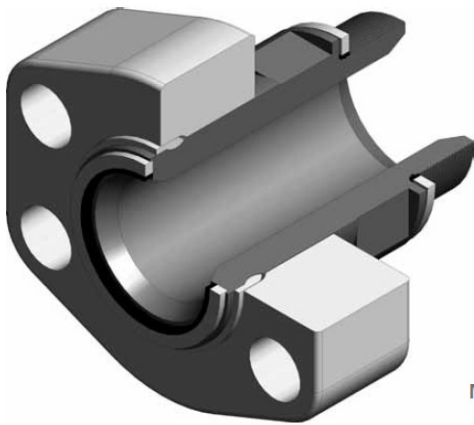
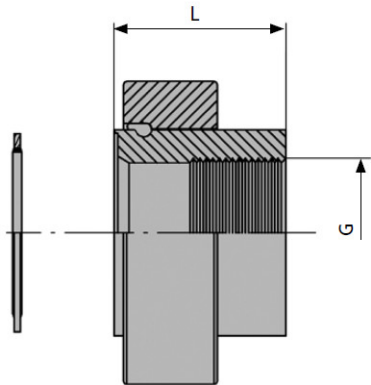
Other materials on request.

BUTZ-HP Retain Ring System

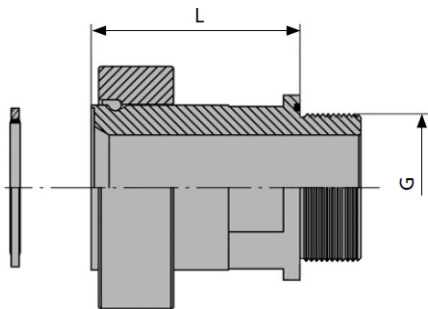
ISO 6162-2(SAE J518 Code 62)



Female thread flange



Male thread flange



SAE 6000 PSI

Complete Part No example:
B624013HP includes:
B624HP 1 pc
B24013HP 1 pc
B24HP 1 pc
B2432 1 pc

Complete Part No example:
B624014HP includes:
B624HP 1 pc
B24014HP 1 pc
B24HP 1 pc
B2432 1 pc
EDR112M48X2 1 pc

Female thread flange, BSPP

Pipe Size	Complete Part No	L	G	Weight [kg]	Body Part No
1 1/2"	B624013HP	45	1 1/4"	1.84	B24013HP
2"	B632013HP	55	1 1/2"	2.93	B32013HP

Male thread flange, BSPP

Pipe Size	Complete Part No	L	G	Seal 2	A/F	Weight [kg]	Body Part No
1 1/2"	B624014HP	78.2	1 1/2"	EDR112M48X2	50	1.71	B24014HP
2"	B632014HP	83.2	2"	OR59.9X2.62	65	2.55	B32014HP

Body material:
Standard=carbon steel, zinc plated
Stainless steel= add SS after Part No
Other materials on request.

Seal 2 material: FPM

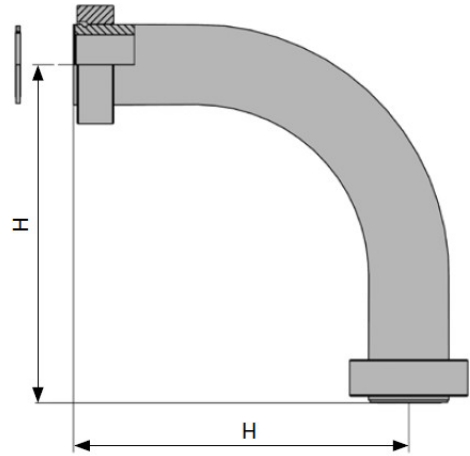
Flanges dimensions page 75
Bonded seals page 109



QUALITY MAKES THE DIFFERENCE

BUTZ-HP Retain Ring System

ISO 6162-2(SAE J518 Code 62)



Flange bend

SAE 6000 PSI

Flange bend

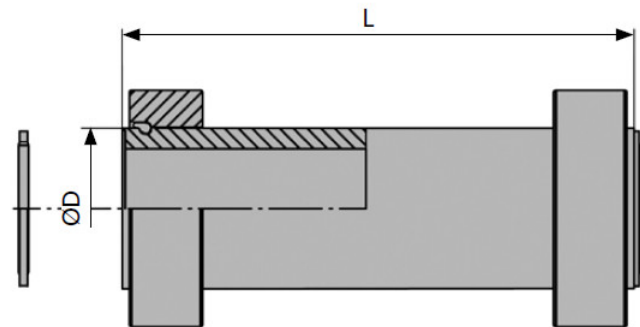
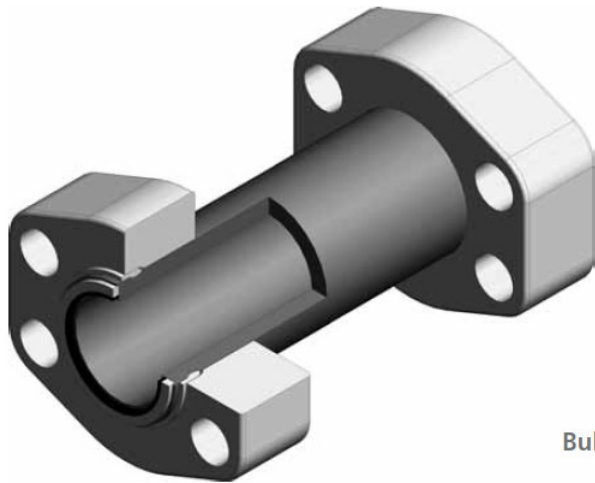
Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
1 1/2"	B624018HP	240	116	6.90	B24018HP
2"	B632018HP	275	173	10.0	B32018HP

Body material:
Standard= carbon steel, zinc plated
Not available in stainless steel
Other materials on request

Flanges dimensions page 75
Bonded seals page 109

BUTZ-HP Retain Ring System

ISO 6162-2(SAE J518 Code 62)



Bulkhead flange

SAE 6000 PSI

Complete Part No example:
B624019 includes:
 B624HP 2 pcs
 B24019HP 1 pc
 B24HP 2 pcs
 B2432 2 pcs

Bulkhead flange

Size	Complete Part No	L	D	Weight [kg]	Body Part No
1 1/2"	B624019HP	180	57	4.50	B24019HP
2"	B632019HP	210	68	6.92	B32019HP

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

Flange dimensions page 75
 Bonded seals page 109



QUALITY MAKES THE DIFFERENCE

Notes

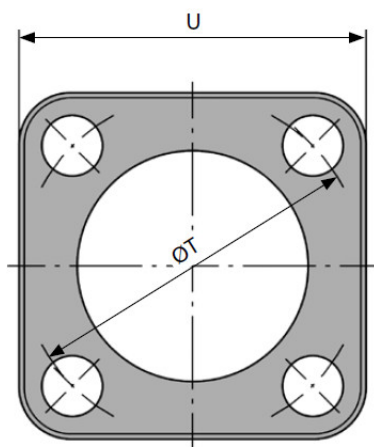
SAE 6000 PSI

BUTZ Flange System

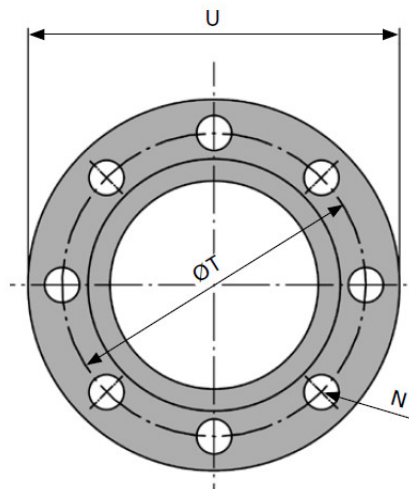
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Flange dimensions

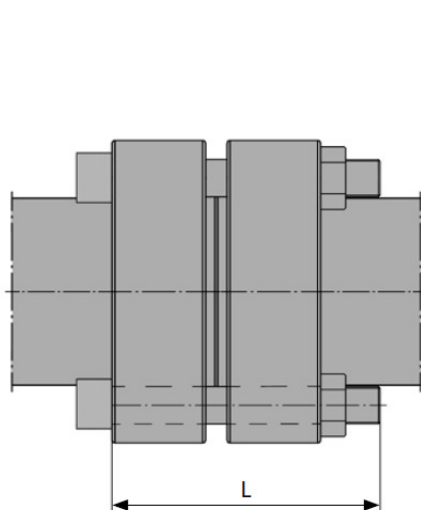
ISO 6164 up to 4"



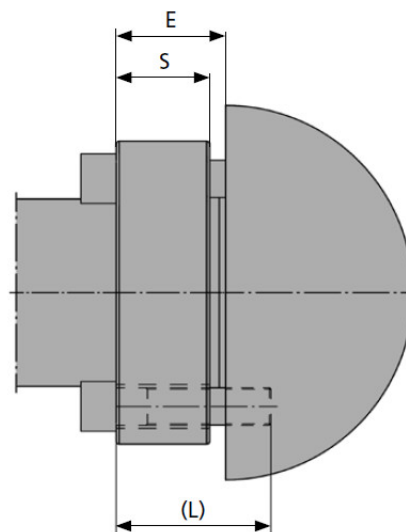
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Flange to flange



Flange to block

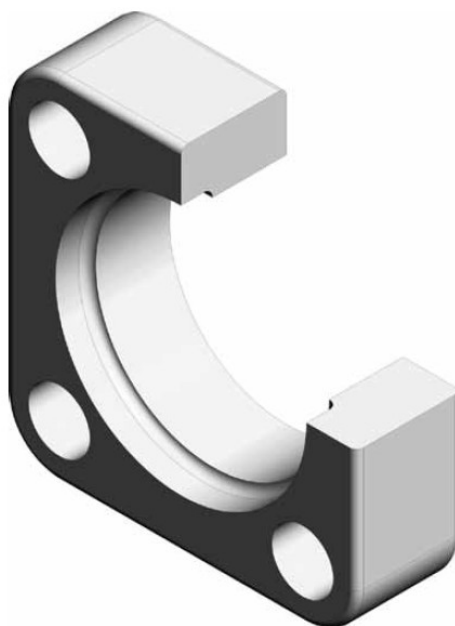
SAE 350-400 BAR

Size	BUTZ-flange type	T	E	S	U	N	Bolt DIN 912, 8.8	W.P. [bar]
1/2"	432	98	42	40	100	4	M16X110(60)	400
2 1/2"	440	118	47	40	120	4	M20X120(70)	400
3"	448	145	55	45	145	4	M24X140(80)	400
4"	456	175	56	50	180	4	M30X160(100)	400
4 1/2"	860	175	60	50	214	8	M20X140(80)	350
5"	864	205	59	50	245	8	M24X160(90)	350
6"	880	245	78	70	300	8	M30X220(120)	350
8"	888	290	78	70	350	8	M30X220(130)	350
8"	896	315	78	70	385	8	M36X220(130)	350
10"	8160	375	110	100	450	12	M36X300(180)	250
12"	8224/323.9	440	130	120	520	16	M39X360(220)	210
14"	8224/355.6	440	130	120	520	16	M39X360(220)	210

Size from 4 1/2" to 14" according to hydraulic equipment supplier.

Retain ring flange

ISO 6164 up to 4"



Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
2"	66	B432	B432HDG	B432SS	400	1.70
2 1/2"	80	B440	B440HDG	B440SS	400	2.80
3"	97	B448	B448HDG	B448SS	400	4.55
4"	115	B456	B456HDG	B456SS	400	6.70
4 1/2"	130	B860	B860HDG	B860SS	350	7.70
5"	150	B864	B864HDG	B864SS	350	10.2
6"	190	B880	B880HDG	B880SS	350	22.3
8"	220	B888	B888HDG	B888SS	350	28.1
8"	250	B896	B896HDG	B896SS	350	30.5
10"	273	B8160	B8160HDG	B8160SS	250	58.0

ANSI 36.10/36.19 pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
2"	60.3	432/60.3	432/60.3HDG	432/60.3SS	400	1.73
2 1/2"	73.0	440/73	440/73HDG	440/73SS	400	2.82
3"	88.9	448/88.9	448/88.9HDG	448/88.9SS	400	4.66
4"	114.3	456/114.3	456/114.3HDG	456/114.3SS	400	6.72
5"	141.3	864/141.3	864/141.3HDG	864/141.3SS	350	10.4
6"	168.3	880/168.3	880/168.3HDG	880/168.3SS	350	23.8
8"	219.1	888/219.1	888/219.1HDG	888/219.1SS	350	28.1
10"	273.0	8160	8160HDG	8160SS	250	58.0
12"	323.9	8224/323.9	8224/323.9HDG	8224/323.9SS	210	48.8
14"	355.6	8224/355.6	8224/355.6HDG	8224/355.6SS	210	83.2

Material possibilities:

Standard= carbon steel, zinc plated

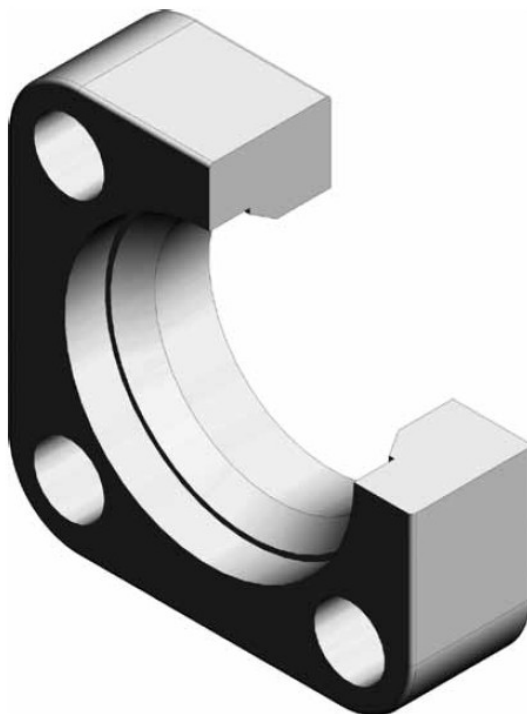
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Flare flange

ISO 6164 up to 4"



SAE 350-400 BAR

Metric pipes

Size	Pipe O.D.	Standard Part No	HDG Part No	SS Part No	W.P. [bar]	Weight [kg]
1 1/2"	50	B424F	B424FHDG	B424FSS	400	1.10
2"	60	B432F	B432FHDG	B432FSS	400	1.70
2 1/2"	73	B440F	B440FHDG	B440FSS	400	2.80

Material possibilities:

Standard= carbon steel, zinc plated

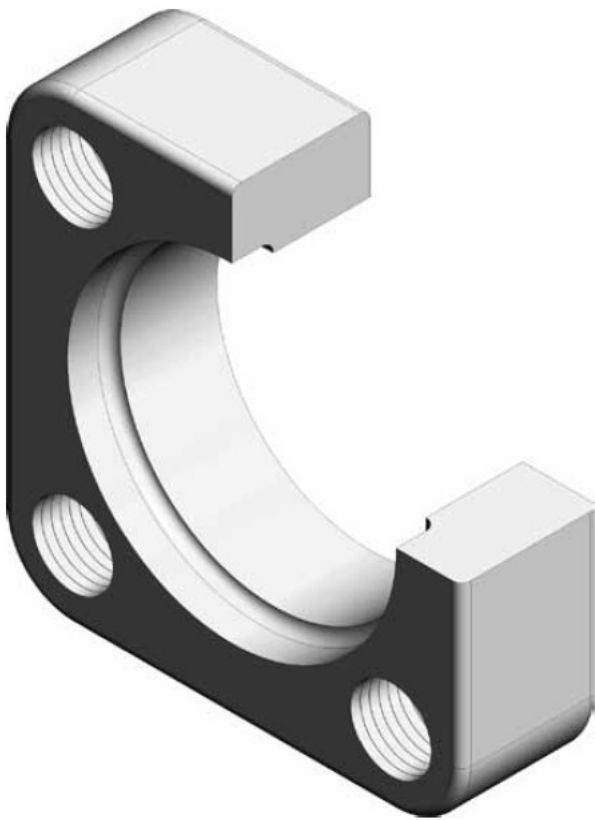
-HDG= carbon steel, hot dip galvanized

-SS= stainless steel

Other materials on request.

Counter flange

ISO 6164 up to 4"



Retain ring flange

Size	Part No	Bolt, DIN 912, 8.8	Weight [kg]
2"	B432/M16	M16X65	1.70
2 1/2"	B440/M20	M20X90	2.80
3"	B448/M24	M24X100	4.55
4"	B456/M30	M30X110	6.70

Flare flange

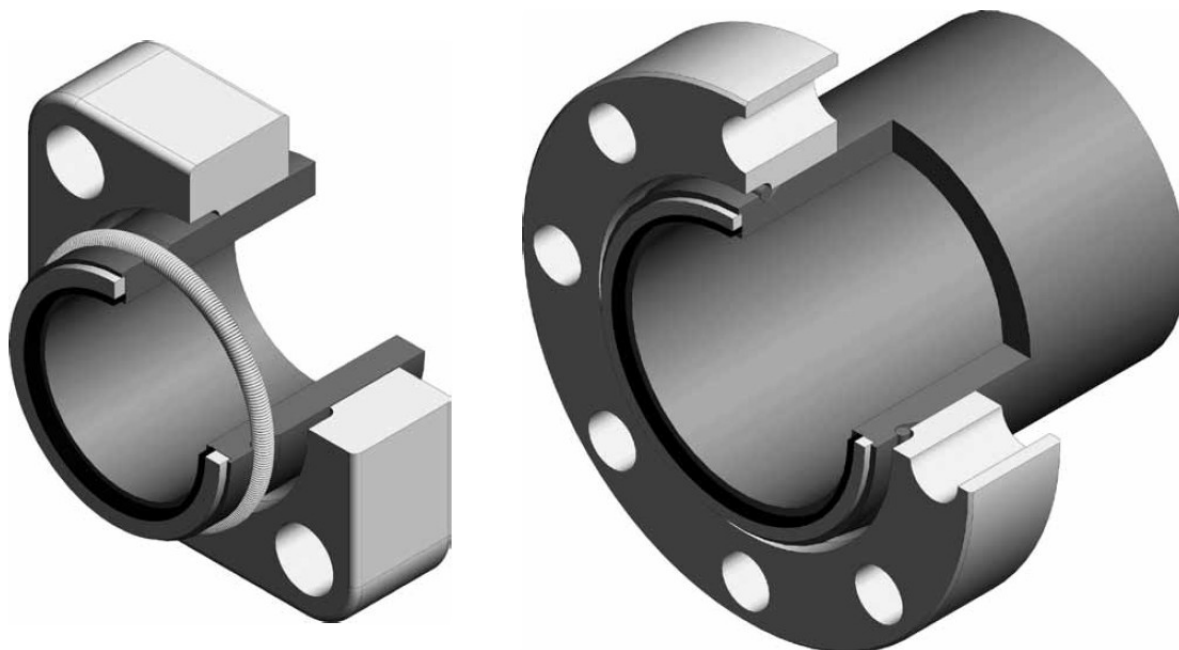
Size	Part No	Bolt, DIN 912, 8.8	Weight [kg]
2"	B432F/M16	M16X65	1.70
2 1/2"	B440F/M20	M20X80	2.80

Material possibilities:
 Standard= carbon steel, zinc plated
 -SS= stainless steel
 Other materials on request.

SAE 350-400 BAR

Grooving direct on to pipe

ISO 6164 up to 4"



Metric pipes

Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
2"	66.0x8.5	B432	B32	B3219
2 1/2"	80.0x10.0	B440	B40	B4037
3"	97.0x12.0	B448	B48	B4839
4"	115.0x15.0	B456	B56	B5644
4 1/4"	130.0x15.0	B860	B60	B6000
5"	150.0x15.0	B864	B64	B6455
6"	190.0x20.0	B880	B80	B8001
8"	220.0x20.0	B888	B88	*
8"	250.0x25.0	B896	B96	B9600
10"	273.0x25.0	B8160	B160	*

ANSI 36.10/36.19 pipes

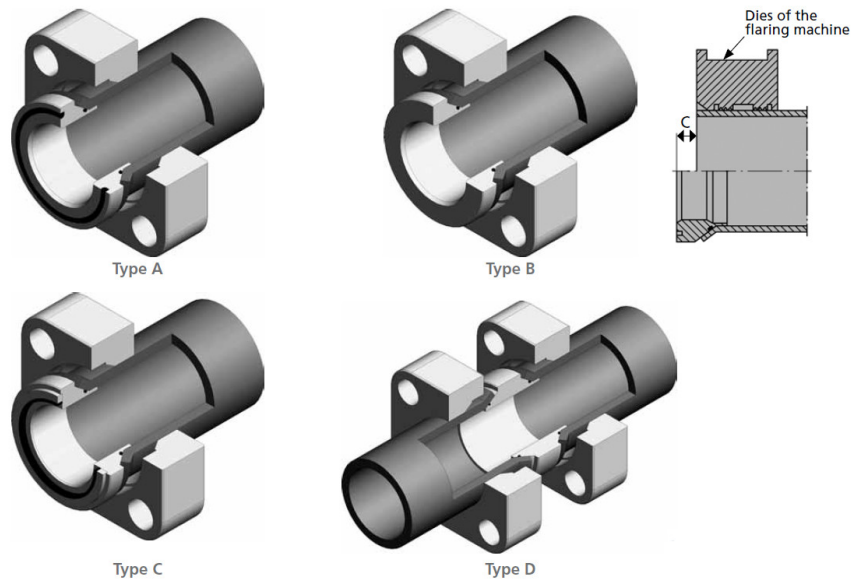
Size	Pipe Size	Flange Part No	Retain ring Part No	Bonded seal Part No
2"	60.3	B432/60.3	B32/60.3	B3260
2 1/2"	73.0	B440/73	B40/73	B4073
3"	88.9	B448/88.9	B48/88.9	B4888
4"	114.3	B456/114.3	B56	B5644
5"	141.3	B864/141.3	B64/141.3	*
6"	168.3	B880/168.3	B80/168.3	*
8"	219.3	B888/219.3	B88	*
10"	273.0	B8160	B160	*
12"	323.9	B8224/323.9	B192/323.9	*
14"	355.6	B8224/355.6	B224/355.6	*

*)From sizes 5" to 10" use seal carrier instead of bonded seal.

 Flanges page 119
 Retain rings page 136
 Bonded seals page 137

Flare flange connections

ISO 6164 up to 4"



Complete Part No example:
B424/50x5FA includes:
 B424F 1 pc
 B24/50X5FA 1 pc
 OR47.22X3.53 1 pc
 OR41X1.78 1 pc

Type A

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No
1 1/2"	50x5	B424/50x5FA	11	1.10	B24/50x5FA	OR47.22X3.53	OR41x1.78
2"	60x6	B432/60x6FA	11	2.00	B32/60x6FA	OR56.75X3.53	OR47.37x1.78
2 1/2"	73x7	B440/73x7FA	12	2.60	B40/73x7FA	OR69.44X3.53	OR56.87x1.78

Type B

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring Part No	O-Ring 2 Part No
1 1/2"	50x5	B424/50x5FB	11	1.10	B24/50x5FB	OR47.22X3.53	OR41x1.78
2"	60x6	B432/60x6FB	11	2.00	B32/60x6FB	OR56.75X3.53	OR47.37x1.78
2 1/2"	73x7	B440/73x7FB	12	2.60	B40/73x7FB	OR69.44X3.53	OR56.87x1.78

Type C

Size	Pipe Size	Complete Part No	C	Weight [kg]	Insert Part No	O-Ring 2 Part No	Bonded Seal Part No
1 1/2"	50x5	B424/50x5FC	11	1.10	B24/50x5FC	OR41X1.78	B2432
2"	60x6	B432/60x6FC	11	2.00	B32/60x6FC	OR47.37X1.78	B3219
2 1/2"	73x7	B440/73x7FC	12	2.60	B40/73x7FC	OR56.87X1.78	B4037

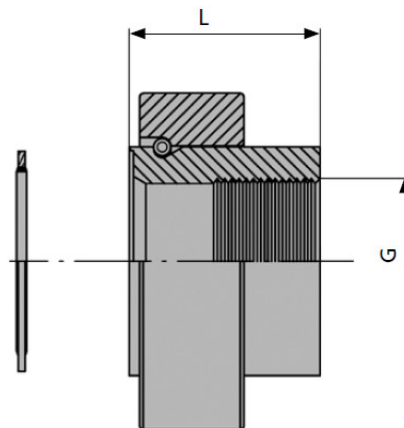
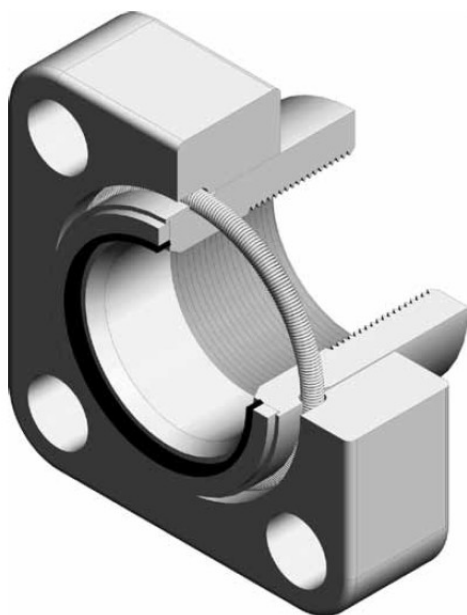
Type D

Size	Pipe Size	Complete Part No	Weight [kg]	Insert Part No	O-Ring 2 Part No
1 1/2"	50x5	B424/50x5FD	1.30	B24/50x5FD	OR41x1.78
2"	60x6	B432/60x6FD	2.80	B32/60x6FD	OR47.37x1.78
2 1/2"	73x7	B440/73x7FD	2.90	B40/73x7FD	OR56.87x1.78

Flanges page 120
 O-rings page 140
 Bonded seals page 137
 Inserts cones page 133

Female thread flange, BSPP

ISO 6164 up to 4"



SAE 350-400 BAR

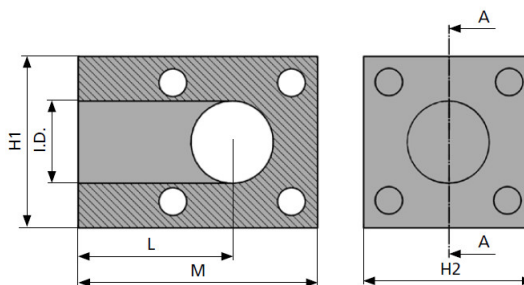
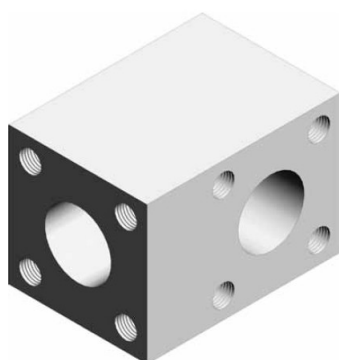
Size	Complete Part No	L	G	Weight [kg]	Body Part No
2"	B432013	55	1 1/2"	3.10	B32013
2 1/2"	B440013	80	2"	3.60	B40013
3"	B448013	85	2 1/2"	5.85	B48013
4"	B456013	100	3"	10.5	B56013

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request

Flanges page 119
 Retain rings page 136
 Bonded seals page 137

Tee block

ISO 6164 up to 4"



Size		Part No	L	H1	H2	M	I.D.	Weight [kg]
Body	Outlet							
2"		B432116	90	100	100	140	48	7.39
2"	1 1/2"	B432/624/432116	90	100	70	140	48/38/48	6.55
2"	1 1/4"	B432/620/432116	90	100	70	140	48/30/48	6.81
2"	1"	B432/616/432116	90	100	70	140	48/23/48	6.08
2 1/2"		B440116	100	120	120	160	60	13.1
2 1/2"	2"	B440/432/440116	100	120	100	160	60/48/60	10.6
2 1/2"	1 1/2"	B440/624/440116	100	120	80	160	60/38/60	8.10
2 1/2"	1 1/4"	B440/620/440116	90	120	80	150	60/30/60	8.40
3"		B448116	150	150	150	225	73	27.8
3"	2 1/2"	B448/440/448116	130	150	120	205	73/60/73	20.5
3"	2"	B448/432/448116	115	150	100	190	73/48/73	16.1
3"	1 1/2"	B448/624/448116	115	150	80	190	73/38/73	13.5
4"		B456116	145	180	180	235	85	40.7
4"	3"	B456/448/456116	135	180	150	225	85/73/85	34.7
4"	2 1/2"	B456/440/456116	135	180	120	225	85/60/85	28.2
4"	2"	B456/432/456116	115	180	120	205	85/48/85	26.0
4 1/2"		B860116	160	214	214	267	105	70.2
4 1/2"	4"	B860/456/860116	160	214	190	267	105/85/105	64.1
4 1/2"	3"	B860/448/860116	160	214	180	267	105/73/105	62.2
4 1/2"	2 1/2"	B860/440/860116	160	214	170	267	105/60/105	59.8
5"		B864116	170	238	250	295	120	102
5"	4 1/2"	B864/860/864116	170	238	250	295	120/105/120	106
5"	4"	B864/456/864116	170	238	210	295	120/85/120	94.1
5"	3"	B864/448/864116	170	238	210	295	120/73/120	96.2
6"		B880116	210	300	300	360	150	174
6"	5"	B880/864/880116	200	300	260	350	150/120/150	160
6"	4 1/2"	B880/860/880116	200	300	260	350	150/105/150	163
6"	4"	B880/456/880116	190	300	230	340	150/85/150	121
8"		B896116	270	386	386	463	200	386
8"	6"	B896/880/896116	257	386	330	450	200/150/200	332
8"	5"	B896/864/896116	237	386	300	430	200/120/200	294
8"	4 1/2"	B896/860/896116	237	386	250	430	200/105/200	297

Body material:

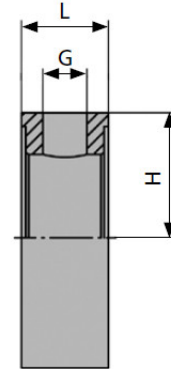
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Tee between, BSPP

ISO 6164 up to 4"



Please add measure L to bolt lengths mentioned on page 118.

Size	Part No	L	H	G	Weight [kg]
2"	B32035	25	36.0	1/4"	0.5
2"	B32036	35	34.6	1/2"	0.6
2 1/2"	B40036	35	42.6	1/2"	1.0
2 1/2"	B40037	40	41.0	3/4"	1.0
3"	B48036	45	49.0	1/2"	1.7
3"	B48037	55	54.0	3/4"	1.9
4"	B56036	35	67.0	1/2"	2.6
4"	B56037	40	64.0	3/4"	2.8
4 1/2"	B60036	35	70.0	1/2"	3.0
4 1/2"	B60037	40	69.0	3/4"	3.3
5"	B64036	35	83.0	1/2"	4.0
5"	B64037	40	80.0	3/4"	4.3
6"	B80038	45	100	1"	10.0

Body material:

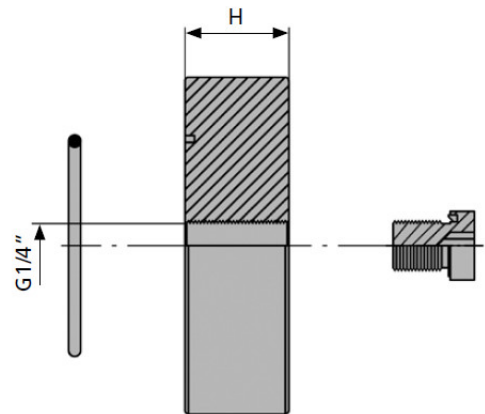
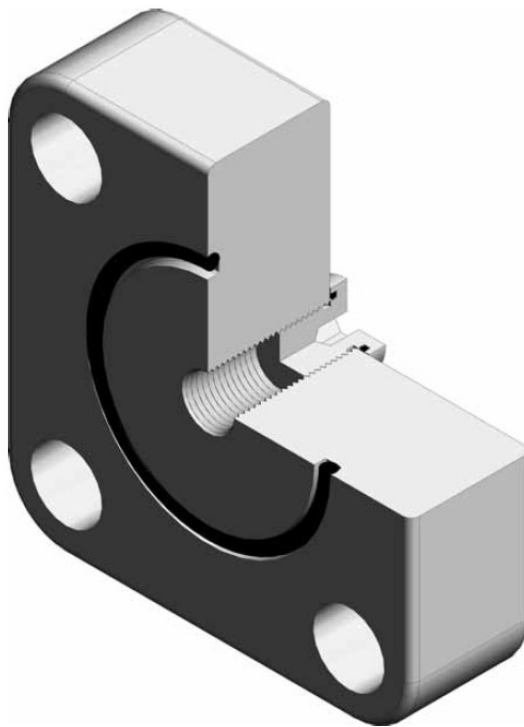
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Blind flange

ISO 6164 up to 4"



SAE 350-400 BAR

Size	Part No	O-ring Part No	H	Weight [kg]
2"	B432125	OR53.57X3.53	40	2.7
2 1/2"	B440125	OR66.27X3.53	40	3.8
3"	B448125	OR82.14X3.53	45	6.3
4"	B456125	OR98.02X3.53	50	10.8
4 1/2"	B860125	OR110.72X3.53	50	15.9
5"	B864125	OR136.12X3.53	50	19.4
6"	B880125	OR158.34X3.53	70	32.5
8"	B896125	OR209.14X3.53	70	42.0

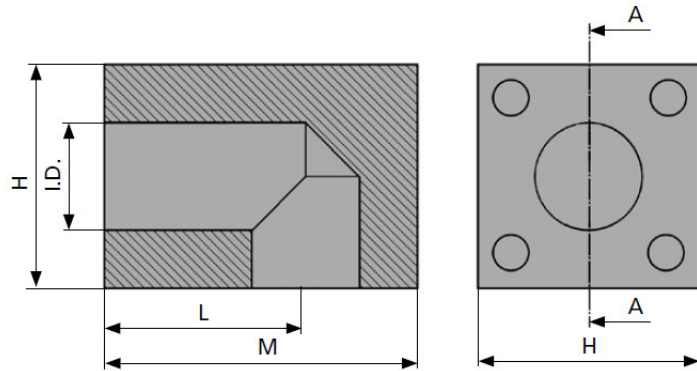
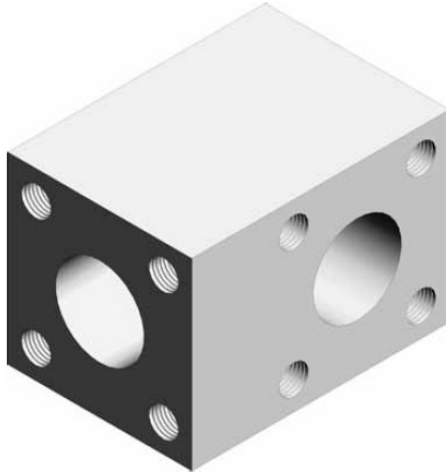
Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request
 O-ring, ED-seal and plug included in a Part No



QUALITY MAKES THE DIFFERENCE

Elbow block

ISO 6164 up to 4"



SAE 350-400 BAR

Size	Part No	H	L	M	I.D.	Weight [kg]
2"	B432115	100	90	140	48	8.80
2 1/2"	B440115	120	100	160	60	14.5
3"	B448115	150	150	225	72	31.6
4"	B456115	180	145	235	85	48.3
4 1/2"	B860115	214	160	267	105	79.6
5"	B864115	250	170	295	120	92.9
6"	B880115	300	210	360	150	204
8"	B896115	386	270	463	200	370

Body material:

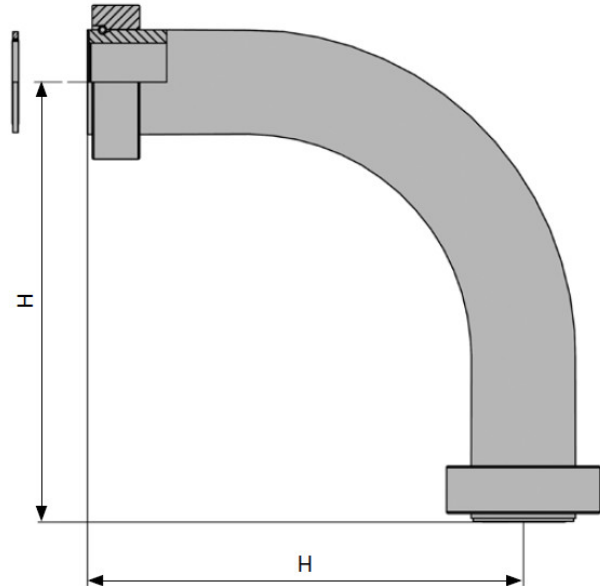
Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other materials on request

Flange bend

ISO 6164 up to 4"



SAE 350-400 BAR

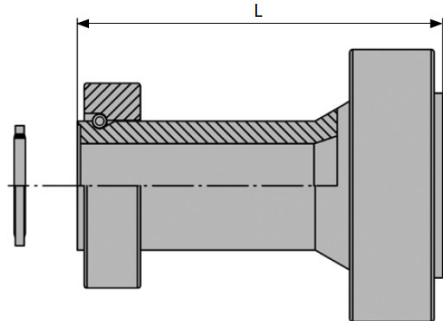
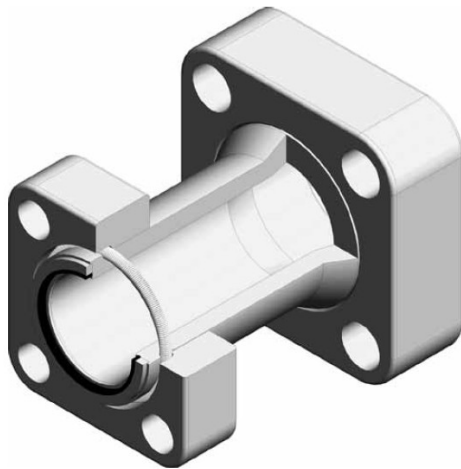
Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
2"	B432018	275	165	8.70	B32018
2 1/2"	B440018	450	200	18.0	B40018
3"	B448018	540	244	30.8	B48018
4"	B456018	580	289	54.0	B56018
4 1/2"	B860018	610	326	62.0	B60018
5"	B864018	690	376	80.0	B64018
6"	B880018	760	380	153	B80018
8"	B896018	1000	500	319	B96018

Body material:
Standard= carbon steel, zinc plated
Stainless steel= add SS after Part No
Other materials on request

Flanges page 119
Retain rings page 136
Bonded seals page 137

Reducer flange

ISO 6164 up to 4"



Complete Part No example:

BRF432-624 includes:

B432	1 pc
B624	1 pc
B32-24	1 pc
B32	1 pc
B3219	1 pc
B24	1 pc
B2432	1 pc

Size	Complete Part No	L	Weight [kg]	Body Part No
2"-1 1/2"	BRF432-624	130	4.31	B32-24
2"-1 1/4"	BRF432-620	130	3.55	B32-20
2 1/2"-2"	BRF440-432	150	5.91	B40-32
2 1/2"-1 1/2"	BRF440-624	150	5.50	B40-24
3"-2 1/2"	BRF448-440	180	9.68	B48-40
3"-2"	BRF448-432	180	8.58	B48-32
4"-3"	BRF456-448	200	16.6	B56-48
4"-2 1/2"	BRF456-440	200	13.7	B56-40
4"-2"	BRF456-432	200	12.5	B56-32
4 1/2"-4"	BRF860-456	250	23.6	B60-56
4 1/2"-3"	BRF860-448	250	19.6	B60-48
5"-4 1/2"	BRF864-860	250	28.5	B64-60
5"-4"	BRF864-456	250	27.5	B64-56
5"-3"	BRF864-448	250	24.0	B64-48
6"-5"	BRF880-864	250	41.6	B80-64
6"-4 1/2"	BRF880-860	250	38.1	B80-60
6"-4"	BRF880-456	250	38.0	B80-56
6"-3"	BRF880-448	250	35.0	B80-48
8"-6"	BRF896-880	300	79.7	B96-80
8"-5"	BRF896-864	300	71.5	B96-64

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

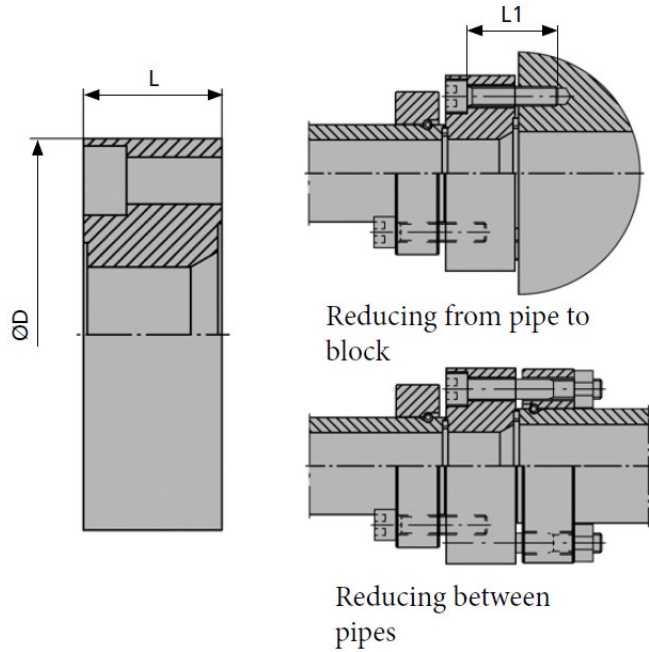
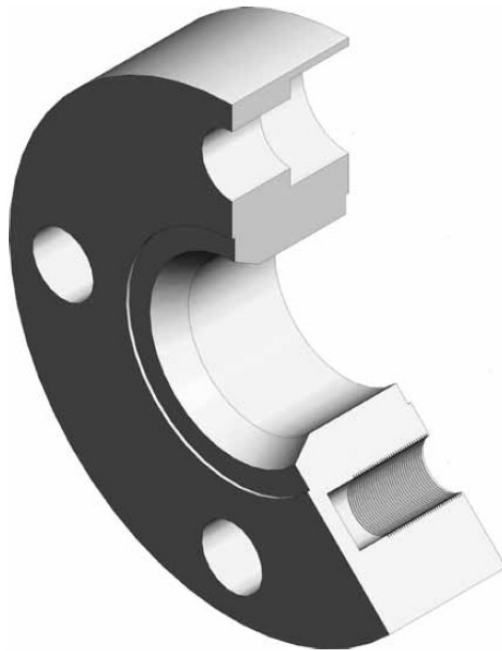
Flanges page 119

Retain rings page 136

Bonded seals page 137

Reducer block

ISO 6164 up to 4"



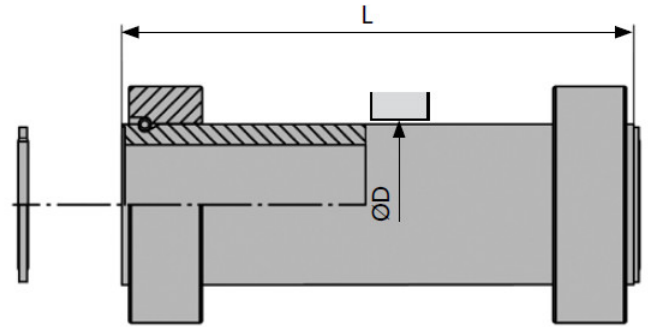
Size	Complete Part No	D	L	Bolt size DIN 912,8.8	Weight [kg]
2 1/2"-2"	BRBE440-432	157	45	M20x50	5.47
2 1/2"-1 1/2"	BRBE440-624	157	45	M20x50	5.49
2 1/2"-1 1/4"	BRBE440-620	157	45	M20x50	5.78
3"-2 1/2"	BRBE448-440	191	50	M24x55	8.29
3"-2"	BRBE448-632	191	50	M24x55	8.60
3"-1 1/2"	BRBE448-624	191	50	M24x55	8.86
4"-3"	BRBE456-448	230	60	M30x65	13.9
4"-2 1/2"	BRBE456-440	230	60	M30x65	14.6
4"-2"	BRBE456-632	230	60	M30x65	15.2
4 1/2"-4"	BRBE860-456	220	85	M20x90	18.4
4 1/2"-3"	BRBE860-448	220	85	M20x90	19.7
4 1/2"-2 1/2"	BRBE860-440	220	85	M20x90	20.5
5"-4 1/2"	BRBE864-860	250	80	M24x85	21.3
5"-4"	BRBE864-456	250	80	M24x85	21.6
5"-3"	BRBE864-448	250	80	M24x85	23.2
6"-5"	BRBE880-864	300	80	M30x90	31.1
6"-4 1/2"	BRBE880-860	300	80	M30x90	33.7
6"-4"	BRBE880-456	300	80	M30x90	33.8
8"-6"	BRBE896-880	385	100	M36x120	67.5
8"-5"	BRBE896-864	385	100	M36x120	70.8
8"-4 1/2"	BRBE896-860	385	100	M36x120	71.9

Body material:
Standard= carbon steel, zinc plated
Stainless steel= add SS after Part No
Other material on request

L1= reducer block to block

Bulkhead flange

ISO 6164 up to 4"



SAE 350-400 BAR

Complete Part No example:

B432019 includes:

B432	2 pcs
B32019	1 pc
B32	2 pcs
B3219	2 pcs

Size	Complete Part No	Required bulkhead opening OD	L	Weight [kg]	Body Part No
2"	B432109	68	210	5.80	B32019
2 1/2"	B440019	82	220	8.20	B40019
3"	B448019	99	240	14.0	B48019
4"	B456019	117	260	23.3	B56019
4 1/2"	B860019	132	260	27.0	B60019
5"	B864019	152	260	34.0	B64019
6"	B880019	192	290	60.0	B80019
8"	B896019	252	320	105	B96019

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

Other material on request

Flanges page 119

Retain rings page 136

Bonded seals page 137

Insert cones for flare flange connections

ISO 6164 up to 4"



Type A



Type B



Type C



Type D

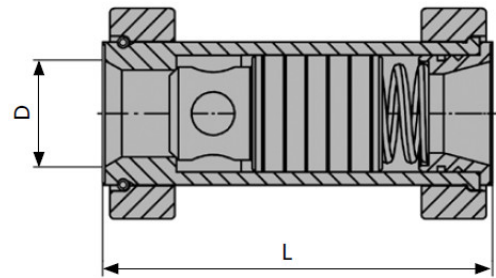
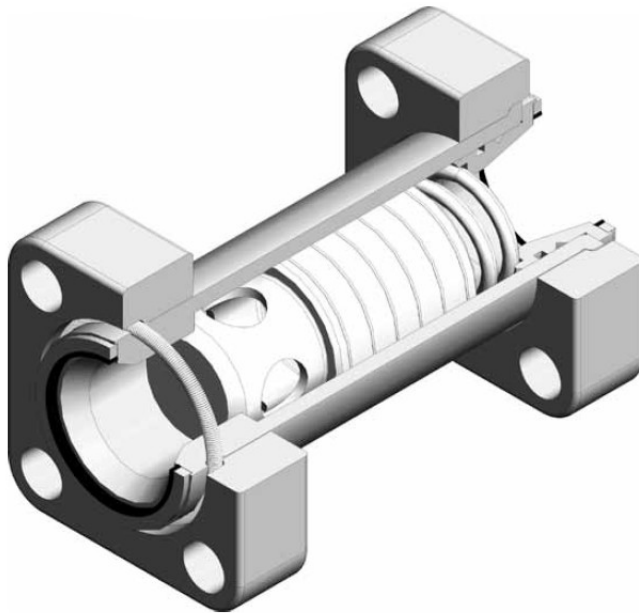
SAE 350-400 BAR

Size	Part No Type A	Part No Type B	Part No Type C	Part No Type D	Pipe Size
1 1/2"	B24/50X5FA	B24/50X5FB	B24/50X5FC	B24/50X5FD	50x5
2"	B32/60X6FA	B32/60X6FB	B32/60X6FC	B32/60X6FD	60x6
2 1/2"	B40/73X7FA	B40/73X7FB	B40/73X7FC	B40/73X7FD	73x7

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other materials on request(Bonded seals and O-rings not included)

Non return valve

ISO 6164 up to 4"



SAE 350-400 BAR

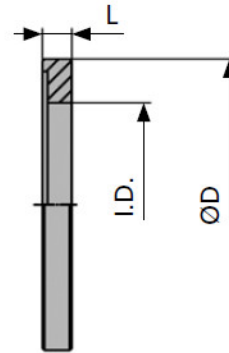
Complete Part No example:
B 432135 includes:
 B432 2 pcs
 B32135 1 pc
 B32 1 pc
 B3219 2 pcs

Size	Complete Part No	W.P. [bar]	D	L	Weight [kg]
2"	B432135	400	49	180	5.2
2 1/2"	B440135	400	60	190	6.6
3"	B448135	400	73	200	9.6

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Standard opening pressure= 0.5 bar. On request 1.5 bar to 3 bar.

Flanges page 119
 Retain rings page 136
 Bonded seals page 137

ISO 6164 up to 4"

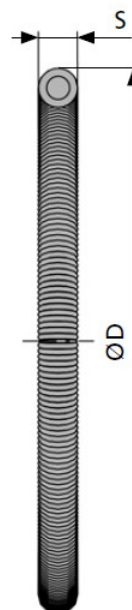
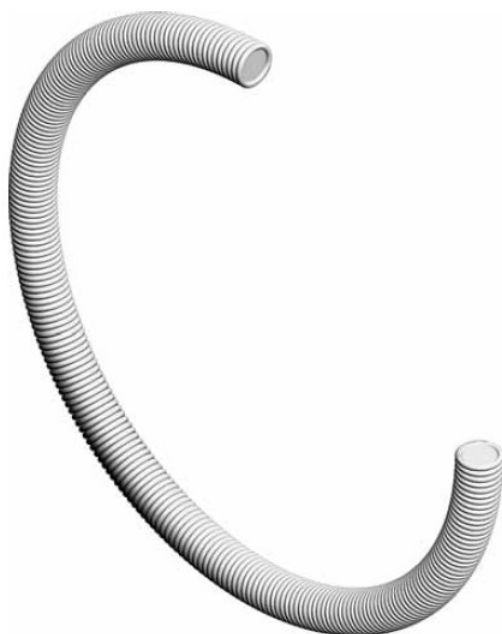


Size	Part No	D	L	ID	Weight [kg]
2"	B32099	70	7	49	0.12
2 1/2"	B40099	84	7	60	0.16
3"	B48099	102	7	72	0.22

135

Retain ring

ISO 6164 up to 4"



Metric pipes

Size	Part No	Pipe Size	D	S
2"	B32	66x8.5	71	5
2 1/2"	B40	80x10	85	5
3"	B48	97x12	103	6
4"	B56	115x15	123	8
4 1/2"	B60	130x15	138	8
5"	B64	150x15	158	8
6"	B80	190x20	200	10
8"	B88	220x20	232	12
8"	B96	250x25	262	12

ANSI 36.10/36.19 pipes

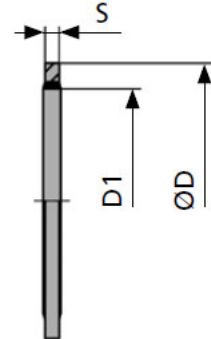
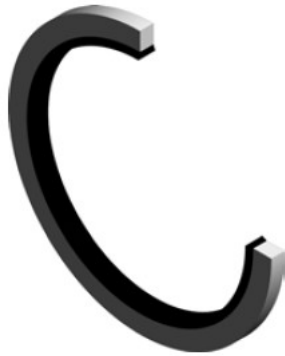
Size	Part No	Pipe Size	D	S
2"	B32/60.3	60.3	65.2	5
2 1/2"	B40/73	73.0	78.0	5
3"	B48/88.9	88.9	94.9	6
4"	B56	114.3	124.3	8
5"	B64/141.3	141.3	149.3	8
6"	B80/168.3	168.3	178.3	10
8"	B88	219.1	231.1	12
10"	B160	273.0	285	12
12"	B192/323.9	323.9		
14"	B224/355.6	355.6		

Component material:

AISI 316, special treated

Bonded seal

ISO 6164 up to 4"



Bonded seal for metric pipe ends

Size	Standard Part No	SS Part No	S	D	D1
2"	B3219	B3219SS	3.25	63.50	51.69
2 1/2"	B4037	B4037SS	3.25	75.00	64.39
3"	B4839	B4839SS	3.25	90.17	76.08
4"	B5644	B5644SS	4.0	110.0	95.00
4 1/2"	B6000	B6000SS	4.0	126.0	108.0
5"	B6455	B6455SS	5.0	143.7	127.0
6"	B8001	B8001SS	8.0	181.0	155.0
8"	B9600	B9600SS	9.0	240.0	205.0

SAE 350-400 BAR

Bonded seal for ANSI 36.10/36.19 pipe ends

Size	Standard Part No	SS Part No	S	D	D1
2"	B3260	B3260SS	3.25	55.50	46.50
2 1/2"	B4073	B4073SS	3.25	69.85	54.89
3"	B4888	B4888SS	4.0	83.80	70.00
4"	B5644	B5644SS	4.0	110.0	95.00

Material possibilities:

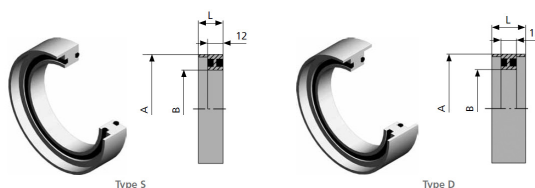
Standard= carbon steel, zinc plated with NBR

SS= stainless steel with NBR

Other materials and combinations on request.

Seal carrier - Type S & Type D

ISO 6164 up to 4"



Type S with O-rings between flange and block, metric pipes

Size	Part No	O-ring	A	B	G	L	Pipe Size
2 1/2"	B4020S	OR66.27X3.53	84	60	12	15	80x10
3"	B4820S	OR82.14X3.53	102	73	12	15	97x12
4"	B5620S	OR98.02X3.53	120	90	12	15	115x15
4 1/2"	B6020S	OR110.72X3.53	135	100	12	15	130x15
5"	B6420S	OR136.12X3.53	155	120	16	19	150x15
6"	B8020S	OR158.34X3.53	195	150	16	19	190x20
8"	B8820S	OR194.3X5.7	225	180	16	19	220x20
8"	B9620S	OR209.14X3.53	257	200	16	19	250x25
10"	B16020S	OR239.3X5.7	279	223	16	19	273x25

Type S with O-rings between flange and block, ANSI 36.10/36.19 pipes

Size	Part No	O-ring	A	B	G	L	Pipe Size
3"	B4820/88.9x11.13S	OR72.62X3.53	93	67	12	15	88.9x11.13
4"	B5620/114.3x13.49S	OR98.02X3.53	119.3	88	12	15	114.3x13.49
5"	B6420/141.3x15.88S	OR120.24X3.53	149	110	16	19	141.3x15.88
6"	B8020/168.3x18.26S	OR152X3.53	174	132	16	19	168.3x18.26
8"	B8820/219.1x23.01S	OR194.3X5.7	225	175	16	19	219.1x22.23
10"	B16020/273x28.58S	OR293.3X5.7	279	223	16	19	273x25.4

Type D with O-rings between flange and block, metric pipes

Size	Part No	O-ring	A	B	G	L	Pipe Size
2 1/2"	B4020D	OR66.27X3.53	84	60	12	18	80x10
3"	B4820D	OR82.14X3.53	102	73	12	18	97x12
4"	B5620D	OR98.02X3.53	120	90	12	18	115x15
4 1/2"	B6020D	OR110.72X3.53	135	100	12	18	130x15
5"	B6420D	OR136.12X3.53	155	120	16	22	150x15
6"	B8020D	OR158.34X3.53	195	150	16	22	190x20
8"	B8820D	OR194.3X5.7	225	180	16	22	220x20
8"	B9620D	OR209.14X3.53	257	200	16	22	250x25
10"	B16020D	OR239.3X5.7	279	223	16	22	273x25

Type D with O-rings between flange and block, ANSI 36.10/36.19 pipes

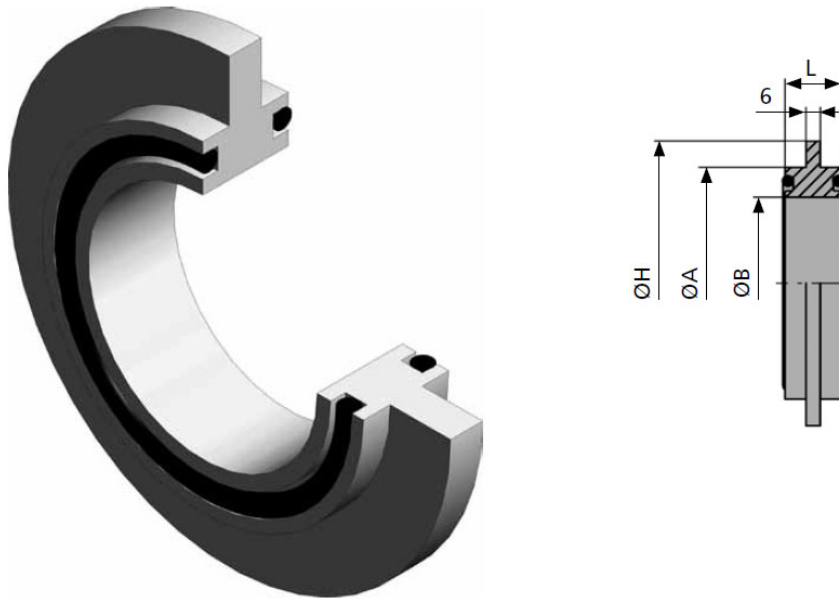
Size	Part No	O-ring	A	B	G	L	Pipe Size
3"	B4820/88.9x11.13D	OR72.62X3.53	93	67	12	18	88.9x11.13
4"	B5620/114.3x13.49D	OR98.02X3.53	119.3	88	12	18	114.3x13.49
5"	B6420/141.3x15.88D	OR120.24X3.53	149	110	16	22	141.3x15.88
6"	B8020/168.3x18.26D	OR152X3.53	174	132	16	22	168.3x18.26
8"	B8820/219.1x23.01D	OR194.3X5.7	225	175	16	22	219.1x22.23
10"	B16020/273x28.58D	OR293.3X5.7	279	223	16	22	273x25.4

Material possibilities: Standard= carbon steel, zinc plated with NBR O-rings.

Stainless steel with NBR O-rings= add SS after Part No. Other materials and combinations on request.

Seal carrier

ISO 6164 up to 4"



Please add 10 or 20 mm to bolt lengths mentioned on page 118.

ANSI 36.10/36.19 pipes

Size	Part No	SCH	A	B	H	L	O-ring Part No
2"	B3210/60.3X8.74	160	60.3	42.8	83	12	OR47.22X3.53
2"	B3210/60.3X11.07	XXS	60.3	38.1	83	12	OR47.22X3.53
2 1/2"	B4010/73X9.53	160	73.0	53.9	99	12	OR58.74X3.53
2 1/2"	B4010/73X14.02	XXS	73.0	44.9	99	12	OR58.74X3.53
3"	B4810/88.9X11.13	160	88.9	66.6	121	12	OR72.62X3.53
3"	B4810/88.9X15.24	XXS	88.9	58.4	121	12	OR72.62X3.53
4"	B5610/114.3X13.49	160	114.3	87.3	145	12	OR98.02X3.53
4"	B5610/114.3X17.12	XXS	114.3	80.0	145	12	OR98.02X3.53
5"	B6410/141.3X15.88	160	141.3	109.5	181	12	OR120.24X3.53
5"	B6410/141.3X19.05	XXS	141.3	103.2	181	12	OR120.24X3.53
6"	B8010/168.3X18.26	160	168.3	131.8	214	16	OR152X3.53
6"	B8010/168.3X21.95	XXS	168.3	124.4	214	16	OR152X3.53
8"	B8810/219.1X23.01	160	219.1	173.1	260	16	OR194.3X5.7
8"	B8810/219.1X22.23	XXS	219.1	174.6	260	16	OR194.3X5.7
10"	B16010/273X28.58	160	273.0	216	338	16	OR239.3X5.7
10"	B16010/273X25.40	XXS	273.0	222	338	16	OR239.3X5.7
12"	B22410/323.9X33.32	160	323.9	257	360	20	OR289.3X5.7
12"	B22410/323.9X25.40	XXS	323.9	273	360	20	OR289.3X5.7
14"	B22410/355.6X35.71	160	355.6	284	400	20	OR299.3X5.7

Material possibilities:

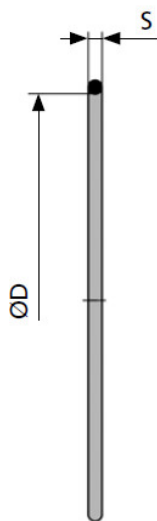
Standard= carbon steel, zinc plated with NBR O-rings

Stainless steel with NBR O-rings= add SS after Part No

Other pipe sizes, materials and combinations on request

O-rings for seal carriers

ISO 6164 up to 4"



For metric pipes

Pipe Size	Part No
80x10	OR66.27X3.53
97x12	OR82.14X3.53
115x15	OR98.02X3.53
130x15	OR110.72X3.53
150x15	OR136.12X3.53
190x20	OR158.34X3.53
220x20	OR194.3X5.7
250x25	OR209.14x3.53
273x25	OR239.3x5.7

For ANSI 36.10/36.19 pipes

Pipe O.D.	Part No
60.3	OR47.22X3.53
73.0	OR58.74X3.53
88.9	OR72.62X3.53
114.3	OR98.02X3.53
141.3	OR120.24X3.53
139.7	OR120.24X3.53
168.3	OR152X3.53
219.1	OR194.3x5.7
273.0	OR239.3x5.7
323.9	OR289.3x5.7

Material possibilities:

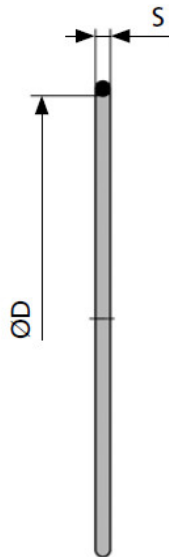
Standard=NBR, Shore 90 A

FPM(Viton), Shore 90 A= add V after Part No

Other materials on request.

O-rings for insert cones

ISO 6164 up to 4"



O-ring between insert cones

Pipe Size	Part No
50x5	OR47.22X3.53
60x6	OR56.75X3.53
73x7	OR69.44X3.53

O-ring 2 for insert cones

Pipe O.D.	Part No
50x5	OR41X1.78
60x6	OR47.35X1.78
73x7	OR56.87X1.78

Material possibilities:
 Standard=NBR, Shore 90 A
 FPM(Viton), Shore 90 A= add V after Part No
 Other materials on request.

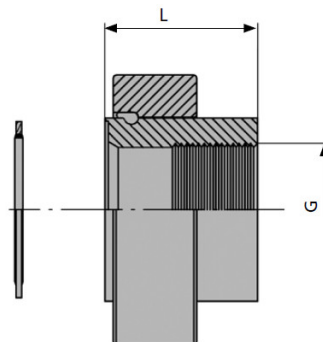
SAE 350-400 BAR

BUTZ-HP Retain Ring System

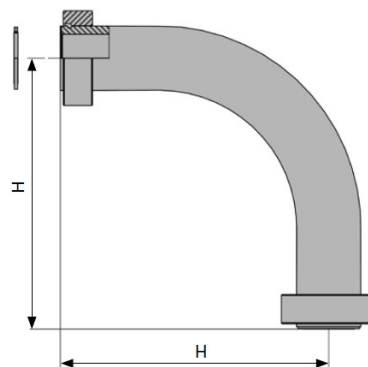
ISO 6164 up to 4"



Female thread flange



Flange bend



Complete Part No example:

B440013HP includes:

B440HP	1 pc
B40013HP	1 pc
B40HP	1 pc
B4037	1 pc

Complete Part No example:

B440018HP includes:

B440HP	2 pcs
B40018HP	1 pc
B40HP	2 pcs
B4037	2 pcs

Female thread flange, BSPP

Size	Complete Part No	L	G*	Weight [kg]	Body Part No
2 1/2"	B440013HP	80	2"	3.60	B40013HP
3"	B448013HP	85	2 1/2"	5.80	B48013HP

Flange bend

Size	Complete Part No	H	Bending Radius	Weight [kg]	Body Part No
2 1/2"	B440018HP**	450	220	18.0	B40018HP
3"	B448018HP**	540	270	30.8	B48018HP

Body material:

Standard= carbon steel, zinc plated

Stainless steel= add SS after Part No

**)Not available in stainless steel

Other materials on request

*)Standard thread BSPP

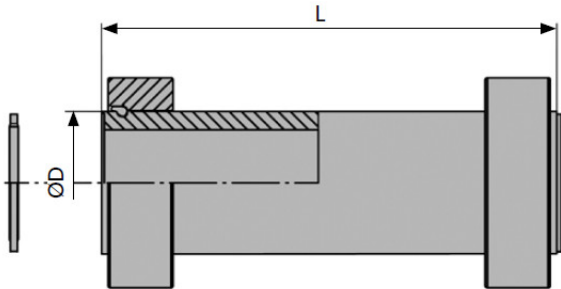
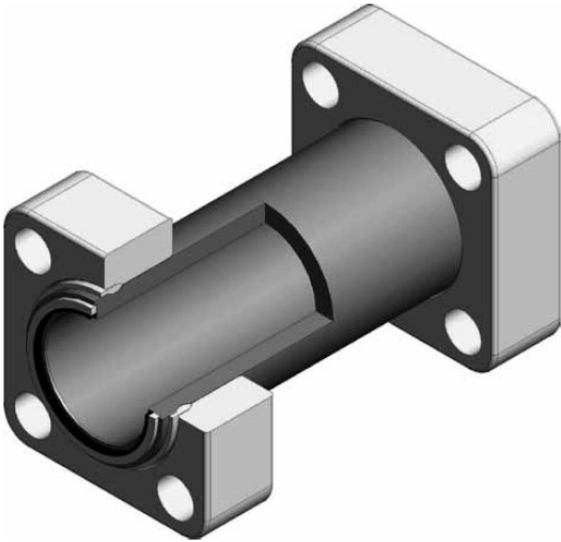
Others on request

Flange dimensions page 118

Bonded seals page 137

BUTZ-HP Retain Ring System

ISO 6164 up to 4"



SAE 350-400 BAR

Complete Part No example:
B440019 includes:
 B440HP 2 pcs
 B40019HP 1 pc
 B40HP 2 pcs
 B4037 2 pcs

Bulkhead flange

Size	Complete Part No	L	D	Weight [kg]	Body Part No
2 1/2"	B440019HP	220	82	8.20	B40019HP
3"	B448019HP	240	92	14.0	B48019HP

Body material:
 Standard= carbon steel, zinc plated
 Stainless steel= add SS after Part No
 Other material on request

Flange dimensions page 118
 Bonded seals page 137

Assembly and installation, BUTZ-37° Flare Flange System

The following presents the general principles of the assembly and installation of the BUTZ-37° flare flange system and are thus not to be construed as detailed and complete instruction.

In the flaring process the end of the tube is clamped into an in-house developed flaring machine where a conical rotating tool flares the pipe end into a dye. The flange is installed onto the pipe prior to flaring. The assembly is done by placing a flaring cone on both the flared pipe ends with a seal in-between. The flanges are then tightened together to complete the connection.



After cutting, the pipe is de-burred inside and outside; then wiped clean by cloth in order to remove any metal particals



Inspect the flange type before placing it on to the pipe(remember to use the sleeve if required).



Before beginning the flaring operation check that the surface of the flaring cone has been thoroughly oiled with lubricating paste for cold forming



The flared pipe is cleaned with a cloth before visually checking quality.

Assembly and installation, BUTZ-37° Flare Flange System



Lubricate the O-ring with lubricant, place O-ring carefully into its groove. Examine all sealing surfaces to detect possible rust or mechanical damages.



Fit the insert cone into the tube flare.



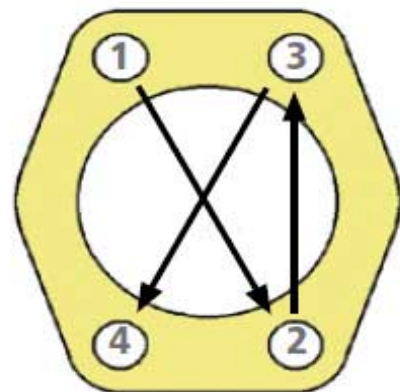
Lubricate the bonded seal with paste. Control that pipe ends fit together and are aligned for sealing.



Lubricate bolt threads amply according to illustration. If tightened on bolt, lubricate bolt head compression face. If tightened on nut, lubricate nut on flange side.



The greased bolts and nut are tightened to complete the installation.



Tighten bolts in diagonal sequence in small increments to appropriate torque level.



QUALITY MAKES THE DIFFERENCE

Notes

BUTZ -- Tube clamps



Tube clamps

DIN 3015

Programme:

Tube clamps series A (according to DIN 3015 Part 1)

Available in seven standard sizes for normal mechanical requirements.

- Outer tube diameter for the metric series 6 to 57 mm
- Outer tube diameter for the inch-size series R 1/8" to R 1 1/2"
- Outer tube diameter for the imperial size series 1/4" to 2 1/2"

The clamp body is available in a round/closed version.

Welding plates, rail-supports, cover plates and construction types.

Tube clamps series B (according to DIN 3015 Part 3)

Available as a twin tube clamp in five standard sizes for normal mechanical requirements.

Outer tube diameter 6 to 42 mm.

The clamp body is available in a square/open design.

Welding plates, rail-supports, cover plates and construction types.

Clamp halves with different diameters are only possible when used together.

Tube clamps series C (according to DIN 3015 Part 2)

Specially designed for high mechanical requirements, and available in eight standard sizes.

- Outer tube diameter 6 to 220 mm.

The clamp body is available in a square/closed design.

Welding plates, rail-supports, cover plates and construction types.

Design:

According to DIN 3015:

Both upper and lower clamp-halves are identical.

Webs inside the bore of the clamps provide an impact and vibration deadening effect, and absorb the forces towards the direction of the tube axis.

When using hoses and cables, we recommend the use of clamp halves with a smooth bore.

Clamp material:

Polypropylene	-30°C up to	+ 90° C	colour dark green
Polyamide	-40°C up to	+ 120° C	colour black
Rubber	-50°C up to	+ 120° C	colour black
Aluminium	up to	+ 300° C	

All metal parts available also in stainless steel.

Other materials upon request.

Stainless steel qualities

Stainless steel 1.4401/1.4571 (AISI 316/316 TI), resistant against rust and acid.

Accessories material:

Steel. Screws as well as cover plates of series A and B are galvanized.

Rail-supports are also available with zinc plated surface.

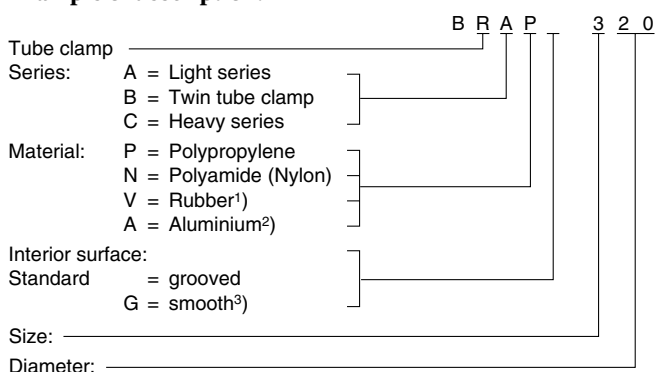
Resistance to stress:

The remarkable features of Tube Clamps are their considerable re-set capability, high tensile strength, as well as their very high output strength and excellent resistance to cold. The choice of design and clamp material depends on the specific demands of the mechanical and thermal requirements.

Order code:

The order code for clamp halves as well as the reference No. for complete tube clamps incorporates the serial indication, material description and interior surface.

Example of description:



¹⁾ Rubber only available for series A and B, inside smooth and series C grooved design

²⁾ Aluminium only available for series A size 1 to 6 and series C size 1 to 8

³⁾ Smooth interior surface in series C only to size 4
Aluminium clamps only available in a grooved design
Inside smooth series A only size 1 to 6

Registration:

On request

Tube clamps material properties

DIN 3015

Mechanical properties		Polypropylene (PP)	Polyamide 6 (PA 6)	Aluminium	Rubber
Density		0.906 g/cm ³	1.12–1.15g/cm ³	2.65 g/cm ³	0.98 g/cm ³
Flexural deflection	DIN 53452	36 N/mm ²	130...200 N/mm ²	70 N/mm ²	–
Impact resistance	DIN 53453	no break	no break	–	
Compressive strength	DIN 53454	90 N/mm ²	120 N/mm ²	HB 500...600 N/mm ²	A and B: 64° shore C: 73° shore
Modulus of elasticity	DIN 53452	1500 N/mm ²	3000 N/mm ²	70.000 N/mm ²	
Tensile strength					A and B: 6.1 N/mm ²
without breakage	DIN 53454	25–35 N/mm ²	80–90 N/mm ²	180 N/mm ²	C: 8.5 N/mm ²

Thermal properties				
Temp. resistance		–30 ... + 90°C	–40 ... + 120°C	300°C
				–50 ... +120°C

Chemical properties				
Weak acids		limited resistant	limited resistant	resistant
Weak alkalis		limited resistant	limited resistant	resistant
Alcohol		resistant	resistant	resistant
Petrol		limited resistant	resistant	limited resistant
Mineral oils		resistant	resistant	resistant
Other oils		resistant	resistant	resistant

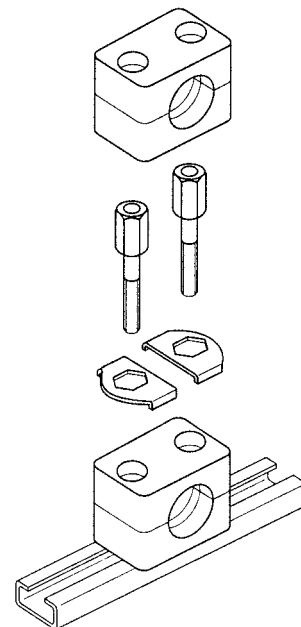
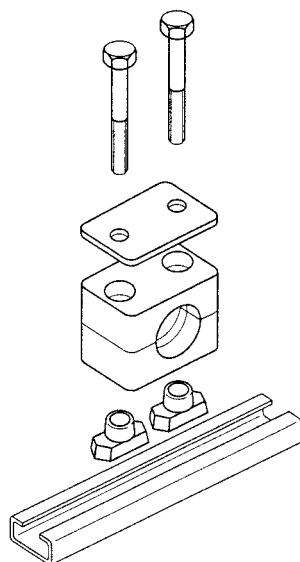
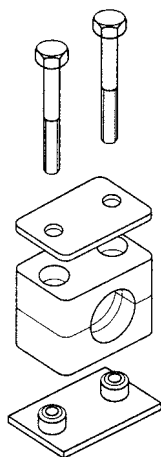
The outlined particulars are approximate values and are only shown for reference, which are not binding, and with regard to possible protection of third parties. They do not exempt you from your own examination of suitability of the products delivered by us. Therefore, these values can only be used in a limited way for guidance only.

The application of the products is carried out outside of our control and, therefore, is exclusively subject to your own area of responsibility. Any claim however would be limited for all damages to the value of the goods supplied by us and in use by you.

It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

Tube clamps assembly instruction

DIN 3015



Assembly:

Assembly on to metal welding plates

Place welding plates on a base appropriate for the load. Make sure that the clamps are properly aligned. Clamp lower clamp half onto welding plate, insert tube, place upper clamp half onto lower half and fasten with the screws. Attention must be paid to the bias (after completed assembly, clamp halves may not be in contact)! Do not weld with fitted plastic clamp! Extended welding plates may be screw-fastened to the base.

Assembly on support rails

Support rails are available in four different heights and come in pieces of 1 m or 2 m length, as required. Weld on support rail or screw-fasten with fastening angle bracket. Insert support rail nuts in rail and turn until stoppage. For heavy duty construction series, nuts are simply pushed in. Clamp lower clamp half on support rail nuts, insert tube, place upper clamp half onto lower half and fasten with the screws. Before fastening the screws the clamp may still be positioned. Attention must be paid to the bias (after completed assembly, the clamp halves may not be in contact)!

Construction assembly

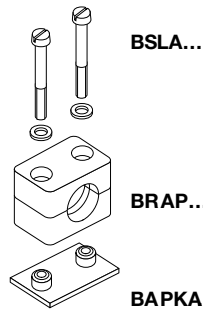
Clamps allow the assembly of multiple clamps of the same construction size and of different tube diameters one above the other. The construction assembly is carried out with special fixing screws that are secured against twisting by applying a locking plate. Clamp lower clamp half on welding plate or support rail respectively, insert tube, place upper clamp half on lower half and fasten with fixing screws. The fixing screw juts out from the upper clamp half. The application of a locking plate securely fastens the fixing screw and prevents twisting. Clamp on second clamp half on to the fixing screws etc.

Tube clamps series A(light construction series)-complete range

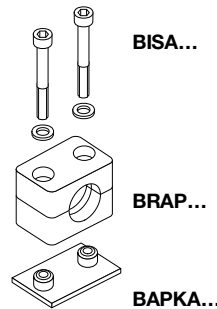
Polypropylene – **BRAP**
 Inside smooth – **BRAPG**
 Polyamide 6 – **BRAN**
 Inside smooth – **BRANG**
 Rubber – **BRAVG***
 Aluminium – **BRAA**

(As required please exchange standard abbreviation RAP in column for "Order code")

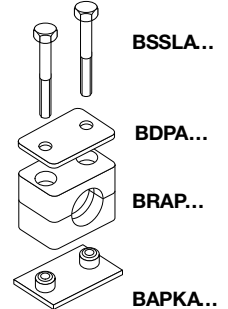
2 clamp halves, weld plate **short**, slot head bolts and bushes



2 clamp halves, weld plate **short**, socket head bolts and bushes



2 clamp halves, weld plate **short**, cover plate hex. head bolts



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code	Order code
0 ¹⁾	6.0	G 1/8	1/4 5/16 3/8	BRAP1-006	BRAP2-006	BRAP3-006
	6.4			BRAP1-006.4	BRAP2-006.4	BRAP3-006.4
	8.0			BRAP1-008	BRAP2-008	BRAP3-008
	9.5			BRAP1-009.5	BRAP2-009.5	BRAP3-009.5
	10.0			BRAP1-010	BRAP2-010	BRAP3-010
	12.0			BRAP1-012	BRAP2-012	BRAP3-012
1	6.0	G 1/8	1/4 5/16 3/8	BRAP1-106	BRAP2-106	BRAP3-106
	6.4			BRAP1-106.4	BRAP2-106.4	BRAP3-106.4
	8.0			BRAP1-108	BRAP2-108	BRAP3-108
	9.5			BRAP1-109.5	BRAP2-109.5	BRAP3-109.5
	10.0			BRAP1-110	BRAP2-110	BRAP3-110
	12.0			BRAP1-112	BRAP2-112	BRAP3-112
2	12.7	G 1/4	1/2	BRAP1-212.7	BRAP2-212.7	BRAP3-212.7
	13.5			BRAP1-213.5	BRAP2-213.5	BRAP3-213.5
	14.0			BRAP1-214	BRAP2-214	BRAP3-214
	15.0			BRAP1-215	BRAP2-215	BRAP3-215
	16.0	G 3/8	5/8	BRAP1-216	BRAP2-216	BRAP3-216
	17.2			BRAP1-217.2	BRAP2-217.2	BRAP3-217.2
	18.0			BRAP1-218	BRAP2-218	BRAP3-218
3	19.0	G 1/2	3/4	BRAP1-319	BRAP2-319	BRAP3-319
	20.0			BRAP1-320	BRAP2-320	BRAP3-320
	21.3			BRAP1-321.3	BRAP2-321.3	BRAP3-321.3
	22.0		1	BRAP1-322	BRAP2-322	BRAP3-322
	23.0			BRAP1-323	BRAP2-323	BRAP3-323
	25.0			BRAP1-325	BRAP2-325	BRAP3-325
4	26.9	G 3/4		BRAP1-426.9	BRAP2-426.9	BRAP3-426.9
	28.0			BRAP1-428	BRAP2-428	BRAP3-428
	30.0			BRAP1-430	BRAP2-430	BRAP3-430
5	32.0	G 1	1 1/4	BRAP1-532	BRAP2-532	BRAP3-532
	33.7			BRAP1-533.7	BRAP2-533.7	BRAP3-533.7
	35.0			BRAP1-535	BRAP2-535	BRAP3-535
	38.0		1 1/2	BRAP1-538	BRAP2-538	BRAP3-538
	40.0	G 1 1/4		BRAP1-540	BRAP2-540	BRAP3-540
	42.0			BRAP1-542	BRAP2-542	BRAP3-542
6	44.5	G 1 1/2	1 3/4	BRAP1-644.5	BRAP2-644.5	BRAP3-644.5
	45.0			BRAP1-645	BRAP2-645	BRAP3-645
	48.0			BRAP1-648	BRAP2-648	BRAP3-648
	50.0			BRAP1-650	BRAP2-650	BRAP3-650
	50.8		2	BRAP1-650.8	BRAP2-650.8	BRAP3-650.8
	52.0			BRAP1-652	BRAP2-652	BRAP3-652
	55.0			BRAP1-655	BRAP2-655	BRAP3-655
	57.0		2 1/4	BRAP1-657	BRAP2-657	BRAP3-657

Delivery in unassembled individual components.

¹⁾ Contrary to the illustration size 0 clamps are secured by only one screw.

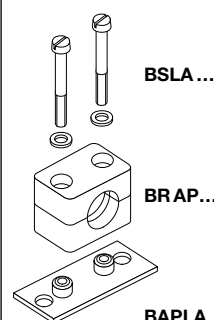
* Only with cover plate, hexagon screws and locking washers.

Tube clamps series A(light construction series)-complete range

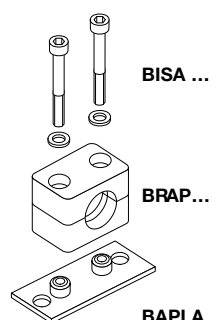
Polypropylene – **BRAP**
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 Aluminium – **BRAA**

(As required please exchange standard abbreviation RAP in column for "Order code")

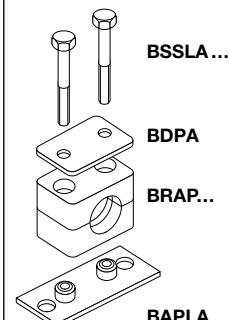
2 clamp halves, weld/
screw plate, slot head
bolts and bushes



2 clamp halves, weld/
screw plate, socket
head bolts and bushes



2 clamp halves, weld/
screw plate, cover pla-
te and hex. head bolts



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code	Order code
0 ¹⁾	6.0	G 1/8	1/4 5/16 3/8	BRAP4-006	BRAP5-006	BRAP6-006
	6.4			BRAP4-006.4	BRAP5-006.4	BRAP6-006.4
	8.0			BRAP4-008	BRAP5-008	BRAP6-008
	9.5			BRAP4-009.5	BRAP5-009.5	BRAP6-009.5
	10.0			BRAP4-010	BRAP5-010	BRAP6-010
	12.0			BRAP4-012	BRAP5-012	BRAP6-012
1	6.0	G 1/8	1/4 5/16 3/8	BRAP4-106	BRAP5-106	BRAP6-106
	6.4			BRAP4-106.4	BRAP5-106.4	BRAP6-106.4
	8.0			BRAP4-108	BRAP5-108	BRAP6-108
	9.5			BRAP4-109.5	BRAP5-109.5	BRAP6-109.5
	10.0			BRAP4-110	BRAP5-110	BRAP6-110
	12.0			BRAP4-112	BRAP5-112	BRAP6-112
2	12.7	G 1/4	1/2	BRAP4-212.7	BRAP5-212.7	BRAP6-212.7
	13.5			BRAP4-213.5	BRAP5-213.5	BRAP6-213.5
	14.0			BRAP4-214	BRAP5-214	BRAP6-214
	15.0	G 3/8	5/8	BRAP4-215	BRAP5-215	BRAP6-215
	16.0			BRAP4-216	BRAP5-216	BRAP6-216
	17.2			BRAP4-217.2	BRAP5-217.2	BRAP6-217.2
3	18.0			BRAP4-218	BRAP5-218	BRAP6-218
	19.0	G 1/2	3/4	BRAP4-319	BRAP5-319	BRAP6-319
	20.0			BRAP4-320	BRAP5-320	BRAP6-320
	21.3			BRAP4-321.3	BRAP5-321.3	BRAP6-321.3
	22.0		1	BRAP4-322	BRAP5-322	BRAP6-322
	23.0			BRAP4-323	BRAP5-323	BRAP6-323
	25.0			BRAP4-325	BRAP5-325	BRAP6-325
4	26.9	G 3/4		BRAP4-426.9	BRAP5-426.9	BRAP6-426.9
	28.0			BRAP4-428	BRAP5-428	BRAP6-428
	30.0			BRAP4-430	BRAP5-430	BRAP6-430
5	32.0	G 1	1 1/4	BRAP4-532	BRAP5-532	BRAP6-532
	33.7			BRAP4-533.7	BRAP5-533.7	BRAP6-533.7
	35.0			BRAP4-535	BRAP5-535	BRAP6-535
	38.0	G 1 1/4	1 1/2	BRAP4-538	BRAP5-538	BRAP6-538
	40.0			BRAP4-540	BRAP5-540	BRAP6-540
	42.0			BRAP4-542	BRAP5-542	BRAP6-542
6	44.5	G 1 1/2	1 3/4	BRAP4-644.5	BRAP5-644.5	BRAP6-644.5
	45.0			BRAP4-645	BRAP5-645	BRAP6-645
	48.0			BRAP4-648	BRAP5-648	BRAP6-648
	50.0		2	BRAP4-650	BRAP5-650	BRAP6-650
	50.8			BRAP4-650.8	BRAP5-650.8	BRAP6-650.8
	52.0			BRAP4-652	BRAP5-652	BRAP6-652
	55.0		2 1/4	BRAP4-655	BRAP5-655	BRAP6-655
	57.0			BRAP4-657	BRAP5-657	BRAP6-657

Delivery in unassembled individual components.

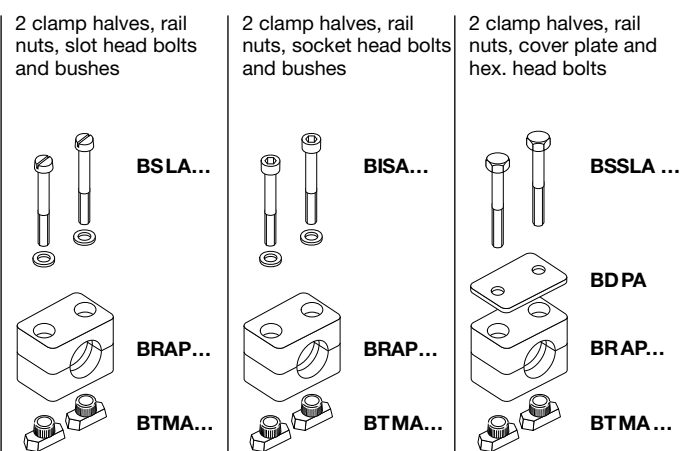
¹⁾ Contrary to the illustration size 0 clamps are secured by only one screw.

* Only with cover plate, hexagon screws and locking washers.

Tube clamps series A(light construction series)-complete range

Polypropylene – **BRAP**
 Inside smooth – **BRAPG**
 Polyamide 6 – **BRAN**
 Inside smooth – **BRANG**
 Rubber – **BRAVG***
 Aluminium – **BRAA**

(As required please exchange standard abbreviation RAP in column for “Order code”)



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code	Order code
0 ¹⁾	6.0	G 1/8	1/4 5/16 3/8	BRAP9-006	BRAP10-006	BRAP12-006
	6.4			BRAP9-006.4	BRAP10-006.4	BRAP12-006.4
	8.0			BRAP9-008	BRAP10-008	BRAP12-008
	9.5			BRAP9-009.5	BRAP10-009.5	BRAP12-009.5
	10.0			BRAP9-010	BRAP10-010	BRAP12-010
	12.0			BRAP9-012	BRAP10-012	BRAP12-012
1	6.0	G 1/8	1/4 5/16 3/8	BRAP9-106	BRAP10-106	BRAP12-106
	6.4			BRAP9-106.4	BRAP10-106.4	BRAP12-106.4
	8.0			BRAP9-108	BRAP10-108	BRAP12-108
	9.5			BRAP9-109.5	BRAP10-109.5	BRAP12-109.5
	10.0			BRAP9-110	BRAP10-110	BRAP12-110
	12.0			BRAP9-112	BRAP10-112	BRAP12-112
2	12.7	G 1/4	1/2	BRAP9-212.7	BRAP10-212.7	BRAP12-212.7
	13.5			BRAP9-213.5	BRAP10-213.5	BRAP12-213.5
	14.0			BRAP9-214	BRAP10-214	BRAP12-214
	15.0	G 3/8	5/8	BRAP9-215	BRAP10-215	BRAP12-215
	16.0			BRAP9-216	BRAP10-216	BRAP12-216
	17.2			BRAP9-217.2	BRAP10-217.2	BRAP12-217.2
3	19.0	G 1/2	3/4	BRAP9-319	BRAP10-319	BRAP12-319
	20.0			BRAP9-320	BRAP10-320	BRAP12-320
	21.3			BRAP9-321.3	BRAP10-321.3	BRAP12-321.3
	22.0		1	BRAP9-322	BRAP10-322	BRAP12-322
	23.0			BRAP9-323	BRAP10-323	BRAP12-323
	25.0			BRAP9-325	BRAP10-325	BRAP12-325
4	26.9	G 3/4		BRAP9-426.9	BRAP10-426.9	BRAP12-426.9
	28.0			BRAP9-428	BRAP10-428	BRAP12-428
	30.0			BRAP9-430	BRAP10-430	BRAP12-430
5	32.0	G 1	1 1/4	BRAP9-532	BRAP10-532	BRAP12-532
	33.7			BRAP9-533.7	BRAP10-533.7	BRAP12-533.7
	35.0			BRAP9-535	BRAP10-535	BRAP12-535
	38.0	G 1 1/4	1 1/2	BRAP9-538	BRAP10-538	BRAP12-538
	40.0			BRAP9-540	BRAP10-540	BRAP12-540
	42.0			BRAP9-542	BRAP10-542	BRAP12-542
6	44.5	G 1 1/2	1 3/4	BRAP9-644.5	BRAP10-644.5	BRAP12-644.5
	45.0			BRAP9-645	BRAP10-645	BRAP12-645
	48.0			BRAP9-648	BRAP10-648	BRAP12-648
	50.0		2	BRAP9-650	BRAP10-650	BRAP12-650
	50.8			BRAP9-650.8	BRAP10-650.8	BRAP12-650.8
	52.0			BRAP9-652	BRAP10-652	BRAP12-652
	55.0		2 1/4	BRAP9-655	BRAP10-655	BRAP12-655
	57.0			BRAP9-657	BRAP10-657	BRAP12-657

Delivery in unassembled individual components.

¹⁾ Contrary to the illustration size 0 clamps are secured by only one screw.

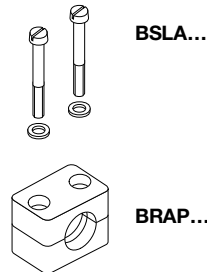
* Only with cover plate, hexagon screws and locking washers.

Tube clamps series A-complete range

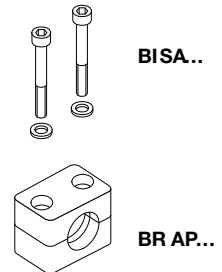
Polypropylene – **BRAP**
 Inside smooth – **BRAPG**
 Polyamide 6 – **BRAN**
 Inside smooth – **BRANG**
 Rubber – **BRAVG***
 Aluminium – **BRAA**

(As required please exchange standard
 abbreviation RAP in column for "Order code")

2 clamp halves, slot
heads and bushes



2 clamp halves,
socket head bolts and
bushes



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
0 ¹⁾	6.0	G 1/8	1/4 5/16 3/8	BRAP13-006	BRAP14-006
	6.4			BRAP13-006.4	BRAP14-006.4
	8.0			BRAP13-008	BRAP14-008
	9.5			BRAP13-009.5	BRAP14-009.5
	10.0			BRAP13-010	BRAP14-010
	12.0			BRAP13-012	BRAP14-012
1	6.0	G 1/8	1/4 5/16 3/8	BRAP13-106	BRAP14-106
	6.4			BRAP13-106.4	BRAP14-106.4
	8.0			BRAP13-108	BRAP14-108
	9.5			BRAP13-109.5	BRAP14-109.5
	10.0			BRAP13-110	BRAP14-110
	12.0			BRAP13-112	BRAP14-112
2	12.7	G 1/4	1/2	BRAP13-212.7	BRAP14-212.7
	13.5			BRAP13-213.5	BRAP14-213.5
	14.0			BRAP13-214	BRAP14-214
	15.0	G 3/8	5/8	BRAP13-215	BRAP14-215
	16.0			BRAP13-216	BRAP14-216
	17.2			BRAP13-217.2	BRAP14-217.2
3	18.0	G 1/2	3/4 1	BRAP13-218	BRAP14-218
	19.0			BRAP13-319	BRAP14-319
	20.0			BRAP13-320	BRAP14-320
	21.3			BRAP13-321.3	BRAP14-321.3
	22.0			BRAP13-322	BRAP14-322
	23.0			BRAP13-323	BRAP14-323
4	25.0			BRAP13-325	BRAP14-325
	26.9	G 3/4		BRAP13-426.9	BRAP14-426.9
	28.0			BRAP13-428	BRAP14-428
5	30.0			BRAP13-430	BRAP14-430
	32.0	G 1	1 1/4	BRAP13-532	BRAP14-532
	33.7			BRAP13-533.7	BRAP14-533.7
	35.0			BRAP13-535	BRAP14-535
	38.0	G 1 1/4	1 1/2	BRAP13-538	BRAP14-538
	40.0			BRAP13-540	BRAP14-540
6	42.0			BRAP13-542	BRAP14-542
	44.5	G 1 1/2	1 3/4	BRAP13-644.5	BRAP14-644.5
	45.0			BRAP13-645	BRAP14-645
	48.0			BRAP13-648	BRAP14-648
	50.0			BRAP13-650	BRAP14-650
	50.8		2	BRAP13-650.8	BRAP14-650.8
	52.0			BRAP13-652	BRAP14-652
	55.0			BRAP13-655	BRAP14-655
	57.0			BRAP13-657	BRAP14-657

Delivery in unassembled individual components.

¹⁾ Contrary to the illustration size 0 clamps are secured by only one screw.

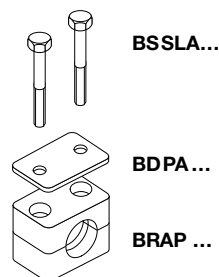
* Only with cover plate, hexagon screws and locking washers.

Tube clamps series A-complete range

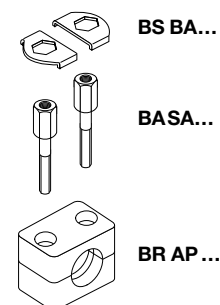
Polypropylene – **BRAP**
 Inside smooth – **BRAPG**
 Polyamide 6 – **BRAN**
 Inside smooth – **BRANG**
 Rubber – **BRAVG***
 Aluminium – **BRAA**

(As required please exchange standard abbreviation RAP in column for "Order code")

2 clamp halves, cover plate and hex. head bolts



2 clamp halves, stacking bolts and locking plate



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
0 ¹⁾	6.0	G 1/8	1/4 5/16 3/8	BRAP16-006	BRAP18-006
	6.4			BRAP16-006.4	BRAP18-006.4
	8.0			BRAP16-008	BRAP18-008
	9.5			BRAP16-009.5	BRAP18-009.5
	10.0			BRAP16-010	BRAP18-010
	12.0			BRAP16-012	BRAP18-012
1	6.0	G 1/8	1/4 5/16 3/8	BRAP16-106	BRAP18-106
	6.4			BRAP16-106.4	BRAP18-106.4
	8.0			BRAP16-108	BRAP18-108
	9.5			BRAP16-109.5	BRAP18-109.5
	10.0			BRAP16-110	BRAP18-110
	12.0			BRAP16-112	BRAP18-112
2	12.7	G 1/4	1/2	BRAP16-212.7	BRAP18-212.7
	13.5			BRAP16-213.5	BRAP18-213.5
	14.0			BRAP16-214	BRAP18-214
	15.0	G 3/8	5/8	BRAP16-215	BRAP18-215
	16.0			BRAP16-216	BRAP18-216
	17.2			BRAP16-217.2	BRAP18-217.2
3	18.0	G 1/2	3/4	BRAP16-218	BRAP18-218
	19.0			BRAP16-319	BRAP18-319
	20.0			BRAP16-320	BRAP18-320
	21.3		1	BRAP16-321.3	BRAP18-321.3
	22.0			BRAP16-322	BRAP18-322
	23.0			BRAP16-323	BRAP18-323
4	25.0			BRAP16-325	BRAP18-325
	26.9	G 3/4		BRAP16-426.9	BRAP18-426.9
	28.0			BRAP16-428	BRAP18-428
5	30.0			BRAP16-430	BRAP18-430
	32.0	G 1	1 1/4	BRAP16-532	BRAP18-532
	33.7			BRAP16-533.7	BRAP18-533.7
	35.0			BRAP16-535	BRAP18-535
	38.0	G 1 1/4	1 1/2	BRAP16-538	BRAP18-538
	40.0			BRAP16-540	BRAP18-540
6	42.0			BRAP16-542	BRAP18-542
	44.5	G 1 1/2	1 3/4	BRAP16-644.5	BRAP18-644.5
	45.0			BRAP16-645	BRAP18-645
	48.0			BRAP16-648	BRAP18-648
	50.0		2	BRAP16-650	BRAP18-650
	50.8			BRAP16-650.8	BRAP18-650.8
	52.0			BRAP16-652	BRAP18-652
	55.0		2 1/4	BRAP16-655	BRAP18-655
	57.0			BRAP16-657	BRAP18-657

Delivery in unassembled individual components.

¹⁾ Contrary to the illustration size 0 clamps are secured by only one screw.

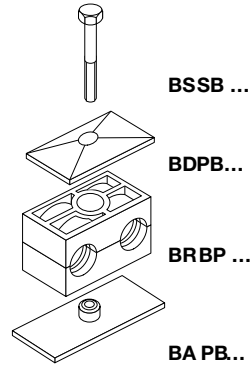
* Only with cover plate, hexagon screws and locking washers.

Tube clamps series B - complete range

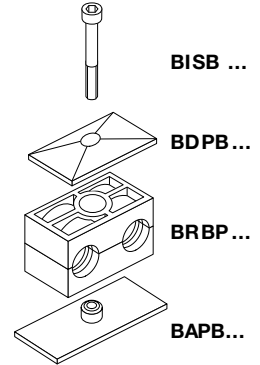
Polypropylene – **BRBP**
 Inside smooth – **BRBPG**
 Polyamide 6 – **BRBN**
 Rubber – **BRBVG***

(As required please exchange standard
 abbreviation RBP in column for "Order code")

2 clamp halves, weld
 plate, cover plate, hex.
 head bolt



2 clamp halves, weld plate,
 cover plate, socket head bolt



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
1	6.0	G $\frac{1}{8}$	$\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$	BRBP1-106	BRBP3-106
	6.4			BRBP1-106.4	BRBP3-106.4
	8.0			BRBP1-108	BRBP3-108
	9.5			BRBP1-109.5	BRBP3-109.5
	10.0			BRBP1-110	BRBP3-110
	12.0			BRBP1-112	BRBP3-112
2	12.7	G $\frac{1}{4}$	$\frac{1}{2}$	BRBP1-212.7	BRBP3-212.7
	13.5			BRBP1-213.5	BRBP3-213.5
	14.0			BRBP1-214	BRBP3-214
	15.0			BRBP1-215	BRBP3-215
	16.0	G $\frac{3}{8}$	$\frac{5}{8}$	BRBP1-216	BRBP3-216
	17.2			BRBP1-217.2	BRBP3-217.2
	18.0			BRBP1-218	BRBP3-218
3	19.0	G $\frac{1}{2}$	$\frac{3}{4}$	BRBP1-319	BRBP3-319
	20.0			BRBP1-320	BRBP3-320
	21.3			BRBP1-321.3	BRBP3-321.3
	22.0		1	BRBP1-322	BRBP3-322
	25.0			BRBP1-325	BRBP3-325
4	26.9	G $\frac{3}{4}$		BRBP1-426.9	BRBP3-426.9
	28.0			BRBP1-428	BRBP3-428
	30.0			BRBP1-430	BRBP3-430
5	32.0	G1	$1\frac{1}{4}$	BRBP1-532	BRBP3-532
	33.7			BRBP1-533.7	BRBP3-533.7
	35.0			BRBP1-535	BRBP3-535
	38.0	G $1\frac{1}{4}$	$1\frac{1}{2}$	BRBP1-538	BRBP3-538
	42.0			BRBP1-542	BRBP3-542

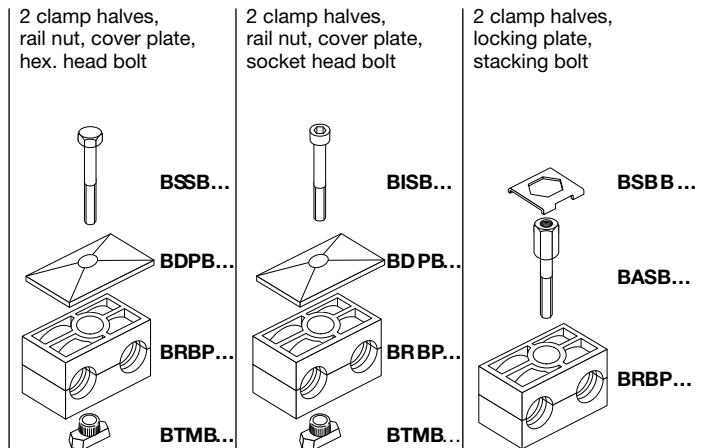
Delivery in unassembled individual components.

*Only with cover plate, hexagon screws and locking washers.

Tube clamps series B - complete range

Polypropylene – **BRBP**
 Inside smooth – **BRBPG**
 Polyamide 6 – **BRBN**
 Rubber – **BRBVG***

(As required please exchange standard abbreviation RBP in column for "Order code")



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code	Order code
1	6.0	G 1/8	1/4 5/16 3/8	BRBP4-106	BRBP5-106	BRBP8-106
	6.4			BRBP4-106.4	BRBP5-106.4	BRBP8-106.4
	8.0			BRBP4-108	BRBP5-108	BRBP8-108
	9.5			BRBP4-109.5	BRBP5-109.5	BRBP8-109.5
	10.0			BRBP4-110	BRBP5-110	BRBP8-110
	12.0			BRBP4-112	BRBP5-112	BRBP8-112
2	12.7	G 1/4	1/2	BRBP4-212.7	BRBP5-212.7	BRBP8-212.7
	13.5			BRBP4-213.5	BRBP5-213.5	BRBP8-213.5
	14.0			BRBP4-214	BRBP5-214	BRBP8-214
	15.0			BRBP4-215	BRBP5-215	BRBP8-215
	16.0	G 3/8	5/8	BRBP4-216	BRBP5-216	BRBP8-216
	17.2			BRBP4-217.2	BRBP5-217.2	BRBP8-217.2
	18.0			BRBP4-218	BRBP5-218	BRBP8-218
3	19.0	G 1/2	3/4	BRBP4-319	BRBP5-319	BRBP8-319
	20.0			BRBP4-320	BRBP5-320	BRBP8-320
	21.3			BRBP4-321.3	BRBP5-321.3	BRBP8-321.3
	22.0		1	BRBP4-322	BRBP5-322	BRBP8-322
	25.0			BRBP4-325	BRBP5-325	BRBP8-325
4	26.9	G 3/4		BRBP4-426.9	BRBP5-426.9	BRBP8-426.9
	28.0			BRBP4-428	BRBP5-428	BRBP8-428
	30.0			BRBP4-430	BRBP5-430	BRBP8-430
5	32.0	G 1	1 1/4	BRBP4-532	BRBP5-532	BRBP8-532
	33.7			BRBP4-533.7	BRBP5-533.7	BRBP8-533.7
	35.0			BRBP4-535	BRBP5-535	BRBP8-535
	38.0	G 1 1/4	1 1/2	BRBP4-538	BRBP5-538	BRBP8-538
	42.0			BRBP4-542	BRBP5-542	BRBP8-542

Delivery in unassembled individual components.

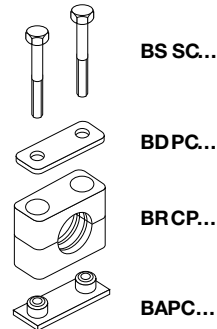
*Only with cover plate, hexagon screws and locking washers.

Tube clamps series C - complete range

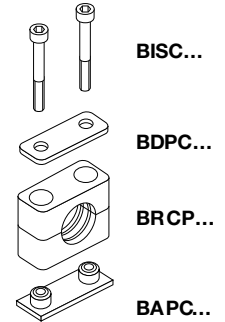
Polypropylene – **BRCP**
 Inside smooth – **BRCPG¹⁾**
 Polyamide 6 – **BRCN**
 Rubber – **BRCVR***
 Aluminium – **BRCA**

(As required please exchange standard abbreviation
 RCP in column for "Order code")

2 clamp halves, weld plate,
 cover plate, hex. head bolt



2 clamp halves, weld plate,
 cover plate, socket head bolt



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
1	6.0	G 1/8	5/16	BRCP1-106	BRCP2-106
	8.0			BRCP1-108	BRCP2-108
	10.0			BRCP1-110	BRCP2-110
	12.0			BRCP1-112	BRCP2-112
	12.7	G 1/4	1/2	BRCP1-112.7	BRCP2-112.7
	13.5			BRCP1-113.5	BRCP2-113.5
	14.0			BRCP1-114	BRCP2-114
	15.0			BRCP1-115	BRCP2-115
	16.0	G 3/8	5/8	BRCP1-116	BRCP2-116
	17.2			BRCP1-117.2	BRCP2-117.2
18.0	BRCP1-118			BRCP2-118	
2	19.0			G 1/2	3/4
	20.0	BRCP1-220	BRCP2-220		
	21.3	BRCP1-221.3	BRCP2-221.3		
	22.0	BRCP1-222	BRCP2-222		
	23.0	G 3/4	1	BRCP1-223	BRCP2-223
	25.0			BRCP1-225	BRCP2-225
	26.9			BRCP1-226.9	BRCP2-226.9
	28.0			BRCP1-228	BRCP2-228
	30.0			BRCP1-230	BRCP2-230
	3			30.0	G 1
32.0		BRCP1-332	BRCP2-332		
33.7		BRCP1-333.7	BRCP2-333.7		
35.0		BRCP1-335	BRCP2-335		
38.0		G 1 1/4	1 1/2	BRCP1-338	BRCP2-338
40.0				BRCP1-340	BRCP2-340
42.0				BRCP1-342	BRCP2-342
4				38.0	G 1 1/4
	40.0	BRCP1-440	BRCP2-440		
	42.0	BRCP1-442	BRCP2-442		
	45.0	BRCP1-445	BRCP2-445		
	48.3	G 1 1/2	2	BRCP1-448.3	BRCP2-448.3
	50.0			BRCP1-450	BRCP2-450
	51.0			BRCP1-451	BRCP2-451
	52.0			BRCP1-452	BRCP2-452
	55.0	G 2	2 1/4	BRCP1-455	BRCP2-455
	57.0			BRCP1-457	BRCP2-457
	60.3			BRCP1-460.3	BRCP2-460.3
	63.0			BRCP1-463	BRCP2-463
	65.0			BRCP1-465	BRCP2-465
	70.0			BRCP1-470	BRCP2-470

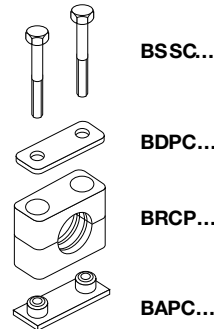
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Tube clamps series C - complete range

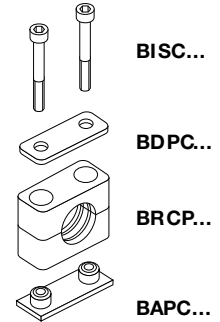
Polypropylene – **BRCP**
 Inside smooth – **BRCPG¹⁾**
 Polyamide 6 – **BRCN**
 Rubber – **BRCVR***
 Aluminium – **BRCA**

(As required please exchange standard abbreviation
 RCP in column for "Order code")

2 clamp halves, weld plate,
 cover plate, hex. head bolt



2 clamp halves, weld plate,
 cover plate, socket head bolt



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
5	70.0	G 2½	3	BRCP1-570	BRCP2-570
	73.0			BRCP1-573	BRCP2-573
	75.0			BRCP1-575	BRCP2-575
	76.1			BRCP1-576.1	BRCP2-576.1
	80.0	G 3	3¼ 3½	BRCP1-580	BRCP2-580
	82.5			BRCP1-582.5	BRCP2-582.5
	88.9			BRCP1-588.9	BRCP2-588.9
	90.0			BRCP1-590	BRCP2-590
6	90.0	G 3½	4	BRCP1-690	BRCP2-690
	97.0			BRCP1-697	BRCP2-697
	100.0			BRCP1-6100	BRCP2-6100
	101.6	G 4	4¼ 4½ 5	BRCP1-6101.6	BRCP2-6101.6
	108.0			BRCP1-6108	BRCP2-6108
	114.3			BRCP1-6114.3	BRCP2-6114.3
	127.0			BRCP1-6127	BRCP2-6127
7	127.0	G 5	5 5¼ 5½	BRCP1-7127	BRCP2-7127
	133.0			BRCP1-7133	BRCP2-7133
	140.0			BRCP1-7140	BRCP2-7140
	150.0	G 5½	6	BRCP1-7150	BRCP2-7150
	152.4			BRCP1-7152.4	BRCP2-7152.4
	159.0	G 6	6¼ 6½ 6⅝	BRCP1-7159	BRCP2-7159
	165.1			BRCP1-7165.1	BRCP2-7165.1
	168.3			BRCP1-7168.3	BRCP2-7168.3
8	168.3	G 8	6⅝ 7 7⅝ 8⅝	BRCP1-8168.3	BRCP2-8168.3
	177.8			BRCP1-8177.8	BRCP2-8177.8
	193.7			BRCP1-8193.7	BRCP2-8193.7
	203.0			BRCP1-8203	BRCP2-8203
	219.1			BRCP1-8219.1	BRCP2-8219.1
	220.0			BRCP1-8220	BRCP2-8220

Delivery in unassembled individual components.

¹⁾ Only sizes 1–4

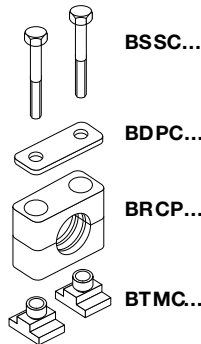
* Only with cover plate, hexagon screws and locking washers (only sizes 1–4).

Tube clamps series C - complete range

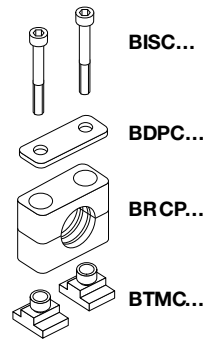
Polypropylene – **BRCP**
 Inside smooth – **BRCPG¹⁾**
 Polyamide 6 – **BRCN**
 Rubber – **BRCVR***
 Aluminium – **BRCA**

(As required please exchange standard abbreviation
 RCP in column for "Order code")

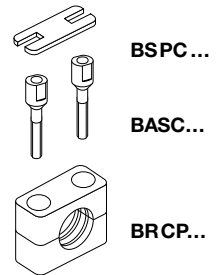
2 clamp halves,
 rail nuts, cover plate,
 hex. head bolts



2 clamp halves,
 rail nuts, cover plate,
 socket head bolts



2 clamp halves,
 locking plate, stacking
 bolts



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code	Order code
1	6.0	G 1/8	5/16	BRCP3-106	BRCP4-106	BRCP5-106
	8.0			BRCP3-108	BRCP4-108	BRCP5-108
	10.0			BRCP3-110	BRCP4-110	BRCP5-110
	12.0			BRCP3-112	BRCP4-112	BRCP5-112
	12.7	G 1/4	1/2	BRCP3-112.7	BRCP4-112.7	BRCP5-112.7
	13.5			BRCP3-113.5	BRCP4-113.5	BRCP5-113.5
	14.0			BRCP3-114	BRCP4-114	BRCP5-114
	15.0			BRCP3-115	BRCP4-115	BRCP5-115
	16.0			BRCP3-116	BRCP4-116	BRCP5-116
	17.2	G 3/8	5/8	BRCP3-117.2	BRCP4-117.2	BRCP5-117.2
	18.0			BRCP3-118	BRCP4-118	BRCP5-118
2	19.0	G 1/2	3/4	BRCP3-219	BRCP4-219	BRCP5-219
	20.0			BRCP3-220	BRCP4-220	BRCP5-220
	21.3			BRCP3-221.3	BRCP4-221.3	BRCP5-221.3
	22.0			BRCP3-222	BRCP4-222	BRCP5-222
	23.0	G 3/4	1	BRCP3-223	BRCP4-223	BRCP5-223
	25.0			BRCP3-225	BRCP4-225	BRCP5-225
	26.9			BRCP3-226.9	BRCP4-226.9	BRCP5-226.9
	28.0			BRCP3-228	BRCP4-228	BRCP5-228
	30.0			BRCP3-230	BRCP4-230	BRCP5-230
3	30.0	G 1	1 1/4	BRCP3-330	BRCP4-330	BRCP5-330
	32.0			BRCP3-332	BRCP4-332	BRCP5-332
	33.7			BRCP3-333.7	BRCP4-333.7	BRCP5-333.7
	35.0			BRCP3-335	BRCP4-335	BRCP5-335
	38.0	G 1 1/4	1 1/2	BRCP3-338	BRCP4-338	BRCP5-338
	40.0			BRCP3-340	BRCP4-340	BRCP5-340
	42.0			BRCP3-342	BRCP4-342	BRCP5-342
4	38.0	G 1 1/4	1 1/2	BRCP3-438	BRCP4-438	BRCP5-438
	40.0			BRCP3-440	BRCP4-440	BRCP5-440
	42.0			BRCP3-442	BRCP4-442	BRCP5-442
	45.0			BRCP3-445	BRCP4-445	BRCP5-445
	48.3	G 1 1/2	2	BRCP3-448.3	BRCP4-448.3	BRCP5-448.3
	50.0			BRCP3-450	BRCP4-450	BRCP5-450
	51.0			BRCP3-451	BRCP4-451	BRCP5-451
	52.0			BRCP3-452	BRCP4-452	BRCP5-452
	55.0	G 2	2 1/4	BRCP3-455	BRCP4-455	BRCP5-455
	57.0			BRCP3-457	BRCP4-457	BRCP5-457
	60.3			BRCP3-460.3	BRCP4-460.3	BRCP5-460.3
	63.0			BRCP3-463	BRCP4-463	BRCP5-463
	65.0		2 1/2	BRCP3-465	BRCP4-465	BRCP5-465
	70.0			BRCP3-470	BRCP4-470	BRCP5-470

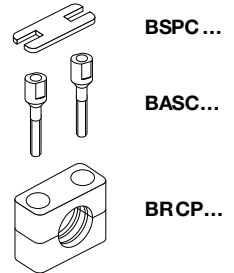
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Tube clamps series C - complete range

Polypropylene – **BRCP**
 Inside smooth – **BRCPG¹⁾**
 Polyamide 6 – **BRCN**
 Rubber – **BRCVR***
 Aluminium – **BRCA**

(As required please exchange standard abbreviation
 RCP in column for “Order code”)

2 clamp halves, locking
 plate, stacking bolts



clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code
5	70.0	G 2½	3	BRCP5-570
	73.0			BRCP5-573
	75.0			BRCP5-575
	76.1			BRCP5-576.1
	80.0	G 3	3¼ 3½	BRCP5-580
	82.5			BRCP5-582.5
	88.9			BRCP5-588.9
	90.0			BRCP5-590
6	90.0	G 3½	4 4¼ 4½ 5	BRCP5-690
	97.0			BRCP5-697
	100.0			BRCP5-6100
	101.6			BRCP5-6101.6
	108.0	G 4	4½ 5	BRCP5-6108
	114.3			BRCP5-6114.3
	127.0			BRCP5-6127
7	127.0	G 5	5 5¼ 5½	BRCP5-7127
	133.0			BRCP5-7133
	140.0			BRCP5-7140
	150.0			BRCP5-7150
	152.4	G 5½	6 6¼ 6½ 6⅝	BRCP5-7152.4
	159.0			BRCP5-7159
	165.1			BRCP5-7165.1
	168.3			BRCP5-7168.3
8	168.3	G 8	6⅝ 7 7⅝ 8⅝	BRCP5-8168.3
	177.8			BRCP5-8177.8
	193.7			BRCP5-8193.7
	203.0			BRCP5-8203
	219.1			BRCP5-8219.1
	220.0			BRCP5-8220

Delivery in unassembled individual components.

¹⁾ Only sizes 1–4

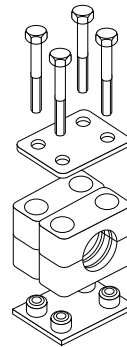
* Only with cover plate, hexagon screws and locking washers (only sizes 1–4).

Tube clamps series C - complete range

Polypropylene – **BRCPD**
 Inside smooth – **BRCPDG¹⁾**
 Polyamide 6 – **BRCND**
 Rubber – **BRCVDR***
 Aluminium – **BRCAD**

(As required please exchange standard abbreviation
 BRCP in column for "Order code")

4 clamp halves, double weld plate,
double cover plate, hex. head bolts



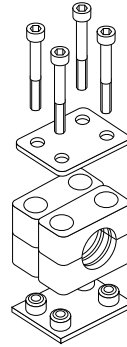
BSSC...

BDPDC...

BRCPD...
(=2XRCP...)

BAPDC...

4 clamp halves, double weld
plate, double cover plate, socket
head bolts



BISC...

BDPDC...

BRCPD...
(=2XRCP...)

BAPDC...

clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
1	6.0	G 1/8	5/16	BRCPD1-106	BRCPD2-106
	8.0			BRCPD1-108	BRCPD2-108
	10.0			BRCPD1-110	BRCPD2-110
	12.0			BRCPD1-112	BRCPD2-112
	12.7	G 1/4	1/2	BRCPD1-112.7	BRCPD2-112.7
	13.5			BRCPD1-113.5	BRCPD2-113.5
	14.0			BRCPD1-114	BRCPD2-114
	15.0			BRCPD1-115	BRCPD2-115
	16.0	G 3/8	5/8	BRCPD1-116	BRCPD2-116
	17.2			BRCPD1-117.2	BRCPD2-117.2
2	18.0			BRCPD1-118	BRCPD2-118
	19.0	G 1/2	3/4	BRCPD1-219	BRCPD2-219
	20.0			BRCPD1-220	BRCPD2-220
	21.3			BRCPD1-221.3	BRCPD2-221.3
	22.0			BRCPD1-222	BRCPD2-222
	23.0	G 3/4	1	BRCPD1-223	BRCPD2-223
	25.0			BRCPD1-225	BRCPD2-225
	26.9			BRCPD1-226.9	BRCPD2-226.9
	28.0			BRCPD1-228	BRCPD2-228
	30.0			BRCPD1-230	BRCPD2-230
	30.0			BRCPD1-330	BRCPD2-330
3	32.0	G 1	1 1/4	BRCPD1-332	BRCPD2-332
	33.7			BRCPD1-333.7	BRCPD2-333.7
	35.0			BRCPD1-335	BRCPD2-335
	38.0			BRCPD1-338	BRCPD2-338
	40.0	G 1 1/4	1 1/2	BRCPD1-340	BRCPD2-340
	42.0			BRCPD1-342	BRCPD2-342
	42.0			BRCPD1-438	BRCPD2-438
4	40.0	G 1 1/4	1 1/2	BRCPD1-440	BRCPD2-440
	42.0			BRCPD1-442	BRCPD2-442
	45.0			BRCPD1-445	BRCPD2-445
	48.3			BRCPD1-448.3	BRCPD2-448.3
	50.0	G 1 1/2	2	BRCPD1-450	BRCPD2-450
	51.0			BRCPD1-451	BRCPD2-451
	52.0			BRCPD1-452	BRCPD2-452
	55.0			BRCPD1-455	BRCPD2-455
	57.0			BRCPD1-457	BRCPD2-457
	60.3	G 2	2 1/4	BRCPD1-460.3	BRCPD2-460.3
	63.0			BRCPD1-463	BRCPD2-463
	65.0			BRCPD1-465	BRCPD2-465
	70.0			BRCPD1-470	BRCPD2-470

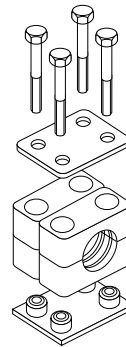
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Tube clamps series C - complete range

Polypropylene – **BRCPD**
 Inside smooth – **BRCPDG** ¹⁾
 Polyamide 6 – **BRCND**
 Rubber – **BRCVDR***
 Aluminium – **BRCAD**

(As required please exchange standard abbreviation
 RCP in column for "Order code")

4 clamp halves, double weld plate,
 double cover plate, hex. head bolts



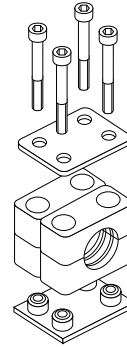
BSSC...

BDPDC...

BRCPD...
 (=2XRCP...)

BAPDC...

4 clamp halves, double weld
 plate, double cover plate, socket
 head bolts



BISC...

BDPDC...

BRCPD...
 (=2XRCP...)

BAPDC...

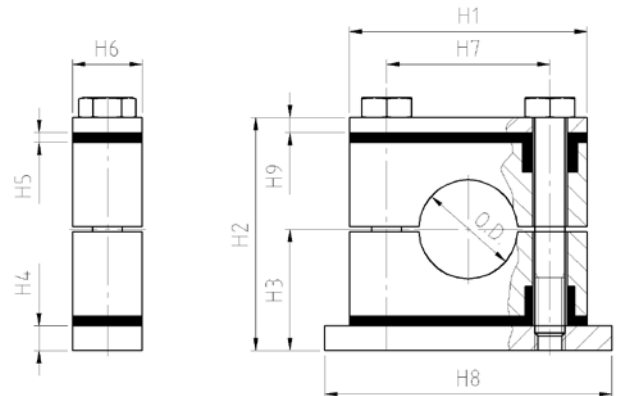
clamp size	Tube O.D. mm	Tube NB	Tube O.D.	Order code	Order code
5	70.0	G 2½	3	BRCPD1-570	BRCPD2-570
	73.0			BRCPD1-573	BRCPD2-573
	75.0			BRCPD1-575	BRCPD2-575
	76.1			BRCPD1-576.1	BRCPD2-576.1
	80.0	G 3	3¼ 3½	BRCPD1-580	BRCPD2-580
	82.5			BRCPD1-582.5	BRCPD2-582.5
	88.9			BRCPD1-588.9	BRCPD2-588.9
	90.0			BRCPD1-590	BRCPD2-590
6	90.0	G 3½	4	BRCPD1-690	BRCPD2-690
	97.0			BRCPD1-697	BRCPD2-697
	100.0			BRCPD1-6100	BRCPD2-6100
	101.6			BRCPD1-6101.6	BRCPD2-6101.6
	108.0	G 4	4¼ 4½ 5	BRCPD1-6108	BRCPD2-6108
	114.3			BRCPD1-6114.3	BRCPD2-6114.3
	127.0			BRCPD1-6127	BRCPD2-6127
7	127.0	G 5	5 5¼ 5½	BRCPD1-7127	BRCPD2-7127
	133.0			BRCPD1-7133	BRCPD2-7133
	140.0			BRCPD1-7140	BRCPD2-7140
	150.0			BRCPD1-7150	BRCPD2-7150
	152.4	G 5½	6 6¼ 6½ 6⅝	BRCPD1-7152.4	BRCPD2-7152.4
	159.0			BRCPD1-7159	BRCPD2-7159
	165.1			BRCPD1-7165.1	BRCPD2-7165.1
	168.3			BRCPD1-7168.3	BRCPD2-7168.3
8	168.3	G 8	6⅝ 7 7⅝ 8⅝	BRCPD1-8168.3	BRCPD2-8168.3
	177.8			BRCPD1-8177.8	BRCPD2-8177.8
	193.7			BRCPD1-8193.7	BRCPD2-8193.7
	203.0			BRCPD1-8203	BRCPD2-8203
	219.1			BRCPD1-8219.1	BRCPD2-8219.1
	220.0			BRCPD1-8220	BRCPD2-8220

Delivery in unassembled individual components.

¹⁾ Only sizes 1–4

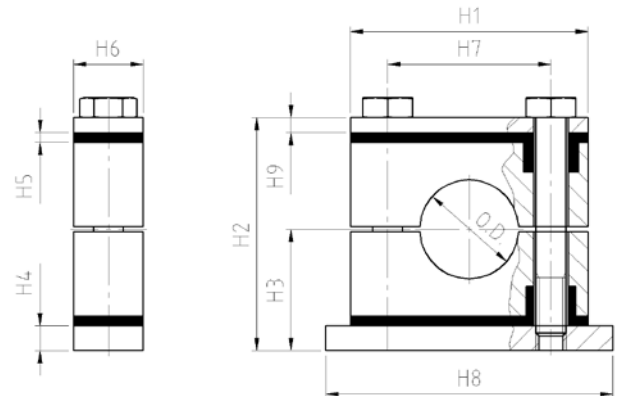
* Only with cover plate, hexagon screws and locking washers (only sizes 1–4).

Tube clamps series C with absorbing noise insert



Clamp size	Tube O.D.mm	Absorbing plate	Weld plate	Bolt ISO 4014	H1	H2	H3	H4	H5	H6	H7	H8	H9
1	6.0	BDPEC1X	BAPCD1X	M10X65	55	69	38	15	7	30	33	70	8
	8.0												
	9.5												
	10.0												
	12.0												
	12.7												
	13.5												
	14.0												
	15.0												
	16.0												
	17.2												
	18.0												
2	19.0	BDPEC2X	BAPCD2X	M10X80	70	85	46	15	7	30	45	85	8
	20.0												
	21.3												
	22.0												
	23.0												
	25.0												
	26.9												
	28.0												
	30.0												
3	30.0	BDPEC3X	BAPCD3X	M10X90	85	97	52	15	7	30	60	100	8
	32.0												
	33.7												
	35.0												
	38.0												
	40.0												
	42.0												
4	38.0	BDPEC4X	BAPCD4X	M12X130	115	134	72	20	7	45	90	140	10
	40.0												
	42.0												
	45.0												
	48.3												
	50.0												
	51.0												
	52.0												
	54.0												
	55.0												
	57.0												
	60.3												
	63.5												
	65.0												
	70.0												

Tube clamps series C with absorbing noise insert



Clamp size	Tube O.D.mm	Absorbing plate	Weld plate	Bolt ISO 4014	H1	H2	H3	H4	H5	H6	H7	H8	H9
5	70.0	BDPEC5X	BAPCD5X	M16X160	152	165	90	25	7	60	122	180	10
	73.0												
	75.0												
	76.1												
	80.0												
	82.5												
	88.9												
	90.0												
6	90.0	BDPEC6X	BAPCD6X	M20X230	205	237	126	30	11	80	168	228	15
	97.0												
	100.0												
	101.6												
	108.0												
	114.3												
	127.0												
7	127.0	BDPEC7X	BAPCD7X	M24X260	250	287	161	50	11	90	205	270	15
	130.0												
	133.0												
	140.0												
	141.3												
	150.0												
	152.4												
	159.0												
	165.1												
	168.3												
8	168.3	BDPEC8X	BAPCD8X	M30X360	322	407	231	80	16	120	265	340	25
	177.8												
	193.7												
	203.0												
	219.1												
	220.0												



QUALITY MAKES THE DIFFERENCE

Notes

Pipes and tubes



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Tube and pipe specification

Recommended carbon steel tubes and pipes

Butz recommends the use of cold drawn seamless hydraulic tubes and pipes acc. to DIN EN 10305-4.

E 355N (St. 52.4 NBK) or E 235N (St. 37.4 NBK).

- | | |
|-----------------------------|--|
| + precision dimension/shape | + clean inside (no scale) |
| + high pressure capability | + excellent scaling surface after roll flaring |

Recommended stainless steel tubes and pipes

Butz recommends the use of seamless cold drawn stainless steel tubes and pipes acc. to

DIN EN 10216-5

ASTM A269/A213

ASTM A312

- | | |
|-----------------------------|--|
| + precision dimension/shape | + excellent scaling surface after roll flaring |
| + high pressure capability | |

Welded tubes and pipes

Tubes and pipes acc. to above specification but welded and cold redrawn instead of seamless drawn are usually suitable. Pressure capability might be reduced due to the welding seam zone. Welding seam quality might effect roll flaring surface results.

Hot rolled pipes

Hot rolled pipes are not recommended for the following reasons:

Hot rolled pipes do not have precision dimensions and may slip in machine dies.

They have scales inside and outside. The inside scales effect the cleanliness level of the fluid and reduces fatigue levels.

Used in roll flaring process the scales will contaminate the flaring tools (high cleaning effort) and cause poor flare surface quality.

The required maximum working pressure is calculated either acc. to DNV, DIN or ANSI.

Material Specifications & Values

1.0308 (E235/St.35.4) acc. to DIN EN 10305-4

Tensile strength	min 340 N/mm ²
Yield strength	min 235 N/mm ²
Fatigue strength	225 N/mm ² ¹⁾
Elongation at break	min. 25%

1.0508 (E355/St.52.4) acc. to DIN EN 10305-4

Tensile strength	min 490 N/mm ²
Yield strength	min 355 N/mm ²
Fatigue strength	265 N/mm ²
Elongation at break	min. 22 %

1.4571 (316 Ti) cold drawn (CFA)³⁾ acc. to DIN EN 10216-5

Tensile strength	min 500 N/mm ²
0.2 % proof stress	min 210 N/mm ²
1 % proof stress	min 245 N/mm ²
Fatigue strength	220 N/mm ²
Elongation at break	min. 35 %

1.4404 (316L) cold drawn (CFA)³⁾ acc. to DIN EN 10216-5

Tensile strength	min 500 N/mm ²
0.2 % proof stress	min 210 N/mm ²
1 % proof stress	min 245 N/mm ²
Elongation at break	min. 35 %

1.4401 (316) acc. to DIN EN 10216-5

Tensile strength	min 510 N/mm ²
0.2 % proof stress	min 205 N/mm ²
1 % proof stress	min 240 N/mm ²
Elongation at break	min. 40 %

1.4301 (304) acc. to DIN EN 10216-5

Tensile strength	min 500 N/mm ²
0.2 % proof stress	min 195 N/mm ²
1 % proof stress	min 230 N/mm ²
Fatigue strength	195 N/mm ² ²⁾
Elongation at break	min. 40 %

1.4404 (316L) ASTM A269 / A213

Tensile strength	min 530 N/mm ²
Yield strength	min 276 N/mm ²
0.2 % proof stress / 1.6 ⁴⁾	172.5 N/mm ²

1.4404 (316L) ASTM A312 / A530

Tensile strength	min 515 N/mm ²
Yield strength	min 234 N/mm ²
0.2 % proof stress / 1.6 ⁴⁾	146 N/mm ²

¹⁾ DIN 2413 Template, Tab. 4

²⁾ Rollof/Matek ME Ausg. 14, (no standard value)

³⁾ Strength increase due to cold forming following 1.4571

⁴⁾ Pressure rating calculation based on this mechanical properties require certification according to 3.1 - EN 10204 that confirms the mechanical properties.

Tube calculation for marine and offshore acc. to DNV rules

Calculation of working pressure of steel and stainless steel tubes for ship building acc. to DNV Part 4, Chapter 6, Section 6.

$$P = \frac{20 \cdot \sigma_t \cdot e \cdot t_0}{D - t_0}$$

P = permissible working pressure [bar]
 σ_t = permissible stress [N/mm²]
 calculated from the lower value off:

stainless steel:	carbon steel:
$\sigma_t = \frac{R_m}{2.7} \text{ or } \frac{K}{1.6}$	$\sigma_t = \frac{R_m}{2.7} \text{ or } \frac{K}{1.8}$

t_0 = tube wall thickness without allowances [mm]

$$t_0 = t_n \cdot a - c - b$$

t_n = tube wall thickness nominal [mm]

a = factor for wall thickness allowance [mm]

= 0.8 for Tube-OD 4-5, 0.85 for Tube-OD 6-8, 0.9 for Tube OD ≥ 10

= 0.9 for all stainless steel tubes

b = bending allowance

$$b = 0.1333 \cdot t_0 \text{ (at } R/D=3) \rightarrow t_0 = \frac{t_n \cdot a - c}{1.1333}$$

c = corrosion tolerance, c = 0.3 mm for hydraulic steel tube, c = 0 mm for SS tubes

e = strength ratio: for seamless tubes e = 1

D = tube outside diameter [mm]

R_m = min. tensile strength [N/mm²]

K = min. yield strength or min 0.2% proof stress [N/mm²]

Tube calculation for landbased and industrial applications acc. to DIN rules

DIN 2413 I, only for static load

Calculation of working pressure of steel tubes for static stress up to 120°C. Corrosion – additional allowances are not considered for the calculation of pressures. Tubes with a diameter of OD/ID > 2 are calculated for static stress in accordance with DIN 2413 III, but with K = yield strength.

$$P = \frac{20 \cdot K \cdot s \cdot c}{S \cdot D}$$

P = permissible working pressure [bar]

K = yield strength [N/mm²]

s = tube wall thickness [mm]

c = factor for wall thickness allowance

= 0.8 for Tube-OD 4-5, 0.85 for Tube-OD 6-8,
0.9 for Tube-OD 10

= 0.9 for all stainless steel tubes

S = Safety factor = 1.5

D = tube outside diameter [mm]

DIN 2413 III, for dynamic load

Calculation of working pressure of steel tubes for dynamic stress up to 120°C.

Corrosion – additional allowances are not considered for the calculation of pressures.

$$P = \frac{20 \cdot K \cdot s \cdot c}{S \cdot (D + s \cdot c)}$$

P = permissible working pressure [bar]

K = fatigue strength [N/mm²]

s = tube wall thickness [mm]

c = factor for wall thickness allowance

= 0.8 for Tube-OD 4-5, 0.85 for Tube-OD 6-8,
0.9 for Tube-OD 10-80

= 0.9 for all stainless steel tubes

S = Safety factor = 1.5

D = tube outside diameter [mm]

Burst Pressure calculation

Calculation acc. to Formula of DIN 2413 but without safety

BP = Burst Pressure

R_m = min tensile strength

s = tube wall thickness

c = factor for wall thickness allowance

= 0.8 for Tube-OD 4-5,
0.85 for Tube-OD 6-8,
0.9 for Tube-OD 10

0.9 for all stainless steel tubes

D = tube outside diameter [mm]

$$BP = \frac{20 \cdot R_m \cdot s \cdot c}{D}$$

Pressure reductions and temperatures

Required pressure reductions (depending on the material) with reference to the catalogue pressures for higher temperatures. Both metal fitting material and elastomeric sealing compound have to be selected according to the temperature range of the system.
DNV may require different pressure reduction based on application

Material	Pressure reduction of permissible operating temperatures TB in °C															
	-60	-54	-40	-35	-25	+20	+50	+100	+120	+150	+175	+200	+250	+300	+400	
Steel components			10%			0%				11%	19%					
Steel, tubes			10%			0%				19%			27%			
Stainless steel components	0%					5%	15%	23%		29%		33%	37%	42%		
Stainless steel, tubes	0%					5.5%	11.5%	21.5%			29%		34%			
Sealing material NBR (e.g. Perbunan)																
Sealing material FKM																
Sealing material Polyurethan (P5008)																

	Permissible operating temperature
	Ambient temperature of hydraulic and pneumatic applications
	Temperature not permissible

Calculation example:
 Temperature = 200°C
 Material = Stainless steel
 Pressure reduction = 29%
 Pressure reduction tubes = 21.5%
 PN tube 16x2.5/71. DIN2413 III = 362 bar

Formula:

$$PN_{200^{\circ}\text{C}} = \frac{400 \text{ bar}}{100\%} \times (100\% - 29\%) = 284 \text{ bar}$$

$$PN_{\text{tube } 200^{\circ}\text{C}} = \frac{362 \text{ bar}}{100\%} \times (100\% - 21.5\%) = 284 \text{ bar}$$

Flow diameter of tube lines

Determining tube sizes for hydraulic systems

Proper tube material, type and size for a given application and type of fitting are critical for efficient and trouble-free operation of the fluid system. Selection of proper tubing involves choosing the right tube material, and determining the optimum tube size (O.D. and wall thickness).

Proper sizing of the tube for various parts of a hydraulic system results in an optimum combination of efficient and cost effective performance.

A tube that is too small causes high fluid velocity, which has many detrimental effects. In pressure lines, it causes high friction losses and turbulence, both resulting in high pressure drops and heat generation. High heat accelerates wear in moving parts and rapid aging of seals and hoses, all resulting in reduced component life. High heat generation also means wasted energy, and hence, low efficiency.

Too large tubes increase system cost. Thus, optimum tube sizing is very critical. The following is a simple procedure for sizing tubes.

Determine required flow diameter

Use table to determine recommended flow diameter for the required flow rate and type of line.

The table is based on the following recommended flow rates that are common in the shipbuilding and offshore engineering:

$$\text{Pressure lines} - 3 \rightarrow 7.2 \left[\frac{\text{m}}{\text{s}} \right]$$

$$\text{Return lines} - 2 \rightarrow 4.5 \left[\frac{\text{m}}{\text{s}} \right]$$

$$\text{Suction lines} - 1 \rightarrow 1.8 \left[\frac{\text{m}}{\text{s}} \right]$$

Avoid flow rates > 8 m/s!

The resulting forces are high and can destroy the tube lines.

If you desire to use different velocities than the above, use the following formula to determine the required flow diameter.

$$\text{Tube - I.D. [mm]} = 4,61 \times \sqrt{\frac{\text{Flow} \left[\frac{\text{ltr.}}{\text{min}} \right]}{\text{Velocity} \left[\frac{\text{m}}{\text{s}} \right]}}$$

Determine required wall thickness

Use tube/pressure calculation tables shown in the tube chapter to determine recommended wall thickness for the required working pressure and flow diameter of the line. Therefore choose a working pressure which is equal or higher than the required working pressure.

Flow characteristics

Hydraulic systems are in most cases only rated with a flow velocity defined on the basis of experience. The pressure losses in lines are not taken into account, or measured later on when testing the system. As the pressure losses increase proportionally greater than the flow resistance, it is important to achieve the best rating of the system, so that they are already taken into account when planning the tube connections. Calculation is not as difficult as it is often thought, and this chapter is intended to provide a guideline. Besides, it provides information on how excessive pressure losses can be avoided, because pressure losses result in losses in performance and excessive heat. Noise occurs and possibly cavitation in suction lines.

Medium

All indication given with regard to flow restrictions and to flow properties refer exclusively to liquids. For gaseous media, the variable density of the gas must additionally be taken into account.

Units

$$c = \text{Flow velocity} \left[\frac{\text{m}}{\text{s}} \right]$$

$$d = \text{Pipe inside diameter [m]}$$

$$L = \text{Pipe length [m]}$$

$$p = \text{Pressure [Pa], 1 bar = 100000 Pa}$$

$$\dot{V} = \text{Flow rate} \left[\frac{\text{m}^3}{\text{s}} \right], 1 \frac{\text{m}^3}{\text{s}} = 6000 \frac{\text{l}}{\text{min}}$$

$$\lambda = \text{Pipe friction factor}$$

$$\nu(T) = \text{Kinematic viscosity of the medium depending on temperature} \left[\frac{\text{m}^2}{\text{s}} \right]$$

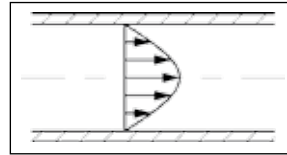
$$\rho(T) = \text{Density of the medium depending on temperature} \left[\frac{\text{kg}}{\text{m}^3} \right]$$

$$\zeta = \text{Individual pressure loss coefficient}$$

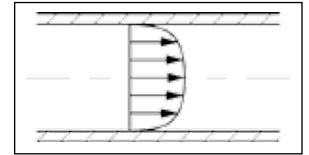
Only base units have been used. This has the advantage that the formula do not contain correction factors and there is no danger of confusion, e.g. that values are used with the wrong unit. In case values are given in other units – the flow rate is e.g. often given in l/min – it is advisable to convert them into the base units before starting calculation.

Pressure losses in pipe lines

To calculate pressure losses in pipe lines, it must first be determined whether there is a laminar or a turbulent flow. Laminar flow is homogenous and without turbulence. In case of turbulent flow, the losses increase much more quickly.



Flow profile with laminar flow



Flow profile with turbulent flow

The kind of flow is defined by the Reynolds' number. With a Reynolds' number of more than 2320, the flow changes to turbulent. The Reynolds' number is calculated according to the formula:

$$Re = \frac{c \cdot d}{\nu(T)}$$

The Reynolds' number is a non-dimensional number. The critical fluid velocity at which the flow regime can change, is thus calculated from:

$$c_{cr} = 2320 \cdot \frac{\nu(T)}{d} \left[\frac{\text{m}}{\text{s}} \right]$$

With a given flow rate, the fluid velocity can be calculated according to the formula:

$$c = \frac{\dot{V} \cdot 4}{d^2 \cdot \pi} \left[\frac{\text{m}}{\text{s}} \right]$$

Subsequently, the pipe friction factor λ can be calculated. The pipe friction factor λ is a function of the Reynolds' number and also depends on the roughness of the pipe. As hydraulically smooth pipes can generally be assumed in hydraulic applications, the pipe friction factor λ is calculated according to the following formula:

$$\text{laminar flow, (Re < 2320): } \lambda = \frac{64}{Re}$$

$$\text{turbulent flow, (Re > 2320): } \lambda = \frac{0.3164}{\sqrt[4]{Re}}$$

Finally, if all factors are known, the pressure loss in a certain pipe line can be calculated according to the formula:

$$\Delta p = \lambda \cdot \frac{L}{d} \cdot \frac{\rho(T) \cdot c^2}{2} [\text{Pa}]$$

Calculation of individual losses

A hydraulic system does not only incorporate pipes, but also valves, fittings, pipe bends etc. that cause flow losses. These individual losses are often much higher than the pipe losses and are calculated according to the following formula:

$$\Delta p = \zeta \cdot \rho(T) \cdot \frac{c^2}{2} [\text{Pa}]$$

Oil flow and pressure loss

All calculations based on Tube acc. to EN 10305-4, viscosity 37scst. specific gravity 0.860.
Following formula used and to determine other required tube or pipe sizes:

$$\text{Tube/Pipe I.D.} = 4.61 \times \sqrt{\frac{\text{flow/min}}{\text{velocity m/s}}}$$

Tube	Oil flow capacity l/min			Pressure loss in tube bar/m		
	1.8 m/s	4.5 m/s	7.2 m/s	1.8 m/s	4.5 m/s	7.2 m/s
6x1.0		3.4	5.4		1.90	4.10
6x1.5		1.9	3.1		2.80	5.90
8x1.0		7.6	12.2		1.10	2.30
8x1.5		5.3	8.5		1.40	3.00
8x2.0		3.4	5.4		1.90	4.10
8x2.5		1.9	3.1		2.80	5.90
10x1.0		13.6	21.7		0.70	1.60
10x1.5		10.4	16.6		0.90	1.90
10x2.0		7.6	12.2		1.10	2.30
10x2.5		5.3	8.5		1.40	3.00
12x1.0		21.2	33.9		0.50	1.20
12x1.5		17.2	27.4		0.60	1.30
12x2.0		13.6	21.7		0.70	1.60
12x2.5		10.4	16.6		0.90	1.90
14x1.5		25.6	41.0		0.50	1.00
14x2.0		21.2	33.9		0.50	1.20
15x1.5		30.5	48.8		0.40	0.90
15x2.0		25.6	41.0		0.50	1.00
16x1.5		35.8	57.3		0.40	0.80
16x2.0		30.5	48.8		0.40	0.09
16x2.5		25.6	41.0		0.50	1.00
16x3.0		21.2	33.9		0.50	1.20
18x1.5		47.6	76.2		0.30	0.70
18x2.0		41.5	66.4		0.30	0.70
20x2.0		54.2	86.7		0.30	0.70
20x2.5		47.6	76.2		0.30	0.70
20x3.0		41.5	66.4		0.30	0.70
20x4.0		30.5	48.8		0.40	0.90
22x1.5		76.4	122.3		0.20	0.50
22x2.0		68.6	109.8		0.20	0.05
22x2.5		61.2	97.9		0.30	0.60
25x2.0		93.4	149.4		0.20	0.40
25x2.5		84.7	135.5		0.20	0.50
25x3.0		76.4	122.3		0.20	0.50
25x4.0		61.2	97.9		3.00	0.06
28x2.0		122.0	195.1		0.20	0.40
28x2.5		112.0	179.2		0.20	0.40
28x3.0		102.5	164.0		0.20	0.40

Tube	Oil flow capacity l/min			Pressure loss in tube bar/m		
	1.8 m/s	4.5 m/s	7.2 m/s	1.8 m/s	4.5 m/s	7.2 m/s
30x2.0		143.1	229.0		0.10	0.30
30x3.0		122.0	195.1		0.10	0.40
30x4.0		102.5	164.0		0.10	0.40
35x2.0	81.4	203.5	325.6	0.024	0.10	0.30
35x3.0		178.1	284.9		0.10	0.30
38x2.5		230.6	368.9		0.10	0.20
38x3.0		216.8	346.9		0.10	0.30
38x4.0		190.6	304.9		0.10	0.30
38x5.0		166.0	265.6		0.10	0.30
42x2.0	122.3	305.8	489.2	0.018	0.09	0.20
42x3.0		274.4	439.1		0.10	0.20
42x4.0		244.8	391.6		0.10	0.20
46x8.5		178.1	284.9		0.06	0.14
50x3.0	164.0	410.0	656.0	0.012	0.07	0.17
50x5.0		338.8	542.1		0.08	0.19
50x6.0		305.8	489.2		0.09	0.19
56x8.5		322.1	515.3		0.09	0.19
60x3.0		617.4	987.9	0.012	0.06	0.13
60x5.0		529.4	847.0		0.06	0.14
65x8.0		508.4	813.4		0.06	0.14
66x8.5		508.4	813.4		0.06	0.14
73x7.0		737.1	1179.3		0.05	0.11
75x3.0		1008.1	1613.0	0.008	0.04	0.09
75x5.0		894.6	1431.4		0.03	0.10
80x10.0		762.3	1219.6		0.05	0.11
90x3.5		1458.7	2333.9	0.006	0.03	0.07
90x5.0		1355.2	2168.3		0.03	0.08
90x9.0		1097.7	1756.3		0.04	0.09
97x12.0		1128.4	1805.4		0.04	0.09
115x4.0		2424.3	3878.8	0.004	0.03	0.05
115x15.0		1529.8	2447.8		0.03	0.07
125x4.0		2898.6	4637.7		0.03	0.05
130x15.0		2117.4	3387.9		0.03	0.06
140x4.5	1453.5	3633.7	5814.0	0.004	0.02	0.04
165x5.0	1931.3	5087.0	7725.0			
220x6.0	3664.5	9160.5	14658.0			
273x6.0	5769.5	14424.0	23079.0			

Tubes – Marine and offshore applications (DNV Rules)

1 DNV Bended pipe including manufacturing and corrosion tolerances

2 DNV Straight pipe including manufacturing and corrosion tolerances

3 Burst pressure (B.P.) calculation including manufacturing tolerance

Tube E 235N /St. 37.4 NBK - Cr(VI)-free plated or phosphated and oiled

Tube O.D. x W.T.	1 DNV W.P. bar	2 DNV W.P. bar	3 B.P. bar	Weight kg/mtr.	Phosphated and oiled Order code	Cr(VI)-free Order code
06x1.0	230	373	1105	0.07	06x1.00NBK	06x1.00BX
06x1.5	437	506	1658	0.17	06x1.50NBK	06x1.50BX
08x1.0	169	193	829	0.17	08x1.00NBK	08x1.00BX
08x1.5	315	362	1243	0.24	08x1.50NBK	08x1.50BX
10x1.0	146	167	702	0.22	10x1.00NBK	10x1.00BX
10x1.5	267	306	1053	0.31	10x1.50NBK	10x1.50BX
12x1.5	218	250	878	0.39	12x1.50NBK	12x1.50BX
12x2.0	324	373	1170	0.49	12x2.00NBK	12x2.00BX
14x2.0	273	313	1003	0.59	14x2.00NBK	14x2.00BX
15x1.5	172	196	702	0.50	15x1.50NBK	15x1.50BX
15x2.0	253	290	936	0.64	15x2.00NBK	15x2.00BX
16x1.5	160	183	658	0.54	16x1.50NBK	16x1.50BX
16x2.0	235	270	878	0.69	16x2.00NBK	16x2.00BX
16x2.5	315	362	1097	0.83	16x2.50NBK	16x2.50BX
18x1.5	142	162	585	0.61	18x1.50NBK	18x1.50BX
18x2.0	207	237	780	0.79	18x2.00NBK	18x2.00BX
20x2.0	185	212	702	0.89	20x2.00NBK	20x2.00BX
20x2.5	246	282	878	1.08	20x2.50NBK	20x2.50BX
20x3.0	309	356	1053	1.26	20x3.00NBK	20x3.00BX
20x4.0	445	516	1404	1.58		20x4.00BX
22x1.5	115	131	479	0.76	22x1.50NBK	22x1.50BX
22x2.0	167	191	638	0.99	22x2.00NBK	22x2.00BX
22x2.5	221	254	798	1.20	22x2.50NBK	22x2.50BX
25x2.0	146	167	562	1.13	25x2.00NBK	25x2.00BX
25x2.5	193	221	702	1.39	25x2.50NBK	25x2.50BX
25x3.0	242	277	842	1.63	25x3.00NBK	25x3.00BX
25x4.0	344	397	1123	2.07	25x4.00NBK	25x4.00BX
28x2.0	129	148	501	1.28	28x2.00NBK	28x2.00BX
28x3.0	214	245	752	1.85	28x3.00NBK	28x3.00BX
30x2.0	120	137	468	1.38		30x2.00BX
30x3.0	198	227	702	2.00	30x3.00NBK	30x3.00BX
30x4.0	281	323	936	2.56	30x4.00NBK	30x4.00BX
30x5.0	368	425	1170	3.08	30x5.00NBK	30x5.00BX
35x2.0	103	117	401	1.63	35x2.00NBK	35x2.00BX
35x3.0	168	192	602	2.37	35x3.00NBK	35x3.00BX
38x2.5	124	141	462	2.19		38x2.50BX
38x3.0	154	176	554	2.59	38x3.00NBK	38x3.00BX
38x4.0	217	248	739	3.35	38x4.00NBK	38x4.00BX
38x5.0	282	324	924	4.07	38x5.00NBK	38x5.00BX
42x2.0	85	97	334	1.97	42x2.00NBK	42x2.00BX
42x3.0	139	158	501	2.89	42x3.00NBK	42x3.00BX
42x4.0	194	223	669	3.75	42x4.00NBK	42x4.00BX
50x3.0	115	132	421	3.48	50x3.00NBK	50x3.00BX
60x3.0	95	109	351	4.22	60x3.00NBK	60x3.00BX
75x3.0	76	86	281	5.32	75x3.00NBK	75x3.00BX
90x3.5	75	85	273	7.47	90x3.50NBK	90x3.50BX
100x4.0	78	89	281	9.47	100x4.00NBK	
115x4.0	68	77	244	10.98	115x4.00NBK	
140x4.5	63	72	226	15.04	140x4.50NBK	
165x5.0	60	68	213	19.73	165x5.00NBK	
220x6.0	55	62	191	31.66	220x6.00NBK	
273x6.0	44	50	154	39.51	273x6.00NBK	

Other sizes on request

Tubes – Landbased and industrial applications (DIN Rules)

- 1 DIN 2413 I static pressure (W.P.) capability for straight pipe including manufacturing tolerance
 2 DIN 2413 III dynamic pressure (W.P.) capability for straight pipe including manufacturing tolerance
 3 Burst pressure (B.P.) calculation including manufacturing tolerance

Tube E 235N /St. 37.4 NBK - Cr(VI)-free plated or phosphated and oiled

Tube O.D. x W.T.	1 DIN 2413 I W.P. bar	2 DIN 2413 III W.P. bar	3 B.P. bar	Weight kg/mtr.	Phosphated and oiled Order code	Cr(VI)-free Order code
06x1.0	444	372	1105	0.07	06x1.00NBK	06x1.00BX
06x1.5	666	526	1658	0.17	06x1.50NBK	06x1.50BX
08x1.0	333	288	829	0.17	08x1.00NBK	08x1.00BX
08x1.5	499	412	1243	0.24	08x1.50NBK	08x1.50BX
10x1.0	282	248	702	0.22	10x1.00NBK	10x1.00BX
10x1.5	423	357	1053	0.31	10x1.50NBK	10x1.50BX
12x1.5	353	303	878	0.39	12x1.50NBK	12x1.50BX
12x2.0	470	391	1170	0.49	12x2.00NBK	12x2.00BX
14x2.0	403	342	1003	0.59	14x2.00NBK	14x2.00BX
15x1.5	282	248	702	0.50	15x1.50NBK	15x1.50BX
15x2.0	376	321	936	0.64	15x2.00NBK	15x2.00BX
16x1.5	264	233	658	0.54	16x1.50NBK	16x1.50BX
16x2.0	353	303	878	0.69	16x2.00NBK	16x2.00BX
16x2.5	441	370	1097	0.83	16x2.50NBK	16x2.50BX
18x1.5	235	209	585	0.61	18x1.50NBK	18x1.50BX
18x2.0	313	273	780	0.79	18x2.00NBK	18x2.00BX
20x2.0	282	248	702	0.89	20x2.00NBK	20x2.00BX
20x2.5	353	303	878	1.08	20x2.50NBK	20x2.50BX
20x3.0	423	357	1053	1.26	20x3.00NBK	20x3.00BX
20x4.0	564	458	1404	1.58		20x4.00BX
22x1.5	192	173	479	0.76	22x1.50NBK	22x1.50BX
22x2.0	256	227	638	0.99	22x2.00NBK	22x2.00BX
22x2.5	320	278	798	1.20	22x2.50NBK	22x2.50BX
25x2.0	226	201	562	1.13	25x2.00NBK	25x2.00BX
25x2.5	282	248	702	1.39	25x2.50NBK	25x2.50BX
25x3.0	338	292	842	1.63	25x3.00NBK	25x3.00BX
25x4.0	451	378	1123	2.07	25x4.00NBK	25x4.00BX
28x2.0	201	181	501	1.28	28x2.00NBK	28x2.00BX
28x3.0	302	264	752	1.85	28x3.00NBK	28x3.00BX
30x2.0	188	170	468	1.38		30x2.00BX
30x3.0	282	248	702	2.00	30x3.00NBK	30x3.00BX
30x4.0	376	321	936	2.56	30x4.00NBK	30x4.00BX
30x5.0	470	391	1170	3.08	30x5.00NBK	30x5.00BX
35x2.0	161	147	401	1.63	35x2.00NBK	35x2.00BX
35x3.0	242	215	602	2.37	35x3.00NBK	35x3.00BX
38x2.5	186	168	462	2.19		38x2.50BX
38x3.0	223	199	554	2.59	38x3.00NBK	38x3.00BX
38x4.0	297	260	739	3.35	38x4.00NBK	38x4.00BX
38x5.0	371	318	924	4.07	38x5.00NBK	38x5.00BX
42x2.0	134	123	334	1.97	42x2.00NBK	42x2.00BX
42x3.0	201	181	501	2.89	42x3.00NBK	42x3.00BX
42x4.0	269	237	669	3.75	42x4.00NBK	42x4.00BX
50x3.0	169	154	421	3.48	50x3.00NBK	50x3.00BX
60x3.0	141	129	351	4.22	60x3.00NBK	60x3.00BX
75x3.0	113	104	281	5.32	75x3.00NBK	75x3.00BX
90x3.5	110	101	273	7.47	90x3.50NBK	90x3.50BX
100x4.0	113	104	281	9.47	100x4.00NBK	
115x4.0	98	91	244	10.98	115x4.00NBK	
140x4.5	91	84	226	15.04	140x4.50NBK	
165x5.0	85	80	213	19.73	165x5.00NBK	
220x6.0	77	72	191	31.66	220x6.00NBK	
273x6.0	62	58	154	39.51	273x6.00NBK	

Other sizes on request

Tubes – Marine and Offshore applications (DNV Rules)

1 DNV Bended pipe including manufacturing and corrosion tolerances

2 DNV Straight pipe including manufacturing and corrosion tolerances

3 Burst pressure (B.P.) calculation including manufacturing tolerance

Tube E 355N /St.52.4 NBK - Cr(VI)-free plated or phosphated and oiled

Tube O.D. x W.T.	1 DNV W.P. bar	2 DNV W.P. bar	3 B.P. bar	Weight kg/mtr.	Phosphated and oiled Order code	Cr(VI)-free Order code
15X1.5	259	297	959	0.50		15X1.50BX
15X2.0	381	438	1279	0.61		15X2.00BX
16X2.0	355	408	1199	0.69		16X2.00BX
16X2.5	475	547	1499	0.83		16X2.50BX
18X1.5	214	244	800	0.61		18X1.50BX
18X2.0	313	358	1066	0.79		18X2.00BX
20X2.0	279	319	959	0.89		20X2.00BX
20X2.5	371	426	1199	1.08		20X2.50BX
20X3.0	467	537	1439	1.25		20X3.00BX
22X1.5	173	197	654	0.76		22X1.50BX
22X2.0	252	288	872	0.99		22X2.00BX
25X2.5	291	333	959	1.39		25X2.50BX
25X3.0	365	418	1151	1.63		25X3.00BX
25X4.0	519	599	1535	2.07		25X4.00BX
28X2.0	195	223	685	1.28		28X2.00BX
30X3.0	299	343	959	2.00		30X3.00BX
30X4.0	424	487	1279	2.56		30X4.00BX
30X5.0	555	641	1599	3.08		30X5.00BX
35X3.0	254	290	822	2.37		35X3.00BX
38X3.0	233	266	757	2.37		38X3.00BX
38X4.0	327	375	1010	3.35		38X4.00BX
38X5.0	426	490	1262	4.07		38X5.00BX
39X7.5	673	781	1845	8.53		39X7.50BX
42X3.0	209	239	685	2.89		42X3.00BX
42X4.0	294	336	914	3.75		42X4.00BX
46X8.0	601	695	1669	7.50		46X8.00BX
50X5.0	315	361	959	5.55	50X5.00NBK	50X5.00BX
50X6.0	390	448	1151	6.50	50X6.00NBK	50X6.00BX
56X8.5	516	595	1456	9.96	56X8.50NBK	
60X5.0	259	297	800	6.78		60X5.00BX
60X6.0	319	366	959	7.97	60X6.00NBK	60X6.00BX
65X8.0	407	468	1121	11.25		65X8.00BX
66X8.5	429	494	1236	12.05	66X8.50NBK	
73X7.0	309	353	920	11.22	73X7.00NBK	73X7.00BX
75X5.0	205	234	640	8.63	75X5.00NBK	75X5.00BX
80X10	418	481	1199	17.21	80X10.00NBK	
90X5.0	169	193	533	10.48	90X5.00NBK	90X5.00BX
90X9.0	326	374	959	17.98	90X9.00NBK	90X9.00BX
97X12	416	478	1187	25.15	97X12.00NBK	
115X15	444	511	1251	36.95	115X15.00NBK	
130X15	388	445	1107	42.54	130X15.00NBK	
150X15	332	380	959	49.94	150X15.00NBK	
190X20	353	405	1010	83.84	190X20.00NBK	
250X25	335	384	959	138.72	250X25.00NBK	

Other sizes on request

Tubes – Landbased and industrial applications (DIN Rules)

- 1 DIN 2413 I static pressure (W.P.) capability for straight pipe including manufacturing tolerance
 2 DIN 2413 III dynamic pressure (W.P.) capability for straight pipe including manufacturing tolerance
 3 Burst pressure (B.P.) calculation including manufacturing tolerance

Tube E 355N /St.52.4 NBK - Cr(VI)-free plated or phosphated and oiled

Tube O.D. x W.T.	1 DIN 2413 I W.P. bar	2 DIN 2413 III W.P. bar	3 B.P. bar	Weight kg/mtr.	Phosphated and oiled Order code	Cr(VI)-free Order code
15X1.5	426	292	959	0.50		15X1.50BX
15X2.0	568	379	1279	0.61		15X2.00BX
16X2.0	533	357	1199	0.69		16X2.00BX
16X2.5	666	436	1499	0.83		16X2.50BX
18X1.5	355	247	800	0.61		18X1.50BX
18X2.0	473	321	1066	0.79		18X2.00BX
20X2.0	426	292	959	0.89		20X2.00BX
20X2.5	533	357	1199	1.08		20X2.50BX
20X3.0	639	420	1439	1.25		20X3.00BX
22X1.5	290	204	654	0.76		22X1.50BX
22X2.0	387	267	872	0.99		22X2.00BX
25X2.5	426	292	959	1.39		25X2.50BX
25X3.0	511	344	1151	1.63		25X3.00BX
25X4.0	682	445	1535	2.07		25X4.00BX
28X2.0	304	213	685	1.28		28X2.00BX
30X3.0	426	292	959	2.00		30X3.00BX
30X4.0	568	379	1279	2.56		30X4.00BX
30X5.0	710	461	1599	3.08		30X5.00BX
35X3.0	365	253	822	2.37		35X3.00BX
38X3.0	336	234	757	2.37		38X3.00BX
38X4.0	448	306	1010	3.35		38X4.00BX
38X5.0	561	374	1262	4.07		38X5.00BX
39X7.5	819	521	1845	8.53		39X7.50BX
42X3.0	304	213	685	2.89		42X3.00BX
42X4.0	406	279	914	3.75		42X4.00BX
46X8.0	741	478	1669	7.50		46X8.00BX
50X5.0	426	292	959	5.55	50X5.00NBK	50X5.00BX
50X6.0	511	344	1151	6.50	50X6.00NBK	50X6.00BX
56X8.5	647	425	1456	9.96	56X8.50NBK	
60X5.0	355	247	800	6.78		60X5.00BX
60X6.0	426	292	959	7.97	60X6.00NBK	60X6.00BX
65X8.0	524	352	1121	11.25		65X8.00BX
66X8.5	549	367	1236	12.05	66X8.50NBK	
73X7.0	408	281	920	11.22	73X7.00NBK	73X7.00BX
75X5.0	284	200	640	8.63	75X5.00NBK	75X5.00BX
80X10	533	357	1199	17.21	80X10.00NBK	
90X5.0	237	168	533	10.48	90X5.00NBK	90X5.00BX
90X9.0	426	292	959	17.98	90X9.00NBK	90X9.00BX
97X12	527	354	1187	25.15	97X12.00NBK	
115X15	556	371	1251	36.95	115X15.00NBK	
130X15	492	332	1107	42.54	130X15.00NBK	
150X15	426	292	959	49.94	150X15.00NBK	
190X20	448	306	1010	83.84	190X20.00NBK	
250X25	426	292	959	138.72	250X25.00NBK	

Other sizes on request

Tubes – Marine and Offshore applications (DNV Rules)

1 DNV: Bended pipe including manufacturing and corrosion tolerances

2 Burst pressure (B.P.) calculation including manufacturing tolerance

Seamless cold drawn Stainless Steel Tube ASTM A269/A213 - AISI 316L

Tube O.D. x W.T.	1 DNV W.P. bar	2 B.P. bar	Weight kg/mtr.	AISI 316L Order code
06X1	493	1590	0.13	06X1.00SL
08X1	357	1193	0.18	08X1.00SL
10X1	298	954	0.23	10X1.00SL
10X1.5	467	1431	0.32	10X1.50SL
12X1	244	795	0.28	12X1.00SL
12X1.5	380	1193	0.39	12X1.50SL
12X2	526	1590	0.50	12X2.00SL
15X1.5	298	954	0.51	15X1.50SL
16X2	380	1193	0.70	16X2.00SL
16X2.5	489	1491	0.85	16X2.50SL
18X1.5	244	795	0.62	18X1.50SL
18X2	334	1060	0.80	18X2.00SL
20X2	298	954	0.90	20X2.00SL
20X2.5	380	1193	1.10	20X2.50SL
20X3	467	1431	1.28	20X3.00SL
22X2	268	867	1.00	22X2.00SL
25X2	234	763	1.13	25X2.00SL
25X2.5	298	954	1.41	25X2.50SL
25X3	363	1145	1.65	25X3.00SL
28X2	207	681	1.30	28X2.00SL
30X2.5	244	795	1.70	30X2.50SL
30X3	298	954	2.03	30X3.00SL
30X4	409	1272	2.60	30X4.00SL
35X2	164	545	1.65	35X2.00SL
35X3	252	818	2.40	35X3.00SL
38X3	231	753	2.63	38X3.00SL
38X4	315	1004	3.41	38X4.00SL
38X5	403	1255	4.12	38X5.00SL
38X6	495	1506	4.81	38X6.00SL
42X2	136	454	1.97	42X2.00SL
42X3	207	681	2.93	42X3.00SL
50X3	173	572	3.53	50X3.00SL
50X5	298	954	5.63	50X5.00SL
50X6	363	1145	6.61	50X6.00SL
60X3	143	477	4.28	60X3.00SL
60X5	244	795	6.89	60X5.00SL
66X8.5	393	1229	12.24	66X8.50SL
73X7	284	915	11.57	73X7.00SL
75X3	113	382	5.41	75X3.00SL
75X5	193	636	8.76	75X5.00SL
80X10	380	1193	17.53	80X10.00SL
97X12	376	1180	25.54	97X12.00X5000SL

Other sizes on request

Tubes - Landbased and industrial applications (DIN Rules)

1 DIN 2413 I static pressure (W.P.) capability for straight pipe including manufacturing tolerance
2 Burst pressure (B.P.) calculation including manufacturing tolerance

Seamless cold drawn Stainless Steel Tube ASTM A269/A213 - AISI 316L

Tube O.D. x W.T.	1 DIN 2413 I W.P. bar	2 B.P. bar	Weight kg/mtr.	AISI 316L Order code
06X1	490	1590	0.13	06X1.00SL
08X1	368	1193	0.18	08X1.00SL
10X1	294	954	0.23	10X1.00SL
10X1.5	441	1431	0.32	10X1.50SL
12X1	245	795	0.28	12X1.00SL
12X1.5	368	1193	0.39	12X1.50SL
12X2	490	1590	0.50	12X2.00SL
15X1.5	294	954	0.51	15X1.50SL
16X2	368	1193	0.70	16X2.00SL
16X2.5	459	1491	0.85	16X2.50SL
18X1.5	245	795	0.62	18X1.50SL
18X2	327	1060	0.80	18X2.00SL
20X2	294	954	0.90	20X2.00SL
20X2.5	368	1193	1.10	20X2.50SL
20X3	441	1431	1.28	20X3.00SL
22X2	267	867	1.00	22X2.00SL
25X2	235	763	1.13	25X2.00SL
25X2.5	294	954	1.41	25X2.50SL
25X3	353	1145	1.65	25X3.00SL
28X2	210	681	1.30	28X2.00SL
30X2.5	245	795	1.70	30X2.50SL
30X3	294	954	2.03	30X3.00SL
30X4	392	1272	2.60	30X4.00SL
35X2	168	545	1.65	35X2.00SL
35X3	252	818	2.40	35X3.00SL
38X3	232	753	2.63	38X3.00SL
38X4	309	1004	3.41	38X4.00SL
38X5	387	1255	4.12	38X5.00SL
38X6	464	1506	4.81	38X6.00SL
42X2	140	454	1.97	42X2.00SL
42X3	210	681	2.93	42X3.00SL
50X3	176	572	3.53	50X3.00SL
50X5	294	954	5.63	50X5.00SL
50X6	353	1145	6.61	50X6.00SL
60X3	147	477	4.28	60X3.00SL
60X5	245	795	6.89	60X5.00SL
66X8.5	379	1229	12.24	66X8.50SL
73X7	282	915	11.57	73X7.00SL
75X3	118	382	5.41	75X3.00SL
75X5	196	636	8.76	75X5.00SL
80X10	368	1193	17.53	80X10.00SL
97X12	364	1180	25.54	97X12.00X5000SL

Other sizes on request

Pipe according to ANSI B36.19 ASTM - A - 312 - TP - 316L

Pressure table acc. to DNV Rules for Classification of Ships Newbuilding and Mobile Offshore Units Drilling Plants.

1 ANSI B313 pipe including manufacturing tolerance, bending and corrosion considered

2 Burst pressure (B.P.) including manufacturing tolerance

Nom. Pipe Size SCH size	Tube/Pipe O.D-x W.T.	1 W.P. bar	2 B.P. bar	Weight kg/mtr.	Order code
1/2" SCH 10	21.34x2.11	249	917	1.02	on request
1/2" SCH 40	21.34x2.77	336	1203	1.29	on request
1/2" SCH 80	21.34x3.73	471	1620	1.65	on request
1/2" SCH 160	21.34x4.78	632	2076	1.98	on request
1/2" SCH xxs	21.34x7.47	1124	3245	2.55	on request
3/4" SCH 10	26.67x2.11	196	733	1.30	on request
3/4" SCH 40	26.67x2.81	267	977	1.71	on request
3/4" SCH 80	26.67x3.91	385	1359	2.33	on request
3/4" SCH 160	26.67x5.56	579	1933	2.94	on request
3/4" SCH xxs	26.67x7.82	886	2718	3.64	on request
1" SCH 10	33.40x2.77	206	769	2.13	on request
1" SCH 40	33.40x3.38	255	938	2.54	on request
1" SCH 80	33.40x4.55	354	1263	3.29	on request
1" SCH 160	33.40x6.35	805	1762	4.30	on request
1" SCH xxs	33.40x9.09	805	2523	5.45	on request
1 1/4" SCH 10	42.16x2.77	161	609	2.73	on request
1 1/4" SCH 40	42.16x3.56	210	783	3.44	on request
1 1/4" SCH 80	42.16x4.85	294	1066	4.53	on request
1 1/4" SCH 160	42.16x6.35	397	1396	5.69	on request
1 1/4" SCH xxs	42.16x9.70	653	2133	7.76	on request
1 1/2" SCH 10	48.26x2.77	139	532	3.16	on request
1 1/2" SCH 40	48.26x3.68	188	707	4.11	on request
1 1/2" SCH 80	48.26x5.08	266	976	5.49	on request
1 1/2" SCH 160	48.26x7.14	389	1371	7.35	on request
1 1/2" SCH xxs	48.26x10.16	586	1952	9.55	on request
2" SCH 10	60.30x2.77	111	426	3.99	on request
2" SCH 40	60.30x3.91	159	601	5.52	on request
2" SCH 80	60.30x5.54	230	852	7.60	on request
2" SCH 160	60.30x8.74	380	1344	11.28	on request
2" SCH xxs	60.30x11.07	498	1702	13.44	on request
2 1/2" SCH 5	73.00x2.11	69	268	3.76	on request
2 1/2" SCH 10	73.00x3.05	100	387	5.37	on request
2 1/2" SCH 40	73.00x5.16	174	655	8.80	on request
2 1/2" SCH 80	73.00x7.01	241	890	11.64	on request
2 1/2" SCH 160	73.00x9.53	338	1210	15.15	on request
2 1/2" SCH xxs	73.00x14.02	526	1780	20.50	on request
3" SCH 5	88.90x2.11	56	220	4.59	on request
3" SCH 10	88.90x3.05	82	318	6.45	on request
3" SCH 40	88.90x5.49	151	572	11.64	on request
3" SCH 80	88.90x7.67	215	800	15.51	on request
3" SCH 160	88.90x11.13	322	1161	21.67	on request
3" SCH xxs	88.90x15.24	460	1589	27.68	on request
4" SCH 5	114.30x2.11	43	171	5.93	on request
4" SCH 10	114.30x3.05	63	247	8.50	on request
4" SCH 40	114.30x6.07	129	492	16.32	on request
4" SCH 80	114.30x8.56	185	694	22.67	on request
4" SCH 160	114.30x13.49	302	1094	34.05	on request
4" SCH xxs	114.30x17.12	394	1388	41.03	on request
5" SCH 10	141.30x3.40	57	233	41.03	on request
5" SCH 40	141.30x6.55	112	430	41.03	on request
5" SCH 80	141.30x9.53	165	625	41.03	on request
5" SCH 160	141.30x15.88	286	1042	41.03	on request
5" SCH xxs	141.30x19.05	350	1250	41.03	on request
6" SCH 40	168.30x7.11	101	392	28.69	on request
6" SCH 160	168.30x18.26	275	1006	67.56	on request
6" SCH xxs	168.30x21.95	337	1209	79.21	on request
8" SCH 40	219.10x8.18	89	346	43.20	on request
8" SCH 160	219.10x23.01	266	974	111.30	on request
8" SCH xxs	219.10x22.00	253	931	106.88	on request
10" SCH xxs	273.00x25.40	233	862	101.90	on request

Other sizes on request

Temperature conversion table

Celsius to Fahrenheit

°C	°F
150	302
145	293
140	284
135	275
130	266
125	257
120	248
115	239
110	230
105	221
100	212
95	203
90	194
85	185
80	176
75	167
70	158
65	149
60	140
55	131
50	122
45	113
40	104
35	95
30	86
25	77
20	68
15	59
10	50
5	41
0	32
-5	23
-10	14
-15	5
-20	-4
-25	-13
-30	-22
-35	-31
-40	-40
-45	-49
-50	-58

Fahrenheit to Celsius

°F	°C
340	171
330	166
320	160
310	154
300	149
290	143
280	138
270	132
260	127
250	121
240	116
230	110
220	104
210	99
200	93
190	88
180	82
170	77
160	71
150	66
140	60
130	54
120	49
110	43
100	38
90	32
80	27
70	21
60	16
50	10
40	4
30	-1
20	-7
10	-12
0	-18
-10	-23
-20	-29
-30	-34
-40	-40
-50	-46
-60	-51

Pressure conversion table

bar to psi

bar	psi
1000	14505
800	11604
600	8703
500	7253
400	5802
250	3626
160	2321
100	1451
60	870
40	580
35	508
25	363
16	232
10	145
6	87
4	58
2.5	36
1.6	23
1	15

psi to bar

psi	bar
10000	689
9000	620
7000	483
6000	414
4000	276
3000	207
2500	172
1000	69
900	62
600	41
500	34
400	28
250	17
150	10.3
100	6.9
90	6.2
60	4.1
40	2.8
25	1.7
10	0.7

Examples

Temperature conversion

Initial value: 100

°C in °F: 212 °F

°F in °C: 37.78 °C

Pressure conversion

Initial value: 35

bar in psi: 507.675 psi

psi in bar: 2.41296 bar

