

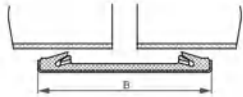
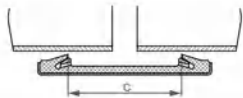
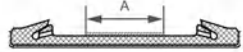
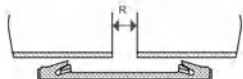

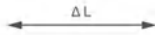


30650
114.3
FLEX 1
4.5
the original
straub
Made in Switzerland
Kf.Nr.
SWISS MADE
CH - 2211
1000
1000

NON-AXIAL
RESTRAINT FLEXIBLE
PIPE COUPLINGS



SPECIFICATION

		STRAUB-FLEX / STRAUB-OPEN-FLEX				
		1	2	3	3.5	4
		[mm]	[mm]	[mm]	[mm]	[mm]
B Width of casing		75 - 107	138 - 148	210 - 218	310 - 311	443 - 444
C Distance between sealing lips		35 - 62	91	127	227	350
A Width of strip insert		29 - 52	70	100	200	300
R_{max} Pipe gap <i>without</i> strip insert		5	10	15	20	20
R_{max} Pipe gap <i>with</i> strip insert		15 - 35	35	60	120	200
Δ L Max. axial movement		5	10	15	15	20

THE AXIAL FLEXIBILITY SERIES

STRAUB-FLEX



All pipe materials can be reliably connected with STRAUB-FLEX couplings.

STRAUB-FLEX pipe couplings enable pipe connections for practically all conceivable pipe diameters, for the same or different types of pipe materials, various media and temperatures as well as for a wide range of the operating pressure values.

As STRAUB-FLEX pipe couplings cannot axially absorb any forces, the

pipes must be secured axially using appropriate measures on-site such as tie rods, fixed and sliding points, concrete abutments etc.

The sealing sleeve separates the coupling casing from the pipe surface so that sound, vibrations and oscillations are optimally damped.

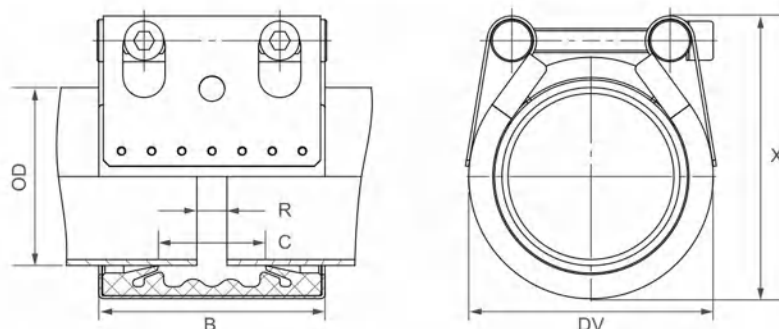


- Outside diameter: 48.3 up to 4064.0 mm
- Temperature: -20°C up to +180°C (STRAUB-FLEX 3.5 + 4 up to +100°C)
- Sealing sleeve: EPDM, NBR, FPM/FKM



Components / Materials	W1	W2	W4	W5
Casing		AISI 304 / 316 L		AISI 316 L or similar
Bolts		AISI 4135		A4 - 80
Bars		AISI 12L14, galvanised		AISI 316 L or similar
Strip insert (option)		AISI 316 L or similar / PVDF		AISI 316 L or similar / PVDF

Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons
Sealing sleeve FPM/FKM¹²	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)



OD [mm]	Clamping range [mm]	PN [bar]	PN [bar]	B [mm]	C [mm]	DV [mm]	X [mm]	R without strip insert [mm]	R with strip insert [mm]	Torque rate [Nm]
48.3 ¹⁰	47.0 - 49.5	25.0	16	75	35	70	83	5	5 - 15	7.5
54.0 ¹⁰	52.5 - 55.5	25.0	16	75	35	76	88	5	5 - 15	7.5
57.0 ¹⁰	55.5 - 58.5	25.0	16	75	35	79	94	5	5 - 15	7.5
60.3	59.0 - 61.5	25.0	16	75	35	82	95	5	5 - 15	7.5
70.0	69.5 - 71.0	25.0	16	94	51	95	112	5	5 - 25	7.5
73.0	71.5 - 74.5	25.0	16	94	51	95	112	5	5 - 25	7.5
76.1	74.5 - 77.5	25.0	16	94	51	98	119	5	5 - 25	7.5
80.0	79.5 - 81.5	25.0	16	94	51	106	127	5	5 - 25	7.5
84.0	82.5 - 85.5	25.0	16	94	51	106	127	5	5 - 25	7.5
88.9	87.5 - 90.5	25.0	16	94	51	111	132	5	5 - 25	7.5
100.6	99.0 - 102.5	25.0	16	94	51	123	145	5	5 - 25	7.5
101.6	100.0 - 103.5	25.0	16	94	51	124	145	5	5 - 25	7.5
104.0	102.5 - 105.5	20.0	16	94	51	126	146	5	5 - 25	7.5
104.8	103.0 - 106.5	20.0	16	94	51	127	146	5	5 - 25	7.5
108.0	106.5 - 109.5	20.0	16	94	51	130	151	5	5 - 25	7.5
114.3	112.5 - 116.0	20.0	16	94	51	136	160	5	5 - 25	7.5
127.0	125.0 - 129.0	20.0	16	107	62	149	168	5	5 - 35	10
129.0	127.0 - 131.0	20.0	16	107	62	151	170	5	5 - 35	10
130.2	128.5 - 132.0	20.0	16	107	62	152	170	5	5 - 35	10
133.0	131.0 - 135.0	16.0	16	107	62	155	174	5	5 - 35	10
139.7	138.0 - 141.5	16.0	16	107	62	162	180	5	5 - 35	10
141.3	139.5 - 143.0	16.0	16	107	62	163	182	5	5 - 35	10
154.0	152.0 - 156.0	16.0	16	107	62	176	198	5	5 - 35	10
159.0	157.0 - 161.0	16.0	16	107	62	181	203	5	5 - 35	10
168.3	166.0 - 170.5	16.0	16	107	62	190	212	5	5 - 35	10

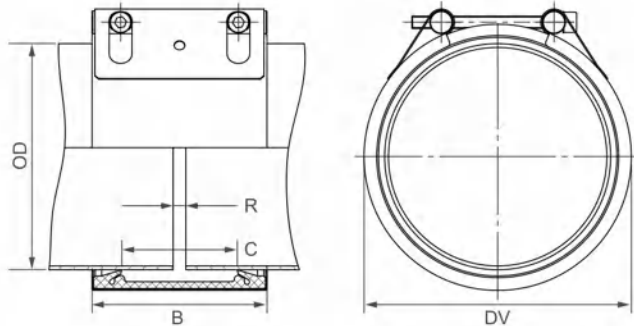
Remarks:

- Follow fitting instructions
- PN () = working pressure considering the application loads
Test pressure = PN () x 1.5 (for example industry, water supply etc.)
Burst pressure = approx. PN () x 2
PN () = nominal pressure, includes four times safety factor (e.g. shipbuilding)
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request

¹⁰ FPM/FKM only available as STRAUB-OPEN-FLEX



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 304 or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert (option)	AISI 316 L or similar / HDPE	AISI 316 L or similar / HDPE		AISI 316 L or similar / HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons			
Sealing sleeve FPM/FKM	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)			



B ⇨ 138 up to 148 mm
 DV ⇨ OD + 27 mm
 C ⇨ 91 mm
 R with strip insert ⇨ 35 mm
 R without strip insert ⇨ 10 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD [mm]	Clamping range [mm]	PN						PN [bar]
		2.5	6	10	16	20	25	
172.0	170 - 174							Pressure rates according to type approval
180.0	178 - 182							
200.0	198 - 202							
219.1	217 - 222							
250.0	248 - 253							
267.0	264 - 270							
273.0	270 - 276							
304.0	301 - 307							
323.9	321 - 327							
355.6	353 - 358							
406.4	404 - 409							
457.2	454 - 460							
508.0	505 - 511							
558.8	556 - 562							
609.6	606 - 613							
711.2	708 - 715							
762.0	758 - 766							
812.8	809 - 817							
914.4	910 - 918							
1016.0	1012 - 1020							
1117.6	1114 - 1122							
1219.2	1215 - 1224							
1320.8	1316 - 1325							
1422.4	1418 - 1427							
1524.0	1519 - 1529							
1600.0	1595 - 1605							
1625.6	1621 - 1631							
1727.2	1722 - 1732							
1828.8	1824 - 1834							
1930.4	1925 - 1935							
2032.0	2027 - 2037							

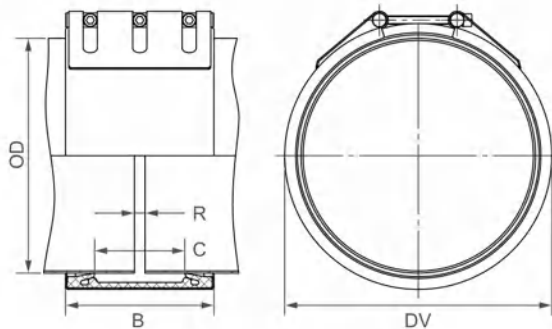
CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 172.0 TO 2032.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN () = working pressure considering the application loads
 Test pressure = PN () x 1.5 (for example industry, water supply etc.)
 Burst pressure = approx. PN () x 2
 PN () = nominal pressure, includes four times safety factor (e.g. shipbuilding)
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L / 316 TI		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert (option)	AISI 316 L or similar / HDPE	AISI 316 L or similar / HDPE		AISI 316 L or similar / HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons			
Sealing sleeve FPM/FKM (on request)	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)			



B ⇒ 210 up to 218 mm
 DV ⇒ OD + 38 mm
 C ⇒ 127 mm
 R with strip insert ⇒ 60 mm
 R without strip insert ⇒ 15 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
219.1	216 - 222						
250.0	247 - 253						
267.0	264 - 270						
273.0	270 - 276						
304.0	301 - 307						
323.9	321 - 327						
355.6	352 - 358						
406.4	403 - 409						
457.2	454 - 460						
508.0	504 - 512						
558.8	555 - 562						
609.6	606 - 613						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						
914.4	910 - 918						
1016.0	1012 - 1020						
1117.6	1113 - 1122						
1219.2	1215 - 1224						
1320.8	1316 - 1325						
1422.4	1418 - 1427						
1524.0	1519 - 1529						
1600.0	1595 - 1605						
1625.6	1621 - 1631						
1727.2	1722 - 1732						
1828.8	1824 - 1834						
1930.4	1925 - 1935						
2032.0	2027 - 2037						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 219.1 TO 2032.0 mm ARE AVAILABLE

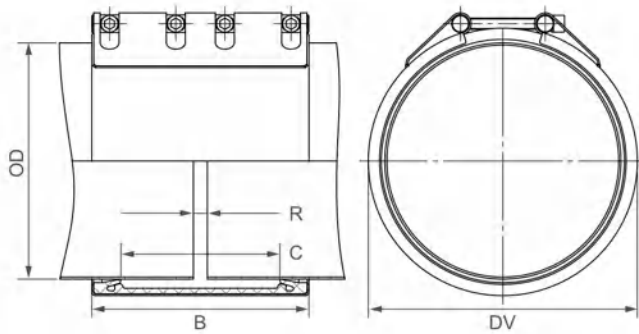
Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
 Burst pressure = approx. PN x 2
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request

⇒ Bigger diameters are available as STRAUB-OPEN-FLEX, see page 60 to 65



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised			AISI 316 L or similar
Bolts	AISI 4135			A4 - 80
Bars	AISI 12L14, galvanised			AISI 316 L or similar
Strip insert	AISI 316 L or similar / HDPE			AISI 316 L or similar / HDPE
Sealing sleeve	Temp.: -20°C up to +100°C			
EPDM	Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve	Temp.: -20°C up to +80°C			
NBR	Medium: water, gas, oil, fuel and other hydrocarbons			



B ⇨ 310 up to 311 mm
 DV ⇨ OD + 38 mm
 C ⇨ 227 mm
 R with strip insert ⇨ 120 mm
 R without strip insert ⇨ 20 mm

	W1 or W5
	only in W5 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
323.9	320 - 327						
355.6	352 - 370						
406.4	402 - 410						
457.2	453 - 461						
508.0	504 - 512						
558.8	555 - 563						
609.6	605 - 614						
655.0	651 - 659						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						
914.4	910 - 918						
1016.0	1011 - 1021						
1117.6	1112 - 1123						
1219.2	1214 - 1224						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 323.9 TO 1219.2 mm ARE AVAILABLE

Remarks:

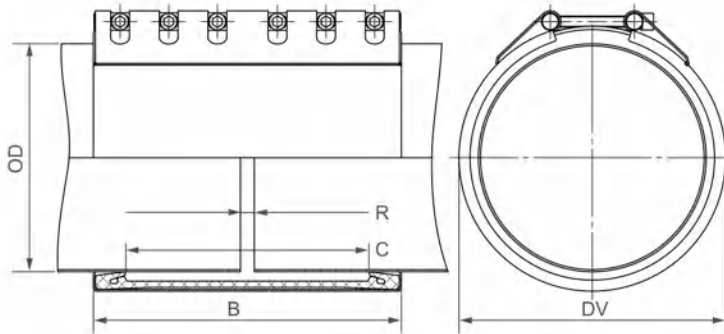
- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
 Burst pressure = approx. PN x 2
- Strip inserts included
- Additional sealing sleeves, pressure and temperature ranges on request

⇨ Bigger diameters are available as STRAUB-OPEN-FLEX, see page 60 to 65



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised			AISI 316 L or similar
Bolts	AISI 4135			A4 - 80
Bars	AISI 12L14, galvanised			AISI 316 L or similar
Strip insert	AISI 301 / HDPE			AISI 316 L or similar / HDPE

Sealing sleeve Temp.: -20°C up to +100°C
EPDM Medium: all qualities of water, waste water, air, solids and chemical products



B ⇒ 443 up to 444 mm
 DV ⇒ OD + 48 mm
 C ⇒ 350 mm
 R with strip insert ⇒ 200 mm
 R without strip insert ⇒ 20 mm

	W1 or W5
	only in W5 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
323.9	320 - 327						
355.6	352 - 359						
406.4	403 - 409						
457.2	454 - 460						
508.0	505 - 512						
558.8	555 - 562						
609.6	606 - 613						
655.0	652 - 658						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 323.9 TO 812.8 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
 Burst pressure = approx. PN x 2
- Strip inserts included
- Additional sealing sleeves, pressure and temperature ranges on request

↪ Bigger diameters are available as STRAUB-OPEN-FLEX, see page 60 to 65



FLEXIBLE AND VERSATILE STRAUB-OPEN-FLEX

With joint, slotted casing, 2-part or 3-part, STRAUB-OPEN-FLEX can be mounted easily and quickly on existing pipes.

STRAUB-OPEN-FLEX pipe couplings have the same characteristics as STRAUB-FLEX couplings, but expand their possible uses.

The casings of the STRAUB-OPEN-FLEX product series can be hinged or available as 2-part or 3-part version. As a result, STRAUB-OPEN-FLEX couplings can be used for connecting pipes or repairs without removal of existing pipes.

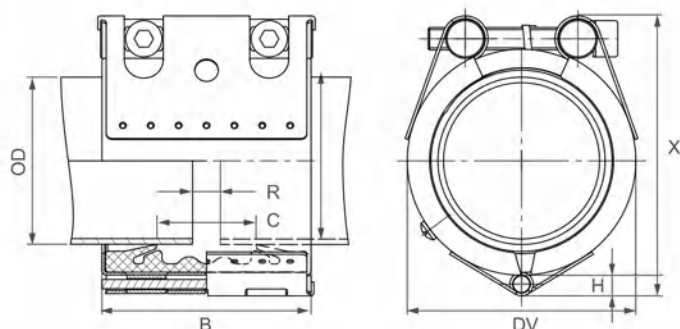


- Outside diameter: 48.3 up to 4064.0 mm
- Temperature: -20°C up to +180°C (OPEN-FLEX 3.5 + 4 up to +100°C)
- Sealing sleeve: EPDM, NBR, FPM/FKM



Components / Materials	W1	W2	W4	W5
Casing		AISI 316 L or similar		AISI 316 L or similar
Bolts		AISI 4135		A4 - 80
Bars		AISI 12L14, galvanised		AISI 316 L
Strip insert (option)		AISI 316 L or similar / VDF		AISI 316 L or similar / PVDF

Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons
Sealing sleeve FPM/FKM	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)



OD [mm]	High H [mm]
48.3 - 60.3	7.0
73.0 - 114.3	9.0
127.0 - 168.3	9.5



OD [mm]	Clamping range [mm]	PN [bar]	PN [bar]	B [mm]	C [mm]	DV [mm]	X [mm]	R without strip insert [mm]	R with strip insert [mm]	Torque rate [Nm]
48.3	47.0 - 49.5	25.0	16.0	75	35	70	89	5	15	7.5
54.0	52.5 - 55.5	25.0	16.0	75	35	76	94	5	15	7.5
57.0	55.5 - 58.5	25.0	16.0	75	35	79	97	5	15	7.5
60.3	59.0 - 61.5	25.0	16.0	75	35	82	101	5	15	7.5
73.0	71.5 - 74.5	25.0	16.0	94	51	95	119	5	25	10
76.1	74.5 - 77.5	25.0	16.0	94	51	98	123	5	25	10
84.0	82.5 - 85.5	25.0	16.0	94	51	106	131	5	25	10
88.9	87.5 - 90.5	25.0	16.0	94	51	111	136	5	25	10
100.6	99.0 - 102.5	25.0	16.0	94	51	123	148	5	25	10
101.6	100.0 - 103.5	25.0	16.0	94	51	124	148	5	25	10
104.0	102.5 - 105.5	20.0	16.0	94	51	126	152	5	25	10
104.8	103.0 - 106.5	20.0	16.0	94	51	127	152	5	25	10
108.0	106.5 - 109.5	20.0	16.0	94	51	130	156	5	25	10
114.3	112.5 - 116.0	20.0	16.0	94	51	136	162	5	25	10
118.0	116.0 - 120.0	20.0	16.0	94	51	140	166	5	25	10
127.0	125.0 - 129.0	20.0	16.0	107	62	149	179	5	35	12
129.0	127.0 - 131.0	20.0	16.0	107	62	151	181	5	35	12
130.2	128.5 - 132.0	20.0	16.0	107	62	152	181	5	35	12
133.0	131.0 - 135.0	16.0	16.0	107	62	155	189	5	35	12
139.7	138.0 - 141.5	16.0	16.0	107	62	162	192	5	35	12
141.3	139.5 - 143.0	16.0	16.0	107	62	163	192	5	35	12
154.0	152.0 - 156.0	16.0	16.0	107	62	176	207	5	35	12
159.0	157.0 - 161.0	16.0	16.0	107	62	181	212	5	35	12
168.3	166.0 - 170.5	16.0	16.0	107	62	190	225	5	35	12

Remarks:

- Follow fitting instructions
- PN (🏭) = working pressure considering the application loads
Test pressure = PN (🏭) x 1.5 (for example industry, water supply etc.)
PN (🚢) = nominal pressure, includes four times safety factor (e.g. shipbuilding)
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request

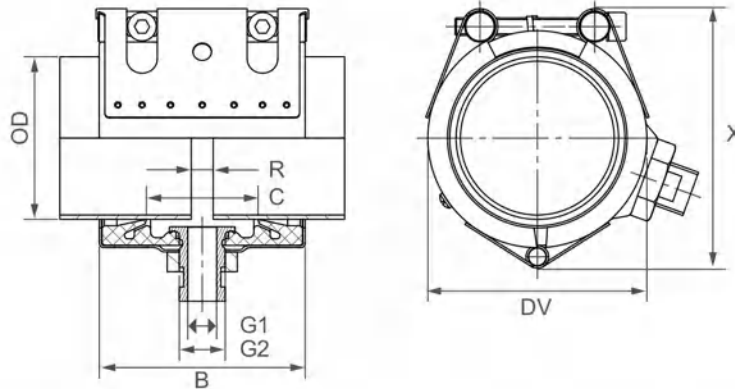


STRAUB-OPEN-FLEX 1 GT

(with side outlet)

ø 73.0 - 168.3 mm

Components / Materials	W1	W2	W4	W5
Casing		AISI 316 L or similar		AISI 316 L or similar
Bolts		AISI 4135		A4 - 80
Bars		AISI 12L14, galvanised		AISI 316 L
Sealing sleeve EPDM	Temp.: -20°C up to +70°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +70°C Medium: water, gas, oil, fuel and other hydrocarbons			



OD [mm]	Clamping range [mm]	PN [bar]	B [mm]	C [mm]	DV [mm]	X [mm]	G1 [Zoll]	G2 [Zoll]	Torque rate [Nm]
73.0	71.5 - 74.5	16.0	94	51	95	119	1/4	1/2	10
76.1	74.5 - 77.5	16.0	94	51	98	123	1/4	1/2	10
84.0	82.5 - 85.5	16.0	94	51	106	131	1/4	1/2	10
88.9	87.5 - 90.5	16.0	94	51	111	136	1/4	1/2	10
100.6	99.0 - 102.5	16.0	94	51	123	148	1/4	1/2	10
101.6	100.0 - 103.5	16.0	94	51	124	148	1/4	1/2	10
104.0	102.5 - 105.5	16.0	94	51	126	152	1/4	1/2	10
104.8	103.0 - 106.5	16.0	94	51	127	152	1/4	1/2	10
108.0	106.5 - 109.5	16.0	94	51	130	156	1/4	1/2	10
114.3	112.5 - 116.0	16.0	94	51	136	162	1/4	1/2	10
118.0	116.0 - 120.0	16.0	94	51	140	166	1/4	1/2	10
127.0	125.0 - 129.0	16.0	107	62	149	179	3/4	1	12
129.0	127.0 - 131.0	16.0	107	62	151	181	3/4	1	12
130.2	128.5 - 132.0	16.0	107	62	152	181	3/4	1	12
133.0	131.0 - 135.0	16.0	107	62	155	189	3/4	1	12
139.7	138.0 - 141.5	16.0	107	62	162	192	3/4	1	12
141.3	139.5 - 143.0	16.0	107	62	163	192	3/4	1	12
154.0	152.0 - 156.0	16.0	107	62	176	207	3/4	1	12
159.0	157.0 - 161.0	16.0	107	62	181	212	3/4	1	12
168.3	166.0 - 170.5	16.0	107	62	190	225	3/4	1	12

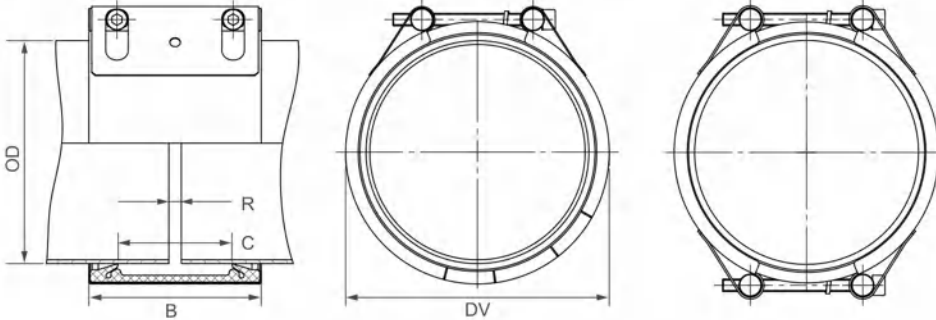
Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Strip inserts not to be applied
- Not suitable for vacuum applications
- Additional sealing sleeves, pressure and temperature ranges on request



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Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert (option)	AISI 316 L or similar / HDPE	AISI 316 L or similar / HDPE		AISI 316 L or similar / HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons			
Sealing sleeve FPM/FKM	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)			



B ⇨ 138 up to 148 mm
 DV ⇨ OD + 27 mm
 C ⇨ 91 mm
 R with strip insert ⇨ 35 mm
 R without strip insert ⇨ 10 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD [mm]	Clamping range [mm]	PN						PN [bar]
		2.5	6	10	16	20	25	
172.0	170 - 174							
180.0	178 - 182							
200.0	198 - 202							
219.1	217 - 222							
250.0	248 - 253							
267.0	264 - 270							
273.0	270 - 276							
304.0	301 - 307							
323.9	321 - 327							
355.6	353 - 358							
406.4	404 - 409							
457.2	454 - 460							
508.0	505 - 511							
558.8	556 - 562							
609.6	606 - 613							
711.2	708 - 715							
762.0	758 - 766							
812.8	809 - 817							
914.4	910 - 918							
1016.0	1012 - 1020							
1117.6	1114 - 1122							
1219.2	1215 - 1224							
1320.8	1316 - 1325							
1422.4	1418 - 1427							
1524.0	1519 - 1529							
1600.0	1595 - 1605							
1625.6	1621 - 1631							
1727.2	1722 - 1732							
1828.8	1824 - 1834							
1930.4	1925 - 1935							
2032.0	2027 - 2037							

Pressure rates according to type approval

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 172.0 TO 2032.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN () = working pressure considering the application loads
 Test pressure = PN () x 1.5 (for example industry, water supply etc.)
 PN () = nominal pressure, includes four times safety factor (e.g. shipbuilding)
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request

Versions:

		PN					1 piece (slotted)	2 piece casing	
		2.5	6	10	16	20	25	[mm]	[mm]
x	x							≤1219.1	on order
x	x							>1219.1	on order
			x					172.0-355.6	on order
			x					355.6-457.2	on order
			x					457.2-711.2	on order
			x					>711.2	on order
				x				≤219.1	on order
				x				219.1-1524.0	on order
					x			172.0-1016.0	on order
						x		180.0-762.0	on order



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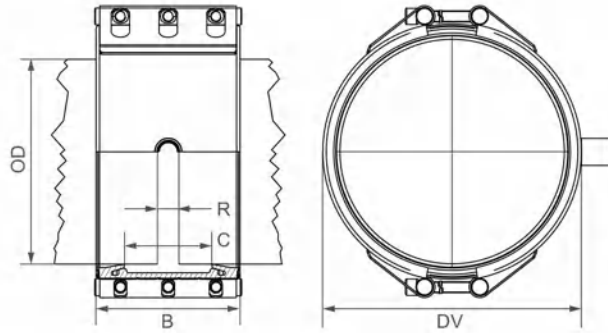
STRAUB-OPEN-FLEX 2 GT

(with side outlet)

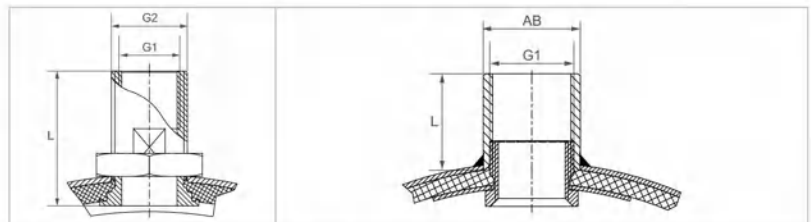
ø 172.0 - 2032.0 mm

Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L 14, galvanised	AISI 12L 14, galvanised		AISI 316 L or similar
Strip insert (on request)	AISI 316 L / HDPE	AISI 316 L / HDPE		AISI 316 L / HDPE
GT side outlet	AISI 316 L	AISI 316 L		AISI 316 L

Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons
Sealing sleeve FPM/FKM	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with stainless steel strip insert)



DV ⇨ OD + 27 mm
 C ⇨ 91 mm
 R with strip insert ⇨ 35 mm
 R without strip insert ⇨ 10 mm



OD [mm]	Clamping range [mm]	PN					version 1 screwed	version 2 screwed	version 3 welded	version 4 welded	version 5 welded	version 6 welded
		2.5	6	10	16	20						
172.0	170 - 174						x	x				
180.0	178 - 182						x	x				
200.0	198 - 202						x	x	x			
219.1	217 - 222						x	x	x			
250.0	248 - 253						x	x	x			
267.0	264 - 270						x	x	x			
273.0	270 - 276						x	x	x	x		
304.0	301 - 307						x	x	x	x		
323.9	321 - 327						x	x	x	x		
355.6	353 - 358						x	x	x	x		
406.4	404 - 409						x	x	x	x	x	
457.2	454 - 460						x	x	x	x	x	
508.0	505 - 511						x	x	x	x	x	
558.8	556 - 562						x	x	x	x	x	x
609.6	606 - 613						x	x	x	x	x	x
711.2	708 - 715						x	x	x	x	x	x
762.0	758 - 766						x	x	x	x	x	x
812.8	809 - 817						x	x	x	x	x	x
914.4	910 - 918						x	x	x	x	x	x
1016.0	1012 - 1020						x	x	x	x	x	x
1117.6	1114 - 1122						x	x	x	x	x	x
1219.2	1215 - 1224						x	x	x	x	x	x
1320.8	1316 - 1325						x	x	x	x	x	x
1422.4	1418 - 1427						x	x	x	x	x	x
1524.0	1519 - 1529						x	x	x	x	x	x
1600.0	1595 - 1605						x	x	x	x	x	x
1625.6	1621 - 1631						x	x	x	x	x	x
1727.2	1722 - 1732						x	x	x	x	x	x
1828.8	1824 - 1834						x	x	x	x	x	x
1930.4	1925 - 1935						x	x	x	x	x	x
2032.0	2027 - 2037						x	x	x	x	x	x

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 172.0 TO 2032.0 mm ARE AVAILABLE
 STRAUB-OPEN-FLEX 3 GT, 3.5 GT AND 4 GT WITH OUTLET G3/4"/1" AVAILABLE AS WELL

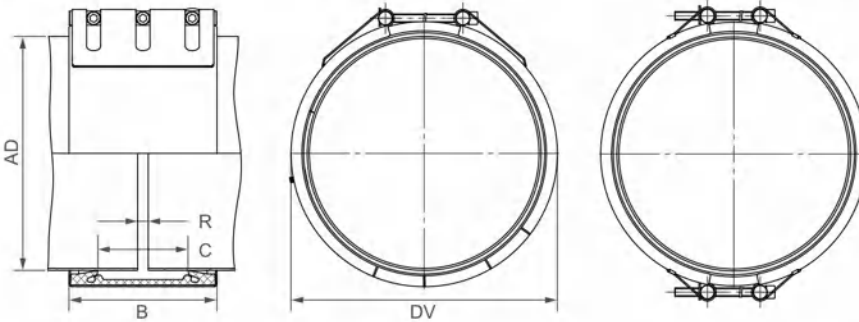
Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Version 1 + 2 with outside- and inside thread
- Version 3 - 6 with inside thread and outside blank (AB)
- Only in two-piece version available

Typing errors may occur. Technical details are subject to change.

Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert (option)	AISI 316 L or similar / HDPE	AISI 316 L or similar / HDPE		AISI 316 L or similar / HDPE

Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons
Sealing sleeve FPM/FKM (on request)	Temp.: -20°C up to +180°C Medium: ozone, oxygen, acids, gas, oil and fuel (only with strip insert)



B ⇨ 210 up to 218 mm
 DV ⇨ OD + 38 mm
 C ⇨ 127 mm
 R with strip insert ⇨ 60 mm
 R without strip insert ⇨ 15 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
219.1	216 - 222						
250.0	247 - 253						
267.0	264 - 270						
273.0	270 - 276						
304.0	301 - 307						
323.9	321 - 327						
355.6	352 - 358						
406.4	403 - 409						
457.2	454 - 460						
508.0	504 - 512						
558.8	555 - 562						
609.6	606 - 613						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						
914.4	910 - 918						
1016.0	1012 - 1020						
1117.6	1113 - 1122						
1219.2	1215 - 1224						
1320.8	1316 - 1325						
1422.4	1418 - 1427						
1524.0	1519 - 1529						
1600.0	1595 - 1605						
1625.6	1621 - 1631						
1727.2	1722 - 1732						
1828.8	1824 - 1834						
1930.4	1925 - 1935						
2032.0	2027 - 2037						
2268.0	2263 - 2273						
2540.0	2535 - 2545						
2794.0	2789 - 2799						
3048.0	3043 - 3053						
3302.0	3296 - 3308						
3556.0	3548 - 3562						
3810.0	3804 - 3816						
4064.0	4058 - 4070						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 219.1 TO 4064.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Strip inserts are optional accessories (see page 87)
- Additional sealing sleeves, pressure and temperature ranges on request

Versions:

PN						1 piece (slotted) [mm]	2 piece casing [mm]	3 piece casing [mm]
2.5	6	10	16	20	25			
x						219.1 - 1219.2 (2 pc casing on order)	1219.2 - 3048.0	> 3048.0
	x					508.0 - 914.4 (2 pc casing on order)	219.1 - 508.0	> 3048.0
		x				508.0 (2 pc casing on order)	914.4 - 3048.0	> 3048.0
			x	x	x		219.1 - 3048.0	> 3048.0
							219.1 - 2540.0	

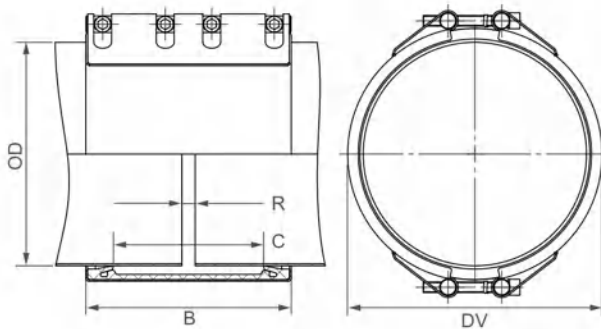
⇨ pressure rating definition, see above



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Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised			AISI 316 L or similar
Bolts	AISI 4135			A4 - 80
Bars	AISI 12L14, galvanised			AISI 316 L or similar
Strip insert	AISI 316 L or similar / HDPE			AISI 316 L or similar / HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons			



B ⇨ 310 up to 311 mm
 DV ⇨ OD + 38 mm
 C ⇨ 227 mm
 R with strip insert ⇨ 120 mm
 R without strip insert ⇨ 20 mm

	W1 or W5
	only in W5 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
323.9	320 - 327						
355.6	352 - 370						
406.4	402 - 410						
457.2	453 - 461						
508.0	504 - 512						
558.8	555 - 563						
609.6	605 - 614						
655.0	651 - 659						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						
914.4	910 - 918						
1016.0	1011 - 1021						
1117.6	1112 - 1123						
1219.2	1214 - 1224						
1320.8	1316 - 1325						
1422.4	1417 - 1427						
1524.0	1519 - 1529						
1600.0	1595 - 1605						
1625.0	1620 - 1630						
1727.2	1722 - 1732						
1828.8	1824 - 1834						
1930.4	1925 - 1935						
2032.0	2026 - 2038						
2268.0	2262 - 2274						
2540.0	2534 - 2546						
2794.0	1788 - 2800						
3048.0	3042 - 3054						
3302.0	3296 - 3308						
3556.0	3550 - 3562						
3810.0	3804 - 3816						
4064.0	4058 - 4070						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 323.9 TO 4064.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Strip inserts included
- Additional sealing sleeves, pressure and temperature ranges on request

Versions:

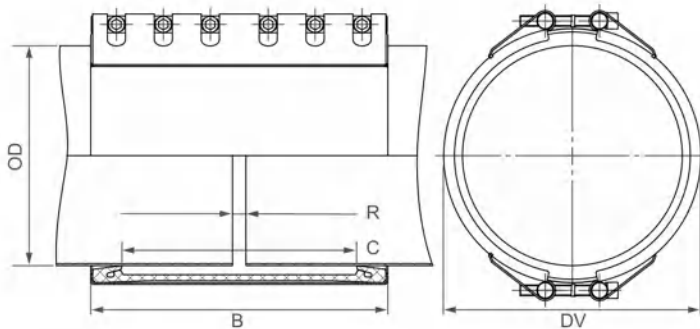
PN						2 piece casing	3 piece casing
2.5	6	10	16	20	25	[mm]	[mm]
x	x	x	x	x	x	≤3048.0	>3048.0

⇨ pressure rating definition, see above



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised			AISI 316 L or similar
Bolts	AISI 4135			A4 - 80
Bars	AISI 12L14, galvanised			AISI 316 L or similar
Strip insert	AISI 301 / HDPE			AISI 316 L or similar / HDPE

Sealing sleeve Temp.: -20°C up to +100°C
EPDM Medium: all qualities of water, waste water, air, solids and chemical products



B ⇨ 443 up to 444 mm
 DV ⇨ OD + 48 mm
 C ⇨ 350 mm
 R with strip insert ⇨ 200 mm
 R without strip insert ⇨ 20 mm

	W1 or W5
	only in W5 available

OD [mm]	Clamping range [mm]	PN					
		2.5	6	10	16	20	25
323.9	320 - 327						
355.6	352 - 359						
406.4	403 - 409						
457.2	454 - 460						
508.0	505 - 512						
558.8	555 - 562						
609.6	606 - 613						
655.0	652 - 658						
711.2	707 - 715						
762.0	758 - 766						
812.8	809 - 817						
914.4	910 - 918						
1016.0	1012 - 1020						
1117.6	1113 - 1122						
1219.2	1215 - 1224						
1320.8	1316 - 1325						
1422.4	1418 - 1427						
1524.0	1519 - 1529						
1600.0	1595 - 1605						
1625.0	1621 - 1631						
1727.2	1722 - 1732						
1828.8	1824 - 1834						
1930.4	1925 - 1935						
2032.0	2027 - 2037						
2268.0	2263 - 2273						
2540.0	2535 - 2545						
2794.0	2798 - 2799						
3048.0	3043 - 3053						
3302.0	3296 - 3308						
3556.0	3548 - 3562						
3810.0	3804 - 3816						
4064.0	4058 - 4070						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 323.9 TO 4064.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Strip inserts included
- Additional sealing sleeves, pressure and temperature ranges on request

Versions:

PN						2 piece casing	3 piece casing
2.5	6	10	16	20	25	[mm]	[mm]
x	x	x	x	x	x	≤3048.0	>3048.0

⇨ pressure rating definition, see above



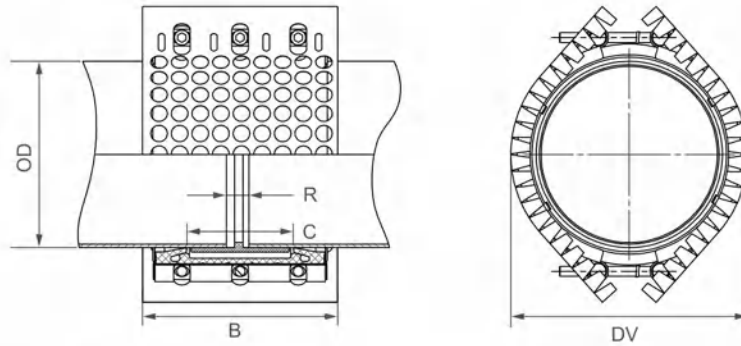
DNV GL
FIRE PROVED
STRAUB COUPLING

STRAUB-OPEN-FLEX FIRE-FENCE

Fire-endurance test in accordance with ISO 19921 and 19922



Components / Materials	W1	W2	W4	W5
Casing				S32101
Bolts				AISI 316 L
Bars				AISI 316 L or similar
Strip insert (option)				HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C	Medium: all qualities of water, waste water, air, solids and chemical products		
Sealing sleeve NBR	Temp.: -20°C up to +80°C	Medium: water, gas, oil, fuel and other hydrocarbons		



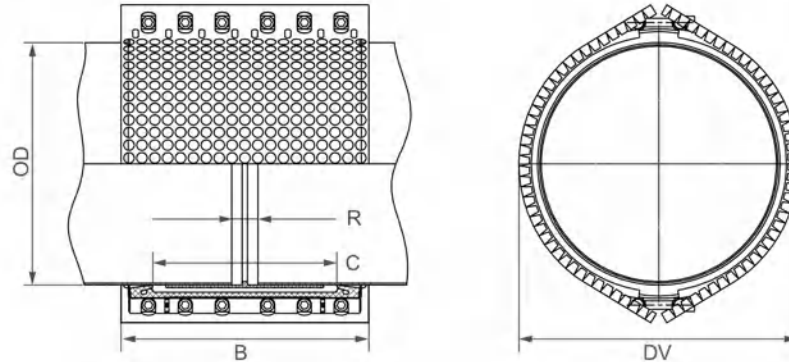
OD [mm]	Clamping range [mm]	PN [bar]	B [mm]	C [mm]	DV [mm]	Torque rate [Nm]	R without strip insert [mm]	R with strip insert [mm]
219.1	216 - 222	5 ¹¹	235	127	285	60	40	15
250.0	247 - 253	5 ¹¹	235	127	316	60	40	15
267.0	264 - 270	5 ¹¹	235	127	333	60	40	15
273.0	270 - 276	6	235	127	339	60	40	15
304.0	301 - 307	5	235	127	370	60	40	15
323.9	321 - 327	5	235	127	393	60	40	15
406.4	403 - 409	5	235	127	475	60	40	15

Remarks:

- Follow fitting instructions
- Strip inserts included
- Approved according to ISO 19921-1 and ISO 19922-2 / DIN 86228-1 and DIN86228-2
- Approved according to IACS URP2

¹¹ for service other than flammable fluids ⇒ PN 6 bar

Components / Materials	W1	W2	W4	W5
Casing				S32101
Bolts				AISI 316 L
Bars				AISI 316 L or similar
Strip insert (option)				HDPE
Sealing sleeve EPDM	Temp.: -20°C up to +100°C Medium: all qualities of water, waste water, air, solids and chemical products			
Sealing sleeve NBR	Temp.: -20°C up to +80°C Medium: water, gas, oil, fuel and other hydrocarbons			



OD [mm]	Clamping range [mm]	PN [bar]	B [mm]	C [mm]	DV [mm]	Torque rate [Nm]	R without strip insert [mm]	R with strip insert [mm]
323.9	320 - 327	6	472	350	399	40	20	200
355.6	352 - 359	6	472	350	431	40	20	200
406.4	403 - 409	6	472	350	481	40	20	200
457.2	454 - 460	6	472	350	532	40	20	200
508.0	505 - 512	6	472	350	583	40	20	200
558.8	555 - 562	6 ¹²	472	350	634	40	20	200
609.6	606 - 613	6 ¹²	472	350	685	40	20	200
655.0	652 - 658	6 ¹²	472	350	730	40	20	200
711.2	707 - 715	6 ¹²	472	350	786	40	20	200
762.0	758 - 766	6 ¹²	472	350	837	40	20	200
812.8	809 - 817	6 ¹²	472	350	888	50	20	200

Remarks:

- Follow fitting instructions
- Strip inserts included
- Approved according to ISO 19921-1 and ISO 19922-2 / DIN 86228-1 and DIN86228-2
- Approved according to IACS URP2

¹² not approved



CONNECTS ALL PIPE MATERIALS AND DIFFERENT PIPE DIAMETERS

STRAUB-STEP-FLEX

STRAUB-STEP-FLEX is used if the pipes have different external diameters.

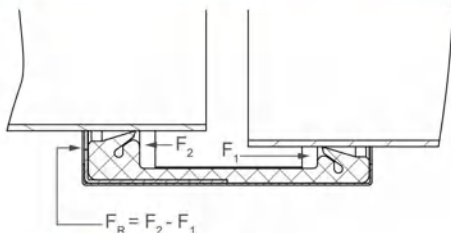
The possible diameter differences of the pipes to be connected can be 10 mm up to max. 30 mm. Larger diameter differences can be achieved using the integration of a reduction fitting piece with two couplings. Smaller diameter differences (5 - 9 mm) can be bridged on request using our STRAUB-FLEX 2 / 3.

Under pressure, STRAUB-STEP-FLEX pipe couplings, due to the diameter differences, are always pushed by internal forces in the direction of the smaller pipe diameter and must therefore be secured against slipping using appropriate measures.

Thrust rings are available on request; retainers are not necessary for non-pressurised applications.



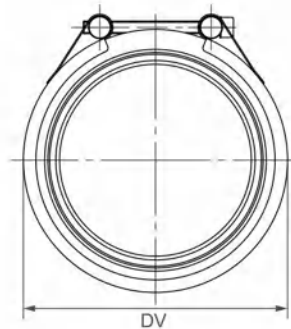
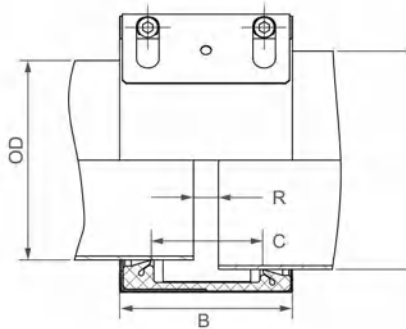
- Outside diameter: 219.1 up to 4064.0 mm
- Temperature: -20°C up to +100°C
- Sealing sleeve: EPDM
- diameter difference up to 30 mm



	OD 1 [mm]	OD 2 [mm]	min [bar]	Coupling retainer F_R at PN min [N]	max [bar]	Coupling retainer F_R at PN max [N]
STRAUB- STEP-FLEX 2	250.0	280.0	12.0	14980	24.0	29960
	323.9	353.0	9.5	14690	25.0	38860
	406.4	436.0	7.5	14680	25.0	48940
	609.6	639.0	5.0	14410	25.0	72040
	812.8	842.0	3.5	13195	22.0	82938
STRAUB- STEP-FLEX 3	1219.2	1249.0	3.5	20210	17.0	98160
	1600.0	1630.0	2.5	19020	13.5	102690
	2032.0	2062.0	2.0	19280	10.0	96410
	3048.0	3078.0	3.0	43280	6.5	93770
	4064.0	4094.0	1.0	19210	5.0	96060

Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert	AISI 316 L or similar	AISI 316 L or similar		AISI 316 L or similar

Sealing sleeve EPDM Temp.: -20°C up to +100°C
 Medium: all qualities of water, waste water, air, solids and chemical products



DV ⇨ OD + 27 mm
 C ⇨ 91 mm
 R with strip insert ⇨ 35 mm
 R without strip insert ⇨ 10 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD 1 [mm]	OD 2 min (OD 1 + 10mm) [mm]	OD 2 max (OD 2 + 30mm) [mm]	PN						
			2.5	6	10	16	20	25	
219.1	230	250							
250.0	260	280							
267.0	277	297							
273.0	283	303							
304.0	314	334							
323.9	334	354							
355.6	366	386							
406.4	416	436							
457.2	467	487							
508.0	518	538							
558.8	569	589							
609.6	620	640							
711.2	721	741							
762.0	772	792							
812.8	823	843							

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 219.1 TO 812.8 mm ARE AVAILABLE

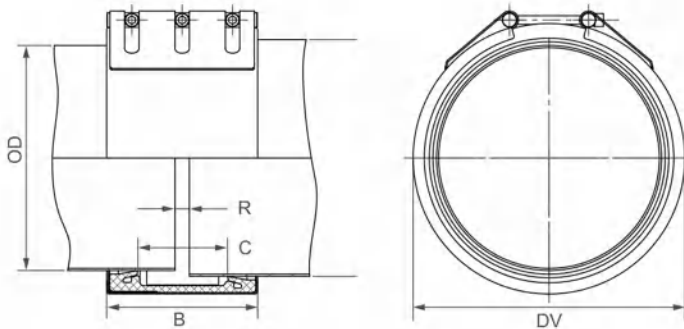
Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Stainless steel strip insert included
- Additional sealing sleeves, pressure and temperature ranges on request



Components / Materials	W1	W2	W4	W5
Casing	S355MC, hot-dip galvanised	AISI 316 L or similar		AISI 316 L or similar
Bolts	AISI 4135	AISI 4135		A4 - 80
Bars	AISI 12L14, galvanised	AISI 12L14, galvanised		AISI 316 L or similar
Strip insert	AISI 316 L or similar	AISI 316 L or similar		AISI 316 L or similar

Sealing sleeve EPDM Temp.: -20°C up to +100°C
 Medium: all qualities of water, waste water, air, solids and chemical products



DV ⇨ OD + 38 mm
 C ⇨ 127 mm
 R with strip insert ⇨ 60 mm
 R without strip insert ⇨ 15 mm

	W2 or W5
	W1, W2 or W5
	W1 or W5
	only in W1 available

OD 1 [mm]	OD 2 min (OD 1 + 10mm) [mm]	OD 2 max (OD 2 + 30mm) [mm]	PN					
			2.5	6	10	16	20	25
914.4	924	934						
1016.0	1026	1046						
1117.6	1127	1147						
1219.2	1229	1249						
1320.8	1331	1351						
1422.4	1432	1452						
1524.0	1534	1554						
1600.0	1610	1630						
1625.4	1635	1655						
1727.2	1737	1757						
1828.8	1839	1859						
1930.4	1940	1950						
2032.0	2042	2062						

CONTINUOUSLY VARIABLE INTERMEDIATE SIZES FROM 914.4 TO 2032.0 mm ARE AVAILABLE

Remarks:

- Follow fitting instructions
- PN = working pressure considering the application loads
 Test pressure = PN x 1.5 (for example industry, water supply etc.)
- Stainless steel strip insert included
- Additional sealing sleeves, pressure and temperature ranges on request



STRAUB: WELL-PROVEN QUALITY PRODUCTS

Made in Switzerland		
 the right connection Tel. +41 81 725 41 00 straub@straub.ch www.straub.ch		
	-	4 bar
	-	58 psi
FLEX 3LV Ø 2400.0 mm 94.488 inch	W5	
Art.No. 658062 not pull-out-resistant	Ser.No. 109792020915 SEE ASSEMBLY INSTRUCTIONS	
		
135 Nm [100 lb.ft]	EPDM	15 mm

Approval-related nominal pressure (e.g. shipbuilding)
Working pressure [bar]

Working pressure [psi]

QR Code (fitting instruction)

Material class

STRAUB article | Serial No.

Information (not) pull-out-resistant

Pipe gap without strip insert

Sealing sleeve
Torque rate

STRAUB

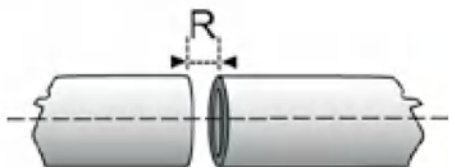
INSTALLATION INSTRUCTIONS

A unique principle, but countless possible applications. Cost effectiveness and reliability, also under the harshest conditions, are our top priorities.

Correct application is the prerequisite to be able to utilise all advantages of the STRAUB technology.

PIPE GAP [R]

A space between pipe ends can arise through misalignment, ground movement, inaccurate assembly or changes in length. STRAUB couplings can bridge spaces between pipe ends.



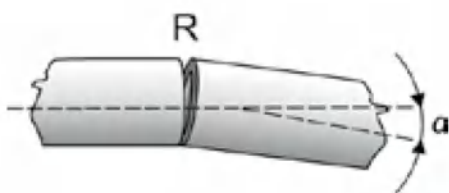
- 5 - 10 without strip insert (depending on pipe OD, please observe the coupling label!)
- 5 - 35 mm with strip insert (depending on pipe OD, please observe techn. data sheet!)



Strip inserts are used in case of: large distance between pipe ends, swelling due to aggressive liquids, vacuum, under outside pressure, high temperature. Strip inserts are extras and must be ordered separately.

Do not exceed the listed pipe gap; further information see page 104.

ANGULAR DEFLECTION [α]

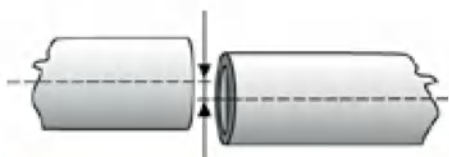


STRAUB couplings to connect two pipes with all around angular deflection to the pipe axis:

- $< \varnothing 60.3 \text{ mm} \Rightarrow 5^\circ$
- $> \varnothing 76.1 \text{ mm} \Rightarrow 4^\circ$
- $> \varnothing 219.1 \text{ mm} \Rightarrow 2^\circ$
- $> \varnothing 609.6 \text{ mm} \Rightarrow 1^\circ$

\Rightarrow See distance between pipe ends [R]!

LINEAR MISALIGNMENT



STRAUB pipe couplings allow a low axial misalignment:

- 1% of outside diameter (max. 3 mm)

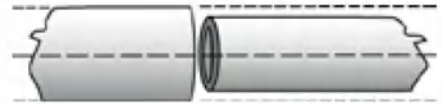


OUTSIDE DIAMETER DIFFERENCE

STRAUB couplings compensate pipes with different outside diameters. The following requirements must be satisfied:

- $< \varnothing 100 \text{ mm}$ \Rightarrow 2 mm
- $> \varnothing 100 \text{ mm}$ \Rightarrow 2%
- $> \varnothing 300 \text{ mm}$ \Rightarrow 6 mm

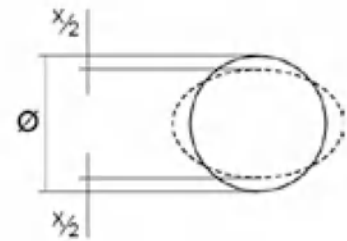
- OD-difference up to 9 mm \Rightarrow STRAUB-FLEX
- OD-difference from 10 mm \Rightarrow STRAUB-STEP-FLEX



PIPES OUT OF ROUNDNESS

Pipes often show an un out-of-roundness (difference between the biggest and the smallest outside diameter). The reliable out of roundness is:

- STRAUB-FLEX 1 \Rightarrow 4 mm
- STRAUB-FLEX 2 \Rightarrow 2% of \varnothing
- STRAUB-FLEX 3 \Rightarrow 2% of \varnothing
- STRAUB-FLEX 3.5 \Rightarrow 2% of \varnothing
- STRAUB-FLEX 4 \Rightarrow 2% of \varnothing



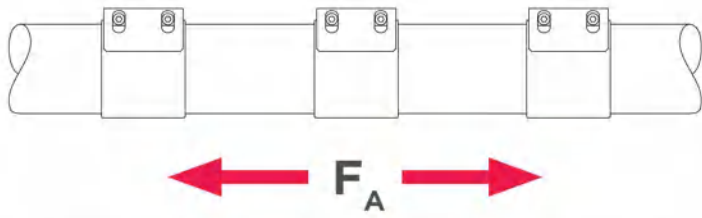
STRAUB-FLEX 2 - 4:

To provide over-slide possibility, out-of-roundness [X] has also to be within the admissible \varnothing -difference ($X = \text{max. } 6 \text{ mm}$).



AXIAL TENSILE FORCE [F_A]

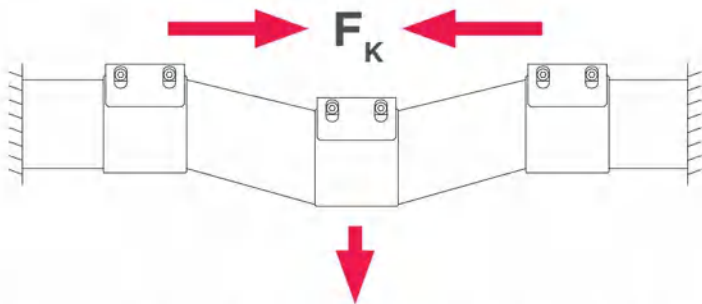
The PN internal pressure acts directly as tensile force on every pipe connection. The prevailing tensile force can be calculated from the respective internal pressure and the known pipe diameter.



It cannot be absorbed by STRAUB-FLEX and STRAUB-OPEN-FLEX.

AXIAL COLLAPSING FORCE [F_K]

If the pipes are obstructed in their axial movement, the pipe has the tendency to buckle in the case of increasing internal pressure in combination with inadequate pipe routing.



It cannot be absorbed by STRAUB-FLEX and STRAUB-GRIP.

RADIAL WEIGHT [F_R]

This consists of the weight of the pipe section and the weight of the medium contained in it. Pipe couplings can only absorb very small shear forces. In the case of doubt, contact STRAUB directly.



It can only be absorbed to a limited extent by STRAUB-FLEX and STRAUB-GRIP.

Loads
and
operating conditions

AXIAL MOVEMENT | DILATATION

Pipes are exposed to temperature fluctuations whether from the medium (e.g. cold and warm water) or the environment (e.g. sunlight, cold in winter). These temperature fluctuations cause axial movements in the pipe.

The axial movement depends on the pipe material, the length of the respective pipe section and the temperature fluctuation.

When using STRAUB-GRIP pipe couplings, the pipe fastenings are selected so that the axial movement is transformed to angular deflection.



If STRAUB-FLEX pipe couplings are used, it must be ensured that the occurring axial change in each pipe section is not greater than the compensation capability of the used STRAUB-FLEX pipe coupling.

Attention:

A fixed point and at least one sliding pipe restraint are required for each individual pipe section.

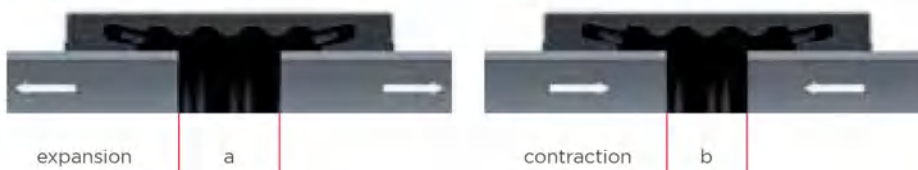
Reaction forces for STRAUB-FLEX:

Ø [mm]	101.6	168.0	219.1	355.6	558.8	812.8
Newton [N]	3800	4800	5600	7300	9800	12500



Compensation of the axial movement

If the operating temperature is higher than the installation temperature, this results in elongation of the pipe. In contrast, the pipe contracts if it is lower than the installation temperature.



Max. permissible axial length change:

STRAUB-FLEX STRAUB-OPEN-FLEX	Δl (a-b) [mm]
1	5
2	10
3	15
3.5	15
4	20

PIPE FASTENING USING:

STRAUB-GRIP

AXIAL RESTRAINT

- The pipes are anchored in the coupling
- Only mounts / supports are necessary
- Axial movements of the pipes must be compensated for outside the coupling, e.g. with expansion arches (see ①) or changing into angular deflection (see ②)



STRAUB-FLEX

NON-AXIAL RESTRAINT

- The pipes are not anchored in the coupling
- Every pipe section needs one fixed point and one or more pipe guides
- Axial movements of the pipes can be compensated for within the coupling (see page 50)

