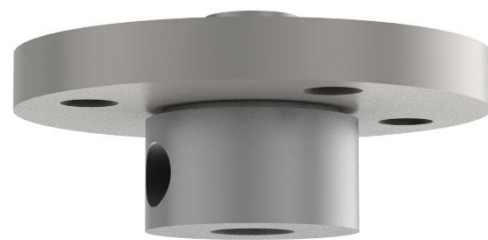


The FSO-USF construction is similar to the US-F design and typically used for those applications where the existing process connection is too small to use a flush mounted diaphragm seal. The specific advantage for the FSO-USF is the efficient design with regards to exotic materials as the lower part is significantly smaller and also has a smaller weight. Also it allows for more flexibility in the choice of different cover flange materials e.g. for pressure rating. And bolting pattern is standard as per the cover flange. The FSO-USF is typically used in combination with (differential) pressure transmitters for applications such as level, flow and (absolute) pressure measurement.



STANDARD EXECUTION

DIAPHRAGM	BODY	MOUNTING CONNECTION
AISI 316(L)	AISI 316(L)	top (axial)
FACING	FACING TYPE	GASKET
RF	B1	Virgin PTFE

FLANGED PROCESS CONNECTIONS

ASME B16.5

size	rating	dD
3/4"	cl. 300 – cl. 1500	50.0mm
1"	cl. 300 – cl. 1500	50.0mm
1.25"	cl. 150 – cl. 1500	50.0mm
1.5"	cl. 150 – cl. 1500	50.0mm

EN 1092-1

size	rating	dD
DN25	PN10 – PN250	50.0mm
DN32	PN10 – PN100	50.0mm
DN40	PN10 – PN250	50.0mm

UPPER AND LOWER PART ASSEMBLY

GASKET

material	operating temperature
Virgin PTFE	-200 / +260°C
Garfite N	-73 / +343°C
Camprofile¹	-200 / + 500°C

¹ for steam applications

WETTED PARTS, BODY MATERIALS, AND FACING OPTIONS

upper part material	Lower part material	diaphragm material	facing (ASME B16.5)	facing type (EN 1092-1)
AISI 316(L)	AISI 316(L)	AISI 304(L)	RF Ra 3.2-6.3 µm	B1 Ra 3.2-12.5 µm
		AISI 316(L)	RJF Ra <1.6 µm	B2 Ra 0.8-3.2 µm
		AISI 316 UG	LMF Ra 3.2-6.3 µm	C Ra 0.8-3.2 µm
		AISI 321	SMF Ra <3.2 µm	D Ra 0.8-3.2 µm
		Hastelloy C-276	LTF Ra <3.2 µm	E Ra 3.2-12.5 µm
AISI 316(L)	AISI 310 MoLn	AISI 310 MoLn	STF Ra <3.2 µm	F Ra 3.2-12.5 µm
AISI 316(L)	Hastelloy B2	Hastelloy B2	LGF Ra <3.2 µm	G Ra 0.8-3.2 µm
AISI 316(L)	Hastelloy C22	Hastelloy C22	SGF Ra <3.2 µm	H Ra 0.8-3.2 µm
AISI 316(L)	Hastelloy C276	Hastelloy C276	LFF Ra 3.2-6.3 µm	
AISI 316(L)	Duplex F44	6MO	SFF Ra <3.2 µm	
AISI 316(L)	Duplex F51/F60	Duplex 2205		
AISI 316(L)	Duplex F53	Super Duplex 2507		
AISI 316(L)	Duplex F55	Super Duplex 2507		
AISI 316(L)	Inconel 600	Inconel 600		
AISI 316(L)	Inconel 625	Inconel 625		
AISI 316(L)	Inconel 825	Inconel 825		
AISI 316(L)	Monel 400	Monel 400		
AISI 316(L)	Nickel 201	Nickel 201		
Titanium Gr.2	Titanium Gr.2	Titanium Gr.1		

COATING AND OTHER OPTIONS

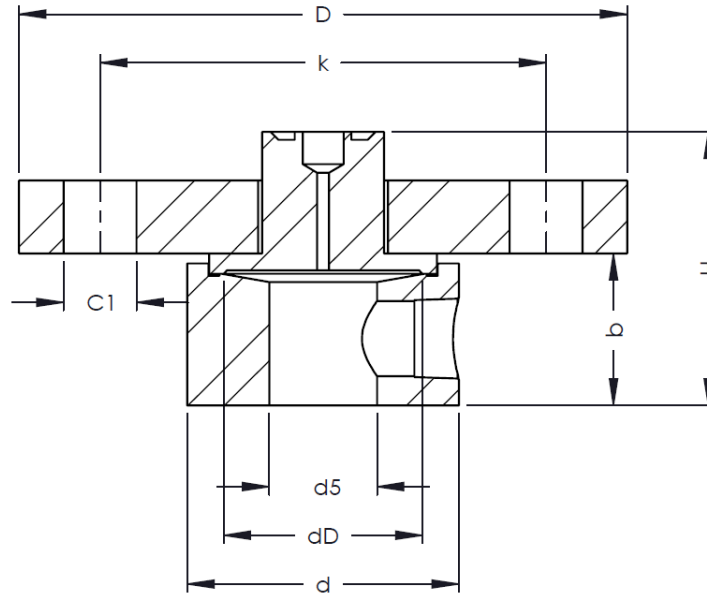
COATINGS

- gold: 25 µm/40 µm chemical resistance and/or hydrogen permeation protection (facing and/or diaphragm)
- PTFE / ECTFE for anti-stick purpose only (upper part)
- FEP/ PFA (upper part)
- PTFE lining lower part (not in combination with flush port)

OTHER OPTIONS

- heavy duty capillary tube
- TR - temperature reducer
- flushing ports in lower part (not in combination with lining)
- degreasing of wetted parts

DRAWING AND DIMENSIONS STANDARD EXECUTIONS



ASME B16.5 - RF FACING

size	rating	facing	dD	D	K	C1	H	d	d5	b
3/4"	cl. 300	RF	50.0	115.0	82.6	19.5	64.5	67.0	21.0	37.5
3/4"	cl. 400 - 600	RF	50.0	115.0	82.6	19.5	64.5	67.0	21.0	37.5
3/4"	cl. 900 - 1500	RF	50.0	130.0	88.9	22.2	64.5	67.0	21.0	37.5
1"	cl. 300	RF	50.0	125.0	88.9	19.5	64.5	67.0	26.6	37.5
1"	cl. 400 - 600	RF	50.0	125.0	88.9	19.5	64.5	67.0	26.6	37.5
1"	cl. 900 - 1500	RF	50.0	150.0	101.6	25.5	72.5	67.0	26.6	37.5
1.25"	cl. 150	RF	50.0	115.0	88.9	16.0	64.5	67.0	35.1	37.5
1.25"	cl. 300	RF	50.0	135.0	98.4	19.5	64.5	67.0	35.1	37.5
1.25"	cl. 400 - 600	RF	50.0	135.0	98.4	19.5	64.5	67.0	35.1	37.5
1.25"	cl. 900 - 1500	RF	50.0	160.0	111.1	25.5	72.5	67.0	35.1	37.5
1.5"	cl. 150	RF	50.0	125.0	98.4	16.0	64.5	73.0	40.9	37.5
1.5"	cl. 300	RF	50.0	155.0	114.3	22.2	64.5	73.0	40.9	37.5
1.5"	cl. 400 - 600	RF	50.0	155.0	114.3	22.2	64.5	73.0	40.9	37.5
1.5"	cl. 900 - 1500	RF	50.0	180.0	123.8	28.6	72.5	73.0	40.9	37.5

All dimensions in mm

Note: size b & H are based on 1/2" NPT flush connection

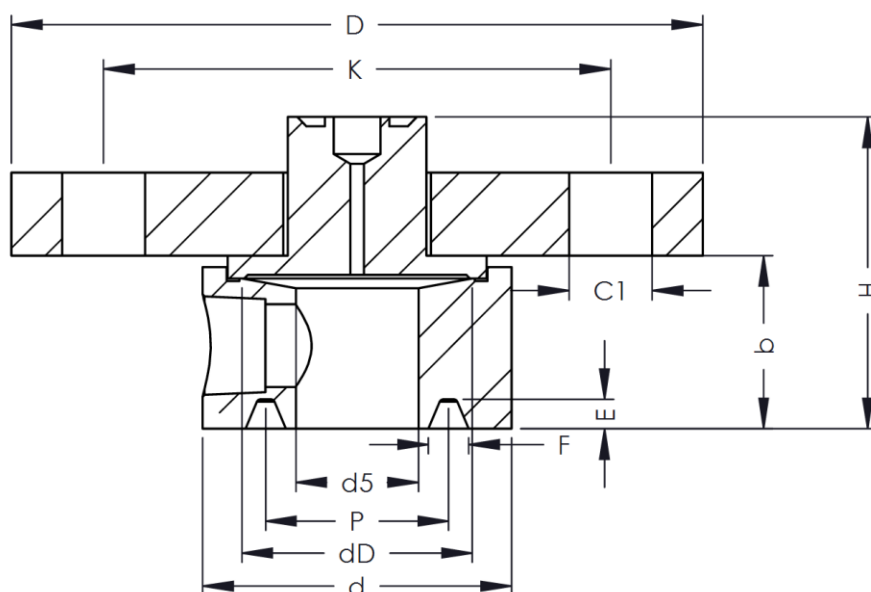
EN 1092-1 - TYPE B1

size	rating	type	dD	D	K	C1	H	d	d5	b
DN25	PN10-40	B1	50.0	115.0	85.0	14.0	64.5	68.0	28.5	37.5
DN25	PN63-160	B1	50.0	140.0	100.0	18.0	64.5	68.0	28.5	37.5
DN25	PN250	B1	50.0	150.0	105.0	22.0	64.5	68.0	28.5	37.5
DN32	PN10-40	B1	50.0	140.0	100.0	18.0	64.5	78.0	37.2	37.5
DN32	PN63-100	B1	50.0	155.0	110.0	22.0	64.5	78.0	37.2	37.5
DN40	PN10-40	B1	50.0	150.0	145.0	18.0	64.5	88.0	43.1	37.5
DN40	PN63-160	B1	50.0	170.0	125.0	22.0	64.5	88.0	43.1	37.5
DN40	PN250	B1	50.0	185.0	135.0	26.0	72.5	88.0	43.1	37.5

All dimensions in mm

Note: size b & H are based on ½" NPT flush connection

DRAWING AND DIMENSIONS RJF FACING



ASME B16.5 - RJF FACING

size	rating	facing	dD	D	K	C1	H	d	d5	b	P	E	F	R
3/4"	cl. 300	RJF	50.0	115.0	82.6	19.5	70.9	67.0	21.0	43.9	42.9	6.4	8.7	0.8
3/4"	cl. 400-600	RJF	50.0	115.0	82.6	19.5	70.9	67.0	21.0	43.9	42.9	6.4	8.7	0.8
3/4"	cl. 900-1500	RJF	50.0	130.0	88.9	22.2	70.9	67.0	21.0	43.9	44.5	6.4	8.7	0.8
1"	cl. 300	RJF	50.0	125.0	88.9	19.5	70.9	73.0	26.6	43.9	50.8	6.4	8.7	0.8
1"	cl. 400-600	RJF	50.0	125.0	88.9	19.5	70.9	73.0	26.6	43.9	50.8	6.4	8.7	0.8
1"	cl. 900-1500	RJF	50.0	150.0	101.6	25.5	78.9	73.0	26.6	43.9	50.8	6.4	8.7	0.8
1.25"	cl. 150	RJF	50.0	115.0	88.9	16.0	70.9	73.0	35.1	43.9	57.2	6.4	8.7	0.8
1.25"	cl. 300	RJF	50.0	135.0	98.4	19.5	70.9	83.0	35.1	43.9	60.3	6.4	8.7	0.8
1.25"	cl. 400-600	RJF	50.0	135.0	98.4	19.5	70.9	83.0	35.1	43.9	60.3	6.4	8.7	0.8
1.25"	cl. 900-1500	RJF	50.0	160.0	111.1	25.5	78.9	83.0	35.1	43.9	60.3	6.4	8.7	0.8
1.5"	cl. 150	RJF	50.0	125.0	98.4	16.0	70.9	83.0	40.9	43.9	65.1	6.4	8.7	0.8
1.5"	cl. 300	RJF	50.0	155.0	114.3	22.2	70.9	93.0	40.9	43.9	68.3	6.4	8.7	0.8
1.5"	cl. 400-600	RJF	50.0	155.0	114.3	22.2	70.9	93.0	40.9	43.9	68.3	6.4	8.7	0.8
1.5"	cl. 900-1500	RJF	50.0	180.0	123.8	28.6	78.9	93.0	40.9	43.9	68.3	6.4	8.7	0.8

All dimensions in mm



Holland – United Kingdom – Romania – India – Thailand – Dubai – USA

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