

The USLF construction is designed for those applications where the existing process connection is too small to use a flush diaphragm seal. The USLF consists of an upper and lower housing, the upper is the actual seal part with a diaphragm size that allows for measurement of low ranges (10 mbar 2 seals attached (dP); 80 mbar single seal attached). The lower housing creates the transition from the diaphragm size to the smaller process connection. USLF 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	BOLTS
RF	B1	Virgin PTFE	M10 – A2-70

FLANGED PROCESS CONNECTIONS

ASME B16.5

size	rating	dD
1/2"	cl. 150 – cl. 600	81mm
1"	cl. 150 – cl. 600	81mm
1,5"	cl. 150 – cl. 600	81mm
2"	cl. 150 – cl. 600	81mm
3"	cl. 150 – cl. 600	81mm

EN 1092-1

size	rating	dD
DN15	PN10 – PN100	81mm
DN25	PN10 – PN100	81mm
DN40	PN10 – PN100	81mm
DN50	PN10 – PN100	81mm
DN80	PN10 – PN100	81mm

UPPER AND LOWER PART ASSEMBLY

BOLTING

thread	material	mwp	pcs	rating (ASME)	rating (EN)
M10	A2-70	100 bar	8	cl. 150 – cl. 600	PN10 – PN100
M10	8.8	120 bar	8	cl. 150 – cl. 600	PN10 – PN100

Note: mwp (maximum working pressure) at 20 °C with AISI 316(L) body material

GASKET

material	operating temperature
Virgin PTFE	-200 / +260°C
Garfite N	-73 / +343°C
Camprofile ¹	-200 / + 500°C

¹ for steam applications

WETTED PARTS, BODY MATERIALS, AND FACING OPTIONS

diaphragm mat.	body material	lowerpart material
AISI 316(L)	AISI 316(L)	AISI 316(L)
AISI 304(L)		
AISI 321		
AISI 316 UG		
Hastelloy C-276		
Hastelloy C-276	AISI 316(L)	Hastelloy C-276
Monel 400	AISI 316(L)	Monel 400
Tantalum	AISI 316(L)	Tantalum*
Nickel 201	AISI 316(L)	Nickel 201
Duplex 2205	AISI 316(L)	Duplex
Inconel 600	AISI 316(L)	Inconel 600
Titanium Gr.1	Titanium Gr.2	Titanium Gr.2

*Note: material AISI 316(L) with Tantaline treatment

facing (ASME B16.5)

RF	Ra 3.2-6.3 µm
RJF	Ra <1.6 µm
LMF	Ra 3.2-6.3 µm
SMF	Ra <3.2 µm
FF	Ra 3.2-6.3 µm
LTF	Ra <3.2 µm
STF	Ra <3.2 µm
LGF	Ra <3.2 µm
SGF	Ra <3.2 µm
LFF	Ra 3.2-6.3 µm
SFF	Ra <3.2 µm

facing type (EN 1092-1)

B1	Ra 3.2-12.5 µm
A	Ra 3.2-12.5 µm
B2	Ra 0.8-3.2 µm
C	Ra 0.8-3.2 µm
D	Ra 0.8-3.2 µm
E	Ra 3.2-12.5 µm
F	Ra 3.2-12.5 µm
G	Ra 0.8-3.2 µm
H	Ra 0.8-3.2 µm

COATING AND OTHER OPTIONS

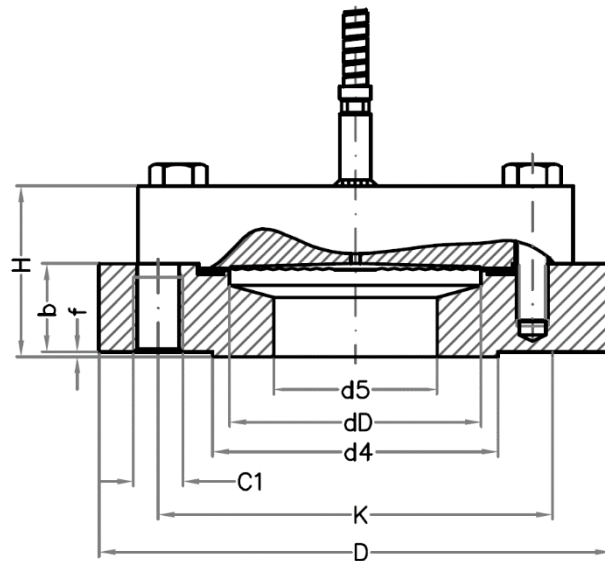
COATINGS

- gold: 25 µm / 40 µm hydrogen permeation protection (diaphragm – page 120)
- PTFE / ECTFE for anti stick purpose only (upper part)
- FEP / PFA (upper part)
- Tantaline lower part
- PTFE lining (lower part)

OTHER OPTIONS

- heavy duty capillary tube page 113/123
- TR - temperature reducer page 114
- TC - temperature compensator page 114/121
- PTFE sheet for anti-stick purpose only (no vacuum)
- flushing ports in lower part (not in combination with lining)
- LGP – execution for low pressures page 119
- degreasing of wetted parts

DRAWING AND DIMENSIONS STANDARD EXECUTIONS



ASME B16.5 - RF FACING

size	rating	facing	dD	D	f	d4	d5	K	b	H	C1 / pcs
1/2"	cl. 150	RF	81	140	2	35	16	61	40	67	1/2" 13 UNC / 4x
1/2"	cl. 300	RF	81	140	2	35	16	67	40	67	1/2" 13 UNC / 4x
1/2"	cl. 400-600	RF	81	140	7	35	16	67	40	67	1/2" 13 UNC / 4x
1"	cl. 150	RF	81	140	2	51	27	79	38	64	1/2" 13 UNC / 4x
1"	cl. 300	RF	81	140	2	51	27	89	38	64	5/8" 11 UNC / 4x
1"	cl. 400-600	RF	81	140	7	51	27	89	45	71	5/8" 11 UNC / 4x
1,5"	cl. 150	RF	81	140	2	73	41	99	38	64	1/2" 13 UNC / 4x
1,5"	cl. 300	RF	81	155	2	73	41	114	40	67	3/4" 10 UNC / 4x
1,5"	cl. 400-600	RF	81	155	7	73	41	114	45	71	3/4" 10 UNC / 4x
2"	cl. 150	RF	81	152	2	92	53	121	30	57	5/8" 11 UNC / 4x
2"	cl. 300	RF	81	165	2	92	53	127	30	57	5/8" 11 UNC / 8x
2"	cl. 400-600	RF	81	165	7	92	53	127	35	62	5/8" 11 UNC / 8x
3"	cl. 150	RF	81	191	2	127	81	152	30	57	5/8" 11 UNC / 4x
3"	cl. 300	RF	81	210	2	127	81	168	30	57	3/4" 10 UNC / 8x
3"	cl. 400-600	RF	81	210	7	127	81	168	39	66	3/4" 10 UNC / 8x

All dimensions in mm

EN 1092-1 - TYPE B1

size	rating	type	dD	D	f	d4	d5	K	b	H	C1 / pcs
DN15	PN10-40	B1	81	140	2	45	17	65	40	52	M12 / 4x
DN15	PN63	B1	81	140	2	45	17	75	40	49	M12 / 4x
DN15	PN100	B1	81	140	2	45	17	75	40	49	M12 / 4x
DN25	PN10-40	B1	81	140	2	68	29	85	40	44	M12 / 4x
DN25	PN63	B1	81	140	2	68	29	100	45	55	M16 / 4x
DN25	PN100	B1	81	140	2	68	29	100	45	55	M16 / 4x
DN40	PN10-40	B1	81	150	3	88	43	110	40	44	M16 / 4x
DN40	PN63	B1	81	170	3	88	43	125	40	46	M20 / 4x
DN40	PN100	B1	81	170	3	88	43	125	40	46	M20 / 4x
DN50	PN10-40	B1	81	165	3	102	55	125	30	50	M16 / 4x
DN50	PN63	B1	81	180	3	102	55	135	35	50	M20 / 4x
DN50	PN100	B1	81	195	3	102	54	145	40	48	M24 / 4x
DN80	PN10-40	B1	81	200	3	138	81	160	30	44	18mm / 4x
DN80	PN63	B1	81	215	3	138	81	170	35	50	22mm / 8x
DN80	PN100	B1	81	230	3	138	81	180	40	56	26mm / 8x

All dimensions in mm



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

To our knowledge, the information contained herein is accurate as of the date of this document. However neither Badotherm, nor its affiliates makes any warranty, express or limited, or accepts any liability in connection with this information or its use. This information is for technical skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other product. The user alone finally determines suitability of any information or material in contemplated use, the manner of use and whether any patents are infringed. This information gives typical properties only.

Badotherm reserves the right to make changes to the specifications and materials without prior notice. The latest version of the datasheet can be found on www.badotherm.com.

© 2001 Badotherm, all rights reserved. Trademarks and/or other products referenced herein are either trademarks or registered trademarks of Badotherm.