

## UNIVERSAL SERIES

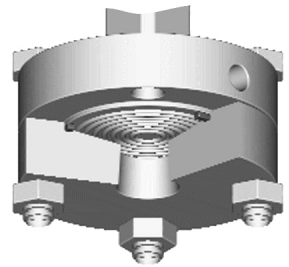
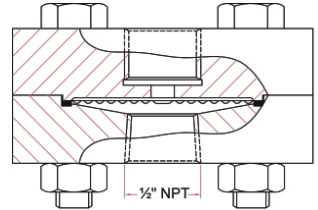
The *Universal* series of diaphragm chemical seals are a cost-effective solution in corrosive environments in which an exotic metal diaphragm can replace the necessity for exotic body materials.

The *Universal* series offer a solution to measuring low pressures where a small flange is required. By welding the diaphragm across the entire wetted parts, a substantial increase in diaphragm diameter can be achieved without a parallel increase in flange size. Displacement is increased accordingly which in turn improves accuracy at low pressures. The *Universal-L*, with its diaphragm diameter of 89mm, is particularly effective in such conditions.

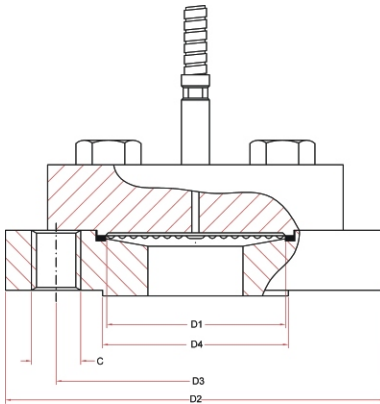
Because the standard bolted lower seal housing can be replaced by a number of ASME and DIN standard flanges, the *Universal* is a versatile seal for use in a wide variety of situations.



Standard Features	Universal	Universal-L
<b>Diaphragm diameter</b>	51mm	89mm
<b>Max. Process Pressure at 20 °C (bar)</b>	100	300
<b>Min. Pressure Range for PI (bar)</b>	0.5	1
<b>Min. Span for GP &amp; AP (mbar)</b>	80	800
<b>Min. Span for DP (mbar)</b>	10	200
<b>Max. Capillary Length (metre)</b>	15	15
<b>Process Connection</b>	½" BSP Male	½" BSP Male
<b>Process Connection Material</b>	316L	316L
<b>Upper Body Material</b>	316L	316L
<b>Diaphragm Material</b>	316L	316L
<b>Bolting</b>	4 x A-270	10 x A-270
<b>Instrument Connection</b>	½" BSP female	½" BSP female
<b>Transmission Fill Oil</b>	TO - 05	TO - 05



The standard bolted lower housing can be replaced with a flanged process connection to improve pressure performance. A wide selection of DIN and ASME compliant flanges are available.



The drawing at left shows a UN-L seal with a flanged process connection. For complete listings of flange dimensions and pressure ratings, please see the tables in the appendix.

Options			
<b>Flanged Process Connection</b>	<b>ASME</b>	½", 1½", 2"	<b>See flange tables for dimensions and pressure ratings</b>
	<b>DIN</b>	DN15, 25, 40	
<b>Threaded Process Connections</b>	NPT Female: 1/4"; 1/2"; 3/4"; 1" ; BSP / NPT Male: 1/2"		
<b>Process Connection Material</b>	Hastelloy B2 & C276, Inconel 600, Monel 400, Nickel 200, Titanium lining, Tantalum, PTFE, PVDF		
<b>Upper Body Material</b>	Hastelloy B2 & C276, Inconel 600, Monel 400, Nickel 200, Titanium		
<b>Diaphragm Material</b>	Hastelloy B2 & C276, Inconel 600, Monel 400, Nickel 200, Tantalum; Coatings: Gold, Silver, Rhodium, Titanium, FEP, PFA, PVDF; PTFE lining		
<b>Bolting (Universal only)</b>	<b>4 x st. 8.8</b> (max. 150 bar at 25°C), <b>8 x A-270</b> (max. 250 bar at 25°C), <b>8 x st. 8.8</b> (max. 300 bar at 25 °C)		
<b>Capillary Tubing</b>	Armoured 316 Stainless Steel capillary tubing		
<b>Transmission Fill Oil</b>	TO - 23, TO - 31, TO - 41, TO - 47 (see introduction for more details)		
<b>Certificates</b>	calibration test certificate, conformity certificate on pressurized parts, EN10204 3.1.B material certificate, MR 01.75 NACE certificate		

### Effects of temperature on pressure readings per ±10 °C ( in mbar) ~ measured from 20°C

Model	D4 (mm)	TRANSMITTER TYPE					Capillary / m	Pressure (bar)	GAUGE DIAMETER				
		GP	AP	DP	Seal	63mm			100mm	160mm	Seal	Capillary / m	
Universal	51	2.35	2.35		3.95	4.7	<60	4.5	18	30	4.2	6	
Universal	51			0.175	0.96	0.77	>60	2.7	10	12	4.2	6	
Universal-L	89	0.19	0.19		0.39	0.4	<60	0.4	2	3	0.4	0.9	
Universal-L	89			0.04	0.09	0.08	>60	0.2	1	1	0.4	0.9	





# ORDERING MATRIX

Locate the order code for your specification and enter it into the appropriate box. See the Diaphragm Seals introduction and the tables above for more information about each component.

## PROCESS CONNECTION

### THREADED

#### THREAD SIZE

- 1:** 1/2" BSP Male
- 2:** 1/4" NPT Female
- 3:** 1/2" NPT Female
- 4:** 3/4" NPT Female
- 5:** 1" NPT Female
- 6:** 1/2" NPT Male

### FLANGED

#### FLANGE SIZE

- A:** ASME 1/2"
- B:** ASME 1 1/2"
- C:** ASME 2"
- D:** DIN 15
- E:** DIN 25
- F:** DIN 40

## PROCESS CONNECTION MATERIAL

- A:** 316L St. St.
- B:** MONEL® 400
- C:** Inconel 600
- D:** Titanium
- E:** Tantalum
- F:** Hastelloy B2
- G:** Hastelloy C276
- H:** Nickel 200
- I:** PTFE
- J:** PVDF

## BOLTING

- 1:** Standard
- 2:** 4 x st. 8.8 (UN)
- 3:** 8 x A-270 (UN)
- 4:** 8 x st. 8.8 (UN)

## INSTRUMENT CONNECTION

- A:** 1/2" BSP Female
- B:** 1/4" BSP female

## TRANSMISSION FILL

- 1:** TO - 05
- 2:** TO - 23
- 3:** TO - 31
- 4:** TO - 41
- 5:** TO - 47

## CAPILLARY LENGTH

- 0:** None
- A:** 1m
- B:** 1.5m
- C:** 2m
- D:** 3m
- E:** 4m
- F:** 6m

## UPPER HOUSING MATERIAL

- A:** 316L St. St.
- B:** MONEL® 400
- C:** Inconel 600
- D:** Titanium
- E:** Hastelloy B2
- F:** Hastelloy C276
- G:** Nickel 200

## QUANTITY

MODEL  
**UN**  
**UN-L**

## DIAPHRAGM MATERIAL

- A:** 316L St. St.
- B:** Rhodium
- C:** Nickel
- D:** MONEL® 400
- E:** Inconel 600
- F:** Titanium
- G:** Hastelloy B2
- H:** Hastelloy C276
- I:** Tantalum
- J:** Gold-plated
- K:** Silver-plated
- L:** PTFE
- M:** PFA

## CERTIFICATES

- 1:** calibration test certificate
- 2:** conformity certificate
- 3:** material certificate
- 4:** NACE certificate



Can be fitted to

**PG TR PS**

Select the instrument you want to have connected to this seal and write in the complete order number in the empty matrix above. Together with the seal order number this completes the specifications for your instrument.