Low Pressure Seal with Internal Diaphragm
OPTIMUS

Introduction

The OPTIMUS series provides an effective solution for measuring low pressures where a smaller flange connection is required. By incorporating a welded internal diaphragm, a significantly larger diaphragm diameter can be achieved without increasing the flange size. This results in greater displacement, which helps improve accuracy at lower pressures.

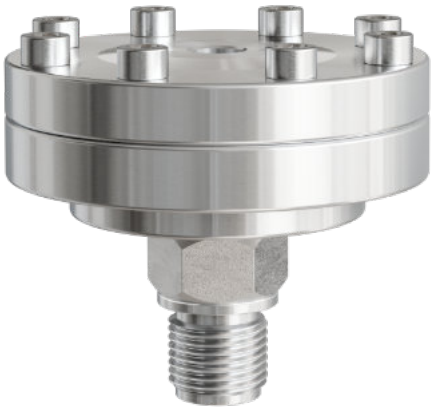
The OPTIMUS and OPTIMUS XL can be supplied with a range of ANSI B16.5 and EN 1092-1 standard flanges, making them suitable for a wide variety of applications. A threaded connection option is also available. The upper section can be removed to allow cleaning of the internal parts of the chemical seal.



OPTIMUS



OPTIMUS XL



OPTIMUS TD

Specifications

- Max Pressure: 100 bar up to 250°C
- Top housing: AISI 316L
- Diaphragm: AISI 316L
- Gasket: PTFE for max. 260 °C
- Bolting: 8 x M6 AISI 316 cap screws
- Flange type: ANSI B16.5, EN 1092-1
- Flange facing: ANSI Raised Face (RF), ANSI Ring Type Joint (RTJ), EN Form B1
- Flange sizes: ½", ¾", 1", 1.1/2", 2",
  DN15, DN20, DN25, DN40, DN50
- Wetted parts and diaphragm material: AISI 316L
- Instrument connection: without connection (12 mm hole)

Additional specifications - OPTIMUS / OPTIMUS TD

- Diaphragm size: 57 mm (effective)
- Minimum spans: Pressure gauge: 0.6 bar
  GP & AP transmitter: 600 mbar
  DP transmitter: 100 mbar
- Process connection: 1/2" BSP / NPT male or female (OPTIMUS TD model only)

Additional specifications - OPTIMUS XL / XL TD

- Diaphragm size: 88 mm (effective)
- Minimum spans: Pressure gauge: 0.6 bar
  GP & AP transmitter: 80 mbar
  DP transmitter: 10 mbar

Diaphragm and wetted parts	
316L	Zirconium
Hastelloy C276	Gold plating
Inconel 625	Rhodium plating
Monel 400	PFA coating
Tantalum (diaphragm only)	PTFE foil and lining
Titanium	Others on request

Web: www.pci-instruments.com | Email: sales@pci-instruments.com | Tel: +44 (0)1704 509090

Low Pressure Seal with Internal Diaphragm
OPTIMUS

How to order OPTIMUS and OPTIMUS XL

Please specify: model, instrument connection, size, rating, sealing face, diaphragm and wetted parts material, options, certificates
Example: OPTIMUS, 1/2” BSPF, 1” ANSI, 150#, RF, AISI 316L, 3.1 material certificate

How to order OPTIMUS TD

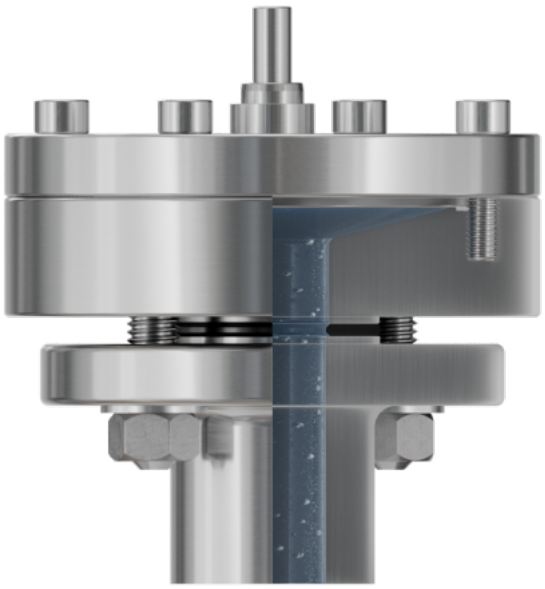
Please specify: model, instrument connection, diaphragm and wetted parts material, process connection, options, certificates
Example: OPTIMUS TD, 1/2” BSPF, AISI 316L, 1/2” NPTM, 3.1 material certificate

Options

- Other instrument connection: 1/2” BSP female or capillary socket
- Capillary length: custom length between 1m to 15m
- Diaphragm and wetted part material: Hastelloy, Inconel, Monel, Tantalum, Titanium, Zirconium, PTFE
- Other flange and diaphragm materials on request
- Other flange types and sealing face on request
- Flushing port (not in combination with lining)
- Flushing ring to suit (see Flushing Ring datasheet)

Available certification

- 2.1 certificate of conformity
- 3.1 material certificate
- 3.1 material certificate with NACE conformity MR-01-75
- Others on request



Optimus seal internal view



Optimus seal with flushing port

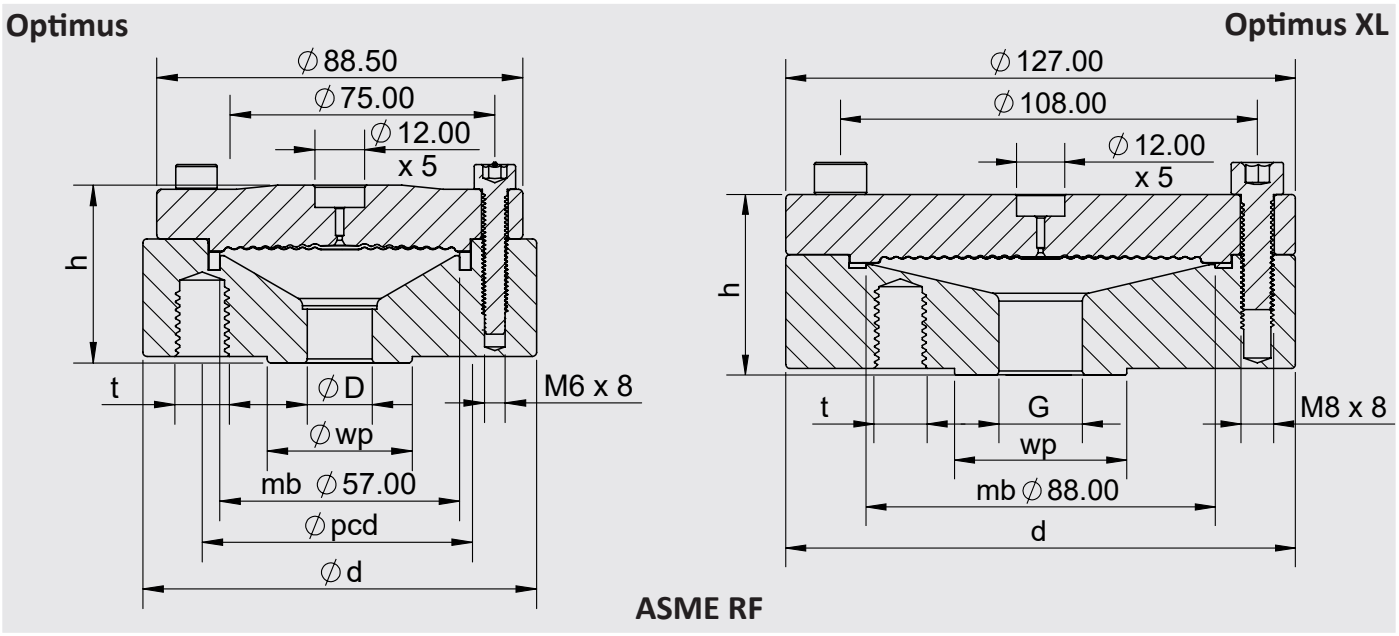


Optimus seal with PTFE lining



Optimus seal with thread connection

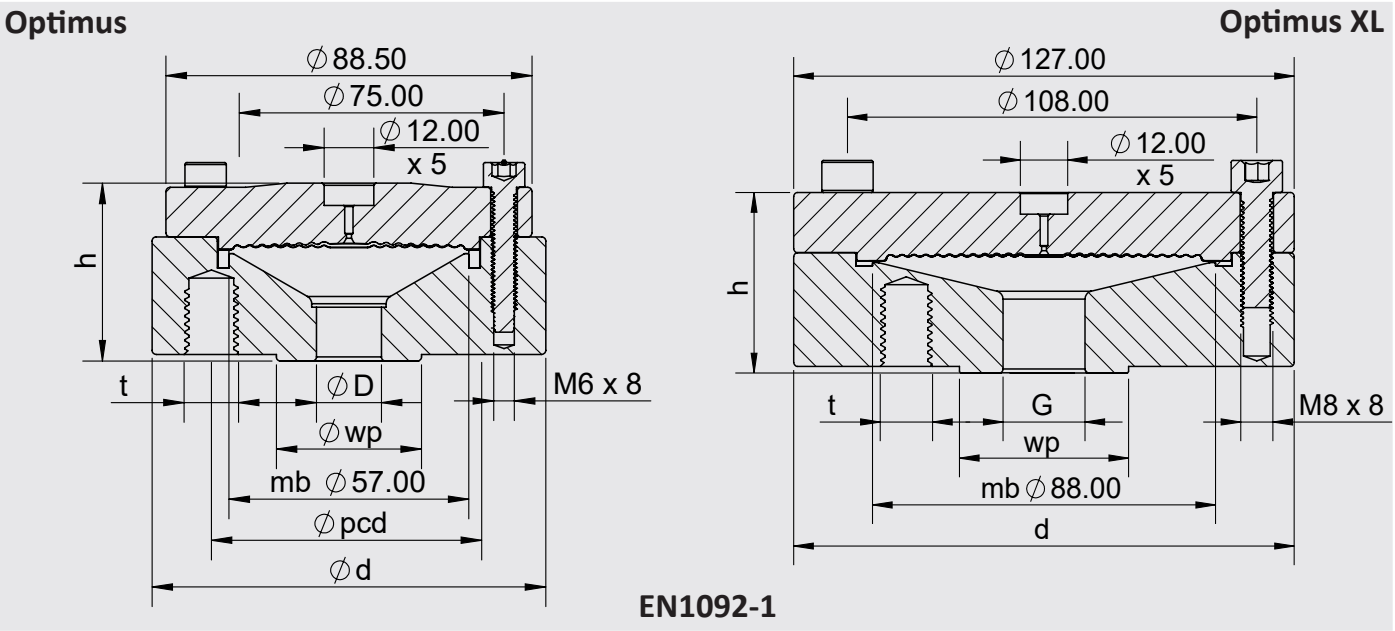
Low Pressure Seal with Internal Diaphragm
OPTIMUS



Flange size	Class rating	Flange connection ASME B 16.5, RF D	pcd	t1 / pcs	Optimus Seal h1	Optimus Seal h	Optimus XL Seal h1	Optimus XL Seal h
1/2”	150	89	60.45	1/2” 13 UNC / x4	30	46	30	45
	300	95	66.55	1/2” 13 UNC / x4	30	46	30	45
	600	95	66.55	1/2” 13 UNC / x4	35	51	tbc	tbc
3/4”	150	98	69.85	1/2” 13 UNC / x4	30	46	30	45
	300	117	82.50	5/8” 11 UNC / x4	30	46	30	45
	600	117	82.60	5/8” 11 UNC / x4	35	51	tbc	tbc
1”	150	110	79.25	1/2” 13 UNC / x4	30	46	30	45
	300	125	88.90	5/8” 11 UNC / x4	30	46	30	45
	600	125	88.90	5/8” 11 UNC / x4	35	51	tbc	tbc
1 1/2”	150	125	98.60	1/2” 13 UNC / x4	30	46	30	45
	300	155	114.30	3/4” 13 UNC / x4	30	46	30	45
	600	155	114.30	3/4” 13 UNC / x4	35	51	35	50
2”	150	150	120.70	5/8” 11 UNC / x4	30	46	30	45
	300	165	127.00	5/8” 11 UNC / x8	30	46	30	45
	600	165	127.00	5/8” 11 UNC / x8	35	51	35	50

Dimensions in mm

Web: www.pci-instruments.com | Email: sales@pci-instruments.com | Tel: +44 (0)1704 509090



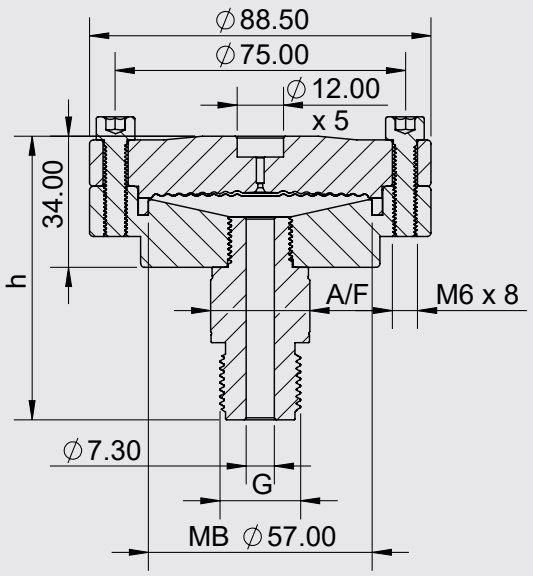
Flange size	PN rating	Flange connection EN 1092-1, Form B1 D	pcd	t1 / pcs	Optimus Seal h1	Optimus Seal h	Optimus XL Seal h1	Optimus XL Seal h
15	10/40	95	65	M12 / x4	30	46	30	45
20	10/40	105	75	M12 / x4	30	46	30	45
25	10/40	110	85	M12 / x4	30	46	30	45
40	10/40	125	110	M16 / x4	30	46	30	45
50	10/40	150	125	M16 / x4	30	46	30	45

Dimensions in mm

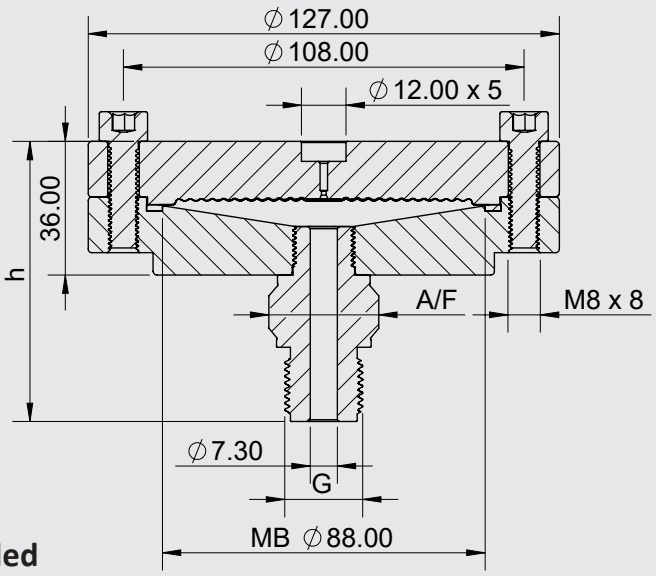
Web: www.pci-instruments.com | Email: sales@pci-instruments.com | Tel: +44 (0)1704 509090

Low Pressure Seal with Internal Diaphragm
OPTIMUS

Optimus TD



Optimus TD XL



Threaded

Thread size G	Thread Type	Thread connection Optimus TD Seal h	Optimus TD Seal A/F	Optimus TD XL Seal h	Optimus TD XL Seal A/F
3/8”	BSP F	67	7/8”	69	7/8”
	BSP M	67	7/8”	69	7/8”
	NPT M	67	7/8”	69	7/8”
	BSPT M	67	7/8”	69	7/8”
1/2”	BSP F	58	1.0625”	60	1.0625”
	BSP M	73.5	1”	75.5	1”
	NPT F	58	1.0625”	60	1.0625”
	NPT M	73.5	1”	75.5	1”
	BSPT F	58	1.0625”	60	1.0625”
	BSPT M	73.5	1”	75.5	1”
3/4”	BSP M	76	1.375”	78	1.375”
	NPT M	76	1.25”	78	1.25”
1”	BSP M	78	1.625”	80	1.625”
	NPT M	78	1.625”	80	1.625”
	BSPT M	78	1.625”	80	1.625”

Dimensions in mm

Web: www.pci-instruments.com | Email: sales@pci-instruments.com | Tel: +44 (0)1704 509090