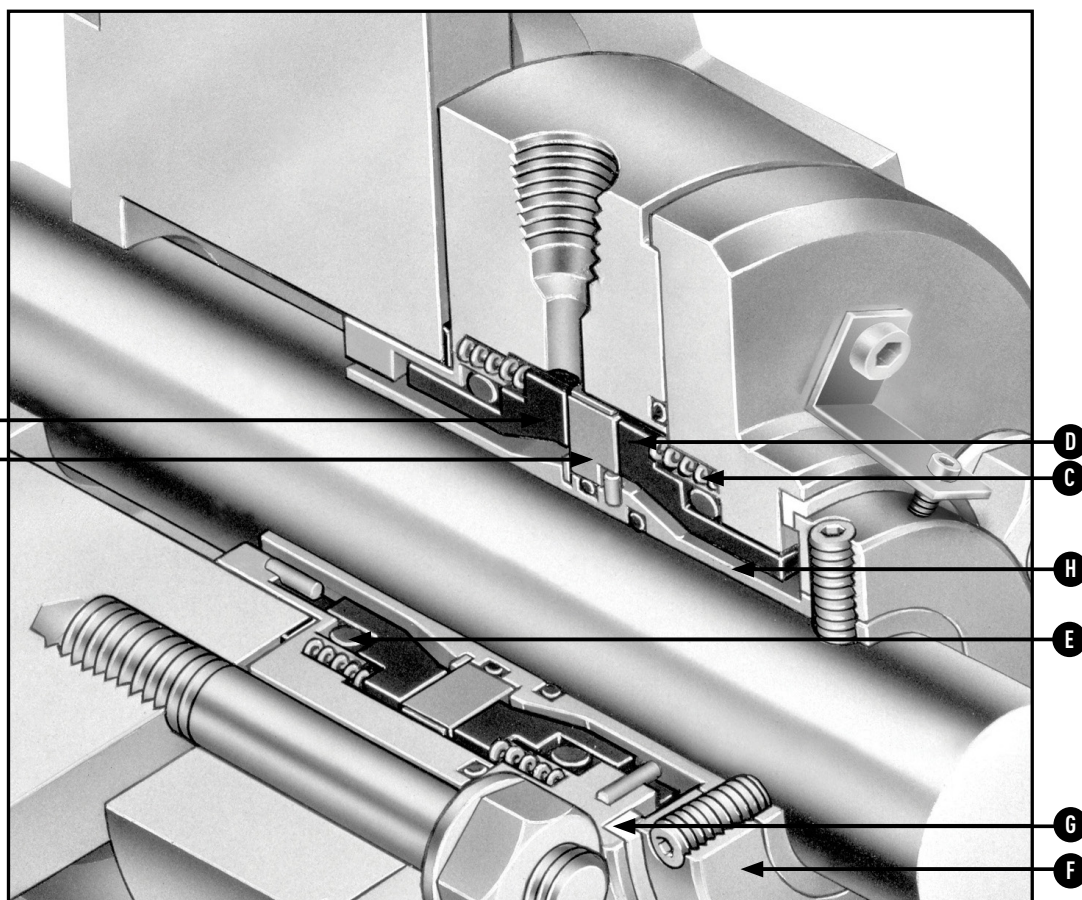


- A – Seat/mating ring
- B – Face/primary ring (inboard)
- C – Spring
- D – Face/primary ring (outboard)
- E – O-ring
- F – Drive collar
- G – Setting ring
- H – Sleeve



Spiral groove technology



Product description

Type 2800EH is a state-of-the-art gas lubricated, non-contacting double seal cartridge specifically designed for low speed and low pressure. It provides zero emissions operation, extended seal life, reduced power consumption, and elimination of wet seal lubrication system. It uses an available pressurised inert gas source for positively sealing hazardous process fluids with zero emissions to the atmosphere. Non-contacting, dry-running technology provides high-performance sealing of heat-sensitive or high-purity fluids.

- For maximum achievable control technology (MACT) compliance in new or existing standard bore pumps
- For high reliability sealing of volatile fluids in chemical and petrochemical processes
- Double seal alternative for positive sealing of high-purity fluids without the potential for product contamination
- T2800EH should only be used in slow-speed and low-pressure applications where the T2800E cannot be applied

Performance capabilities

- Temperature: 40°F to 500°F / -40°C to 260°C
- Pressure: 22 to 87 Psi(g) / 1.5 to 6 bar(g)
- Speed: 300 Rpm to 1450 Rpm

Design features

- 0.0 Fugitive emissions
- Narrow bore design allowing fitting to a wide range of equipment
- Dual balanced inboard seal design
- Spiral groove technology
- Non-contacting design
- Simplified support system
- Parts are interchangeable with the T2800E

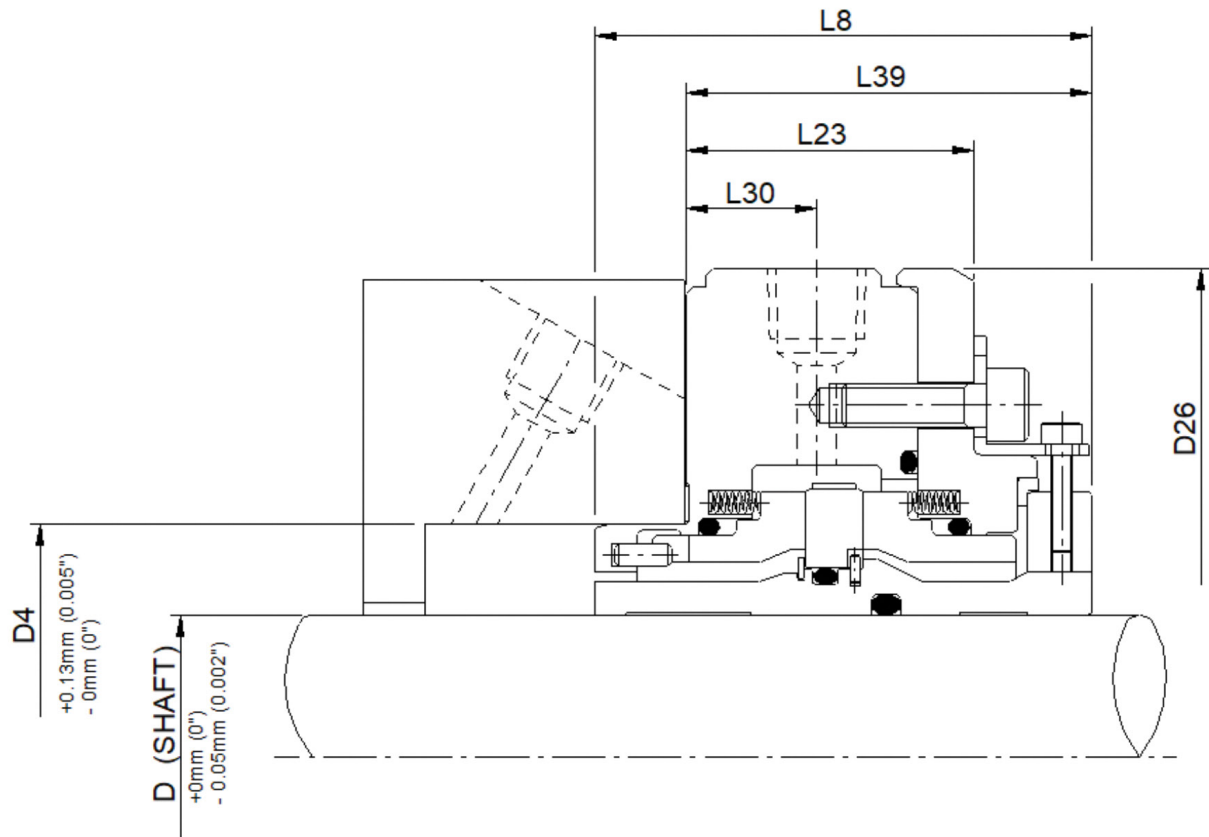


TYPE 2800EH

EXTERNALLY MOUNTED, GAS LUBRICATED,
NON-CONTACTING DOUBLE CARTRIDGE SEAL

Technical Specification

Type T2800EH typical arrangement



Type T2800EH dimensional data (mm)

Seal size (mm)	Seal Size Code	D	D4	D26	D28	D95	L8	L23	L30	L39
25	0250	25	41	114	12	64.7	67.8	37.5	15.5	54.5
28	0280	28	44	117	12	67.7	67.8	37.5	15.5	54.5
30	0300	30	46	119	12	69.7	67.8	37.5	15.5	54.5
33	0330	33	49	122	14	72.7	67.8	37.5	15.5	54.5
35	0350	35	51	124	14	74.7	67.8	37.5	15.5	54.5
38	0380	38	58	135	14	79.7	69.4	39.8	17.7	56.5
40	0400	40	60	137	14	81.7	69.4	39.8	17.7	56.5
43	0430	43	63	140	14	84.7	69.4	39.8	17.7	56.5
45	0450	45	65	142	14	86.7	69.4	39.8	17.7	56.5
50	0500	50	70	147	18	91.7	69.4	41.8	17.7	56.5
53	0530	53	73	150	18	94.7	69.4	41.8	17.7	56.5
55	0550	55	75	152	18	96.7	69.4	41.8	17.7	56.5
60	0600	60	85	157	18	101.7	69.4	41.8	17.7	56.5
65	0650	65	90	180	18	106.7	71.4	43.8	19.7	58.5
80	0800	80	109	195	18	121.7	71.4	43.8	19.7	58.5
100	1000	100	129	215	22	141.7	71.4	43.8	19.7	58.5



TYPE 2800EH

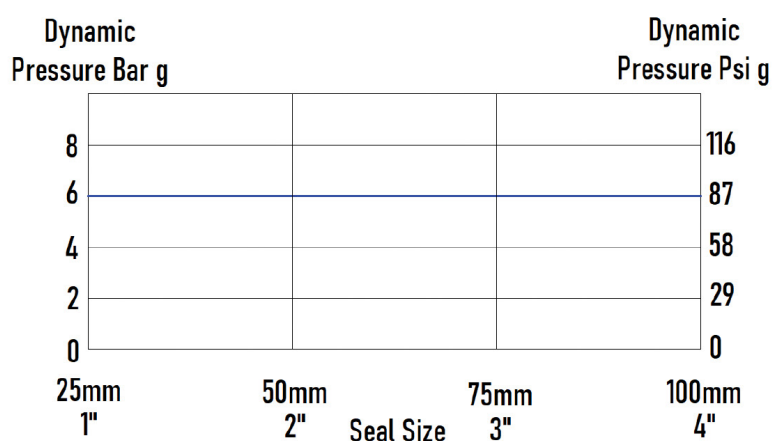
EXTERNALLY MOUNTED, GAS LUBRICATED,
NON-CONTACTING DOUBLE CARTRIDGE SEAL

Technical Specification

Type T2800EH dimensional data (inches)

Seal size inch	Seal Size Code	D	D4	D26	D28	D95	L8	L23	L30	L39
0.875	0222	0.875	1.500	3.750	0.437	2.295	2.574	1.398	0.531	2.028
1.000	0254	1.000	1.625	3.750	0.437	2.421	2.574	1.398	0.531	2.028
1.125	0285	1.125	1.750	4.250	0.437	2.469	2.574	1.398	0.531	2.028
1.250	0317	1.250	2.000	4.250	0.437	2.469	2.574	1.398	0.531	2.028
1.375	0349	1.375	2.125	4.250	0.437	2.795	2.574	1.398	0.531	2.028
1.375	0349	1.375	2.000	4.250	0.437	2.795	2.574	1.398	0.531	2.028
1.500	0381	1.500	2.250	4.875	0.562	3.142	2.732	1.567	0.697	2.224
1.625	0412	1.625	2.375	4.500	0.437	3.268	2.732	1.567	0.697	2.224
1.750	0444	1.750	2.500	5.500	0.562	3.390	2.732	1.567	0.697	2.224
1.875	0476	1.875	2.625	5.500	0.562	3.335	2.732	1.567	0.697	2.224
2.000	0508	2.000	2.750	4.750	0.562	3.461	2.732	1.567	0.697	2.224
2.125	0539	2.125	2.875	6.000	0.687	3.768	2.732	1.567	0.697	2.224
2.250	0571	2.250	3.125	6.500	0.687	3.890	2.732	1.567	0.697	2.224
2.375	0603	2.375	3.250	6.250	0.687	4.016	2.732	1.567	0.697	2.224
2.500	0635	2.500	3.375	6.500	0.687	4.142	2.812	1.724	0.776	2.303
2.625	0666	2.625	3.625	6.500	0.687	4.268	2.812	1.724	0.776	2.303
2.750	0698	2.750	3.750	7.000	0.687	4.370	2.812	1.724	0.776	2.303
3.000	0762	3.000	4.000	7.000	0.687	4.642	2.812	1.724	0.776	2.303
3.500	0889	3.500	4.500	7.250	0.812	5.142	2.812	1.724	0.776	2.303
4.000	1016	4.000	5.000	7.250	0.812	5.642	2.812	1.724	0.776	2.303

Type T2800EH dynamic pressure limits



The maximum dynamic pressure rating for the Type 2800EH is 6 bar(g)/87 psi(g) across the whole seal size range.

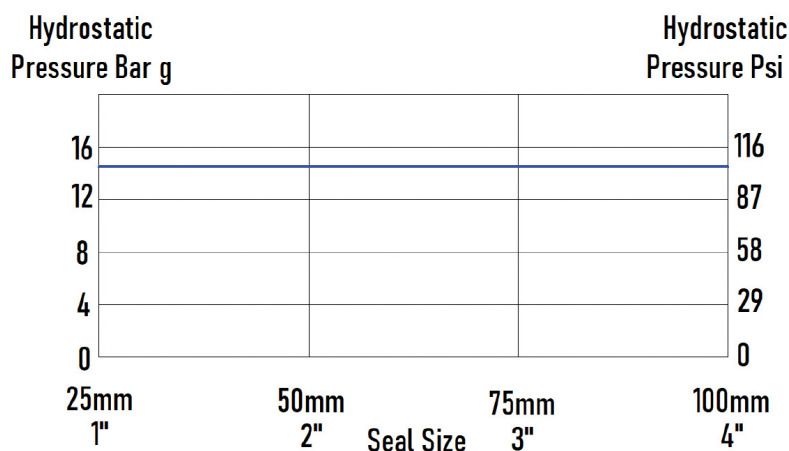


TYPE 2800EH

EXTERNALLY MOUNTED, GAS LUBRICATED,
NON-CONTACTING DOUBLE CARTRIDGE SEAL

Technical Specification

Type T2800EH hydrostatic pressure limits



The maximum hydrostatic pressure rating for the Type 2800EH is 14.5 bar(g)/210 psi(g) across the whole seal size range.

Criteria installation

Shaft/sleeve outside diameter	Refer to dimension tables in Instruction Manual
Seal chamber bore and depth	Refer to dimension tables in Instruction Manual
Shaft/sleeve finish	0.2 to 1.2µm / 8 to 48µinch Ra (Fine machined)
Shaft/sleeve ovality	0.05 mm / 0.002 inch
Out-of-roundness	0.08 mm / 0.003 inch F.I.M.
Dynamic shaft end play/axial float	
Shaft/sleeve run-out	0.05 mm / 0.002 inch F.I.M. for shaft dia < 50 mm / 2 inch
	0.08 mm / 0.003 inch F.I.M. for shaft dia 50 to 100 mm / 2 to 4 inch
Shaft/Sleeve Lead-on	Refer to lead-on chamfer in instruction manual
Seal Housing end face finish	6.3 to 12.5 µm / 250 to 500 µinch Ra (machined)

Materials of construction

Seal Component	Standard	Options
Inner gland plate ASM Outer gland plate Sleeve Drive collar	316 stainless steel (0550)	Titanium (1955) Alloy C276 (0690)
Primary rings	Antimony impregnated carbon (9048)	Antimony impregnated carbon (9028) Ni-Cr impregnated carbon (9060)*
Mating rings TJ, TU, TT and TV	Ni bonded tungsten carbide - with precipitation hardened St.St. containment band (9205/0800)	Self-sintered silicon carbide - with a precipitation hardened St.St. containment band code (9221/0800 - combination 9868)
O-rings	Nitrile (9501)	Fluorocarbon (9549) Low temp perfluorocarbon (9579) High temp perfluorocarbon (9580)
Retaining ring	18/8 stainless steel (0500)	Hastelloy (0690) Titanium (1955)
Springs	316 stainless steel (0550)	-
Gasket	Glass filled PTFE (7510)	-
Cap head screws	316 Stainless steel (0550)	High tensile steel (0225)
Spacers	Aluminium (2811)	-

* For FDA requirement only

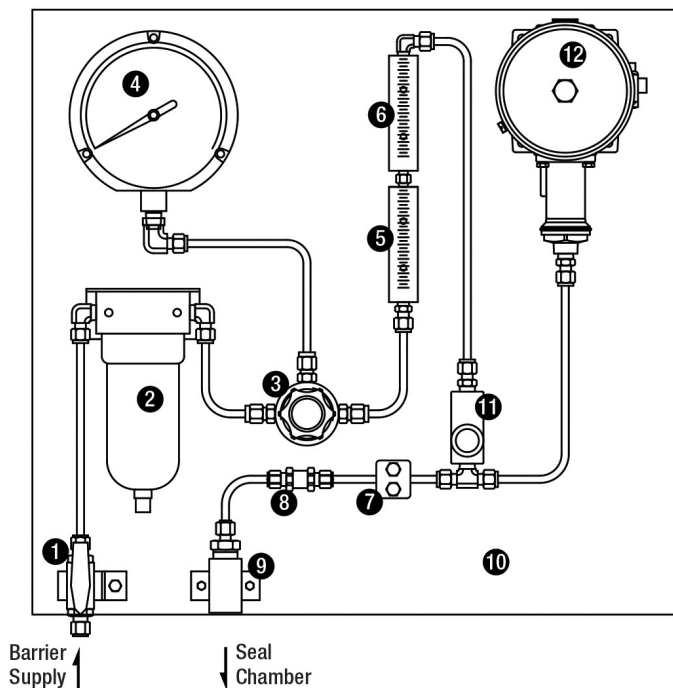


TYPE 2800EH

EXTERNALLY MOUNTED, GAS LUBRICATED,
NON-CONTACTING DOUBLE CARTRIDGE SEAL

Technical Specification

Barrier gas supply systems



Standard Components

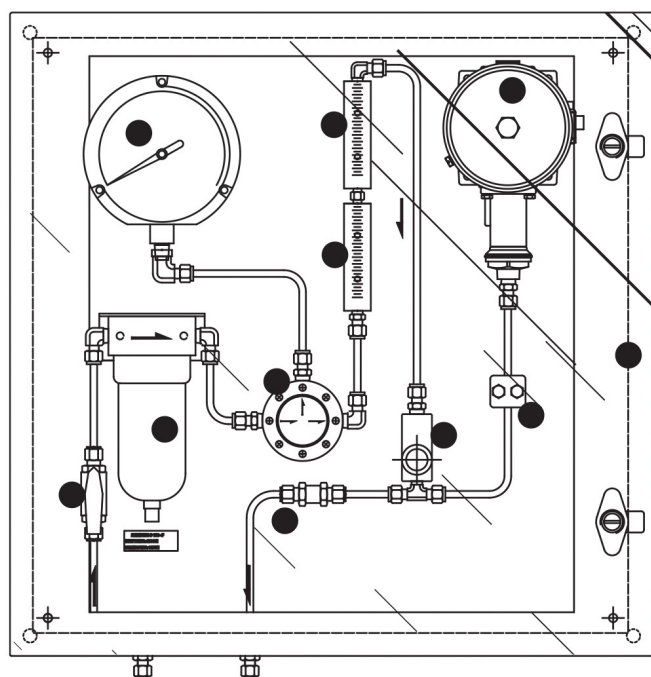
- 1 Isolating ball valve
- 2 Coalescing filter
- 3 Pressure regulator
- 4 Pressure gauge
- 5 Flow meter (low range)
- 6 Flow Meter (high range)
- 7 Tubing clamp
- 8 Check valve
- 9 Coupling (to seal piping)
- 10 Back panel

Options

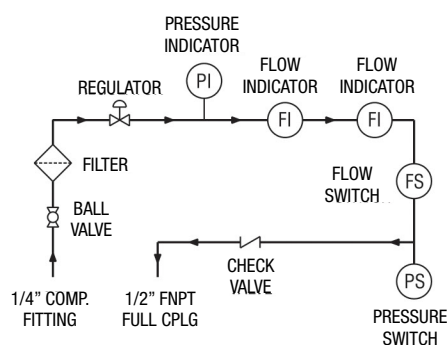
- 11 Flow switch
- 12 Pressure switch
- 13 Enclosure
 - Isolast™ and Kalrez® for the check valve seat material
 - Stand
 - Enclosures are also available in a NEMA 4X Enclosure (as shown)
 - Gas amplifier/booster systems
 - Pressure tracking regulators

Available from John Crane in both standard tamper proof enclosure and panel mounted designs.

Further application information is available from John Crane.



GAS FLOW SCHEMATIC



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United States of America
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Latin America
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Middle East & Africa
United Arab Emirates
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Asia Pacific
Singapore
Tel: 65-6518-1800

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