Product Data Sheet
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Rosemount™ 1299

Flanged and Threaded Diaphragm Seal Systems



Applications

- Level, flow, pressure, interface, density
- Extreme hot and cold temperatures
- Corrosive, clogging, or viscous processes
- Flanged and threaded process connections

Proven, reliable, and innovative technologies

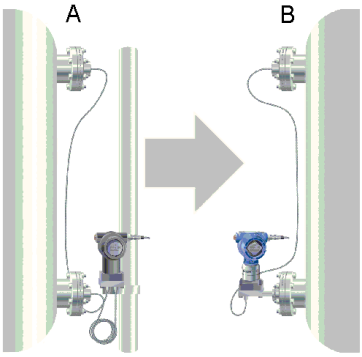
Seal systems provide a reliable process pressure measurement and prevent the process medium from contacting the transmitter diaphragm. Transmitter/diaphragm seal systems should be considered when:

- Process temperature is outside of the operating ranges of the transmitter
- Process is corrosive and/or requires specific exotic materials of construction
- Process contains suspended solids or is viscous and is prone to plugging of connections

Rosemount Tuned-System™ Assemblies optimize results

Rosemount Tuned-System Assemblies utilize a direct mount seal on the high pressure connection and a remote mount (Capillary) connection on the low pressure connection. This improves overall performance and installation compared to a traditional Balanced Seal System.

Figure 1: Comparison of Balanced System to Tuned-system



A. Balanced system with two equal lengths of capillary
B. Tuned-system assembly with direct mount plus capillary

- Reduce installed costs by 20 percent by eliminating excess capillary and transmitter mounting hardware
- Improve performance by up to 30 percent
- Increase response time by up to 80 percent
- Reduce risk with up-front quantified performance reports

Contents

Proven, reliable, and innovative technologies 2
Connections and materials 4
Seal construction 6
Offline seal 6
Ordering information 7
Specifications 21
Product certifications 24
Ordering information, specifications, and drawings 24

Application flexibility

- Flanged and threaded process connections
- Meets industry standards such as EN 1092-1, ASME B16.5, ASME B1.20.1, EN 10226-1, GOST 33259-15, ISO 228-1, JIS B2220, HG20615, HG20592
- Variety of fill fluids applications including cold temperature and hot temperature
- Multiple diaphragm coatings for tough applications including corrosion and hydrogen permeation

Reliable system construction

- Welded design with no threaded connections
- 100 percent helium leak tested
- Advanced manufacturing techniques ensure air-free, leak-tight system that is stable over time
- Reliable operation in full vacuum applications

Robust seal design

- Backup convolutions behind the diaphragm protect seal integrity
- Recessed diaphragms reduce potential for handling damage

Access information when you need it with asset tags

Newly shipped devices include a unique QR code asset tag that enables you to access serialized information directly from the device. With this capability, you can:

- Access device drawings, diagrams, technical documentation, and troubleshooting information in your MyEmerson account
- Improve mean time to repair and maintain efficiency
- Ensure confidence that you have located the correct device
- Eliminate the time-consuming process of locating and transcribing nameplates to view asset information

Connections and materials

To meet your application requirements, Rosemount DP Level technologies deliver an unsurpassed product offering that is easy to specify, order, and install. The offering includes a wide variety of process connections and materials of construction available in both direct mount and capillary connections to address almost any application. If required components or options are not listed in Ordering information, please reach out. Emerson is ready to create a custom solution out of the options below to meet your needs.

Flanged connections

ASME B16.5 raised face

ASME B16.5 raised face Smooth

ASME B16.5 Ring Type Joint (RTJ)

EN1092-1 Type B1/ GOST 33259 Type B (125-250 Ra)

EN1092-1 Type B2 (32-125 Ra)

JIS B2220 raised face [RF] (125-250 Ra)

HG20615 Chinese Chemical Industrial Standard Class Designated

HG20592 Chinese Chemical Industrial Standard PN Designated

Threaded connections

ASME B1.20.1 NPT female

ISO 228-1 "G" threads female

EN 10226-1 "R" threads female

Wetted materials

316 SST	Alloy 400	Carbon Steel	Titanium grade 2
304 SST	Alloy 20	Duplex 2205 SST	Titanium grade 4
321 SST	Alloy 625	Duplex 2507 SST	Nickel 201
Alloy C-276	Alloy 600	Tantalum	Zirconium 702
Alloy B	Alloy C22	Tantalum lined 316L SST	

Diaphragm materials

316L SST	Alloy 400	Duplex 2205 SST	Tantalum (brazed)
304L SST	Alloy 20	Duplex 2507 SST	Tantalum with platinum anode
321 SST	Alloy 600	Gold	Titanium grade 2
Alloy C-276	Alloy 625	Nickel 201	Titanium grade 4
Alloy B	Alloy C22	Tantalum	Zirconium 702

Non-wetted materials

304 SST	Alloy 625	Duplex 2205 SST
316 SST	Alloy 400	Duplex 2507 SST
321 SST	Alloy C-276	Titanium grade 4
347 SST	Carbon steel	Zirconium 702

Seal construction

All welded

All connection points welded including welded disk over sensor module isolators

- Ideal for vacuum applications (< 6 psia, 400 mbar-a)
- Seal system and transmitter are not repairable

Welded repairable

- All connection points welded except gasket between sensor module and transmitter flange
- Transmitter can be re-used if repair work is required

Offline seal

Rosemount 1299 uses the term `offline seal` to describe RFW, RCW and RTW which require a lower housing/ flushing ring in the 1199 model structure.

Ordering information

Rosemount 1299 Flanged and Threaded Diaphragm Seal ordering information

Rosemount 1299 Direct Mount Seals reduce installation costs by eliminating mounting hardware. Their advanced design also minimizes oil volume improving performance.

Product features and capabilities include:

- Direct mount gauge or absolute seal system can be used for open or vented to atmosphere tank applications
- Tuned-System™ Assembly order codes can be used to improve performance for DP measurements in closed or pressurized tank applications
- Variety of process connections

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See Material selection for more information.

The Rosemount 1299 Direct Mount Seal also requires specification of a Rosemount pressure device. See the appropriate Product Data Sheet for the desired device and include the option indicated in the table below for the configuration desired.

When ordering direct and remote mount seals, add the correct seal system ordering code to the transmitter or gauge model.

Table 1: Seal Attach To Code Per Transmitter or Gauge Model

Rosemount model	Two seals	One seal
3051S_C	B12	B11
3051C	S2	S1
2051C	S2	S1
3051S_T	N/A	B11
3051T, 2051T, 2088	N/A	S1

Ordering the Rosemount 1299 Direct Mount Seal consists of two parts:

1. Specify the direct mount connection model codes.
2. Specify a remote seal.

Model codes for both components are listed in the ordering table.

Online product configurator

Many products are configurable online using our product configurator.

Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Sizing and selection

Use the Differential Pressure (DP) Level Sizing and Selection Tool to size Rosemount DP Level meters to meet your application-specific requirements.

The Sizing and Selection tool:

1. Verifies if a selected product meets your application requirements
2. Provide a comparison between different system types
3. Generates a detailed accuracy comparison graph

Once a sizing is completed, the configuration tool will help create a complete and valid model code to match your requirements and include any additional options or approvals.

Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery. The non-starred offerings are subject to additional delivery lead time.

Required model components

Model

Code	Description	
1299	Flanged and threaded diaphragm seal	★

System type

Code	Description	
C	One remote seal system, Coplanar™ transmitter; high side	★
D	One remote seal system, Coplanar transmitter; low side	★
N	One remote seal system, in-line transmitter	★
T	Two remote seal system, Tuned-System™ assembly; high side	★
U	Two remote seal system, Tuned-System assembly; low side	★
B	Two remote seal system, balanced assembly; high side	★
A	Two remote seal system, balanced assembly; low side	★
H	Remote seal system, imbalanced assembly; high side	★
L	Remote seal system, imbalanced assembly; low side	★

System connection type

Code	Description	
1	Welded-repairable	★
2	All-welded(1)	★

(1) *All welded system connection types require either a 316L SST or Alloy C-276 isolating diaphragm in the pressure transmitter model codes.*

Fill fluid

Code	Description	
D(3)	Silicone 200	★

Code	Description	
F[2]	Silicone 200 for vacuum applications	★
J[1][3]	Tri-Therm 300	★
Q[1][2]	Tri-Therm 300 for vacuum applications	★
H[2]	Inert (Halocarbon)	★
L[3]	Silicone 704	★
C[2]	Silicone 704 for vacuum applications	★
R[3]	Silicone 705	★
V[2]	Silicone 705 for vacuum applications	★
A[2]	SLYTHERM™ XLT	★
N[1][2]	Neobee® M-20	★
P[1][3]	Propylene glycol and Water	★
G[1][3]	Gylcerin and water	★

(1) *This is a food grade fill fluid.*
(2) *For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note*
(3) *Not suitable for vacuum applications*

Capillary length/direct mount

Code	Description	
Direct mount		
D00	Direct mount, no extension	★
D02	Direct mount, 2-in. (50 mm) extension	★
D04	Direct mount, 4-in. (100 mm) extension	★
D05	Direct mount, thermal optimizer	
Capillary length[1]		
Exx	1- to 50-ft, 5-ft increments Example: 5-ft = E05, 50-ft = E50	
Mxx	0.5- to 4-m, 0.5-m increments; 4-30-m with 1-m incerements Example: 1-m = M01, 15-m = M15; exception: 0.5 = M50, 1.5m = M51, 2.5-m = M52, 3.5-m = M53	

(1) *Capillary lengths below 25 feet (8 meters) are common options and should be selected for best delivery.*

Industry standard

Code	Flanged	Threaded	
A	ASME B16.5	ASME B1.20.1	★
D	EN 1092-1	EN 10226-1/ISO 228-1	★
G	HG20615 (China standard based on ASME B16.5)	N/A	★
K	HG20592 (China standard based on EN 1092-1)	N/A	★
T	GOST 33259-15 (Russian standard)	N/A	★
B	N/A	B1.20.1 per ISA 82.03	
J	JIS B2220 (Japanese Industrial Standard)	N/A	

Process connection/flange pressure rating

Code	Seal type	ASME		EN/ISO/GOST		ISA		JIS		
		Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	
A1	Offline flanged	½ in.	Class 150	N/A	N/A	N/A	N/A	N/A	N/A	★
A2	Offline flanged	½ in.	Class 300	N/A	N/A	N/A	N/A	N/A	N/A	★
A3	Offline flanged	½ in.	Class 600	N/A	N/A	N/A	N/A	N/A	N/A	★
A5	Offline flanged	½ in.	Class 900/1500	N/A	N/A	N/A	N/A	N/A	N/A	
A6	Offline flanged	½ in.	Class 2500	N/A	N/A	N/A	N/A	N/A	N/A	
B1	Offline flanged	¾ in.	Class 150	N/A	N/A	N/A	N/A	10 A	10 K	★
B2	Offline flanged	¾ in.	Class 300	N/A	N/A	N/A	N/A	10 A	20 K	★
B3	Offline flanged	¾ in.	Class 600	DN 10	PN 40	N/A	N/A	10 A	40 K	★
B4	Offline flanged	N/A	N/A	DN 10	PN 63	N/A	N/A	N/A	N/A	
B5	Offline flanged	¾ in.	Class 900/1500	DN 10	PN 100	N/A	N/A	N/A	N/A	
B6	Offline flanged	¾ in.	Class 2500	DN 10	PN 160	N/A	N/A	N/A	N/A	
C1	Offline flanged	N/A	N/A	N/A	N/A	N/A	N/A	15 A	10 K	
C2	Offline flanged	N/A	N/A	N/A	N/A	N/A	N/A	15 A	20 K	
C3	Offline flanged	N/A	N/A	DN 15	PN 40	N/A	N/A	15 A	40 K	★
C4	Offline flanged	N/A	N/A	DN 15	PN63	N/A	N/A	N/A	N/A	
C5	Offline flanged	N/A	N/A	DN 15	PN 100	N/A	N/A	N/A	N/A	
D1	Offline flanged	N/A	N/A	N/A	N/A	N/A	N/A	20 A	10 K	
D2	Offline flanged	N/A	N/A	N/A	N/A	N/A	N/A	20 A	20 K	
D3	Offline flanged	N/A	N/A	DN 20	PN 40	N/A	N/A	20 A	40 K	
D4	Offline flanged	N/A	N/A	DN 20	PN 63	N/A	N/A	N/A	N/A	
D5	Offline flanged	N/A	N/A	DN 20	PN 100	N/A	N/A	N/A	N/A	
E1	Offline flanged	1 in.	Class 150	N/A	N/A	N/A	N/A	25 A	10 K	★

Code	Seal type	ASME		EN/ISO/GOST		ISA		JIS		
		Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	
E2	Offline flanged	1 in.	Class 300	N/A	N/A	N/A	N/A	25 A	20 K	★
E3	Offline flanged	1 in.	Class 600	DN 25	PN 40	N/A	N/A	25 A	40 K	★
E4	Offline flanged	N/A	NA	DN 25	PN63	N/A	N/A	N/A	N/A	
E5	Offline flanged	1 in.	Class 900/1500	DN 25	PN 100	N/A	N/A	N/A	N/A	
E6	Offline flanged	1 in.	Class 2500	DN 25	PN 160	N/A	N/A	N/A	N/A	
F1	Offline flanged/ Flush flanged/ Extended flanged	1½ in.	Class 150	N/A	N/A	N/A	N/A	40 A	10 K	★
F2	Offline flanged/ Flush flanged/ Extended flanged	1½ in.	Class 300	N/A	N/A	N/A	N/A	40 A	20 K	★
F3	Offline flanged/ Flush flanged/ Extended flanged	1½ in.	Class 600	DN 40	PN 40	N/A	N/A	40 A	40 K	★
F4	Offline flanged/ Flush flanged/ Extended flanged	N/A	N/A	DN 40	PN 63	N/A	N/A	N/A	N/A	
F5	Offline flanged/ Flush flanged/ Extended flanged	1½ in.	Class 900/1500	DN 40	PN 100	N/A	N/A	N/A	N/A	
F6	Offline flanged/ Flush flanged/ Extended flanged	1½ in.	Class 2500	DN 40	PN 160	N/A	N/A	N/A	N/A	
G0	Pancake	2 in.	None - user supplied	DN 50	None - user supplied	N/A	N/A	50 A	None - user supplied	★
G1	Flush flanged	2 in.	Class 150	N/A	N/A	N/A	N/A	50 A	10 K	★
G2	Flush flanged	2 in.	Class 300	N/A	N/A	N/A	N/A	50 A	20 K	★

Code	Seal type	ASME		EN/ISO/GOST		ISA		JIS		
		Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	
G3	Flush flanged	2 in.	Class 600	DN 50	PN 40	N/A	N/A	50 A	40 K	★
G4	Flush flanged	N/A	N/A	DN 50	PN 63	N/A	N/A	N/A	N/A	
G5	Flush flanged	2 in.	Class 900/1500	DN 50	PN 100	N/A	N/A	N/A	N/A	
G6	Flush flanged	2 in.	Class 2500	DN 50	PN 160	N/A	N/A	N/A	N/A	
H0	Pancake	3 in.	None - user supplied	DN 80	None - user supplied	N/A	N/A	80 A	None - user supplied	★
H1	Flush flanged	3 in.	Class 150	N/A	N/A	N/A	N/A	80 A	10 K	★
H2	Flush flanged	3 in.	Class 300	N/A	N/A	N/A	N/A	80 A	20 K	★
H3	Flush flanged	3 in.	Class 600	DN 80	PN 40	N/A	N/A	80 A	40 K	★
H4	Flush flanged	3 in.	Class 900	DN 80	PN 63	N/A	N/A	N/A	N/A	
H5	Flush flanged	3 in.	Class 1500	DN 80	PN 100	N/A	N/A	N/A	N/A	
H6	Flush flanged	3 in.	Class 2500	DN 80	PN 160	N/A	N/A	N/A	N/A	
J1	Flush flanged	4 in.	Class 150	N/A	N/A			100 A	10 K	★
J2	Flush flanged	4 in.	Class 300	N/A	N/A	N/A	N/A	100 A	20 K	★
J3	Flush flanged	4 in.	Class 600	DN 100	PN 40	N/A	N/A	100 A	40 K	★
J4	Flush flanged	4 in.	Class 900	DN 100	PN 63	N/A	N/A	N/A	N/A	
J5	Flush flanged	4 in.	Class 1500	DN 100	PN 100	N/A	N/A	N/A	N/A	
J6	Flush flanged	4 in.	Class 2500	DN 100	PN 160	N/A	N/A	N/A	N/A	
K1	Offline threaded	¼ 18 FNPT	800 psi	R ½	800 psi	¼ 18 FNPT	1700 psi	N/A	N/A	★
K2	Offline threaded	¼ 18 FNPT	2500 psi	R ½	2500 psi	¼ 18 FNPT	6800 psi	N/A	N/A	★
K3	Offline threaded	¼ 18 FNPT	5000 psi	R ½	5000 psi	¼ 18 FNPT	10200 psi	N/A	N/A	
K4	Offline threaded	¼ 18 FNPT	10000 psi	R ½	10000 psi	¼ 18 FNPT	13700 psi	N/A	N/A	
K6	Offline threaded 4.1 in	¼ 18 FNPT	1500 psi	R ½	1500 psi	N/A	N/A	N/A	N/A	

Code	Seal type	ASME		EN/ISO/GOST		ISA		JIS		
		Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	
L1	Offline threaded	⅜ 18 FNPT	800 psi	G ½	800 psi	⅜ 18 FNPT	1700 psi	N/A	N/A	★
L2	Offline threaded	⅜ 18 FNPT	2500 psi	G ½	2500 psi	⅜ 18 FNPT	6800 psi	N/A	N/A	★
L3	Offline threaded	⅜ 18 FNPT	5000 psi	G ½	5000 psi	⅜ 18 FNPT	10200 psi	N/A	N/A	
L4	Offline threaded	⅜ 18 FNPT	10000 psi	G ½	10000 psi	⅜ 18 FNPT	13700 psi	N/A	N/A	
L6	Offline threaded 4.1 in.	⅜ 18 FNPT	1500 psi	G ½	1500 psi	N/A	N/A	N/A	N/A	
M1	Offline threaded	½ 14 FNPT	800 psi	N/A	N/A	½-14 FNPT	1700 psi	N/A	N/A	★
M2	Offline threaded	½-14 FNPT	2500 psi	N/A	N/A	½-14 FNPT	6800 psi	N/A	N/A	★
M3	Offline threaded	½-14 FNPT	5000 psi	N/A	N/A	½-14 FNPT	10200 psi	N/A	N/A	
M4	Offline threaded	½-14 FNPT	10000 psi	N/A	N/A	½-14 FNPT	13700 psi	N/A	N/A	
M6	Offline threaded 4.1 in.	½-14 FNPT	1500 psi	N/A	N/A	N/A	N/A	N/A	N/A	
N1	Offline threaded	¾ 14 FNPT	800 psi	N/A	N/A	¾ 14 FNPT	1700 psi	N/A	N/A	★
N2	Offline threaded	¾ 14 FNPT	2500 psi	N/A	N/A	¾ 14 FNPT	6800 psi	N/A	N/A	★
N3	Offline threaded	¾ 14 FNPT	5000 psi	N/A	N/A	¾ 14 FNPT	10200 psi	N/A	N/A	★
N4	Offline threaded	¾ 14 FNPT	10000 psi	N/A	N/A	¾ 14 FNPT	13700 psi	N/A	N/A	
N6	Offline threaded 4.1 in.	¾ 14 FNPT	1500 psi	N/A	N/A	N/A	N/A	N/A	N/A	
P1	Offline threaded	1-11.5 FNPT	800 psi	N/A	N/A	1-11.5 FNPT	1700 psi	N/A	N/A	★
P2	Offline threaded	1-11.5 FNPT	2500 psi	N/A	N/A	1-11.5 FNPT	6800 psi	N/A	N/A	★
P3	Offline threaded	1-11.5 FNPT	5000 psi	N/A	N/A	1-11.5 FNPT	10200 psi	N/A	N/A	★
P4	Offline threaded	1-11.5 FNPT	10000 psi	N/A	N/A	1-11.5 FNPT	13700 psi	N/A	N/A	
P6	Offline threaded 4.1 in.	1-11.5 FNPT	1500 psi	N/A	N/A	N/A	N/A	N/A	N/A	
Q1[(1)]	Offline threaded	1¼ 11.5 FNPT	800 psi	N/A	N/A	1¼ 11.5 FNPT	1700 psi	N/A	N/A	★

Code	Seal type	ASME		EN/ISO/GOST		ISA		JIS		
		Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	Size	Pressure rating	
Q2[1]	Offline threaded	1¼ 11.5 FNPT	2500 psi	N/A	N/A	1¼ 11.5 FNPT	6800 psi	N/A	N/A	★
Q3[1]	Offline threaded	1¼ 11.5 FNPT	5000 psi	N/A	N/A	1¼ 11.5 FNPT	10200 psi	N/A	N/A	★
Q4[1]	Offline threaded	1¼ 11.5 FNPT	10000 psi	N/A	N/A	1¼ 11.5 FNPT	13700 psi	N/A	N/A	
Q6	Offline threaded 4.1 in.	1¼ 11.5 FNPT	1500 psi	N/A	N/A	N/A	N/A	N/A	N/A	
R1[1]	Offline threaded	1½ 11.5 FNPT	800 psi	N/A	N/A	1½ 11.5 FNPT	1700 psi	N/A	N/A	★
R2[1]	Offline threaded	1½ 11.5 FNPT	2500 psi	N/A	N/A	1½ 11.5 FNPT	6800 psi	N/A	N/A	★
R3[1]	Offline threaded	1½ 11.5 FNPT	5000 psi	N/A	N/A	1½ 11.5 FNPT	10200 psi	N/A	N/A	★
R4[1]	Offline threaded	1½ 11.5 FNPT	10000 psi	N/A	N/A	1½ 11.5 FNPT	13700 psi	N/A	N/A	
R6	Offline threaded 4.1 in.	1½ 11.5 FNPT	1500 psi	N/A	N/A	N/A	N/A	N/A	N/A	

(1) *Flushing connection not available.*

Material for diaphragm and wetted, upper housing, and flange

If an extended flange is needed, select a flush flanged option. The extension length is specified in the options.

Code	Diaphragm and wetted	Upper housing	Flange	
CS[1]	316L SST	316 SST	Carbon steel	★
SS[2]	316L SST	316 SST	316 SST	★
CH	Alloy C-276	316 SST	Carbon steel	★
SH	Alloy C-276	316 SST	316 SST	★
CT	Tantalum	316 SST	Carbon steel	★
ST	Tantalum	316 SST	316 SST	★
CD	Duplex 2205 SST	316 SST	Carbon steel	
SD	Duplex 2205 SST	316 SST	316 SST	
CM	Alloy 400	316 SST	Carbon steel	
SM	Alloy 400	316 SST	316 SST	
NS	316L SST	316 SST	None	★
NH	Alloy C-276	316 SST	None	★
NT	Tantalum	316 SST	None	★
ND	Duplex 2205 SST	316 SST	None	
NM	Alloy 400	316 SST	None	
CB[1][2][3]	Tantalum (Brazed)	316 SST	Carbon steel	

Code	Diaphragm and wetted	Upper housing	Flange	
SB[1][2][3]	Tantalum (Brazed)	316 SST	316 SST	
SA	304L SST	316 SST	316 SST	
SE	321 SST	316 SST	316 SST	
SF	Alloy B	316 SST	316 SST	
SG	Alloy C-22	316 SST	316 SST	
SK	Alloy 600	316 SST	316 SST	
SL	Alloy 625	316 SST	316 SST	
SV	Duplex 2507 SST	316 SST	316 SST	
SW	Nickel 201	316 SST	316 SST	
CQ[4]	Titanium Grade 4	316 SST	Carbon steel	
SQ[4]	Titatnium Grade 4	316 SST	316 SST	
SR[4]	Zirconium 702	316 SST	316 SST	

(1) *Not available with one-piece design (Alternate design option code M2).*
(2) *For use with spiral wound metallic gaskets.*
(3) *Only available for process connections G and H.*
(4) *Operating temperature limited to 302 °F (150 °C)*

Lower housing/flushing ring/seal extension length

Code	Description	
N	No lower housing, flushing ring	★
Flushing ring/lower housing		
P	Plated carbon steel	
S	316L SST	★
H	Alloy C-276	★
T	Tantalum lined 316L SST	
A	304L SST	
D	Duplex 2205 SST	
M	Alloy 400	
Q	Titanium grade 4	
Extension lengths[1]		★
0	0 in. (0 mm)	★
1	1 in. (25 mm)	★
2	2 in. (50 mm)	★
3	3 in. (75 mm)	★
4	4 in. (100 mm)	★
5	5 in. (125 mm)	★
6	6 in. (150 mm)	★
7	7 in. (175 mm)	★
8	8 in. (200 mm)	★

Code	Description	
9	9 in. (225 mm)	★

(1) *Extension length options are valid with Extended Flanged Seals only.*

Additional options

Intermediate gasket material

Code	Description	
G0	None - user supplied intermediate gasket	★
G2	Klinger® C-4401	
G3	Klinger Top-Chem 2000 PTFE	
G4	Barium sulfate- filled PTFE	
G5	GRAFOIL®	
G6	Ethylene Propylene	

Flushing connection

Code	Description	
F0	No flushing connection	★
F1	One (¼ 18 NPT)	★
F2	Two (¼ 18 NPT)	★
F4	One (½ 14 NPT)	★
F5	Two (½ 14 NPT)	★

Flushing plugs/vents

Code	Description	
FB	316 SST plugs	★
FC	316 SST drain/vent valves	★
FD	Alloy C-276 plugs	★

Low side drain/vent valve

Code	Description	
FJ	Low side drain/vent valve (coplanar transmitter with one remote seal)	★

Flushing ring alignment clamp

Code	Description	
FA	Flushing ring alignment clamp	★

Extension diameter

Extension diameter options are valid with Extended Flanged Seals only.

Code	Description			
	English	Metric	Process connection size	
E145	1.45 in.	37 mm	1½ in.	
E190	1.90 in.	48 mm	2 in.	
E258	2.58 in.	66 mm	3 in. schedule 80	
E285	2.85 in.	72 mm	3 in. schedule 40	
E287	2.87 in.	73 mm	3 in. headbox	
E299	2.99 in.	76 mm	3 in.	
E350	3.50 in.	89 mm	4 in. schedule 80	
E370	3.70 in	94 mm	4 in. schedule to 40	
E378	3.78 in.	96 mm	4 in. headbox	

Extension and gasket surface material

Extension and gasket surface material options are valid with Extended Flanged Seals only.

Code	Description	
E7	Same as diaphragm material	
E8	316L SST	
E9	Alloy C-276	

Fractional extension length

Fractional extension length options are valid with Extended Flanged Seals only.

Code	Description		
A1	⅛ in. Additional extension		
A2	¼ in. Additional extension		
A3	⅜ in. Additional extension	5 mm Additional extension	
A4	½ in. Additional extension	10 mm Additional extension	
A5	⅝ in. Additional extension	15 mm Additional extension	
A6	¾ in. Additional extension	20 mm Additional extension	
A7	⅞ in. Additional extension		

Alternate capillary ID

Code	Description	
T2	0.03 in. (0.711 mm) ID	
T3	0.075 in. (1.905 mm) ID	

Additional extension length

Code	Description		
T4	10 in. Additional extension	250 mm Additional extension	
T5	20 in. Additional extension	500 mm Additional extension	

Capillary construction

Code	Description	
C2	4 in. Support Tube	
C3	PVC coated capillary	★
C4	PVC coated capillary with environmental corrosion protection for capillary welds	★
C7	4 in. Support Tube, PVC Coated Capillary	

Extra fill for cold temperature

Code	Description	
C8	Extra fill for cold temperature application	

Radial capillary connection

Code	Description	
C9	Radial capillary connection	

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1	★

NACE® certificate

Materials of construction comply with metallurgical requirements highlighted within NACE MR 0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR 0103 for sour refining environments. Order with Q15 or Q25 to receive a NACE certificate.

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Positive material identification (PMI)

Code	Description	
Q76	PMI verification and certificate	★

Welding documentation

Code	Description	
Q66	Welding document package (WPS, PQR, and WPQ)	★

Diaphragm coating

Code	Description	
D1	PTFE coated diaphragm for nonstick purposes only	
D2	0.0002 in. (5 µm) gold plated diaphragm	
D5	CorrosionShield PFA coated diaphragm	

Diaphragm diameter

Code	Description	
D9	4.1 in. (104 mm) diaphragm diameter	

Diaphragm thickness

Code	Description	
DA	0.002 in. (50 µm)	
DB	0.006 in. (150 µm)	

Bolt material

Options aren't available with flush flanged, pancake, and extended flanged types.

Code	Description	
B2	316 SST	★
B3	316 SST - studs not included	★
B4	304 SST	★

Alternate design

Code	Description	
M1	Solid faceplate (same as diaphragm material)	
M2	One-piece design	

Modified flanged connection

Code	Description	
V1	Ring-type joint flanged connection	★
V5	Raised faced smooth (<125 Ra)	

Extended product warranty

Code	Description	
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

Specifications

Liquid level transmitter specifications

Fill fluid specifications

Note
Temperature limits are reduced in vacuum service. For more information on fill fluids, see Rosemount DP Level Fill Fluid Specification Technical Note.

Table 2: Fill Fluid Specifications

Seal fill fluid		Specific gravity at 77 °F (25 °C)	Viscosity (cSt) at 77 °F (25 °C)	Temperature limits[1][2]				
				No extension	2-in. (50 mm) extension	4-in. (100 mm) extension	Thermal optimizer	Capillary
D	Silicone 200	0.934	9.5	–49 to 401 °F (–45 to 205 °C)	–49 to 401 °F (–45 to 205 °C)	–49 to 401 °F (–45 to 205 °C)	–49 to 401 °F (–45 to 205 °C)	–49 to 401 °F (–45 to 205 °C)
F	Silicone 200 for vacuum applications	0.934	9.5	For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note				
J [3]	Tri-Therm 300	0.795	8.6	–40 to 401 °F (–40 to 205 °C)	–40 to 464 °F (–40 to 240 °C)	–40 to 572 °F (–40 to 300 °C)	–40 to 572 °F (–40 to 300 °C)	–40 to 572 °F (–40 to 300 °C)
Q [3]	Tri-Therm 300 for vacuum applications	0.795	8.6	For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note				
H	Inert (Halocarbon)	1.85	6.5	–49 to 320 °F (–45 to 160 °C)	–49 to 320 °F (–45 to 160 °C)	–49 to 320 °F (–45 to 160 °C)	–49 to 320 °F (–45 to 160 °C)	–49 to 320 °F (–45 to 160 °C)
L	Silicone 704	1.07	39	32 to 401 °F (0 to 205 °C)	32 to 464 °F (0 to 240 °C)	32 to 572 °F (0 to 300 °C)	32 to 599 °F (0 to 315 °C)	32 to 599 °F (0 to 315 °C)
C	Silicone 704 for vacuum applications	1.07	39	For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note				
R	Silicone 705	1.09	175	32 to 401 °F (0 to 205 °C)	32 to 464 °F (0 to 240 °C)	32 to 572 °F (0 to 300 °C)	32 to 698 °F (0 to 370 °C)	32 to 698 °F (0 to 370 °C)
V	Silicone 705 for vacuum applications	1.09	175	For use in vacuum applications below 14.7 psia (1 bar-a), refer to vapor pressure curves in Rosemount DP Level Fill Fluid Specification Technical Note				
A	Sylthern XLT	0.85	1.6	–157 to 239 °F (–105 to 145 °C)	–157 to 239 °F (–105 to 145 °C)	–157 to 239 °F (–105 to 145 °C)	–157 to 239 °F (–105 to 145 °C)	–157 to 239 °F (–105 to 145 °C)
N[3]	Neobee M-20	0.94	9.8	5 to 401 °F (–15 to 205 °C)	5 to 437 °F (–15 to 225 °C)	5 to 437 °F (–15 to 225 °C)	5 to 437 °F (–15 to 225 °C)	5 to 437 °F (–15 to 225 °C)
P[3][4]	Propylene Glycol and water	1.02	2.85	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)

Table 2: Fill Fluid Specifications *(continued)*

Seal fill fluid		Specific gravity at 77 °F (25 °C)	Viscosity (cSt) at 77 °F (25 °C)	Temperature limits[1][2]				
				No extension	2-in. (50 mm) extension	4-in. (100 mm) extension	Thermal optimizer	Capillary
G[3][4]	Glycerin and water	1.13	12.5	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)	5 to 203 °F (–15 to 95 °C)

(1) *Temperature limits are reduced in vacuum service. For more information on fill fluids see Rosemount DP Level Fill Fluid Specification Technical Note.*
(2) *Due to heat transfer to the transmitter, the maximum process temperature of the transmitter will be de-rated if ambient or process temperatures exceed 185 °F (85 °C). Consult Instrument Toolkit to verify the application.*
(3) *This is a food grade fill fluid.*
(4) *Not suitable for vacuum applications.*

Physical specifications

Electrical connections

½–14 NPT, PG 13.5, G½, and M20 × 1.5 conduit. HART interface connections fixed to terminal block.

Non-wetted parts

Transmitter flange is CF-3M (cast version of 316L SST, material per ASTM-A743)

Capillary tube is 316L SST

Capillary armor is SST or PVC coated SST

Shipping weights

Table 3: Rosemount 1299 Weights without SuperModule Platform, Housing, or Transmitter Options

Weights are listed in lb (kg).

Flange	Flush	2-in. ext.	4-in. ext.	6-in. ext.
2-in., Class 150	9.5 (4.3)	N/A	N/A	N/A
3-in., Class 150	15.7 (7.1)	16.4 (7.4)	17.6 (8.0)	18.9 (8.6)
4-in., Class 150	21.2 (9.6)	20.9 (9.5)	22.1 (10.0)	23.4 (10.6)
2-in., Class 300	11.3 (5.1)	N/A	N/A	N/A
3-in., Class 300	19.6 (8.9)	20.3 (9.2)	21.5 (9.8)	22.8 (10.3)
4-in., Class300	30.4 (13.8)	30.3 (13.7)	31.5 (14.3)	32.8 (14.9)
2-in., Class 600	12.8 (5.8)	N/A	N/A	N/A
3-in., Class 600	22.1 (10.0)	22.8 (10.3)	24.0 (10.9)	25.3 (11.5)
DN 50/PN 40	11.3 (5.1)	N/A	N/A	N/A
DN 80/PN 40	16.0 (7.3)	16.7 (7.6)	17.9 (8.1)	19.2 (8.7)
DN 100/PN 10/16	11.2 (5.1)	11.9 (5.4)	13.1 (5.9)	14.4 (6.5)
DN 100/PN 40	12.6 (5.7)	13.3 (6.0)	14.5 (6.6)	15.8 (7.1)

Rosemount 1299 Seal specifications

Functional specifications

NACE Standard (Q15 or Q25 option)

NACE (National Association of Corrosion Engineers) standard MR0175/ISO 15156 defines metallic material requirements for resistance to sulfide stress cracking when applied on petroleum production, drilling, gathering and flow line equipment, and field processing facilities to be used in H2S bearing hydrocarbon service. MR0103 provides material requirements exclusive to sour petroleum refining environments. Compliance guidelines are intended to include “wetted” materials as recommended by both NACE standards. The option code T in several of the general purpose seal types limits the wetted material offering. Metallurgical requirements for alloys used are virtually identical for the two standards, but application conditions enforced are different and can limit material acceptance. Contact an Emerson representative to aid in selecting the proper materials to meet the NACE standard.

Material traceability (Q8 Option)

Material traceability is provided for the seal, upper housing, and if applicable, lower housing/flushing connection or diaphragm extension, upon selecting the option code Q8 in the pressure transmitter model number. Material traceability for the transmitter/seal system is provided per the DIN EN10204 3.1 standard, and is only available for general purpose seal types.

Performance specifications

For zero-based spans, reference conditions, silicone oil fill, glass-filled PTFE O-rings, SST materials, coplanar flange (Rosemount 3051SMV, 3051S_C) or ½–14 NPT (Rosemount 3051S_T) process connections, digital trim values set to equal range points.

Physical specifications

Material selection

Emerson provides a variety of Rosemount products with various product options and configurations, including materials of construction that can be expected to perform well in a wide range of applications.

The product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser’s sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options, and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration, or materials of construction selected.

Tagging

The Rosemount remote seal model number is marked on the transmitter nameplate (neck or top label). The pressure transmitter will be tagged in accordance with customer requirements. The standard stainless steel tag is wired to the transmitter. Tag is 0.02-in. (0.051 cm) thick with 0.125-in. (0.318 cm) high letters. A permanently attached tag is available upon request.

Calibration

Transmitters are factory calibrated to customer’s specified range. If calibration is not specified, then the transmitters are calibrated at maximum range. Calibration is performed at ambient temperature and pressure.

Product certifications

To view current Rosemount 1299 Pressure Transmitter product certifications, follow these steps:

Procedure

1. Go to Emerson.com/Rosemount.
2. Scroll as needed to the green menu bar and click Documents & Drawings.
3. Click Manuals & Guides.
4. Select the appropriate Quick Start Guide.

Ordering information, specifications, and drawings

To view current Rosemount 1299 ordering information, specifications, and drawings, follow these steps:

Procedure

1. Go to Emerson.com/Rosemount.
2. Scroll as needed to the green menu bar and click Documents & Drawings.
3. For installation drawings, click Drawings & Schematics and select the appropriate document.
4. For ordering information, specifications, and dimensional drawings, click Data Sheets & Bulletins and select the appropriate Product Data Sheet.

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For more information: **Emerson.com/global**

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