The selection is detailed on page 7

H29

Extended Cartridge Flange Type

Product application

Chemical processing industry

Petrochemical industry

Suitable for corrosive, high viscosity, crystalline or hot pressing media

For thick wall or isolation tanks and pipes

Functional characteristics

An expansion diaphragm is welded to the flange

All standard sizes and nominal diameters are available

All liquid receiving parts can be made of special materials selected by the user

Rugged, all-welded design

Product description

Diaphragm seals protect measuring instruments from corrosive, viscous, crystalline, corrosive, highly viscous, environmentally harmful or toxic media.

A diaphragm made of the appropriate material separates the measuring instrument from the measured medium. As a result, the measuring instrument can be used for the most difficult measurements as long as it is equipped with a proper diaphragm seal.

The filling liquid inside the system (the most suitable liquid can be selected for the specific application) hydraulically conducts the pressure to the measuring instrument.

Diaphragm seals are available in different designs and materials to meet all application requirements. When selecting diaphragm seals, users need to pay attention to two important criteria: one is the type of process connector (flange, thread and sterile connector); The second is the basic manufacturing method.

The Type H29 diaphragm seal is designed with a flanged connection and a diaphragm. It is suitable for all current standard flanges and can be installed into pressure measuring instruments without blind flanges.

The extended diaphragm design also allows it to be used in the construction of thick-walled or insulated pipes and containers.

The diaphragm seal and measuring instrument can be assembled directly (standard) or by cooling element or flexible capillary (optional).

In terms of material selection, a variety of solutions are available, and the extension of the upper chamber of the sealing diaphragm and the liquid part can be made of the same or different materials. Diaphragms and extensions can also be sprayed or coated.

Technical parameter

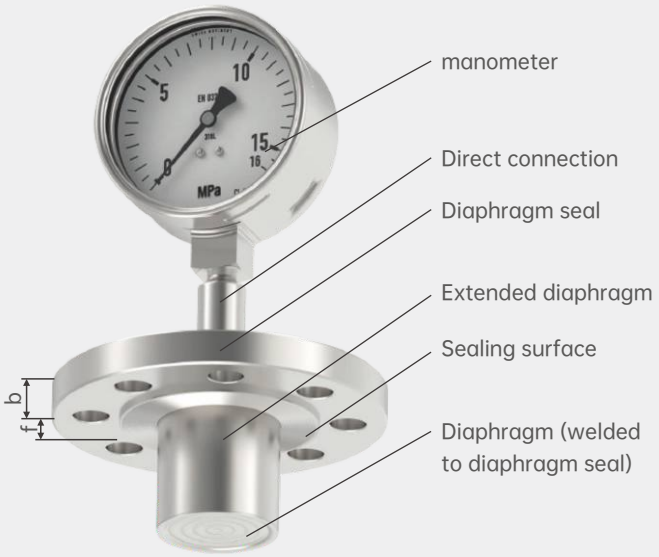
Model H29	Standard	selectable
Pressure range	≥40kPa (Depending on diaphragm diameter) For diaphragm sealing systems, pressure gauge ≥0.6MPa (87psi)	
Cleanliness of liquid receiving parts	No oil and no fat treatment, according to ASTM G93-03level F and ISO 15001 (< 1,000 mg/m²)	No oil and no fat treatment, according to ASTM G93-03 level D andISO 15001 (< 220 mg/m²)
Origin of raw materials for liquid parts	Internation	European Union, Switzerland, United States
How the instrument is connected	Axial adapter	Weld with G ½, G ¼, ½ NPT or ¼ NPT (internal thread) axial adapters
Installation mode	Direct connection	capillaries
		Cooling element
Designed according to NACE standards	-	MR0175
		MR0103
Vacuum service	Basic requirement	Quality service
		Premium service
Meter mounting bracket (capillary option only)	-	Model H according to DIN 16281, 100mm, aluminum, black
		Type H according to DIN 16281, 100mm, stainless steel
		Pipe bracket mounting for Ø20... 80 mm pipe, steel

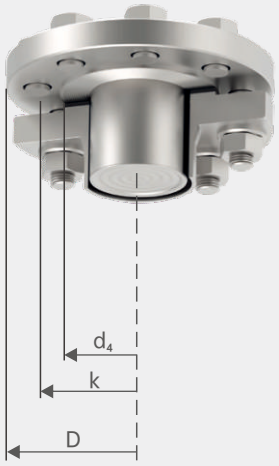
Case

Diaphragm model H29
Mounting pressure gauge

legend

- D — The outer diameter of the diaphragm
- d_4 — Outer diameter of sealing surface
- k — Mounting bolt hole diameter
- b — Flange thickness
- f — Thickness of sealing surface





Process connection, flange type

Standard	Flange size	Sealing surface	
		Standard	Selectable
According to DIN EN 1092-1	DN50	Type B1	A-shape B2 form C-shape D-shape e-shape f-shape
	DN80		
	DN100		
	DN125		
Comply with ASME B16.5 standard	2"	RF 125 ... 250 AA	RFSF Whole plane Small tenon face Small convex surface Small groove surface Miniature concave Large tenon face Large convex surface Large groove surface Large concave RJF Grooves
	3"		
	4"		
	5"		
According to DIN EN 1092-1	DN25	Type B	A-shape (full plane) C-shaped (tenon) D-shape E-shape (convex) F-shaped (concave)
	DN40		
	DN50		
	DN65		
	DN80		
	DN100		
	DN125		

Combination of materials

Diaphragm seals the upper cavity	Liquid connection unit	Maximum permissible process temperature (°C/°F)[1]
Stainless steel 1.4404 (316L)	Stainless Steel 1.4404/1.4435 (316L), standard version	400/752
	Stainless steel 1.4539 (904L)	
	Stainless steel 1.4541 (321)	
	Stainless steel 1.4571 (316Ti)	
	ECTFE coating	150/302
	PFA (Perfluoroalkoxy) spray (FDA standard)	260/500
	PFA (perfluoroalkoxy) coating (Anti-static)	
	Gild	400/752
	Ceramic coating	
	Hastelloy C22 (2.4602)	260/500

Combination of materials

Diaphragm seals the upper cavity	Liquid connection unit	Maximum permissible process temperature (°C/°F)[1]
Stainless Steel 1.4404 (316L)	Hastelloy C276 (2.4819)	400/752
	Inconel 600 (2.4816)	
	Inconel 625 (2.4856)	
	Incoloy 825 (2.4858)	
	Monel Alloy 400 (2.4360)	
	Nickel 200 (2.4060, 2.4066)	260/500
	titanium Level 2 (3.7035)	150/302
	titanium Level 11 (3.7225)	
	tantalum	300/572
Stainless steel 1.4435 (316L)	Stainless steel 1.4435 (316L)	400/752
Stainless steel 1.4539 (904L)	Stainless steel 1.4539 (904L)	
Stainless steel 1.4541 (321)	Stainless steel 1.4541 (321)	
Stainless steel 1.4571 (316Ti)	Stainless steel 1.4571 (316Ti)	
Duplex steel 2205 (1.4462)	Duplex steel 2205 (1.4462)	300/572
Super duplex steel (1.4410)	Super Duplex Steel (1.4410)	
hastelloy C22 (2.4602)	Hastelloy C22 (2.4602)	400/752
hastelloy C276 (2.4819)	Hastelloy C276 (2.4819)	
Inconel 600 (2.4816)	Inconel 600 (2.4816)	
Inconel 625 (2.4856)	Inconel 625 (2.4856)	
Incoloy 825 (2.4858)	Incoloy 825 (2.4858)	
Monel alloy 400 (2.4360)	Monel Alloy 400 (2.4360)	
Nickel 200 (2.4060, 2.4066)	Nickel 200 (2.4060, 2.4066)	
Titanium, grade 2 (3.7035)	Titanium Grade 2 (3.7035)	
Titanium, grade 7 (3.7235)	Titanium Grade 11 (3.7225)	

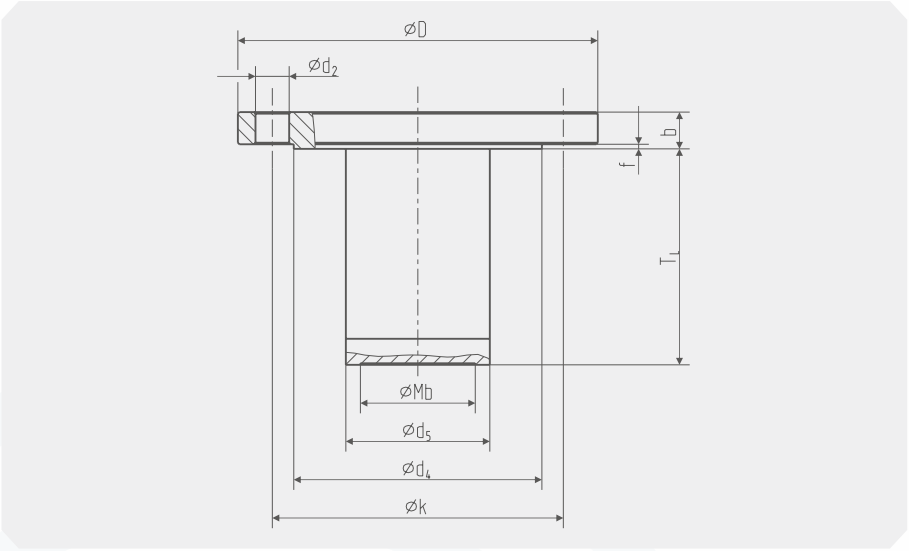
1) The process temperature limit of the diaphragm sealing system depends on the connection mode, the system filling fluid and the measuring instrument

Size mm [in]

Flange connection, consistent Standard DIN EN 1092-1, B1 form

emote

Mb Effective diameter of the diaphragm
D The outer diameter of the diaphragm
TL Extended diaphragm length
b Flange thickness
d2 Bolt hole diameter
f Height of sealing surface
k Index circle diameter of bolt hole
d_4 Diameter of sealing surface
d_5 Extended diaphragm diameter
x Bolt quantity

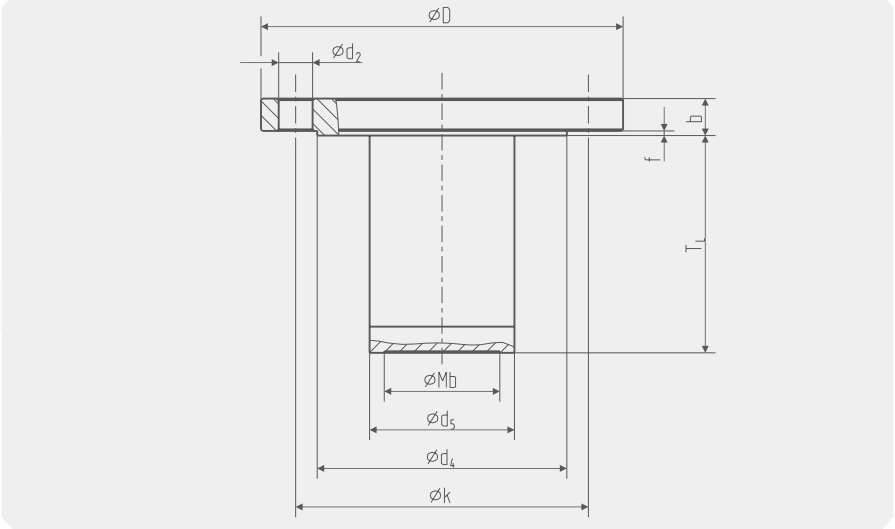


DN	PN	size mm [in]								x
		Mb	D	b	d_2	f	k	d_4	d_5	
50	10/40	45 [1.772]	165 [6.496]	20 [0.787]	18 [0.709]	125 [4.921]	2 [0.079]	102 [4.016]	48.3 [1.902]	4
80	10/16	72 [2.835]	200 [7.874]	20 [0.787]	18 [0.709]	160 [6.299]	2 [0.079]	138 [5.433]	76 [2.92]	8
	25/40	72 [2.835]	200 [7.874]	24 [0.945]	18 [0.709]	160 [6.299]	2 [0.079]	138 [5.433]	76 [2.92]	8
100	10/16	89 [3.504]	220 [8.661]	20 [0.787]	18 [0.709]	180 [7.087]	2 [0.079]	158 [6.22]	94 [3.701]	8
	25/40	89 [3.504]	235 [9.252]	24 [0.945]	22 [0.866]	190 [7.48]	2 [0.079]	162 [6.378]	94 [3.701]	8
125	10/16	124 [4.882]	250 [9.842]	22 [0.866]	18 [0.709]	210 [8.268]	2 [0.079]	188 [7.402]	125 [4.921]	8
	25/40	124 [4.882]	270 [10.63]	26 [1.024]	26 [1.024]	220 [8.661]	2 [0.079]	188 [7.402]	125 [4.921]	8

Flange connection, consistent ASME B 16.5 standard, RF 125... 250 AA

emote

Mb Effective diameter of the diaphragm
D The outer diameter of the diaphragm
TL Extended diaphragm length
b Flange thickness
d2 Bolt hole diameter
f Height of sealing surface
k Index circle diameter of bolt hole
d_4 Diameter of sealing surface
d_5 Extended diaphragm diameter
x Bolt quantity



DN	PN	size [in]								x
		Mb	D	b	d_2	f	k	d_4	d_5	
1 ½"	150	35 [1.378]	125 [4.921]	17.9 [0.705]	16 [0.63]	98.4 [3.874]	2 [0.079]	73 [2.874]	38 [1.496]	4
	300	35 [1.378]	155 [6.102]	21.1 [0.831]	22 [0.866]	114.3 [4.5]	2 [0.079]	73 [2.874]	38 [1.496]	4

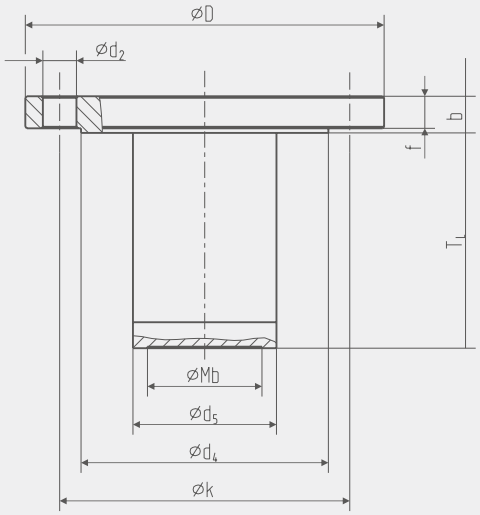
法兰式连接，符合ASME B 16.5标准，RF 125...250 AA

DN	PN	尺寸 mm [in]								x
		Mb	D	b	d_2	f	k	d_4	d_5	
2"	150	45 [1.772]	150 [5.906]	19.5 [0.768]	19 [0.748]	120.7 [4.752]	2 [0.079]	92 [3.622]	48.3 [1.902]	4
	300	45 [1.772]	165 [6.496]	22.7 [0.894]	19 [0.748]	127 [5]	2 [0.079]	92 [3.622]	48.3 [1.902]	8
3"	150	72 [2.835]	190 [7.48]	24.3 [0.957]	19 [0.748]	152.4 [6]	2 [0.079]	127 [5]	76 [2.992]	4
	300	72 [2.835]	210 [8.268]	29 [1.142]	22 [0.866]	168.3 [6.626]	2 [0.079]	127 [5]	76 [2.992]	8
4"	150	89 [3.504]	230 [9.055]	24.3 [0.957]	19 [0.748]	190.5 [7.5]	2 [0.079]	158 [6.22]	94 [3.701]	8
	300	89 [3.504]	255 [10.039]	32.2 [1.268]	22 [0.866]	200 [7.874]	2 [0.079]	158 [6.22]	94 [3.701]	8

Flange connection, consistent GOST 33259 standard, Type B

emote

Mb Effective diameter of the diaphragm
D The outer diameter of the diaphragm
TL Extended diaphragm length
b Flange thickness
d2 Bolt hole diameter
f Height of sealing surface
k Index circle diameter of bolt hole
d_4 Diameter of sealing surface
d_5 Extended diaphragm diameter
x Bolt quantity



DN	PN	Size mm [in]								x
		Mb	D	b	d_2	f	k	d_4	d_5	
1 ½"	10/16	40 [1.575]	160 [6.299]	16 [0.63]	18 [0.709]	125 [4.921]	3 [0.118]	102 [4.016]	44 [1.732]	4
	25/40	40 [1.575]	160 [6.299]	20 [0.787]	18 [0.709]	125 [4.921]	3 [0.118]	102 [4.016]	44 [1.732]	4
	10	60 [2.362]	195 [7.677]	18 [0.709]	18 [0.709]	160 [6.299]	3 [0.118]	133 [5.236]	74 [2.913]	4
	16	60 [2.362]	195 [7.677]	20 [0.787]	18 [0.709]	160 [6.299]	3 [0.118]	133 [5.236]	74 [2.913]	4
	25	60 [2.362]	195 [7.677]	22 [0.866]	18 [0.709]	160 [6.299]	3 [0.118]	133 [5.236]	74 [2.913]	8
	40	60 [2.362]	195 [7.677]	26 [1.024]	18 [0.709]	160 [6.299]	3 [0.118]	133 [5.236]	74 [2.913]	8
	10/16	72 [2.835]	215 [8.465]	20 [0.787]	18 [0.709]	180 [7.087]	3 [0.118]	158 [6.22]	91 [3.583]	8
	25	72 [2.835]	215 [8.465]	24 [0.945]	22 [0.866]	190 [7.48]	3 [0.118]	158 [6.22]	91 [3.583]	8
	40	72 [2.835]	215 [8.465]	26 [1.024]	22 [0.866]	190 [7.48]	3 [0.118]	158 [6.22]	91 [3.583]	8
	10/16	90 [3.543]	245 [9.646]	22 [0.866]	18 [0.709]	210 [8.268]	3 [0.118]	184 [7.244]	111 [4.37]	8
	25	90 [3.543]	270 [10.63]	26 [1.024]	26 [1.024]	220 [8.661]	3 [0.118]	184 [7.244]	111 [4.37]	8
	40	90 [3.543]	270 [10.63]	28 [1.102]	26 [1.024]	220 [8.661]	3 [0.118]	184 [7.244]	111 [4.37]	8

H29-Selection composition

Selection example H29 H P Y A
1 2 3 4

1.Meter connection specification	A	1 NPT
	B	1/2NPT
	C	1/4NPT
	D	M14*1.5
	E	M20*1.5
	F	M27*2
	G	G 1
	H	G1/2
	I	G1/4
	T( )	Other connection specifications

2.Field connection specification	N	DN15
	O	DN20
	P	DN25
	Q	DN32
	R	DN40
	S	DN50
	T	DN65
	U	DN80
	V	DN100
	T( )	Other connection specifications

3.Material	X	Carbon steel
	Y	304SS
	S	316L
	T( )	Other materials

4.Extend the cartridge length	A	50mm
	B	100mm
	C	150mm
	T( )	Other length

Instructions:

It indicates that the H29 diaphragm seal is connected to the instrument with the specification of G1/2, and the field connection specification is DN25, the material is 304 stainless steel, and the extended cartridge length is 50mm.

Product Certification

Compliance and approval; Rodeweig pressure gauges meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;