

The selection is detailed on page 7



H27 Flange Joint Type

Product application

Chemical industry
Petrochemical industry
Suitable for corrosive, high viscosity, crystallization and high temperature pressure media

Functional characteristics

The embedded diaphragm is welded into the flange cavity
Suitable for various standard sizes and table circle diameters
All liquid parts are made of special materials, which can be customized

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 H27 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 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 upper chamber and diaphragm of the sealing diaphragm can be made of the same or different materials. The diaphragm and sealing surface can also be sprayed or coated.

Measuring systems with type H27 diaphragm seals have been successfully used worldwide in the chemical and petrochemical industries with high measurement requirements.



Technical parameter

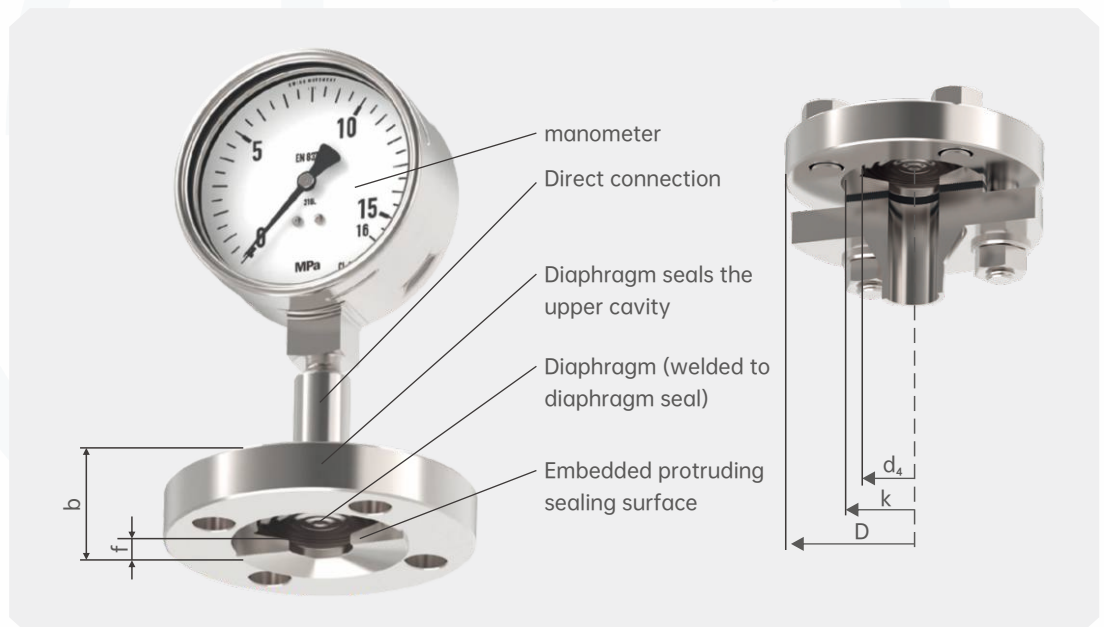
Model H27	Standard	Selectable
Pressure range	$\geq 40\text{kPa}$ (Depending on diaphragm diameter) For diaphragm sealing systems, pressure gauge $\geq 0.6\text{MPa}$ (87psi)	
Cleanliness of liquid receiving parts	No oil and no fat treatment, according to ASTM G93-03 level F and ISO 15001 ($< 1,000\text{ mg/m}^2$)	No oil and no fat treatment, according to ASTM G93-03 level D and ISO 15001 ($< 220\text{ mg/m}^2$)
Origin of raw materials for liquid parts	Internation	European Union, Switzerland, United States
How the instrument is connected	Axial adapter	Weld with G $\frac{1}{2}$, G $\frac{1}{4}$, $\frac{1}{2}$ NPT or $\frac{1}{4}$ 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 $\varnothing 20\text{...} 80\text{ mm}$ pipe, steel

Case

Pressure strap model H15 Mounting by welding monolithic flange

legend

- D Outer diameter of diaphragm seal
- k Pitch diameter
- d_4 Diameter of sealing surface
- 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	DN10	Type B1	Type B2
	DN20		
	DN25		
Comply with ASME B16.5 standard	1/2"	RF 125 ... 250 AA	RFSF
	3/4"		
	1"		
Meets GOST 33259 standard	DN10	Type B	-
	DN20		
	DN25		
Conforms to JIS B2220 standard	DN10A	RF	-
	DN20A		
	DN25A		

Combination of materials

Diaphragm seals the upper cavity	Liquid connection unit		Process temperature limit(°C/°F) ¹⁾
	Diaphragm seals the lower chamber ¹⁾	diaphragm	
Stainless Steel 1.4404 (316L)	Stainless Steel 1.4404 (316L)	Stainless Steel 1.4404 (316L)	400/752
	Stainless Steel 1.4404 (316L)	Stainless Steel 1.4404 (316L)	
	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)	
	PFA Spray (FDA standard)	PFA Spray (FDA standard)	260/500
	PFA spray (Anti-static)	PFA spray (Anti-static)	
	Hastelloy C22 (2.4602)	Hastelloy C22 (2.4602)	260/500
	Hastelloy C276 (2.4819)	Hastelloy C276 (2.4819)	400/752
	Inconel 600 (2.4816)	Inconel 600 (2.4816)	300/572
	Inconel 625 (2.4856)	Inconel 625 (2.4856)	
	Incoloy 825 (2.4858)	Incoloy 825 (2.4858)	
	Monel Alloy Monel 400 (2.4360)	Monel Alloy Monel 400 (2.4360)	
	tantalum	tantalum	
Stainless Steel 1.4435 (316L)	Stainless Steel 1.4435 (316L)	Stainless Steel 1.4435 (316L)	400/752
Stainless Steel 1.4539 (904L)	Stainless Steel 1.4539 (904L)	Stainless Steel 1.4539 (904L)	
Stainless Steel 1.4541 (321)	Stainless Steel 1.4541 (321)	Stainless Steel 1.4541 (321)	
Stainless Steel 1.4571 (316Ti)	Stainless Steel 1.4571 (316Ti)	Stainless Steel 1.4571 (316Ti)	
Duplex steel 2205 (1.4462)	Duplex steel 2205 (1.4462)	Duplex steel 2205 (1.4462)	300/572
Super Duplex Steel (1.4410)	Super Duplex Steel (1.4410)	Super Duplex Steel (1.4410)	

Combination of materials

Diaphragm seals the upper cavity	Liquid connection unit		Process temperature limit(°C/°F) ¹⁾
	Diaphragm seals the lower chamber ¹⁾	diaphragm	
Hastelloy C22 (2.4602)	Hastelloy C22 (2.4602)	Hastelloy C22 (2.4602)	400/752
Hastelloy C276 (2.4819)	Hastelloy C276 (2.4819)	Hastelloy C276 (2.4819)	
Inconel 600 (2.4816)	Inconel 600 (2.4816)	Inconel 600 (2.4816)	
Inconel 625 (2.4856)	Inconel 625 (2.4856)	Inconel 625 (2.4856)	
Incoloy 825 (2.4858)	Incoloy 825 (2.4858)	Incoloy 825 (2.4858)	
Monel Alloy Monel 400 (2.4360)	Monel Alloy Monel 400 (2.4360)	Monel Alloy Monel 400 (2.4360)	
Nickel 200 (2.4060, 2.4066)	Nickel 200 (2.4060, 2.4066)	Nickel 200 (2.4060, 2.4066)	
Titanium, Grade 2 (3.7035)	Titanium, Grade 2 (3.7035)	Titanium, Grade 2 (3.7035)	
Titanium, Grade 7 (3.7235)	Titanium, Grade 7 (3.7235)	Titanium, Grade 7 (3.7235)	
Titanium, Grade 11 (3.7225)	Titanium, Grade 11 (3.7225)	Titanium, Grade 11 (3.7225)	

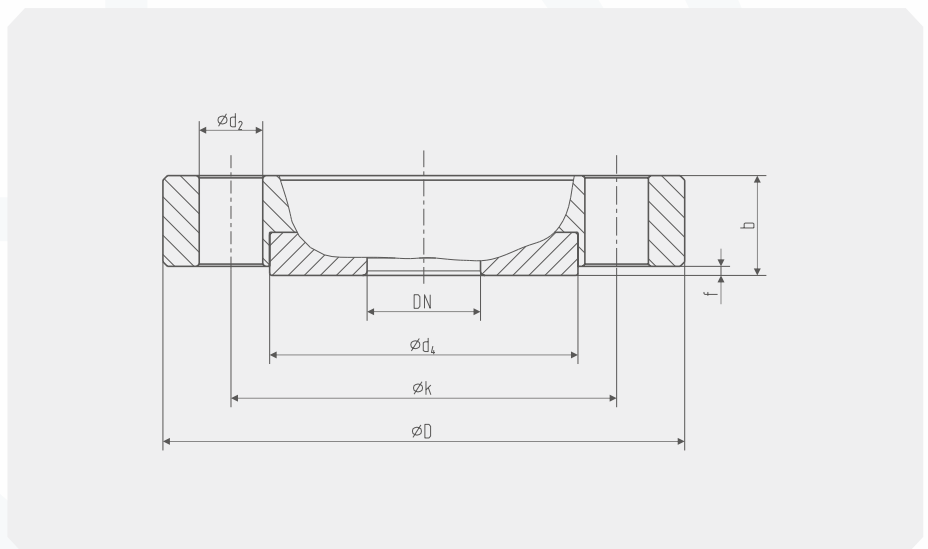
1) Process temperature limits for diaphragm sealing systems depend on the connection type, system filling fluid, and measuring instrument

Size mm [in]

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

emote

- Mb Effective diameter of the diaphragm
- D Outer diameter of diaphragm seal
- b Flange thickness
- d₂ Bolt hole diameter
- f Thickness of sealing surface
- k Pitch diameter
- d₄ Diameter of sealing surface
- x Bolt quantity



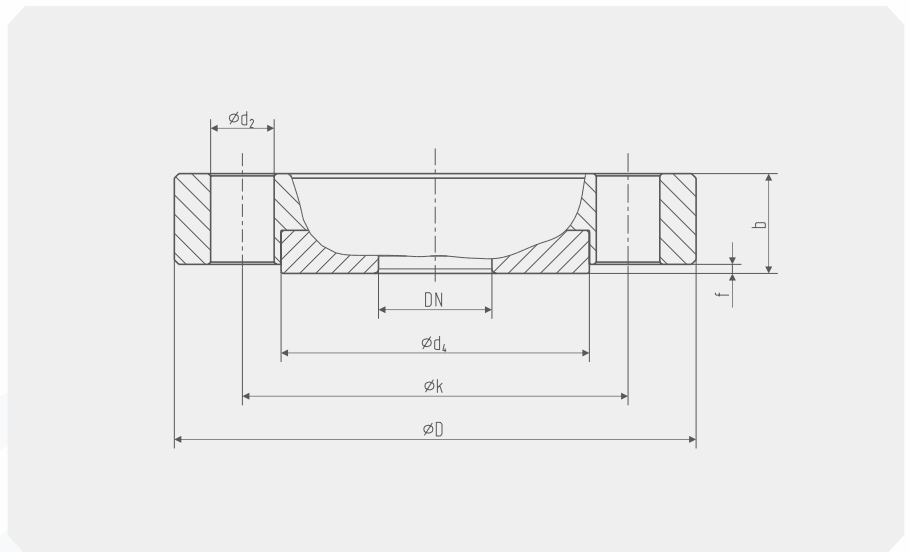
DN	PN	Size mm [in]							x	weight kg(lbs)
		Mb	D	b	d ₂	f	k	d ₄		
15	10-40	40 [1.575]	40 [1.575]	22 [0.866]	14 [0.551]	2 [0.079]	65 [2.559]	45 [1.772]	4	1 [2.2]
20			105 [4.134]				75 [2.953]	58 [2.283]		1.3 [2.9]
25		52 [2.047]	115 [4.528]				85 [3.346]	68 [2.677]		1.5 [3.3]

Size mm [in]

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

emote

- Mb Effective diameter of the diaphragm
- D Outer diameter of diaphragm seal
- b Flange thickness
- d₂ Bolt hole diameter
- f Thickness of sealing surface
- k Pitch diameter
- G₁ Screw thread
- d₄ Diameter of sealing surface
- x Bolt quantity

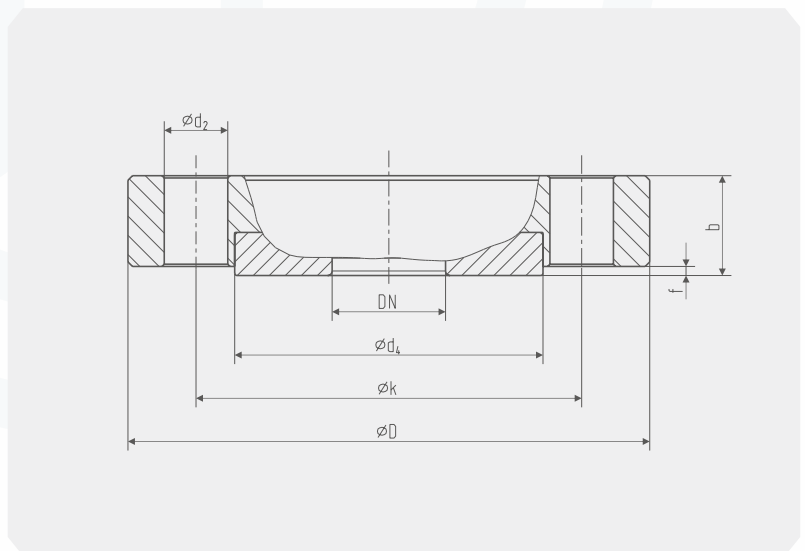


DN	PN	Size mm [in]							x	weight kg(lbs)
		Mb	D	b	d ₂	f	k	d ₄		
1/2"	150	32 [1.26]	90 [3.543]	22 [0.866]	16 [0.63]	2 [0.079]	60.3 [2.374]	34.9 [1.374]	4	1 [2.2]
	300	40 [1.575]	95 [3.740]				66.7 [2.626]		4	
3/4"	150		100 [3.937]	19 [0.748]	16 [0.63]	2 [0.079]	69.9 [2.752]	42.9 [1.689]	4	1.1 [2.4]
	300		115 [4.528]				82.6 [3.252]		4	1.6 [3.5]
1"	150	52 [2.047]	110 [4.331]	19 [0.748]	16 [0.63]	2 [0.079]	79.4 [3.126]	50.8 [2]	4	1.4 [3]
	300		125 [4.921]				88.9 [3.5]		4	1.7 [3.7]

Flange connection, consistent GOST 33259 standard, Type B

emote

- Mb Effective diameter of the diaphragm
- D Outer diameter of diaphragm seal
- b Flange thickness
- d₂ Bolt hole diameter
- f Thickness of sealing surface
- k Pitch diameter
- G₁ Screw thread
- d₄ Diameter of sealing surface
- x Bolt quantity



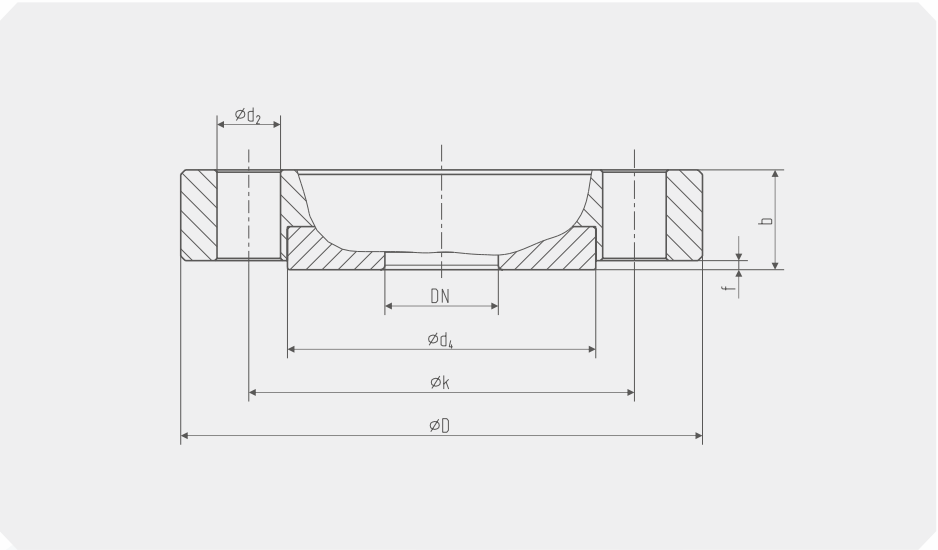
DN	PN	Size mm [in]							x	weight kg(lbs)	
		Mb	D	b	d ₂	f	k	d ₄			
15	10-40	40 [1.575]	95 [3.74]	22 [0.866]	14 [0.551]	2 [0.079]	65 [2.559]	45 [1.772]	4	1 [2.2]	
20			105 [4.134]				75 [2.953]			58 [2.283]	1.3 [2.9]
25		52 [2.047]	115 [4.528]				85 [3.346]			68 [2.677]	1.5 [3.3]

Size mm [in]

Flange connection, consistent JIS standard

Emote

- Mb Effective diameter of the diaphragm
- D Outer diameter of diaphragm seal
- b Flange thickness
- d₂ Bolt hole diameter
- f Thickness of sealing surface
- k Pitch diameter
- G₁ Screw thread
- d₄ Diameter of sealing surface
- x Bolt quantity



DN	PN	Size mm [in]							x	weight kg(lbs)
		Mb	D	b	d ₂	f	k	d ₄		
15	10K-20K	40 [1.575]	95 [3.74]	21 [0.827]	15 [0.591]	1 [0.04]	70 [2.756]	51 [2.008]	4	1 [2.2]
20			100 [3.937]				75 [2.953]	56 [2.205]		1.3 [2.9]
25			52 [2.047]				125 [4.921]	19 [0.748]		90 [3.543]

H27-Selection composition

Selection example **H27** **H** **P** **Y**

1 2 3

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
	Z	316L
	T ()	Other materials

Instructions:

It indicates that the H27 diaphragm seal is connected to the instrument with the specification of G1/2, and the field connection specification is DN25, and the material is 304 stainless steel.

Product Certification

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