The selection is detailed on page 8

H50

Sanitary Cylinder Connection

Product application

The food and beverage industry

Biochemical and pharmaceutical plant, active agent production

Production of sterile raw materials in the chemical industry

Functional characteristics

Completely sealed cylindrical diaphragm with no measuring dead zone

Quick cleaning of measuring points without residue

Suitable for SIP and CIP

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 H50 has a hygienic design and is EHEDG certified to optimally integrate into the pipe via the joint, meeting the high standards required for hygienic applications. The diaphragm seal system can withstand the high temperature of the clean steam during the SIP process and achieve a sterile connection between the tested medium and the diaphragm seal.

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 provided, with the upper chamber and diaphragm of the sealing diaphragm made of the same kind.

The standard material for these sealing diaphragms is 316L (1.4435) stainless steel, of course, we can also provide diaphragm products made of other special materials according to customer requirements.

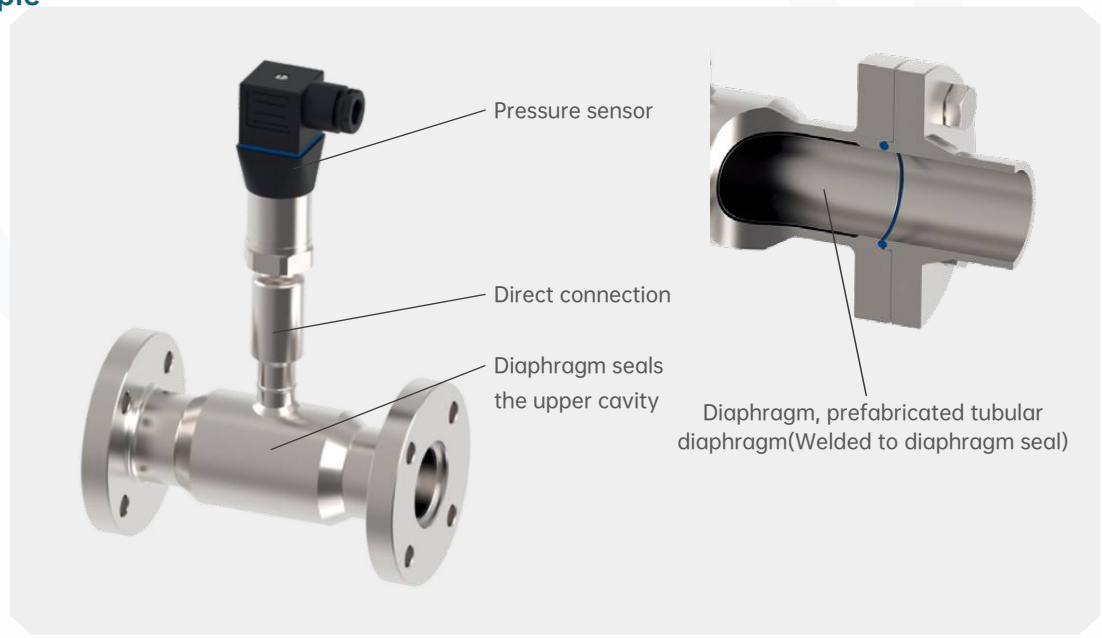
The H50 diaphragm seal measurement system has been successfully used in life sciences, pharmaceuticals and biotechnology.

Technical parameter

Basic information	
Edition	Prefabricated tubular diaphragm seal
Pressure range[1)]	0... 0.06 MPa to 0... 4 MPa [0...8.7 psi to 0...580 psi] or all other equivalent vacuum or combined pressure and vacuum ranges
Connect to a measuring instrument	Axial pressure gauge adapter for welds
	Axial pressure gauge adapter with internal thread (e.g. G ½, G ¼, ½ NPT or ¼ NPT)
Installation type	Direct mounting
	capillaries
	Cooling element
Cleanliness of liquid connected parts	Oil-free and grease-free, according to ASTM G93-03 Class F standard (< 1,000 mg/m2)
	Oil-free and grease-free, compliant with ASTM G93-03 Class D and ISO 15001 (< 220 mg/m2)
	Oil-free and grease-free, compliant with ASTM G93-03 Class C and ISO 15001 (< 66 mg/m2)
Source of liquid parts	Internation
	European Union, Switzerland, United States
Surface roughness of liquid parts	Ra ≤ 0.76μm [30μin], in accordance with ASME BPE SF3 (except welds)
	Ra ≤ 0.38 μm [15 μin], In accordance with ASME BPE SF4, only applicable to electropolished surfaces (except welds)
Vacuum service	Basic service
	Premium service
	High-end service

Installation example

The H50 sanitary cylinder pressure sensor has been installed



Process connection

Standard	
NEUMO BioConnect®, V-flange	Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards
	Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards
NEUMO BioConnect®, R flange	Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards
	Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards
NEUMO BioConnect®, Threaded connection with threaded joint	Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards
	Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards
NEUMO BioConnect®, Threaded connection with casing and pipe nut	Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards
	Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards

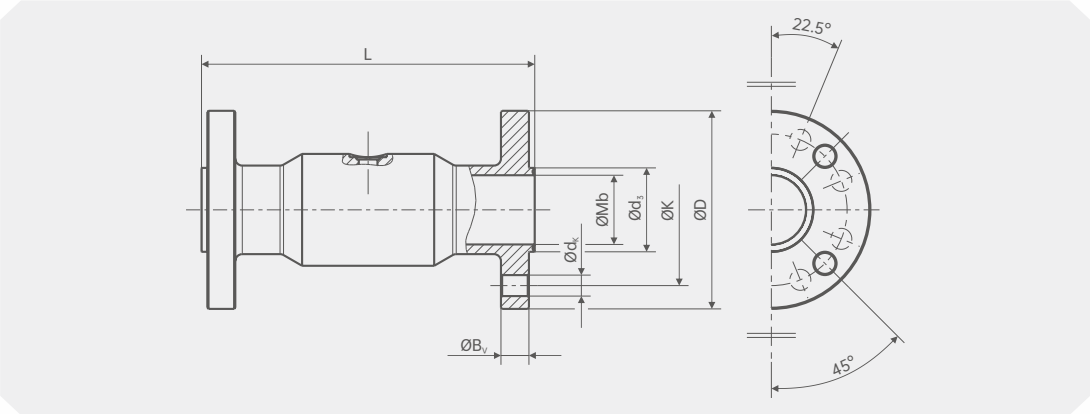
Materials

Material (liquid parts)[1)]	
Diaphragm	Stainless Steel 1.4435 (316L)
	Stainless Steel 1.4435 (316L), electropolished [2)]
	The material of diaphragm and diaphragm seal cover must be the same
Materials (in contact with the environment)	
Diaphragm seal cover	Stainless steel 1.4435 (316L)
	Stainless steel 1.4435 (316L), electropolishing[2)]

1) Mark parts with material codes to ensure 100% material traceability
2) It is only applicable to the liquid connection parts whose surface roughness is Ra ≤ 0.38μm [15μin]

Size mm[in]

Process connection
NEUMO BioConnect®
V-flange



Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards

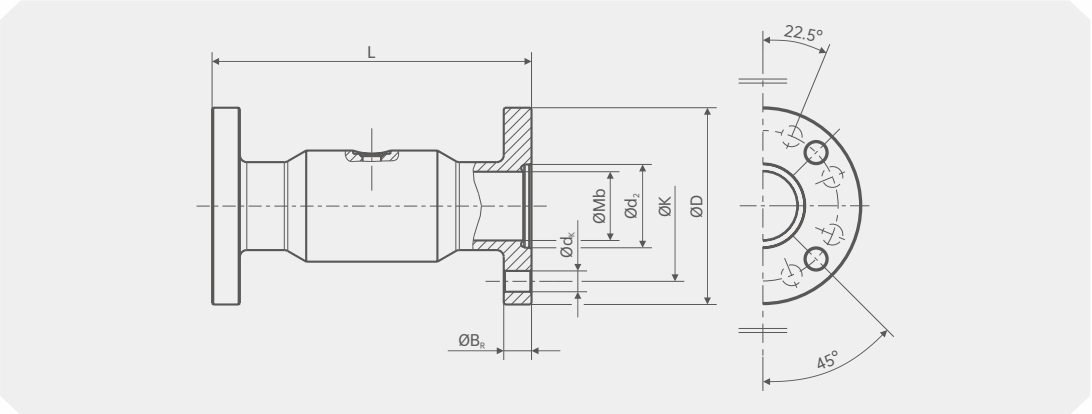
DN	PN	Size mm [in]							weight (kg [lb])
		Mb	D	L	B_v	K	d_k	d_k	
10	16	14 [0.551]	65 [2.559]	128 [5.039]	8 [0.315]	45 [1.772]	4xØ9 [0.354]	19.2 [0.756]	1.1 [2.43]
15	16	16 [0.63]	75 [2.953]	128 [5.039]	8 [0.315]	55 [2.165]	4xØ9 [0.354]	21.2 [0.835]	1.3 [2.87]
20	16	20 [0.787]	80 [3.15]	138 [5.433]	10 [0.394]	60 [2.362]	4xØ9 [0.354]	25.2 [0.992]	1.4 [3.09]
25	16	26 [1.024]	85 [3.346]	138 [5.433]	10 [0.394]	65 [2.559]	4xØ9 [0.354]	32.2 [1.268]	1.5 [3.31]
32	16	32 [1.26]	95 [3.74]	138 [5.433]	10 [0.394]	75 [2.953]	4xØ9 [0.354]	38.2 [1.504]	1.8 [3.97]
40	16	38 [1.496]	100 [3.937]	160 [6.299]	10 [0.394]	80 [3.15]	4xØ9 [0.354]	44.2 [1.74]	2.6 [5.73]
50	16	50 [1.969]	110 [4.331]	160 [6.299]	12 [0.472]	90 [3.543]	4xØ9 [0.354]	56.2 [2.213]	3.2 [7.05]
65	16	66 [2.598]	140 [5.512]	160 [6.299]	14 [0.551]	115 [4.528]	4xØ11 [0.433]	72.2 [2.843]	4.7 [10.36]
80	16	81 [3.19]	150 [5.906]	160 [6.299]	14 [0.551]	125 [4.921]	8xØ11 [0.433]	87.2 [3.433]	5.9 [13.01]
100	16	100 [3.937]	175 [6.89]	160 [6.299]	16 [0.63]	150 [5.906]	8xØ11 [0.433]	106.2 [4.181]	7.8 [17.2]

Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards

DN	PN	Size mm [in]							weight (kg [lb])
		Mb	D	L	B_v	K	d_k	d_k	
17.2	16	14 [0.551]	65 [2.559]	128 [5.039]	8 [0.315]	45 [1.772]	4xØ9 [0.354]	19.2 [0.756]	1.1 [2.43]
21.3	16	18 [0.709]	75 [2.953]	128 [5.039]	8 [0.315]	55 [2.165]	4xØ9 [0.354]	23.3 [0.917]	1.3 [2.87]
26.9	16	23.6 [0.929]	80 [3.15]	138 [5.433]	10 [0.394]	60 [2.362]	4xØ9 [0.354]	28.9 [1.138]	1.4 [3.09]
33.7	16	29.6 [1.165]	85 [3.346]	138 [5.433]	10 [0.394]	65 [2.559]	4xØ9 [0.354]	35.9 [1.413]	1.5 [3.31]
42.4	16	38.3 [1.508]	95 [3.74]	138 [5.433]	10 [0.394]	75 [2.953]	4xØ9 [0.354]	44.6 [1.756]	1.7 [3.75]
48.3	16	44.3 [1.744]	100 [3.937]	160 [6.299]	10 [0.394]	80 [3.15]	4xØ9 [0.354]	50.5 [1.988]	2.1 [4.63]
60.3	16	56.1 [2.209]	110 [4.331]	160 [6.299]	12 [0.472]	90 [3.543]	4xØ9 [0.354]	62.5 [2.461]	3.0 [6.61]
76.1	16	71.3 [2.807]	140 [5.512]	160 [6.299]	14 [0.551]	115 [4.528]	4xØ11 [0.433]	77.7 [3.059]	4.7 [10.36]
88.9	16	84.1 [3.311]	150 [5.906]	160 [6.299]	14 [0.551]	125 [4.921]	8xØ11 [0.433]	90.5 [3.563]	5.3 [11.68]
114.3	16	109.1 [4.295]	175 [6.89]	160 [6.299]	16 [0.63]	150 [5.906]	8xØ11 [0.433]	115.3 [4.539]	7.0 [15.43]

Size mm [in]

Process connection NEUMO BioConnect® R flange



Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards

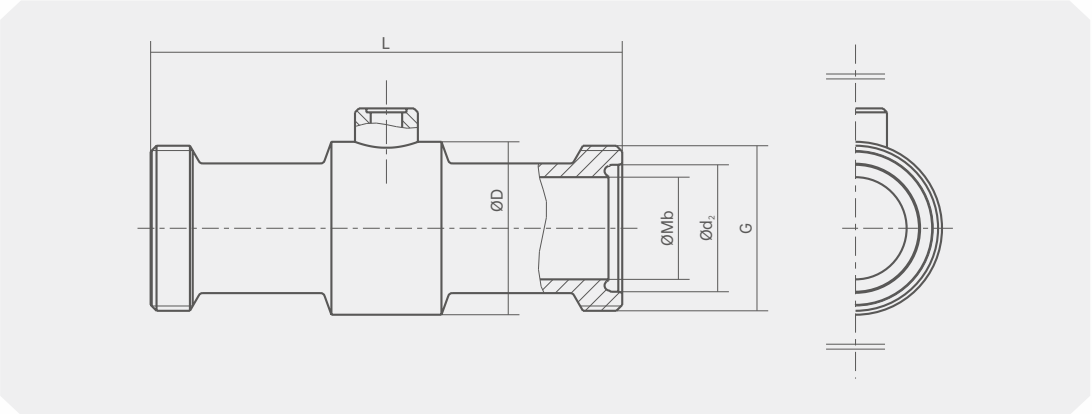
DN	PN	Size mm [in]							weight (kg [lb])
		Mb	D	L	B_R	K	d_K	d_K	
10	16	14 [0.551]	65 [2.559]	128 [5.039]	10 [0.394]	45 [1.772]	4xØ9 [0.354]	19.3 [0.76]	1.1 [2.43]
15	16	16 [0.63]	75 [2.953]	128 [5.039]	10 [0.394]	55 [2.165]	4xØ9 [0.354]	21.3 [0.839]	1.3 [2.87]
20	16	20 [0.787]	80 [3.15]	138 [5.433]	12 [0.472]	60 [2.362]	4xØ9 [0.354]	25.3 [0.996]	1.4 [3.09]
25	16	26 [1.024]	85 [3.346]	138 [5.433]	12 [0.472]	65 [2.559]	4xØ9 [0.354]	32.3 [1.272]	1.5 [3.31]
32	16	32 [1.26]	95 [3.74]	138 [5.433]	12 [0.472]	75 [2.953]	4xØ9 [0.354]	38.3 [1.508]	1.8 [3.97]
40	16	38 [1.496]	100 [3.937]	166 [6.535]	12 [0.472]	80 [3.15]	4xØ9 [0.354]	44.3 [1.744]	2.6 [5.73]
50	16	50 [1.969]	110 [4.331]	166 [6.535]	14 [0.551]	90 [3.543]	4xØ9 [0.354]	56.3 [2.217]	3.2 [7.05]
65	16	66 [2.598]	140 [5.512]	166 [6.535]	16 [0.63]	115 [4.528]	4xØ11 [0.433]	72.3 [2.846]	4.7 [10.36]
80	16	81 [3.19]	150 [5.906]	166 [6.535]	16 [0.63]	125 [4.921]	8xØ11 [0.433]	87.3 [3.437]	5.9 [13.01]
100	16	100 [3.937]	175 [6.89]	166 [6.535]	16 [0.63]	150 [5.906]	8xØ11 [0.433]	106.3 [4.185]	7.8 [17.2]

Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards

DN	PN	Size mm [in]							weight (kg [lb])
		Mb	D	L	B_R	K	d_K	d_K	
17.2	16	14 [0.551]	65 [2.559]	128 [5.039]	10 [0.394]	45 [1.772]	4xØ9 [0.354]	19.3 [0.76]	1.1 [2.43]
21.3	16	18 [0.709]	75 [2.953]	138 [5.433]	10 [0.394]	55 [2.165]	4xØ9 [0.354]	23.4 [0.921]	1.3 [2.87]
26.9	16	23.6 [0.929]	80 [3.15]	138 [5.433]	12 [0.472]	60 [2.362]	4xØ9 [0.354]	29 [1.142]	1.4 [3.09]
33.7	16	29.6 [1.165]	85 [3.346]	138 [5.433]	12 [0.472]	65 [2.559]	4xØ9 [0.354]	36 [1.417]	1.5 [3.31]
42.4	16	38.3 [1.508]	95 [3.74]	138 [5.433]	12 [0.472]	75 [2.953]	4xØ9 [0.354]	44.7 [1.76]	1.7 [3.75]
48.3	16	44.3 [1.744]	100 [3.937]	160 [6.299]	12 [0.472]	80 [3.15]	4xØ9 [0.354]	50.6 [1.992]	2.1 [4.63]
60.3	16	56.1 [2.209]	110 [4.331]	160 [6.299]	14 [0.551]	90 [3.543]	4xØ9 [0.354]	62.6 [2.465]	3.0 [6.61]
76.1	16	71.3 [2.807]	140 [5.512]	160 [6.299]	16 [0.63]	115 [4.528]	4xØ11 [0.433]	77.8 [3.063]	4.7 [10.36]
88.9	16	84.1 [3.311]	150 [5.906]	160 [6.299]	16 [0.63]	125 [4.921]	8xØ11 [0.433]	90.6 [3.567]	5.3 [11.68]
114.3	16	109.1 [4.295]	175 [6.89]	160 [6.299]	18 [0.709]	150 [5.906]	8xØ11 [0.433]	115.4 [4.543]	7.0 [15.43]

Size mm [in]

Process connection NEUMO BioConnect® Threaded connection with threaded joint



Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards

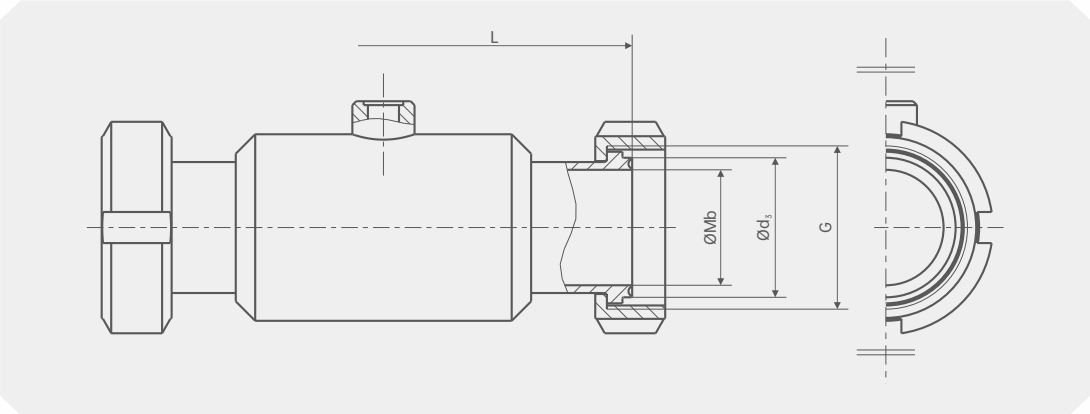
DN	PN	Size mm [in]					weight (kg [lb])
		Mb	D	L	G	d_2	
15	16	16 [0.63]	34 [1.339]	128 [5.039]	M30 x 1.5	-	0.4 [0.88]
20	16	20 [0.787]	38 [1.496]	138 [5.433]	M36 x 2	25.3 [0.996]	0.5 [1.1]
25	16	26 [1.024]	44 [1.732]	138 [5.433]	M42 x 2	32.3 [1.272]	0.6 [1.32]
32	16	32 [1.26]	52 [2.047]	138 [5.433]	M52 x 2	-	1.1 [2.43]
40	16	38 [1.496]	56 [2.205]	166 [6.535]	M56 x 2	44.3 [1.744]	1.3 [2.87]
50	16	50 [1.969]	68 [2.677]	166 [6.535]	M68 x 2	56.3 [2.217]	1.6 [3.53]
65	16	66 [2.598]	90 [3.543]	166 [6.535]	M90 x 3	-	2.5 [5.51]
80	16	81 [3.19]	100 [3.937]	166 [6.535]	M100 x 3	-	2.7 [5.95]
100	16	100 [3.937]	130 [5.118]	166 [6.535]	M130 x 4	-	6.0 [13.23]

Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards

DN	PN	Size mm [in]					weight (kg [lb])
		Mb	D	L	G	d_2	
21.3	16	18 [0.709]	38 [1.496]	128 [5.039]	M30 x 1.5	-	0.3 [0.66]
26.9	16	23.6 [0.929]	42 [1.654]	138 [5.433]	M36 x 2	29 [1.142]	0.4 [0.88]
33.7	16	29.6 [1.165]	44 [1.732]	138 [5.433]	M42 x 2	36 [1.417]	0.5 [1.1]
42.4	16	38.3 [1.508]	58 [2.283]	138 [5.433]	M52 x 2	-	0.7 [1.54]
48.3	16	44.3 [1.744]	62 [2.441]	166 [6.535]	M56 x 2	50.6 [1.992]	0.8 [1.76]
60.3	16	56.1 [2.209]	74 [2.913]	166 [6.535]	M68 x 2	62.6 [2.465]	0.9 [1.98]
76.1	16	71.3 [2.807]	90 [3.543]	166 [6.535]	M90 x 3	-	2.0 [4.41]
88.9	16	84.1 [3.311]	100 [3.937]	166 [6.535]	M100 x 3	-	2.2 [4.85]
114.3	16	109.1 [4.295]	130 [5.118]	166 [6.535]	M130 x 4	-	4.0 [8.82]

Size mm [in]

Process connection NEUMO BioConnect® With casing and pipe nut Threaded connection



Compliance with DIN 11866 Line A or DIN 11850 line 2 piping standards

DN	PN	Size mm [in]				weight (kg [lb])
		Mb	L	G	d_3	
15	16	16 [0.63]	128 [5.039]	M30 x 1.5	-	0.7 [1.54]
20	16	20 [0.787]	138 [5.433]	M36 x 2	25.2 [0.992]	0.8 [1.76]
25	16	26 [1.024]	138 [5.433]	M42 x 2	32.2 [1.268]	0.9 [1.98]
32	16	32 [1.26]	138 [5.433]	M52 x 2	-	1.4 [3.09]
40	16	38 [1.496]	160 [6.299]	M56 x 2	44.2 [1.740]	1.6 [3.53]
50	16	50 [1.969]	160 [6.299]	M68 x 2	56.2 [2.213]	1.9 [4.19]
65	16	66 [2.598]	160 [6.299]	M90 x 3	-	2.8 [6.17]
80	16	81 [3.19]	160 [6.299]	M100 x 3	-	3 [6.61]
100	16	100 [3.937]	160 [6.299]	M130 x 4	-	6.3 [13.89]

Compliance with DIN 11866 Line B or DIN ISO 1127 Line 1 piping standards

DN	PN	Size mm [in]				weight (kg [lb])
		Mb	L	G	d_3	
21.3	16	18 [0.709]	138 [5.433]	M30 x 1.5	-	0.6 [1.32]
26.9	16	23.6 [0.929]	138 [5.433]	M36 x 2	28.9 [1.138]	0.7 [1.54]
33.7	16	29.6 [1.165]	138 [5.433]	M42 x 2	35.9 [1.413]	0.8 [1.76]
42.4	16	38.3 [1.508]	138 [5.433]	M52 x 2	-	1 [2.2]
48.3	16	44.3 [1.744]	160 [6.299]	M56 x 2	50.5 [1.988]	1.1 [2.43]
60.3	16	56.1 [2.209]	160 [6.299]	M68 x 2	62.5 [2.461]	1.2 [2.65]
76.1	16	71.3 [2.807]	160 [6.299]	M90 x 3	-	2.3 [5.07]
88.9	16	84.1 [3.311]	160 [6.299]	M100 x 3	-	2.5 [5.51]
114.3	16	109.1 [4.295]	160 [6.299]	M130 x 4	-	4.3 [9.48]

H50-Selection composition

Selection example H50 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 H50 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; Rodeweig pressure gauges meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;