Diaphragm pressure gauges with st. st. housing with or without filling

Nominal dia. 100, 160 Accuracy class 1.6



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Features

- Stainless steel housing
- Corrosion resistance from special materials
- High resistance to overpressure
- · Constant display resulting from glycerine filling
- Particularly suitable for highly viscous and crystallizing media
- Protection IP 45 or IP 65

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Description

The design principle and the material selection of pressure gauges allows them to meet the stringent demands occuring in service and industrial processing plants.

Diaphragm pressure gauges have a relatively high actuating force. The annular clamped diaphragm is insensitive to jarring or vibration. An extremely high resistance to overpressure is achieved by underpropping the diaphragm.

In processes with chemically aggressive media, diaphragm pressure gauges have a special material coating on the components in contact with the medium which protect them from corrosion. With highly viscous, crystallizing or strongly heterogeneous media, open process connections which ensure that the gauges are easy to clean, e.g. by flushing, are used.

Ranges

0...16 mbar to 0...40 bar and all corresponding ranges for negative or negative/positive gauge pressure

Applications

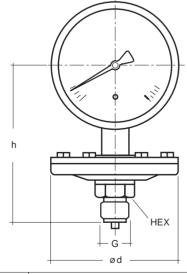
Food and beverages industries; mechanical engineering, plant and machinery construction

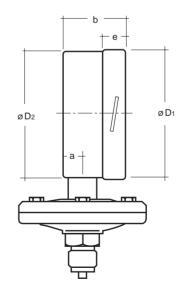
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	Without filling			With filling			
Model MAN	PF 80	PG 80		PF90	PG 90		Options
Nominal size	100 mm	160 mm		100 mm	160 mm		
Symbol							
Accuracy class*	1.6 (DIN 16005)					
Design	acc. DIN 16026))					
Indicating range	00.6 to 040) mbar; flange ø bar; flange ø 10 onding ranges fo	ssure				
Max. pressure	static load: to r alternating load	nax. rating I: 0.9 times max	. rating				
Overpressure	0.4 bar: 5 x m > 0.4 bar to 2.4 > 2.5 bar: 5 x m	ax. rating 5 bar: 3 x max. I nax. rating, max		overload: 10 x max. rating; max. 40 bar; vacuum safe to -1 bar			
Filling	none glycerine						
Temperature range	ambient: Tmin. medium: Tmax	-20°C, Tmax. + +100°C	60°C	•			
Protection	IP 45			IP 65			
Housing / upper flange	stainless steel,			1			
	steel, black						
Connection with lower flange	steel, G 1/2 ma	le (DIN 16288),	HEX27				
Measuring element	2.5 bar stainle > 2.5 bar steel	ess steel 1.4571					
Movement	brass, moving	parts argentan					
Dial	aluminium, whi	te; scale and let	tering bla	ack acc. DIN 161	09		dual scale
Pointer	aluminium, blad	k acc. DIN 1610	09				
Window	instrument glas	S					
Bezel	bayonet ring, s	teel, black					
Seal to:							
pressure compartmentfilled interior		none	NBR	NBR bellows			st. steel metal bellows
Flange connection				1			to DIN/ANSI from DN15 to DN80 wetted parts PTFE, Hastelloy, Monel, nickel, tantalum, titanium, silver

* with filling: 0...16 to 0...100 mbar, accuracy class 2.5

Dimensional drawings





Dia.	Range (bar)	Dimensions (mm)										(g)
		d	а	b	D1	D2	е	G	h±2	HEX	unfilled	filled
100	0.4	160	15.5	49.5	101	99	17.5	G1/2 male	135	27	3.4	3.9
160			15.5	49.5	161	159	17.5	G1/2 male	165	27	4.3	5.2
100	>0.4	100	15.5	49.5	101	99	17.5	G1/2 male	135	27	2.1	2.6
160			15.5	49.5	161	159	17.5	G1/2 male	165	27	3.0	3.9

Diaphragm Pressure Gauges in aluminium and stainless steel housing

Nominal dia. 100, 160 Accuracy class 1.6



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Features

- · Sturdy aluminum and stainless steel housing
- Corrosion resistance from special materials
- High resistance to overpressure
- Particularly suitable for highly viscous and crystallizing media
- Protection IP 54

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Description

The design principle and the material selection of pressure gauges allows them to meet the stringent demands occuring in service and industrial processing plants.

Diaphragm pressure gauges have a relatively high actuating force. The annular clamped diaphragm is insensitive to jarring or vibration. An extremely high resistance to overpressure is achieved by underpropping the diaphragm.

Special corrosion resistant materials protect the wetted parts in service with chemically aggressive media.

Open process connections ensure that the pressure gauges are easy to clean (e.g. by rinsing) even with highly viscous, crystallizing process media and with media with highly heterogeneous composition.

Ranges

-1...0 bar to 0...25 bar

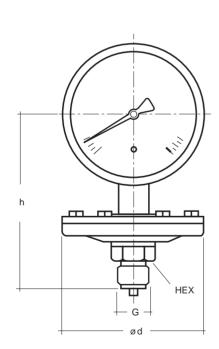
Applications

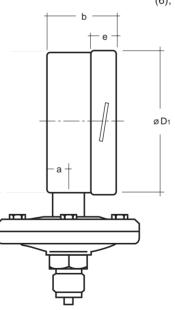
Mechanical engineering, plant and machinery construction

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Model MAN	PF2(7)*6W	PG3(6)*6W	PF2(7)*6H	PG2(7)*6H	Options			
Nominal size	100 mm	160 mm	100 mm	160 mm				
Symbol			U U U U U U U U U U U U U U U U U U U	H				
Accuracy class			1.6					
Indication range	-10 bar to 025 bar							
Max. pressure	static load: to max. ra alternating load: 0.9 ti							
Overrange protection	short-term: 1.3 times	max. rating						
Housing	1.4301	aluminum	1.4301					
Bezel	1.4301	steel black	1.4301					
Window	plexi glass		safety glass					
Dial	aluminum, white							
Pointer	aluminum, black							
Movement	Brass		stainless steel					
Measuring element	Duatherm 600							
Connection	1.4571, upper flange	1.4301						
positionthread	bottom G 1/2 male	bottom						
Protection	IP 54							
Temperatures - medium - ambient	max. 80°C max. 60°C							

Dimensional drawings





(W) Movement Brass

(H) Movement st. steel

(6), (7) with filling

Dia.	Range	Dimensions	ensions (mm)								
	(bar)	d flange	lange a b D1 D2 e G h±2 HEX								
100	>0.4	100	15.5	50	100	99	17.5	G1/2 male	125	(27) 22	2.1
160			15.5	50	160	159	17.5	G 1/2 male	175	(27) 22	3.0

Connection to DIN 16288

All stainless steel diaphragm pressure gauges with or without filling

Nominal dia. 100, 160 Accuracy class 1.6



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Features

- Highly resistant to chemical corrosion
- High resistance to overpressure
- Constant display resulting from glycerine filling
- · Process reliability with highly viscous or crystallizing medias
- Protection IP 45 or IP 65

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Description

The design principle and the material selection of pressure gauges allows them to meet the stringent demands occuring in service, chemicals, and petrochemicals industries.

Diaphragm pressure gauges have a relatively high actuating force. The annular clamped diaphragm is insensitive to jarring or vibration. An extremely high resistance to overpressure is achieved by underpropping the diaphragm.

The special material coating on the components in contact with the process medium protects them from attack by chemically aggressive medium. CrNi steels for the housing and instrument flange also make these diaphragm gauges resistant to chemically aggressive environments.

Open process connections ensure that the pressure gauges are easy to clean even with highly viscous or crystallizing process media, thus guaranteeing process reliability.

Ranges

0...16 to 0...250 mbar and all corresponding ranges for negative or negative/positive gauge pressure

Applications

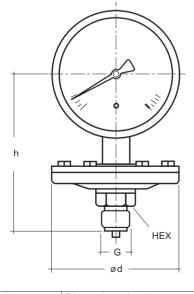
Chemical and petrochemical industries; food and beverages industries; mechanical engineering, plant and machinery construction

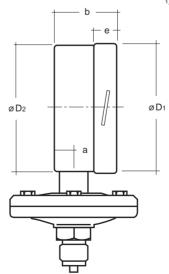
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	Without filling		With filling		
Model MAN	PF26	PG 26	PF76	PG 76	Options
Nominal size	100 mm	160 mm	100 mm	160 mm	
Symbol					
Accuracy class 1)	1.6 (DIN 1600	5)			
Design	acc. DIN 1602	6			
Indicating range	and all ranges	0 mbar; flange ø 160 for negative or ve overpressure			
Max. pressure	static load: to alternating loa	max. rating d: 0.9 times max. rat	ing		
Overpressure	5 x max. rating]	overload: 10 x max. rating max. 40 bar; vacuum safe to -1 bar		
Filling	none		glycerine		
Temperature range	ambient: Tmax medium: Tmax	+60 °C, Tmin20 ° +100 °C	С		
Protection	IP 45		IP 65		
Housing and upper flange	stainless steel	, with blow-out disc			
Connection with lower flange	stainless steel	, 1.4571, G 1/2 male	, HEX 27 (DIN 162	88)	
Elastic measuring element		ess steel 1.4571 less steel (Duratherr	n 600)		
Movement	stainless steel	1.4301/1.4305			
Dial	aluminum, whi	te; scale and letterin	g black acc. DIN 16	5109	dual scale
Pointer	aluminum, bla	ck acc. DIN 16099			
Window	laminated safe	ety glass			
Ring	bayonet ring, s	stainless steel 1.4307	1		
Sea to:					
pressure compartmentfilled interior		-	FPM NBR bellows		st. steel bellows
Wetted parts	see "Connecti	on with lower flange"	and "Measuring el	ement"	coated with PTFE, PFA, Hastelloy Monel, nickel, tantalum, titanium, silver
Flange connection					to DIN /ANSI from DN15 to DN80 (DN 25 and 50 preferred)

Dimensions

Standard model





¹⁾ with filling: 0...16 mbar, accuracy class 2.5

Dia. Range (bar) Dimensions (mm) Weight (kg) d b D1 D_2 е G h±2 HEX unfilled filled а 100 0.4 160 15.5 49.5 101 99 17.5 G1/2male 135 27 3.4 3.9 160 15.5 49.5 161 159 17.5 G1/2male 165 27 4.0 4.9

Connection to DIN 16288

Diaphragm pressure gauges in st. st. housing with alarm contacts, with or without filling

Nominal dia. 100, 160 with magnetic spring or inductive contact Accuracy class 1.6



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Switchle for programmable logic contracts

- Suitable for programmable logic controller (PLC)
- Up to four alarm contacts possible
- Use in hazardous locations with inductive contacts
- Precise display from liquid damping
- Overrange protection 10 times max. rating
- Protection IP54 or IP65

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Description

The design principle and material selection of these diaphragm gauges allow them to meet the stringent demands occuring above all in industrial service. Special corrosion resistant materials are used for service with chemically aggressive media.

Open process connections ensure that the gauges are easy to clean with highly viscous or crystallizing process media, thus guaranteeing process reliability. As a result of the high actuating forces, diaphragm pressure gauges are particularly suitable for connection of contacts. Electric alarm contacts open and close circuits in response to the position of the pressure gauge pointer.

Magnetic snap-action contacts are used in adverse operating conditions. The high contact pressure and the selection of various contact materials result in reliable and cost-effect solutions, above all when high currents have to be switched.

Signal output does however take place slightly in advance of or lagging slightly behind the motion of the actual pointer value.

If the permissible switching capacity of the magnetic snap-action contacts is no longer sufficient, the use of a contact protection relay is to be recommended.

Inductive contacts have an almost unlimited service, as the signal is switched without physical contact.

Closing or opening takes place without any feedback effect on the measuring system, eliminating any signal lead or lag. A corresponding control unit is always required for operation. Units with inductive contacts may be operated in areas with potentially explosive atmospheres, assuming compliance with existing specifications.

Ranges

0...25 mbar to 0...40 bar

Applications

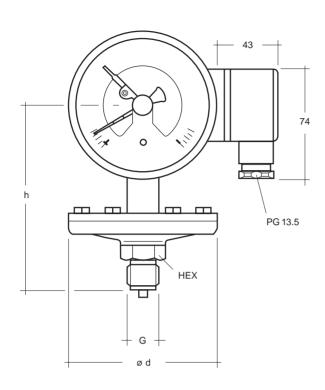
mechanical engineering, plant and machinery construction, food and beverages industries

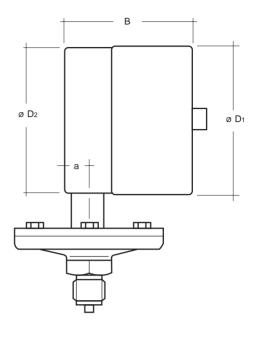
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Model MAN	PF80M PF90M	PF801 PF901	PG80M PG90M.	PG801	PG 90 I	Options				
Nominal size	100 mm		160 mm	I						
Symbol		(E	<u> </u>							
Contact type	magnetic-spring	inductive	magnetic-spring	inductive						
No. of contacts *)	1-3 depending on measuring range	1-3 depending on measuring range	1-4 depending on measuring range	1-3 deper on measu	nding Iring range					
Filling	silicone oil									
Position of cable socket	right side	right side								
Cable connection	PG 13.5									
Accuracy class	1.6 to DIN 16005 2.5 with filling and me									
Indicating range	025 mbar to 0250 00.4 bar to 040 ba negative or positive of	ar: flange ø 100 mm								
Max. pressure	static load: to max. ra alternating load: 0.9 ti									
Overrange protection	> 0.4 bar to 2.5 bar:	0.4 bar: 5 times max. rating > 0.4 bar to 2.5 bar: 3 times max. rating > 2.5 bar: 5 times max. rating, max. 40 bar								
Housing and upper flange	stainless steel									
Connection with lower flange	steel, black									
- position - thread	bottom G 1/2 male, HEX27 (D	DIN 16288)				other thread or flange on request				
Bezel	st. st., black, bayonet	ring								
Window	instrument glass					lamin. safety glass				
Dial	aluminum, white, scal	e and lettering black	acc. DIN 16 109			dual scale				
Pointer	aluminum, black	-								
Movement	Brass, moving parts a	rgentan								
Measuring unit	2.5 bar: stainless ste > 2.5 bar: stainless st									
Seal to										
 pressure compartment filled interior 	NBR NBR	FPM or PTFE								
Temperatures										
- medium - ambient		Tmin20°C, Tmax. +100°C Tmin20°C, Tmax. +60°C								
Temperature behaviour	0.5% / 10K on deviati	on from normal temp	erature +20°C							
Protection to EN60529/IEC259	IP 54 IP 65	IP 54 IP 65	IP 54 IP 65	IP 54	IP 65					
Wetted parts	see "Connection with	lower flange" and "Me	easuring unit"			special materials on request				

* Maximum possible number of contacts

Measuring range	Magnetic-spring contact	Inductive contact
25 mbar	2	2
40 - 160 mbar	3	3
from 250 mbar	4	3



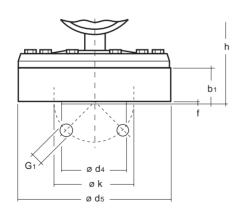


Dia.										Weight (kg)	Weight (kg) approx.			
	range	ød	а	B±1 mit		D1	D ₂	G	h±2	HEX	unfilled with		filled with	
	(bar)			1+2 cont.	3 cont.	1					1+2 cont.	3 cont.	1+2 cont.	3 cont.
100	0.25	160	15.5	88	96	101	99	G1/2	135	27	3.75	3.78	4.20	4.23
160						161	159	male	165		4.65	4.70	5.85	6.00
100	> 0.25	100	15.5	88	96	101	99	G1/2	135	27	2.25	2.27	2.70	2.76
160						161	159	male	165		3.10	3.15	4.30	4.45

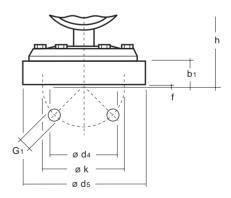
Connection to DIN 16 288

Options with connecting flange DIN DN25, PN10 to PN40

Indication range 0...25 to 0...250 bar



Indication range 0...0.4 to 0...40 bar



Dia.	DIN DN25									
	PN10 to 401)	d₅	k	d4	b1	f	G1	h±2		
100	0.25 bar	160	85	68	36	2	4 x M12	122	3.0	
160	1							152	3.0	
100	> 0.25 bar	115	85	68	25	2	4 x M12	111	0.9	
160								141	0.9	

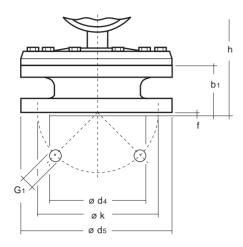
Other dimensions as for standard model

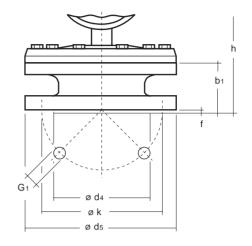
1) Can be mounted on counterflange to DIN, sealing strip form D to DIN 2526

2) The weights stated are additional weights which should be added to the weight of the standard model (with connection G 1/2 male to DIN 16288).

Options with connecting flange DIN DN50, PN10 to PN40 Indication range 0...25 to 0...250 mbar

Indication range 0...0.4 to 0...40 bar





Dia.	Connection flange DIN DN 50	Dimensions (mm)						Weight ²⁾ (kg) approx.
	PN10 to 401)	d₅	k	d4	b1	f	G1	h±2	
100	0.25 bar	165	125	102	54	3	4 x ø18	140	2.6
160								170	2.6
100	> 0.25 bar	165	125	102	30	3	4 x ø18	106	2.5
160								136	2.5

Other dimensions as for standard model

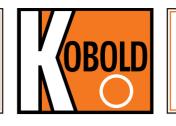
1) Can be mounted on counterflange to DIN, sealing strip form D to DIN 2526

2) The weights stated are additional weights which should be added to the weight of the standard model

(with connection G 1/2 male to DIN 16288).

Diaphragm pressure gauge in aluminium or stainless steel housing with contacts

Nominal dia. 100, 160 with magnetic-spring or inductive contacts Accuracy class 1.6



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- Measuring element stainless steel
- Process connection of stainless steel
- Highly corrosion resistant coating for wetted parts
- Overrange protection

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Description

The design principle and material selection of the diaphragm pressure gauge allows them to meet the stringent demands occuring in service and industrial processing plants. All wetted parts can be coated with special materials to protect them against aggressive media.

As a result of the high actuating forces, diaphragm pressure gauges are particularly suitable for connection of contacts. The series of diaphragm pressure gauges can be equipped with magnetic spring or inductive contacts. Inductive contacts are available for hazardous areas, assuming compliance with existing specifications.

The selection of the contact versions depends on the process condition and the applicable safety requirements.

Magnetic snap-action contacts are used in adverse operating conditions. The high contact pressure and the selection of various contact materials result in reliable and cost-effect solutions, above all when high currents have to be switched.

Signal output does however take place slightly in advance of or lagging slightly behind the motion of the actual pointer value.

Inductive contacts have an almost unlimited service, as the signal is switched without physical contact. Closing or opening takes place without any feedback effect on the measuring system, eliminating any signal lead or lag. A corresponding control unit is always required for operation. Units with inductive contacts may be operated in areas with potentially explosive atmospheres, assuming compliance with existing specifications.

Ranges

-1...0 bar to 0...25 bar

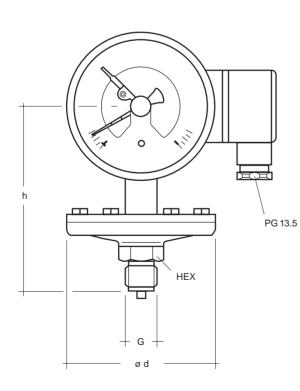
Applications

Plastic and paper industries, machine construction, level monitoring, water treatment

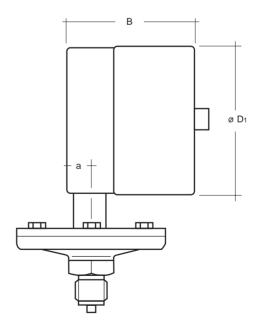
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Model MAN	PF2(7)*6W(M), (I)	PG3(6)*6W (M), (I)	PF2(7)*6H(M), (I)	PG2(7)*6H(M), (I)	Options				
Nominal size	100 mm	160 mm	100 mm	160 mm					
Symbol	H		H	U U U U U U U U U U U U U U U U U U U					
Contact type	magnetic-spring or ind	uctive contact (M), (I)		1					
No. of contacts	1-4 depending on mea	suring range and hous	ng diameter						
Filling					paraffin oil				
Position of cable socket	on side	n side							
Cable connection	PG 13.5	G 13.5							
Accuracy class	1.6								
Indicating range	-10 bar to 025 bar	-10 bar to 025 bar							
Max. pressure	static load: to max. rat alternating load: 0.9 tir								
Housing	1.4301	aluminum	1.4301	1.4301					
Bezel	1.4301	steel black	1.4301	1.4301					
Window	glass		safety glass						
Dial	aluminum, white		·						
Pointer	aluminum, black								
Movement	brass		stainless steel						
Measuring element	Duatherm 600		stainless steel						
Connection	upper and lower flange	9 1.4571			hole ø 10 mm				
- position - thread	bottom G 1/2 male								
Temperatures									
- medium - ambient	max. 80 °C max. 60 °C								
Protection DIN 40050	IP 54				IP 65				

Dimensions



(W) movement brass; (H) movement stainless steel (6), (7) filled version



Dia.	Measuring	Dimens	ions (m	m)					Weight (kg) approx	
	range	ød	а	B±1 mit	D1	G	h±2	HEX	unfilled with	filled with
	(bar)			1+2 cont.					1+2 contacts	1+2 contacts
100	> 0.6	100	15.5	96	100	G1/2 male	150	(27) 22	2.25	2.70
160					160		185		3.10	4.30

Connection to DIN 16 288

All stainless steel diaphragm pressure gauges with alarm contacts, with or without filling

Nominal dia. 100, 160 with magnetic spring or inductive contacts Accuracy class 1.6



Features

- Magnetic spring or inductive contacts
- Suitable for programmable logic controller (PLC)
- Up to four alarm contacts possible
- Use in hazardous locations with inductive contacts
- Precise display from liquid damping
- Overrange protection 10 times max. rating
- Movement stainless steel 1.4571
- Protection IP 54 or IP 65

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Description

The design principle and material selection of these diaphragm gauges allows them to meet the stringent demands occuring above all in chemicals and petrochemicals industries. Special corrosion resistant materials protect the wetted parts in service from chemically aggressive media.

Open process connections ensure that the gauges are easy to clean with highly viscous or crystallizing process media, thus guaranteeing process reliability. The principle of the diaphragm system makes the gauge almost completely insensitive to jarring or vibration. As a result of the high actuating forces, diaphragm pressure gauges are particularly suitable for connection of contacts. Electric alarm contacts open and close circuits in response to the position of the pressure gauge pointer.

Magnetic snap-action contacts are used in adverse operating conditions. The high contact pressure and the selection of various contact materials result in reliable and cost-effect solutions, above all when high currents have to be switched.

Signal output does however take place slightly in advance of or lagging slightly behind the motion of the actual value pointer.

If the permissible switching capacity of the magnetic snap-action contacts is no longer sufficient, the use of a contact protection relay is to be recommended. Inductive contacts have an almost unlimited service, as the signal is switched without physical contact. Closing or opening takes place without any feedback effect on the measuring system, eliminating any signal lead or lag. A corresponding control unit is always required for operation.

Units with inductive contacts may be operated in areas with potentially explosive atmospheres, assuming compliance with existing specifications.

Ranges 0...25 mbar to 0...250 mbar

Applications

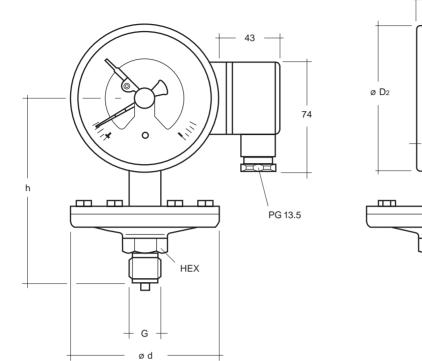
Chemicals and petrochemicals industries, food and beverages industries, mechanical engineering, plant and machinery construction

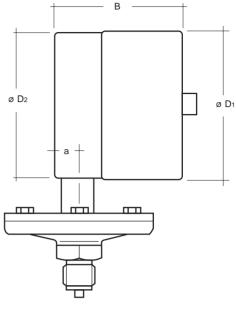
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Model MAN	PF26M PF76M	PF261 PF761	PG26M PG76M	PG 26 I	PG761	Options			
Nominal size	100 mm		160 mm	1					
Symbol									
Contact type	magnetic-spring	inductive	magnetic-spring	inductive					
No. of contacts*	1-3 depending on measuring range1-3 depending on measuring range1-4 depending on measuring range1-3 depending on measuring range								
Filling	g diester oil diester oil diester oil diester oil								
Position of cable socket	right side	back							
Cable connection	PG 13.5								
Accuracy class	1.6 to DIN 16005	asurement range 025	to 0100 mbar						
Indicating range		mbar: flange ø 160 mm r negative/positive over							
Max. pressure	static load: to max. ra alternating load: 0.9 ti								
Overrange protection	5 times max. rating	overload: 10 x max. rating; max. 40 bar vacuum safe to -1 bar							
Housing and upper flange	stainless steel, bare,								
Connection with lower flange	stainless steel 1.4571	, bare							
- position	bottom								
- thread	G 1/2 male, HEX 27 (D	other thread or flange on request							
Bezel	stainless steel, bare, l	payonet ring							
Window	laminated safety glass	3				plexi glass			
Dial	aluminum, white, scal	e and lettering black ac	c. DIN 16 109			dual scale			
Pointer	aluminum, black								
Movement	stainless steel								
Measuring unit	2.5 bar: stainless ste > 2.5 bar: stainless st								
Seal to									
 pressure compartment filled interior 	FPM NBR	PTFE st. steel bellows							
Temperatures									
- medium - ambient	Tmin20°C, Tmax. + Tmin20°C, Tmax. +								
Temperature behaviour	0.5% / 10K on deviati	on from normal tempera	ature +20°C						
Protection to EN60529/IEC529	IP 54 IP 65	IP 54 IP 65	IP 54 IP 65	IP 54	IP 65				
Wetted parts	see "Connection with	lower flange" and "Mea	suring unit"		1	special materials on request			
Throttle						ø 0.4; ø 0.8			
	L					, ~			

* Maximum possible number of contacts

Measuring range	Magnetic-spring contact	Inductive contact
25 mbar	2	2
40 - 160 mbar	3	3
from 250 mbar	4	3



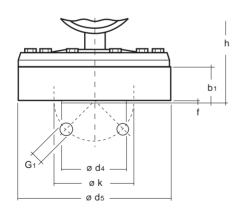


Dia.	Indication											Weight (kg) approx.			
	range	ød a B±1 mit			D1 D2 G		G	h±2 HEX		unfilled with		filled with			
	(bar)			1+2 cont.	3 cont.	1					1+2 cont.	3 cont.	1+2 cont.	3 cont.	
100	0.25	160	15.5	88	96	101	99	G1/2	135	27	2.9	3.0	3.4	3.5	
160				101	101	161	159	male	165		3.5	3.6	5.1	5.2	

Connection to DIN 16 288

Options with connecting flange DIN DN25, PN10 to PN40

Indication range 0...25 to 0...250 mbar



Dia.	Connection flange DIN DN25 PN10 to 40 ¹⁾	Dimensions (mm)							
		d₅	k	d4	b1	f	G1	h±2	
100	0.25 bar	160	85	68	36	2	4 x M12	122	3.0
160								152	3.0

Other dimensions as for standard model

1) Can be mounted on counterflange to DIN, sealing strip form D to DIN 2526

2) The weights stated are additional weights which should be added to the weight of the standard model (with connection G 1/2 male to DIN 16288).

Options with connecting flange DIN DN50, PN10 to PN40 Indication range 0...25 to 0...250 mbar

Dia.	DIN DN 50	Dimensions (mm)								
	PN10 to 401)	d₅	k	d4	b1	f	G1	h±2		
100	0.25 bar	165	125	102	54	3	4 x ø18	140	3.0	
160								170	3.0	

Other dimensions as for standard model

1) Can be mounted on counterflange to DIN, sealing strip form D to DIN 2526

2) The weights stated are additional weights which should be added to the weight of the standard model

(with connection G 1/2 male to DIN 16288).