

## Bourdon tube pressure gauges with or without glycerine filling in stainless steel housing

Nominal dia. 63  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- Housing made of stainless steel AISI 304
- Accuracy class 1.6
- Movement brass
- Protection IP 65

### Description

The system components are enclosed in a high-quality stainless steel housing.

The version with glycerine filling ensures easy readability giving steady pointer movement when subjected to vibration.

The lubricating effect of the glycerine keeps wear to a minimum.

The back connection enables the gauge to be panel mounted.

### Ranges

0...1 bar to 0...600 bar

### Applications

General machine construction; compressors; pumps; engineering

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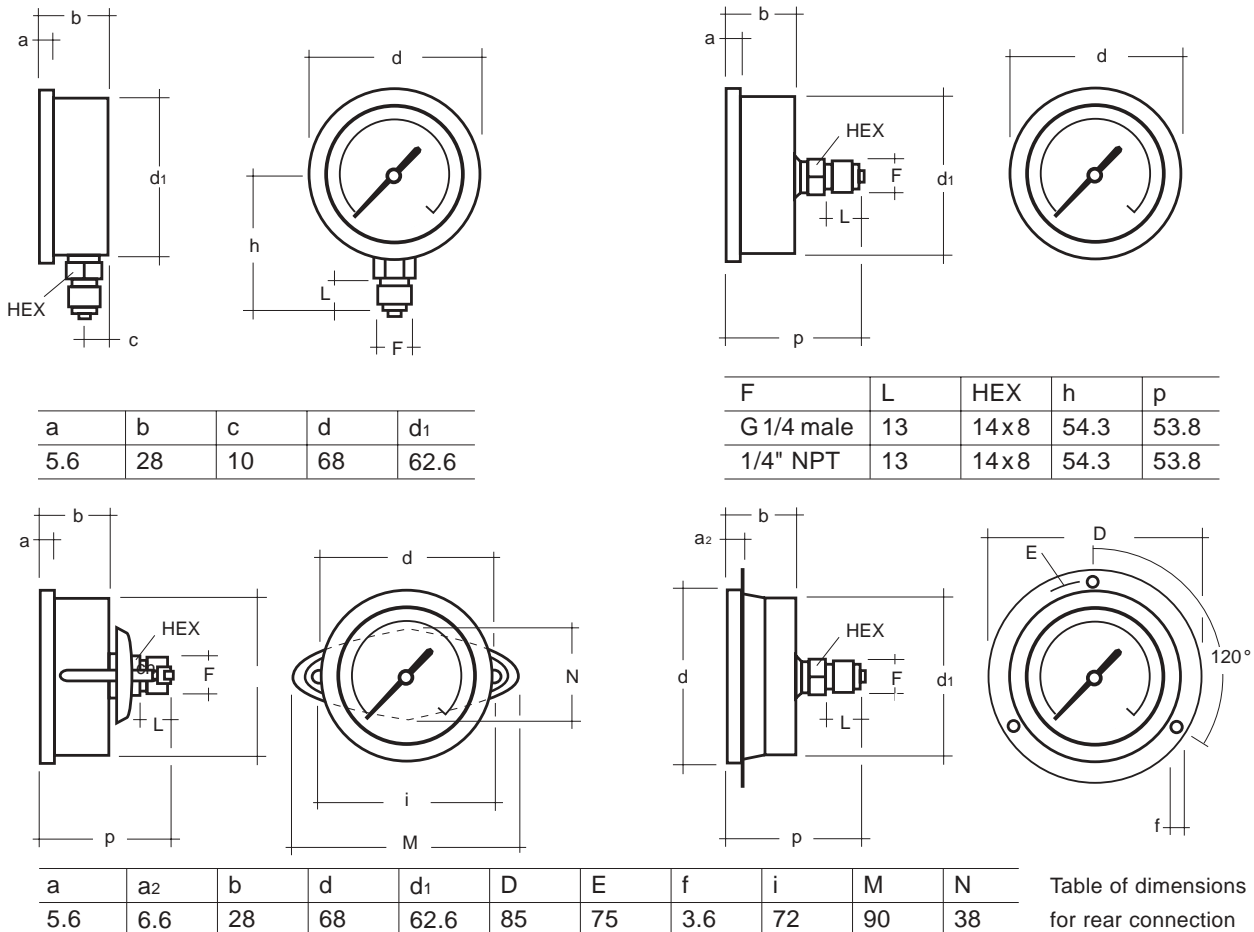
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## Technical Data

Model	MAN	RD2 (7)* 1...	RD2 (7)* 3...	RD2 (7)* 3...B	RD2 (7)* 3...V	Options
Nominal size	63 mm					
Symbol						
Accuracy class	1.6					
Indicating range	0...1 bar to 0...600 bar positive or negative and positive/negative overpressure					
Max. pressure	static load: 3/4 of max. rating alternating load: 2/3 of max. rating					
Overrange protection	short-term 1.15...1.3 times max. rating					
Housing	Stainless steel AISI 304					
Bezel	flanged ring AISI 304, polished			Front ring AISI 304, polished		
Installation				with clamp	with front flange	
Dial	ABS, white background, black lettering					dual scale on request
Pointer	Aluminum, black					
Movement	Brass					
Measuring element	Measuring range 40 bar (or equivalent): C-form, phosphor bronze Measuring range 60 bar and 400 bar (or equivalent): spiral form, phosphor bronze Measuring range = 600 bar (or equivalent): spiral form, stainless steel AISI 316L					
Socket	Brass - position - thread bottom G 1/4 male		rear centre G 1/4 male			
Filling						glycerine*
Protection	IP 65					
Temperatures	- medium - ambient max. 60°C with filling max. 60°C					

## Dimensional drawings

\*(7) version with glycerine filling



## Pressure gauges with Bourdon tube and glycerine filling

Nominal dia. 63  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- Housing made of ABS
- Accuracy class 1.6
- Movement brass
- Vibration-free indication
- Protection IP 65

### Description

With the pressure gauge with glycerine filling, the system components are enclosed in a high-quality plastic housing.

The ABS plastic housing (acrylonitrile-butadiene-styrolene) has an excellent resistance both to corrosion and impact.

This material is an alternative to pressure gauges with metal or hot-pressed brass housings.

The glycerine filling ensures easy readability giving steady pointer movement when subjected to vibration. The lubricating effect of the glycerine keeps wear to a minimum.

The housing and the plexi glass front are welded ultrasonically.

With these characteristics, pressure gauges with glycerine filling and ABS housings are virtually universal in their application.

The central connecting bolt and installation collar at the rear allow installation of the gauge in a panel.

### Ranges

0...1.0 bar to 0...1000 bar

### Applications

General engineering;  
hydraulic systems; compressors;  
pumps; equipment construction

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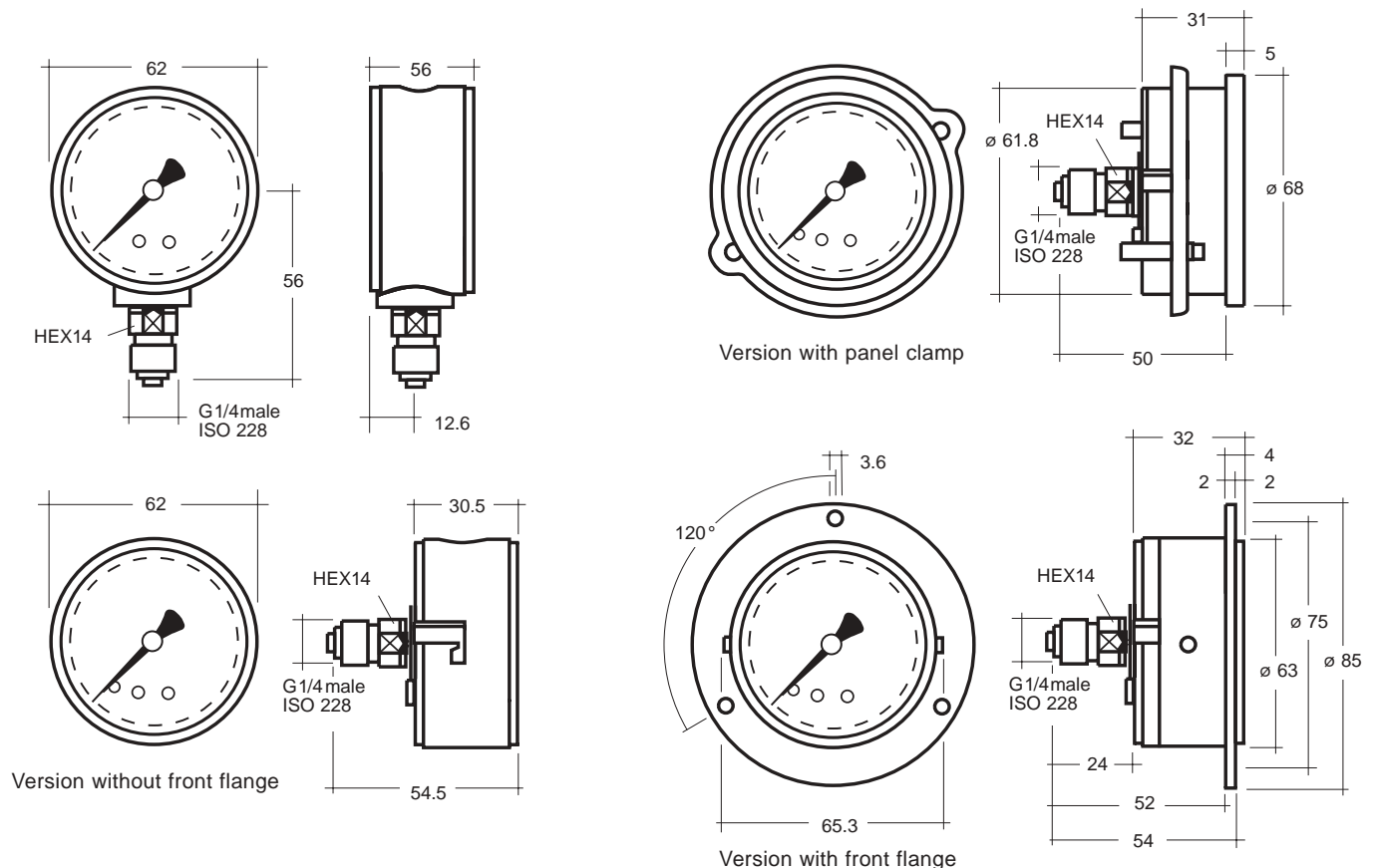
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## Technical Data

Model	MAN	RD41	RD43...(B)	RD43...(V)	Options
Nominal size	63 mm				
Symbol					
Accuracy class	1.6 to DIN 16005				
Indicating range	0...1 bar to 0...1000 bar to DIN 16128 positive or negative and positive/negative overpressure				
Max. pressure	static load: 3/4 of max. rating alternating load: 2/3 of max. rating short term: full scale value				
Housing	plastic, black with pressure-relief opening				
Bezel	without				stainless steel, steel
Installation	without				front flange or front ring with clamp
Window	plexi glass				
Dial	plastic white, scale and lettering black acc. DIN 16109				dual scale
Pointer	Aluminum, black acc. DIN 16 099				
Movement	Brass				
Measuring element	up to 250 bar: Cu alloy; over 400 bar: stainless steel				
Socket	Brass				
- position	bottom		centre back		
- thread	G 1/4 male				other threads on request
Filling	Glycerine				
Temperatures	- medium - ambient				
	Tmin. -20°C, Tmax. +60°C Tmin. -25°C, Tmax. +60°C				
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20°C				
Protection	IP 65 acc. EN 60 529 / IEC 529				
Throttle					ø 0.3, ø 0.4, ø 0.8

## Dimensional drawings

1) can be fitted with panel clamp  
2) can be fitted with front flange



## Pressure gauges with Bourdon tube

Nominal dia. 80  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- Economical and reliable by use of modular system
- Housing made of stainless steel 1.4301
- Accuracy class 1.0
- Movement brass
- For use up to max. rating
- Overrange protection 1.3 times max. rating
- Protection IP54

### Description

Pressure gauges in our heavy-duty program are manufactured by using a modular system, to generate a positive effect on quality, durability and price.

These instruments can be used in all applications where accuracy, repeatability and long-term stability are of importance.

They are suitable for gases or liquids which do not crystallize, are not highly viscous and do not corrode brass.

The extensive range of options allows the user to adapt the instruments to his own special requirements.

All the heavy-duty pressure gauges comply with general international guidelines and take account of standard as well as application-specific requirements.

The central connection at the rear and fixing clamp allows installation of the gauge in a panel.

### Ranges

0...0.6 bar to 0...1000 bar

### Applications


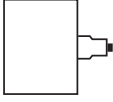
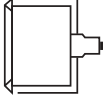
Machine and apparatus construction; vehicle construction; energy supply; test and trial equipment

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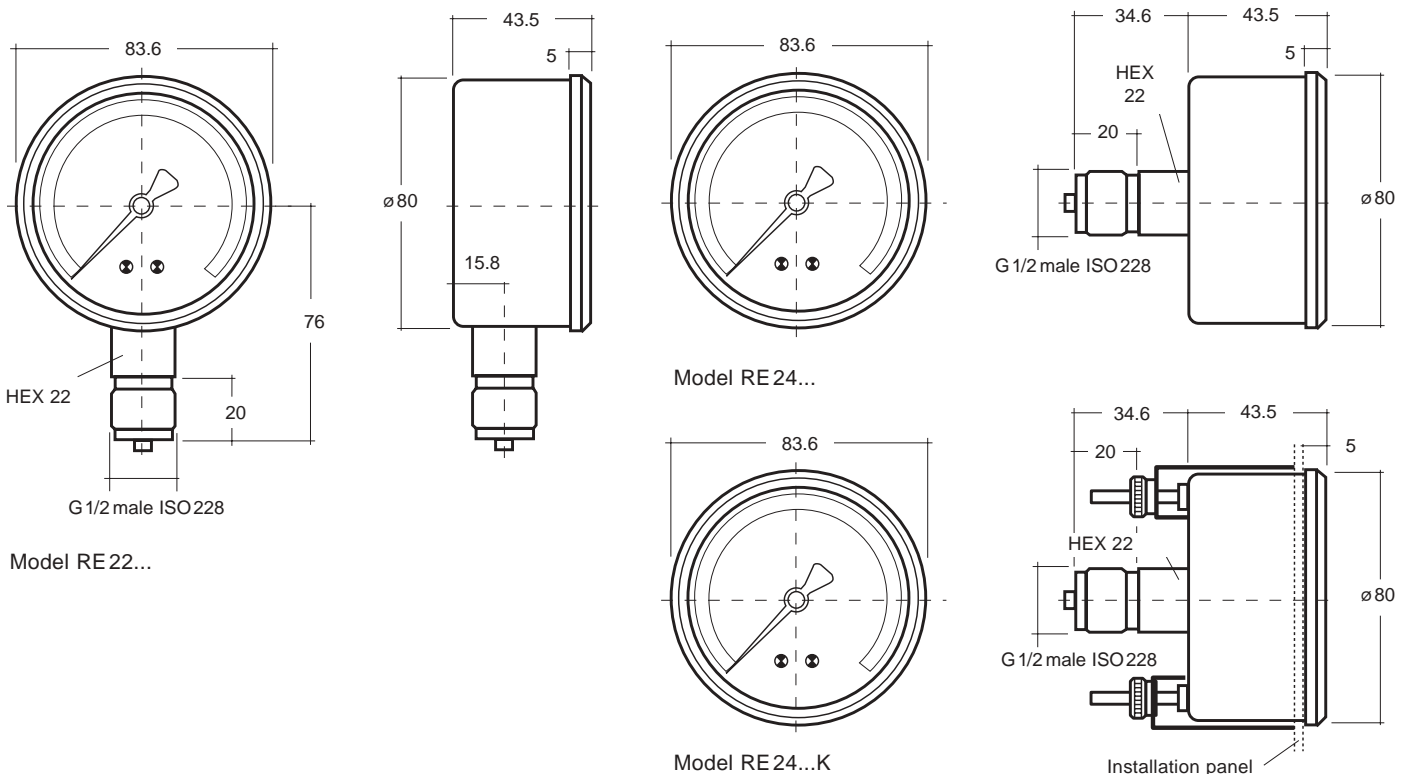
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## Technical Data

Model	MAN	RE 22...	RE 24...	RE 24...K	Options	
Nominal size			80			
Symbol to DIN 16064						
Accuracy class	1.0 to DIN 16005					
Indicating range	0...0.6 bar to 0...1000 bar to DIN 16128 negative or positive and negative/positive overpressure					
Max. pressure	static load: to max. rating alternating load: to 0.9 times max. rating short-term: overload 1.3 times max. rating				1.5 - 2 times	
Housing	stainless steel 1.4301				stainless steel polished or black painted	
Bezel	triangular front ring, stainless steel 1.4301 polished					
Installation				fixing clamp	front flange	
Window	Trogamide				instrument glass	
Dial	Al. white, scale and lettering black acc. DIN 16109				dual scale	
Pointer	aluminum, black acc. DIN 16 099				trailing pointer	
Movement	Brass				plastic bearing and toothing; Manocont	
Measuring element	up to 40 bar: brass; over 40 bar: stainless steel					
Connection	Brass					
- position	bottom		rear centre			other threads on request
- thread	G 1/2 male		G 1/2 male			
Protection	IP 54 acc. DIN 40 050				IP 65	
Temperatures						
- medium	Tmin. -20 °C, Tmax. +80 °C					
- ambient	Tmin. -25 °C, Tmax. +60 °C					
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20 °C					
Throttle					ø 0.3, ø 0.4, ø 0.8	
Weight approx.	0.390 kg		0.380 kg	0.410 kg		

## Dimensional drawings



## Bourdon tube pressure gauges with or without glycerine filling

Nominal dia. 100  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- High reliability and durability
- Accuracy class 1.0
- Housing made of stainless steel
- Movement brass
- Vibration-free indication

### Description

These pressure gauges can be used for all applications where accuracy, repeatability and long-term stability are of special importance. They can be used for liquid or gaseous substances which do not crystallize, are not highly viscous and do not corrode brass.

The extensive range of options allows the user to adapt the instruments to his own special requirements.

Pressure gauges with glycerine filling are used in locations with high alternating dynamic loads, strong vibrations and pulses.

The glycerine filling ensures easy readability giving steady pointer movement even when subjected to extreme loading and heavy vibration. The lubricating effect of the glycerine also keeps wear to a minimum.

### Ranges

-1 ... 0 bar to 0 ... 1000 bar

### Applications

Machine and plant construction; mechanical conveying and handling; energy supply; test and inspection

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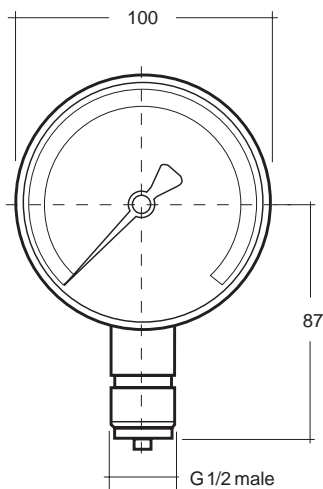
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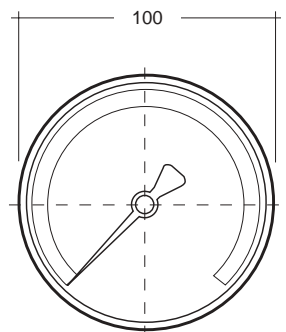
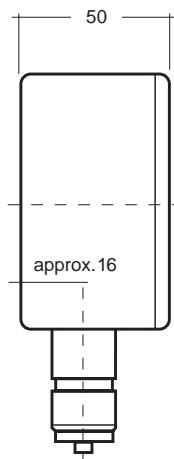
Model	MAN	RF2 (7)* 2...	RF2 (7)* 4...	RF2 (7)* 4...V	Options
Nominal size		100 mm			
Symbol					
Accuracy class		1.0			
Ranges		-1...0 bar to 0...1000 bar			
Max. pressure		static load up max. rating alternating load: to 0.9 times max. rating			
Overrange protection		short term: 1.15...1.3 times max. rating			
Housing		st. st. 1.4301			
Bezel		st. st. 1.4301		st. st. 1.4301	
Installation		front flange			
Window		glass			
Dial		aluminum, white			
Pointer		aluminum, black			
Movement		Brass			
Measuring element		up to 60 bar: Cu alloy; over 100 bar: stainless steel			
Connection		Brass			
- position		bottom	rear eccentric	rear eccentric	
- thread		G 1/2 male	G 1/2 male	G 1/2 male	
Filling					glycerine
Protection		IP 54 / IP 65 with glycerine filling			
Temperatures					
- medium		Tmax. + 80°C			
- ambient		Tmax. + 60°C			

## Dimensional drawings

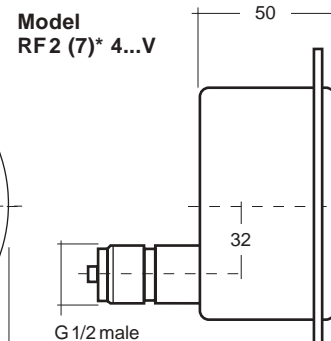
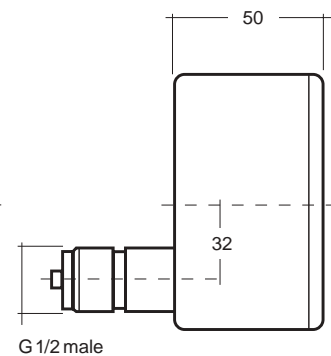
\*(7) Version with glycerine filling  
Filled instruments with rear connection in aluminium housing (6)



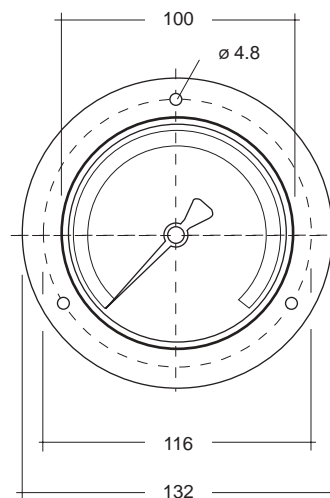
Model RF2 (7)\* 2...



Model RF2 (7)\* 4...



Model RF2 (7)\* 4...V





## Bourdon tube pressure gauges with glycerine filling

Nominal dia. 100  
Eccentric back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- High reliability and durability
- Protection IP 65
- Accuracy class 1.0
- Housing made of aluminum
- Movement brass
- Vibration-free indication

### Description

Pressure gauges with glycerine filling are used in locations with high alternating dynamic loads, extreme vibrations and pulsation.

The glycerine filling ensures easy readability through steady pointer movement even when subjected to extreme loading and heavy vibration.

The lubricating effect of the glycerine also keeps wear to a minimum.

### Ranges

-1 ... 0 bar to 0 ... 1000 bar

### Applications

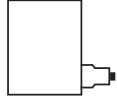
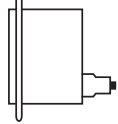
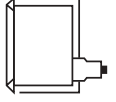
Hydraulic systems, compressors, machine construction, power stations, iron and steel industries, sewage treatment plants, pumps

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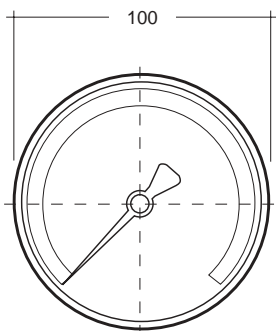
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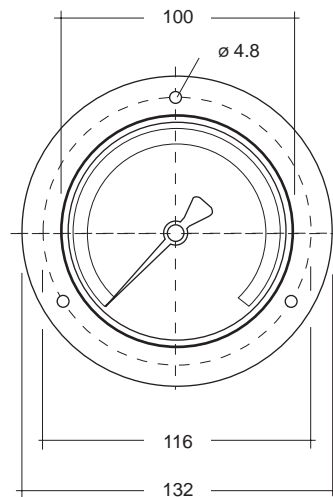
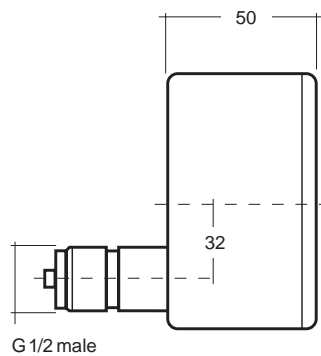
## Technical Data

Model	MAN	RF64...	RF64...V	RF64...K	Options
Nominal size		100 mm			
Symbol					
Accuracy class		1.0			
Ranges		-1...0 bar to 0...1000 bar			
Max. pressure		static load up to max. rating alternating load: to 0.9 times max. rating			
Overrange protection		short-term: 1.15...1.3 times max. rating			
Housing		aluminum			st. st. 1.4301
Bezel		black	black	chrome plated	st. st. 1.4301
Installation			front flange	triangular front ring	
Window		plexi glass			
Dial		aluminum, white			
Pointer		aluminum, black			
Movement		Brass			
Measuring element		up to 60 bar: brass; over 100 bar: stainless steel			
Connection		Brass			
- position		rear eccentric			
- thread		G 1/2 male			
Filling		glycerine			
Protection		IP 65			
Temperatures					
- medium		max. 80 °C			
- ambient		max. 60 °C			

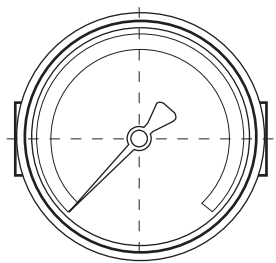
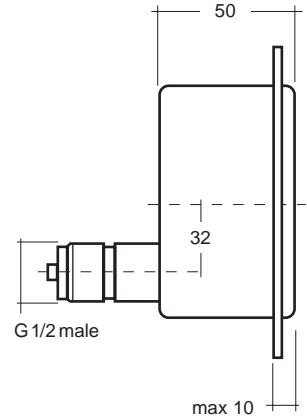
## Dimensional drawings



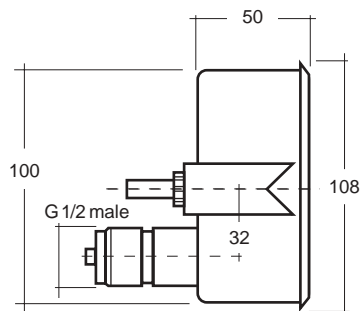
Model RF64...



Model RF64...V



Model RF64...K



## Bourdon tube pressure gauges with or without glycerine filling

Nominal dia. 160  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- High reliability and durability
- Accuracy class 1.0
- Housing made of aluminum
- Movement brass
- Vibration-free indication

### Description

These pressure gauges can be used for all applications where accuracy, repeatability and long-term stability are of special importance. They can be used for liquid or gaseous substances which do not crystallize, are not highly viscous and do not corrode brass. The extensive range of options allows the user to adapt the instruments to his own special requirements.

Pressure gauges with glycerine filling are used in locations with high alternating dynamic loads, strong vibrations and pulses.

The glycerine filling ensures easy readability through steady pointer movement even when subjected to extreme loading and heavy vibration. The lubricating effect of the glycerine also keeps wear to a minimum.

### Ranges

-1 ... 0 bar to 0 ... 600 bar

### Applications


Machine and plant construction; mechanical conveying and handling; energy supply; test equipment

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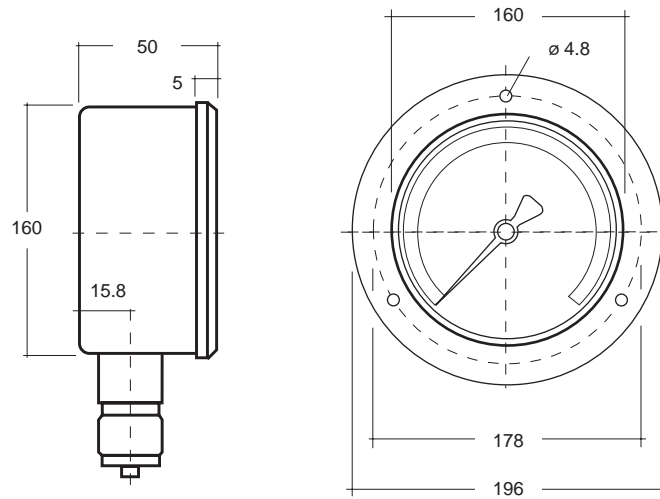
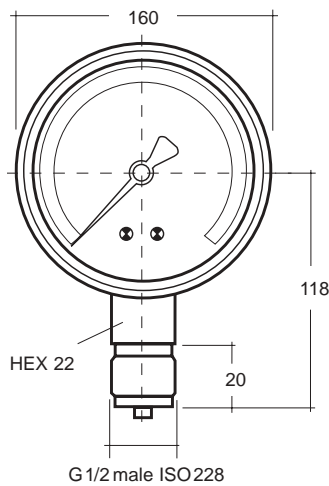
## Technical Data

Model	MAN	RG3 (6)* 2...	RG3 (6)* 4...	RG3 (6)* 4...V	RG3 (6)* 4...K	Options
Nominal size	160 mm					
Symbol						
Accuracy class	1.0					
Ranges	-1...0 bar to 0...1000 bar					2500 bar on request
Max. pressure	static load up to max. rating alternating load: to 0.9 times max. rating					
Overrange protection	short term: 1.15...1.3 times max. rating					
Housing	aluminum					SS 1.4301 on request
Bezel	black			chrome plated		SS 1.4301 on request
Installation				front flange	triangular front ring	
Window	plexi glass					
Dial	aluminum, white					
Pointer	aluminum, black					
Movement	Brass					
Measuring element	up to 60 bar: brass; over 100 bar: stainless steel					
Connection	Brass					
- position	bottom	rear eccentric	rear eccentric	rear eccentric	rear eccentric	
- thread	G 1/2 male	G 1/2 male	G 1/2 male	G 1/2 male	G 1/2 male	
Filling						glycerine*
Protection	IP 54 / IP 65 with glycerine filling					
Temperatures						
- medium	max. 80°C					
- ambient	max. 60°C					

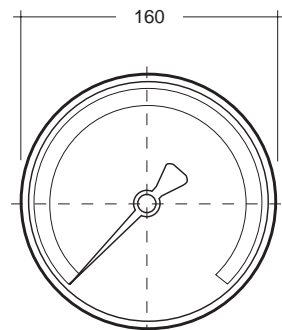
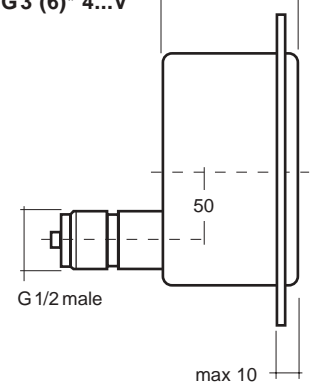
## Dimensional drawings

\*(6) Version with glycerine filling and venting valves

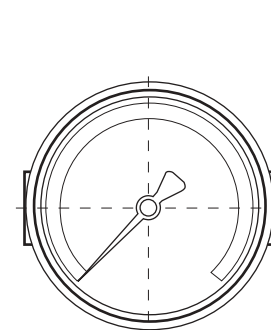
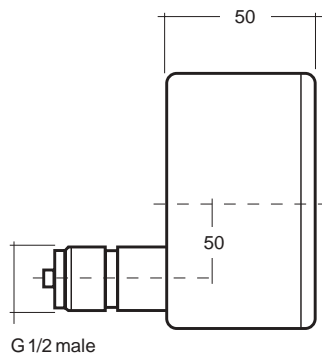
Model RG3 (6)\* 2...



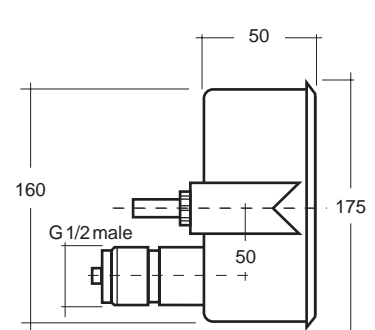
Model RG3 (6)\* 4...V



Model RG3 (6)\* 4...



Model RG3 (6)\* 4...K



## Contact pressure gauges with Bourdon tube with or without filling

Nominal dia. 100 with magnetic spring or inductive contacts  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- High reliability and durability
- Vibration-free indication by fluid damping
- Protection IP 54 / IP 65
- Accuracy class 1.0
- Housing made of stainless steel / aluminum
- Movement brass
- Up to three limit contacts possible

**Ranges** 0...1 bar to 0...1000 bar

**Applications** Process engineering, mechanical engineering and plant construction, water treatment, hydraulic and pneumatic systems

### Description

Contact pressure gauges with electrical alarm contacts are suitable for controlling or regulating process sequences with the aid of the process pressure. The contacts open or close electrical circuits in relation to the position of the pointer on the pressure gauge.

Contact pressure gauges with the Bourdon tube system are used at process pressures of approximately 1 bar and upwards. The media, gases or liquids, should not however corrode the brass materials used. Liquids should not be too viscous or tend to crystallize. The tested Bourdon tube system coupled with a modern modular principle provides a very reliable yet inexpensive contact pressure gauge.

Gauges with filling are damped should pressure pulses or mechanical vibrations occur. This prolongs the service life and the gauge display remains largely vibration free. The location of the pressure connection at the bottom or back allows different methods of installation.

Electric alarm contacts are used as magnetic snap-action contacts, especially in harsh industrial conditions. The high contact pressure and the choice of different electrical contact materials enable high currents to be switched reliably. If the electrical switching capacity of the alarm contacts is exceeded or not reached, a relay is to be used to provide an appropriate current rating.

Inductive alarm contacts operate without physical contact and thus have no unfavourable effects on the pressure measuring system while having an unlimited service life. A control unit is always needed to operate these contacts. Contact pressure gauges with inductive alarm contacts can be used in potentially explosive atmospheres, provided that the appropriate regulations are complied with.

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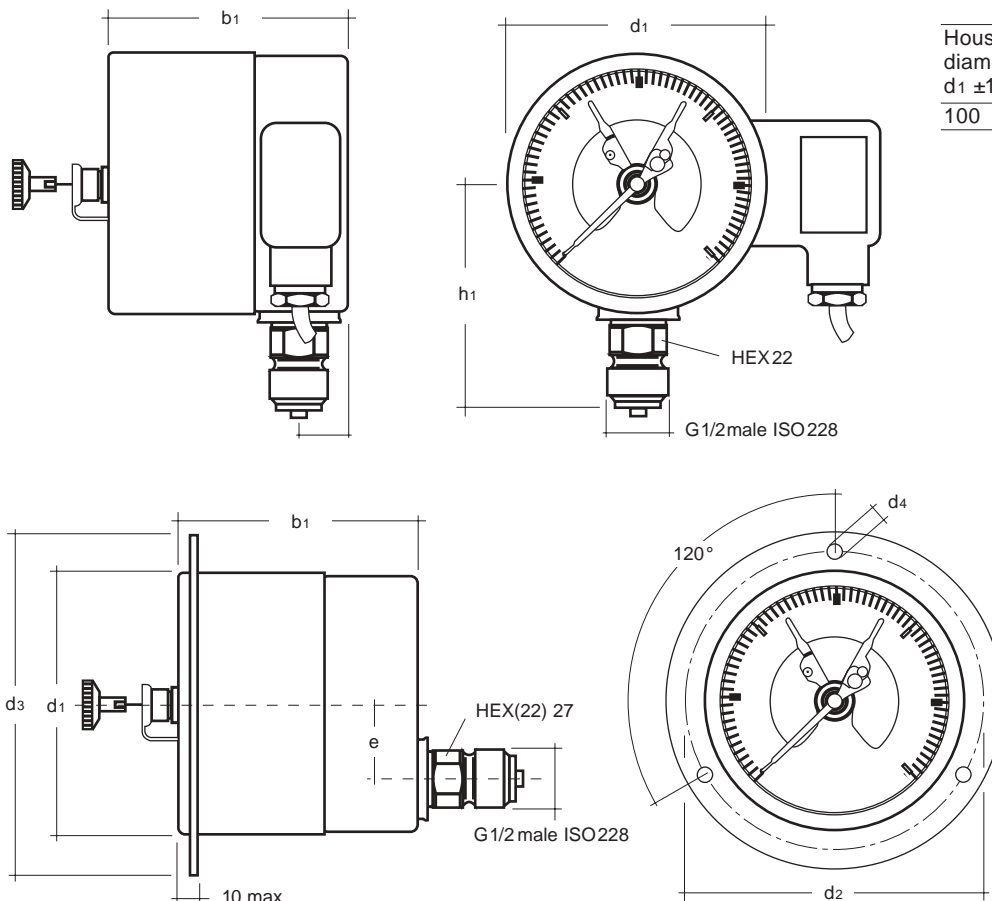
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## Technical Data

Model	MAN	RF22 (M), (I)...	RF34 (M), (I)...V	RF72 (M), (I)...	RF64 (M), (I)...V	Options
Nominal size	100 mm					
Symbol						
Contact type	magnetic spring (M) or inductive contact (I)					
No. of contacts	1-3 depending on measuring range					
Filling				paraffin oil		
Position of cable socket	side	rear		side	rear	
Cable connection	PG 13.5					
Accuracy class	1.6 bar, class 1.6, DIN 16005 > 1.6 bar, class 1, DIN 16005					
Indicating range	-1...0 bar to 0...1000 bar					2500 bar on request
Max. pressure	static load: to max. rating alternating load: 0.9 times max. rating					
Housing	1.4301	aluminum		1.4301	aluminum	
Bezel	1.4301	steel black		1.4301	steel black	
Installation		front flange			front flange	
Window	plexi glass					
Dial	aluminum, white					
Pointer	aluminum, black					
Movement	Brass					
Measuring element	< 60 bar, brass; 100 bar stainless steel					
Connection	Brass					
- position		bottom	rear eccentrical	bottom	rear eccentrical	
- thread		G 1/2 male	G 1/2 male	G 1/2 male	G 1/2 male	
Temperatures						
- medium	max. 80°C					
- ambient	max. 60°C					
Protection DIN 40050	IP 54			IP 65		

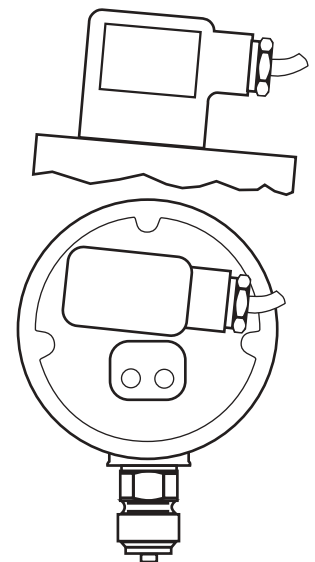
## Dimensional drawings

\* Available without front ring



Housing diameter $d_1 \pm 1$	$b_1$	$d_2$	$d_3$	$d_4$	$e$	$h_1 \pm 1$
100	90	116	132	4.8	32	87

$b_1 =$  up to two contacts



Cable socket at rear

## Contact pressure gauges with Bourdon tube with or without filling

Nominal dia. 160 with magnetic spring or inductive contacts  
Bottom or back connection



measuring  
•  
monitoring  
•  
analysing



### Features

- High reliability and durability
- Vibration-free indication by fluid damping
- Protection IP54 / IP65
- Accuracy class 1.0
- Housing made of stainless steel
- Movement brass
- Up to four alarm contacts possible

**Ranges** 0...1 bar to 0...1000 bar

**Applications** Process engineering, mechanical engineering and plant construction, water treatment, hydraulic and pneumatic systems

### Description

Contact pressure gauges with electrical alarm contacts are suitable for controlling or regulating process sequences with the aid of the process pressure. The contacts open or close electrical circuits in relation to the position of the pointer on the pressure gauge.

Contact pressure gauges with the Bourdon tube system are used at process pressures of approximately 1 bar and upwards. The media, gases or liquids, should not however corrode the copper-alloy materials used. Liquids should not be too viscous or tend to crystallize.

The inexpensive and tested Bourdon tube system coupled with a modern modular principle provides a very reliable yet inexpensive contact pressure gauge.

Gauges with filling are damped if pressure pulses or mechanical vibrations occur. This prolongs the service life and the gauge display remains largely vibration free. The location of the pressure connection at the bottom or back allows different methods of installation.

Electric alarm contacts are used as magnetic snap-action contacts, especially in harsh industrial conditions. The high contact pressure and the choice of different electrical contact materials enable high currents to be switched reliably. If the electrical switching capacity of the alarm contacts is exceeded or not reached, a relay is to be used to provide an appropriate current rating.


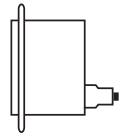

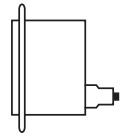
Inductive alarm contacts operate without physical contact and thus have no unfavourable effects on the pressure measuring system while having an unlimited service life. A control unit is always needed to operate these contacts. Contact pressure gauges with inductive alarm contacts can be used in potentially explosive atmospheres, provided that the appropriate regulations are complied with.

KOBOLD offices exist in the following countries:

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## Technical Data

Model	MAN	RG 32 (M), (I)...	RG 34 (M), (I)...V	RG 62 (M), (I)...	RG 64 (M), (I)...V	Options
Nominal size	160 mm					
Symbol						
Contact type	magnetic spring (M) or inductive contact (I)					
No. of contacts	1-4 depending on measuring range					
Filling				paraffin oil		
Position of cable socket	side	rear		side	rear	
Cable connection	PG 13.5					
Accuracy class	1.6 bar, class 1.6, DIN 16005 > 1.6 bar, class 1, DIN 16005					
Indicating range	-1...0 bar to 0...1000 bar					2500 bar on request
Max. pressure	static load: to max. rating alternating load: 0.9 times max. rating					
Housing	stainless steel			stainless steel		
Bezel	stainless steel			stainless steel		
Installation		front flange			front flange	Sleeve ring, triangular front ring
Window	plexi glass					
Dial	aluminum, white					
Pointer	aluminum, black					
Movement	Brass					
Measuring element	< 60 bar, brass; 100 bar stainless steel					
Connection	Brass					
- position						
- thread	bottom G 1/2 male	rear eccentric G 1/2 male		bottom G 1/2 male	rear eccentric G 1/2 male	
Temperatures						
- medium	max. 80°C					
- ambient	max. 60°C					
Protection DIN40050	IP 54			IP 65		

## Dimensional drawings

\* Available without front ring

