

Precision test pressure gauge acc. EN 837-1 with bourdon tube

Nominal dia. 160

Bottom or back connection

Accuracy class 0.6 to DIN EN 837, part 1



measuring
•
monitoring
•
analysing



Features

- High reliability and durability by use of modular system
- Accuracy class 0.6
- Overrange capability up to 1.3 times
- Window of instrument glass

Description

These test pressure gauges are manufactured to the very highest standards and are used to test pressures of tanks, pipes fittings and in laboratories.

The precision test pressure gauges have a high-grade measuring element. The pressure proportional elastic deformation of the Bourdon tube is transmitted through a low friction movement to the knife edge pointer. The gauges can be used with non aggressive gaseous or liquid, but not with highly viscous or crystallizing media.

The measuring accuracy can be certified by the manufacturer in accordance with DIN 55 350 part 18 at additional cost.

Ranges

0 ... 0.6 bar to 0 ... 1600 bar

Applications

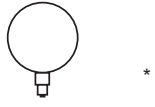
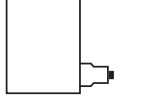
Precision monitoring in processing plants, control and adjustment of pressure gauges, test equipment etc.

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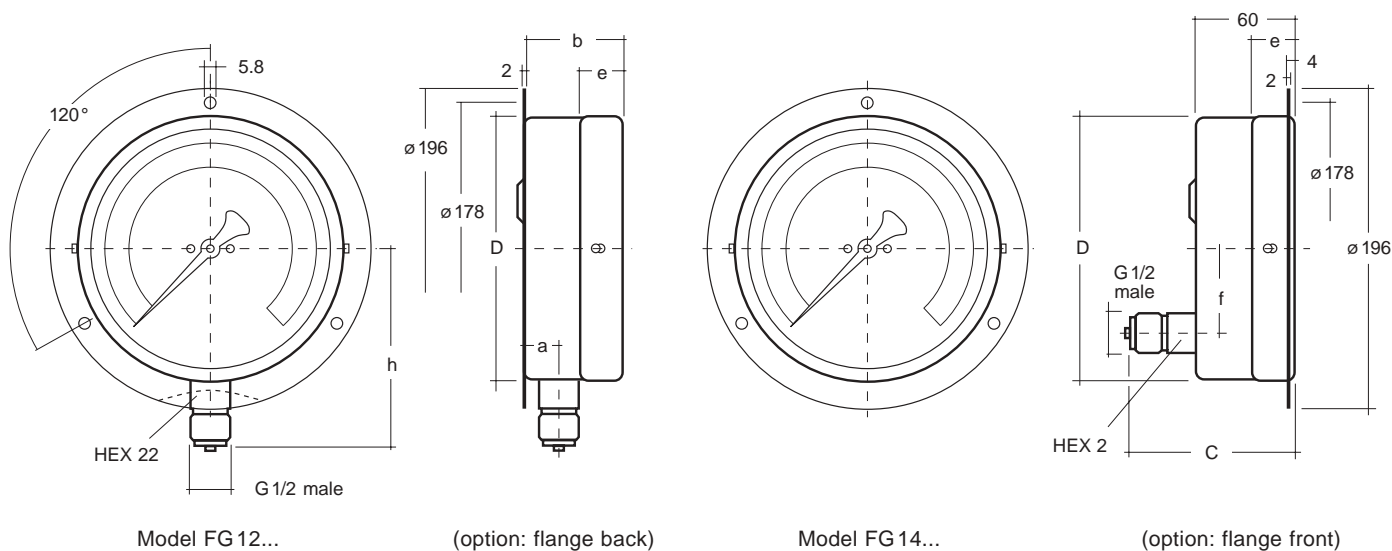
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Technical data

Model	MAN	FG 12...	FG 14...	Options
Nominal size		160 mm		
Symbol				
Accuracy class		0.6 to DIN EN 837, part 1		test certificate
Indicating range		0...0.6 bar to 0...1600 bar to DIN 16 128 negative or positive or negative/positive gauge pressure		
Max. pressure		static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value		
Housing		steel, black, pressure relief at back		back flange
Ring		steel, black		front flange
Window		Instrument glass		laminated safety glass
Dial		aluminum, white, scale and printing black		mirror scale, zero adjustment
Pointer		knife edge pointer aluminum, black acc. DIN 16 102		max. pointer, micrometer pointer
Movement		Brass		
Measuring element		Brass, 40 bar C-Bourdon tube stainless steel 1.4571 > 60 bar helical tube		
Connection		1000 bar Brass; > 1000 bar stainless steel 1.4571		
- position		bottom	eccentric back	
- thread		2 x G 1/2 male (DIN 16288) HEX22		other threads on request
Temperatures				
- medium		Tmin. -20°C, Tmax. +80°C		
- ambient		Tmin. -20°C, Tmax. +60°C		
Temperature behaviour		0.3% / 10K on deviation from normal temperature +20°C		
Protection		IP 54 acc. EN 60529 / EC529		IP 65
Calibration medium		25 bar; gas > 25 bar: oil		2.5 bar: oil
Throttle				ø0.3; ø0.4; ø0.8
Weight (approx)		1.1 kg	1.2 kg	

Dimensional drawings

* Special version with aluminum housing
(Model FG 32, FG 34)



Model	Dimensions (mm)								
	a	b	C	ø D	e	e	h ± 1	G	HEX
FG 12...	21	60	-	160	26.5	-	118	G 1/2 male	22
FG 14...	-	60	92	160	26.5	50	-	G 1/2 male	22

Precision test pressure gauges with Bordon tube with carrying case

Nominal dia. 160; Connection at side (right hand side)
Accuracy class 0.6 to DIN EN 837, part 1



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Features

- Several span sleeves
- Accuracy class 0.6
- Overrange capability up to 1.3 times
- Test report

Description

These precision test gauges are used to test pressure of tanks, pipes and fittings by official test and surveillance institutions.

The precision test pressure gauges have a high grade measuring element. The pressure proportional elastic deformation of the Bourdon tube is transmitted through a low friction movement to the knife edge pointer. The connection is supplied with a shut-off valve and a test connection with quick fit connection M20 x 1.5.

The gauges can be used with non aggressive gaseous or liquid, but not with highly viscous or crystallizing media.

The precision test gauges are supplied with several, certificate and a carrying case.

Ranges

Dia. 160: 0...0.6 bar to 0...400 bar

Applications


Pressure test of tanks, plant construction, research and development

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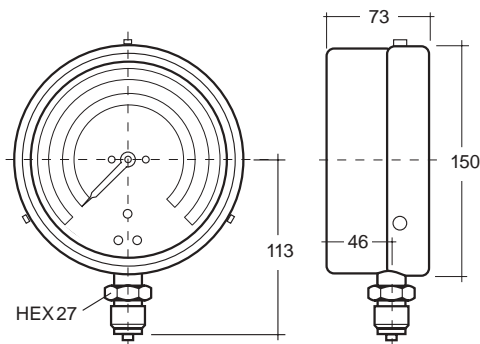
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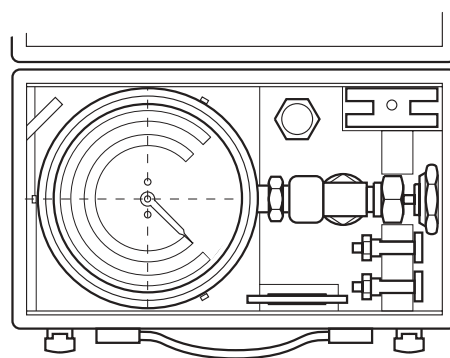
Technical data

Model	MAN	FG 1B...	Options
Nominal size	160 mm		
Symbol	DIN 16 070 type A		
			
Accuracy class	0.6 to DIN 16005		
Indicating range	0...0.6 bar to 0...400 bar negative or positive or negative/positive gauge pressure		
Max. pressure	static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value		
Housing	steel, black		
Ring	steel, black		
Window	instrument glass		
Dial	aluminum, white, scale and printing black, single scale acc. DIN 16117		
Pointer	knife edge pointer aluminum, black acc. DIN 16 102		
Movement	Brass		
Measuring element	Brass, 40 bar C-Bourdon tube stainless steel > 40 bar helical tube		
Connection	Brass		
- position	right hand side		
- thread	G 1/2 male, (DIN 16288)		other threads on request
Temperatures			
- medium	Tmin. -20°C, Tmax. +80°C		
- ambient	Tmin. -20°C, Tmax. +60°C		
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20°C		
Protection	IP 54 acc. EN 60529 / EC529		
Adjustment medium	40 bar; gas > 40 bar: oil		4 bar: oil
Throttle			ø0.3; ø0.4; ø0.8
Weight (approx)	3.0 kg		

Dimensional drawings

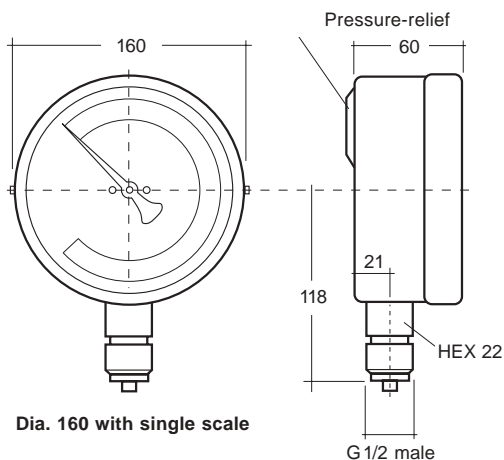


Dia. 150 with dual scale



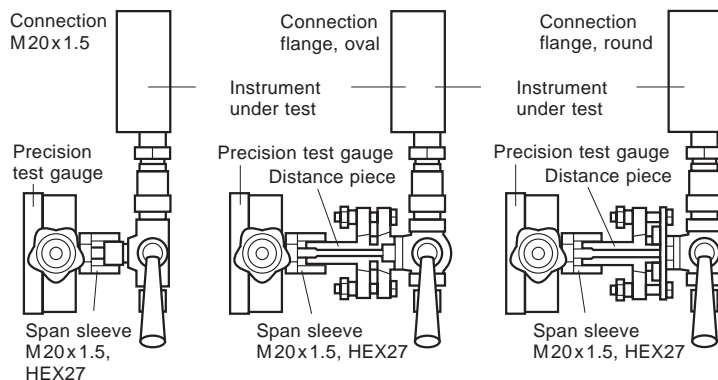
Carrying case with precision test gauge and accessories

Accessories in carrying case
 1 shut off valve
 1 distance piece
 1 fork piece
 2 mounting screws
 2 hexagon nuts
 2 distance rings



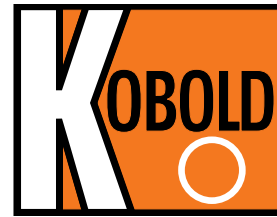
Dia. 160 with single scale

Application of accessories



**All stainless steel precision test gauge
with Bourdon tube acc. EN 837-1
with or without glycerine filling**

Nominal dia. 160; Bottom or back connection;
Accuracy class 0.6 to DIN EN 837, part 1



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Features

- High reliability and durability by use of modular system
- Damping by glycerine filling
- Accuracy class 0.6
- Overrange capability up to 1.3 times
- Housing and movement stainless steel
- Fulfils safety requirements acc. EN 837-1

Description

These test pressure gauges are manufactured to the very highest standards and are used to test pressures of tanks, pipes fittings and in laboratories.

The precision test pressure gauges have a high-grade measuring element. The pressure proportional elastic deformation of the Bourdon tube is transmitted through a low friction movement to the knife edge pointer. The gauges can be used with non aggressive gaseous or liquid, but not with highly viscous or crystallizing media.

The measuring accuracy can be certified by the manufacturer in accordance with DIN 55 350 part 18 at additional cost.

Ranges

0...0.6 bar to 0...1600 bar

Applications

Precision monitoring in processing plants, control and adjustment of pressure gauges, test equipment

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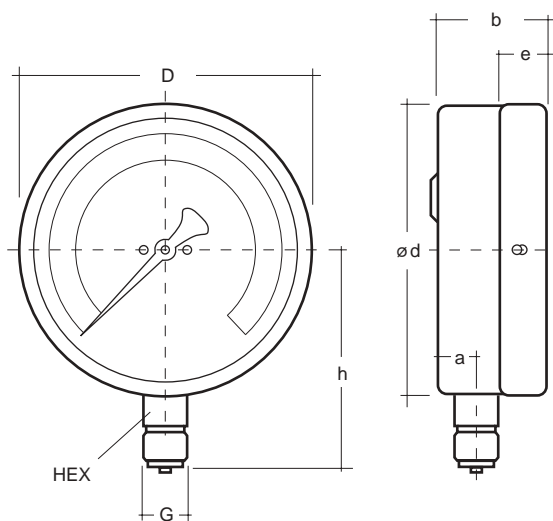
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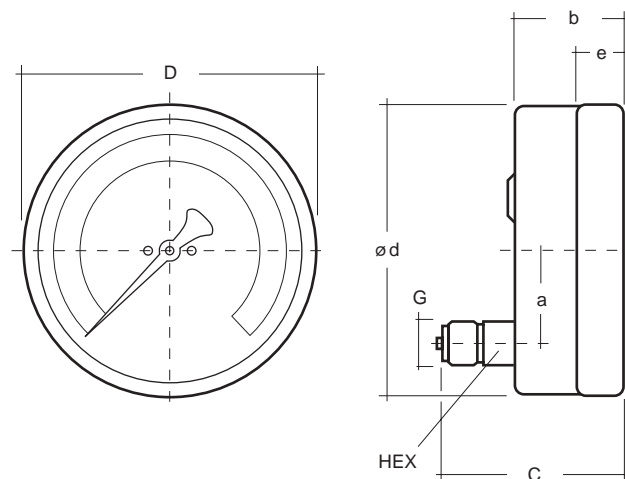
Technical data

Model	MAN	FG 26...S		Options
Nominal size	160 mm			
Symbol				
Accuracy class	0.6 to DIN EN 837, part 1			test certificate
Indicating range	0...0.6 bar to 0...1600 bar to DIN 16 128 negative or positive or negative/positive gauge pressure	0...0.6 to 0...1000 bar	0...0.6 to 0...1000 bar	
Max. pressure	static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value			1.5 - 2 times
Housing	stainless steel 1.4571	stainless steel EN 837-153 with blow-out disc, solid front		model FG 26... with back flange
Bezel	stainless steel 1.4571, bayonet ring			front flange
Window	laminated safety glass			
Dial	aluminum, white, scale and printing black			
Pointer	knife edge pointe, aluminum, black acc. DIN 16 102			max. pointer, micrometer pointer
Movement	stainless steel 1.4301 / 1.4305			
Measuring element	stainless steel 1.4571 40 bar C-Bourdon tube > 60 bar helical tube			
Connection	stainless steel 1.4571 - position bottom - thread G 1/2 male (DIN 16288) HEX 22			other threads on request
Temperatures	- medium Tmin. -20°C, Tmax. +100°C - ambient Tmin. -20°C, Tmax. +60°C			
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20°C			
Liquid filling	none			
Protection	IP 54			
Calibration medium	25 bar; gas > 25 bar: oil			2.5 bar: oil
Throttle				
Weight (approx)				3.0 kg

Dimensional drawings



Models FG 26... / FG 26...S / FG 76...S



Model FG 28...

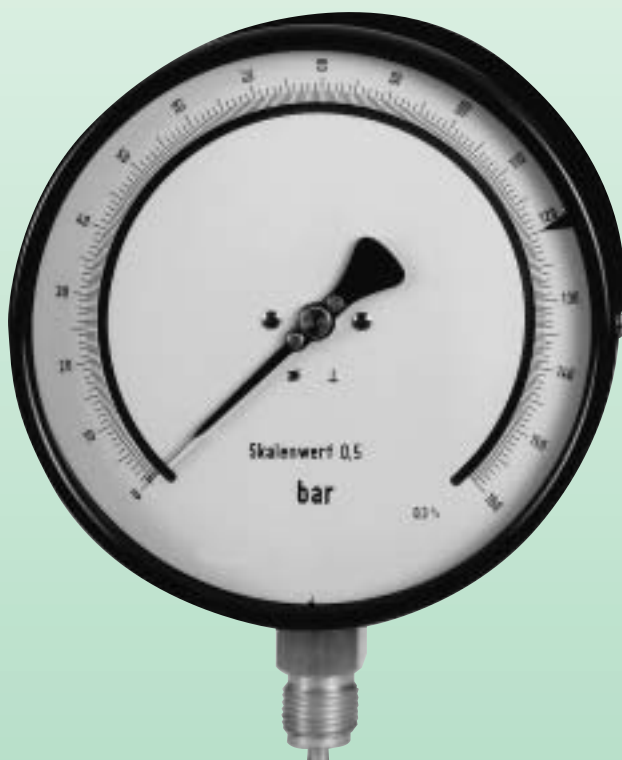
Model	Dimensions (mm)									
	a	b	C	D	ø d	e	f	h ± 1	G	HEX
FG 26...	21	60	-	161.5	160	22.5	-	118	G 1/2 male	22
FG 26...S/FG 76...S	24	71	-	161.5	160	22.5	-	118	G 1/2 male	22

Precision test pressure gauge with bourdon tube and mirrored dial

Nominal dia. 160
Bottom connection; Accuracy class 0.25 %



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Features

- Precise display
- Overrange capability up to 1.3 times
- Mirror dial
- Pointer with micro-adjustment

Description

These test pressure gauges are manufactured to the very highest standards and are used to test pressures of tanks, pipes fittings and in laboratories.

The precision test pressure gauges have a high-grade measuring element. The pressure proportional elastic deformation of the Bourdon tube is transmitted through a low friction movement to the knife edge pointer. The gauges can be used with non aggressive gaseous or liquid, but not with highly viscous or crystallizing media.

The measuring accuracy can be certified by the manufacturer in accordance with DIN 55 350 part 18 at additional cost.

Ranges

0...1.0 bar to 0...1600 bar

Applications


Precision monitoring in processing plants, control and adjustment of pressure gauges, test equipment

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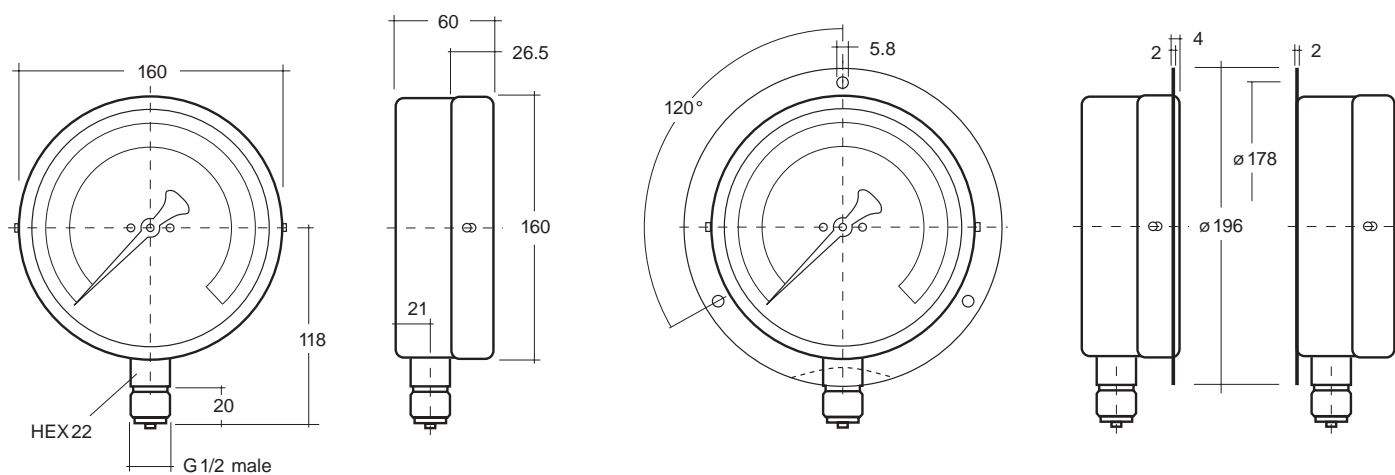
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Technical data

Model	MAN	FG 12...Y	Options
Nominal size	160 mm		
Symbol			
Accuracy class	0.25% (ASME B40.1-1991)		
Indicating range	0...1 bar to 0...1600 bar negative or positive or negative/positiv gauge pressure		
Max. pressure	static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value		
Housing	steel, black pressure relief at back of housing		back flange
Ring	steel, black		front flange
Window	instrument glass		laminated safety glass
Dial	aluminum, white, scale and printing black, mirrored scale		dual scale
Pointer	knife edge, aluminum, black with micro-adjustment		
Movement	Brass		
Measuring element	Brass 40 bar C-Bourdon tube stainless steel 600 bar helical tube		
Connection	1000 bar Brass; < 1000 bar stainless steel 1.4571		
- position	bottom		
- thread	G1/2 male (DIN 16288), HEX 22		1/2 - 14 NPT
Temperatures			
- medium	Tmin. -20 °C, Tmax. +80 °C		
- ambient	Tmin. -20 °C, Tmax. +60 °C		
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20 °C		
Protection	IP 44 acc. EN 60529 / IEC529		
Calibration medium	25 bar; gas > 25 bar: oil		4 bar: oil
Throttle			ø 0.4; ø 0.8
Weight (approx)	1.3 kg		

Dimensional drawings



Model FG 12...

Version: front or back flange

Precision test pressure gauge acc. EN 837-1 with bourdon tube

Nominal dia. 250; Bottom connection
Accuracy class 0.6 to DIN EN 837, part 1



measuring
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Features

- Precise high resolution display
- Accuracy class 0.6
- Over-range capability up to 1.3 times
- Window of instrument glass

Description

These test pressure gauges are manufactured to highest standards and are used to test pressures of tanks, pipes fittings and in laboratories.

The precision test pressure gauges have a high-grade measuring element. The pressure proportional elastic deformation of the Bourdon tube is transmitted through a low friction movement to the knife edge pointer. The gauges can be used with non aggressive gaseous or liquid, but not with highly viscous or crystallizing media.

The measuring accuracy can be certified by the manufacturer in accordance with DIN 55 350 part 18 at additional cost.

Ranges

0...0.6 bar to 0...1600 bar

Applications


Precision monitoring in processing plants, control and adjustment of pressure gauges, test equipment

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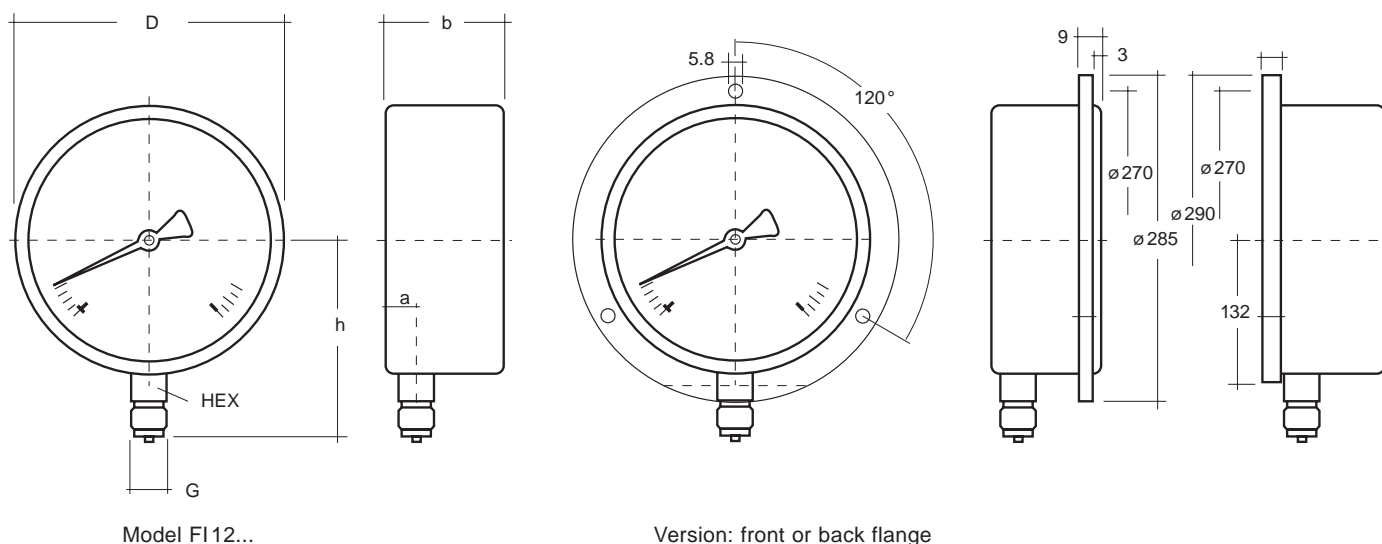
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Technical data

Model	MAN FI12...	Options
Nominal size	250 mm	
Symbol		
Accuracy class	0.6 to DIN EN 837, part 1	test certificate
Indicating range	0...0.6 bar to 0...1600 bar to DIN 16 123 negative or positive or negative/positiv gauge pressure	
Max. pressure	static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value	
Housing	steel, black	back flange
Ring	steel, black	front flange
Window	instrument glass	
Dial	aluminum, white, scale and printing black	
Pointer	knife edge pointer aluminum, black acc. DIN 16 102	
Movement	Brass	
Measuring element	Brass < 100 bar C-Bourdon tube, soft soldered stainless steel 1.4571 100 bar helical tube, hard soldered NiFe alloy 1000 bar helical tube, welded	
Connection	1000 bar Brass; < 1000 bar stainless steel 1.4571	
- position	bottom	other threads
- thread	G 1/2 male (DIN 16288) HEX22	on request
Temperatures		
- medium	Tmin. -20°C, Tmax. +60°C; soft soldered Tmin. -20°C, Tmax. +100°C; hard soldered, welded	
- ambient	Tmin. -20°C, Tmax. +60°C	
Temperature behaviour	0.3% / 10K on deviation from normal temperature +20°C	
Protection	IP 44 acc. EN 60529 / IEC529	
Calibration medium	25 bar; gas > 25 bar: oil	4 bar: oil
Throttle		ø 0.3; ø 0.4; ø 0.8
Weight (approx)	3.0 kg	

Dimensional drawings



Model	Dimensions (mm)								
	a	b 4 bar	6 - 60 bar	100 bar	D	f	h ± 1	G	HEX
FI12...	17	64.5	51.5	64.5	250	50	165	G 1/2 male	22

Precision test gauge with Bourdon tube

Nominal dia. NG 250; Bottom connection
Accuracy class 0.25 and 0.1 to DIN EN 837, part 1



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monitoring
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analysing



Features

- High reliability and long service life by use of modular system
- Wetted parts in stainless steel in combination with nickel-iron alloy
- Mirror dial to eliminate parallax error
- 330° mirror band scale
- Zero adjustment by rotatable dial $\pm 15^\circ$
- Non-reflection window

Description

These precision test gauges have the accuracy of simple testing equipment (Dead weight tester). You can achieve the best accuracy available with Bourdon tube and scale plates.

Components are manufactured to the very highest precision. A rugged circular housing encloses and protects the high-quality measuring system, made in a compact design. Socket, measuring element, movement and dial form a unity. This assembly is mounted in the housing and not subjected to any force.

All wetted parts are manufactured of stainless steel in connection with a NiFe-alloy. These test gauges are fitted as standard with a 330° mirrored scale and zero adjustment. The window is green tinted and non-reflecting.

Test gauges are suitable for the measuring of non-aggressive gaseous and liquid media, although not for media which is too viscous or susceptible to crystallization. Accuracy will be guaranteed by means of a calibration certificate according to DIN 55350 part 18 type M.

Ranges

0...0.6 bar to 0...1600 bar

Applications

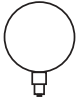
Calibration service, calibration authorities, testing of materials, research institutes, aeronautics and space technology, laboratories, reactor technology, quality assurance

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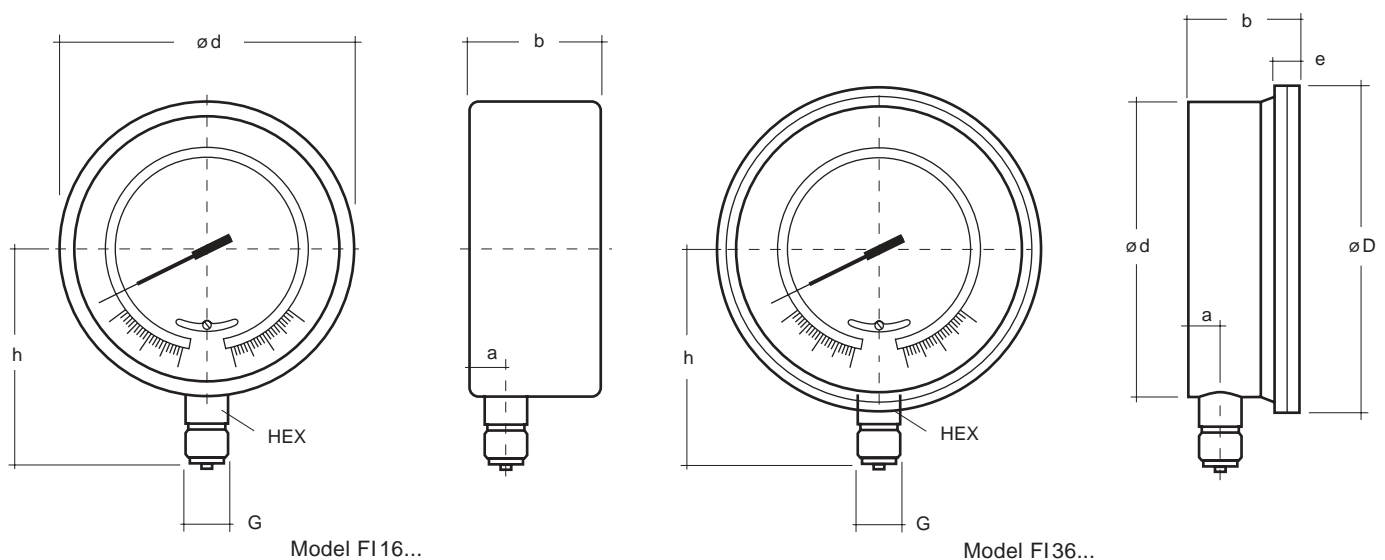
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Technical data

Model	MAN	FI16...	FI36...	Options
Nominal size		250 mm		
Symbol				
Accuracy class		0.25 to DIN EN 837, part 1	0.1 to DIN EN 837, part 1	DKD certificate
Indicating range		0...0.6 bar to 0...1600 bar to DIN 16 128 negative or positive or negative/positiv gauge pressure		
Max. pressure		static load: up to full scale value alternating load: 0.9 times full scale value short-term: 1.3 times full scale value		
Housing		steel, black	flanged housing with separation wall, aluminum, black-silver	back flange, pressure relief opening
Ring		steel, black	flange ring, aluminum, black-silver	model: FI36... front flange
Window		plexi glass, green tinted to reduce the reflection		
Dial		aluminum, white, scale markings black, mirrored scale 330°, zero adjustment, rotatable ± 15°		dual scale or special scale
Pointer		knife edge pointer aluminum, black		
Movement		brass, bearing parts nickel-silver, fixed during transport		
Measuring element		NiFe alloy > 100 bar Bourdon tube, 600 bar helical tube		
Connection		stainless steel 1.4571		other threads on request
- position		bottom		
- thread		G 1/2 male (DIN 16288) HEX22		
Temperatures				
- medium		Tmin. -20°C, Tmax. +100°C		
- ambient		Tmin. -20°C, Tmax. +60°C		
Temperature behaviour		0.04% / 10K on deviation from normal temperature +20°C		
Protection		IP 54 acc. EN 60529 / IEC529		
Calibration medium		25 bar; gas > 25 bar: oil		4 bar: oil
Throttle				ø 0.4; ø 0.8
Accessories				carrying case
Weight (approx)		3.0 kg	6.0 kg	

Dimensional drawings



Model	Dimensions (mm)							
	a	b	ø d	ø D	e	h ± 1	G	HEX
FI16...	17	71	250	-	-	165	G 1/2 male	22
FI36...	22	78	250	277	16.5	165	G 1/2 male	22