

Data Sheet

Model F5509 and F6509 Stainless steel differential pressure gauge

FEATURES

- 316L Stainless steel case and wetted parts
- Static pressure 16 bar or 40 bar
- Ingress protection IP66/NEMA 4X
- Compliant to DIN 16003
- Dry or liquid filled
- Optional S3 solid front case

TYPICAL USES

- Chemical and petrochemical plants
- Marine and offshore technology
- Power plants

SPECIFICATIONS

Model:	F5509 open front cylindrical case with rear blow out disk F6509 solid front safety pattern cylindrical case with rear blow out back
Accuracy:	Class 1,6 with 1,6 % of Full scale Optional: Class 1 with 1% of Full scale
Measuring principle:	Single diaphragm
Dial sizes:	100 mm or 160 mm
Ranges:	0 ... 25 up to 0 ... 250 mbar (with max. static pressure of 16 bar) 0 ... 400 mbar up to 0 ... 25 bar (with max. static pressure of 40 bar)
Overpressure:	10 times of full scale value but max. static pressure
Effect of static pressure:	for ranges < 250 mbar ≤ 0,1 % + (0,004 % / MB [bar]) for ranges ≥ 250 mbar ≤ (0,1 % / bar)

WETTED COMPONENTS

Process Connection:	Stainless steel 1.4404 (316L)
Pressure Chamber:	Stainless steel 1.4404 (316L)
Measuring Diaphragm:	≤ 400 mbar Stainless steel 1.4571 (316 Ti) ≥ 0,6 bar Duratherm 2.4781 (NiCrCo alloy)

NON-WETTED COMPONENTS

Window:	Laminated safety glass
Windows Sealing:	NBR optional Viton
Bellows	Inconel 2.4856 (625)
Dial:	Black figures on white background (secondary scale is inner scale for dual scale dials); aluminum
Pointer:	Black, aluminum optional red set hand or maximum pointer
Movement:	Stainless steel 1.4301/1.4305 (304/303)
Case:	Stainless steel 1.4404 (316L)
Bayonet Ring:	Stainless steel 1.4404 (316L)
Process Connection Location:	Lower
Process Connection Sizes:	All common sizes, for more see ordering code



KEY BENEFITS

- Perfect solution for challenging application and installation requirements
- Designed for harsh services
- High reliability and safety

Fill Fluid: Dry, Glycerine or Silicone

MIN./MAX. TEMPERATURE LIMITS

VERSION	AMBIENT	PROCESS	STORAGE
Dry	-20°C to 80°C	-40°C to 100°C	-20°C to 80°C
Glycerine	-9°C to 80°C	-7°C to 93°C	-9°C to 80°C
Silicone	-20°C to 80°C	-40°C to 100°C	-20°C to 80°C

Temperature Effects: Max. 0,8% of span per 10 K change reference temperature 20 °C

Weather Protection: IP65 for instruments with integrated contacts or IP66/NEMA 4X

Mounting: Direct, optional wall or 2" pipe mounting, others on request

Certificates and Tests: MTR according to EN 10204 3.1
Calibration certificate, Hydrostatic test report, Positive material identification (PMI-Test)

Weights in kg	≤ 250 mbar		≥ 0,4 bar	
	100 mm	160 mm	100 mm	160 mm
Dry/Liquid filled	9/9,5	9,4/10	4/4,5	4/4,5

Electrical Contact: See data sheet K5500

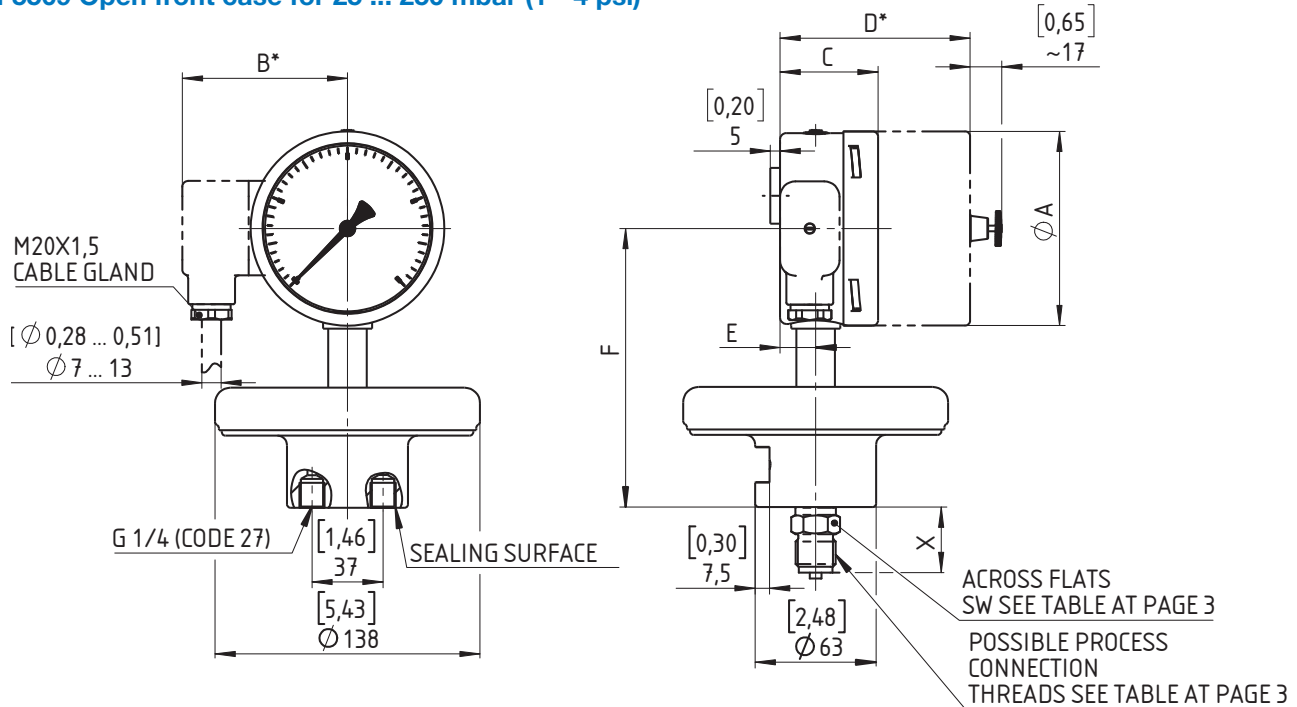
Accessories: 3- or 5-Way-Manifold

Data Sheet

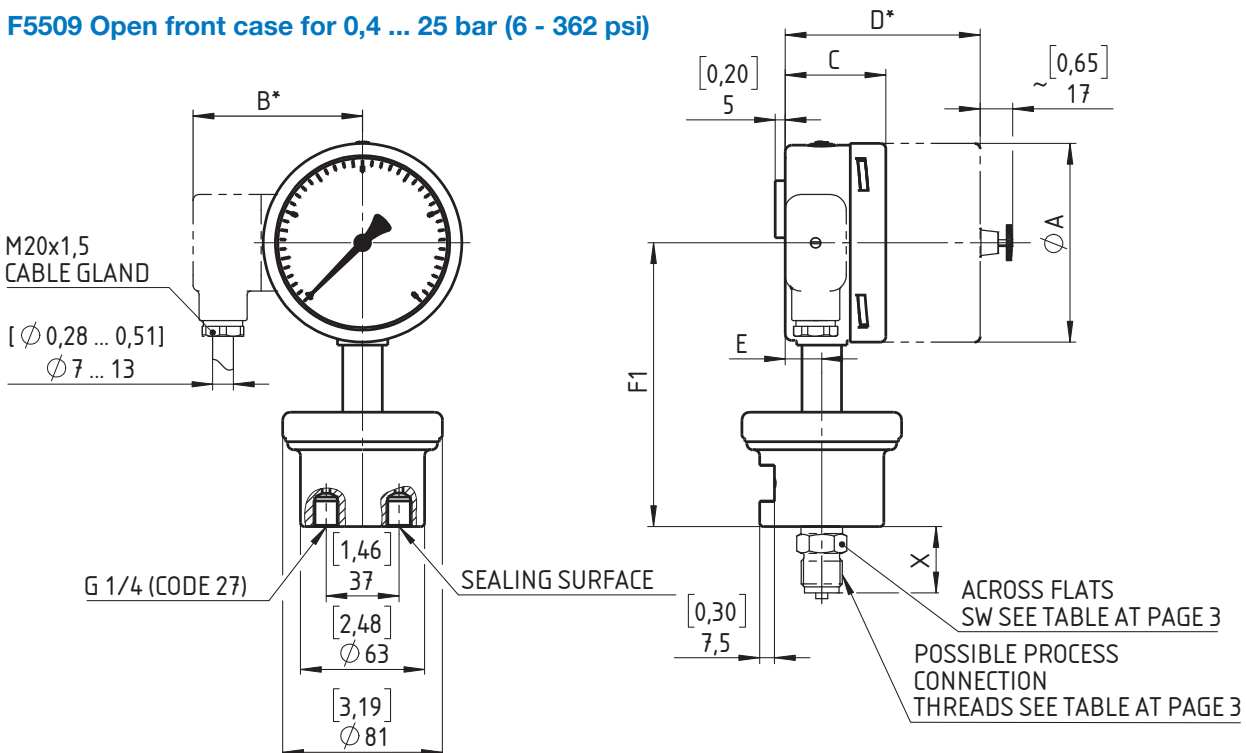
**Model F5509 and F6509
Stainless steel differential pressure gauge**

GENERAL DIMENSIONS (Dimension in mm [inch])

F5509 Open front case for 25 ... 250 mbar (1 - 4 psi)



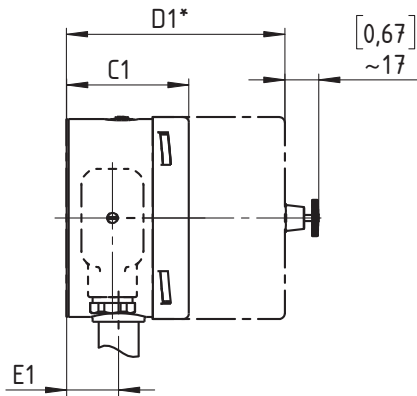
F5509 Open front case for 0,4 ... 25 bar (6 - 362 psi)



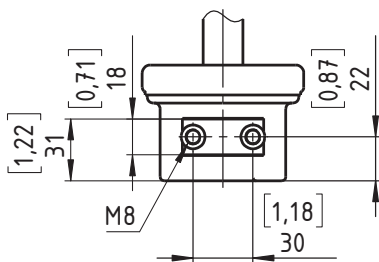
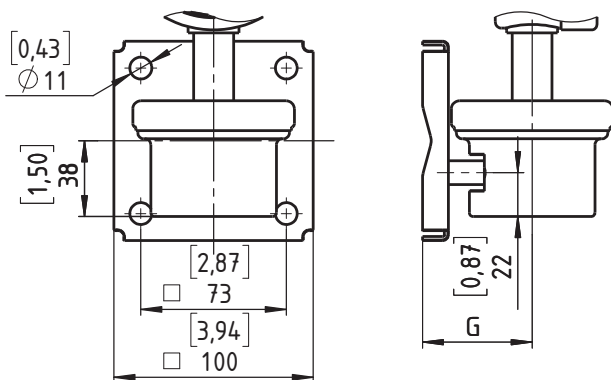
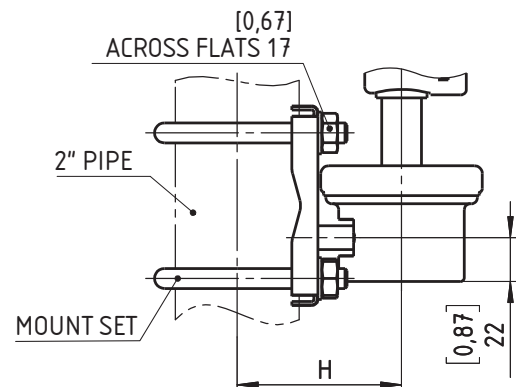
DIAL SIZE	ØA	B*	C	C1	D	D1*	E	E1	F	F1
100	101 [3,98]	86 [3,39]	51 [2,01]	61 [2,38]	99 [3,90]	109 [4,29]	18,5 [0,73]	26 [1,02]	145 [5,71]	144 [5,67]
160	161 [6,34]	120 [4,72]	50 [1,96]	64 [2,52]	100 [3,94]	115 [4,53]	17 [0,67]	28 [1,11]	175 [6,89]	174 [6,85]

* with integrated contacts



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GENERAL DIMENSIONS (Dimension in mm [inch])
Solid front case


THREADS	CODE	X	SW
1/4-18 NPT MALE	02	30 [1,18]	19 [0,75]
1/2-14 NPT MALE	04	37 [1,46]	22 [0,87]
G 1/4 B MALE	13	25 [0,98]	19 [0,75]
G 1/2 B MALE	15	37 [1,46]	22 [0,87]
M20x1,5 MALE	16	37 [1,46]	22 [0,87]
1/4-18 NPT FEMALE	25	20 [0,79]	19 [0,75]
1/2-14 NPT FEMALE	50	26 [1,02]	27 [1,06]
G 1/2 FEMALE	51	26 [1,02]	27 [1,06]

Mounting options

Wall mounting bracket option FW

2" Pipe mounting bracket option TM


RANGE	G	H
25 ... 250 mbar 1 ... 4 psi	83 [3,27]	111 [4,35]
0,4 ... 25 bar 6 ... 362 psi	82 [3,22]	55 [2,15]



Data Sheet

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ORDERING CODE	Example	100	F5509	S	D	27	L	1	BR	X	GV
Dial Size											
100	100 mm	100									
160	160 mm										
Model											
F5509	Differential pressure gauge with open front case		F5509								
F6509	Differential pressure gauge with solid front case										
Wetted Parts Material											
S	Stainless steel 1.4404 (316L) Diaphragm material depends on measuring range			S							
Case Filling											
D	Dry case				D						
L	Liquid filled case (Standard Glycerine)										
Process Connection											
02	¼ NPT male										
04	½ NPT male										
13	G ¼ B male										
15	G ½ B male										
16	M20x1,5 male										
25	¼ NPT female										
27	G ¼ female					27					
50	½ NPT female										
51	G ½ female										
Connection Location											
L	Lower						L				
Range											
See PRESSURE RANGE TABLE at page 5											
Engineering Unit											
MB	Millibar [mbar]										
BR	Bar [bar]										
KP	Kilopascal [kPa]										
#	Pounds per square inch [psi]										
other units on request											
Accuracy											
AN	Class 1 with 1% of full scale										
Case and Ring Option											
FW	Wall mounting bracket										
TM	2" Pipe mounting bracket										
Liquid Filling											
GV	Silicone										GV
GT	Napvis										
GR	Glycerine										
Dial Options											
CS	Combination range / Dual scale										
ON	Without Ashcroft logo, neutral										
SS	Special range										
SS_FLOW	Special range with sqrt graduation for flow indication										
Pointer Options											
MP	Micrometer Pointer, adjustable										
Window Options											
EP	Maximum pointer adjustable and polycarbonate window										
EQ	Minimum pointer adjustable and polycarbonate window										
PD	Polycarbonate window										
Electrical Contacts											
Check datasheet G1.K55/E											



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ORDERING CODE Example 100 F5509 S D 27 L 1 BR X

Cleaning Options

- 6B Cleaned for gaseous Oxygen or other strong oxidizing agents
 6W Cleaned for oxidizing processes other than Oxygen

Marking and Tagging

- DA Dial marking printed on dial
 NH Stainless steel tagging, wired
 NH1 Stainless steel tagging, wired, extra large (120 x 30 x 1 mm)

Material Certificate Options

- C3 Certificate according EN 10204 3.1
 MQ Positive material identification (PMI)

Test Certificate Options

- C4 CD4-calibration certificate
 HY Hydrostatic pressure test
 ML Mass spectrometer leak test

PRESSURE RANGE TABLE							
mbar MB	PN	bar BR	PN	kPa KP	PN	psi #	PN
0 ... 25	16	0 ... 0,6	40	0 ... 2,5	16	0 ... 3	16
0 ... 40	16	0 ... 1	40	0 ... 4	16	0 ... 5	40
0 ... 60	16	0 ... 1,6	40	0 ... 6	16	0 ... 10	40
0 ... 100	16	0 ... 2,5	40	0 ... 10	16	0 ... 15	40
0 ... 160	16	0 ... 4	40	0 ... 16	16	0 ... 30	40
0 ... 250	16	0 ... 6	40	0 ... 25	16	0 ... 60	40
0 ... 400	40	0 ... 10	40	0 ... 40	40	0 ... 100	40
0 ... 600	40	0 ... 16	40	0 ... 60	40	0 ... 250	40
		0 ... 25	40	0 ... 100	40	0 ... 300	40
-40 ... 60	16			0 ... 160	40		
-60 ... 100	16	-1 ... 0,6	40	0 ... 250	40		
-100 ... 150	16	-1 ... 1,5	40	0 ... 400	40		
-150 ... 250	40	-1 ... 3	40	0 ... 600	40		
		-1 ... 5	40				

