

## 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, external zero adjustment 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	3,8/4,1	4,1/4,9	1,7/2,0	2,0/2,8

Electrical Contact: See data sheet K5500

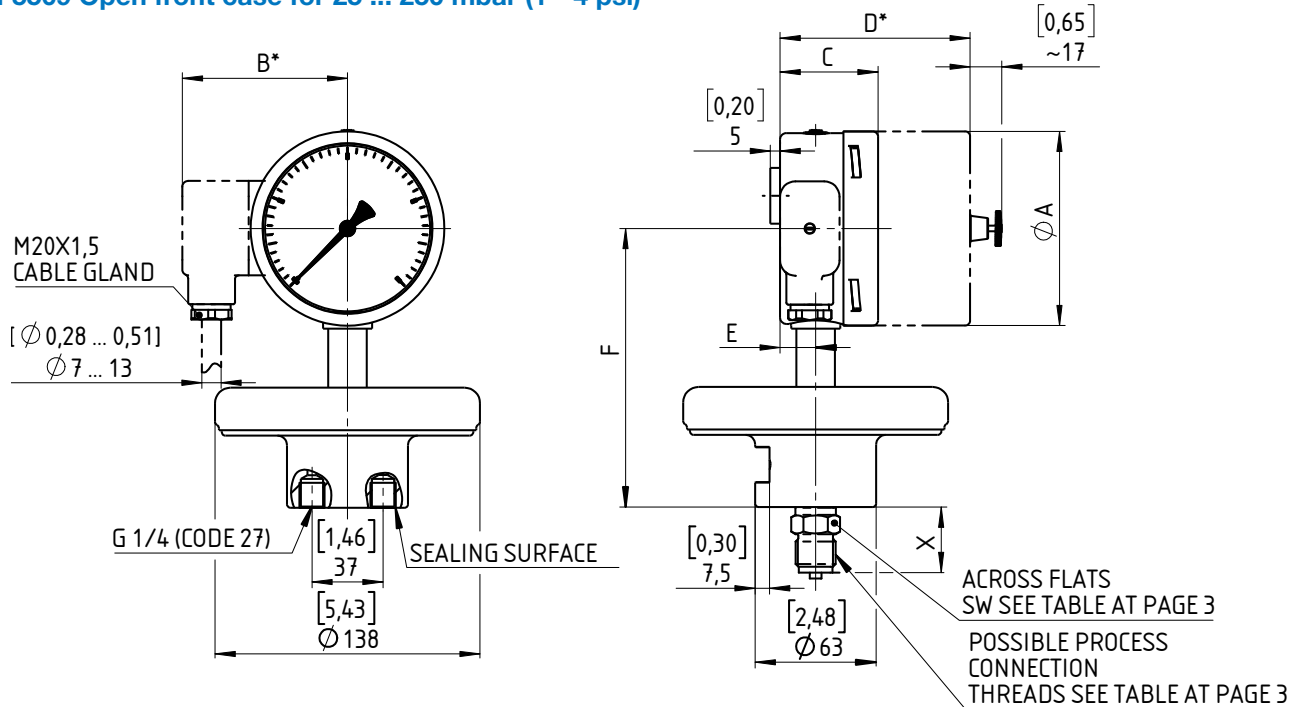
Accessories: 3- or 5-Way-Manifold

# Data Sheet

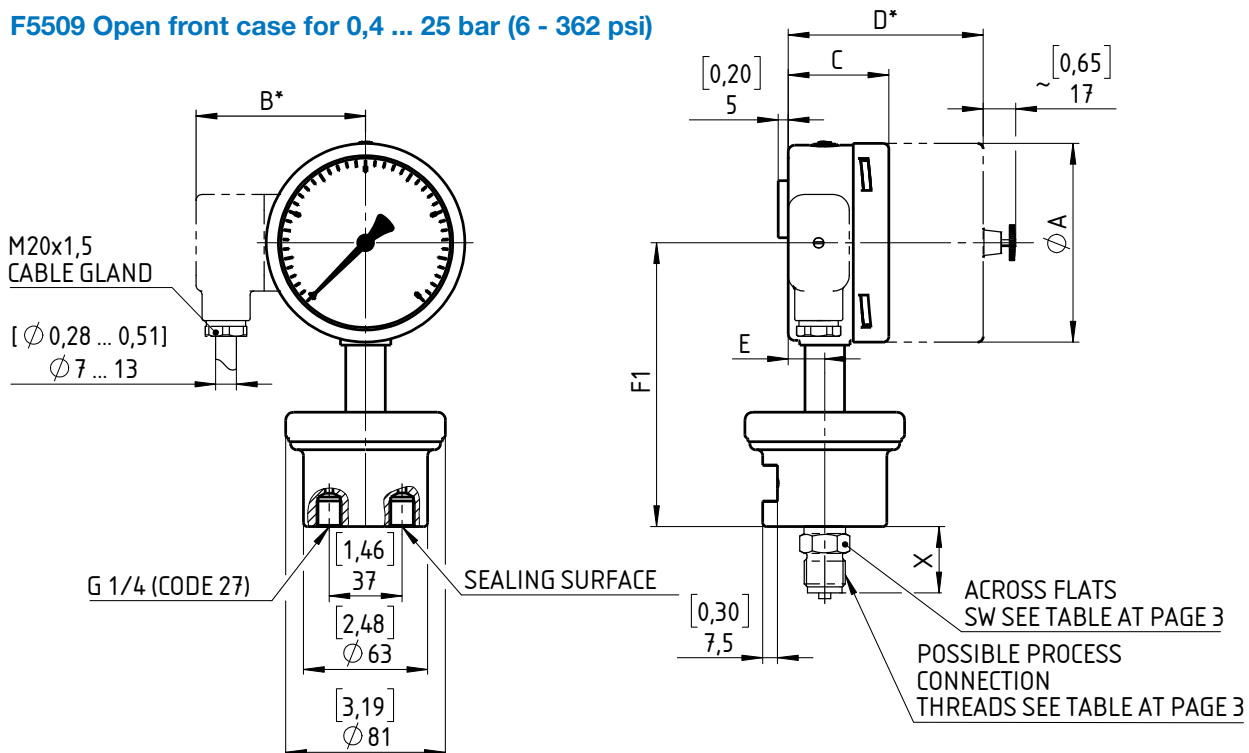
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### GENERAL DIMENSIONS ( Dimension in mm [ inch ] )

#### 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

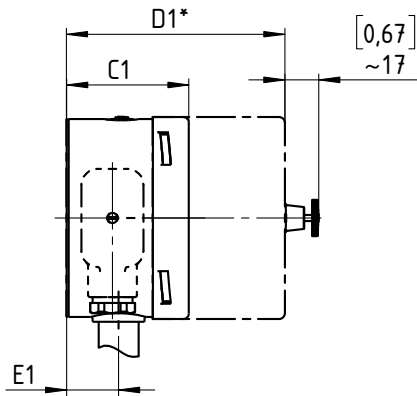


# Data Sheet

## Model F5509 and F6509 Stainless steel differential pressure gauge

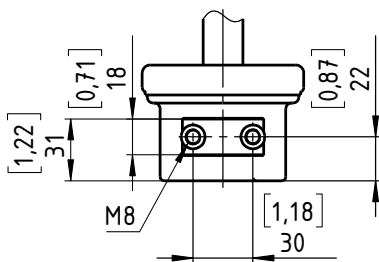
### GENERAL DIMENSIONS ( Dimension in mm [ inch ])

#### Solid front case



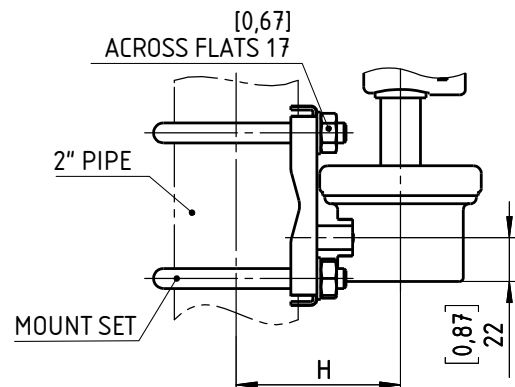
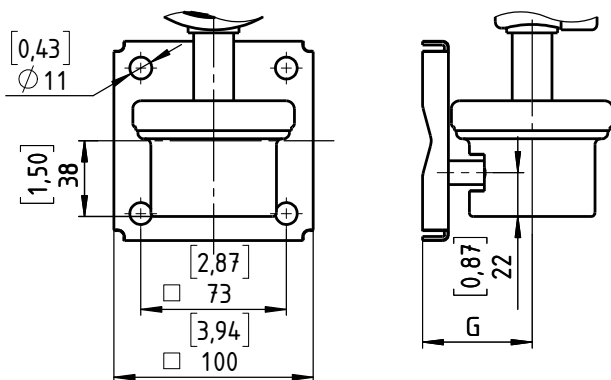
THREADS	CODE	X	SW
1/4-18 NPT MALE	02	30 [1,18]	19 [0,75]
1/2-14 NPT MALE	04	37 [1,46]	22 [0,87]
G 1/4 B MALE	13	25 [0,98]	19 [0,75]
G 1/2 B MALE	15	37 [1,46]	22 [0,87]
M20x1,5 MALE	16	37 [1,46]	22 [0,87]
1/4-18 NPT FEMALE	25	20 [0,79]	19 [0,75]
1/2-14 NPT FEMALE	50	26 [1,02]	27 [1,06]
G 1/2 FEMALE	51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

## Model F5509 and F6509 Stainless steel differential pressure gauge

**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
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### 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
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### 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
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### 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

### 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



## Model F5509 and F6509 Stainless steel differential pressure gauge

**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				

