

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 EN 60529/IEC 529 or IP66/NEMA 4X
Mounting:	Direct, optional wall or 2" pipe mounting, others on request
Approvals:	CE; ATEX File No. 35106158; UK CA File No. 0891-016
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

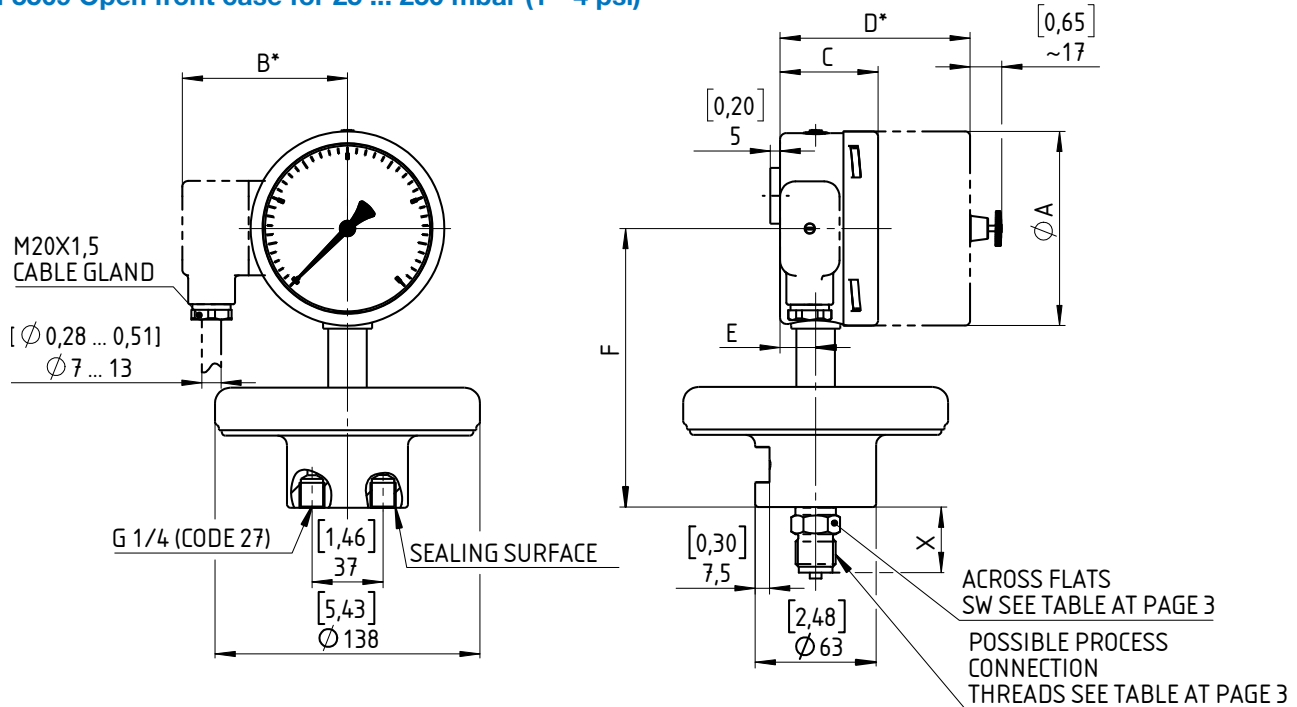
CE UK CA Ex II 2G Ex h IIC T4 Gb
II 2D Ex h IIC T95°C Db
Ta = -20 °C to +60 °C

Data Sheet

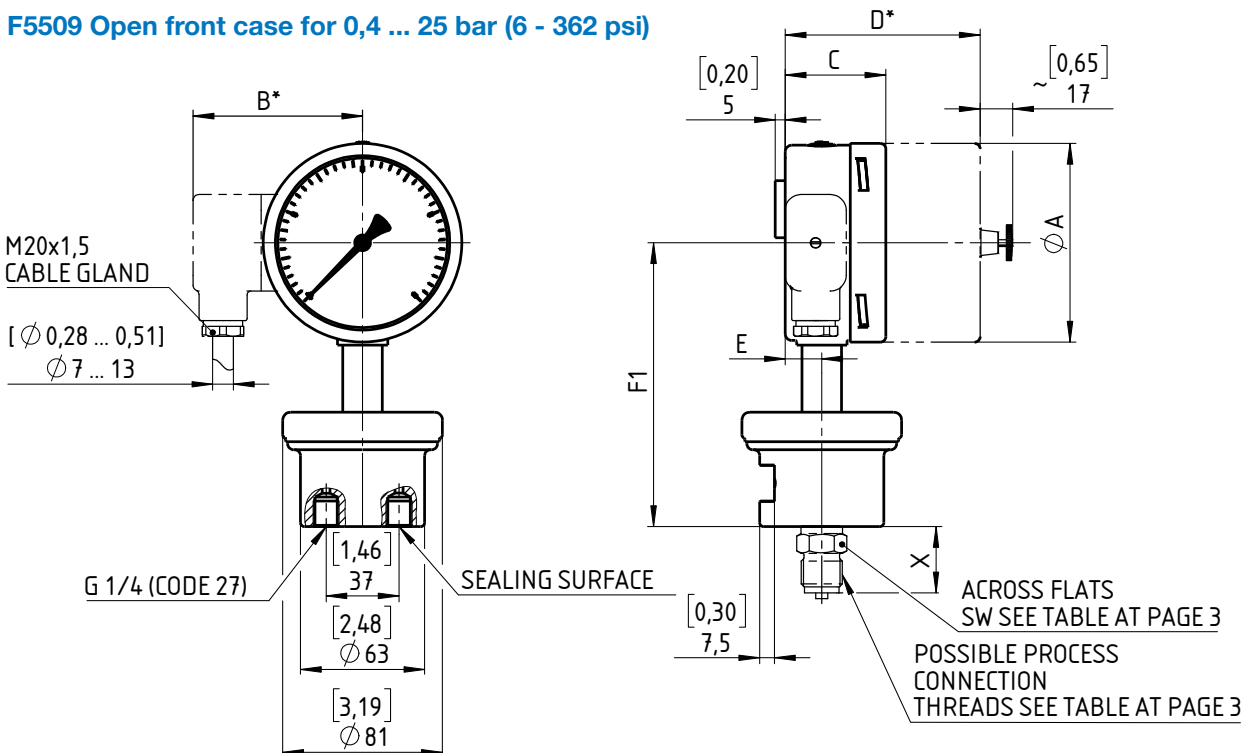
**Model F5509 and F6509
Stainless steel differential pressure gauge**

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

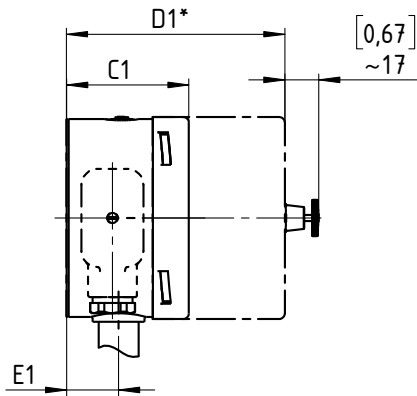


Data Sheet

Model F5509 and F6509 Stainless steel differential pressure gauge

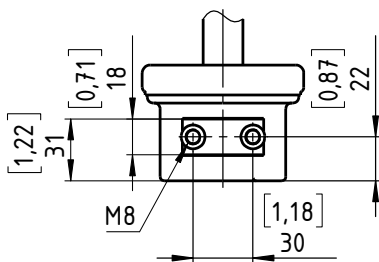
GENERAL DIMENSIONS (DIMENSION IN MM [INCH])

Solid front case



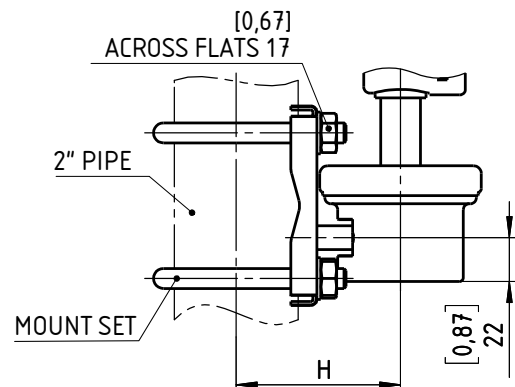
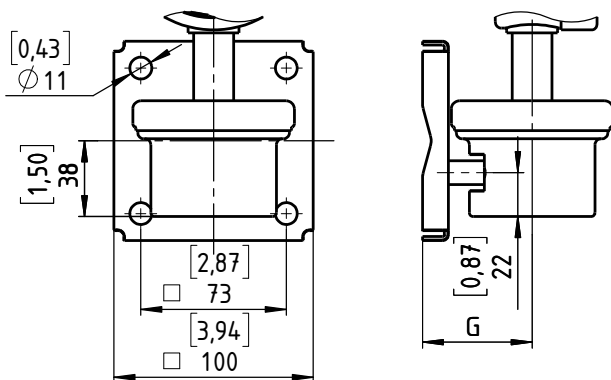
THREADS	CODE	X	SW
1/4-18 NPT MALE	02	30 [1,18]	19 [0,75]
1/2-14 NPT MALE	04	37 [1,46]	22 [0,87]
G 1/4 B MALE	13	25 [0,98]	19 [0,75]
G 1/2 B MALE	15	37 [1,46]	22 [0,87]
M20x1,5 MALE	16	37 [1,46]	22 [0,87]
1/4-18 NPT FEMALE	25	20 [0,79]	19 [0,75]
1/2-14 NPT FEMALE	50	26 [1,02]	27 [1,06]
G 1/2 FEMALE	51	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 XC3

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	1/4 NPT male	
04	1/2 NPT male	
13	G 1/4 B male	
15	G 1/2 B male	
16	M20x1,5 male	
25	1/4 NPT female	
27	G 1/4 female	27
50	1/2 NPT female	
51	G 1/2 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	

Options (If choosing an option(s) must include a "X")

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
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	Mircometer Pointer, adjustable
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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 XC3

Approvals

ATEX ATEX approval (find ATEX string at page 1)

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				

