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УРОВНЕМЕРЫ

BW 25 с BM26A-5000



8.2 Technical data



INFORMATION!

- The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.
- Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Downloadcenter).

Measuring system

Application range	Level measurement
Operating method / measuring principle	Displacement principle
Measured value	Level, separating layer

Measuring accuracy

Standard	< 1.5% full scale value
Min. measuring range	0.3 m / 12"
Max. measuring range	6 m / 20 ft
Medium	Liquids
Density	≥ 0.45 kg/l / 28.1 lbs/ft ³

Materials

Housing	Aluminium, powder coated
Housing option	Stainless steel (indicator M9R, M40R) 1.4408 / CF8M
Displacer rod	Stainless steel 1.4404 / 316L
Displacer rod option	Titanium
Spring	Stainless steel 1.4571 (T _m < 100°C / 212°F)
Spring option	ATS-340 / 2.4632 (T _m > 100°C / 212°F)
Flange	Stainless steel 1.4404 / 316L
Pressure sleeve	Stainless steel 1.4404 / 316L

Process connections

Max. operating pressure	40 barg / 580 psig – optional to 400 barg / 5802 psig
Standard flange	DN50 – PN40 / 2" ASME 300 lb
Optional flange	...DN100...PN400 / ...4" ASME ...2500 lb

Approvals

ATEX, indicator M9 with electrical installations	Cat. II 1/2G, Ex ia IIC T6
ATEX, indicator M40 with electrical installations (pending)	Cat. II 1/2G Ex ia IIC T6
	Cat. II 1/2G Ex d IIC T6
	Cat. II2D Ex ia IIIC T70°C b
ATEX, indicator M9 without electrical installations:	
For zone 0 tanks	Cat. II 1/2 G c IIC TX
For zone 1.21	Cat. II 2 GD
For zone 2.22	Cat. II 3 GD

Temperatures

Indicator M9 – M40 without electrical installations

Product or flange temperature	-40...+400°C	-40...+752°F
Ambient temperature T_{amb} .	-40...+60°C	-40...+140°F

Indicator M9 – M40 with electrical installations

Product or flange temperature	-20...+295°C	-4...+563°F
Product or flange temperature, HT version	-40...+400°C	-40...+752°F
Ambient temperature T_{amb} .	-40...+60°C	-40...+140°F
Storage temperature	-40...+60°C	-40...+140°F

Technical data, indicator M9 – M40

Cable gland	Material	Cable diameter	
M16 × 1.5 Standard ①	PA	3...7 mm	0.118...0.276"
M20 × 1.5 ②	PA	8...13 mm	0.315...0.512"
M16 × 1.5 ①	Nickel-plated brass	5...9 mm	0.197...0.355"
M20 × 1.5 ②	Nickel-plated brass	10...14 mm	0.394...0.552"

① M9

② M9 and M40

M9 – M40 limit switches

Terminal connection	2.5 mm ²			
Limit switch	I7S23,5-N SC3,5-N0	SJ3,5-SN ①	SJ3,5-S1N ①	SB3,5-E2
NAMUR	yes	yes	yes	no
Connection type	2-wire	2-wire	2-wire	3-wire
Switching element function	NC contact	NC contact	NO contact	PNP NO contact
Nominal voltage U ₀	8 VDC	8 VDC	8 VDC	10...30 VDC
Pointer vane not detected	≥ 3 mA	≥ 3 mA	≤ 1 mA	≤ 0.3 VDC
Pointer vane detected	≤ 1 mA	≤ 1 mA	≥ 3 mA	U _B - 3 VDC
Continuous current	—	—	—	max. 100 mA
No load current I ₀	—	—	—	≤ 15 mA

① safety oriented

Current output ESK2A – ESK4/4A

Terminal connection	2.5 mm ²
Power supply	12...30 VDC
Min. power supply for HART®	18 VDC
Measuring signal	4.00...20.00 mA = 0...100% level value in 2-wire technology
Power supply influence	< 0.1%
Dependence on external resistance	< 0.1%
Temperature influence	< 10 µA/K
Max. external resistance / load	800 ohms (30 VDC) 650 ohms (30 VDC) ①
Min. load for HART®	250 ohms
ESK2A / ESK4/4A	
Manufacturer name (code)	KROHNE Messtechnik (69 = 0x45)
Model name	ESK2A (226 = 0xE2) HART 5 ESK4 (214 = 0xD6) HART 5 ESK4 (17854 = 0x45BE) HART 5

Process variable

Process variable, level	Values [%]	Signal output [mA]
Over range	+102.5 (± 1%)	20.24...20.56
Device error identification	> 106.25	> 21.00
Maximum	131.25	25
Multi-drop operation	—	4.5
Min. U _{ext.}	12 VDC	

① M40

ESK4-FF (pending)

Physical layer	IEC 61158-2 and FISCO model
Communication standard	H1 FOUNDATION™ fieldbus protocol
ITK version	5.2
Power supply	Bus supply
Nominal current	16 mA
Error current	23 mA
Starting current after 10 ms	< Nominal current

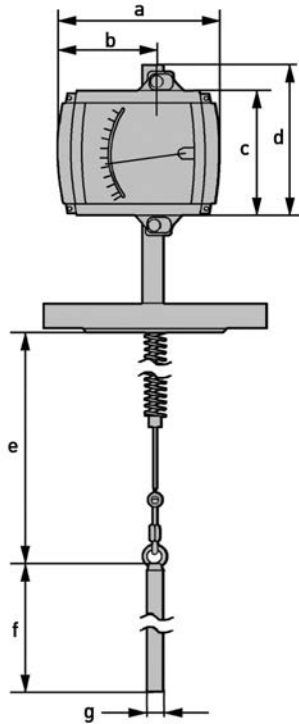
ESK4-PA (pending)

Physical layer	IEC 61158-2 and FISCO model
Communication standard	Profibus PA profile 3.02
PNO ID	4531 HEX
Power supply	Bus supply
Nominal current	16 mA
Error current	23 mA
Starting current after 10 ms	< Nominal current

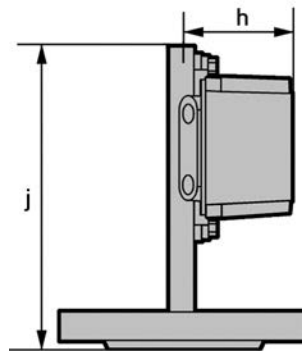
8.3 Dimensions

Dimensions with M9 indicator

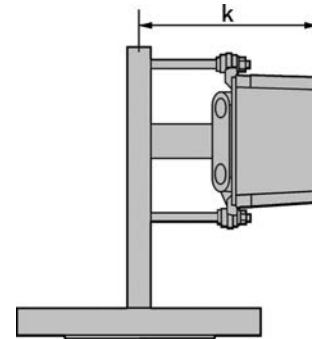
Front view



Side view



Side view HT



HT – high-temperature version

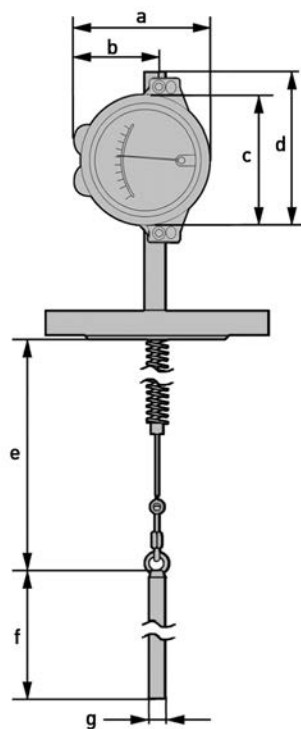
	a	b	c	d	e	f	g	h	j	k
[mm]	181	110	138	168	min. 340	①	≥ 20 ②	106	303	185
["]	7.13	4.33	5.44	6.62	min 13.39	①	≥ 0.79 ②	4.18	11.94	7.29

① Length of the displacer rod (measuring area)

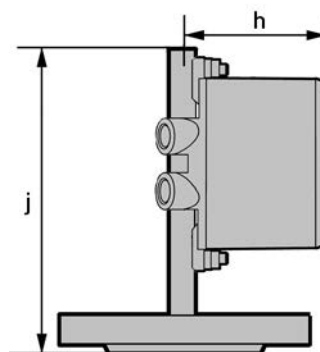
② According to the operating conditions

Dimensions with M40 indicator

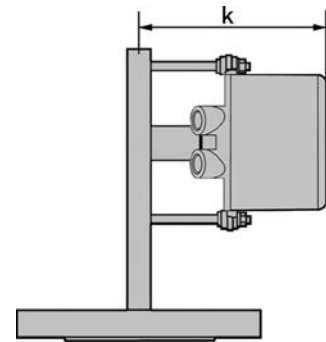
Front view



Side view



Side view HT



HT – high-temperature version

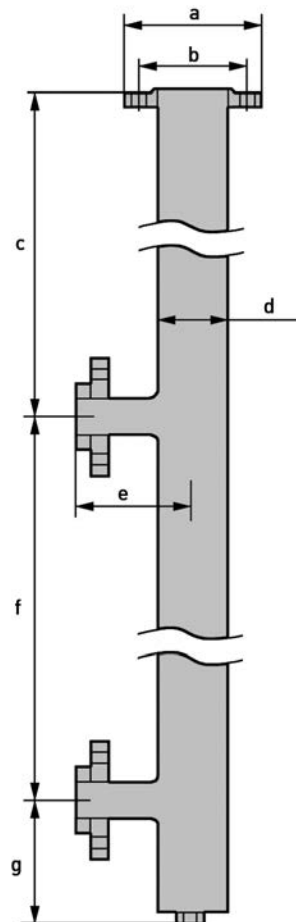
	a	b	c	d	e	f	g	h	j	k
[mm]	138	94	138	168	min. 340	①	≥ 20 ②	114	303	197
["]	5.44	3.70	5.44	6.62	min 13.39	①	≥ 0.79 ②	4.49	11.94	7.76

① Length of the displacer rod (measuring area)

② According to the operating conditions

Dimensions of bypass chamber

Bypass chamber



Dimensions of bypass chamber

	a	b	c	d	e	f	g
[mm]	①	①	340	72	115	②	120
["]	③	③	13.4	2.8	4.5	②	4.7

① Connection according to DIN EN 1092-1

② Length of the displacer rod (measuring area)

③ Connection according to ASME B16.5

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