

Variable Area Flowmeters Armored Purgemeter 10A3200

■ Function

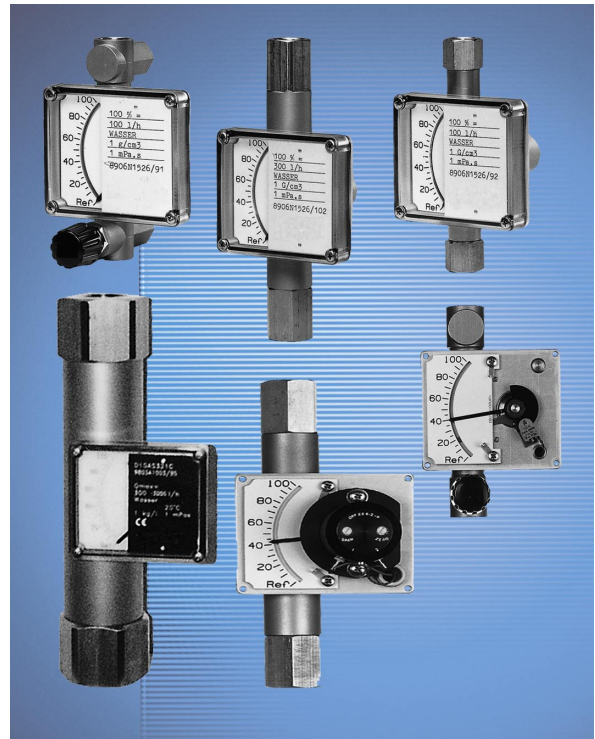
- The armored variable area flowmeter offers new possibilities for metering small flowrates of liquids and gases. The instrument is particularly well suited for metering cloudy, opaque or aggressive fluids.

■ Applications

- The instrument can be installed in Chemical, Petrochemical Industries, gas analyzers, process systems, well systems and wherever glass meter tubes cannot be used for safety reasons.

■ Essential Features

- Measures ranges from 0.26 to 800 GPH water or 1.7 to 3300 SCFH air.
- Easy to read percent or direct reading scale.
- Integral needle valve in the inlet or outlet (10A3220).
- Single and/or dual alarms
- Analog output signal 4-20 mA (10A3250/55)
- Differential pressure regulator (10A3220)
- Installation length only 90 mm (10A3220)
- Optional stainless steel indicator housing.



Armored Purgemeter
Series 10A3200

Specifications

The following design options are available:

Model	Connections	Max. Flow Range (H ₂ O) l/h
10A3220 10A3250	Horizontal ¼" NPT	≤ 100 l/h
10A3225/55	Vertical ¼" NPT	≤ 100 l/h
	Vertical 3/8" NPT	100 – 300 l/h
	Vertical ½" NPT	100 – 800 l/h
	Vertical 1" NPT	800 – 3000 l/h
	Vertical 1" G	800 – 3000 l/h

Flowrate Span: 1:10
For gas applications to 3200 l/h air flow range less than 1:10

Scale Design: Percent or direct reading scale

Scale Length: 60 mm (quarter circle)

Accuracy: ±6% of full scale

Reproducibility: ±0.5% of max.

Protection Class: IP 64, NEMA 3

Max. allowable pressure
Model 10A3225/55 1450 psi (100 bar), optional 2900psi (200 bar)
Model 10A3220/50 580 psi (40 bar)
Model 10A3220 w/differential pressure regulator 200 psi (14 bar)

Materials

Fluid Wetted Parts:
Float, orifice/meter tube, O-rings, fittings
Stainless Steel 1 4571 [316 Ti]/PVDF/PTFE
O-ring Viton A or Buna N

Non-fluid Wetted Parts
Housing cover Polycarbonate or Stainless steel, with glass window
Base plate Anodized aluminum, stainless steel as an option
Cover cap Anodized aluminum stainless steel as an option

Weight
w/o DP regulator: 0.3 to 2.0 kg
with DP regulator: 1.6 kg

Temperature Specifications

Limits:
O-rings O-Ring Viton A 300°F (150°C)
O-Ring Buna N 248°F (120°C)
O-Ring Kalrez 285°F (140°C)
Meter tube holder PVDF 212°F (100°C)
TFE 500°F (260°C)
Alarm transmitter Non-Ex-design 176°F (80°C) T4
Ex-Design 113°F (45°C) T6
Angular converter Ex-Design 122°F (50°C) T4
104°F (40°C) T6

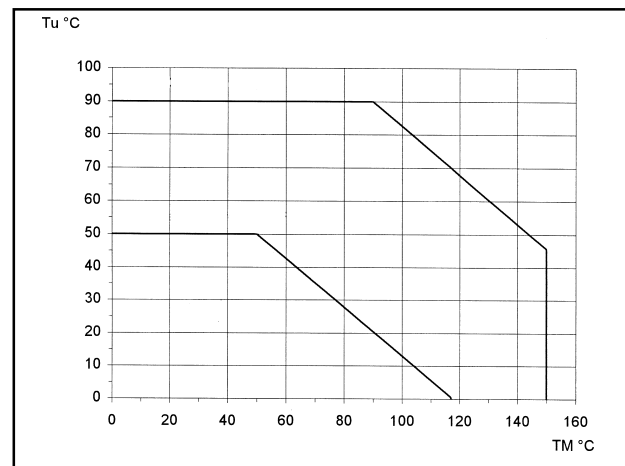


Fig.1: 10A3220/25 Non-Ex-Design (with/without Alarm Transmitter and Angular Converter)

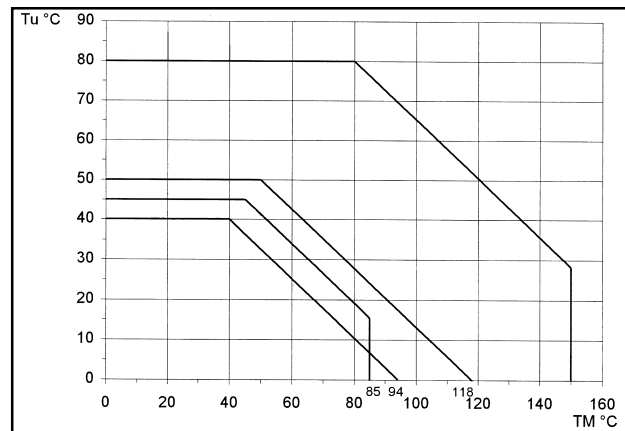


Fig.2: 10A3220/25 with Alarm Transmitter SJ 2, (EEx ia/ib IIC T4/T6, PTB No.: EX-83/2022) and Angular Converter OPF/Ex4, (EEx ib IIC T4/T6, 90C.980 14X)

T_A = Ambient temperature
 T_F = Fluid temperature

Specifications, Accessories

Alarm Transmitter, Model D10A3220/25

Alarm contacts can be installed in the housing, which respond at min. and/or max. flowrate. They can be used to switch the power to pumps, magnet valves, etc. on or off.

The alarm transmitter consists of a slot initiator and a switch amplifier. The switch amplifier is installed outside of the indicator housing. A control vane (4) initiates the switching procedure when it rotates into the slot initiator. The slot initiator can be positioned using a screw driver.

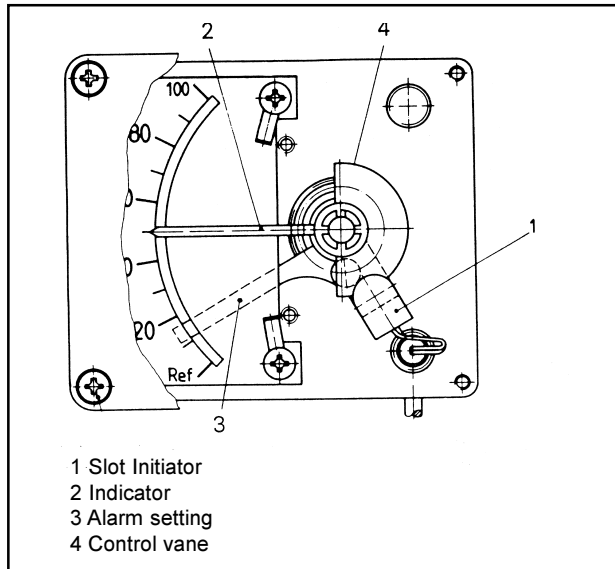


Fig. 3: Armored Purgemeter 10A3220 Indicator with Single Alarm

Alarm Transmitter

Slot Initiator Type SJ2-N (Pepperl & Fuchs)

Ambient Temperature

-20°C to +45°C

Certificate of Compliance

PTB 99 ATEX2219X; EEx ia IIc T6

Alarm Point Settings

Single alarm: min. 0 to 60%, max. 40 to 100%
Double alarm: min. range setting approx. 5%

Setting Accuracy

±2% of max.

Switch Amplifier (remote)

Output

1 or 2 switch relays with potential free contacts

Power

max. 250 V, max. 2A

A Transmitter Power Supply is required for the Alarm Signal Output - Examples

Amplifier	Supply Power	Channel
KFA5-SR2-Ex1.W P/N 163A012U01	115 V, AC	1 SPDT
KFA6-SR2-Ex1.W P/N 163A012U05	220 V, AC	1 SPDT
KFA5-SR2-Ex1. W. LB P/N 163A012U03	115 V, AC	1 DPDT
KFA6-SR2-Ex1. W. LB P/N 163A012U04	220 V, AC	1 DPDT
KFA5-SR2-Ex2.W P/N 163A012U02	115 V, AC	2 SPDT
KFA6-SR2-Ex2.W P/N 163A012U06	220 V, AC	2 SPDT
KFD2-SR2-Ex1.W P/N D163A011U03	24 V, DC	1 SPDT
KFD2-SR2-Ex2.W P/N D163A011U06	24 V, DC	2 SPDT
KFD2-SR2-Ex1.W.LB P/N 163A012U07	24 V, DC	1 DPDT

These switch amplifiers are models manufactured by Pepperl & Fuchs. Others could be used equally as well.

Electronic Converter

Type: OPF Ex 4-2R/L.P. (Mfg'r. Tempress A/S)

Model 10A3250/55-Ex

The model 10A3250/55 flowmeters incorporate an angular converter. The converter is mounted on the pointer axis and converts the pointer position into a proportional 4-20 mA current value.

Output Signal 4-20 mA/-2-Wire

$U_{max} = 30 \text{ V}$

$I_{max} = 30 \text{ mA}$

$C_i \leq 50 \text{ nF}$; $L_i \leq 360 \mu\text{H}$

Ambient Temperature

-20°C to +40°C

Certificate of Compliance No.

DEMCO- No. 90C.98014X, EEX ib IIC T6

Dimensions 10A3220/25

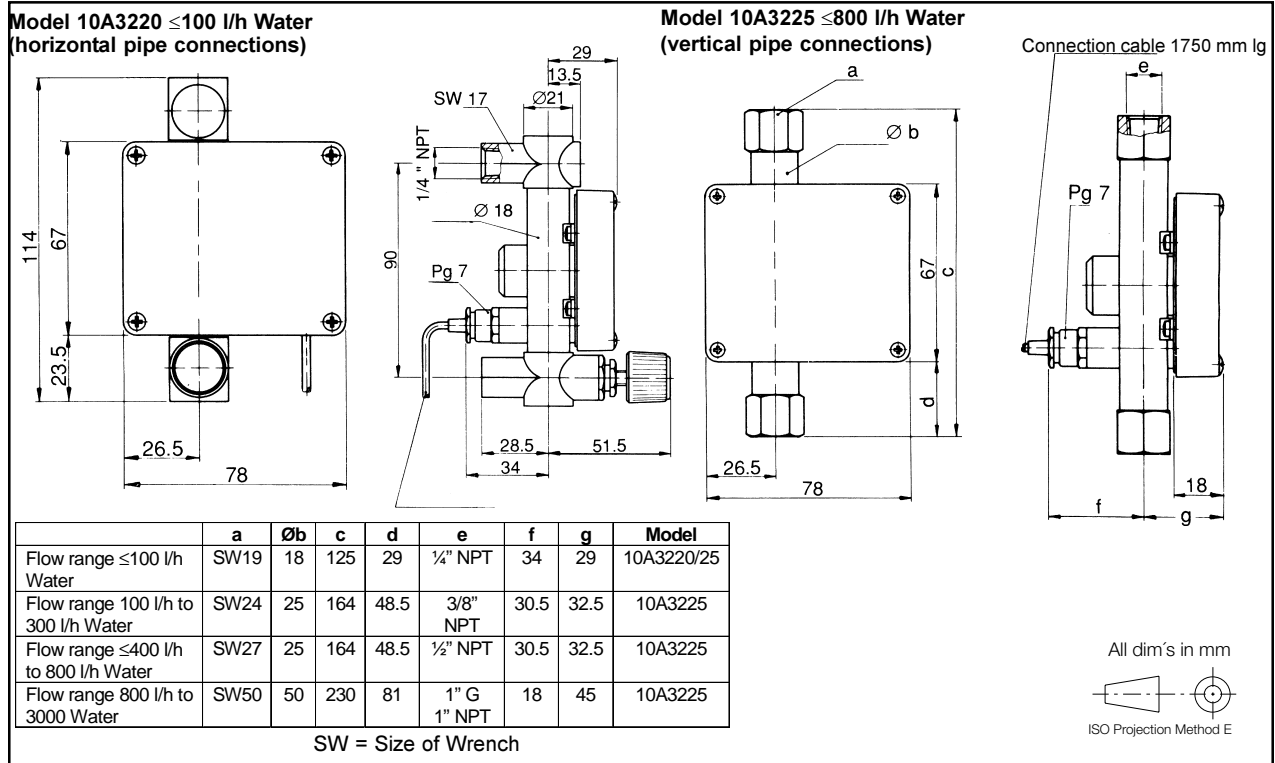


Fig. 4: Model 10A3220, 25 to 800 l/h Water

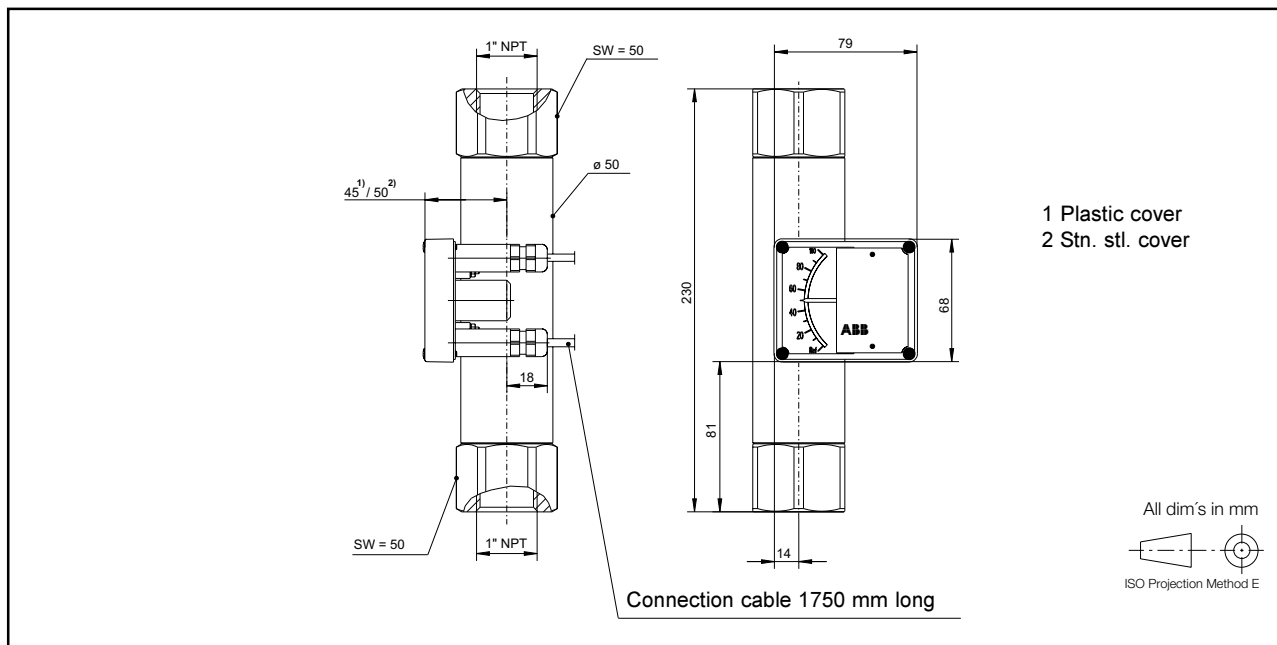


Fig. 5: Model 10A3225, 800 to 3000 l/h Water

Dimensions 10A3250/55

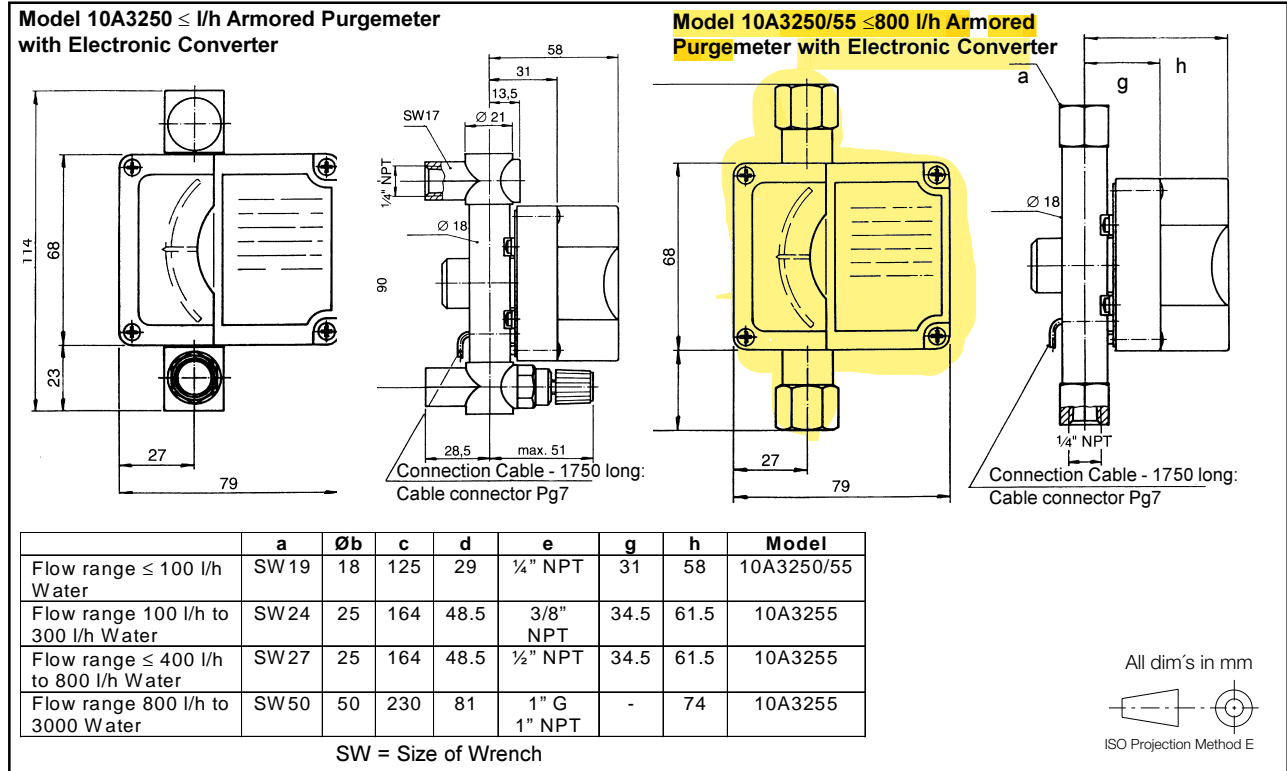


Fig. 6: Model 10A3250, 25 to 800 l/h Water

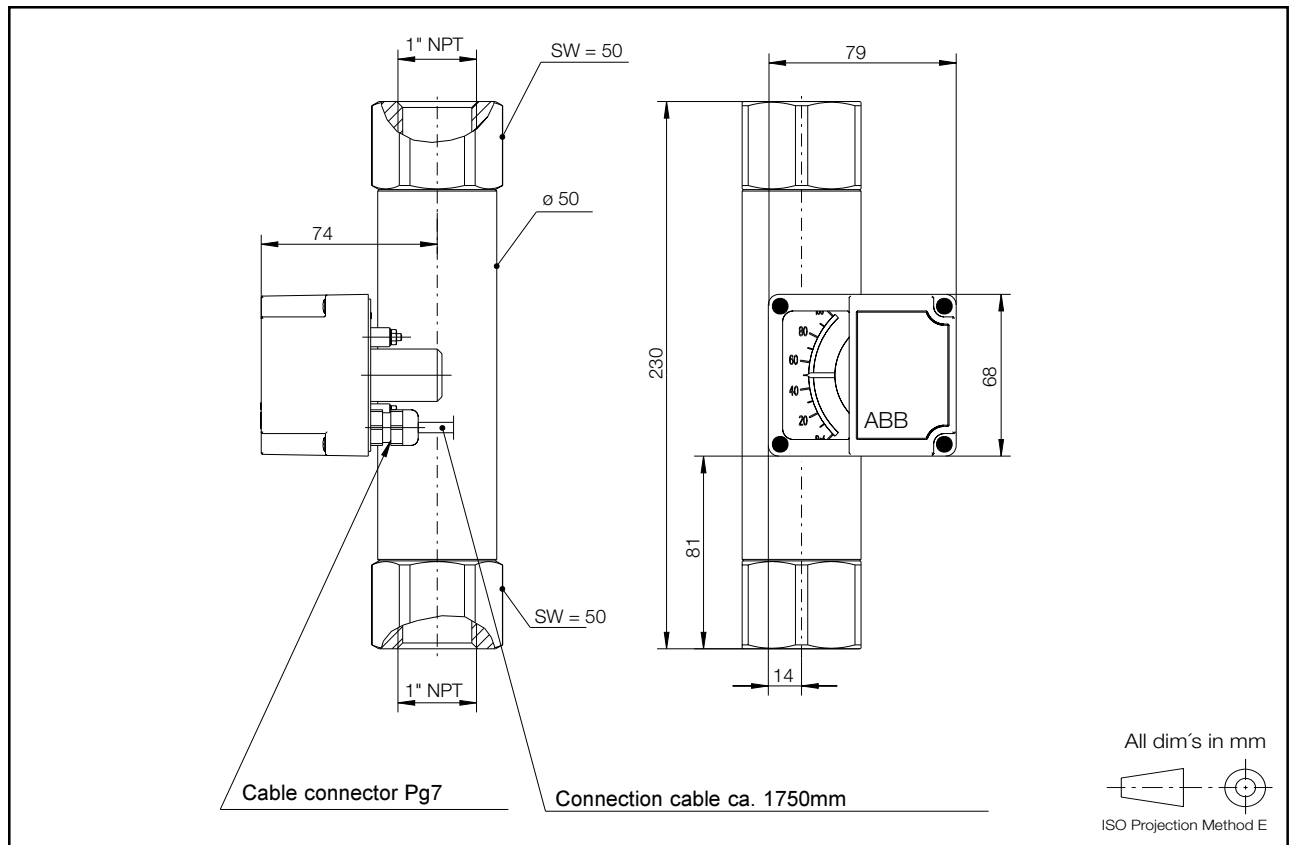


Fig. 7: Model 10A3255, 800 to 3000 l/h Water