

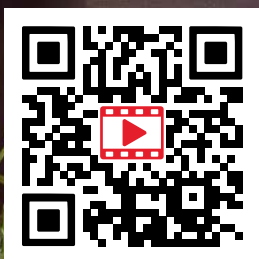
Product announcement



Low pressure drop

Gas bubble and malfunction detection

Suitable for R290 heat pumps according to
DIN EN 60335-2-40 and IEC 60335-2-40



Vortex flow sensors

For residential heat pumps

Vortex flow sensors // VVX20 Low Delta p

for residential heat pumps



Technical Data		
Nominal diameter	DN 20	
Process connection	G1-ISO 228 male, incl. O-rings or QuickFasten without O-rings	
Inner diameter	Ø 19 mm	0.75"
Flow measuring range*		
→ l/min / US gpm	2.5...85	0.66...22.4
→ l/h / US gph	150...5,100	39.6...1,344
Accuracy*		
→ at < 50 % of range	±0.8 % of range	
→ at > 50 % of range	±1.6 % of reading	
Measuring span / Turn down ratio	1:34	
Medium	Water and aqueous solutions	
Pressure rating	PN 10	
Degree of protection EN 60529 with attached cable socket	IP65 and IP67	
Safety functions		
Gas bubble and malfunction detection	The sensor detects whether there are gas bubbles in the fluid during normal operation. The function is available for sensors with Linbus.	
Temperature ranges		
Medium	-20...90 °C (non-freezing)	-4...194 °F (non-freezing)
Ambient and storage temperature	-20...70 °C	-4...158 °F

* Test conditions:
 → Test medium water
 → Media temperature 20...30 °C / 68...86 °F
 → Defined inlet and outlet pipes (see operating manual)

The VVX20 Low Delta p is still under development, but we do not want to withhold our new product from you. Deviations and changes may occur, therefore please contact our product manager Andreas Sieber (a.sieber@sika.net) for up-to-date technical data.

Technical data

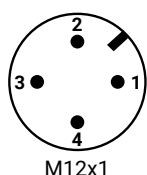
Technical Data	
Electrical data	
Electrical connection	4-pin plug connector M12 x 1
Power supply	5 V DC ($\pm 5\%$)
Current consumption	< 15 mA
Approvals	
	Evaluated according to IEC 60335-2-40 and DIN EN 60335-2-40 by VDE testing agency WRAS pending

Output signals

Frequency output and analog output 0.5...3.5 V	
Frequency output	
Output signal flow	Frequency signal, square wave, pulse duty ratio 50:50, signal current max. 20 mA NPN open collector
Pulsrate [1/l]	200 (optional 2...800)
Pulse rate [pulses/US Gallon]	750 (optional 8...3,000)
Analogue output	
Output signal flow	0.5...3.5 V
Scaling [l/min]	2.5...85
Scaling [US gpm]	0.66...22.4
Voltage rate [V / l/min] → 0.5...3.5 V	0.03636
Voltage rate [V / US gpm] → 0.5...3.5 V	0.13799

Wiring

Pin assignment

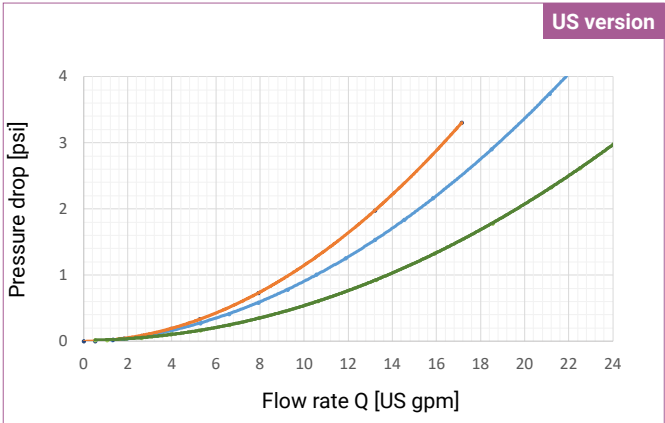
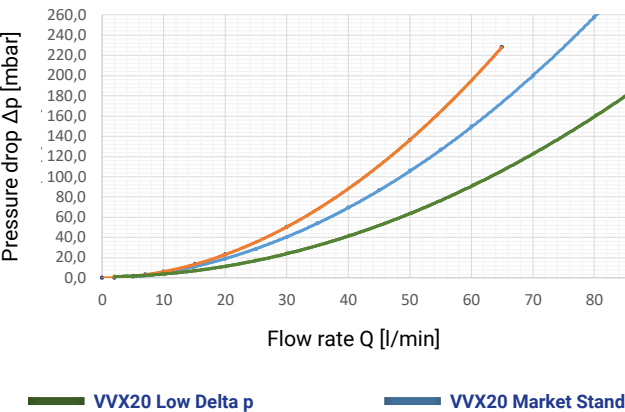


- Pin 1: $+U_B$
- Pin 2: Analog output
- Pin 3: **GND**
- Pin 4: Frequency output

Wire the connecting cable according to the pin assignments shown on the type plate.

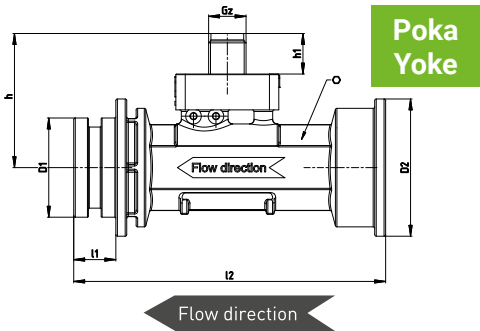
Typical pressure drop

Typical pressure drop VVX20

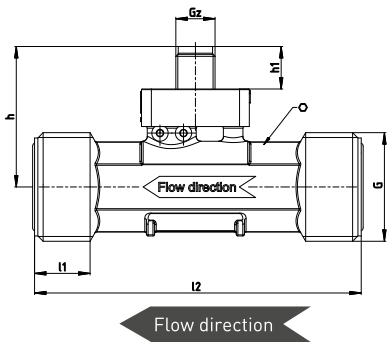


Technical drawings

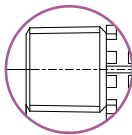
VVX20 QuickFasten



VVX 20 threaded version



NPT version



Dimensions

Dimensions [mm]	h	h1	D1	D2	I1	I2	G	Gz	○ Width across flats
Threaded version									
VVX20	43	13			17	100	G 1	M12 x 1	24
QuickFasten									
VVX20	43	13	31.8	44	13.5	100		M12 x 1	24
Dimensions [inch]									
Threaded version									
VVX20	1.69	0.51			0.81	3.94	¾ - 14 NPT	M12 x 1	0.94 and 1 ⅝"
QuickFasten									
VVX20	1.69	0.51	1.25	1.73	0.53	3.94			

Materials

Materials in contact with media	
Body / tube	PPS
Sensor	PFA
O-rings	EPDM