tekVar Variable Area Flow Sensors

The **tekVar** series is a comprehensive range of variable area flow sensors, which indicate the flow rate of gases and low viscosity liquids. Although simple in construction and low in cost, all **tekVar** sensors are provided with a Calibration Certificate traceable to both USA NIST and UK Accreditation Service (UKAS). They are also manufactured in quality strictly in accordance their ISO 9001 approval.

The **tekVar** embodies a vertical tapered transparent flow tube of tough borosilicate glass or various transparent plastics. These are scaled on the outside in various flow rates units for liquids or gases. Inside the flow tube is a hydraulically designed "float", which is not an accurate description since it has a density always larger than the media being measured. At no flow condition the float rests at the bottom of the flow tube. Upward flow of media causes the float to rise to a position which maintains the pressure drop across it in equilibrium with the effects of gravity and bouyancy forces acting upon it. Since the immersed weight of the float is constant within the media being measured, the pressure drop across it must also remain constant. Therefore, as the flow rate increases, the float will rise in the tapered flow tube to provide a larger annular area, through which the media passes. Hence the float takes up a height position, which is an indication of the flow rate, calibrated with NIST and UKAS traceability.

For optimum accuracy it is imperative that the float remains concentric with the tapered flow tube, even with no straight pipe runs at either end of the tekVar. This is accomplished with tekVar sensors, by both precision engineering and various hydraulic designs of the float, in which aerodynamic flutes are embodied to provide a stabilising, concentric rotation. For large flow sensor floats, a friction-free guide rod is incorporated.

tekVAR Flow Cell Orifice By-Pass

- Accuracy : < ±2.5% of full scale
- Connections : DN10mm - 500mm (3/8" - 20"), JIS10K or ANSI 150lb

mm	inches	H2O (m³/hr)	H2O (gpm)	Air (nm³/hr)
10	0.5"	0.08 - 0.42	0.35 - 1.85	0.8 - 4.0
100	4"	16 - 80	70 - 350	160 - 800
250	10"	90 - 480	400 - 2200	900-5000
400	16"	300 - 1500	1300 - 6600	3000-14500
500	20"	500 - 2500	2200 - 11000	5000-24000

tekVAR Mini Regulator VA

- Accuracy : < ± 5% of full scale
- Connections : 1/8" NPT - 1/4" NPT or BSP
- Working press : max 6 barg (87 psig)

inch	H2O (mlpm)	H2O (gph)	Air (nlpm)	Air (scfh)	Weight (kg)
1/8"	20 - 200	0.3 - 3.0	0.3 - 3.0	0.7 - 7.0	0.5
1/4"	50 - 500	0.8 - 8.0	1.0 - 10	2.5 - 25	0.5
1/4"	0.1-1 lpm	1.6 - 16	2.0 - 20	4.5 - 45	0.5
1/4"	0.2-2.0 lpm	3.0 - 30	5.0 - 50	11- 110	0.5

tekVAR Plastic tube VA

Accuracy : < ± 5% of full scale

Connections : 1/2" - 2 1/2" NPT or BSP or BSPT or PVC glue ends

Flow tube / Float Acrylonitrile styrene or polycarbonate / PVDF or SS

mm	inches	H2O (lpm)	H20 (gpm)	Max temp / pressure
20	3/4	4.0 - 40	1.0 - 10.0	60°C(140°F)/6barg(87psig)
25	1	8.0 - 80	2.0 - 20.0	ditto
50	2	20 - 180	5.0 - 45.0	ditto
63	2 1/2	200 - 1000	50 - 250	ditto