

VENTURIS FLUMES AQUAFLOW



Venturi flumes are intended to measure flowrate in open channels with a free surface.

Made from reinforced polyester, they offer excellent dimensional stability, ensuring highly accurate measurement.

Combined with a level sensor, they become a continuous flowrate measurement solution that is reliable and accurate.

Suitable for liquids loaded with solid or corrosive particles, they can be used in industry, water treatment and WWTP.

PRINCIPLE

The Venturi principle is a lateral-contraction system, moving liquids from a sub-critical to a super-critical flow at the throat cross-section. Adding a threshold to the bottom of the channel enables low flow rates to be measured.

To obtain the flowrate of this discharge, simply measure the level upstream of the contraction and convert it to a flowrate using a formula specific to the size of each Venturi. The Q(h) curve is provided for each channel.

ADVANTAGES



- Open channel flowrate
- Level conversion to flowrate
- Clear or loaded liquids
- Made of polyester resin
- Compliant with ISO 4359
- Ranges from 5 to 3800 m³/h

INSTALLATION

The complete channel must have a straight length before the venturi of 10 x B. This approach length must be masonry or made from the optional measurement and approach channels.

The measuring channel consists of a measuring well with a level scale.

The approach channel uses the dimensions of the measuring channel.

COMPLIANCE WITH STANDARD ISO 4359

The venturi channel strictly complies with ISO 4359, in particular the geometry and application limits provided for in paragraph 10.6 and Figure 1.

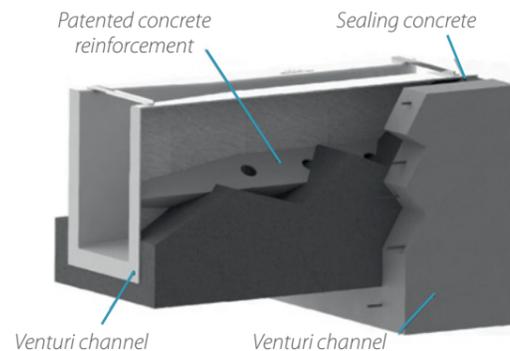
The channel stringently complies with the radius of curvature at the throat entrance as provided for in ISO 4359 paragraph 10.1.4, i.e.

The radius of the transition curvature with the bed must be **4 times gate leaf p**

And the radius of transition curvature with the walls of the throat must be **at least 2(B-b)**

REINFORCED STRUCTURE

As the main cause of measurement inaccuracy is channel installation conditions, and in particular the risk of deformation associated with pouring concrete, the Venturi channel includes an omega-type patented horizontal side reinforcement that provides its rigidity and better grip for the concrete.



TECHNICAL SPECIFICATIONS

Material and construction

- **Polyester resin:** 3-layer polyester resin for AMV 6
4 layers (AQF15, 40, 100 and 200)
5 layers (AQF300 and 600)
6 layers (AQF1000)
Matt binder powder and vinyl ester resin
Marine-grade gel coat with 1st osmosis layer
- **Reinforcements:** Laminated omega concrete reinforcements with setting
AQF6 to AQF200 : 1 reinforcement
AQF300 to AQF1000 : 2 reinforcements
Anti-spacing jig squar

Standards

- **Color:** RAL 7031
- **ISO 4359 geometry** (except AQF6 and AQF15)

Venturi channel accuracy

- **Accuracy:** Between 0 and Q_{min} : 3 to 1%
Between Q_{min} and Q_{nom} : 1%
Between Q_{nom} and Q_{max} : 1.2%
- **Overflow:** 20 mm margin between Q_{max} and overflow

Templates	MINIMUM FLOWRATE			NOMINAL FLOWRATE			MAXIMUM FLOWRATE		b mm	B mm	Lc mm	P mm	C mm
	h (mm)	Q (l/s)	Q (m ³ /h)	h (mm)	Q (l/s)	Q (m ³ /h)	Q (l/s)	Q (m ³ /h)					
AQF6 ⁽¹⁾	5	0,02	0,08	81	1,37	4,95	1,89	6,79	35	50	165	15	140
AQF15 ⁽¹⁾	16	0,20	0,73	122	4,3	15,4	5,84	21	59	100	245	30	200
AQF40	50	1,94	7,00	178	13	47	18	65	102	156	360	30	270
AQF100	50	2,10	7,55	259	25	89	34	123	110	220	520	30	370
AQF200	50	3,24	11,67	330	55	200	76	273	170	340	660	30	460
AQF300	50	4,00	14,41	370	80	290	112	402	210	420	740	30	510
AQF600	51,5	5,38	19,37	506	167	600	230	829	270	450	1012	30	680
AQF1000	61	8,73	31,44	605	273	982	376	1355	340	540	1210	30	800
AQF3000	Maximum Flowrate : 3860 m ³ /h - Please contact us for more informations												

(1) Standard ISO 4359 requires width b to be > 100 mm

VENTURI CHANNEL

Templates	OVERALL DIMENSIONS		
	IT (mm)	LT (mm)	HT (mm)
AQF6 ⁽²⁾	140	733	170
AQFMV15 ⁽³⁾	200	995	230
AQFV40	244	607	314
AQFV100	308	930	414
AQFV200	456	1395	518
AQFV300	540	1636	570
AQFV600	590	1830	750
AQF1000	700	2126	880

(2) A single element with approach, measurement and integrated well

(3) Supplied with measurement channel and integrated well

MEASUREMENT CHANNELS

Templates	OVERALL DIMENSIONS		
	IT (mm)	LT (mm)	HT (mm)
AQFM40	244	780	314
AQFM100	308	1100	414
AQFM200	456	1700	518
AQFM300	540	2100	570

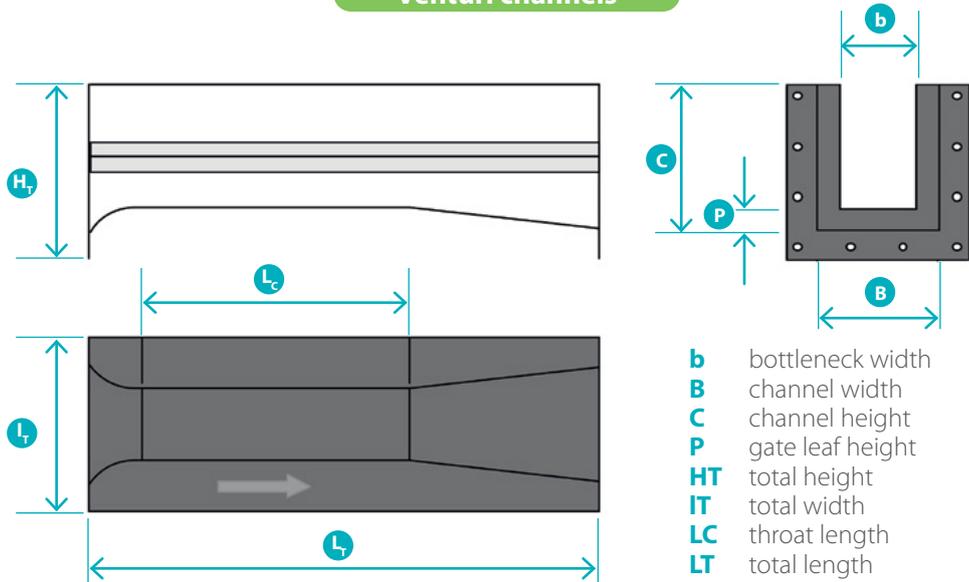
600 and 1000 measuring channels not available

APPROACH CHANNELS

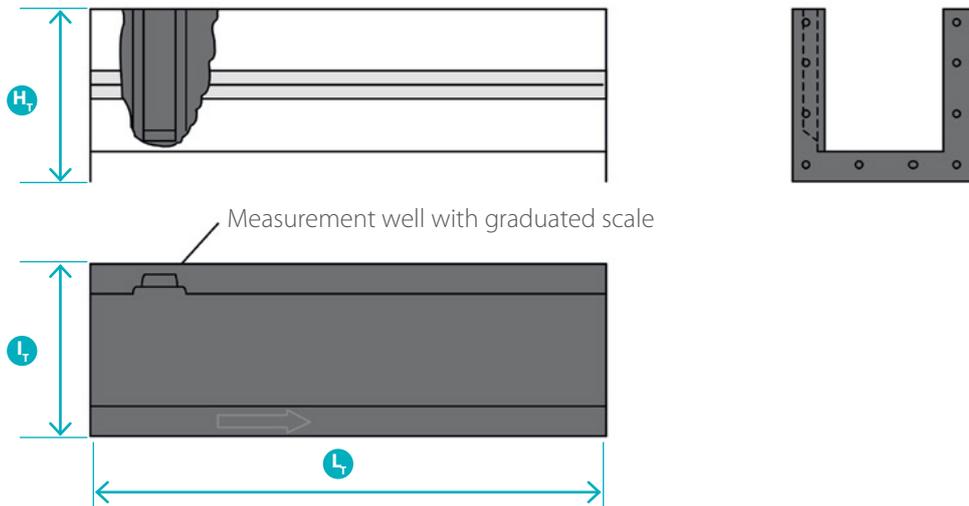
Templates	OVERALL DIMENSIONS		
	IT (mm)	LT (mm)	HT (mm)
AQFA15	200	450	230
AQFA40	244	780	314
AQFA100	308	1100	414
AQFA200	456	1700	518
AQFA300	540	2100	570

600 and 1000 approach channels not available

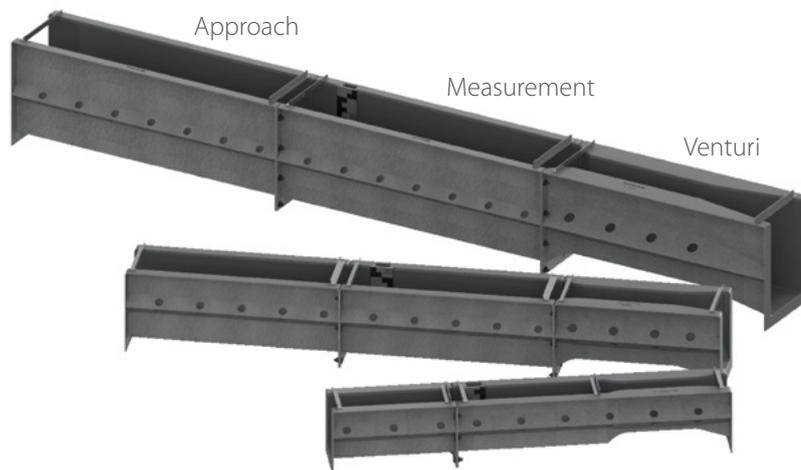
Venturi channels



Measuring channels



Assembly



The three channels, approach, measurement and venturi are bolted together, making up a metering channel with an upstream length 10 times its width B