

ISMA Venturi channels exponential cross section

Presentation:

The originality of ISMA Venturi channels is to hold the classical Venturi channels advantages and to be able to adapt to important flow variations.

This Venturi type is the only one to allow the accurate measure of variable flow in an extreme proportion from 1 up to 100 (for example from 3.6 m³/h to 360 m³/h) (this ratio is 1 to 20 for classical Venturi).

The measuring range extends from 0.22m³/h to 1440m³/h (7 different types).

They are made of polyester and fiberglass.

Our channels have been studied by ENGEES (National School of Water and Environment Engineers in Strasbourg) and the curves have been validated by a COFRAC organisation.

We also propose the approach channel with Limnimetric scale in stainless steel.

An extension of the ISO 4359 norm was published for our Venturi channels.



Advantages:

- More accuracy at a low flow
- Wider measuring range
- Allows large flow variations
- Exponential formula and not "point by point"
- The location of measuring point is represented on the approach flumes

Vue sur la section exponentielle



Options:

- Venturi on adjustable feet in SS
- Upstream and downstream tank on request
- Sampling tank on request
- Measuring well for bubble sensor
- Specific colour on request
- Anti-slip duckboard in polyester
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Example with SS feet

Applications:

Flow measure:

- WWTP
- Industries
- Treatment
- Treatment
- Car wash stations
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Example with tank

Example of installation



Technical specifications

Venturi Channels in fibre glass with approach channel SHORT model

(respect minimum 5B + 3Hmax upstream of the contraction)

	I	II	III	IV	V	VI	VII							
Right upstream to respect	945	1300	1900	2800	4200	5500	7300							
Inner width	90	130	190	280	420	550	730							
Cross bar width	25	30	40	50	80	100	140							
Quantity of cross bar	3	4	4	4	4	4	4							
Channel right length relative to the lateral contraction	455	575	725	880	1080	1100	1460							
Thickness	4	4	5	5	7	8	10							
Position of measuring point relative to the lateral contraction	560	700	885	1120	1400	1850	2400							
Minimum right length upstream relative to the inlet of the Venturi channel	490	725	1175	1920	3120	4400	5840							
Measuring point (<i>upstream of the Venturi</i>)	105	125	160	240	320	750	940							
Max. inner height	200	250	310	380	460	600	800							
Off-all length	750	1000	1350	1800	2500	3150	4200							
Wire stretchers width	30	30	35	50	50	50	55							
Lateral reinforcement (quantity and width)	None		None		None		None		1	85	2	90		
Minimum flow	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h		
Maximum flow	0.06	0.22	0.12	0.43	0.25	0.90	0.5	1.80	1	3.60	2	7.20	4	14.40
	6	22	12	43	25	90	50	180	100	360	200	720	400	1440

Approach channels SHORT MODEL, in fibreglass, for exponential Venturi

Type canal	Inner length (in mm)	Inner width (in mm)	Inner height (in mm)
I	490	90	200
II	725	130	250
III	1175	190	310
IV	1920	280	380
V	3120	420	460
VI	4400 (in 2 x 2200)	550	600
VII	5840 (in 2 x 2920)	730	800

Venturi Channels in fibre glass with approach channel LONG model

(respect minimum 5B + 3Hmax upstream of the contraction)

	I	II	III	IV	V	VI	VII							
Right upstream to respect	945	1300	1900	2800	4200	5500	7300							
Inner width	90	130	190	280	420	550	730							
Cross bar width	25	30	40	50	80	100	140							
Quantity of cross bar	3	4	4	4	4	4	4							
Channel right length relative to the lateral contraction	455	575	725	880	1080	1100	1460							
Thickness	4	4	5	5	7	8	10							
Position of measuring point relative to the lateral contraction	560	700	885	1120	1400	1850	2400							
Measuring point (<i>upstream of the Venturi</i>)	105	125	160	240	320	750	940							
Max. inner height	200	250	310	380	460	600	800							
Off-all length	750	1000	1350	1800	2500	3150	4200							
Wire stretchers width	30	30	35	50	50	50	55							
Lateral reinforcement (quantity and width)	None		None		None		None		1	85	2	90		
Minimum flow	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h	I/s	m³/h		
Maximum flow	0.06	0.22	0.12	0.43	0.25	0.90	0.5	1.80	1	3.60	2	7.20	4	14.40
	6	22	12	43	25	90	50	180	100	360	200	720	400	1440

Approach channels LONG MODEL, in fibreglass, for exponential Venturi

(other length on request)

Type canal	Inner length (in mm)	Inner width (in mm)	Inner height (in mm)
I	950	90	200
II	1300	130	250
III	1900	190	310
IV	2800	280	380
V	4200	420	460
VI	5500 (in 2 x 2750)	550	600
VII	7300 (in 2 x 3650)	730	800