

## ASSUMPTIONS

The liquid flow rate measurement with Venturi flume and water rise method in rectangular channels is based on the actual liquid level measured by the ultrasonic sensor (radar sensor, optional) at the hydraulic structure converted into the value of flow ratio by the ultrasonic flow meter (for ex. FLOWBOX).

The basic condition to apply the method is to provide free, undisturbed outflow of liquid from the measuring flume.

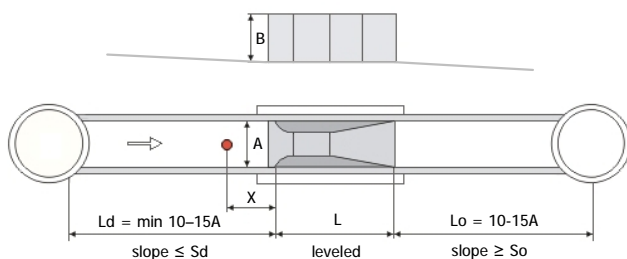
## VENTURI KPV FLUME

Venturi flumes in accordance with UNIKLAR-77 catalogue are intended for measurement of volumetric flow rate in rectangular channels with gravity flow. The flumes are made of stainless steel and enable measurements within the range specified in the table below. The self-cleaning feature of the flumes enables measurements of media with solid impurities.

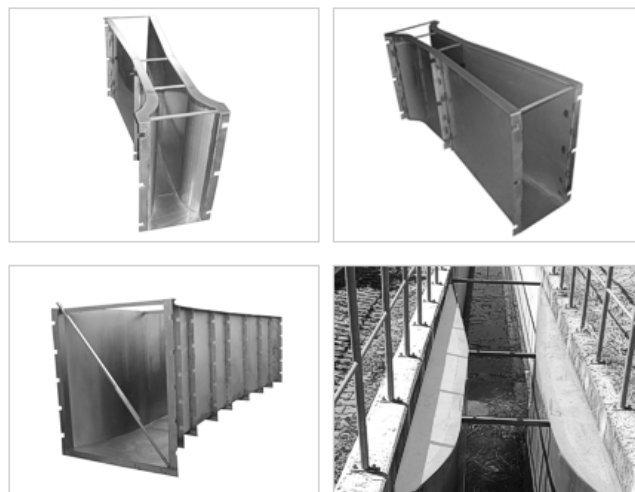
Caution! We also provide Khafagi-Venturi QV302...QV316 flumes.

The flume is embedded in concrete in a rectangular channel with minimum gradient maintained and subcritical flow. The measurement in lower range for a specific flume type will be encumbered with a significant error.

## THE FAMILY OF VENTURI KPV FLUMES



Flume	Q [m³/h]	A [cm]	L [cm]	B [cm]	X [cm]	Sd [‰]	So [‰]
KPV1	4,3-108	15	67	40	60	8,5	14,0
KPV2	22-180	20	90	60	60	7,0	12,0
KPV3	72-360	30	135	70	60	6,0	11,0
KPV4	72-540	40	180	70	60	5,0	9,0
KPV5	65-720	50	225	80	100	5,0	8,5
KPV6	76-1188	60	270	90	100	5,0	9,6
KPV7	231-2124	80	360	120	120	4,0	7,5
KPV8	386-3528	100	450	150	200	3,5	6,0
KPV9	465-5199	120	540	160	225	3,7	5,5
KPV10	1171-7200	150	675	180	225	3,0	5,5
KPV11	1800-10800	180	810	180	270	3,0	5,5



## FLOWBOX FLOW METER

The FLOWBOX Flow meter is intended for measurement of liquid level and volume in vessels and flow rate measurement in gravitational pipelines. The ultrasonic method eliminates sensor contact with aggressive (acids, bases) or contaminated (wastewater) medium. The measuring set includes M1600 Microprocessor Transmitter, ultrasonic level sensor and connecting cable.



## FLOWBOX FLOW METER FEATURES

- Readout: momentary flow rate, total flow rate
- Current outputs: 0-20mA, 4-20mA
- Impulse output - adder
- Digital outputs RS232C/485 - Modbus
- Accuracy ± 0,1% of range
- Supply: ~230 V, 50 Hz or battery supply
- Power input < 10 VA
- Ambient temperature: transmitter: -10 to +55 C, sensor: -30 to +60 C
- Housing protection rating: transmitter: IP65, sensor: IP68
- Housing material: transmitter: ABS, sensor: PP, PVDF
- Weight: ~1,5kg
- Automatic temperature compensation
- Narrow ultrasonic beam
- Ex version (on request)

## FLOWBOX FLOW METER – OPTIONAL VARIANTS

- Flow meter with data logger
- Flow meter with an additional measurement - FLOWBOXplus
- Flow meter in battery version - FLOWBOXbat
- Flow meter with remote data transmission