

ASSUMPTIONS

The liquid flow rate measurement with Parshall 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).

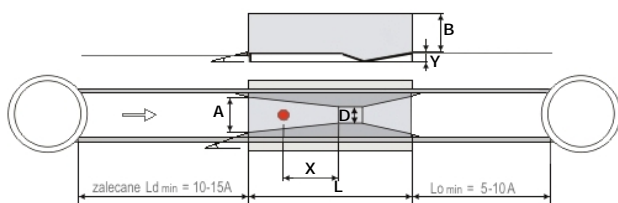
The basic condition to apply the method is to provide free, undisturbed outflow of liquid from the measuring flume.

PARSHALL FLUME

Parshall flumes in accordance with ISO 9826 data sheet are intended for measurement of volumetric flow rate in rectangular channels with gravity flow. The flumes are made of stainless steel or PVC sheets and enable measurements within the range specified in the table below.

The flume is embedded in concrete in a rectangular channel with subcritical flow. The conditions can be obtained by maintaining a specific gradient and minimum inlet and outlet channel length. The measurement in lower range for a specific flume type will be encumbered with a significant error.

THE FAMILY OF PARSHALL FLUMES



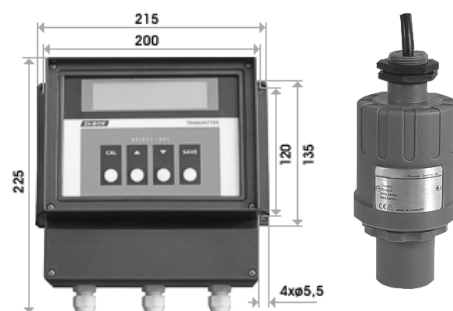
Flume	Q [m³/h]	A	L	B	D	X	Y
P1	1-20	16,75	63,5	24,8	2,54	24,2	2,86
P2	2-48	21,35	77,5	28,6	5,08	27,6	4,28
P3	3-151	25,88	91,5	49,2	7,62	31,1	5,71
P4	5-470	39,69	152,4	69,6	15,24	41,4	11,43
P5	9-907	57,47	162,6	87,6	22,86	58,8	11,43
P6	11-1640	84,46	286,7	99,06	30,48	91,4	22,9
P7	15-2509	102,6	294,3	99,06	45,70	96,5	22,9
P8	43-3373	120,7	301,9	99,06	61,00	101,6	22,9
P9	61-5137	157,2	316,9	99,06	91,40	111,8	22,9
P10	162-9000	230,2	346,7	99,06	152,4	132,1	22,9

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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 (on request)
- Accuracy $\pm 0,1\%$ 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: $\sim 1,5$ kg
- 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