Měřidla průtoků a hladin
Meters of liquids and levels

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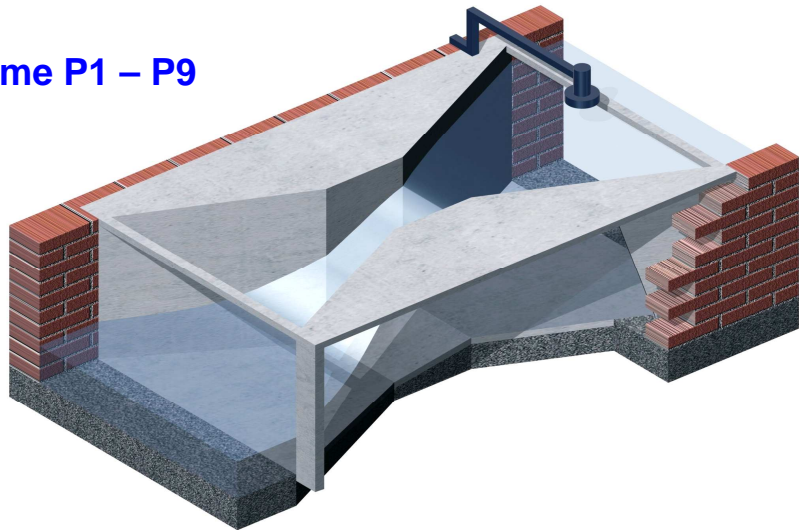Fax: +420 543 214 755
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info   info

Adaptive system of ELA meters

Parshall flume
type P1 – P9
for open profile

Parshall flume P1 – P9

Specific Parshall flume
Czech Metrology Institute certificated
Suitable for stream, drainage, irrigation canal,
reservoir outlet, sewer system, waste-water treatment plant, etc.

Applications

Agriculture
Water treatment
Power, civil engineering
Chemical, food, pharmaceutical industry

Function descreption

measuring device of the volume flow rate with a wide variety of use
measuring of flow rate with ELA ultrasonic flowmeter
easy and quick installation
high accuracy
system reliability
utility design protected

Advantages

3 x time lower head loss compared with readily available sharp-crested weir
low cost investment costs
easy instalation to the sewage system
minimum services cost

Technical data – details:

The customer assume personal responsibility for reasonable using of sensor and control unit.

Technical conditions:

Liquids temperature 0°- 80°C
Free surface of liquid flow rate
Inorganic salts, acids and alkalines solutions without oxidations characters resistant
Solvent organic solutions resistant
Accuracy better then 4 %

Discharge equatation:

$$Q = a \cdot h_a^b \quad [\ m^3/s,\ m\ ]$$

ultrasonic sensor

inflow

	P1	P2	P3	P4	P5	P6	P7	P8	P9
Q_{min}	0,26	0,52	0,78	1,52	2,25	2,91	4,4	5,8	8,7
Q_{max}	6,22	15,1	54,6	168	368	598	898	1211	1841
h_d/h_a	0,5			0,6		0,7			
m	9	10.6	19.1	49.0	81.0	146	183	231	252
W	2.54	5.08	7.62	15.24	22.86	30.48	45.70	61.00	91.4
B`	30.0	34.0	39.0	53.0	75.0	120.0	130.0	135.0	150.0
C	9.29	13.49	17.80	39.4	38.1	61.0	76.2	91.44	121.9
D	16.75	21.35	25.88	39.69	57.47	84.46	102.6	120.7	157.2
E	23	26.4	46.7	62.0	80	92.5	92.5	92.5	92.5
L	63.5	77.5	91.5	152.4	162.6	286.7	294.3	301.9	316.9
O1	2,8	4,2	5,7	11,5	11,5	10	10	10	10
O2	4,6	6,4	8,2	19,1	19,1	17,6			
S	20	20	20	20	20	20	20	20	20
U	24.8	28.6	49.2	69.6	87.6	100.1	100.1	100.1	100.1
V	30.7	35.35	39.9	54.0	80	100	120	140	180
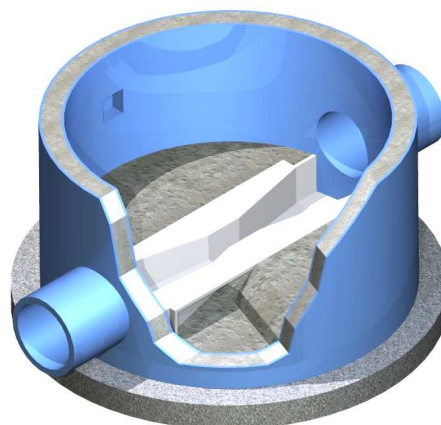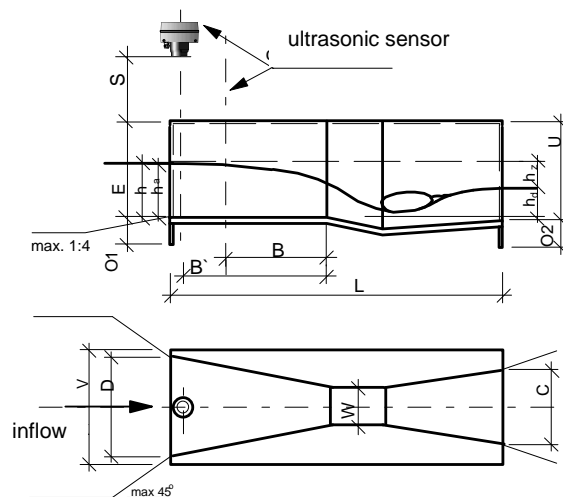
Data description

m	weight of flume (kg)
h_d/h	ratio of water submergance (-)
h	water depth measured at the distance B´ in front of the throat (m)
h_d	water depth behind the flume (m)
W	windth of the throat (cm)
B´ - V	dimensions of flume (see pic.) (cm)
Z	deviation (probability 95 %) for Qmin, Qmax (-)
Q	flow water (m^3/s)