

ULTRASONIC OPEN CHANNEL FLOW METER



DESCRIPTION

The instrument produced by our company uses ultrasonic waves through the air, non-contact method to measure. Compare with contact instrument, it has higher reliability and durability in the condition of sticky dirt, corrosive liquid

APPLICATIONS

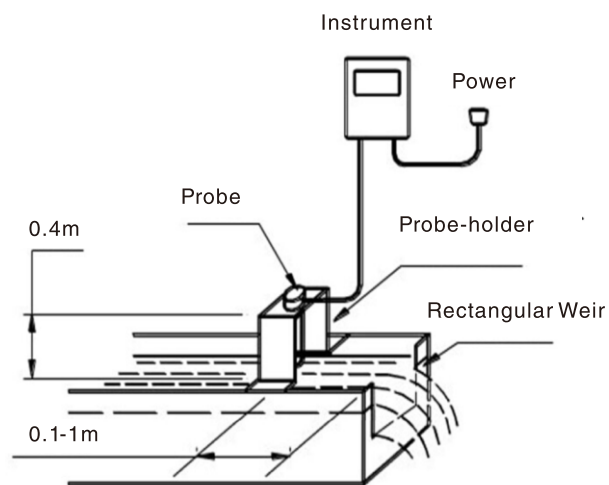
- Urban water supply diversion canal
- Sewage treatment inflow and discharge channels
- Discharge channels for chemical liquid and wastewater of industrial and mining enterprises
- Water conservancy projects and agricultural irrigation channels
- Discharge gate flow measurement

FEATURES

- There are no special requirements for the cross-sectional shape and size of the channel.
- It can be installed and maintained without stopping water.
- No flow resistance, no water-head loss.
- When the cross-section of the channel is large, multi-channel speed measurement is used to achieve high-precision measurement.
- It can measure the flow and velocity in the forward and reverse directions.
- Large measuring range and high accuracy.
- It can be used for the calibration equipment of slot-weir or other open channel flow meters.

TECHNICAL DATA

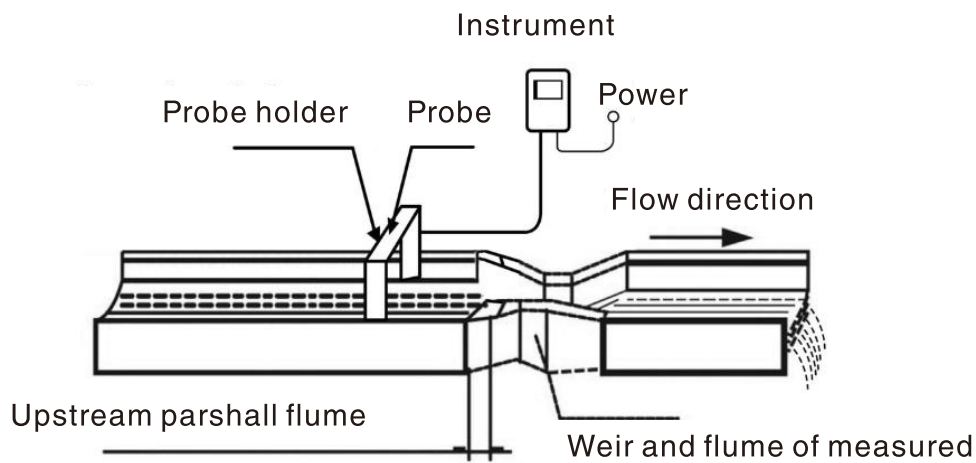
Function	Compact type	Remote type
Range	0.1l/s- 99999.99 m ³ /h	
Cumulative Flow	Max: 4290000000.00 m ³	
Max range for level	1m, 2m, 3m	
Accuracy for Level	0.50%	
Resolution	3mm or 0.1%	
Display	English LED	
Accuracy for flow	Standard weir: 1- 5% (meet the requirements of national standard weir and channels) Non-standard weir: 10- 30%	
Analog output	(Four-wire system) 4- 20mA/750Ωload	
Delay output	(optional)two groups :AC 220V/ 8A or DC 24V/ 5A	
Power supply	Standard:24VDC 100mA; optional: 220V AC+15% 50Hz	
Power supply	(optional)12VDC, battery, solar	
Environment temperature	LED:-20- +60°C, Probe: -20- +80°C	
Environment pressure	Standard atmospheric pressure	
Environment humidity	≤ 90%RH,Non-condensing	
Process temperature	-20- +80°C	
Process pressure	Standard atmospheric pressure	
Communication	Optional:485, 232, MODBUS protocol	
Protection Grade	LED:IP67 Probe: IP68	LED:IP65, probe:IP68
Cable Probe	No	Standard: 10m, The longest: 100m
Probe installation dimension	M48x2mm thread + matching nuts	
Probe Material	Standard: ABS Teflon material in corrosive environment	



The installation of rectangular weir

MODEL SELECTION

UOCF	1	2	3	4	5	6	Description
Structure	S						Compact type
	L						Remote type (5m cable)
Channel Type		TR					Triangular Weir
		RE					Rectangular Weir
		PA					Parshall flume
Level Range			1				1m
			2				2m
			3				3m
Power Supply				DC			24V DC
				AC			220V AC
Communication					4		RS485
					2		RS232
Probe Material						AB	ABS
						PV	PVDF
						PT	PTFE



The installation of parshall flume

Parshall flume structure dimension											
Item	No.	Throated			Contraction			Diffusion			Wall height
		b	L	N	B1	L1	La	B2	L2	K	
Small type	1	0.03	0.08	0.03	0.17	0.356	0.237	0.093	0.203	0.019	0.23
	2	0.05	0.11	0.04	0.21	0.406	0.271	0.135	0.254	0.022	0.26
	3	0.08	0.15	0.06	0.26	0.457	0.305	0.178	0.305	0.025	0.46
	4	0.15	0.31	0.11	0.40	0.610	0.407	0.394	0.610	0.076	0.61
	5	0.23	0.31	0.11	0.58	0.864	0.576	0.381	0.457	0.076	0.77
Standard type	6	0.25	0.60	0.23	0.78	1.325	0.883	0.55	0.92	0.08	0.80
	7	0.30	0.60	0.23	0.84	1.350	0.902	0.60	0.92	0.08	0.95
	8	0.45	0.60	0.23	1.02	1.425	0.948	0.75	0.92	0.08	0.95
	9	0.60	0.60	0.23	1.20	1.500	1.0	0.90	0.92	0.08	0.95
	10	0.75	0.60	0.23	1.38	1.575	1.053	1.05	0.92	0.08	0.95
	11	0.90	0.60	0.23	1.56	1.650	1.099	1.20	0.92	0.08	0.95
	12	1.00	0.60	0.23	1.68	1.705	1.139	1.30	0.92	0.08	1.0
	13	1.20	0.60	0.23	1.92	1.800	1.203	1.50	0.92	0.08	1.0
	14	1.50	0.60	0.23	2.28	1.95	1.303	1.80	0.92	0.08	1.0
	15	1.80	0.60	0.23	2.64	2.10	1.399	2.10	0.92	0.08	1.0
	16	2.10	0.60	0.23	3.00	2.25	1.504	2.40	0.92	0.08	1.0
	17	2.40	0.60	0.23	3.36	2.40	1.604	2.70	0.92	0.08	1.0
Large type	18	3.05	0.91	0.343	4.76	4.27	1.794	3.68	1.83	0.152	1.22
	19	3.66	0.91	0.343	5.61	4.88	1.991	4.47	2.44	0.152	1.52
	20	4.57	1.22	0.457	7.62	7.62	2.295	5.59	3.05	0.229	1.83
	21	6.10	1.83	0.686	9.14	7.62	2.785	7.32	3.66	0.305	2.13
	22	7.62	1.83	0.686	10.67	7.62	3.383	8.94	3.96	0.305	2.13
	23	9.14	1.83	0.686	12.31	7.93	3.785	10.57	4.27	0.305	2.13
	24	12.19	1.83	0.686	15.48	8.23	4.785	13.82	4.88	0.305	2.13
	25	15.24	1.83	0.686	18.53	8.23	5.776	17.27	6.10	0.305	2.13

PARSHALL FLUME WATER-FLOW FORMULA

Item	No.	Width throat b(m)	Flow Formula $Q=Cha^n$ (L/S)	Water level h(m)		Flow Q(L/S)		Critical flood (%)
				min	max	min	max	
Small type	1	0.025	$60.4ha^{1.55}$	0.015	0.21	0.09	5.4	0.5
	2	0.051	$120.7ha^{1.55}$	0.015	0.24	0.18	13.2	0.5
	3	0.076	$177.1ha^{1.55}$	0.03	0.33	0.77	32.1	0.5
	4	0.152	$381.2ha^{1.54}$	0.03	0.45	1.50	111.0	0.6
	5	0.228	$535.4ha^{1.53}$	0.03	0.60	2.5	251	0.6
Standard type	6	0.25	$561ha^{1.513}$	0.03	0.60	3.0	250	0.6
	7	0.30	$679ha^{1.521}$	0.03	0.75	3.5	400	0.6
	8	0.45	$1038ha^{1.537}$	0.03	0.75	4.5	630	0.6
	9	0.60	$1403ha^{1.548}$	0.05	0.75	12.5	850	0.6
	10	0.75	$1772ha^{1.557}$	0.06	0.75	25.0	1100	0.6
	11	0.90	$2147ha^{1.565}$	0.06	0.75	30.0	1250	0.6
	12	1.00	$2397ha^{1.569}$	0.06	0.80	30.0	1500	0.7
	13	1.20	$2904ha^{1.577}$	0.06	0.80	35.0	2000	0.7
	14	1.50	$3668ha^{1.586}$	0.06	0.80	45.0	2500	0.7
	15	1.80	$4440ha^{1.593}$	0.08	0.80	80.0	3000	0.7
	16	2.10	$5222ha^{1.599}$	0.08	0.80	95.0	3600	0.7
17	2.40	$6004ha^{1.605}$	0.08	0.80	100.0	4000	0.7	
Large type	18	3.05	$7463ha^{1.6}$	0.09	1.07	160.0	8280	0.8
	19	3.66	$8859ha^{1.6}$	0.09	1.37	190.0	14680	0.8
	20	4.57	$10960ha^{1.6}$	0.09	1.67	230.0	25040	0.8
	21	6.10	$14450ha^{1.6}$	0.09	1.83	310.0	37970	0.8
	22	7.62	$17940ha^{1.6}$	0.09	1.83	380.0	47160	0.8
	23	9.14	$21440ha^{1.6}$	0.09	1.83	460.0	56330	0.8
	24	12.19	$28430ha^{1.6}$	0.09	1.83	600.0	74700	0.8
	25	15.24	$35410ha^{1.6}$	0.09	1.83	750.0	93040	0.8