

ULTRASONIC OPEN CHANNEL FLOW METER

TO WORK WITH INNOVATIVE SPIRIT
TO DEVELOP HIGH QUALITY PRODUCTS
FOR THE MEASUREMENTS OF FLUIDS



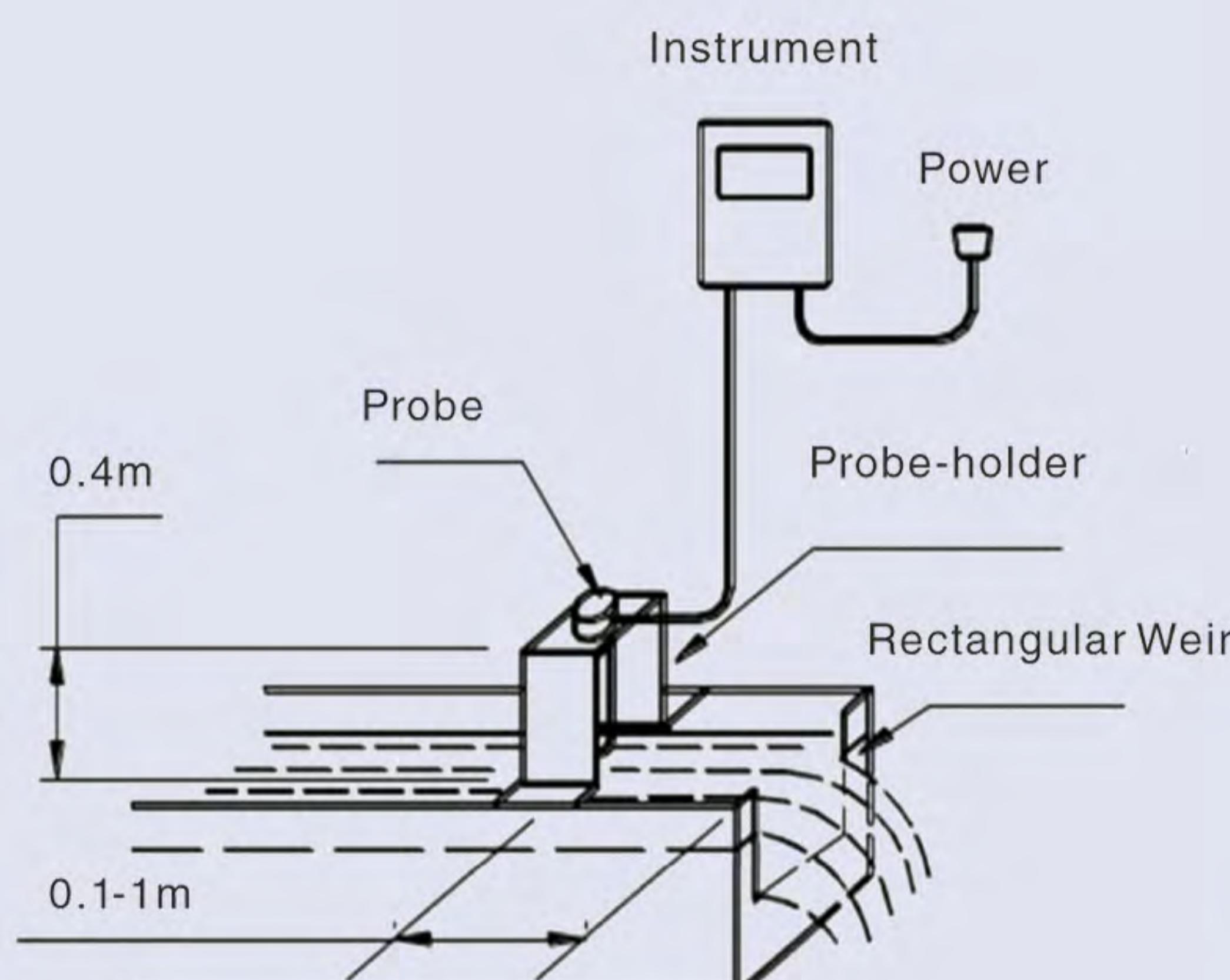
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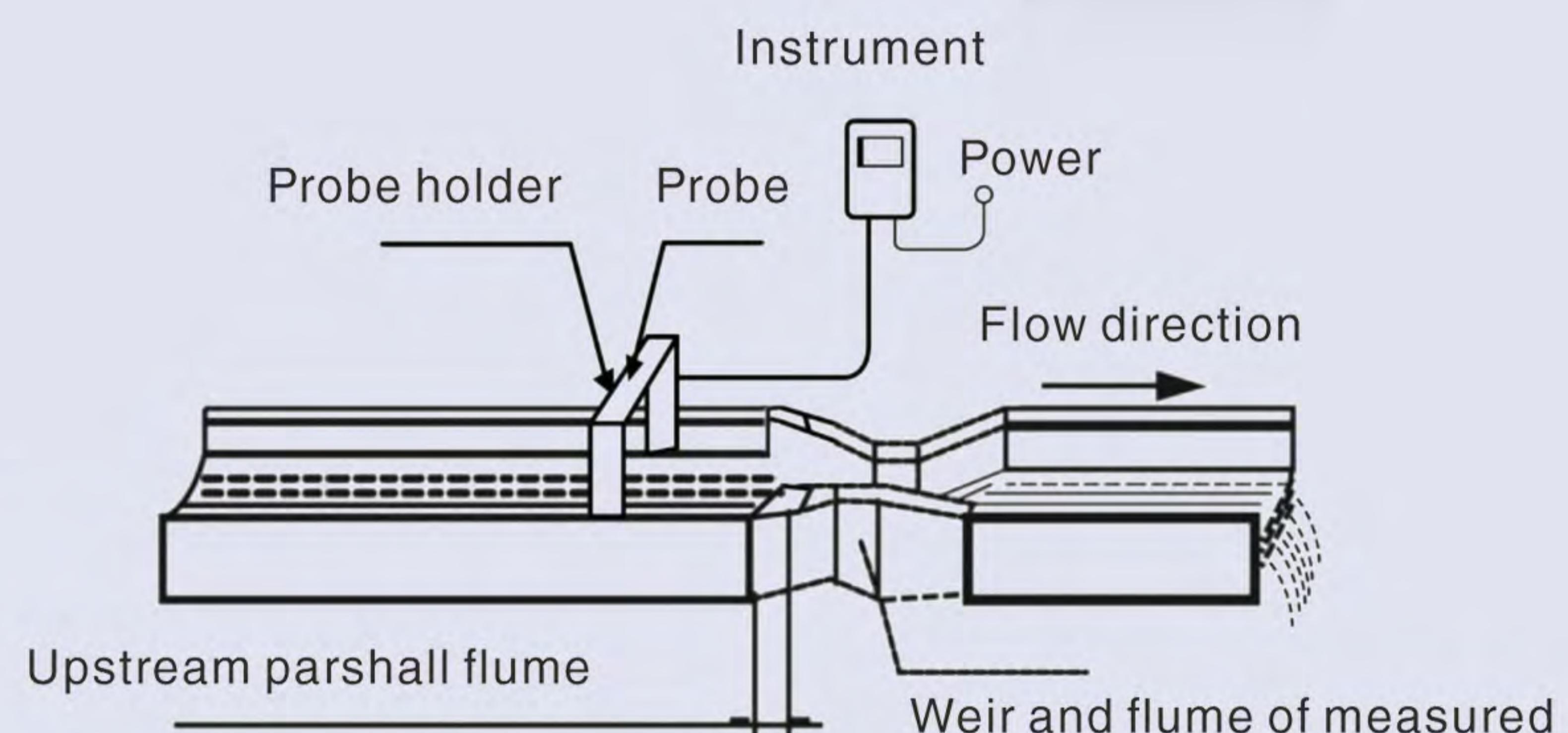
01

ULTRASONIC OPEN CHANNEL FLOW METER WORKING PRINCIPLE

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.



The installation of rectangular weir



The installation of parshall flume

02
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

03
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.

ULTRASONIC OPEN CHANNEL FLOW METER

04 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 <input type="checkbox"/> The longest: 100m
Probe installation dimension	M48x2mm thread + matching nuts	
Probe Material	Standard: ABS Teflon material in corrosive environment	

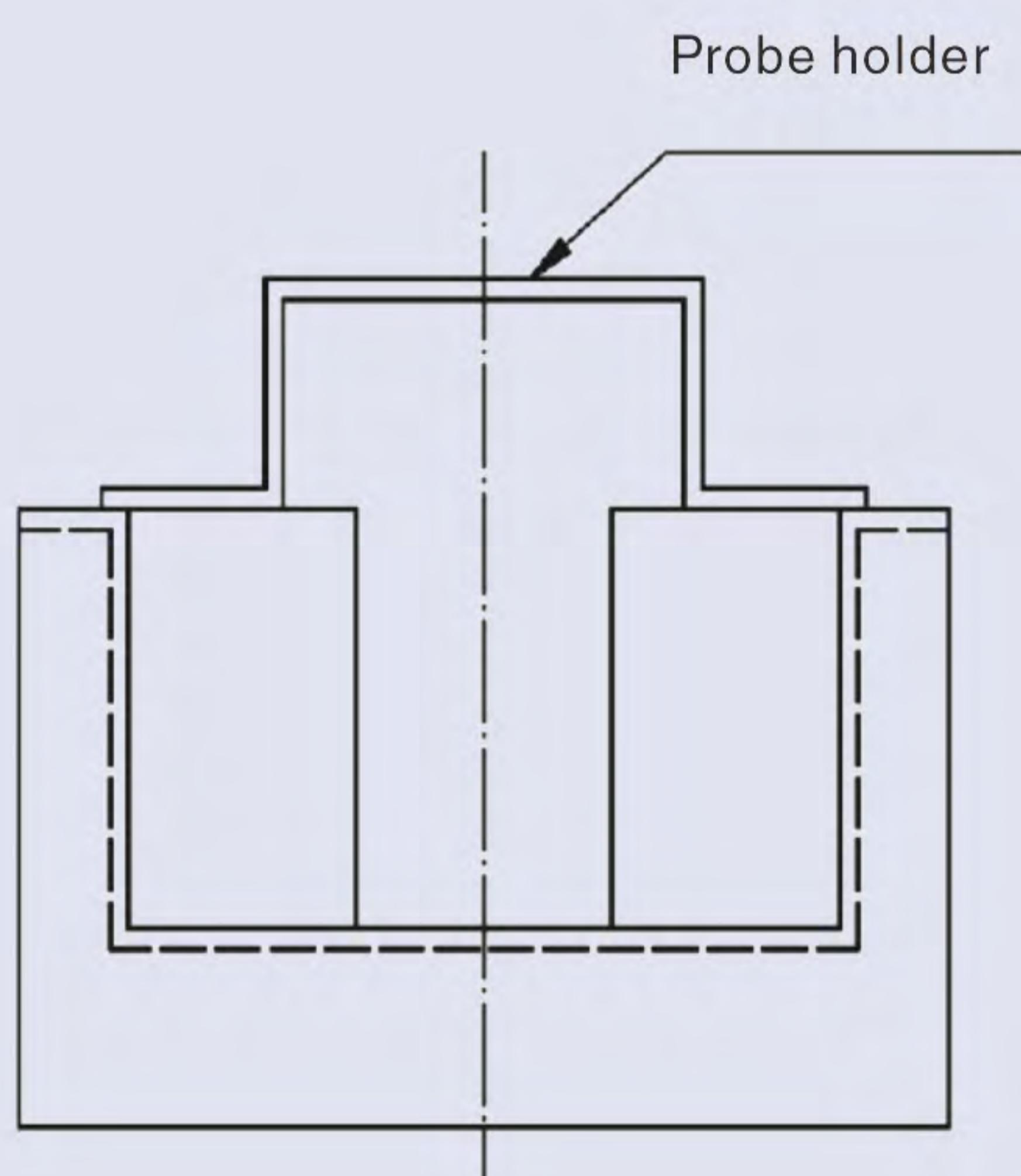
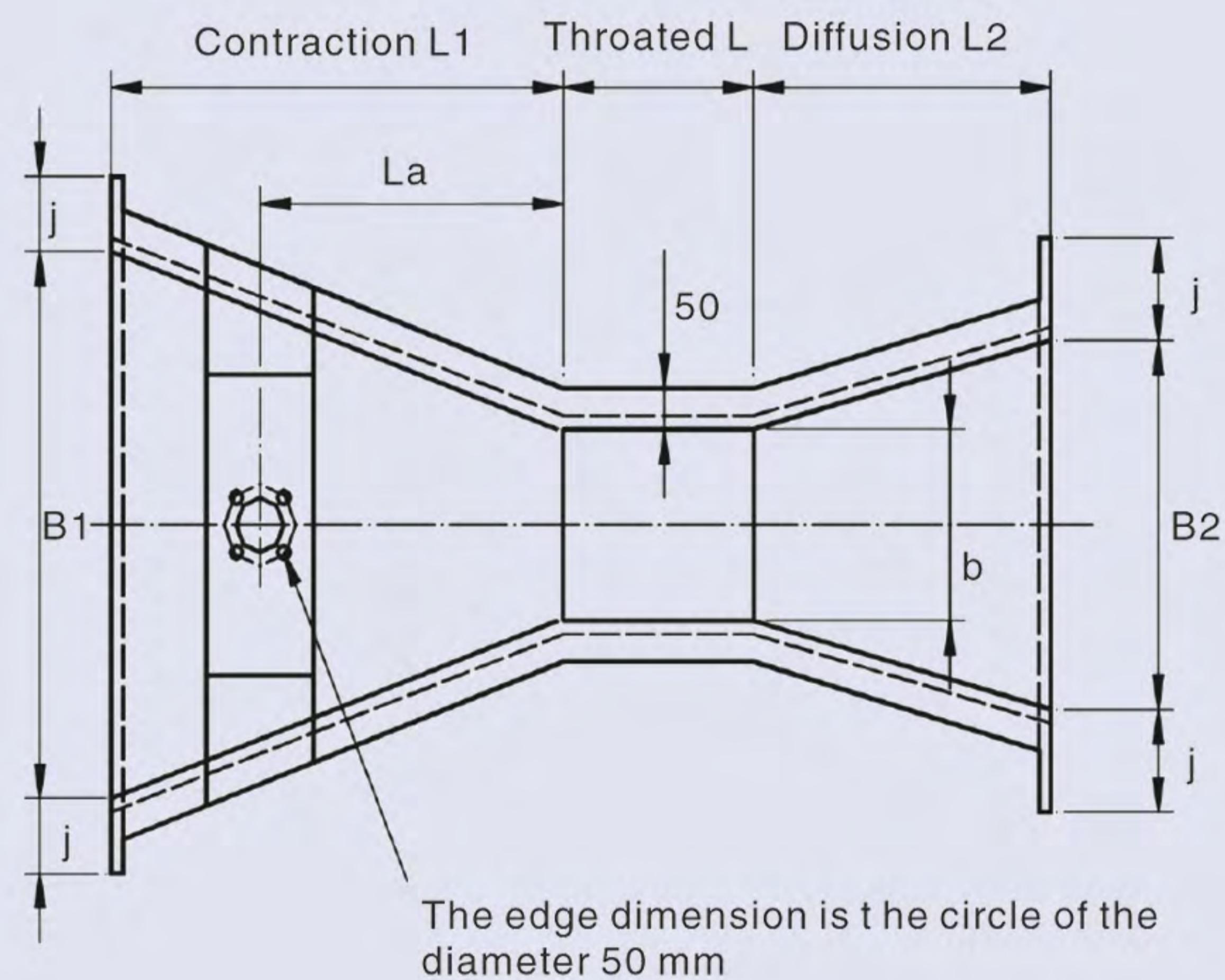
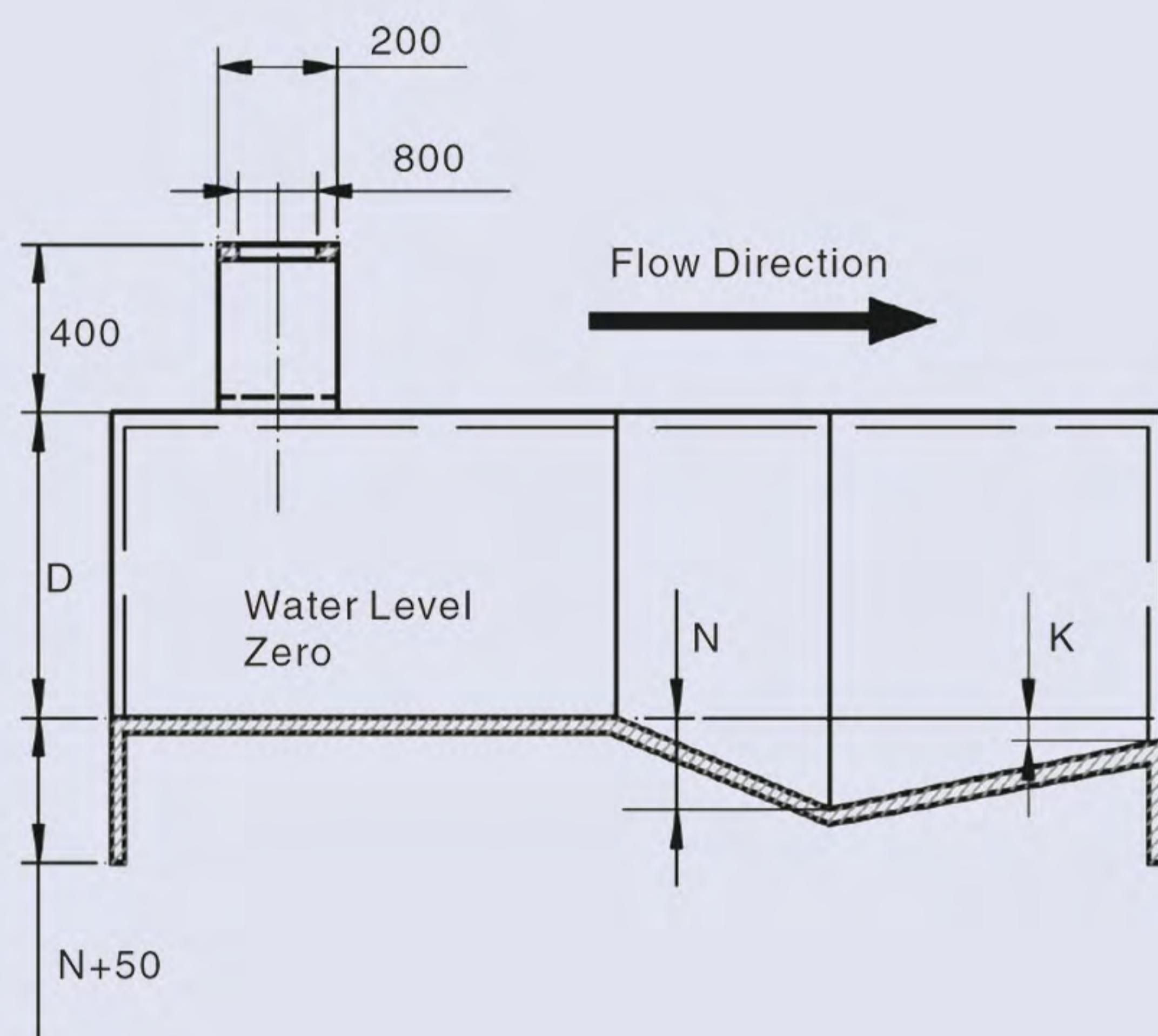
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05 MODEL SELECTION

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

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06 DIMENSION



Description

Material: FRP, PVC, Stainless steel

1. Inner dimension must be accurate
2. Inner surface should be smooth, flat.
3. The thickness of wall is more than 8mm
4. The span of probe-holder, please increase the strength
5. The distance between holder and the highest level is more than 400mm.
6. The dimension of J related to the channel, according to the scene situation

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Parshall flume structure dimension											
Item	No.	Throated			Contraction			Diffusion			Wall height
		b	L	N							D
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

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07

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