



NIVOSONAR

OPEN CHANNEL FLOW METERS

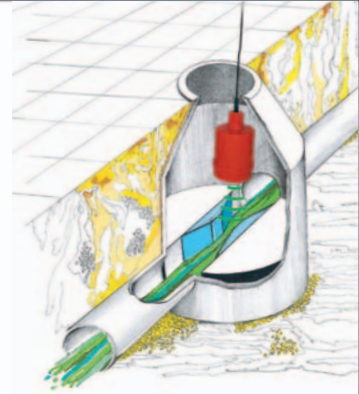


OUR PROFESSION IS YOUR LEVEL

FLOW MEASUREMENT

GENERAL DESCRIPTION

The **NIVOSONAR GPA** flow measurement system enables flow measurements on **PARSHALL** flumes, gravitational sewers, brook channels, irrigation channels or any other open channels. The measurement system consists of an ultrasonic level transmitter and a measuring flume which is easy to install in new or existing channel structures. In order to provide wide application possibilities **PARSHALL** flumes are available to order in 9 different sizes with measurement range from 1 m³/h up to 6627 m³/h. The **PARSHALL** flume is a rigid structure, manufactured out of polypropylene with narrow tolerances to ensure high accuracy of metering, therefore during transport and installation great care should be taken to prevent the flume of getting deformed.

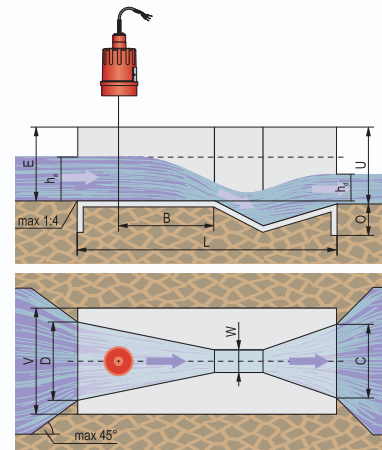


APPLICATION

With the **PARSHALL** flume applied as a reducing element, the stagnation pressure causes the liquid level to rise. This change in level is in proportion with the velocity of the liquid and the flow rate. **EasyTREK** ultrasonic level transmitter measures the change in level and transmits measurement data via **HART** communication to the **MultiCONT** multichannel process controller. **EasyTREK** transmitters can be remote programmed via **HART** by **MultiCONT** and data logging can be also realized besides displaying or transmitting measurement data on **RS 485** line into **PC**.

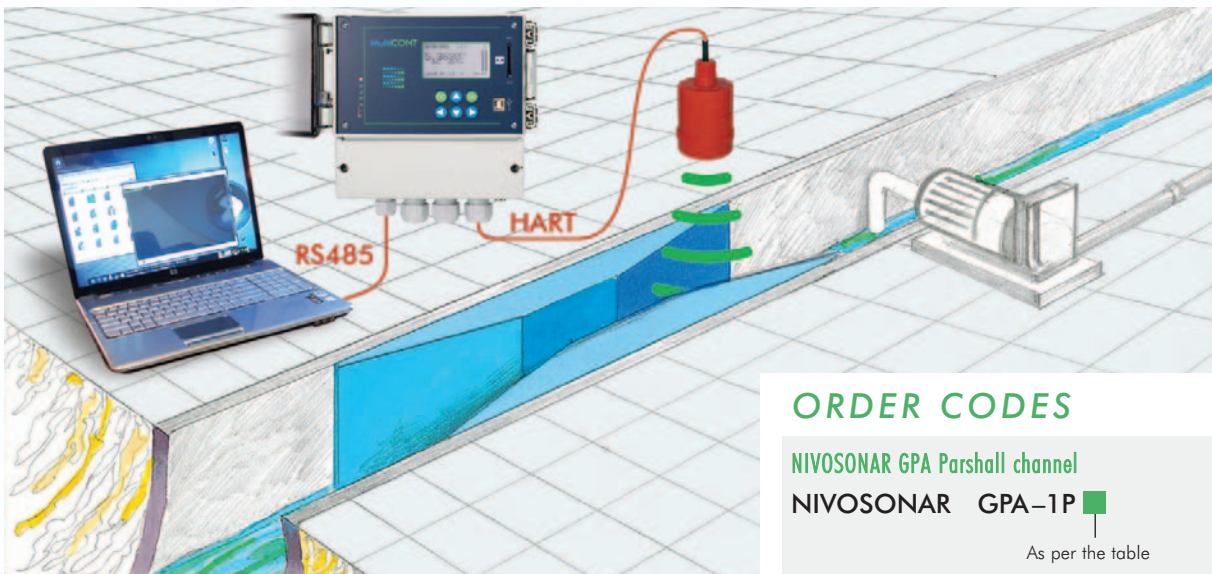
TYPE	NIVOSONAR GPA									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	
Q _{min}	m ³ /h	0.936	1.872	2.808	5.472	8.1	10.476	15.84	20.88	31.32
Q _{max}	m ³ /h	22.392	54.36	196.56	604	1324.8	2152.8	3232.8	4359.6	6627
W	cm	2.54	5.08	7.62	15.24	22.86	30.48	45.7	61	91.4
B	cm	30	34	39	53	75	120	130	135	150
C	cm	9.29	13.49	17.8	39.4	38.1	61	76.2	91.44	121.9
D	cm	16.75	21.35	25.88	39.69	57.47	84.46	102.6	120.7	157.2
E	cm	23	26.4	46.7	62	80	92.5	92.5	92.5	92.5
L	cm	63.5	77.5	91.5	152.4	162.6	286.7	294.3	301.9	316.9
O	cm	5	5	5	10	10	10	10	10	10
U	cm	24.8	28.6	49.2	69.6	87.6	100.1	100.1	100.1	100.1
V	cm	30.7	35.35	39.9	54	80	100	120	140	180
m	kg	9	10.6	19.1	49	81	146	183	231	252
hd/ha		0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
a		0.0609	0.1197	0.1784	0.354	0.521	0.675	1.015	1.368	2.081
b		1.552	1.553	1.555	1.558	1.558	1.556	1.560	1.564	1.569

$$Q = a \cdot h_0^b \text{ [m}^3/\text{s]} \quad (\text{where } h_0 \text{ is the measured level in meters)}$$



ACCURACY

Accuracy of **NIVELCO**'s flow measurement system is depended on the proper installation. Under optimal circumstances 1.5 – 2 % accuracy can be achieved by proper installation and suitable laminar flow conditions.



ORDER CODES

NIVOSONAR GPA Parshall channel
NIVOSONAR GPA-1P ■

As per the table