HYDRUS

ULTRASONIC METER

HYDROMETER

APPLICATION

Static ultrasonic water meter for accurate measuring and recording for all applications of water supply.

FEATURES

- Real data communication, open metering telegram
- Long-term stability under difficult conditions
- Unlimited system capability
- Leak detection
- Higher performance than class D requirements
- No calming sections required
- No measurement of air
- Insensitive against sedimentation
- Mounting in any installation position, battery lifetime up to 16 years
- Suitable for outdoor installation
- Displaying of error and alarm codes

DIEHL
Metering

smart in solutions

HYDRUS
ULTRASONIC METER

GENERAL

			HYDRUS
Medium temperature range		°C	1 ... 50
Temperature safety		°C	1 ... 90
Ambient operating temperature		°C	1 ... 70
Ambient storage temperature		°C	-20 ... +50
Nominal pressure	PN	bar	16
Power supply			One or two 3.6 VDC lithium batteries
Battery lifetime			Up to 12 years (one battery), up to 16 years (two batteries)
Interfaces			Optical, radio 434 or 868 MHz, M-Bus, L-Bus, pulse
Data storage			For events and for consumption values
Protection class			IP 68

TECHNICAL DATA DISPLAY

	HYDRUS
Display indication	LCD, 8-digit
Unit	m³/h - l/h - m³ - l - °C - F - h - d
Values displayed	Volume- flow - mediums temperature - display test - current error and alarm status - date - primary and secondary address - radio signal ON/OFF - battery lifetime - accounting day - error hour counter - pulse values

INTERFACES

	HYDRUS
Optical	For configuration of display and radio telegram, for testing optical test pulses, to switch to the various displays
Radio	434 or 868 MHz, real data telegram (configurable), Open Metering Standard
M-Bus	2400 Baud (adjustable to 300 Baud), configurable telegram, cable length 1.5 m
L-Bus	In combination with radio, cable length 1.5 m
Pulse	Two configurable pulse outputs, cable length 1.5 m

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TECHNICAL DATA

Nominal flow rate	Q_3	m³/h	1.6	1.6	1.6	1.6	1.6	2.5
Nominal diameter	DN	mm	15	15	15	20	20	15
Overall length	L	mm	110	134	165	130	190	110
Overload flow rate	Q_4	m³/h	2	2	2	2	2	3.125
Transition flow rate	Q_2	l/h	9.6	9.6	9.6	9.6	9.6	16
Minimum flow rate	Q_1	l/h	6	6	6	6	6	10
Starting flow rate		l/h	1.9	1.9	1.9	1.9	1.9	3.5
Pressure loss at Q_3		bar	0.6	0.6	0.6	0.25	0.25	0.33

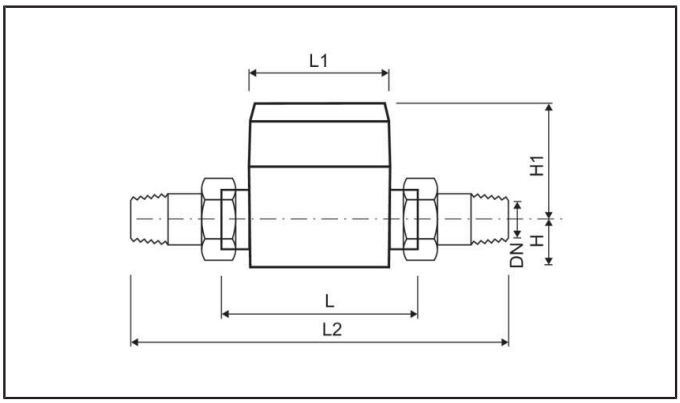
Nominal flow rate	Q_3	m³/h	2.5	2.5	2.5	4	4	4
Nominal diameter	DN	mm	15	20	20	20	20	20
Overall length	L	mm	165	130	190	130	154	190
Overload flow rate	Q_4	m³/h	3.125	3.125	3.125	5	5	5
Transition flow rate	Q_2	l/h	16	16	16	25.6	25.6	25.6
Minimum flow rate	Q_1	l/h	10	10	10	16	16	16
Starting flow rate		l/h	3.5	3.5	3.5	5.5	5.5	5.5
Pressure loss at Q_3		bar	0.33	0.25	0.25	0.3	0.3	0.3

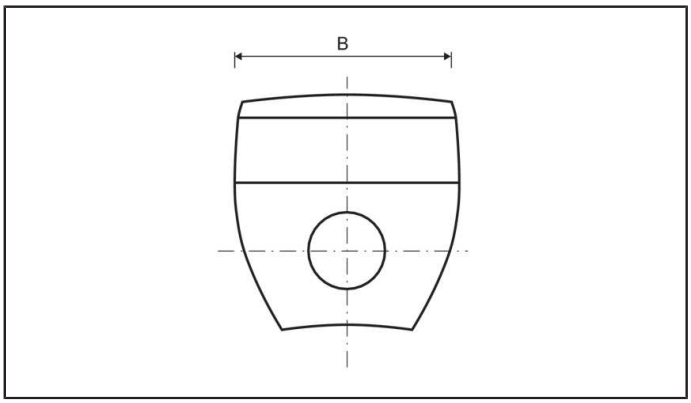
APPROVAL

		DN 15 - 20
Approval		MID LNE 14586, OIML R49, NMI 14/3/15, EN 14154, TVO, KTW
Dynamic range (Q_3/Q_1) - $Q_3$1.6 m³/h	R	160 / 250
Dynamic range (Q_3/Q_1) - $Q_3$2.5 - 4 m³/h	R	160 / 250 / 400

HYDRUS DN 15 - 20
ULTRASONIC METER

DIMENSIONS





Nominal flow rate	Q_3	m³/h	1.6	1.6	1.6	1.6	1.6	2.5
Nominal diameter	DN	mm	15	15	15	20	20	15
Overall length	L	mm	110	134	165	130	190	110
Counter length	L1	mm	88	88	88	88	88	88
Counter width	B	mm	94	94	94	94	94	94
Overall length with coupling	L2	mm	186	210	240	225	290	186
Connection thread on meter		Inch	G¾B	G¾B	G¾B	G1B	G1B	G¾B
Connection thread of coupling		Inch	R½	R½	R½	R¾	R¾	R½
Height	H	mm	32	32	32	34	34	32
Height	H1	mm	67	67	67	65	65	67
Weight without coupling		kg	0.8	0.9	1	0.9	1.1	0.8
Weight with coupling		kg	1	1.1	1.2	1.3	1.5	1

Nominal flow rate	Q_3	m³/h	2.5	2.5	2.5	4	4	4
Nominal diameter	DN	mm	15	20	20	20	20	20
Overall length	L	mm	165	130	190	130	154	190
Counter length	L1	mm	88	88	88	88	88	88
Counter width	B	mm	94	94	94	94	94	94
Overall length with coupling	L2	mm	240	225	290	225	250	290
Connection thread on meter		Inch	G¾B	G1B	G1B	G1B	G1B	G1B
Connection thread of coupling		Inch	R½	R¾	R¾	R¾	R¾	R¾
Height	H	mm	32	34	34	34	34	34
Height	H1	mm	67	65	65	65	65	65
Weight without coupling		kg	1	0.9	1.1	0.9	0.9	1.1
Weight with coupling		kg	1.2	1.3	1.5	1.1	1.3	1.5

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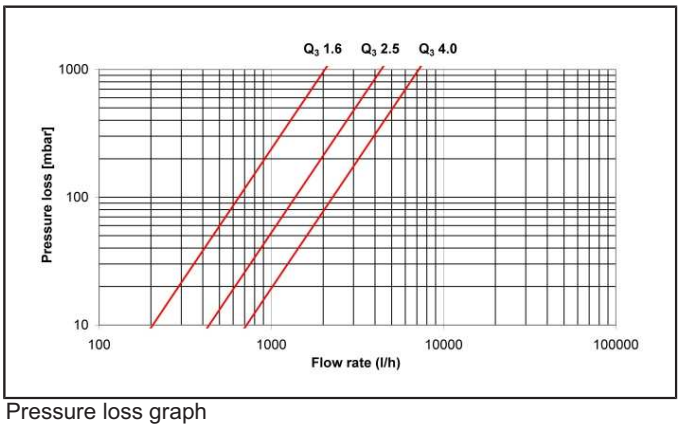
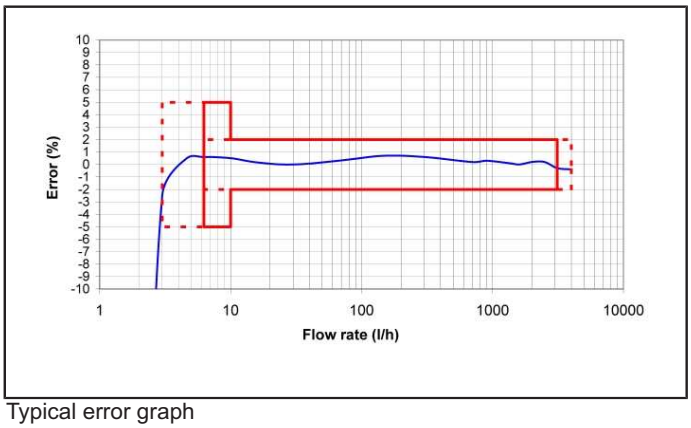
PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph

HYDRUS DN 25 - 50
ULTRASONIC METER

TECHNICAL DATA

Nominal flow rate	Q_3	m³/h	6.3	10	16	25
Nominal diameter	DN	mm	25	25	40	50
Overall length	L	mm	260	260	300	300
Overload flow rate	Q_4	m³/h	8	12.5	20	31.25
Transition flow rate	Q_2	l/h	80	64	64	100
Minimum flow rate	Q_1	l/h	50	40	40	62.5
Starting flow rate		l/h	24.5	24.5	24.5	38.5
Pressure loss at Q_3		bar	0.13	0.35	0.24	0.23

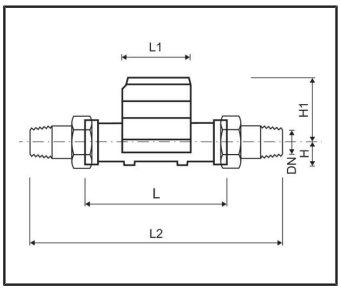
APPROVAL

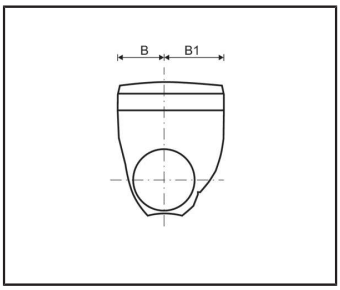
		DN 25 - 50
Approval		MID LNE 14586, OIML R49, EN 14154, TVO, KTW
Dynamic range (Q_3/Q_1) - $Q_3$6.3 m³/h	R	40 / 80 / 160 / 200
Dynamic range (Q_3/Q_1) - $Q_3$10 m³/h	R	40 / 80 / 160 / 200 / 250
Dynamic range (Q_3/Q_1) - $Q_3$16 m³/h	R	40 / 80 / 160 / 200 / 250 / 400 (DN 40)
Dynamic range (Q_3/Q_1) - $Q_3$25 m³/h	R	40 / 80 / 160 / 200 / 250 / 400

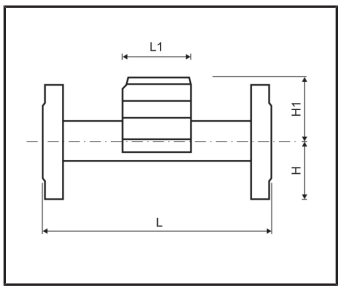
HYDRUS DN 25 - 50

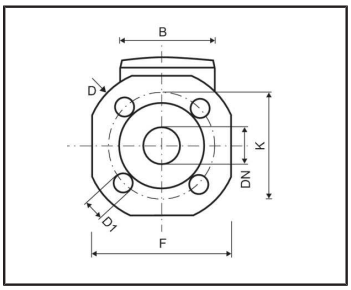
ULTRASONIC METER

DIMENSIONS



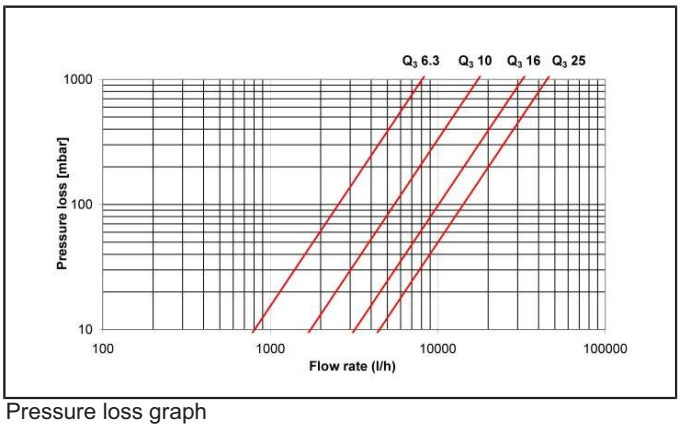




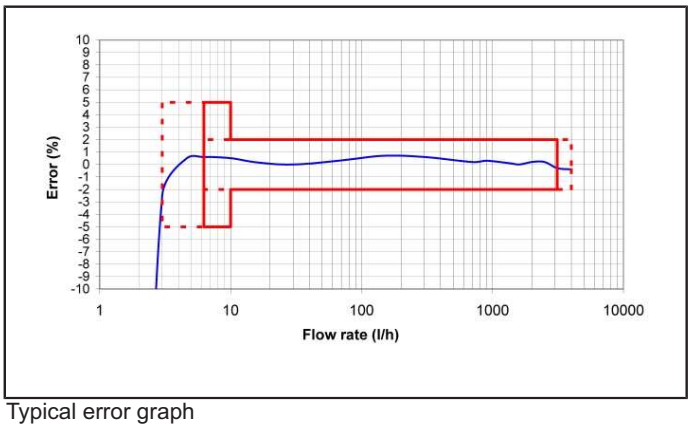


Nominal flow rate	Q_3	m^3/h	6.3	10	16	25
Nominal diameter	DN	mm	25	25	40	50
Overall length	L	mm	260	260	300	300
Counter length	L1	mm	92	92	92	92
Counter width	B	mm	94	94	94	94
DIMENSIONS - THREAD			.	.	.	.
Overall length with coupling	L2	mm	380	380	440	-
Connection thread on meter		Inch	G1¼B	G1½B	G2B	-
Connection thread of coupling		Inch	R1	R1¼	R1½	-
Height	H	mm	26	26	31	-
Height	H1	mm	84	84	87	-
Weight without coupling		kg	1.6	1.8	3.05	-
Weight with coupling		kg	2.2	2.4	4.25	-
DIMENSIONS - FLANGE			.	.	.	.
Flange diameter	D	mm	115	140	148	163
Hole circle diameter	K	mm	85	100	110	125
Number of screwholes		pcs	4	4	4	4
Screwhole diameter	D1	mm	18	18	18	18
Height	H	mm	50	62.5	69	73.5
Height	H1	mm	84	84	87	90
Width	A	mm	49.5	49.5	52.5	56
Weight with flanges		kg	3.45	4.7	6.67	7.47

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph