APPLICATION OF M-NR MODEL 101

- ❑ Horizontal installation
- ❑ Nominal diameter DN 15 - 50 mm
- ❑ Operating pressure: PN 16 to DIN 2401
- ❑ Cold water up to 30 °C (safe up to 50 °C)

APPLICATION OF M-NSR MODEL 102

- ❑ Installation in rising pipes
- ❑ Nominal diameter DN 20 - 40 mm
- ❑ Operating pressure: PN 16 to DIN 2401
- ❑ Installation and connection dimensions to DIN 19648 Part 3
- ❑ Cold water up to 30 °C (safe up to 50 °C)

APPLICATION OF M-NFR MODEL 103

- ❑ Installation in downpipes
- ❑ Nominal diameter DN 20 - 40 mm
- ❑ Operating pressure: PN 16 to DIN 2401
- ❑ Overall and connection dimensions to DIN ISO 4064 and DIN 19648 Part 3
- ❑ Cold water up to 30 °C (safe up to 50 °C)

FEATURES

- ❑ Extremely low head loss and considerably extended measuring range
- ❑ Records very small amounts of water consumption
- ❑ Capable of withstanding any load for a short time
- ❑ Nominal load = continuous load
- ❑ Maximum long-term accuracy and absolutely corrosion-resistant
- ❑ Forward and return metering
- ❑ Fine adjustment by regulating cocks
- ❑ Strainer insert in inlet connection for cleaning without damaging the seal
- ❑ Measuring data better than specified by calibration regulations

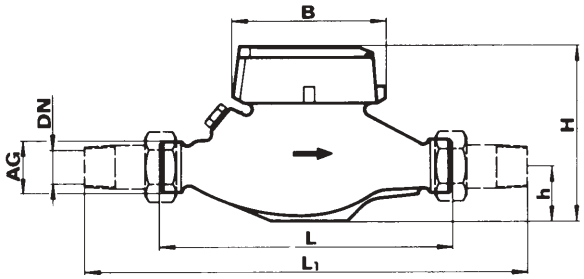




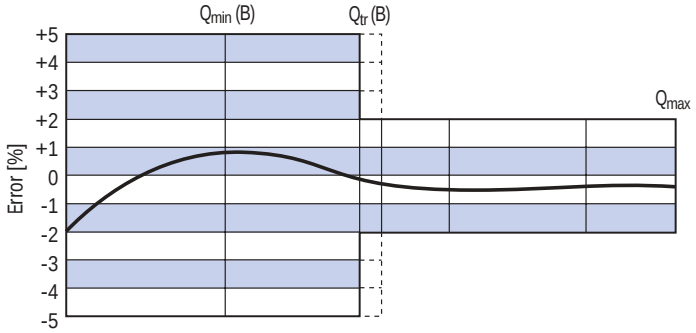
HYDROMETER

DATA SHEET DOMESTIC WATER METER M-NR / M-NSR / M-NFR
MODELS 101/102/103

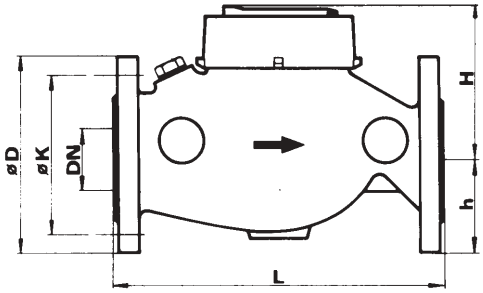
MODELS 101/103



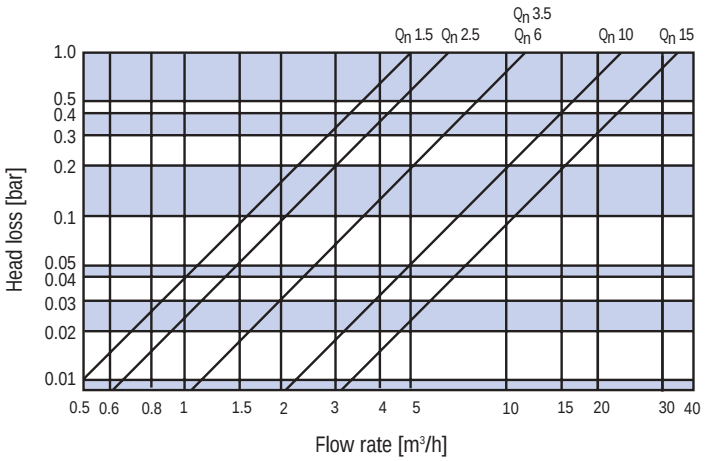
TYPICAL ERROR GRAPH FOR MODELS 101/102/103



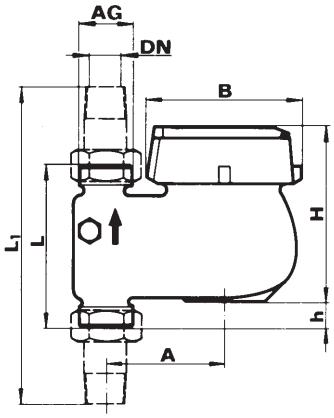
MODEL 101/FLANGE VERSION



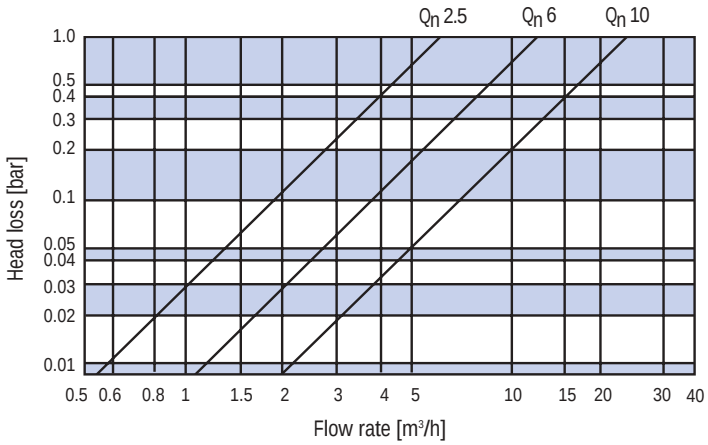
HEAD LOSS GRAPH FOR MODELS 101/103



MODEL 102



HEAD LOSS GRAPH FOR MODEL 102



NOTE

For calibration or EEC initial calibration, the meter is tested for compliance with the figures specified in the calibration regulations.

It is urgently recommended for new supply plants that the pipes be thoroughly flushed before installing the meters.

For further details, refer to the installation guide for HYDROMETER domestic water meters.

TECHNICAL DATA

Model				101				
Type				M-NR horizontal				
Nominal diameter		DN	mm	15	20	25	40	50
Nominal flow rate		Q_n	m³/h	1.5	1.5 | 2.5	3.5 | 6	10	15
Maximum flow rate		Q_{max}	m³	5		12 | 20	30	
Flow rate at 1 bar head loss			m³/h	5	7	12	24	34
Transition flow rate		Q_t	l/h	150 | 250		350 | 600	1000	1500
Lower measuring range limit			l/h	20		40	80	
Starting flow rate			l/h	4-6		6-8	20-25	25-30
Coupling thread	old designation	AG	inch	R ³/₄	R 1	R 1¼	R 2	Flange
on meter to ISO 228/1	new designation	AG	inch	G ³/₄ B	G 1 B	G 1¼ B	G 2 B	DIN
Coupling thread								2501*
to DIN 2999 (ISO 7/1)			inch	R ½	R ¾	R 1	R 1½	
Overall length		L	mm	165	190	260	300	270
		L1	mm	245	288	378	438	-
Height		H	mm	120		130	150	206
		h	mm	41		44	46	83
Width		B	mm	98		104	137	165
Dial indication range				Min. 0.1 l / max. 100,000 m³				
Weight	without coupling		kg	1.7	1.8	2.8	5.4	12.4
	with coupling		kg	1.9	2.2	3.4	6.6	-

The M-NR Q_n 6 is also available with G 1½ B meter thread to DIN ISO 4064.
Minor technical changes may occur in the course of further development.

* Special version with G 2½ B meter thread on request

Model				102			103		
Type				M-NSR rising pipe			M-NFR downpipe		
Nominal diameter		DN	mm	20	25	40	20	25	40
Nominal flow rate		Q_n	m³/h	1.5 | 2.5	3.5 | 6	10	2.5	6	10
Maximum flow rate		Q_{max}	m³	5	12	20	5	12	20
Flow rate at 1 bar head loss			m³/h	6	12	22	7	12	24
Transition flow rate		Q_t	l/h	150 | 250	350 | 600	1000	250	600	1000
Lower measuring range limit			l/h	20	40	80	70	160	350
Starting flow rate			l/h	4-6	6-8	20-25	4-6	6-8	20-25
Coupling thread	old designation	AG	inch	R 1	R 1¼	R 2	R 1	R 1¼	R 2
on meter to ISO 228/1	new designation	AG	inch	G 1 B	G 1¼ B	G 2 B	G 1 B	G 1¼ B	G 2 B
Coupling thread									
to DIN 2999 (ISO 7/1)			inch	R ¾	R 1	R 1½	R ¾	R 1	R 1½
Overall length		L	mm	105	150	200	190	260	300
		L1	mm	203	268	338	288	378	438
Height		H	mm	118	130	147	120	130	150
		h	mm	18	31	21	41	44	46
Width		A	mm	82	95	120	-	-	-
		B	mm	98	101	136	98	104	137
Dial indication range				Min. 0.1 l/max. 100,000 m³					
Weight	without coupling		kg	1.9	3.2	6.3	1.8	2.8	5.4
	with coupling		kg	2.3	3.8	7.5	2.2	3.4	6.6

The M-NSR Q_n 6 is also available with G 1½ B meter thread to DIN 19648 Part 3.
Model 102 DN 25 mm is also available on request with the old overall length of 135 mm and DN 40 mm with the overall length of 150 mm.

ORDER REFERENCES

Model	Nominal flow rate/ nominal diameter	Type designation	Version			Metrological class	Article number
			PN	Overall length	Connection		
101	Q_n 1.5	M-NR	16	165	G 3/4 B	A•H	101 000 01
101	Q_n 1.5	M-NR	16	165	G 3/4 B	B•H	101 000 02
101	Q_n 1.5	M-NR	16	190	G 1 B	B•H	101 000 04
101	Q_n 2.5	M-NR	16	190	G 1 B	A•H	101 000 07
101	Q_n 2.5	M-NR	16	190	G 1 B	B•H	101 000 10
101	Q_n 2.5	M-NR	16	165	G 3/4 B	B•H	101 000 13
101	Q_n 3.5	M-NR	16	260	G 1 1/4 B	A•H	101 000 19
101	Q_n 3.5	M-NR	16	260	G 1 1/4 B	B•H	101 000 20
101	Q_n 6	M-NR	16	260	G 1 1/4 B	A•H	101 000 21
101	Q_n 6	M-NR	16	260	G 1 1/2 B	A•H	101 000 22
101	Q_n 6	M-NR	16	260	G 1 1/4 B	B•H	101 000 23
101	Q_n 6	M-NR	16	260	G 1 1/2 B	B•H	101 000 25
101	Q_n 10	M-NR	16	300	G 2 B	A•H	101 000 33
101	Q_n 10	M-NR	16	300	G 2 B	B•H	101 000 35
101	Q_n 10	M-NR	16	300	FL 40-DIN 2501	B•H	101 000 37
101	Q_n 15	M-NR	16	270	G 2 1/2 B	A•H	101 000 41
101	Q_n15	M-NR	16	270	G 2 1/2 B	B•H	101 000 45
101	Q_n 15	M-NR	16	270	FL 50-DIN 2501	A•H	101 000 42
101	Q_n 15	M-NR	16	270	FL 50-DIN 2501	B•H	101 000 46
102	Q_n 1.5	M-NSR	16	105	G 1 B	A•H	102 000 00
102	Q_n 1.5	M-NSR	16	105	G 1 B	B•H	102 000 01
102	Q_n 2.5	M-NSR	16	105	G 1 B	A•H	102 000 02
102	Q_n 2.5	M-NSR	16	105	G 1 B	B•H	102 000 04
102	Q_n 2.5	M-NSR	16	105	G 1 B	B•H	102 000 07
102	Q_n 3.5	M-NSR	16	135	G 1 1/4 B	A•H	102 000 08
102	Q_n 3.5	M-NSR	16	135	G 1 1/4 B	B•H	102 000 10
102	Q_n 3.5	M-NSR	16	150	G 1 1/4 B	A•H	102 000 09
102	Q_n 3.5	M-NSR	16	150	G 1 1/4 B	B•H	102 000 11
102	Q_n 6	M-NSR	16	135	G 1 1/4 B	A•H	102 000 12
102	Q_n 6	M-NSR	16	135	G 1 1/4 B	B•H	102 000 17
102	Q_n 6	M-NSR	16	150	G 1 1/4 B	A•H	102 000 13
102	Q_n 6	M-NSR	16	150	G 1 1/4 B	B•H	102 000 18
102	Q_n 6	M-NSR	16	150	G 1 1/2 B	A•H	102 000 16
102	Q_n 6	M-NSR	16	150	G 1 1/2 B	B•H	102 000 19
102	Q_n 10	M-NSR	16	150	G 2 B	A•H	102 000 21
102	Q_n 10	M-NSR	16	150	G 2 B	B•H	102 000 23
102	Q_n 10	M-NSR	16	200	G 2 B	A•H	102 000 22
102	Q_n 10	M-NSR	16	200	G 2 B	B•H	102 000 24
103	Q_n 2.5	M-NFR	16	190	G 1 B	A•V	103 000 00
103	Q_n 2.5	M-NFR	16	220	G 1 B	A•V	103 000 02
103	Q_n 6	M-NFR	16	260	G 1 1/4 B	A•V	103 000 04
103	Q_n 6	M-NFR	16	260	G 1 1/2 B	A•V	103 000 06
103	Q_n 10	M-NFR	16	300	G 2 B	A•V	103 000 08

NOTE

Other special versions of meters and special materials available on request!

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