

FLOW SENSOR WITH VOLUME MEASURING COMPONENT

MODELS M-TSXKA 415/M-TSHXKA 416/M-TFXKA 417/M-TFHXKA 418

APPLICATION

- Installation in riser pipes and downpipes
- For hot water up to 120 °C
- Models 416/418 with carbide bearing
- Overall and connection dimensions to DIN ISO 4064
- DN 15 – 40 mm – PN 16
- Operating pressure to DIN 2401
- Contact rating max. 24 V (SELV), 0.2 A
- Protection class IP 65
- Volume measuring component for heat measurement for billing hot water consumption
- Facility for remote transmission of flow rates

FEATURES

Models 415/416 and 417/418 are multi-jet impeller meters designed to the latest technical standards with completely dry running operation and magnetic coupling. Only the impeller operates in the wet chamber to prevent faults due to sediment.

The roller counter is dustproof and condensation-proof and can be rotated for easier reading.

The built-in pulse transmitter is cast in a waterproof enclosure and is easily replaceable. The meters are equipped with a sealed shield for protection against magnetic interference.

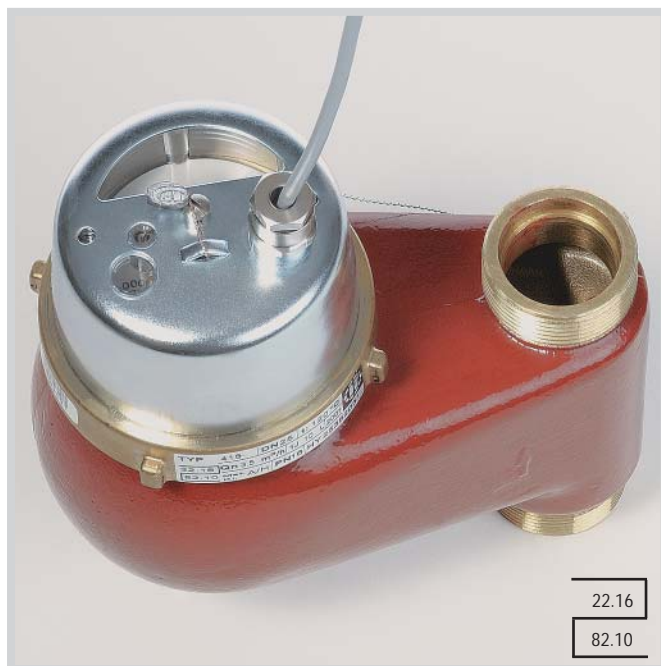
The pulse transmitter for volume measuring components is fitted with a 100 Ω, 1/4 W protective resistor (cable length 3 m).

The compact design in subassemblies simplifies maintenance and repair.

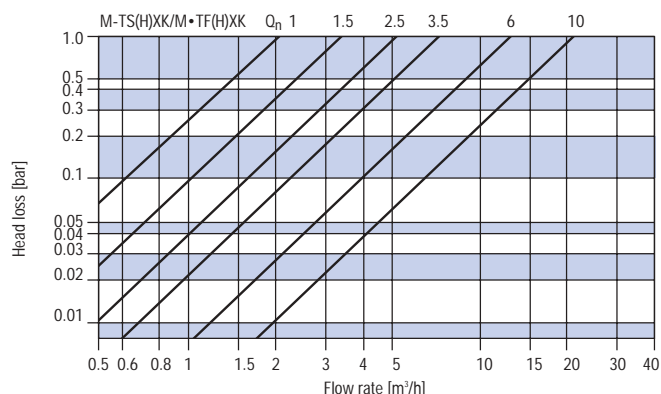
NOTE

Hydrometer contact water meter models 415 to 418 can be supplied calibrated on request. The meter is tested for compliance with the figures specified in the calibration regulations.

COUNTER



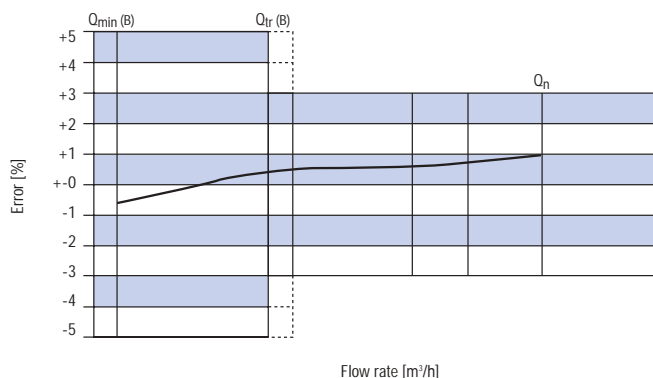
HEAD LOSS GRAPH FOR MODELS 415-418



NOTE

When using the contact water meters as volume measuring components, we recommend that the meters are selected so that the head loss of 0.1 bar is not exceeded at maximum load!

TYPICAL ERROR GRAPH FOR MODELS 415-418



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TECHNICAL DATA

Model			415 /	416 /	417 /	418		
Type			M-TSXKA / M-TSHXKA / M-TFXKA / M-TFHXKA					
Nominal diameter	DN	mm	20	20	20	25	25	40
Nominal flow rate	Q_n	m ³ /h	1	1.5	2.5	3.5	6	10
Flow rate at 0.1 bar head loss		m ³ /h	0.6	1.0	1.6	2.2	3.8	6.3
Maximum flow rate*	Q_{max}	m ³ /h	2	3	5	7	12	20
Transition flow limit	Q_t	l/h	100	150	250	350	600	1000
Lower measuring range limit	Q_{min}	l/h	25	30	50	65	90	160
Meter thread (old designation)	AG	inch	R 1	R 1	R 1	R 1 ^{1/4}	R 1 ^{1/4}	R 2
to ISO 228/1 (new designation)	AG	inch	G 1 B	G 1 B	G 1 B	G 1 ^{1/4} B	G 1 ^{1/4} B	G 2 B
Coupling thread to DIN 2999 (ISO 7/1)		inch	R 3/4	R 3/4	R 3/4	R 1	R 1	R 1 ^{1/2}
Overall length	L	mm	105	105	105	150	150	200
Overall length with coupling	L1	mm	203	203	203	268	268	338
Height	H	mm	180	180	180	191	191	221
	h	mm	14	14	14	31	31	21
Width	A	mm	82	82	82	95	95	120
	B	mm	96	96	96	102	102	130
Dial indication range			min. 0.05 l/max. 100,000 m ³					
Weight	without coupling	kg	2.2	2.1	2.1	3.1	3.1	5.5
	with coupling	kg	2.5	2.4	2.4	3.7	3.7	6.7

The M-TS(H)XK and M-TF(H)XK On 6 are also available with G 1^{1/2} B meter thread to DIN 19648 Part 3.

* Manufacturer's note: Please read the note below the head loss graph before selecting suitable meter sizes.

Nominal diameter 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.

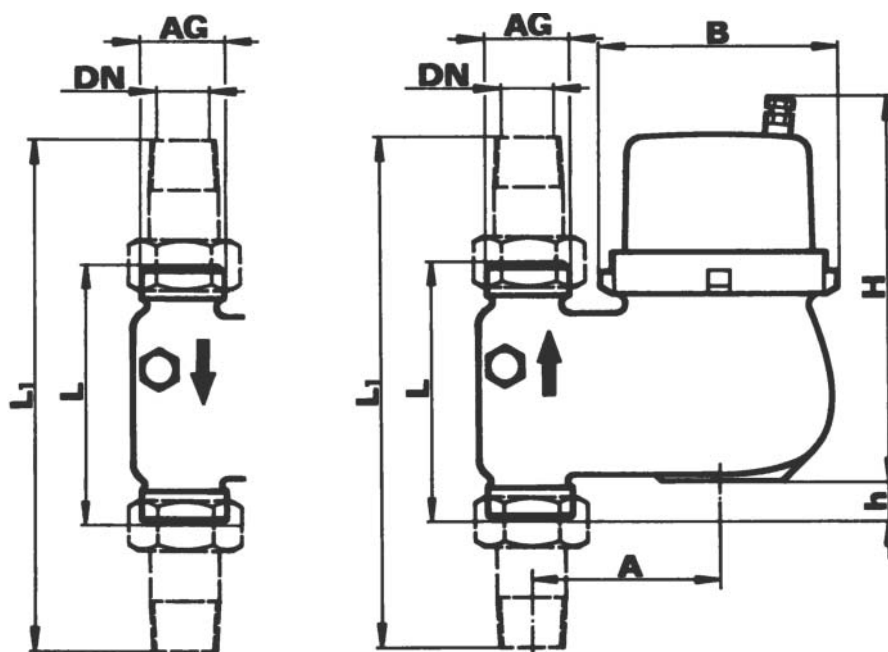
AVAILABLE PULSE RATES

1 · 2.5 · 10 · 25 · 100 · 250 litres/pulse – Other versions and pulse rates available on request.

IMPORTANT –

PLEASE STATE WHEN ORDERING

Order the pulse output without resistor for a low-resistance load, e.g. mechanical roller counters.



Minor changes are possible in the course of technical development.

FLOW SENSOR WITH VOLUME MEASURING COMPONENT
MODELS M-TSXKA 415/M-TSHXKA 416/M-TFXKA 417/M-TFHXKA 418

ORDER REFERENCES

Model	Qn/PN	Type designation	l/pulse	Overall length	Temperature	Connection	*Metrol. cl.	Article number
415	1.0 m ³ /h / 16	M-TSXKA	1	105 mm	120 °C	G 1 B	A•H	415 000 22
415	1.0 m ³ /h / 16	M-TSXKA	10	105 mm	120 °C	G 1 B	A•H	415 000 23
415	1.0 m ³ /h / 16	M-TSXKA	25	105 mm	120 °C	G 1 B	A•H	415 000 21
415	1.5 m ³ /h / 16	M-TSXKA	1	105 mm	120 °C	G 1 B	A•H	415 000 02
415	1.5 m ³ /h / 16	M-TSXKA	10	105 mm	120 °C	G 1 B	A•H	415 000 03
415	1.5 m ³ /h / 16	M-TSXKA	25	105 mm	120 °C	G 1 B	A•H	415 000 01
415	2.5 m ³ /h / 16	M-TSXKA	1	105 mm	120 °C	G 1 B	A•H	415 000 13
415	2.5 m ³ /h / 16	M-TSXKA	10	105 mm	120 °C	G 1 B	A•H	415 000 14
415	2.5 m ³ /h / 16	M-TSXKA	25	105 mm	120 °C	G 1 B	A•H	415 000 12
415	3.5 m ³ /h / 16	M-TSXKA	1	150 mm	120 °C	G 1/4 B	A•H	415 000 35
415	3.5 m ³ /h / 16	M-TSXKA	10	150 mm	120 °C	G 1/4 B	A•H	415 000 36
415	3.5 m ³ /h / 16	M-TSXKA	25	150 mm	120 °C	G 1/4 B	A•H	415 000 34
415	6 m ³ /h / 16	M-TSXKA	1	150 mm	120 °C	G 1/4 B	A•H	415 000 54
415	6 m ³ /h / 16	M-TSXKA	10	150 mm	120 °C	G 1/4 B	A•H	415 000 55
415	6 m ³ /h / 16	M-TSXKA	25	150 mm	120 °C	G 1/4 B	A•H	415 000 53
415	10 m ³ /h / 16	M-TSXKA	1	200 mm	120 °C	G 2 B	A•H	415 000 80
415	10 m ³ /h / 16	M-TSXKA	10	200 mm	120 °C	G 2 B	A•H	415 000 81
415	10 m ³ /h / 16	M-TSXKA	25	200 mm	120 °C	G 2 B	A•H	415 000 79
416	1.5 m ³ /h / 16	M-TSHXKA	1	105 mm	120 °C	G 1 B	A•H	416 000 01
416	2.5 m ³ /h / 16	M-TSHXKA	1	105 mm	120 °C	G 1 B	A•H	416 000 08
416	2.5 m ³ /h / 16	M-TSHXKA	10	105 mm	120 °C	G 1 B	A•H	416 000 09
416	2.5 m ³ /h / 16	M-TSHXKA	25	105 mm	120 °C	G 1 B	A•H	416 000 07
416	3.5 m ³ /h / 16	M-TSHXKA	1	150 mm	120 °C	G 1/4 B	A•H	416 000 17
416	3.5 m ³ /h / 16	M-TSHXKA	10	150 mm	120 °C	G 1/4 B	A•H	416 000 18
416	3.5 m ³ /h / 16	M-TSHXKA	25	150 mm	120 °C	G 1/4 B	A•H	416 000 16
416	6 m ³ /h / 16	M-TSHXKA	1	150 mm	120 °C	G 1/4 B	A•H	416 000 47
416	6 m ³ /h / 16	M-TSHXKA	10	150 mm	120 °C	G 1/4 B	A•H	416 000 27
416	6 m ³ /h / 16	M-TSHXKA	25	150 mm	120 °C	G 1/4 B	A•H	416 000 26
416	10 m ³ /h / 16	M-TSHXKA	10	200 mm	120 °C	G 2 B	A•H	416 000 39
416	10 m ³ /h / 16	M-TSHXKA	25	200 mm	120 °C	G 2 B	A•H	416 000 38

* tested to the metrological class indicated!

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ORDER REFERENCES

Model	Qn/PN	Type designation	l/pulse	Overall length	Temperature	Connection	*Metrol. cl.	Article number
417	1.0 m ³ /h / 16	M-TFXKA	1	105 mm	120 °C	G 1 B	A•H	417 000 23
417	1.0 m ³ /h /16	M-TFXKA	10	105 mm	120 °C	G 1 B	A•H	417 000 24
417	1.0 m ³ /h /16	M-TFXKA	25	105 mm	120 °C	G 1 B	A•H	417 000 22
417	1.5 m ³ /h /16	M-TFXKA	1	105 mm	120 °C	G 1 B	A•H	417 000 02
417	1.5 m ³ /h /16	M-TFXKA	10	105 mm	120 °C	G 1 B	A•H	417 000 03
417	1.5 m ³ /h /16	M-TFXKA	25	105 mm	120 °C	G 1 B	A•H	417 000 01
417	2.5 m ³ /h /16	M-TFXKA	1	105 mm	120 °C	G 1 B	A•H	417 000 12
417	2.5 m ³ /h /16	M-TFXKA	10	105 mm	120 °C	G 1 B	A•H	417 000 13
417	2.5 m ³ /h /16	M-TFXKA	25	105 mm	120 °C	G 1 B	A•H	417 000 11
417	3.5 m ³ /h /16	M-TFXKA	1	150 mm	120 °C	G 1¼ B	A•H	417 000 38
417	3.5 m ³ /h /16	M-TFXKA	10	150 mm	120 °C	G 1¼ B	A•H	417 000 39
417	3.5 m ³ /h /16	M-TFXKA	25	150 mm	120 °C	G 1¼ B	A•H	417 000 37
417	6 m ³ /h /16	M-TFXKA	1	150 mm	120 °C	G 1¼ B	A•H	417 000 57
417	6 m ³ /h /16	M-TFXKA	10	150 mm	120 °C	G 1¼ B	A•H	417 000 85
417	6 m ³ /h /16	M-TFXKA	25	150 mm	120 °C	G 1¼ B	A•H	417 000 83
417	10 m ³ /h /16	M-TFXKA	1	200 mm	120 °C	G 2 B	A•H	417 000 84
417	10 m ³ /h /16	M-TFXKA	10	200 mm	120 °C	G 2 B	A•H	417 000 80
417	10 m ³ /h /16	M-TFXKA	25	200 mm	120 °C	G 2 B	A•H	417 000 77
418	1.0 m ³ /h /16	M-TFHXKA	1	105 mm	120 °C	G 1 B	A•H	418 000 21
418	1.5 m ³ /h /16	M-TFHXKA	1	105 mm	120 °C	G 1 B	A•H	418 000 02
418	1.5 m ³ /h /16	M-TFHXKA	10	105 mm	120 °C	G 1 B	A•H	418 000 03
418	2.5 m ³ /h /16	M-TFHXKA	1	105 mm	120 °C	G 1 B	A•H	418 000 10
418	2.5 m ³ /h /16	M-TFHXKA	10	105 mm	120 °C	G 1 B	A•H	418 000 11
418	2.5 m ³ /h /16	M-TFHXKA	25	105 mm	120 °C	G 1 B	A•H	418 000 09
418	3.5 m ³ /h /16	M-TFHXKA	1	150 mm	120 °C	G 1¼ B	A•H	418 000 30
418	3.5 m ³ /h /16	M-TFHXKA	10	150 mm	120 °C	G 1¼ B	A•H	418 000 31
418	3.5 m ³ /h /16	M-TFHXKA	25	150 mm	120 °C	G 1¼ B	A•H	418 000 29
418	6 m ³ /h /16	M-TFHXKA	1	150 mm	120 °C	G 1¼ B	A•H	418 000 44
418	6 m ³ /h /16	M-TFHXKA	10	150 mm	120 °C	G 1¼ B	A•H	418 000 45
418	6 m ³ /h /16	M-TFHXKA	25	150 mm	120 °C	G 1¼ B	A•H	418 000 43
418	10 m ³ /h /16	M-TFHXKA	10	200 mm	120 °C	G 2 B	A•H	418 000 60
418	10 m ³ /h /16	M-TFHXKA	25	200 mm	120 °C	G 2 B	A•H	418 000 61

* tested to the metrological class indicated!

The types listed in the order references are standard meters. All versions can of course be supplied as per technical data.

EXPLANATION OF TYPE DESIGNATIONS

M : multi-jet meter

K : pulse output

A : metal shield

T : dry runner

S : riser pipe version

H : carbide bearing

X : counter type

F : downpipe version