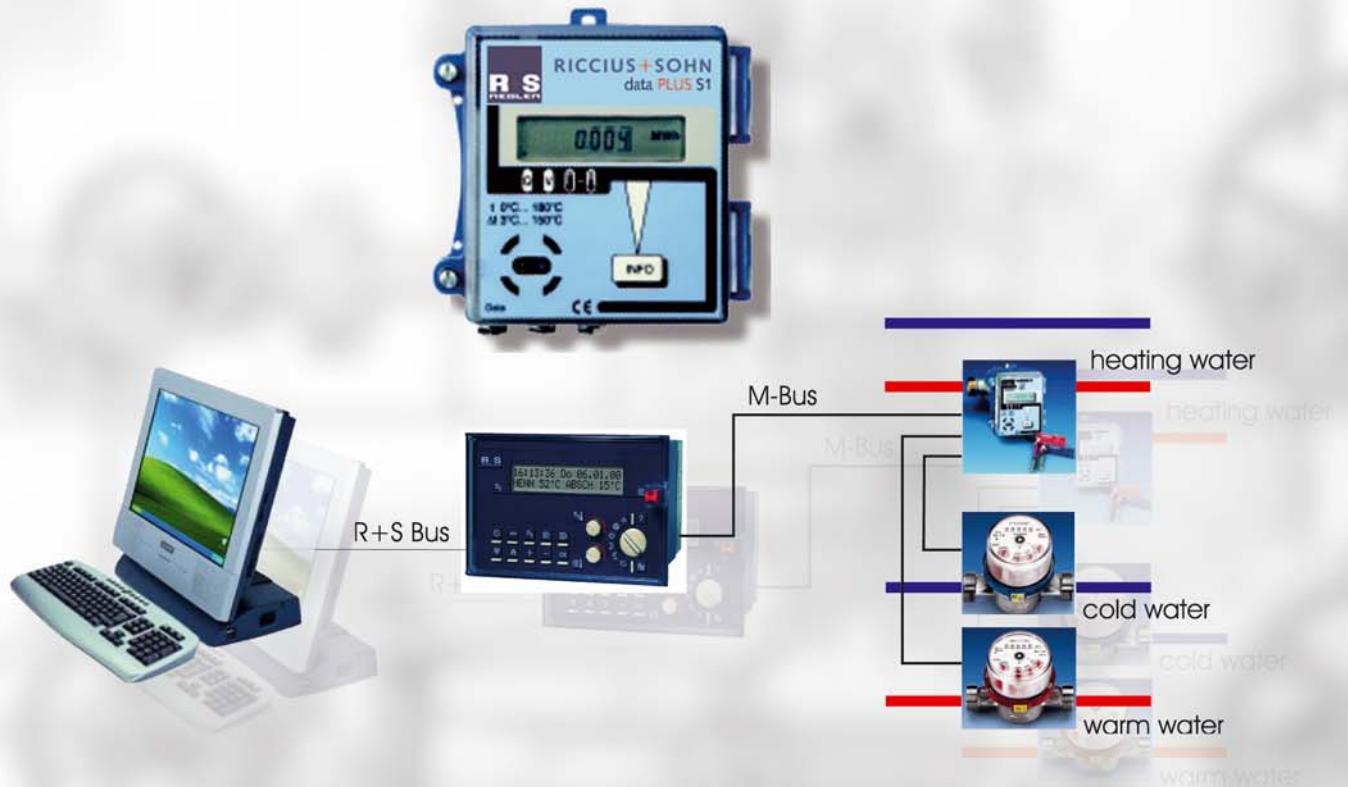


HEAT meters



Metering

RICCIUS + SOHN
INFORMATION

Heat computer

dataPLUS S1



Zenner Zähler is once again at the forefront of technology with the development of the **dataPLUS S1 heat computer**. Employing the latest generation microprocessors and innovative measuring techniques has resulted in a system with accuracy, measurement stability and functionality unprecedented in the history of heat computer development. Volumetric measuring units for heat meters with both reed pulser outputs or high-frequency electronic outputs can be used together with either Pt-500 or Pt-100 temperature sensors.

As one of the first heat computers, dataPLUS S1 has already been given **approval in compliance with European Standard EN 1434 (22.55/98.02)**.

The multi-functional dataPLUS S1 can of course work together **with all sizes of volumetric measuring units**.

Operating failures and faults are detected automatically and can be shown on the register with the date it occurred, its duration and the type of fault.

A non-volatile memory **backs up** all determinative data **at regular intervals** in order to ensure that it cannot be lost. In addition, all devices have an optical interface for **on-site data acquisition** along with programming of the most essential parameters.

Apart from the volumetric measuring unit, with all standard devices it is possible to connect two additional pulse output meters, e.g. a cold and hot water meter, whose consumption both appears on the register and can also be determined via the remote read-out systems.

The additional connections however have a multiple function, i.e. they can be programmed not only as inputs but also as outputs, so that they function as remote meter outputs for energy and volume, for instance.

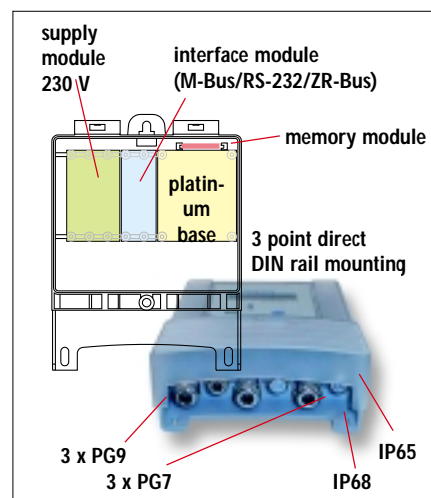
Due to its integrated clock with calendar, **specified reading date (S.R.D.) data** is also no problem for our dataPLUS S1. Energy and volume along with the volumes of the additional meters are written into the memory on a date specified by the user, year after year, and can be read or transferred remotely via the S.R.D. menu.

In order to remove the requirement to take readings on a specific date, we have integrated a previous-month memory in standard models. Consumption is stored on the first of each month. In this way, **up to 21 previous-month values** can be called up on the register with the accompanying data.

A detailed performance specification is available on request in English (order no.: 98W 003).

dataPLUS N1

*user friendly
adaptable
easy mounting*



The net version for industrial use:

The specially developed industrial version of the dataPLUS N1, an innovative module design offering a wide range of possibilities, e.g. **230 V mains supply** and connection to **practically all bus systems**. **6 connectors** in both PG9 and PG7 sizes are available. A **versatile range of possibilities** includes easy fitting into control panels and DIN rail mounting.

Moreover, the dataPLUS N1 has adopted the modern technology and the technical database from its successful predecessor.

For more information, please turn to the special dataPLUS N1" prospectus.

Approvals

22.15

96.07

22.55

98.02

along with approvals outside the EU

Heat computer

Versions

Additional information can be found in Chapter "Electronic accessories"

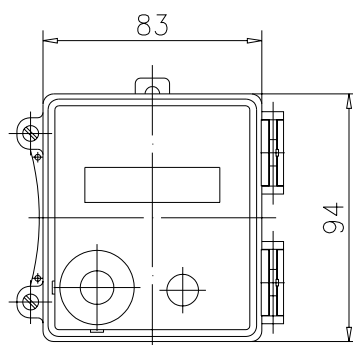
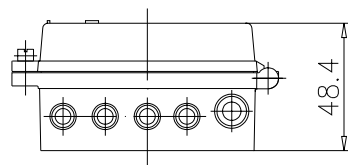
Type	Battery	Mains(230V)	M-Bus	RS-232	ZR-Bus	Input 1	Input 2	Output 1	Output 2
BS-EE	●					●	●		
BS-AA	●							●	●
BS-EA	●					●			●
NS-EE		●				●	●		
NS-AA		●						●	●
NS-EA		●				●			●
BM-EE	●		●			●	●		
BM-AA	●		●					●	●
BM-EA	●		●			●			●
BR-EE	●			●		●	●		
BR-AA	●			●				●	●
BR-EA	●			●		●			●
BZ-EE	●				●	●	●		
BZ-AA	●				●			●	●
BZ-EA	●				●	●			●

State type when ordering (Version with two inputs is delivered as standard)

Technical data

Microprocessor-controlled heat computer			
Temperature range	range	°C	0°C ... 180°C
Temperature difference	Δt	K	(2°C) 3°C ... 150°C
Heat coefficient	k	-	sliding, temperature-dependent
Measuring sensitivity	-	°C	<0.01
Ambient temperature	-	°C	5°C ... 50°C
Display	-	-	8-digit, floating decimal point
Measuring units	-	-	MWh, kWh, GJ, MJ
Power supply	-	-	built-in 6 year battery (3V or 3.6V) or transformer
IP rating	-	-	IP 65, corresponding to DIN 40050

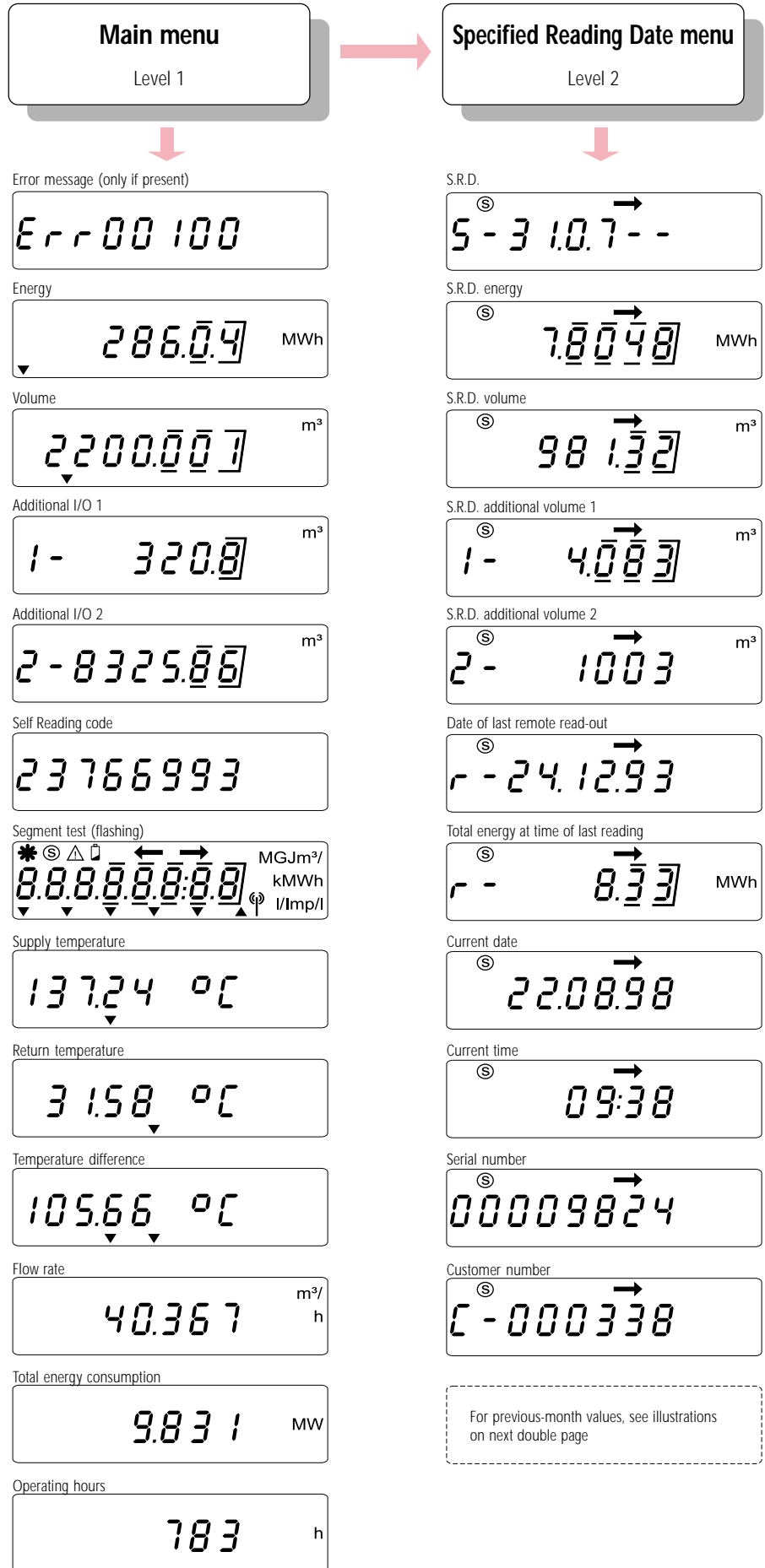
Temperature sensor			
Platinum resistance thermometer	-	-	replaceable
Temperature range	range	°C	0°C ... 150°C, in sleeves 0°C ... 100°C
Dimensions	-	mm	ø 6 or 5.2 mm, standard length 1.5 m
Sensor type	-	-	Pt 100/500, corresponding to DIN IEC 751



Dimensions

Menu sequences

dataPLUS S1
a concept that meets every need



Menu sequences

dataPLUS S1



Easy to operate:

Next menu item: **INFO** press briefly

Next level: **INFO** press for 5 seconds

Configuration

Level 3

Temperature sensor and installation site

PT500 r

Pulse Valve

10.0 I/Imp

Pulse val. / output fct I/O 1

1-82.113 Imp/l

Pulse val. / output fct I/O 2

2- 1.50

Total hours error time

E- 137 h

Date of 1st error

E-04.10.98

Error code of 1st error

E- 00035

Type model designation

3.3.5.70.0.0.0

Baud rate of bus

baud2400

Address of bus

000

Service life of battery

--.10.99

Test menu

Level 4

Energy in last time window

00008231 Wh

Energy - least significant digits

00001833 Wh

Volume - least significant digits

0030.5638 l

Output of pulse factor

HF002471

Software version

C53 0000

Input diagnosis

01000000

Heat computer

dataPLUS S1
Additional functions



Small built-in standard data logger

In addition to the 41 display functions, up to 21 previous-month values and the associated date can be called up with standard devices without additional options (standard configuration only). If previous-month values already exist, these are attached to the end of the S.R.D. menu. The menu thus continues to grow until the 21 previous-month values have been reached.

To make it easier to read, the display alternates every 2 seconds between the month value and the current date. By pressing the info key the previous month values are displayed month by month until the end of the memory is reached. The month values of the additional meters cannot be displayed for reasons of clarity.

Ⓢ L - 0 10.2.98 →

Ⓢ 32.074 MWh

Ⓢ L - 0 10.1.98 →

Ⓢ 28.138 MWh

Other additional functions and options at a glance

- automatic self-diagnosis
- self-reading possible
- customer-specific number 6-digit programmable
- internal data logger
- optional bus interfaces (see chapter Electronic accessories, read-out systems)
- minimal Δt programmable *)
- fixed forward and backward flow temperature programmable *)
- large data logger retrofittable via memory cards as an option

*) factory-tested

Large data logger

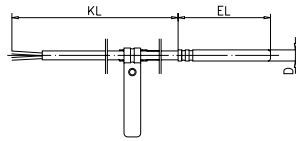
All heat meters and pulse counter modules can be fitted with a high-performance data logger with different sizes of memory (2 kB to 96 kB). With a freely-programmable time basis (1 minute to 1 year) and up to 5 data channels, almost any task can be solved. The **read-out** can be performed via an optical reading head, RS-232, ZR-Bus or M-Bus **directly** into a PC, laptop or

PSION workabout® handheld computer. This data can then be further manipulated and presented in a graphical form with a spreadsheet such as MS Excel. Further information on this topic can be found in the Electronic Accessories and Software product group.

Built-in length	EL	mm	50	45
Diameter	D	mm	6.0	5.2
Temperature	-	°C	0 ... 150	
Cable length	KL	m	1.5	1.5 *

Both versions can be combined with temperature sensor sleeves A or 1/2"

* Standard or spiral cable available



Protective conduit material no. 1.4401
Stainless steel X5CrNiMo17 12 2

Temperature sensor

for VMT Qn 0.6 to Qn 6

PS = Pocket short: pocket sensor with short design

Pt-100

Pt-500

22.30

Pt-500

89.08

22.30

Pt-100

89.07

Approvals

Built-in length	EL	mm	275
Thread	-	-	M10 x 1
Temperature range as direct sensor	-	°C	0 ... 140
Cable length	KL	m	2



Plug-in resistance thermometer

DS = Direct short: Direct sensor with short design

Pt-100

Pt-500

22.30

Pt-500

87.07

22.30

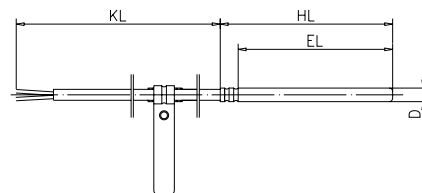
Pt-100

84.06

Approvals

Built-in length	EL / HL	mm	105 / 120
			140 / 155
			175 / 190
Diameter	D	mm	6.0
Temperature	-	°C	0 ... 180
Cable length	KL	m	2.0

Can be combined with temperature sensor sleeve 1/2"



Protective conduit material no. 1.4571
Stainless steel X6CrNiMoTi 17 22 2

for VMT from Qn 10

PL = Pocket long: pocket sensor with long design

Pt-100

Pt-500

22.30

91.05

Approval

Small heat meters

Volumetric measuring unit
incl. dataPLUS S1 heat computer
and temperature sensors

Single-jet
Qn 0.6 to Qn 2.5



ETHI-X for horizontal
and vertical installation

This dry-dial type volumetric measuring unit is fitted with hardened metal sapphire bearings specifically for use in heating systems.

The rotatable roller counter is evacuated to be dust and water-proof.

The meter has German approval as well as approvals from other European countries.

Construction and connection dimensions in accordance with DIN ISO 4064

Operating pressure 16 bar

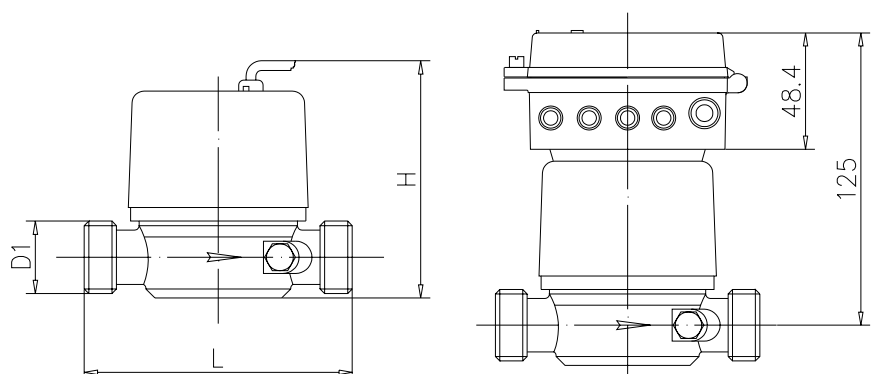
Operating temperature 90°C / 120°C

Technical data VMT

Nominal flow	Qn	m ³ /h	0.6		1.5		2.5
Operating temperature	-	°C	90/120		90/120		90/120
Thread at meter	D1	-	G $\frac{3}{4}$ B	G1B	G $\frac{3}{4}$ B	G1B	G1B
Thread at connector	-	-	$\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "
Nominal diameter	DN	mm	15		15		20
Overall length	L	mm	110	130	110	130	130
Height	H	mm	100				

Transitional flow Q_t and minimum flow Q_{min} see Table on last page of Multi-jet Meters product group

Dimensions VMT



Heat meters

Volumetric measuring unit
incl. dataPLUS S1 heat computer
and temperature sensors

Multi-jet
Qn 2.5 to Qn 15



MTHI-X for horizontal installation
also with flange connection

MTHI-X-ST for vertical installation
in ascending pipelines

MTHI-X-F for vertical installation
in descending pipelines

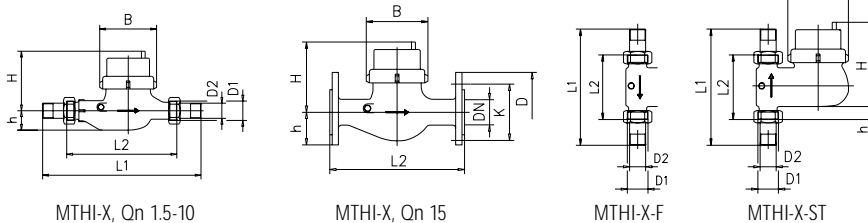
This dry-dial type volumetric measuring unit is specially equipped with hardened metal sapphire bearings for use in heating systems. The meter has German approval and approvals from other European countries. Construction and connection dimensions in accordance with DIN ISO 4064. Operating pressure 16 bar (PN 25 on request). Operating temperature 90°C /120°C/safe up to 130°C. Maximum temperature version 150°C.

Nominal flow	Qn	m ³ /h	2.5	3.5	6	10	15	
Maximum flow	Qmax	m ³ /h	5	7	12	20	30	
Thread at meter	D1	-	G1B	G1¼B	G1¼B	G1½B	G2B	FL
Thread at connector	D2	-	¾"	1"	1"	1¼"	1½"	-
Nominal diameter	DN	mm	20	25	25	30	40	50
Overall length MTHI-X	L1	mm	288		378		438	-
	L2	mm	190		260		300	270
Height MTHI-X	H	mm	135		140		155	180
	h	mm	40		45		50	83
Overall length MTHI-X-ST	L1	mm	203		268*		268/338*	-
Overall length MTHI-X-F	L2	mm	105		150*		150/200*	-
Height MTHI-X-ST	H	mm	180		191		191/221	-
Height MTHI-X-F	h	mm	14		31		31/21	-
Flange connection in compliance with DIN 2501	D	mm	-		-		-	165
	K	mm	-		-		-	125
No. of screws	-	Stck.	-		-		-	8(12)
Width	B	mm	96		102		130	166

For transitional flow Q_t and minimum flow Q_{min} see table on last page of Multi-jet meters product group
* = only available with 1" connecting thread on connector

Technical data VMT

Dimensions VMT



Heat meters

Volumetric measuring unit
incl. dataPLUS S1 heat computer
and temperature sensor

Woltman
DN 50 - 200



WSI-X for horizontal installation
measurement accuracy better than Cl. B

WPI-X for horizontal and vertical installation
classes A+B

Measurements better than class B

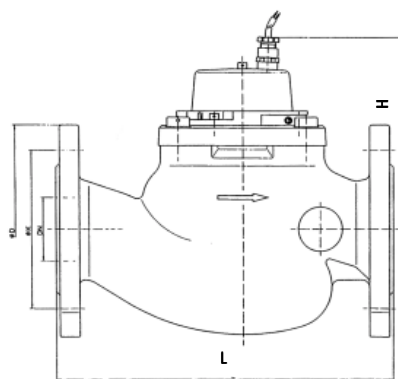
This dry-dial type volumetric measuring unit is specially equipped with hardened metal sapphire bearings for use in heating systems. The meter has German approval and approvals from other European countries. Construction and connection dimensions in accordance with DIN ISO 4064
Operating pressure PN 16 or PN 25
Operating temperature 120°C / 130°C
Maximum temperature version 150°C

Technical data VMT

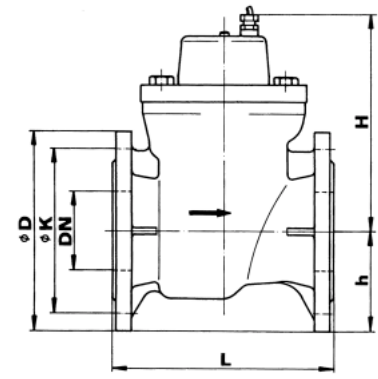
Nominal flow	Qn	m³/h	15	25	40	60	100	150	250	
Nominal diameter	DN	mm	50	65	80	100	125	150	200	
Register range	max.	m³	999.999						9.999.999	
Register range WPI-X	min.	l	5						50	
Register range WSI-X	min.	l	0.5						5	
Overall length WPI-X	L	mm	200		225	250		300	350	
	H	mm	200						217	
Height WPI-X	h	mm	75	80	92	110	125	145	172	
	L	mm	270	300	360	-	500	-	-	
Overall length WSI-X	H	mm	192	221	226	-	400	-	-	
	h	mm	85	102	116	-	155	-	-	
Flange connection in compliance with DIN 2501	D	mm	165	185	200	220	250	285	340	
	K	mm	125	145	160	180	210	240	295	
No. of screws	-	pcs.	4		8(4)		8		8(12)	

For transitional flow Q_t and minimum flow Q_{min} see table on last page of Multi-jet meters product group

Dimensions VMT



WSI-X



WPI-X

Heat meter ordering data

Design	Flow rate m ³ /h	DN	Connection at meter	Overall length	Type	Order no.
Small heat meter	Qn 0.6	15	G $\frac{3}{4}$ B	110 mm	WMS1i0611015	10W 001
		15	G1B	110 mm	WMS1i0611020	10W 002
		15	G1B	130 mm	WMS1i0613020	10W 003
	Qn 1.5	15	G $\frac{3}{4}$ B	110 mm	WMS1i1511015	10W 004
		15	G1B	110 mm	WMS1i1511020	10W 005
		15	G1B	130 mm	WMS1i1513020	10W 006
	Qn 2.5	20	G1B	130 mm	WMS1i2513020	10W 007
	Qn 3.5 *	25	G1 $\frac{1}{4}$ B	260 mm	WMS10726025	10W 008
	Qn 6 *	32	G1 $\frac{1}{2}$ B	260 mm	WMS11226030	10W 009
	Qn 10 *	40	G2B	300 mm	WMS12030040	10W 010
Compact heat meter NIVOS	Qn 1.0	15	G $\frac{3}{4}$ B	110 mm	WMNV1011015	10W 011
	Qn 1.5	15	G $\frac{3}{4}$ B	110 mm	WMNV1511015	10W 012
	Qn 2.5	20	G1B	130 mm	WMNV2513020	10W 013
Meter set S1 compact	Qn 0.6				WMCOMPI06	13W 001
	Qn 1.5				WMCOMPI15	13W 002
	Qn 2.5				WMCOMPI25	13W 003
Installation set			$\frac{1}{2}$ "/15 mm sold.		EASN-SET2-15	65A 096
			$\frac{3}{4}$ "/18 mm sold.		EASN-SET2-18	65A 097
			$\frac{3}{4}$ " FT		EASN-SET2-1G	65A 098
			22 mm solder		EASN-SET2-22	65A 099
Heat meter	Qn 2.5	20	G1B	190 mm	WMS10519020	11W 001
	Qn 3.5	25	G1 $\frac{1}{4}$ B	260 mm	WMS10726025	11W 002
	Qn 6	25	G1 $\frac{1}{4}$ B	260 mm	WMS11226025	11W 003
		32	G1 $\frac{1}{2}$ B	260 mm	WMS11226030	11W 004
	Qn 10	40	G2B	300 mm	WMS12030040	11W 005
	Qn 15	50	Flange	270 mm	WMS130270FL	11W 006
Heat meter	Qn 2.5	20	G1B	105 mm	WMS105105ST	11W 007
	Qn 3.5	25	G1 $\frac{1}{4}$ B	150 mm	WMS107150ST	11W 008
	Qn 6	25	G1 $\frac{1}{4}$ B	150 mm	WMS112150ST	11W 009
	Qn 10	40	G2B	150 mm	WMS120150ST	11W 010
		40	G2B	200 mm	WMS120200ST	11W 011
Heat meter	Qn 2.5	20	G1B	105 mm	WMS105105FA	11W 012
	Qn 3.5	25	G1 $\frac{1}{4}$ B	150 mm	WMS107150FA	11W 013
	Qn 6	25	G1 $\frac{1}{4}$ B	150 mm	WMS112150FA	11W 014
	Qn 10	40	G2B	150 mm	WMS120150FA	11W 015
		40	G2B	200 mm	WMS120200FA	11W 016
Heat meter	Qn 15	50		200 mm	WMS1050200P	12W 001
	Qn 25	65		200 mm	WMS1065200P	12W 002
	Qn 40	80		225 mm	WMS1080225P	12W 003
	Qn 60	100		250 mm	WMS1100250P	12W 004
	Qn 100	125		250 mm	WMS1125250P	12W 005
	Qn 150	150		300 mm	WMS1150300P	12W 006
	Qn 250	200		350 mm	WMS1200350P	12W 007
Heat meter	Qn 15	50		270 mm	WMS1050270S	12W 008
	Qn 25	65		300 mm	WMS1065300S	12W 009
	Qn 40	80		300 mm	WMS1080300S	12W 010
	Qn 60	100		360 mm	WMS1100360S	12W 011
	Qn 150	150		500 mm	WMS1150500S	12W 012

Single-jet

with volumetric measuring unit ETHI-X

with volumetric measuring unit ETHI-HF

Measuring cartridge with heat computer and direct sensors

Body, lid and seals

Multi-jet

Volumetric measuring unit MTHI-X

with volumetric measuring unit MTHI-X-ST
(ascending pipeline version)

with volumetric measuring unit MTHI-X-F
(descending pipeline version)

Woltman

with volumetric measuring unit WPI-X

with volumetric measuring unit WSI-X

all meters incl. dataPLUS S1 heat computer and temperature sensor

*) Available factory-tested in Germany, with approvals in East European countries

Accessories ordering data

Installation kits for single-jet meters



Design	Qty. in package	Size	Type	Order no.
Sleeve for temperature sensor A, dia. 6 mm	1	M10 x 1	TH - A - 60	65W 001
Sleeve for temperature sensor A, dia. 5.2 mm	1	M10 x 1	TH - A - 50	65W 002
Mount for temperature sensor sleeve A	1	40 mm / 3/4"	PRST40	65W 008
Mount for temperature sensor sleeve A	1	50 mm / 1"	PRST50	65W 009
Meter blank	1	110 mm / 1/2"	PST 110 15	65A 030
	1	110 mm / 3/4"	PST 110 20	65A 031
	1	130 mm / 3/4"	PST 130 20	65A 032
Ball valve, with union nut	1	3/4" x 3/4"	KH 3/4	65A 033
	1	1" x 1"	KH 4/4	65A 034
Connector, brass with hot-water seal	1 pair	1/2"	VME1/2	65A 003
		3/4"	VME3/4	65A 004

The type KL installation sets consist of:

adapter piece, profile piece, sleeve A and 1 pair of connectors incl. washers and security seal kit

The type GR installation sets consist of:

adapter piece, profile piece, sleeve A and 2 ball valve incl. washers and security seal kit

for temperature sensor \varnothing 6 mm

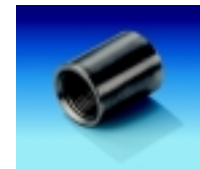
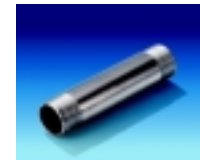
Meter blank	Mount	Sleeve A	Connector	Ball valve	Type	Order no.
110 mm 1/2"	40 mm 3/4"	M10x1, \varnothing 6 mm	1/2"	-	EBSI-KL-1/2-110	65W 010
110 mm 3/4"	50 mm 1"	M10x1, \varnothing 6 mm	3/4"	-	EBSI-KL-3/4-110	65W 011
130 mm 3/4"	50 mm 1"	M10x1, \varnothing 6 mm	3/4"	-	EBSI-KL-3/4-130	65W 012
110 mm 1/2"	40 mm 3/4"	M10x1, \varnothing 6 mm	-	3/4" x 3/4"	EBSI-GR-1/2-110	65W 013
110 mm 3/4"	50 mm 1"	M10x1, \varnothing 6 mm	-	1" x 1"	EBSI-GR-3/4-110	65W 014
130 mm 3/4"	50 mm 1"	M10x1, \varnothing 6 mm	-	1" x 1"	EBSI-GR-3/4-130	65W 015

for temperature sensor \varnothing 5.2 mm

Meter blank	Mount	Sleeve A	Connector	Ball valve	Type	Order no.
110 mm 1/2"	40 mm 3/4"	M10x1, \varnothing 5.2 mm	1/2"	-	EBSI-KL-1/2-110-52	65W 016
110 mm 3/4"	50 mm 1"	M10x1, \varnothing 5.2 mm	3/4"	-	EBSI-KL-3/4-110-52	65W 017
130 mm 3/4"	50 mm 1"	M10x1, \varnothing 5.2 mm	3/4"	-	EBSI-KL-3/4-130-52	65W 018
110 mm 1/2"	40 mm 3/4"	M10x1, \varnothing 5.2 mm	-	3/4" x 3/4"	EBSI-GR-1/2-110-52	65W 019
110 mm 3/4"	50 mm 1"	M10x1, \varnothing 5.2 mm	-	1" x 1"	EBSI-GR-3/4-110-52	65W 020
130 mm 3/4"	50 mm 1"	M10x1, \varnothing 5.2 mm	-	1" x 1"	EBSI-GR-3/4-130-52	65W 021

Accessories ordering data

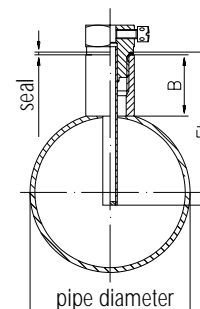
Installation sets for multi-jet/Woltman meters



The installation set consists of:

meter blank, welding sleeve, temperature sensor sleeve and 1 pair of connectors incl. washers and security seal kit

Suitable approvals



Design	Qty. in package	Size	Type	Order no.
Sleeve, dia. 6 mm, L 52 mm, EL 36 mm	1	½"	TH1/2-36-6.0	65W 003
Sleeve, dia. 6 mm, L 105 mm, EL 85 mm	1	½"	TH1/2-85	65W 004
Sleeve, dia. 6 mm, L 140 mm, EL 120 mm	1	½"	TH1/2-120	65W 005
Sleeve, dia. 6 mm, L 175 mm, EL 155 mm	1	½"	TH1/2-155	65W 006
Sleeve, dia. 5.2 mm, L 50.5 mm, EL 34.5 mm	1	½"	TH1/2-34-5.2	65W 007
Meter blank for MTHI-X	1	190 mm/¾"	PST19020	65A 035
	1	260 mm/1"	PST26025	65A 036
	1	260 mm/1¼"	PST26030	65A 037
	1	300 mm/1½"	PST30040	65A 038
Meter blank for MTHI-X-ST and MTHI-X-F	1	105 mm/¾"	PST10520	65A 039
	1	150 mm/1"	PST15025	65A 040
	1	150 mm/1½"	PST15030	65A 041
	1	200 mm/1½"	PST20040	65A 042
Welding sleeve	2	½" x 15 mm	SM 1/2-15	65W 030
	2	½" x 34 mm	SM 1/2-34	65W 031
	2	½" x 40 mm	SM 1/2-40	65W 032
	2	½" x 50 mm	SM 1/2-50	65W 033
	2	½" x 60 mm	SM 1/2-60	65W 034
Connector, brass with hot-water seal	1 pair	¾"	VME 3/4	65A 004
	1 pair	1"	VME 4/4	65A 045
	1 pair	1¼"	VME 5/4	65A 046
	1 pair	1½"	VME 6/4	65A 047

Meter blank	Welding sleeve	Sleeve	Connector	Type	Order no.
190 mm ¾"	½" x 15 mm	½" - EL 36	¾"	EBS 190	65W 022
260 mm 1"	½" x 15 mm	½" - EL 36	1"	EBS 260 25	65W 023
260 mm 1¼"	½" x 15 mm	½" - EL 36	1¼"	EBS 260 30	65W 024
300 mm 1½"	½" x 34 mm	½" - EL 85	1½"	EBS 300	65W 025
105 mm ¾"	½" x 15 mm	½" - EL 36	¾"	EBS 105	65W 026
150 mm 1"	½" x 15 mm	½" - EL 36	1"	EBS 150 25	65W 027
150 mm 1½"	½" x 34 mm	½" - EL 85	1½"	EBS 150 40	65W 028
200 mm 1½"	½" x 34 mm	½" - EL 85	1½"	EBS 200	65W 029

DN	Pipe diameter	Sleeve EL	Welding sleeve B	Temp. sensor built-in length	Temp. sensor sleeve length
50	60.33 mm	85 mm	50 mm	105 mm	120 mm
65	76.10 mm	85 mm	40 mm	105 mm	120 mm
80	88.90 mm	85 mm	34 mm	105 mm	120 mm
100	114.30 mm	120 mm	50 mm	140 mm	155 mm
125	139.70 mm	120 mm	40 mm	140 mm	155 mm
150	168.30 mm	120 mm	40 mm	140 mm	155 mm
200	219.10 mm	155 mm	40 mm	175 mm	190 mm
250	273.00 mm	155 mm	34 mm	175 mm	190 mm

Accessories ordering data

Design	Qty. in package	Size	Type	Order no.
	1	1/4"	TH1/4-5.2	65W 035
	1	3/8"	TH3/8-5.2	65W 036
Sleeve A, dia. 6 mm	1	1/4"	TH1/4-6.0	65W 058
	1	3/8"	TH3/8-6.0	65W 059
	1	3/4"	TST-M10-3/4	65W 037
	1	1"	TST-M10-4/4	65W 038
T-piece, 1/4"	1	3/4"	TST-3/4-4/4	65W 039
	1	1"	TST-4/4-4/4	65W 040
	1	3/4" x 3/4" IG	KH-M10-3/4-IG	65W 041
	1	1" x 1" IG	KH-M10-1"IG	65W 042
Ball valve, 1/4"	1	3/4" x 3/4" IG	KH-1/4-3/4IG	65W 043
	1	1" x 1" IG	KH-1/4-1"IG	65W 044
Transition piece 110 mm - 1/2" onto 130 mm - 3/4"	1	130 - 3/4"	ZUSGS110	65A 019
Adapter set for converting temperature sensor dia. 5.2 mm to direct sensor incl. O-ring and grooved pin	1		DF-ADAPTER	65W 045
Adapter M10 x M10 for direct sensor for inserting in profile piece incl. seal	1		AD-M10-IA	65W 046
Adapter M10 x 1/4"	1		AD-M10-1/4	65W 048
	1		KVSET-S1	65W 047
	1		WA-S1	55W 001
S1 performance specification, German			FB-S1	98W 001
S1 performance specification, English			FBE-S1	98W 003

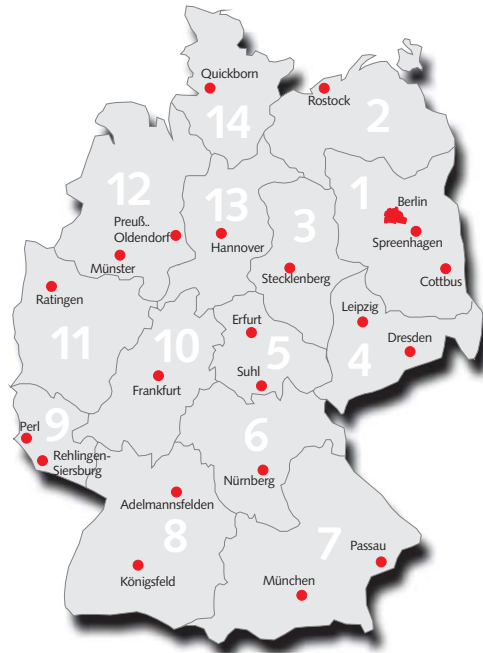
Ball valves with 1/2" soil pipe in sizes 1/4" to 2"

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