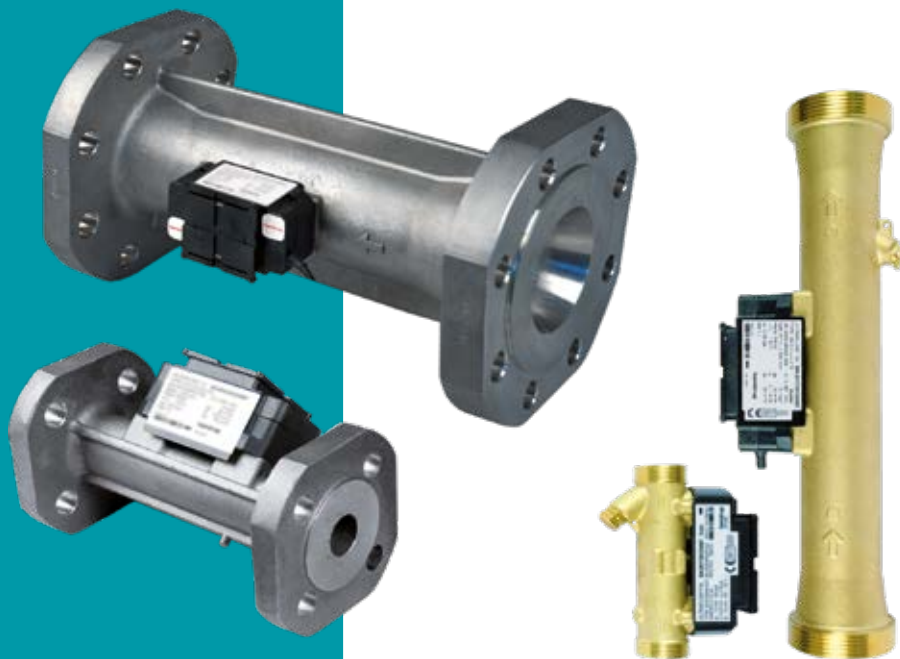


Data sheet

• **ULTRAFLOW® 54 DN15-125**

- Ultrasonic flow sensor (q_p 0.6...100 m³/h)
- Static sensor, no moving parts and no wear
- Compact design
- Enables direct mounting of a temperature sensor in threaded meters (q_p 0.6...10 m³/h)
- Small pressure loss
- Large dynamic range
- Exceptionally accurate
- Durable



MID 2014/32/EU



EN 1434

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Description

ULTRAFLOW® 54 is a static flow sensor based on the ultrasonic measuring principle. It is used primarily as a sub-assembly of a thermal energy meter in combination with the separate calculators MULTICAL® 603 or MULTICAL® 803 and a set of TemperatureSensor 63. ULTRAFLOW® 54 has been designed for use in heat installations where water is used as the heat-bearing medium.

ULTRAFLOW® 54 employs microprocessor technology. The flow is measured using bidirectional ultrasonic technique based on the transit time method. All circuits for calculation and measurement are collected on a single board, providing a compact and rational design in addition to an exceptionally high level of measuring accuracy and proven longterm stability.

A three-wire pulse cable is used to connect ULTRAFLOW® 54 to separate MULTICAL® calculators. This cable is used to supply the flow sensor from the calculator and also to send the volume-proportional pulses to the calculator.

If ULTRAFLOW® 54 is used as a flow sensor for other equipment, it must be connected through a Pulse Transmitter. If ULTRAFLOW® is connected to another calculator with a different meter factor than the one supplied by ULTRAFLOW®, a Pulse Divider is used instead. Pulse Transmitter and Pulse Divider have a galvanically separated pulse output and a built-in supply for ULTRAFLOW® 54.

If the distance between MULTICAL® and ULTRAFLOW® 54 is more than 10 m, a Pulse Transmitter allows prolongation of the connecting cable (up to 100 m). Alternatively, a Cable Extender Box can be used for this purpose for distances up to 30 m between MULTICAL® and ULTRAFLOW® 54.

Compliance

Type approval

ULTRAFLow® 54 is approved as a heat meter in accordance with MID-2014/32/EU:

EU-Type Examination Certificates DK-0200-MI004-008, DK-0200-MI004-033

MID-certified according to Module D DK-0200-MID-D-001



Please contact Kamstrup A/S for further information relating to type approval and verification.

Standards and documents

EN 1434:2007/AC:2007

EN 1434:2015+A1:2018

EN 1434:2022

WELMEC 7.2:2022

CE-marking

ULTRAFLow® 54 is marked in accordance with:

- EMC-directive 2014/30/EU
- LV-directive 2014/35/EU (together with Pulse Transmitter or Pulse Divider)
- PE-directive 2014/68/EU (DN50...DN125 category I)

Approved meter data

MID designation

- Mechanical environment M1 (vibrations and shocks of low significance)
M2 (significant or high levels of vibrations and shocks).
- Electromagnetic environment E1 (residential, commercial and light industrial buildings)
E2 (other industrial buildings)
- Climatic environment 5...55 °C, condensing, closed location (indoors)
- Accuracy class 2 and 3

EN 1434 designation

- Environmental class C (high electrical and electromagnetic conditions)
- Fast response meter Volume sampling interval ≤ 2 s (sub-assembly flow sensor)

Technical data

Electrical data

Internal supply voltage	3.6 VDC $\pm$ 0.1 VDC
Battery (MULTICAL® or Pulse Transmitter/ Pulse Divider)	3.65 VDC, D-cell lithium
Battery lifetime (replacement interval)	
– ULTRAFLOW® 54 and MULTICAL®	Up to 16 years @ $t_{BAT} < 30\text{ °C}$
– Pulse Transmitter/Pulse Divider	6 years @ $t_{BAT} < 30\text{ °C}$ (Y=3)
Mains supply (MULTICAL® or Pulse Transmitter/Pulse Divider)	230 VAC $\pm 15/-30\%$, 50 Hz or 60 Hz 24 VAC $\pm 50\%$, 50 Hz or 60 Hz
Backup supply	Integral supercap eliminates operational disturbances due to short-term power cuts
Cable length	
– Flow sensor	Max 10 m
– Pulse Transmitter/Pulse Divider	Depends on calculator – max 100 m when connected to MULTICAL® (Y=2)
– Cable Extender Box	Depends on calculator – max 30 m when connected to MULTICAL® (does not provide galvanic separation, but supports extended info codes)
Electromagnetic environment	Fulfil EN 1434 class C, MID E1 and E2
Pulse output	Galvanically connected (ULTRAFLOW®)
– Type	Push-Pull
– Output impedance	10 k Ω
– Pulse duration	2...6 ms
– Pause time	Depending on current pulse frequency

Technical data

Mechanical data

Accuracy class	2 and 3
Electromagnetic environment	Fulfils EN 1434 class C, MID E1 and E2
Mechanical environment	MID M1 and M2
Ambient conditions	5...55 °C, closed location (installation indoors)
Protection class	
– Flow sensor	IP65
– Pulse Transmitter/Pulse Divider	IP67
– Cable Extender Box	IP65
Medium in flow sensor	Water – recommended water quality as in CEN TR 16911 and AGFW FW510
Medium temperature*	15...130 °C or narrower range
Storage temperature (empty sensor)	-25...60 °C
Pressure stage	PN16, PS16 or PN25, PS25 or PN16/PN25, PS25 (see marking)
Straight inlet requirement	OD (according to EN 1434)
Installation angle	Horizontally, vertically and at an angle

- * At medium temperatures above 90°C, the use of flange meters is recommended.
At medium temperatures above 90 °C or below the ambient temperature, the calculator and Pulse Transmitter/Pulse Divider must not be mounted on the flow sensor. Instead wall mounting is recommended.

Flow data

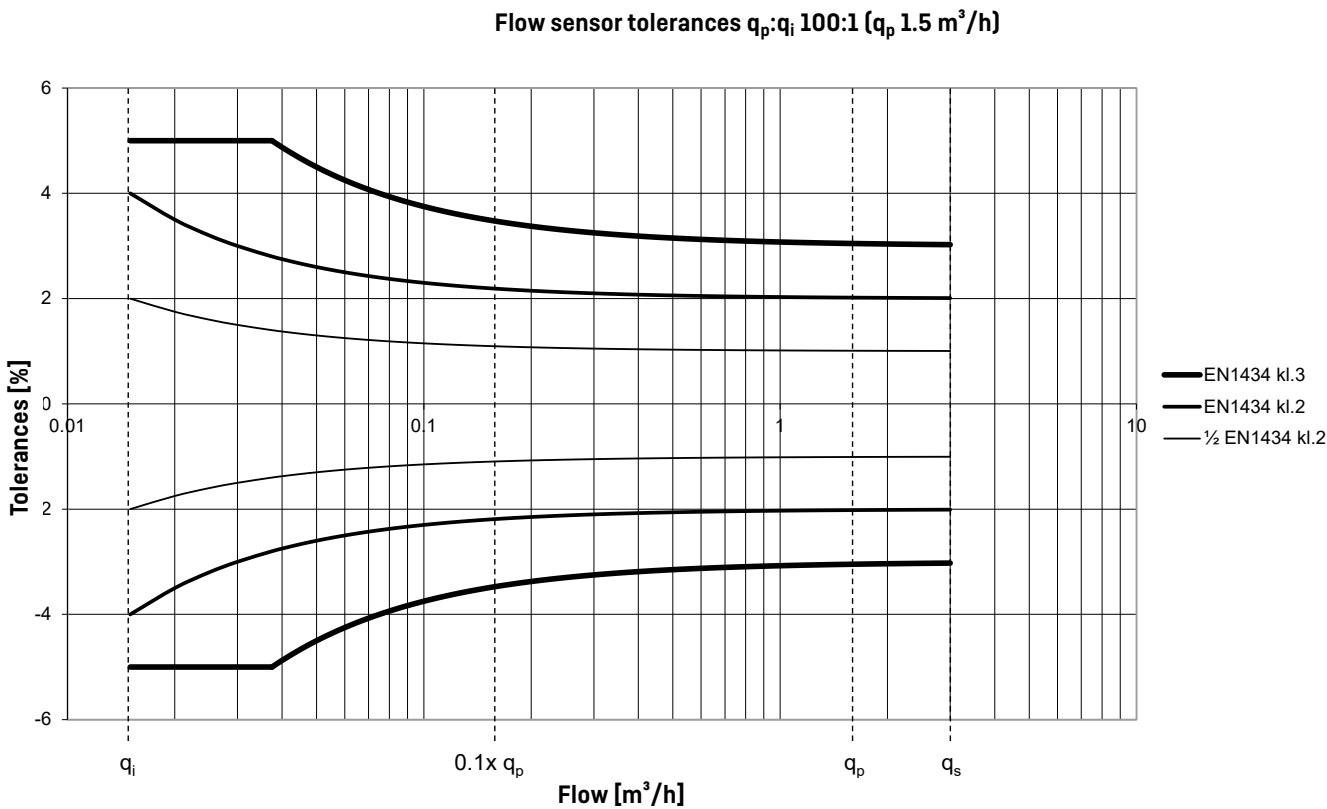
Nom. flow q_p [m³/h]	Meter factor ¹⁾ [p/l]	Dynamic range $q_p:q_i$	$q_s:q_p$	Flow @125 Hz ²⁾ [m³/h]	Min. cut-off [l/h]
0.6	300	100:1	2:1	1.5	2
1.5	100	100:1	2:1	4.5	3
2.5	60	100:1	2:1	7.5	5
3.5	50	100:1	2:1	9	7
6	25	100:1	2:1	18	12
10	15	100:1	2:1	30	20
15	10	100:1	2:1	45	30
25	6	100:1	2:1	75	50
40	5	100:1	2:1	90	80
60	2.5	100:1	2:1	180	120
100	1.5	100:1	2:1	300	200

1) The meter factor appears from the type label.
2) Saturation flow 125 Hz. Max pulse frequency is maintained at higher flow rates.

Measurement accuracy

Class 3	$E_f = \pm[3 + 0.05 \, q_p/q]$, but not above $\pm 5\%$
Class 2	$E_f = \pm[2 + 0.02 \, q_p/q]$, but not above $\pm 5\%$
Typical *	$E_f = \pm[1 + 0.01 \, q_p/q]$

* Documented with DANAK-accredited certificate at flow q_i , $0.1 \, q_p$ and q_p .



Materials

Wetted parts

Housing, thread	DZR brass (dezincification-resistant brass) CW602N, to be discontinued. CW511L with max 0.1% Pb, to be implemented.
Blind plug	DZR brass (dezincification resistant brass) CW614N, to be discontinued. CW510L with max 0.1% Pb, to be implemented.
Housing, flange	Stainless steel, W.no. 1.4308
Transducer (membrane)	Stainless steel, W.no. 1.4404
O-ring	Ethylene propylene (EPDM)
Reflector base/reflector	Thermoplastic, PESU 30% GF and stainless steel, similar to AISI 304 or AISI 316/ Stainless steel, similar to AISI 304 or AISI 316
Measuring tube	Thermoplastic, PESU – only flow sensor type 65-5-XXHX-XXX/ Thermoplastic, PESU 30% GF

Electronic housing

65-5-XXHX-XXX

– Base	Thermoplastic, PESU 30% GF
– Cover	Thermoplastic, PC 10% GF

65-5-XXCX-XXX and 65-5-XXJX-XXX

– Base	Thermoplastic, PC 10% GF
– Cover	Thermoplastic, PC 20% GF

Connection cable

Silicone cable (3 x 0.25 mm²)

Housing, Cable Extender Box

Base, cover	Thermoplastic, acrylonitrile butadiene styrene (ABS)
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Housing, Pulse Transmitter/Pulse Divider

Base, cover	Thermoplastic, PC 10% GF
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Type summary

Nom. flow q_p [m ³ /h]	Installation dimensions					
0.6	G½Bx110 mm	G1Bx130 mm	G1Bx190 mm			
1.5	G½Bx110 mm	G½Bx165 mm	G1Bx130 mm	G1Bx190 mm	[G1Bx110 mm]	DN20x190 mm
2.5	G1Bx190 mm	DN20x190 mm	G1Bx130 mm			
3.5	G5/4Bx260 mm	DN25x260 mm				
6	G5/4Bx260 mm	G1½Bx 260 mm	DN25x260 mm	DN32x260 mm		
10	G2Bx300 mm	DN40x300 mm				
15	DN50x270 mm	[DN50x250 mm]				
25	DN65x300 mm					
40	DN80x300 mm	[DN80x350 mm]				
60	DN100x360 mm	[DN100x400 mm]				
100	DN100x360 mm	DN125x350 mm				

Thread EN ISO 228-1

Flange facing type B, raised face according to EN 1092-1, PN25

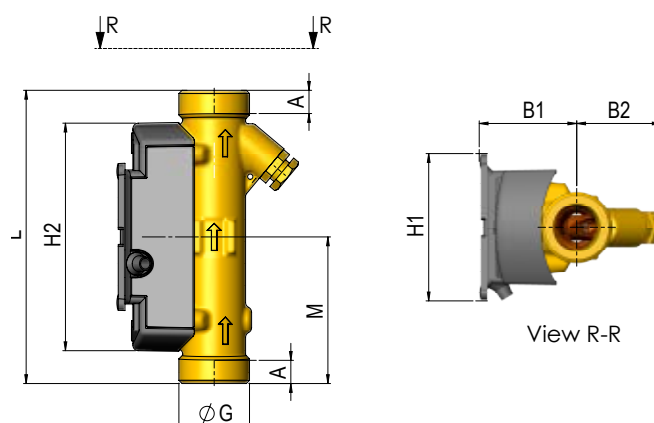
[...] Country specific variants. Contact your local Kamstrup sales representative if one of these variants is of interest for you.

Dimensional sketches

ULTRAFLOW® 54 flow sensors have a compact design and can be ordered with 2.5, 5 and 10 m signal cable to the calculator. Flow sensors of size q_p 0.6...10 m³/h with threaded meter housings have the provision for built-in temperature sensors (M10x1 connection).

ULTRAFLOW® 54 type 65-5-XXHX-XXX, G $\frac{1}{4}$ B and G1B

All measurements are in mm, unless otherwise stated.

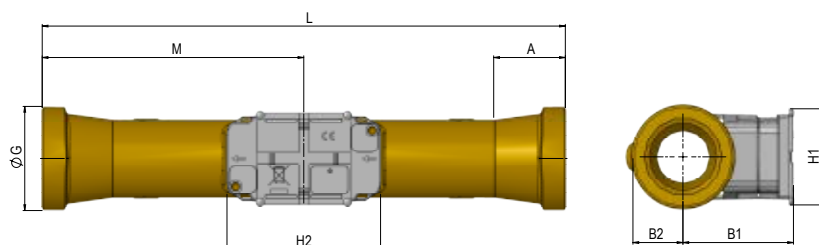


Thread EN ISO 228-1	L	M	H2	A	B1	B2	H1	Approx. weight [kg]
G $\frac{1}{4}$ B (q_p 0.6;1.5)	110	L/2	86	8	37	32	55	0.41
G1B (q_p 1.5)	110	L/2	86	12	37	32	55	0.46
G1B (q_p 0.6;1.5)	130	L/2	86	12	37	32	55	0.51
G1B (q_p 2.5)	130	L/2	86	12	40	35	55	0.53
G $\frac{1}{4}$ B (q_p 1.5)	165	L/2	86	8	37	32	55	0.51
G1B (q_p 1.5)*	165							
G1B (q_p 0.6;1.5)	190	L/2	86	12	37	32	55	0.61
G1B (q_p 2.5)	190	L/2	86	12	40	35	55	0.67

* G1B x 130 mm including adapter 1330-023 and extra gasket.

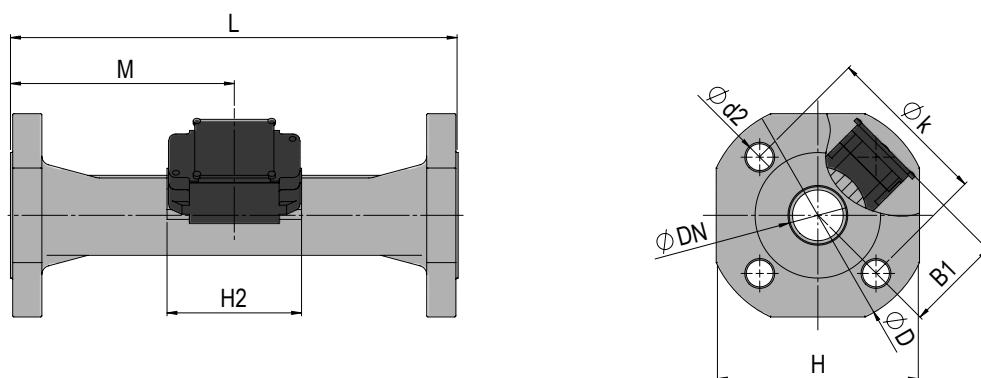
Dimensional sketches

ULTRAFLOW® 54 type 65-5-XXJX-XXX, G5/4B, G1½B and G2B



Thread EN ISO 228-1	L	M	H2	A	B1	B2	H1	Approx. weight [kg]
G1¼B (q _p 3.5)	260	L/2	89	16	58	20	55	1.5
G1¼B (q _p 6.0)	260	L/2	89	16	60	20	55	1.6
G1½B (q _p 6.0)	260	L/2	89	31	60	24	55	1.7
G2B (q _p 10)	300	L/2	89	40.2	63	29	55	2.5

ULTRAFLOW® 54, DN20 to DN50

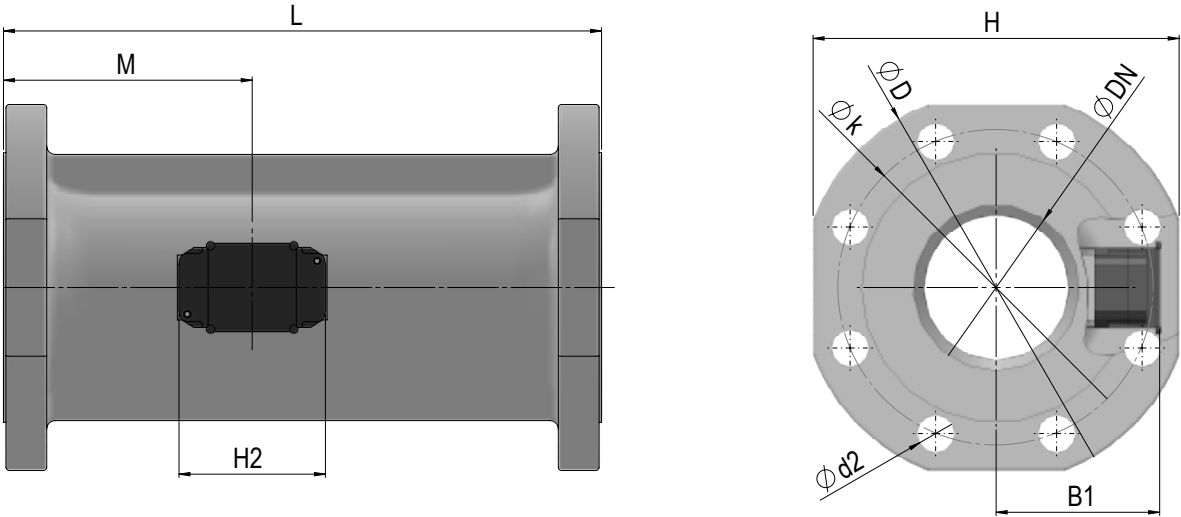


Flange facing type B, raised face according to EN 1092-1, PN25

Nom. diameter	L	M	H2	B1	D	H	k	Bolts			Approx. weight [kg]
								No.	Thread	d ₂	
DN20 (q _p 1.5)	190	L/2	89	58	105	95	75	4	M12	14	3.2
DN20 (q _p 2.5)	190	L/2	89	58	105	95	75	4	M12	14	2.9
DN25 (q _p 3.5;6)	260	L/2	89	58	115	106	85	4	M12	14	5.0
DN32 (q _p 6)	260	L/2	89	<D/2	140	128	100	4	M16	18	5.2
DN40 (q _p 10)	300	L/2	89	<D/2	150	136	110	4	M16	18	8.3
DN50 (q _p 15)	250	155	89	<D/2	165	145	125	4	M16	18	9.8
DN50 (q _p 15)	270	155	89	<D/2	165	145	125	4	M16	18	10.1

Dimensional sketches

ULTRAFLOW® 54, DN65 to DN125



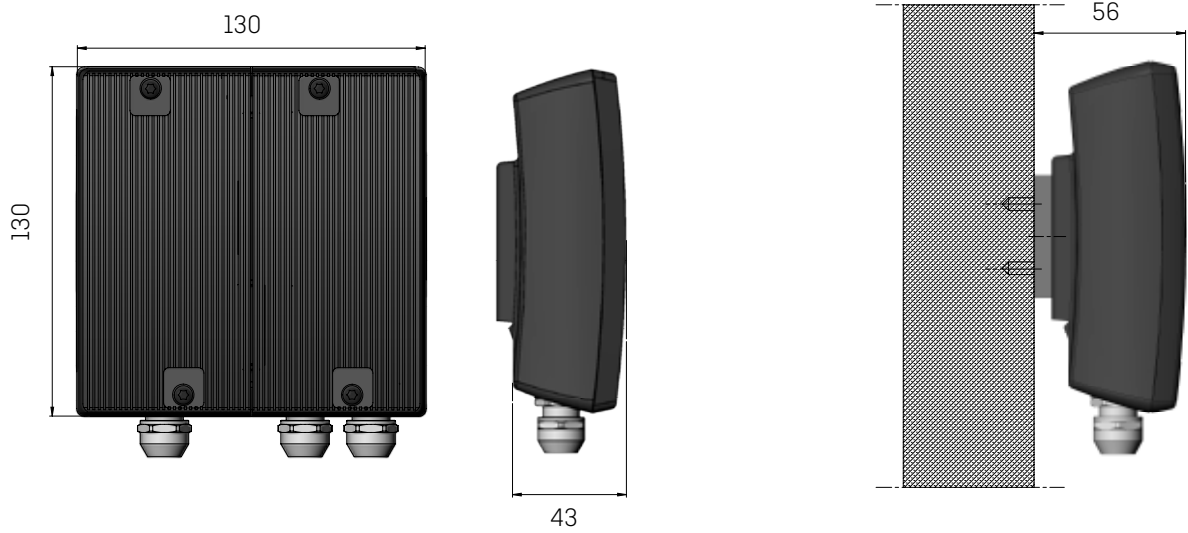
Flange facing type B, raised face according to EN 1092-1, PN25 (PN16 ¹⁾)

Nom. diameter	L	M	H2	B1	D	H	k	Bolts			Approx. weight [kg]
								No.	Thread	d ₂	
DN65 (q _p 25)	300	170	89	<H/2	185	168	145	8	M16	18	13.2
DN80 (q _p 40)	300	170	89	<H/2	200	184	160	8	M16	18	16.8
DN80 (q _p 40)	350	170	89	<H/2	200	184	160	8	M16	18	18.6
DN100 (q _p 60;100)	360	210	89	<H/2	235	220	190	8	M20	22	21.7
DN100 (q _p 60) ¹⁾	400	210	89	<H/2	220	210	180	8	M16	18	22.8
DN125 (q _p 100)	350	212	89	<H/2	270	260	220	8	M24	26	28.2

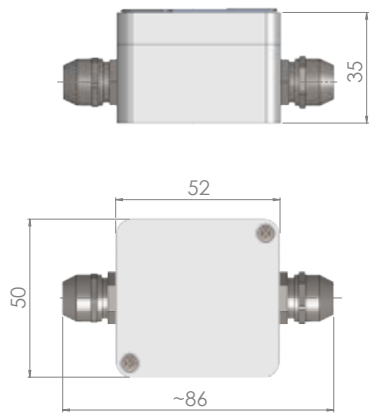
1) DN100 x 400 mm; PN16

Dimensional sketches

Pulse Transmitter



Cable Extender Box



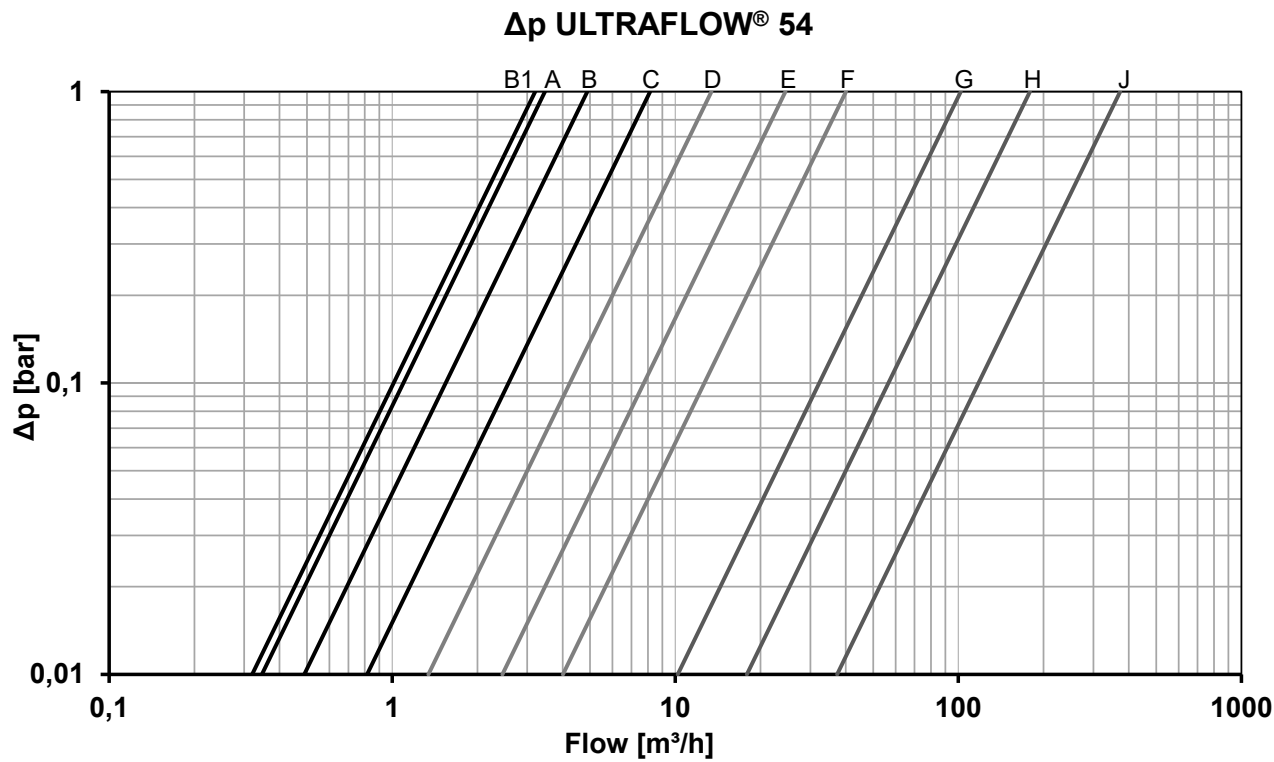
Pressure loss

Graph	q _p	Type number ¹⁾			Connection	Length	Δp@q _p	kv	q@0.25 bar ²⁾
	[m³/h]					[mm]	[bar]		[m³/h]
A	0.6	65-5-	CAHA	-XXX	G¾B (R½)	110	0.03	3.5	1.7
		65-5-	CAHD	-XXX	G1B (R¾)	130			
		65-5-	CAHF	-XXX	G1B (R¾)	190			
B	1.5	65-5-	CDHA	-XXX	G¾B (R½)	110	0.09	4.9	2.4
		65-5-	CDHC	-XXX	G¾B (R½)	165			
		[65-5-	CDH1	-XXX]	G1B (R¾)	110			
		65-5-	CDHD	-XXX	G1B (R¾)	130			
		65-5-	CDHF	-XXX	G1B (R¾)	190			
B1	1.5	65-5-	CDCA	-XXX	DN20	190	0.22	3.2	1.6
C	2.5	65-5-	CEHD	-XXX	G1B (R¾)	130	0.09	8.2	4.1
		65-5-	CEHF	-XXX	G1B (R¾)	190			
D	2.5	65-5-	CECA	-XXX	DN20	190	0.03	13.4	6.8
	3,5	65-5-	CGJG	-XXX	G5/4B (R1)	260	0.07		
		65-5-	CGCB	-XXX	DN25	260			
	6	65-5-	CHCB	-XXX	DN25	260	0.20		
		65-5-	CHCC	-XXX	DN32	260			
E	6	65-5-	CHJG	-XXX	G5/4B (R1)	260	0.06	24.5	12.3
		65-5-	CHJH	-XXX	G1½B (R5/4)	260			
F	10	65-5-	CJJJ	-XXX	G2B (R1½)	300	0.06	40	20
		65-5-	CJCD	-XXX	DN40	300			
	15	[65-5-	CKC4	-XXX]	DN50	250	0.14		
		65-5-	CKCE	-XXX	DN50	270			
G	25	65-5-	CLCG	-XXX	DN65	300	0.06	102	51
H	40	65-5-	CMCH	-XXX	DN80	300	0.05	179	90
		[65-5-	CMCJ	-XXX]	DN80	350			
J	60	65-5-	FACL	-XXX	DN100	360	0.03	373	187
		[65-5-	FAD5	-XXX]	DN100	400			
	100	65-5-	FBCL	-XXX	DN100	360	0.07		
		65-5-	FBCM	-XXX	DN125	350			

1) XXX - code for final assembly, approvals etc. – determined by Kamstrup. A few variants may not be available in national approvals.
[...] Country specific variants for special purposes.

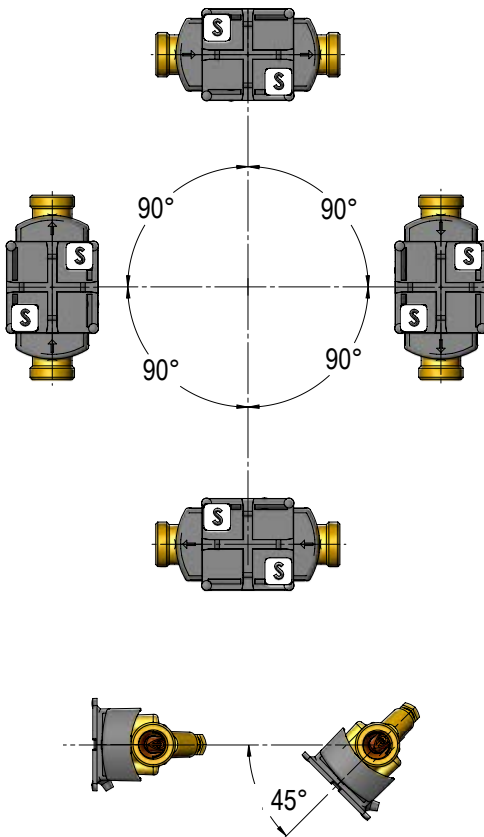
2) $q = k_v \times \sqrt{\Delta p}$

Pressure loss



Installation

Orientation of Kamstrup flow sensors (mounted separately)



Kamstrup flow sensors can be installed horizontally, vertically or at an angle. For vertical mounting, Kamstrup flow sensors can be turned $\pm 360^\circ$ around the pipe axis.

⚠ The plastic box on the flow sensor must be turned to the side (when installed horizontally).

The flow sensor may always be turned up to 45° downwards in relation to the pipe axis.

Only in case that the district heating water is clean and does not contain any kind of dirt, the flow sensor may also be turned up to 90° downwards.

In case that the district heating water is free of air, the flow sensor types 65-5-XXCX-XXX and 65-5-XXJX-XXX may in addition also be turned 45° upwards.

For further recommendations for the orientation of Kamstrup flow sensors, see the technical description for ULTRAFLW® 54 DN15-125, 5512-2464-GB, which can be downloaded from www.kamstrup.com.

Straight inlet

ULTRAFLW® requires neither straight inlet nor outlet to meet the Measuring Instruments Directive (MID) 2014/32/EU, OIML R75:2002 and EN 1434. Only in case of heavy flow disturbances before the meter, a straight inlet section will be necessary. It is recommended to follow the guidelines in CEN CR 13582.

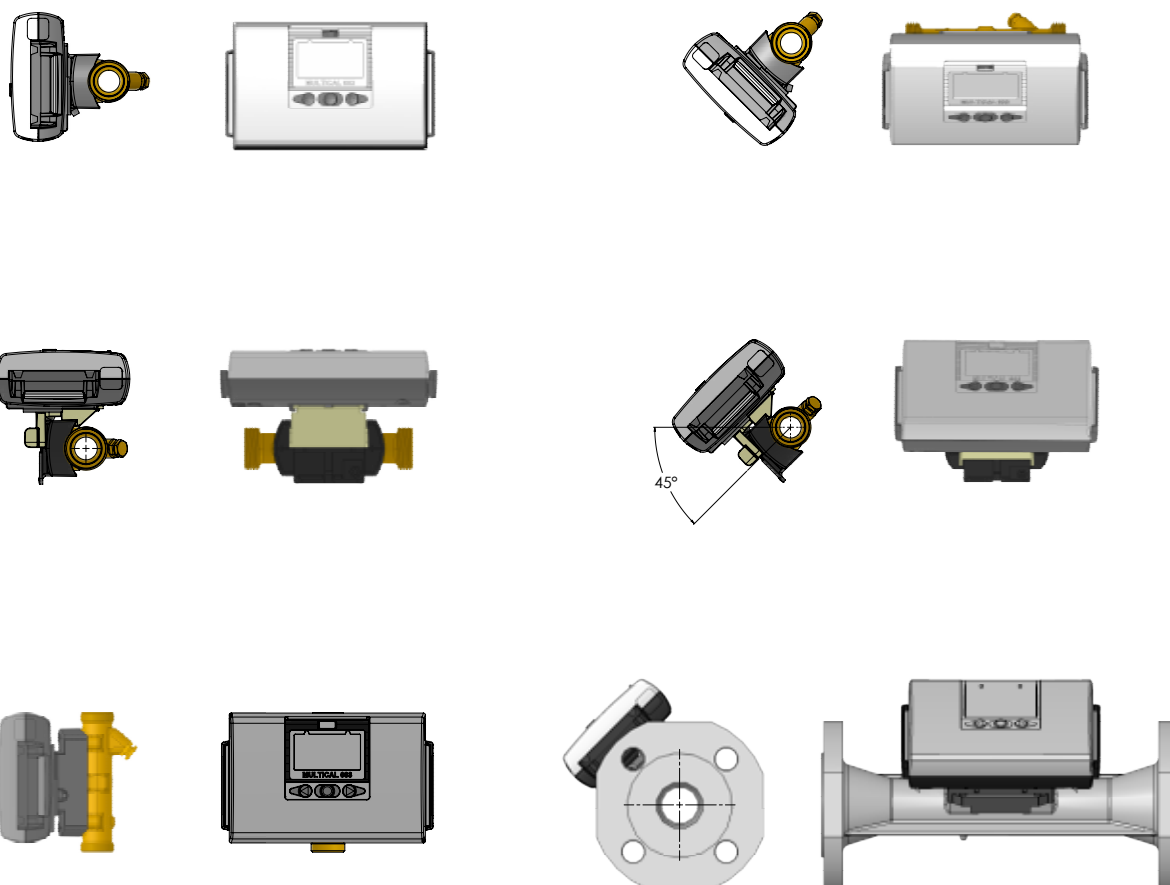
Operating pressure

To minimise the risk of measuring errors as a result of cavitation or air in the water, it is recommended to keep a sufficient static pressure at the flow sensor outlet of min. 1.5 bar (1.0 bar for ULTRAFLW® 54 type 65-5-XXHX-XXX) up to q_p and min. 2.5 bar (2.0 bar for ULTRAFLW® 54 type 65-5-XXHX-XXX) at q_s . This applies to temperatures up to approx. 80°C . It is particularly recommended to follow this advice during meter calibration. In absence of cavitation, the flow sensor is typically functioning at lower operating pressure. ULTRAFLW® must not be exposed to pressure lower than the ambient pressure (vacuum). This minimises the risk of transducer damage.

Examples of installation

MULTICAL® mounted directly on ULTRAFLW® 54

The orientation of the flow sensors follows the general installation recommendations of Kamstrup.



⚠ At a medium temperature above 90 °C, calculator and Pulse Transmitter must not be mounted on the flow sensor. Instead wall mounting is recommended.

Insulation

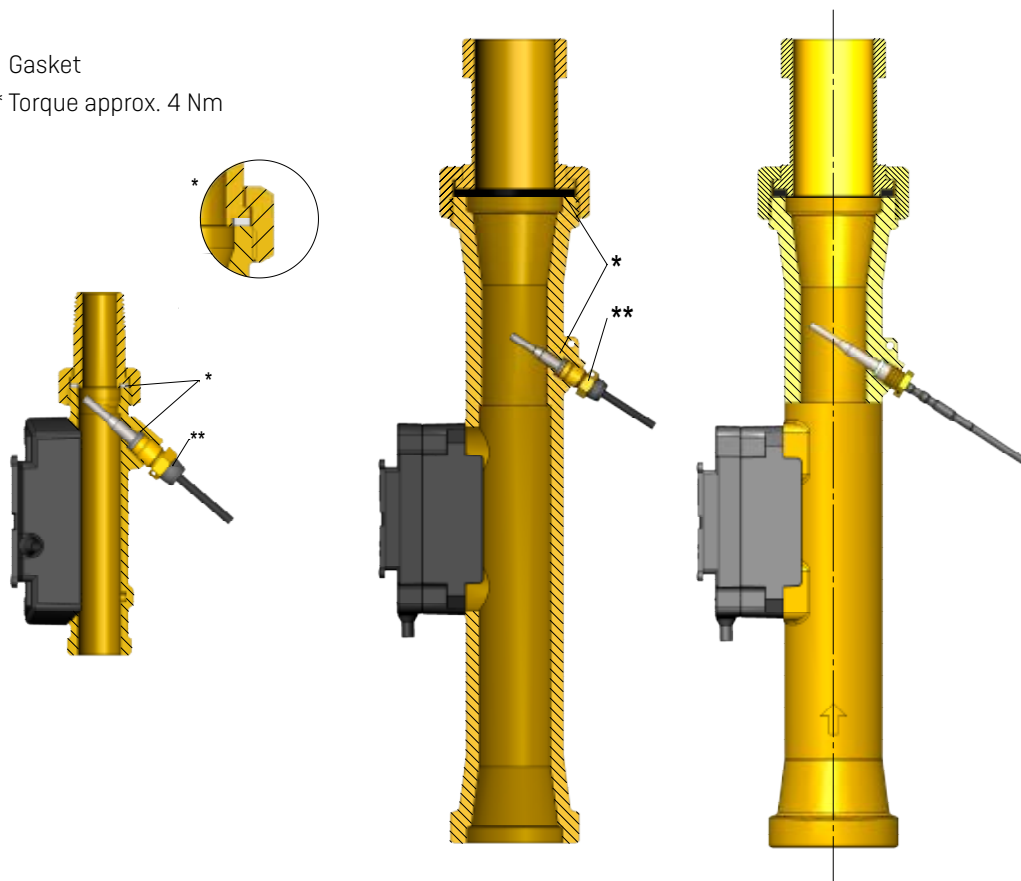
For information about insulation of ULTRAFLW® 54, see the Technical description 5512-2464-GB, which can be downloaded from www.kamstrup.com.

Coupling and direct short sensor mounted in ULTRAFLW® 54

A temperature sensor can be directly mounted (M10x1 connection) in the outlet of all flow sensors with threaded meter housings (q_p 0.6...10 m³/h).

* Gasket

** Torque approx. 4 Nm



Electrical connection

Connecting MULTICAL® and ULTRAFLOW® 54

ULTRAFLOW® 54	->	MULTICAL®
Blue (GND)	->	11
Red (supply)	->	9
Yellow (signal)	->	10

Connecting via Pulse Transmitter/Pulse Divider/Cable Extender Box

ULTRAFLOW® 54	->	Pulse Transmitter/Pulse Divider/ Cable Extender Box		->	MULTICAL®
		Input	Output		
Blue (GND)	->	11	11A/11	->	11
Red (supply)	->	9	9A/9	->	9
Yellow (signal)	->	10	10A/10	->	10

Pulse Transmitter/Pulse Divider provides galvanic separation, but does not support extended info codes.

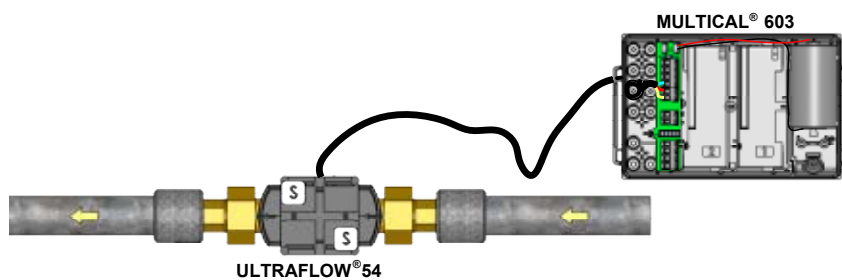
Cable Extender Box does not provide galvanic separation, but supports extended info codes.

If long signal cables are used, please consider the installation carefully. There must be **at least 25 cm** between the signal cable and all other cables due to EMC.

For further information about Pulse Transmitter/Pulse Divider and Cable Extender Box, see the Technical description 5512-2464, which can be downloaded from www.kamstrup.com.

Example of connecting ULTRAFLOW® 54 and MULTICAL®

ULTRAFLOW® 54 and MULTICAL® 603



Order specification

Threaded connection PN16/PN25, PS25 ¹⁾

Type number ²⁾	q _p [m³/h]	q _i [m³/h]	q _s [m³/h]	Dynamic range q _p :q _i	Connection	Length [mm]	PN, PS [bar]	Meter factor [p/l]	Material (housing)	Temperature sensor (M10x1 connection) ³⁾
65-5- CAHA-XXX	0.6	0.006	1.2	100:1	G¾B (R¾)	110	16/25, 25	300	Brass	TS63
65-5- CAHD-XXX	0.6	0.006	1.2	100:1	G1B (R¾)	130	16/25, 25	300	Brass	TS63
65-5- CAHF-XXX	0.6	0.006	1.2	100:1	G1B (R¾)	190	16/25, 25	300	Brass	TS63
65-5- CDHA-XXX	1.5	0.015	3	100:1	G¾B (R¾)	110	16/25, 25	100	Brass	TS63
65-5- CDHC-XXX	1.5	0.015	3	100:1	G¾B (R¾)	165	16/25, 25	100	Brass	TS63
65-5- CDHD-XXX	1.5	0.015	3	100:1	G1B (R¾)	130 ⁴⁾	16/25, 25	100	Brass	TS63
65-5- CDHF-XXX	1.5	0.015	3	100:1	G1B (R¾)	190	16/25, 25	100	Brass	TS63
65-5- CEHD-XXX	2.5	0.025	5	100:1	G1B (R¾)	130	16/25, 25	60	Brass	TS63
65-5- CEHF-XXX	2.5	0.025	5	100:1	G1B (R¾)	190	16/25, 25	60	Brass	TS63
65-5- CGJG-XXX	3.5	0.035	7	100:1	G1¼B (R1)	260	16/25, 25	50	Brass	TS63
65-5- CHJG-XXX	6	0.060	12	100:1	G1¼B (R1)	260	16/25, 25	25	Brass	TS63
65-5- CHJH-XXX	6	0.060	12	100:1	G1½B (R1¼)	260	16/25, 25	25	Brass	TS63
65-5- CJJJ-XXX	10	0.100	20	100:1	G2B (R1½)	300	16/25, 25	15	Brass	DS38

1) Thread according to EN ISO 228-1 (flow sensor) and EN 10226-1 (couplings).

2) XXX - code for final assembly, approvals etc. - determined by Kamstrup. A few variants may not be available in single markets. Contact your local Kamstrup sales representative, if a variant is of interest for you.

3) Direct mounting of a temperature sensor in the outlet of the flow sensor is possible.
TS63 = TemperatureSensor 63 = DS27.5 mm, ø5.0 mm and ø5.2 mm; DS38 = DirectShort 38 mm

4) For installation size G1B (R¾) x 165 mm please add extension 13-30-023.

Flanged connection PN16/PN25 ¹⁾, PS25

Type number ²⁾	q _p [m³/h]	q _i [m³/h]	q _s [m³/h]	Dynamic range q _p :q _i	Connection	Length [mm]	PN, PS [bar]	Meter factor [p/l]	Material (housing)	Temperature sensor (M10x1 connection) ³⁾
65-5- CDCA-XXX	1.5	0.015	3	100:1	DN20	190	16/25, 25	100	Stainless steel	N/A
65-5- CECA-XXX	2.5	0.025	5	100:1	DN20	190	16/25, 25	60	Stainless steel	N/A
65-5- CGCB-XXX	3.5	0.035	7	100:1	DN25	260	16/25, 25	50	Stainless steel	N/A
65-5- CHCB-XXX	6	0.06	12	100:1	DN25	260	16/25, 25	25	Stainless steel	N/A
65-5- CHCC-XXX	6	0.06	12	100:1	DN32	260	16/25, 25	25	Stainless steel	N/A
65-5- CJCD-XXX	10	0.1	20	100:1	DN40	300	16/25, 25	15	Stainless steel	N/A
65-5- CKCE-XXX	15	0.15	30	100:1	DN50	270	16/25, 25	10	Stainless steel	N/A
65-5- CLCG-XXX	25	0.25	50	100:1	DN65	300	16/25, 25	6	Stainless steel	N/A
65-5- CMCH-XXX	40	0.4	80	100:1	DN80	300	16/25, 25	5	Stainless steel	N/A

1) Flange facing type B, raised face in accordance with EN 1092-1, PN25. Up to and inclusive DN80 mating dimensions of PN16 and PN25 are identical.

2) XXX - code for final assembly, approvals etc. - determined by Kamstrup. A few variants may not be available in single markets. Contact your local Kamstrup sales representative, if a variant is of interest for you.

3) Direct mounting of a temperature sensor in the outlet of the flow sensor is possible.

Order specification

Flanged connection PN25 ¹⁾, PS25

Type number ²⁾	q _p [m³/h]	q _i [m³/h]	q _s [m³/h]	Dynamic range q _p :q _i	Connection	Length [mm]	PN, PS [bar]	Meter factor [p/l]	Material (housing)	Temperature sensor (M10x1 connection) ³⁾
65-5- FACL-XXX	60	0.6	120	100:1	DN100	360	25, 25	2.5	Stainless steel	N/A
65-5- FBCL-XXX	100	1	200	100:1	DN100	360	25, 25	1.5	Stainless steel	N/A
65-5- FBCM-XXX	100	1	200	100:1	DN125	350	25, 25	1.5	Stainless steel	N/A

1) Flange facing type B, raised face in accordance with EN 1092-1, PN25.

2) XXX - code for final assembly, approvals etc. - determined by Kamstrup. A few variants may not be available in single markets. Contact your local Kamstrup sales representative, if a variant is of interest for you.

3) Direct mounting of a temperature sensor in the outlet of the flow sensor is possible.

Flow sensors for special purposes

Type number ¹⁾	q _p [m³/h]	q _i [m³/h]	q _s [m³/h]	Dynamic range q _p :q _i	Connection	Length [mm]	PN, PS [bar]	Meter factor [p/l]	Material (housing)	Temperature sensor (M10x1 connection) ²⁾
{65-5- CDH1 -XXX}	1.5	0.015	3	100:1	G1B (R¾)	110	16, 16	100	Brass	TS63
{65-5- CKC4 -XXX}	15	0.15	30	100:1	DN50	250	16/25, 25	10	Stainless steel	N/A
{65-5- CMCJ -XXX}	40	0.4	80	100:1	DN80	350	16/25, 25	5	Stainless steel	N/A
{65-5- FAD5 -XXX}	60	0.6	120	100:1	DN100	400	16, 16	2.5	Stainless steel	N/A

1) XXX - code for final assembly, approvals etc. - determined by Kamstrup. A few variants may not be available in single markets. Contact your local Kamstrup sales representative, if a variant is of interest for you.

2) Direct mounting of a temperature sensor in the outlet of the flow sensor is possible.
TS63 = TemperatureSensor 63 = DS27.5 mm, ø5.0 mm and ø5.2 mm

[...] Country specific variants. Contact your local Kamstrup sales representative if one of these variants is of interest for you.

By default, ULTRAFLW® 54 is delivered with 2.5 m cable, but can also be delivered with 5 or 10 m cable.

Pulse Transmitter/Pulse Divider – type no. 6699-903/6699-907

Pulse Transmitter/Pulse Divider is delivered with built-in supply for ULTRAFLW® 54. Battery, 24 VAC and 230 VAC supply are available. Please state the required supply type when ordering.

Cable Extender Box - type no. 6699-036

If ULTRAFLW® must be connected to MULTICAL® with a cable length between 10 m and 30 m and galvanic separation is not necessary, a Cable Extender Box can be utilized. See document no. 5512-2008 (DK-GB-DE-RO) for further information.

Pulse Transmitter provides galvanic separation, but does not support extended info codes.

Cable Extender Box does not provide galvanic separation, but supports extended info codes.

For further information about Pulse Transmitter/Pulse Divider and Cable Extender Box, see the Technical description 5512-2464, which can be downloaded from www.kamstrup.com.

Accessories

Couplings including gaskets (PN16 and PN25)

Size	Nipple	Union	Type no. (1 pc)	Type no. (2 pcs)
DN15	R½	G¾	-	6561-323
DN20	R¾	G1	-	6561-324
DN25	R1	G1¼	6561-325	-
DN32	R1¼	G1½	6561-314	-
DN40	R1½	G2	6561-315	-

Gaskets for couplings (PN16 and PN25)

Size (union)	Type no. (1 pc)
G¾	2210-061
G1	2210-062
G1¼	2210-063
G1½	2210-064
G2	2210-065

Gaskets for flanged meters (PN16 and PN25)

Size	Type no. (1 pc)
DN20	2210-147
DN25	2210-133
DN32	2210-217
DN40	2210-132
DN50	2210-099
DN65	2210-141
DN80	2210-140

Gaskets for flanged meters (PN25)

Size	Type no. (1 pc)
DN100	1150-142
DN125	1150-153

For further information about ULTRAFLOW® 54 DN15-125, see the Technical description 5512-2464, which can be downloaded from www.kamstrup.com.

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