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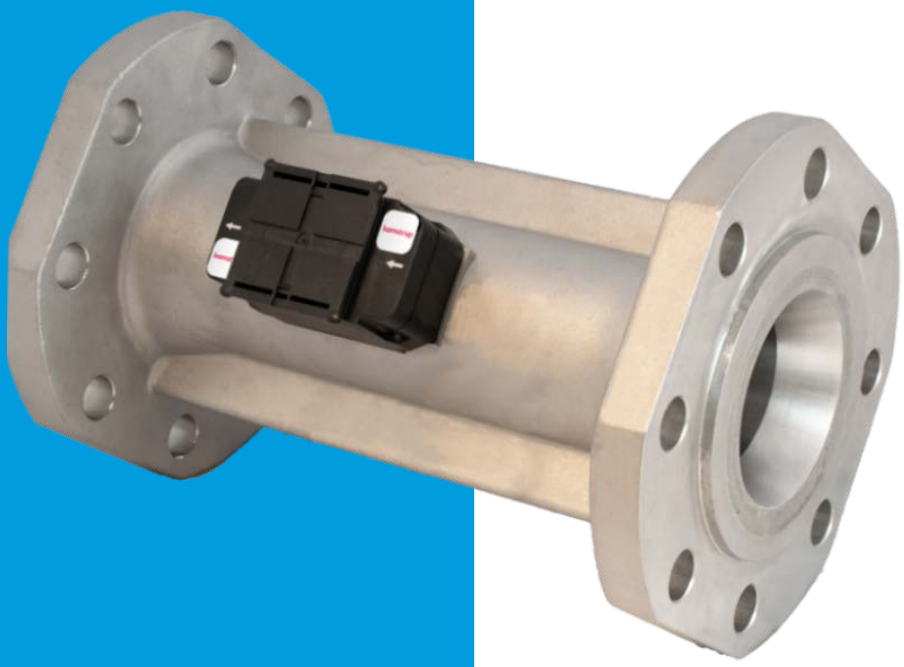
Technical description, supplementary

ULTRAFLOW® 54 PN40



Kamstrup A/S · Industrivej 28, Stilling · DK-8660 Skanderborg · T: +45 89 93 10 00 · info@kamstrup.com · kamstrup.com

Contents

1 General description

This supplementary technical description for ULTRAFLOW® 54 PN40 versions for the French market should be read as a supplement to the technical description for the basic ULTRAFLOW® 54 versions.

2 Data

Supplement to ULTRAFLOW®54 regarding PN40 versions

2.1 Electrical data

Supply voltage	3.6 VDC ± 0.1 VDC	
Battery (Pulse Transmitter/ Pulse Divider)	3.65 VDC, D-cell lithium	
Replacement interval	6 years @ t_{BAT} < 30 °C	With output module (Y=3)
Mains supply (Pulse Transmitter/ Pulse Divider)	230 VAC +15/-30 %, 50 Hz 24 VAC ±50 %, 50 Hz	
Power consumption mains supply	< 1 W	
Back-up mains supply	Integral super-cap eliminates interruptions due to short-term power-cuts	
Cable length, flow meter	Max. 10 m	
Cable length		
Flow sensor	Max. 10 m	
Pulse Transmitter/ Pulse Divider	Depends on calculator. Max. 100 m when connected to MULTICAL® (via Y=2).	
Cable Extender Box	Depends on calculator. Max. 30 m when connected to MULTICAL® 603.	
EMC data	Fulfils EN 1434:2015 class C, MID E1 and E2	

2.2 Mechanical data

Metrological class	2 or 3	
Environmental class	Fulfils EN 1434 class C	
Mechanical environment	MID M1	
Ambient temperature	5…55 °C, non-condensing, closed location (installation indoors)	
Protection class		
Flow sensor	IP65	When properly installed. See section regarding *Installation* in the technical description.
Pulse Transmitter/ Pulse Divider	IP67	
Cable Extender Box	IP65	
Humidity	Non-condensing, < 93 % RH	
Mechanical environment	MID M1	
Medium in flow sensor	Water – recommended water quality as in CEN TR 16911 and AGFW FW510	
Temperature of medium	15…130 °C	At medium temperatures above 90 °C calculator and Pulse Transmitter/Pulse Divider must not be mounted on the flow sensor. Instead wall mounting is recommended.
Storage temp. empty sensor	-25…60 °C	
Pressure stage	PN40, PS32	

2.3 Flow data

Nom. flow q_p [m³/h]	Nom. diameter [mm]	Meter factor [1] [imp/l]	Dynamic range q_p:q_i	q_s:q_p	Flow@125 Hz [2] [m³/h]	Δp@q_p [bar]	Min. cutoff [l/h]
3.5	DN25	50	100:1	2:1	9	0.07	7
10	DN40	15	100:1	2:1	30	0.06	20
15	DN50	10	100:1	2:1	45	0.14	30
25	DN65	6	100:1	2:1	75	0.06	50
40	DN80	5	100:1	2:1	90	0.05	80
60	DN100	2.5	100:1	2:1	180	0.03	120

[1] *The meter factor appears from the type label.*

[2] *Saturation flow. At flow rates above the saturation flow, the max. pulse frequency will be maintained.*

Table 1

2.4 Material

Wetted parts

ULTRAFLOW®, q_p 3.5 to 60 m³/h

Housing, flange	Stainless steel, W.no. 1.4308
Transducer	Stainless steel, W.no. 1.4401
Gaskets	EPDM
Reflectors	Stainless steel, W.no. 1.4301
Measuring pipe	Thermoplastic, PPS 30 % GF

Electronics housing, ULTRAFLOW®

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

Housing, Pulse Transmitter/Pulse Divider

Base, cover	Thermoplastic, PC 10 % GF

Housing, Cable Extender Box

Base, cover	Thermoplastic, ABS

Signal cable

Silicone cable (3x0.5 mm²)

Mains supply cable 24/230 VAC (optional choice for mains supplied Pulse Transmitter/Pulse Divider)

Cable with PVC-mantle (2x0.75 mm²)

3 Ordering details

Below is a list of type numbers for ULTRAFLOW® 54, PN40

Type number[3)]	q_p [m³/h]	q_i [m³/h]	q_s [m³/h]	Connection	PN	Length [mm]	Meter factor [pulses/l]	CCC (high res.)	Material Housing
65-5- CGE1 -XXX	3,5	0,035	7	DN25	PN40, PS32	220	50	451 (436)	Stainless steel
65-5- CJE3 -XXX	10	0,1	20	DN40	PN40, PS32	256	15	478 (483)	Stainless steel
65-5- CJED -XXX	10	0,1	20	DN40	PN40, PS32	300	15	478 (483)	Stainless steel
65-5- CKE4 -XXX	15	0,15	30	DN50	PN40, PS32	250	10	420 (485)	Stainless steel
65-5- CKEE -XXX	15	0,15	30	DN50	PN40, PS32	270	10	420 (485)	Stainless steel
65-5- CLEG -XXX	25	0,25	50	DN65	PN40, PS32	300	6	479 (-)	Stainless steel
65-5- CMEH -XXX	40	0,4	80	DN80	PN40, PS32	300	5	458 (486)	Stainless steel
65-5- CMEJ -XXX	40	0,4	80	DN80	PN40, PS32	350	5	458 (486)	Stainless steel
65-5- FAEL -XXX	60	0,6	120	DN100	PN40, PS32	360	2,5	470 (487)	Stainless steel
65-5- FAE5 -XXX	60	0,6	120	DN100	PN40, PS32	400	2,5	470 (487)	Stainless steel

3) XXX - code for final assembly, approvals etc. - determined by Kamstrup. A few variants may not be available in national approvals.

Table 2

4 Dimensioned sketches

ULTRAFLOW® 54, DN25 to DN50

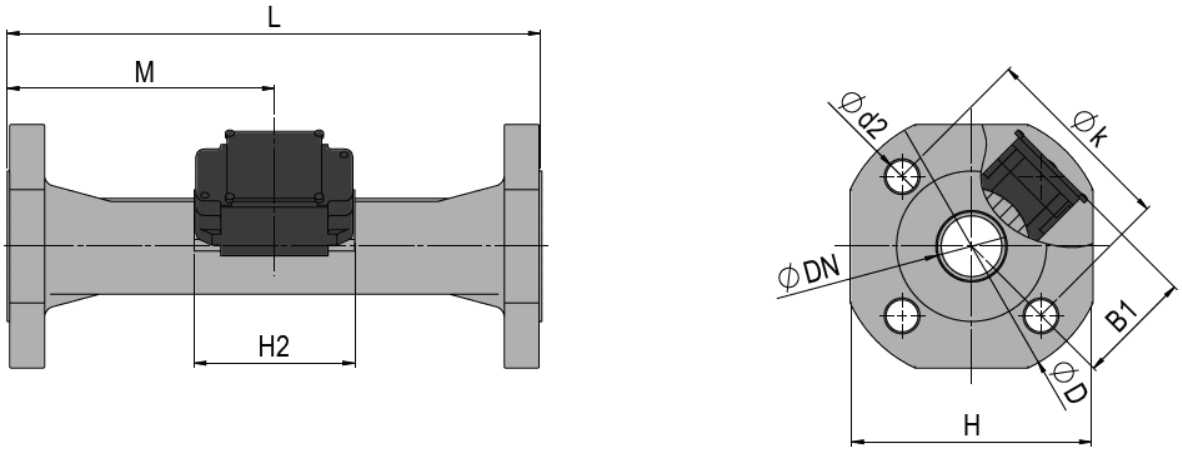


Figure 1

Nom. diameter	L	M	H2	B1	D	H	k	Bolts			Approx. weight
								Number	Threads	d_2	[kg]
DN25	220	L/2	89	58	115	106	85	4	M12	14	4.5
DN40	256	138	89	<D/2	150	136	110	4	M16	18	7.9
DN40	300	L/2	89	<D/2	150	136	110	4	M16	18	7.6
DN50	250	135	89	<D/2	165	145	125	4	M16	18	9.5
DN50	270	155	89	<D/2	165	145	125	4	M16	18	9.8

Flange facing type E (spigot) according to EN 1092-1, PN40.

Table 3

ULTRAFLOW® 54, DN65, DN80 and DN100

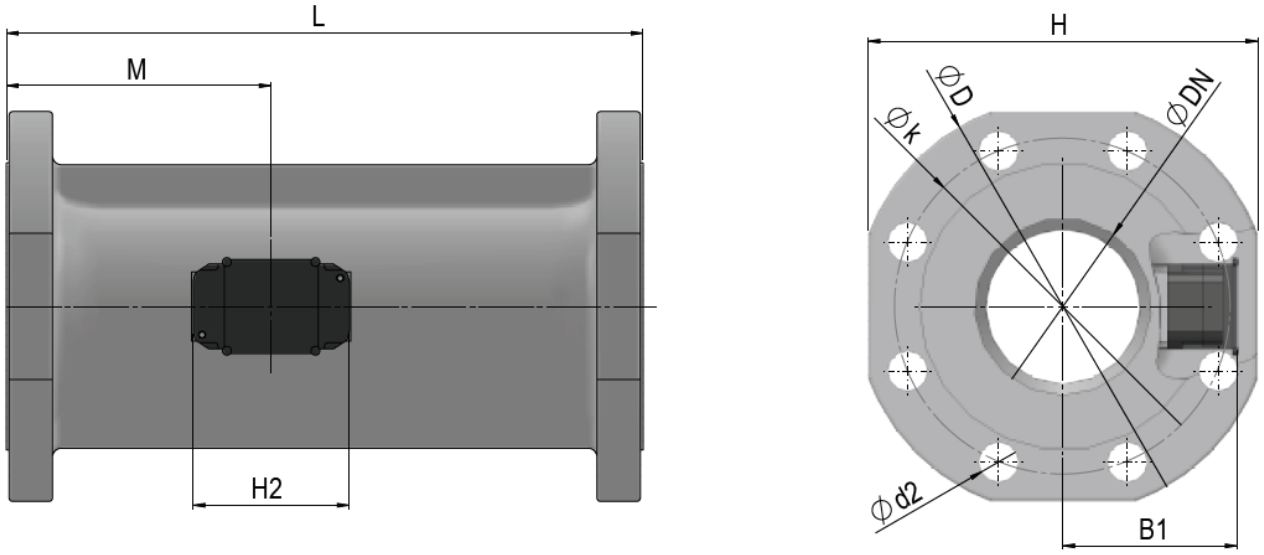


Figure 2

Nom. Diameter	L	M	H2	B1	D	H	k	Bolts			Approx. weight
								Number	Threads	d_2	[kg]
DN65	300	170	89	<H/2	185	168	145	8	M16	18	12.7
DN80	300	170	89	<H/2	200	184	160	8	M16	18	16.0
DN80	350	195	89	<H/2	200	184	160	8	M16	18	17.8
DN100	360	210	89	<H/2	235	220	190	8	M20	22	25.5
DN100	400	210	89	<H/2	235	220	190	8	M20	22	23.2

Flange facing type E (spigot) according to EN 1092-1, PN40.

Table 4

5 Approvals

5.1 The Measuring Instrument Directive

ULTRAFLOW® 54 is supplied with a CE-marking according to MID (2014/32/EU). The certificates have the following numbers:

B-module: DK-0200-MI004-008

D-module: DK-0200-MID-D-001

5.2 CE marking

ULTRAFLOW® 54 is marked according to the following directives:

EMC directive	2014/30/EU
LV directive	2014/35/EU (when connected to mains supplied Pulse Transmitter or Pulse Divider)
PE directive	2014/68/EU (DN40...DN100) category I

Please contact Kamstrup A/S for further details on type approval and verification.

5.3 EU declaration of conformity

With each ULTRAFLOW® 54 supplied from Kamstrup an EU-declaration of conformity (Kamstrup document no. 5518-308) is included.

6 Documents

	English	French
Technical description	5512-873	-
Data sheet	-	5810-717
Installation and user guide	5512-2070	5512-2075

Table 5