



TUBUX M30

Float-type flowmeter



The Tubux M30 float-type flowmeter is a mechanical device for the measurement of transparent liquids and gases. Even under demanding conditions, it impresses with reliability, long-term stability, and extended service life. With its rugged stainless steel housing, it is perfectly suited for industrial applications.

Due to its compact design, the Tubux M30 test meter can be integrated into a wide range of systems in a space-saving manner.

Its modular construction with flange or threaded connections allows easy adaptation to individual requirements – such as different scales or limit contacts.

Whether in water treatment, chemical engineering, or plant construction: the Tubux M30

ADVANTAGES

- » Suitable for transparent liquid and gaseous media
- » Flange or threaded connection
- » High repeatability of measurement values
- » No calming section required
- » Reliable operation (long-term stability, service life)

stands out for its durability, low maintenance, and high repeatability. Rely on proven MECON quality – Made in Germany.

Tubux M30 – the smart choice for reliable flow measurement.



TECHNICAL DATA

System

Measuring principle	Float-type flowmeter with local indication
Flow direction	From bottom to top
Installation position	Vertically
Measurement range	For liquids: 16 ... 25 000 l/h ¹ (4.2 ... 6 604 USgph) ¹ For gases: 230 ... 480 000 l/h ² (60.8 ... 126 802 USgph) ²
Units of measured variables	l/h (up to measuring cone D 2500) m ³ /h (from measuring cone D 3000) % graduation on the scale
Measuring accuracy	Liquids: ± 1.6 % of the full scale value G 1.6 qG 50 % (acc. to VDE/VDI 3513 Sheet 2) Gases: ± 2.5 % of the full scale value G 2.5 qG 50 % (acc. to VDE/VDI 3513 Sheet 2)

Constructive design

Contact devices starting from measuring cone C 125 and above	GSTA (normally open, bistabil) GSTB (normally closed, bistabil) GSTW (changeover, bistabil)
Options	» Calibration certificate » ATEX version » Silicon-free version » Shatter protection made of Plexiglas up to max. 80 °C (176 °F) » Cleaning class VA with oil- and grease-free marking » Ceramic scale for medium temperatures >90 °C (>194 °F) » Float stop made of stainless steel » Special scale (± 1 % measuring accuracy) » FDA approval, regulation (EC) No 1935/2004 upon request

¹ Measuring ranges refer to water (see measuring range table).

Special measuring ranges possible upon specification of medium data and measuring range.

² Measuring ranges refer to air (see measuring range table).

Special measuring ranges possible upon specification of medium data and measuring range.

³ Installation length 425 mm (16.7 in) or 500 mm (19.7 in)



Materials

Valve body	Stainless steel
Measuring cone	Borosilicate glass
Float	Stainless steel, aluminium, PVDF
Guide rod	Stainless steel (optional for measuring cones C 125 ... D 2500)
Stop	PVDF (up to 100 °C / 210 °F), Stainless steel (from 100 °C / 210 °F)
Seals	FKM, EPDM
Connection	Internal thread DIN ISO 228 » Stainless steel » PVDF Internal thread NPT ANSI B1.20.1 » Stainless steel » PVDF Flange connection EN 1092-1 » Stainless steel ³ » PVDF ³ Flange connection ANSI B16.5 » Stainless steel ³ » PVDF ³
Union nut	Aluminium or stainless steel

Operating conditions

Max. operating temperature	150 °C (302 °F)										
Max. operating pressure	10 bar (145 psi)										
Ambient temperature	-20 °C ... 80 °C (-4 °F ... 176 °F)										
Measuring cone temperature	-10 °C ... 150 °C (14 °F ... 302 °F)										
PVDF stop temperature	-10 °C ... 150 °C (14 °F ... 302 °F)										
Float material temperature	PVDF, aluminium: -10 °C ... 100 °C (14 °F ... 212 °F) Stainless steel: -10 °C ... 150 °C (14 °F ... 302 °F)										
Seal material temperature	Max. 150 °C (302 °F)										
Temperature and pressure limits of connection materials	<table> <tr> <th>Temperature</th><th>p_e = Overpressure</th></tr> <tr> <td>Stainless steel: -10 °C ... 150 °C (14 °F ... 302 °F)</td><td>10.0 bar (145 psi)</td></tr> <tr> <td>PVDF: 20 °C (68 °F)</td><td>10.0 bar (145 psi)</td></tr> <tr> <td>40 °C (104 °F)</td><td>6.25 bar (91 psi)</td></tr> <tr> <td>60 °C (140 °F)</td><td>3.50 bar (51 psi)</td></tr> </table>	Temperature	p _e = Overpressure	Stainless steel: -10 °C ... 150 °C (14 °F ... 302 °F)	10.0 bar (145 psi)	PVDF: 20 °C (68 °F)	10.0 bar (145 psi)	40 °C (104 °F)	6.25 bar (91 psi)	60 °C (140 °F)	3.50 bar (51 psi)
Temperature	p _e = Overpressure										
Stainless steel: -10 °C ... 150 °C (14 °F ... 302 °F)	10.0 bar (145 psi)										
PVDF: 20 °C (68 °F)	10.0 bar (145 psi)										
40 °C (104 °F)	6.25 bar (91 psi)										
60 °C (140 °F)	3.50 bar (51 psi)										
Permissible operating pressure for measuring cone depending on temperature	Measuring cone A 1 ... D 3000: Max. 10 bar / 145 psi (at 20 °C / 68 °F) Measuring cone E 4000 ... E 25000: Max. 8 bar / 116 psi (at 20 °C / 68 °F)										

DIMENSIONS AND WEIGHTS

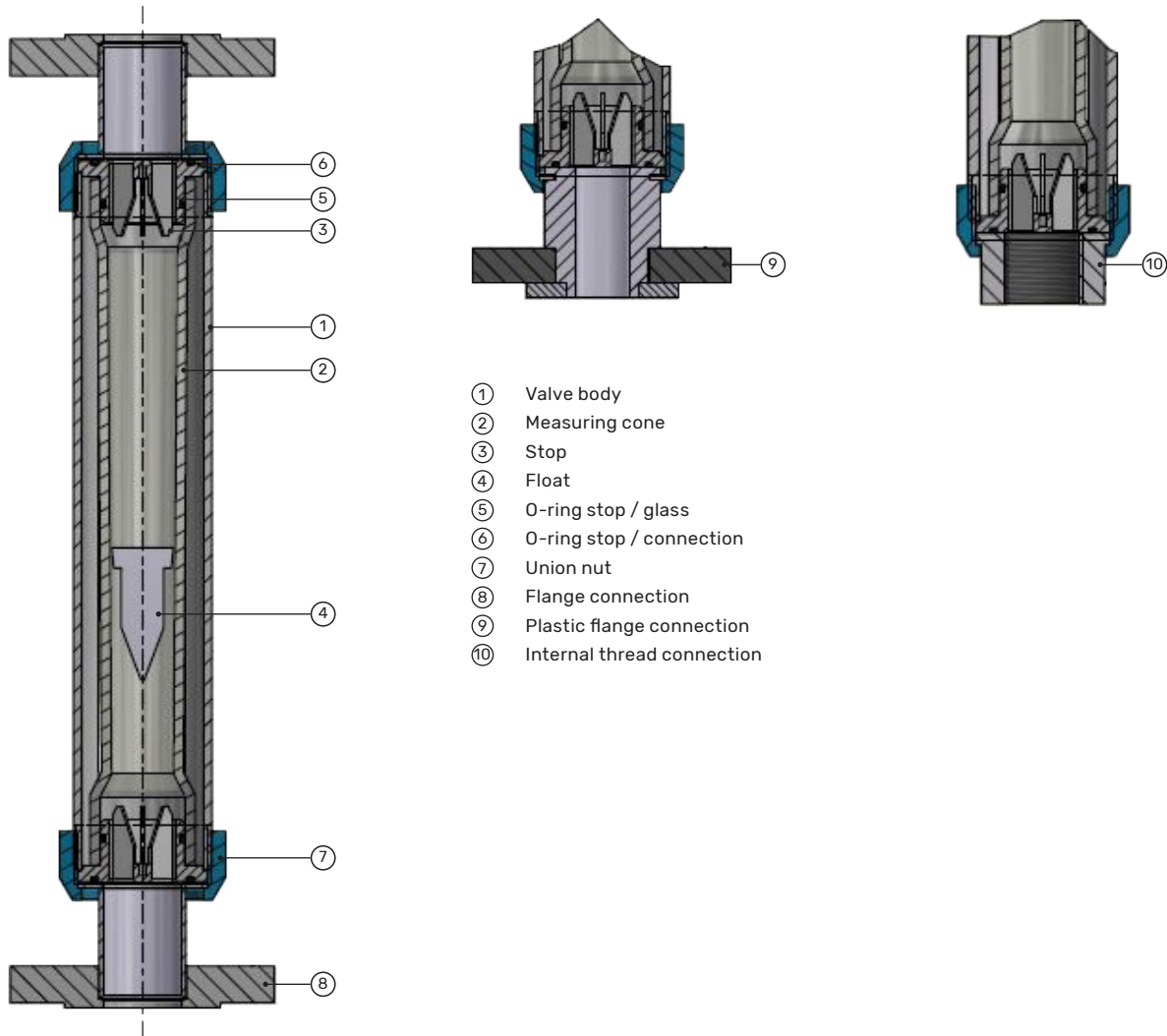


Fig. 1: Cross-sectional drawing Tubux M30

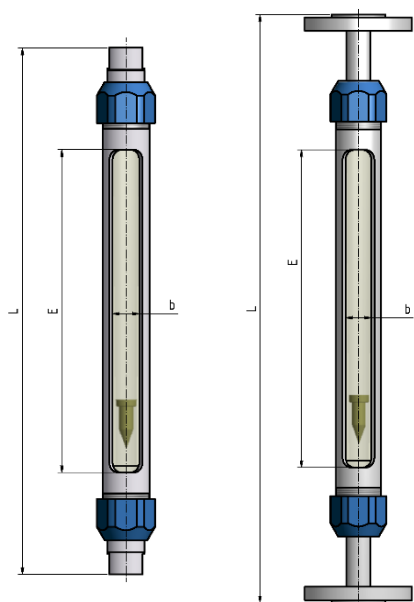


Fig. 2: Dimensions

Size	E mm (in)	b mm (in)	L mm (in)		Weight kg (lbs)	
			Threaded connection	Flange connection	Threaded connection	Flange connection
45	235 (9.3)	19 (0.8)	375 (14.8)	425 / 500 (16.7 / 19.7)	0.65 (1.4)	1.9 (4.2)
60	235 (9.3)	38 (1.5)	375 (14.8)	425 / 500 (16.7 / 19.7)	1.9 (4.2)	3.7 (8.2)
90	235 (9.3)	58 (2.3)	375 (14.8)	425 / 500 (16.7 / 19.7)	3.8 (8.4)	8.7 (19.2)

CONNECTION VARIANTS

Standard sizes are printed in bold.

Size	Internal thread DIN ISO 228	Internal thread NPT ANSI B1.20.1	Flange connection EN 1092-1		Flange connection ANSI B16.5	
45	G ¼	NPT ¼"	DN 10	PN 40	½"	150RF
	G ⅜	NPT ⅜"	DN 15	PN 40	¾"	150RF
	G ½	NPT ½"	DN 20	PN 40	1"	150RF
			DN 25	PN 40		
60	G ½	NPT ½"	DN 25	PN 40	1"	150RF
	G ¾	NPT ¾"	DN 32	PN 40	1 ¼"	150RF
	G 1	NPT 1"	DN 40	PN 40	1 ½"	150RF
			DN 50	PN 40	2"	150RF
90	G 1	NPT 1"	DN 40	PN 40	1 ½"	150RF
	G 1 ¼	NPT 1 ¼"	DN 50	PN 40	2"	150RF
	G 1 ½	NPT 1 ½"	DN 65	PN 16	2 ½"	150RF
	G 2	NPT 2"	DN 80	PN 16	3"	150RF



MEASURING RANGES FOR WATER

Based on the medium water H₂O at 20 °C (68 °F) with density $\rho = 1 \text{ kg/l}$, $\eta = 1 \text{ mPa}\cdot\text{s}$)
Standard versions are printed in bold.

Max. measuring range for selected floats (l/h)			Measuring cone	Measurement dynamics	Pressure loss (mbar / psi)	Size
Stainless steel	Stainless steel with magnet ⁴	PVDF weighted, with magnet ⁴				
16	-	7	B 16	1:10	10 / 145	45
25	-	11	B 25	1:10	10 / 145	
30	-	13	B 30	1:10	10 / 145	
40	-	15	B 40	1:10	10 / 145	
50	-	20	B 50	1:10	10 / 145	
65	-	25	B 65	1:10	10 / 145	
80	-	32	B 80	1:10	10 / 145	
100	-	40	B 100	1:10	10 / 145	
125	120	65	C 125	1:10	20 / 290	
160	150	90	C 160	1:10	20 / 290	
200	180	110	C 200	1:10	20 / 290	60
250	240	140	C 250	1:10	20 / 290	
315	300	175	C 315	1:10	40 / 580	
400	360	220	C 400	1:10	40 / 580	
500	480	250	C 500	1:10	40 / 580	
600	600	500	D 650	1:10	19 / 276	
800	750	600	D 800	1:10	19 / 276	
1 000	950	750	D 1000	1:10	19 / 276	
1 250	1 200	1 000	D 1250	1:10	19 / 276	
1 600	1 500	1 250	D 1600	1:10	24 / 348	
2 000	1 800	1 600	D 2000	1:10	24 / 348	
2 500	2 400	2 000	D 2500	1:10	33 / 479	
3 000	2 800	2 400	D 3000	1:10	33 / 479	

The maximum measuring range is indicated in each case. All intermediate measuring ranges available on request.

⁴For the use of contacts

⁵Float guided



Max. measuring range for selected floats (l/h)			Measuring cone	Measurement dynamics	Pressure loss (mbar / psi)	Size
Stainless steel	Stainless steel with magnet ⁴	PVDF weighted, with magnet ⁴				
4 000⁵	3 800 ⁵	3 200	E 4000	1:10	25 / 363	90
5 000⁵	4 800 ⁵	3 800	E 5000	1:10	25 / 363	
6 500⁵	6 400 ⁵	5 000	E 6500	1:10	25 / 363	
8 000⁵	7 500 ⁵	6 400	E 8000	1:10	25 / 363	
10 000⁵	9 500 ⁵	7 500	E 10000	1:10	25 / 363	
12 500⁵	12 000 ⁵	-	E 12500	1:6	25 / 363	
16 000⁵	16 000 ⁵	-	E 16000	1:4	25 / 363	
20 000⁵	19 000 ⁵	-	E 20000	1:3	25 / 363	
25 000⁵	24 000 ⁵	-	E 25000	1:3	25 / 363	

The maximum measuring range is indicated in each case. All intermediate measuring ranges available on request.

⁴For the use of contacts

⁵Float guided



MEASURING RANGES FOR AIR

Based on the medium air at 0 °C (32 °F) with density $\rho = 1.293 \text{ kg/m}^3$, $\eta = 0.0181 \text{ mPa}\cdot\text{s}$, $p_{\text{abs}} = 1.013 \text{ bar}$ (14.692 psi)
Standard versions are printed in bold.

Max. measuring range for selected floats (l/h)				Measuring cone	Measurement dynamic	Pressure loss (mbar / psi)	Size
Aluminium	Aluminium with magnet ⁴	PVDF	PVDF with magnet ⁴				
300	-	230	-	B 16	1:10	4 / 58	45
450	-	300	-	B 25	1:10	4 / 58	
500	-	360	-	B 30	1:10	4 / 58	
650	-	500	-	B 40	1:10	4 / 58	
800	-	650	-	B 50	1:10	4 / 58	
1 100	-	800	-	B 65	1:10	4 / 58	
1 400	-	1 000	-	B 80	1:10	4 / 58	
1 600	-	1 250	-	B 100	1:10	4 / 58	
2 000	2 500	1 500	2 200	C 125	1:10	6.5 / 94	
3 000	3 200	2 000	3 000	C 160	1:10	6.5 / 94	
3 600	4 000	2 500	3 600	C 200	1:10	6.5 / 94	60
4 000	5 000	3 000	4 500	C 250	1:10	6.5 / 94	
5 000	6 400	3 600	6 000	C 315	1:10	15 / 218	
6 400	8 000	5 000	7 000	C 400	1:10	15 / 218	
8 000	10 000	5 500	9 500	C 500	1:10	15 / 218	
10 000	12 000	8 000	10 000	D 650	1:10	7 / 102	
13 000	15 000	9 000	13 000	D 800	1:10	7 / 102	
16 000	20 000	12 000	16 000	D 1000	1:10	7 / 102	
20 000	24 000	15 000	20 000	D 1250	1:10	7 / 102	
28 000	32 000	20 000	28 000	D 1600	1:10	9 / 131	
36 000	40 000	25 000	36 000	D 2000	1:10	9 / 131	
40 000	50 000	30 000	40 000	D 2500	1:10	12 / 174	
50 000	60 000	36 000	50 000	D 3000	1:10	12 / 174	

The maximum measuring range is indicated in each case. All intermediate measuring ranges available on request.

⁴For the use of contacts



Max. measuring range for selected floats (l/h)				Measuring cone	Measurement dynamic	Pressure loss (mbar / psi)	Size
Aluminium	Aluminium with magnet ⁴	PVDF	PVDF with magnet ⁴				
64 000⁵	75 000 ⁵	50 000	64 000	E 4000	1:10	10 / 145	90
80 000⁵	100 000 ⁵	65 000	80 000	E 5000	1:10	10 / 145	
100 000⁵	125 000 ⁵	80 000	100 000	E 6500	1:10	10 / 145	
140 000⁵	150 000 ⁵	100 000	140 000	E 8000	1:10	10 / 145	
160 000⁵	180 000 ⁵	125 000	160 000	E 10000	1:10	10 / 145	
200 000⁵	220 000 ⁵	150 000	-	E 12500	1:6	10 / 145	
280 000⁵	300 000 ⁵	190 000	-	E 16000	1:4	10 / 145	
350 000⁵	400 000 ⁵	240 000	-	E 20000	1:3	10 / 145	
430 000⁵	480 000 ⁵	300 000	-	E 25000	1:3	10 / 145	

The maximum measuring range is indicated in each case. All intermediate measuring ranges available on request.

⁴For the use of contacts

⁵Float guided



DESCRIPTION CODE

The description code is made up as follows:

7ME5812- - / ...
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Measuring cone

Measuring cone <i>* without contact function</i>		Available in size		
		45	60	90
2C	B 25*	X		
2D	B 30*	X		
2E	B 40*	X		
2F	B 50*	X		
2G	B 65*	X		
2H	B 80*	X		
2J	B 100*	X		
3A	C 125	X		
3B	C 160	X		
3C	C 200	X		
3D	C 250	X		
3E	C 315	X		
3F	C 400	X		
3G	C 500	X		
4A	D 400		X	
4B	D 650		X	
4C	D 800		X	
4D	D 1000		X	
4E	D 1250		X	
4F	D 1600		X	
4G	D 2000		X	
4H	D 2500		X	
4J	D 3000		X	
5B	E 4000			X
5C	E 5000			X
5D	E 6500			X
5E	E 8000			X
5F	E 10000			X
5G	E 12500			X
5H	E 16000			X
5J	E 20000			X
5K	E 25000			X



② Float material

Measuring cone		Available in size		
		45	60	90
B	Stainless steel	X	X	X
E	PVDF weighted	X	X	X
F	Aluminium	X	X	X
H	PVDF unweighted	X	X	X

③ Version

Measuring cone		Available in size		
		45	60	90
1	Valve body stainless steel, union nut aluminium	X	X	X
2	Valve body stainless steel, union nut stainless steel	X	X	X

④ Sealing material

Measuring cone		Available in size		
		45	60	90
4	FKM	X	X	X
5	EPDM	X	X	X

⑤ Contacts* - from measuring cone C 125

Measuring cone		Available in size		
		45	60	90
A	GSTA (closes when the limit value is fallen below)	X	X	X
B	GSTB (opens when the limit value is exceeded)	X	X	X
C	2 x GSTA (closes when the limit value is fallen below)	X	X	X
D	2 x GSTB (opens when the limit value is exceeded)	X	X	X
E	Limit value switches GSTA and GSTB	X	X	X
W	Limit value switch GSTW (changeover)	X	X	X



⑥ Connection

Measuring cone		Available in size		
		45	60	90
Dx	Internal threaded connection DIN ISO 228 in stainless steel	X	X	X
Gx	Internal threaded connection NPT ANSI B1.20.1 in stainless steel	X	X	X
xB	G ¼ / NPT ¼"	X		
xC	G ⅜ / NPT ⅜"	X		
xD	G ½ / NPT ½"	X	X	
xE	G ¾ / NPT ¾"		X	
xF	G 1 / NPT 1"		X	X
xG	G 1¼ / NPT 1¼"			X
xH	G 1½ / NPT 1½"			X
xJ	G 2 / NPT 2"			X
Mx	Flange connection EN 1092-1, in stainless steel, installation length 425 mm (16.7 in)	X	X	X
Nx	Flange connection EN 1092-1, in stainless steel, installation length 500 mm (19.7 in)	X	X	X
xB	DN 15 PN 40	X		
xC	DN 20 PN 40	X		
xD	DN 25 PN 40	X	X	
xE	DN 32 PN 40		X	
xF	DN 40 PN 40		X	X
xG	DN 50 PN 40		X	X
xH	DN 65 PN 16			X
xJ	DN 80 PN 16			X

⑦ Float-type design

Measuring cone		Available in size		
		45	60	90
0	Standard	X	X	X ²
1	With magnet	X	X	X
2	Guided	X ¹	X	

* Details about the technical data of the contacts as well as the commissioning can be found in the operating manual of the Tubux M30.

¹ Not available for all variants

² Standard version is guided



® Options

B06	Calibration certificate
C05	Factory certificate 2.2 acc. to EN 10204
C07	Pressure test
C09	Leak test
C12	Inspection certificate 3.1 acc. to EN 10204
C15	ATEX version (order only in combination with S05 shatter protection; not compatible with contact function)
S05	Shatter protection up to max. 80 °C (176 °F)
S06	Stop made of stainless steel
Y01	Medium – always required, specify clearly: medium, measuring range, unit, density, viscosity, viscosity unit, operating temperature, operating pressure
Y02	Ceramic scale (>90 °C / 194 °F)
Y03	Special scaling (measurement accuracy 1 %)
Y04	Silicon-free version
Y07	Cleaning class VA – with marking: oil- and grease-free
Y17	TAG plate