

Flowmeter

6001, 6002



OVERVIEW

Operation

- Float measuring principle

Application

- Water treatment
- Chemical processes
- Laboratories
- Air conditioning systems
- Cooling systems

Features

- Easy installation
- Minimal pressure loss
- Good chemical resistance
- Infinitely variable switch point adjustment by operator
- EX-version according to ATEX directive available
- Borosilicate glass
- Plastic protective shield
- Flow directly readable on the scale
- Threaded connection (6001) or flange connection (6002)

Options:

- Adjustable limit switches, analog transmitter

Installation information

- The operating instructions for flowmeter series 6001 and 6002 must be observed!
- **Download: www.meister-flow.com**

OPERATING DATA

Operating pressure, max.	5 - 15 bar (depending on type) refer to tables on page 5
Pressure drop	refer to tables on page 5
Media temperature	-20 °C - 80 °C
Ambient temperature	-20 °C - 60 °C
Measuring accuracy	Class 1,6 (VDI / VDE 3513)

Changed operating data apply to the devices in explosion-proof design according to ATEX directive!

The operating instructions for flowmeter series 6001 and 6002 and the associated Declarations of Conformity must be strictly observed!

Download: www.meister-flow.com

MEASURING RANGES

Water	2,5 l/h - 50 m ³ /h refer to tables on page 5
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The specified measuring / switching ranges are valid for water having a density of 1.00 kg/dm³, vertical installation of the device and flow direction from bottom to top.

Other installation positions or deviation from the operating densities, will increase the measurement error specified in the data sheet.

Operating density for water at 20 °C and 1.013 bar abs: 1.00 kg/dm³.

Air	40 NI/h - 1500 Nm ³ /h refer to tables on page 5
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The specified measuring / switching ranges are valid for air having a density of 1.205 kg/m³, vertical installation of the device and flow direction from bottom to top.

Other installation positions or deviation from the operating densities, will increase the measurement error specified in the data sheet.

Operating density for air at 20 °C and 1.013 bar abs: 1.205 kg/m³
Standard density for air (at 0 °C and 1.013 bar abs): 1.293 kg/m³

MATERIALS

Refer to table on page 3

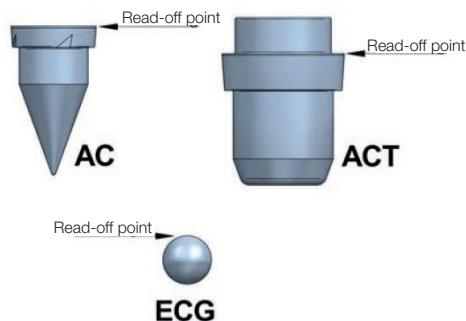
Upon request, special scales for deviating media and different operating conditions, are available.

Units: l/h, m³/h, kg/h, l/min, % and others

Scale range: 10 : 1

Measuring tube length: 300 mm

FLOAT TYPES



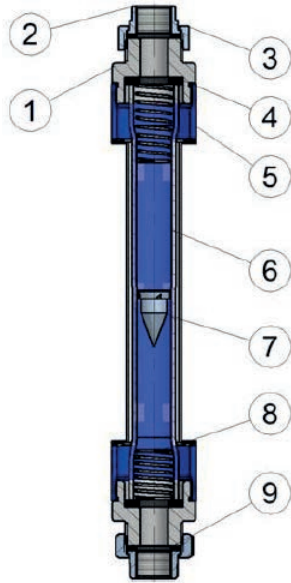
OPTIONS

See pages 6 to 9

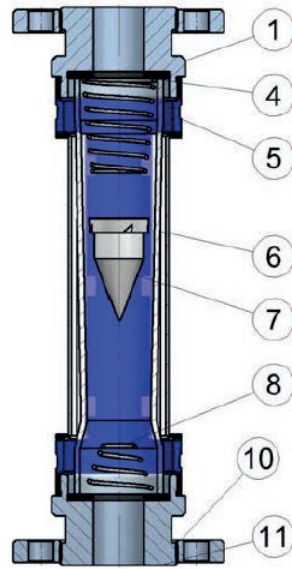
PT - AMR	Reed contact
60 - AMM	Microswitch
60 - AMD	Inductive contact
	1 or 2 adjustable limit switches
60 - TMUR	Analog transmitter 4 – 20 mA

ASSEMBLY DRAWING

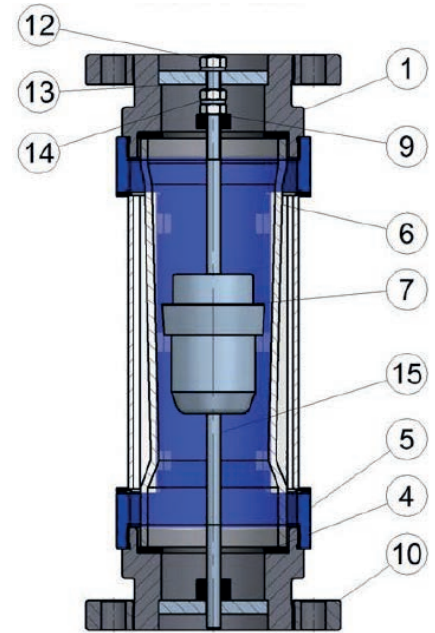
6001



6002



6001 / 6002



Device with guide rod

MATERIALS / PARTS DESCRIPTION

Version		Steel	Stainless steel	Completely SST	PVC / PP	PTFE
Item	Description	Material	Material	Material	Material	Material
01	End piece:	Steel	1.4404	1.4404	PVC / PP	Steel + PTFE
02	Connector:	Steel	1.4404	1.4404	PVC / PP	PTFE
03	Union nut:	Steel	Steel	1.4404	PVC / PP	Steel
04	Gasket, housing:	NBR ⁽¹⁾	NBR ⁽¹⁾	NBR ⁽¹⁾	NBR ⁽¹⁾	PTFE+NBR ⁽¹⁾
05	Housing:	Steel	Steel	1.4301	Steel	Steel
06	Measuring tube:	Borosilicate glass	Borosilicate glass	Borosilicate glass	Borosilicate glass	Borosilicate glass
07	Float:	1.4404 Aluminum Glass	1.4404 Aluminum Glass	1.4404 Aluminum Glass	PVC-Pb PP-Pb	PTFE-Pb
08	Spring / Stops:	1.4319	1.4319	1.4319	1.4319 / PVDF	PTFE
09	Gasket, connector:	NBR ⁽¹⁾	NBR ⁽¹⁾	NBR ⁽¹⁾	NBR ⁽¹⁾	PTFE+NBR ⁽¹⁾
10	Flange:	Steel	Steel / 1.4404	1.4404	Steel / PVC / PP	Steel
11	Flange seat:	Steel	1.4404	1.4404	PVC / PP	PTFE
12	Nut:	1.4401	1.4401	1.4401	1.4401, PVC, PP	PTFE
13	Centering ring:	1.4401 (PP, PVDF) ⁽²⁾	1.4401 (PP, PVDF) ⁽²⁾	1.4401 (PP, PVDF) ⁽²⁾	1.4401, PVC, PP	PTFE
14	Washer:	1.4401	1.4401	1.4401	1.4401, PVC, PP	PTFE
15	Guide rod:	1.4401	1.4401	1.4401	1.4401, PVC, PP	PTFE

⁽¹⁾Other gasket materials on request (e.g. FKM and EPDM)

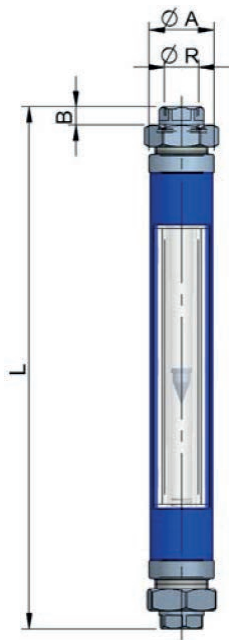
⁽²⁾For low flows

In all cases, galvanized and coated steel

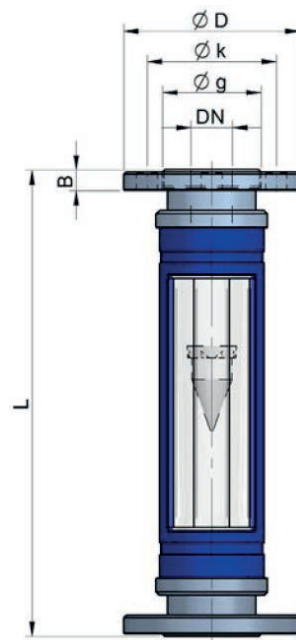
Protective shield made of acrylic glass

TECHNICAL DRAWING

6001



6002



SUMMARY OF TYPES

Type	Overall dimensions (mm)					Weight approx. [kg]
	R / NPT	DN	A	B	L	
6001	1/2"	15	60	15	410	2
6001	3/4"	20	60	15	415	2
6001	1"	25	75	20	425	3
6001	1 1/2"	40	105	20	445	6
6001	2"	50	120	25	460	10
6001	2 1/2"	65	150	25	505	13
6001	3"	80	150	30	510	17

Type	Overall dimensions (mm)						Weight approx. [kg]
	DN	D	k	g	B	lxno	
6002 (EN 1092-1)	15	95	65	45	14	14x4	2,5
6002 (EN 1092-1)	20	105	75	58	14	14x4	3,3
6002 (EN 1092-1)	25	115	85	68	16	14x4	4,8
6002 (EN 1092-1)	40	150	110	88	16	18x4	8
6002 (EN 1092-1)	50	165	125	102	18	18x4	11
6002 (EN 1092-1)	65	185	145	122	18	18x4	15,3
6002 (EN 1092-1)	80	200	160	138	20	18x4	19,3

FLOW RANGES

Type	Flow ranges			Pres- sure max. bar	Pressure drop		R	DN	Housing Nr.
	H ₂ O ⁽³⁾	Air ⁽⁴⁾	Air ⁽⁴⁾		Δ p				
	1.4404 ⁽⁵⁾	1.4404 ⁽⁵⁾	Aluminum ⁽⁶⁾		1.4404 ⁽⁵⁾	Aluminum ⁽⁶⁾			
	l/h	Nm ³ /h	Nm ³ /h		mbar	mbar			
C31-00251	2,5 – 25	0,07 – 0,7	0,04 – 0,4	15	6	2	1/2" / 3/4"	15 / 20	
C31-00401	4 – 40	0,11 – 1,1	0,07 – 0,7	15	6	2	1/2" / 3/4"	15 / 20	1
C31-00601	6 – 60	0,18 – 1,8	0,1 – 1	15	6	2	1/2" / 3/4"	15 / 20	
C32-01001	10 – 100	0,3 – 3	0,17 – 1,7	15	9	4	1/2" / 3/4"	15 / 20	
C32-01601	16 – 160	0,45 – 4,5	0,25 – 2,5	15	9	4	1/2" / 3/4"	15 / 20	1
C32-02501	25 – 250	0,7 – 7	0,4 – 4	15	9	4	1/2" / 3/4"	15 / 20	
C33-04001	40 – 400	1,1 – 11	0,7 – 7	15	12	5	3/4" / 1"	20 / 25	
C33-06301	60 – 630	1,8 – 18	1,1 – 11	15	12	5	3/4" / 1"	20 / 25	2
C33-10001	100 – 1000	3 – 30	1,8 – 18	15	12	5	3/4" / 1"	20 / 25	
C34-16001	160 – 1600	4,5 – 45	2,5 – 25	10	18	8	1 1/2"	40	3.1
C34-25001	250 – 2500	7 – 70	5 – 45	10	18	8	1 1/2"	40	
C35-40001	400 – 4000	11 – 110	7 – 70	8	23	10	1 1/2"	40	3.2
C35-63001	500 – 6300	18 – 180	10 – 110	8	23	10	1 1/2"	40	
C36-M0101	1000 – 10000	30 – 300	20 – 180	6	30	12	2"	50	4
C36-M0141	2000 – 14000	120 – 420	40 – 250	6	30	12	2"	50	
C37-M0161	1600 – 16000	45 – 450	30 – 290	5	40	17	2 1/2" / 3"	65 / 80	
C37-M0201	2000 – 20000	60 – 600	40 – 360	5	40	17	2 1/2" / 3"	65 / 80	
C37-M0251	2500 – 25000	70 – 700	50 – 460	5	40	17	2 1/2" / 3"	65 / 80	5
C37-M0301	3000 – 30000	90 – 900	60 – 550	5	40	17	2 1/2" / 3"	65 / 80	
C37-M0401	6000 – 40000	180 – 1200	110 – 730	5	40	17	2 1/2" / 3"	65 / 80	
C37-M0501	8000 – 50000	250 – 1500	170 – 920	5	40	17	2 1/2" / 3"	65 / 80	

Float type AC and ACT (>10 m³/h H₂O)

Type	Flow ranges				Pressure drop			R	DN
	H ₂ O ⁽³⁾	Air ⁽⁴⁾	H ₂ O ⁽³⁾	Air ⁽⁴⁾	Pressure	Δ p			
	1.4404 ⁽⁵⁾	1.4404 ⁽⁵⁾	Glass ⁽⁷⁾	Glass ⁽⁷⁾	max	1.4404 ⁽⁵⁾	Glass ⁽⁷⁾		
	l/h	NI/h	l/h	NI/h	bar	mbar	mbar		
C30-00251	2,5 – 25	70 – 700	1 – 10	40 – 400	15	3	2	1/2"	15
C30-00401	4 – 40	120 – 1200	1,6 – 16	70 – 700	15	3	2	1/2"	15

Float type ECG (glass) and Type AC (1.4404)

⁽³⁾ at 20 °C

⁽⁴⁾ at 1,013 bar abs. / 20 °C

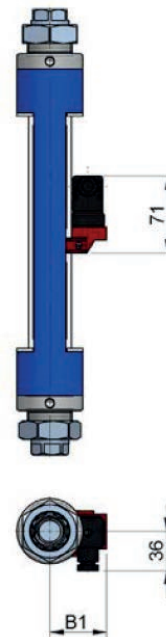
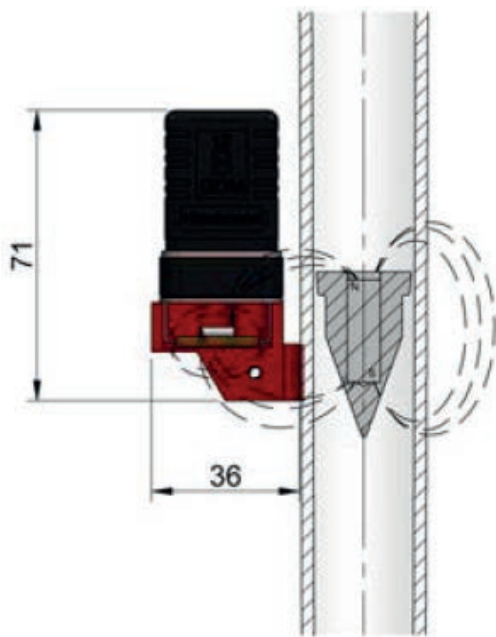
⁽⁵⁾ Stainless steel float, 1.4404, 7,95 g/cm³

⁽⁶⁾ Aluminum float, 2,85 g/cm³

⁽⁷⁾ Glass float, 2,6 g/cm³

■ OPTIONS, LIMIT SWITCHES

■ PT-AMR



■ OPERATING PRINCIPLE

A magnet inside the float actuates a bi-stable Reed contact inside the PVC housing. Please specify contact type (normally open or change over) when ordering.

Infinitely variable switch point adjustment by operator

■ ELECTRICAL CONNECTION

Connector in compliance with EN 17501-803, Form A (DIN 43650, Form A)

PG9 Cable gland

Ingress Protection	IP65
Ambient temperature	-25 °C - 80 °C
Contact rating	250V AC · 0,5A · 12VA
Hysteresis	±5 % of full scale
Versions:	
PT-AMR1	1 adjustable limit switch
PT-AMR2	2 adjustable limit switches

■ DIMENSIONS TABLE

Overall dimensions (mm)		
Housing	DN	B1
1	15 – 20	48
2	20 – 25	51,5
3.1	40	61
3.2	40	67,5
4	50	80
5	65 – 80	94

■ MEASURING RANGES

Media

Water: from 10 - 100 l/h (flow rates up to 25 – 250 l/h require a measuring tube housing made of 1.4301)

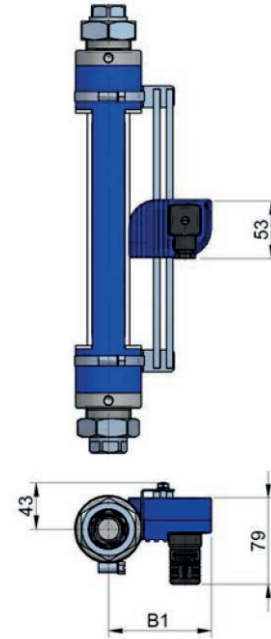
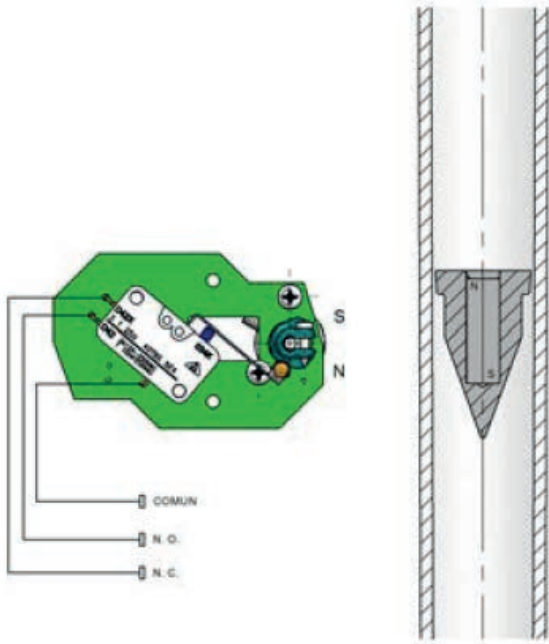
from 0,17 - 1,7 Nm³/h⁽⁸⁾ (flow rates up to 0.4 – 4 Nm³/h require a measuring tube housing made of 1.4301)

Air: from 0,3 - 3 Nm³/h⁽⁹⁾ (flow rates up to 0.7 – 7 Nm³/h require a measuring tube housing made of 1.4301)

⁽⁸⁾ Aluminum float

⁽⁹⁾ Stainless steel float

60-AMM



OPERATING PRINCIPLE

The magnet inside the float actuates a bi-stable microswitch (change over) inside an aluminum housing.

Infinitely variable switch point adjustment by operator

ELECTRICAL CONNECTION

Connector in compliance with EN 175301-803, Form A (DIN 43650, Form A)

PG9 Cable gland

Ingress Protection	IP65
Ambient temperature	-25 °C - 80 °C
Contact rating	250V AC · 3(1)A
Hysteresis	±10 % of full scale
Mechanical service life	10 ⁷ switching operations
Versions:	
60-AMM1	1 adjustable limit switch
60-AMM2	2 adjustable limit switches

DIMENSIONS TABLE

Overall dimensions (mm)		
Housing	DN	B1
1	15 – 20	90
2	20 – 25	96
3.1	40	111
3.2	40	111
4	50	117
5	65 – 80	130

MEASURING RANGES

Media

Water: from 40 - 400 l/h

from 0,7 - 7 Nm³/h⁽¹⁰⁾

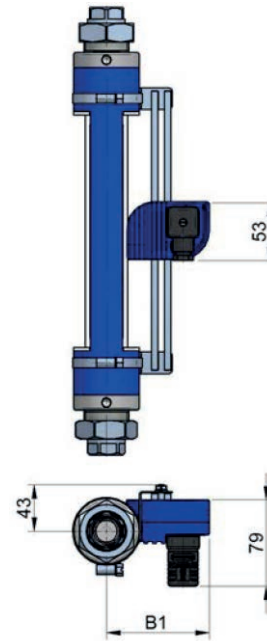
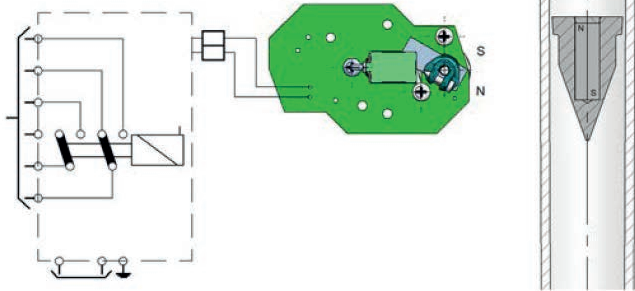
Air:

from 1,1 - 11 Nm³/h⁽¹¹⁾

⁽¹⁰⁾ Aluminum float

⁽¹¹⁾ Stainless steel float

60-AMD



OPERATING PRINCIPLE

The magnet inside the float actuates a bi-stable inductive detector inside an aluminum housing.

Infinitely variable switch point adjustment by operator

ELECTRICAL CONNECTION

Slot type detector (activated by vane inside the housing)
NAMUR (EN 60947-5-6)

ATEX Certificate Ex ia IIC T4...T6 Ga / Ex ia IIIC T85°C Da

Power supply 8V DC via switch amplifier

Ambient temperature -25 °C - 70 °C

Versions:

60-AMD1 1 adjustable limit switch

60-AMD2 2 adjustable limit switches

Switch amplifier (on request)

NAMUR (EN 60947-5-6) for 1 or 2 inductive detectors

Power supply 24...253 V AC 50-60 Hz
24...300 V DC

Input Namur Ex ia IIC

Output 1 or 2 relay contacts

Contact rating 250V AC · 2A · 100VA
24V DC · 1A

Ambient temperature -25 °C - 70 °C

DIMENSION TABLE

Overall dimensions (mm)		
Housing	DN	B1
1	15 – 20	90
2	20 – 25	96
3.1	40	111
3.2	40	111
4	50	117
5	65 – 80	130

MEASURING RANGES

Media

Water: from 40 - 400 l/h

Air: from 0,7 - 7 Nm³/h ⁽¹²⁾

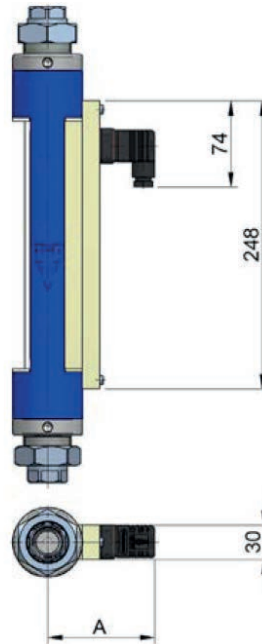
from 1,1 - 11 Nm³/h ⁽¹³⁾

⁽¹²⁾ Aluminum float

⁽¹³⁾ Stainless steel float

OPTIONAL TRANSMITTER

60-TMUR



OPERATING PRINCIPLE

The magnet inside the float actuates a reed contact chain inside a plastic housing (IP65 rated). By means of a converter, the resistance signal is converted into current (0...4 – 20mA).

ELECTRICAL CONNECTION

Reed contact chain, Resolution 10 mm

Power supply not required

Operating temperature 5 °C - 60 °C

Converter TR 420

4-wire system

Plastic housing (IP40), rail mounted (DIN 46277)

Power supply 24, 110, 230, 240 V AC 50/60 Hz
24 V DC

Power consumption < 1 VA

Output 0 - 20 mA, 4 - 20 mA
0 - 5 V, 0 - 10 V, 1 - 5 V, 2 - 10 V

Ambient temperature -0 °C - 60 °C

2-wire system (on request)

ATEX compliant Ex ia IIC T6

Power supply 24 V DC

Power consumption 0,8 W

Output 4 - 20 mA

DIMENSIONS TABLE

Overall dimensions (mm)	
DN	A
15 - 20	80
20 - 25	85
40	101
50	107
65 - 80	120

MEASURING RANGES

Media

Water: from 40 - 400 l/h

from 0,7 - 7 Nm³/h⁽¹⁴⁾

Air:

from 1,1 - 11 Nm³/h⁽¹⁵⁾

⁽¹⁴⁾ Aluminum float

⁽¹⁵⁾ Stainless steel float



MASTERPIECES MADE IN GERMANY

6001, 6002 10 0001 12-15 E M

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