

Technical Data.

Flow Meter.



**PRAHER**  
**VALVES**

## Float-type flow meter

DN	Inches	da	Measuring range H <sub>2</sub> O	M 335/M 350	M 123	M 10-13
10	3/8	16	1.5-15		■ ●	◆
10	3/8	16	2.5-25		■ ●	◆
10	3/8	16	5-50		■ ●	◆
10	3/8	16	10-100		■ ●	◆
15	1/2	20	8-80		■ ●	
15	1/2	20	15-150		■ ●	
15	1/2	20	20-200		■ ●	
25	1	32	15-150		■ ●	
25	1	32	30-300		■ ●	
25	1	32	50-500	▲ ■ ●	■ ●	
25	1	32	100-1,000	▲ ■ ●	■ ●	
32	1 1/4	40	150-1,500	▲ ■ ●		
32	1 1/4	40	250-2,500	▲ ■ ●		
40	1 1/2	50	200-2,000	▲ ■ ●		
40	1 1/2	50	300-3,000	▲ ■ ●		
40	1 1/2	50	600-6,000	▲ ■ ●		
50	2	63	600-6,000	▲ ■ ●		
50	2	63	1,200-12,000	▲ ■ ●		
50	2	63	1,500-15,000	▲ ■ ●		
65	2 1/2	75	2,000-20,000	▲ ■ ●		
65	2 1/2	75	3,000-30,000	▲ ■ ●		
65	2 1/2	75	8,000-60,000	▲ ■ ●		

	Connection type	Sealing elements	Float	Connection
Standard	PVC adhesive socket	EPDM	PVDF	M 10-13
on request	PP-/PE-/PVDF fusion socket PP-/PE-/PVDF butt fusion spigot Va/Tg female thread	FPM (Viton)	Va 1.4571 (M 10-13)	R 1/4" female thread  M 11+13 also R 5/8" male thread

### Key to symbols

- ▲ PA (polyamide Trogamid)
  - PSU (polysulphone)
  - PVC
  - ◆ PMMA (polymethylmethacrylate "Plexiglas")
- Va 1.4571  
Tg Malleable cast iron

## Flow meter M 335 / M 350

Measuring ranges 50–60,000 l/h



### Function

The flow meter M 335 / M 350 operates on the float principle and is used for flow rate measurements in closed pipelines. The medium flows through the vertically installed flow meter from bottom to top. This raises the float and shows the current flow rate on the scale on the measuring device. The read-off edge corresponds to the largest diameter of the float.

M 335 / M 350 flow meters come as standard with a water scale and a % scale, and two setpoint indicators.

### Special features:

- Fracture-proof and corrosion-resistant
- Radially removable
- Special adhesive scales for liquid and gaseous media
- Holder for accessories (limit value contacts)
- Measuring tube carries the DN label, and also the measuring range and material
- PVDF floats and stops as standard
- Measuring ranges 50–60,000 l/h

### Materials

Measuring tube	max. temp. at 1 bar	Float	Top and bottom inserts	O-ring
PA	+60 °C	PVDF (standard)	PVDF	EPDM
PVC	+40 °C			FPM (Viton)
PSU	+100 °C*			

Operating pressure: max. PN 10 at 20 °C

\*only with PVDF screw connection

### Connection possibilities

Socket	Spigot	Plastic female thread	Metal female thread
PVC adhesive socket (standard)	PP fusion spigot	PVC	Stainless steel V4A
PP fusion socket	PVDF fusion spigot	PP	Malleable cast iron
PVDF fusion socket	PE fusion spigot	PVDF	

### Pressure loss

Measuring range l/h	50–500	100–1,000	150–1,500	250–2,500	200–2,000	300–3,000
Pressure loss mbar	22.84	22.84	22.84	22.84	24.99	24.99

Measuring range l/h	600–6,000	1,000–10,000	1,500–15,000	2,000–20,000	3,000–30,000	8,000–60,000
Pressure loss mbar	24.99	24.99	28.23	45.67	45.67	47.24

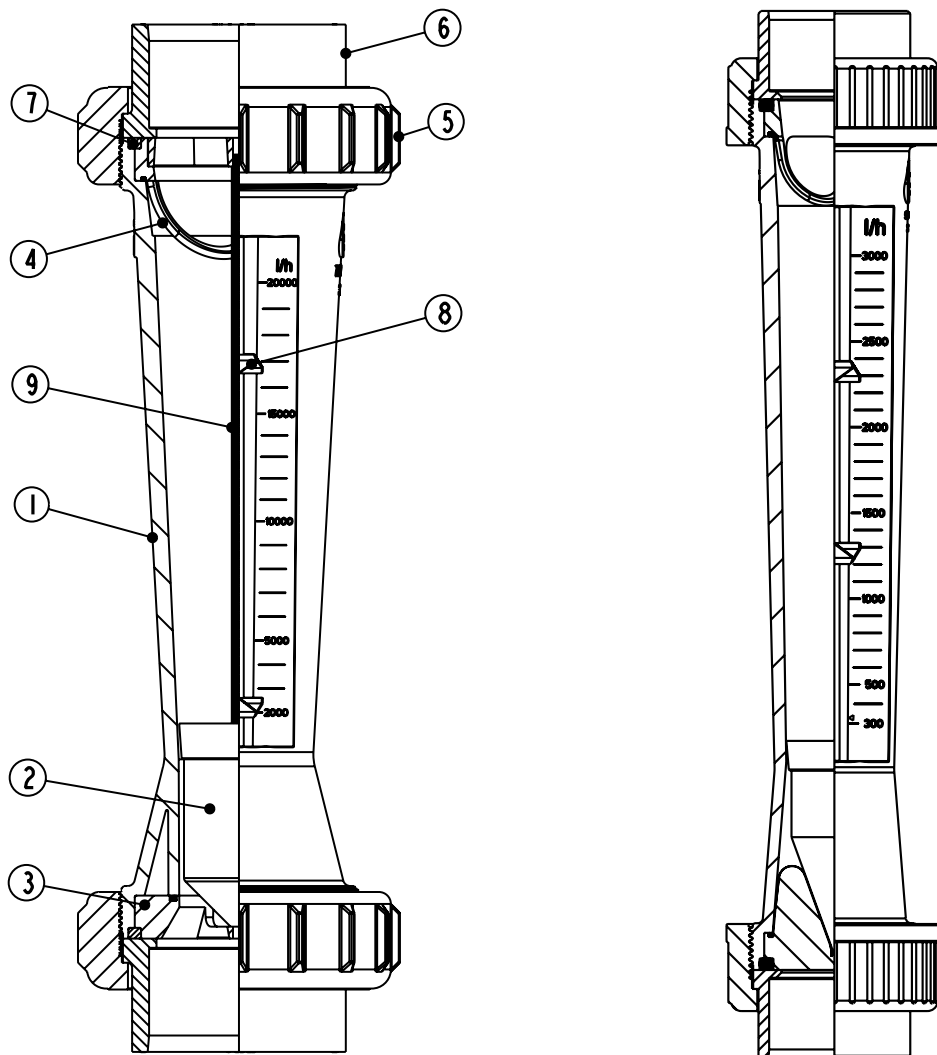
### Measuring accuracy Accuracy Class 4 as defined by VDE/DIN 3513 Page 2

Flow in %	10	20	30	40	50	60	70	80	90	100
Total measured value error in %	13.00	8.00	6.33	5.50	5.00	4.67	4.43	4.25	4.11	4.00
Total limit value error in %	1.3	1.6	1.9	2.2	2.5	2.9	3.1	3.4	3.7	4.0

### Individual parts

Pos.	Designation	Qty.	Material
1	Measuring tube	1	PA, PVC, PSU, PVDF
2	Float	1	PVDF
3	Insert, bottom	1	PVDF
4	Insert, top	1	PVDF
5	Union nut	2	PVC, PP, PVDF
6	Insertion part (socket, spigot)	2	PVC, PP, PVDF
7	O-ring	2	EPDM, FPM
8	Setpoint indicator	2	PS
9	Guide rod	1	PEEK*

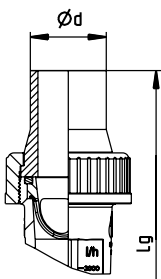
\*from DN 50 1,500–15,000 l/h



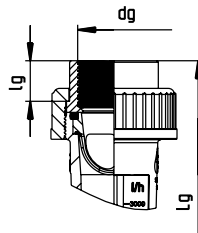
## Dimensions and weights

Type M 335	Dimensions in mm																			Weight in kg/unit. approx.	
	Measuring range l/h H <sub>2</sub> O					Adhesive socket			Fusion socket			Spigot PP			Spigot PVDF			Threaded socket			
	DN	d <sub>a</sub>	G	d <sub>ii</sub>	L	d <sub>m</sub>	z	L <sub>m</sub>	d <sub>m</sub>	z	L <sub>m</sub>	d	L <sub>g</sub>	S SDR 11	d	L <sub>g</sub>	S SDR 33	d <sub>g</sub>	L <sub>g</sub>	l <sub>g</sub>	PA PSU PVC
50–500 100–1,000	25	32	1 1/2"	60	335	32	341	385	32	345	381	32	455	2.9	32	443	2.4	1"	385	17	0.52
150–1,500 250–2,500	32	40	2"	72	335	40	341	393	40	345	385	40	461	3.7	40	461	2.4	1 1/4"	393	19	0.60
200–2,000 300–3,000 600–6,000	40	50	2 1/4"	83	335	50	341	403	50	345	391	50	467	4.6	50	459	3	1 1/2"	403	23	1.22
600–6,000 1,000–10,000 1,500–15,000	50	63	2 3/4"	103	335	63	341	417	63	345	399	63	473	5.8	63	461	3	2"	417	23	1.68
2,000–20,000 3,000–30,000 8,000–60,000	65	75	3 1/2"	122	335	75	341	429	75	345	407	75	587	6.9	75	453	3.6	2 1/2"	–	–	2.90

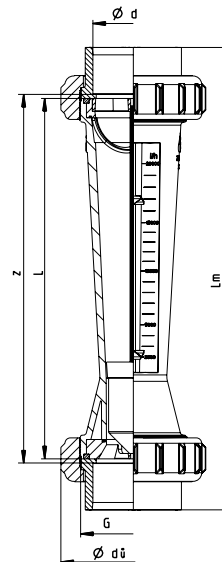
Type M 350	Dimensions in mm																			Weight in kg/unit. approx.	
	Measuring range l/h H <sub>2</sub> O					Adhesive socket			Fusion socket			Spigot PP			Spigot PVDF			Threaded socket			
	DN	d <sub>a</sub>	G	d <sub>ii</sub>	L	d <sub>m</sub>	z	L <sub>m</sub>	d <sub>m</sub>	z	L <sub>m</sub>	d	L <sub>g</sub>	S SDR 11	d	L <sub>g</sub>	S SDR 33	d <sub>g</sub>	L <sub>g</sub>	l <sub>g</sub>	PA PSU PVC
50–500 100–1,000	25	32	1 1/2"	60	350	32	356	400	32	360	396	32	460	2.9	32	458	2.4	1"	400	17	0.52
150–1,500 250–2,500	32	40	2"	72	350	40	356	408	40	360	400	40	476	3.7	40	476	2.4	1 1/4"	408	19	0.60
200–2,000 300–3,000 600–6,000	40	50	2 1/4"	83	350	50	356	418	50	360	406	50	482	4.6	50	474	3	1 1/2"	418	23	1.22
600–6,000 1,000–10,000 1,500–15,000	50	63	2 3/4"	103	350	63	356	432	63	360	414	63	488	5.8	63	476	3	2"	432	23	1.8
2,000–20,000 3,000–30,000 8,000–60,000	65	75	3 1/2"	122	350	75	356	444	75	360	422	75	602	6.9	75	468	3.6	2 1/2"	444	–	2.90



Screw connection  
with fusion spigot

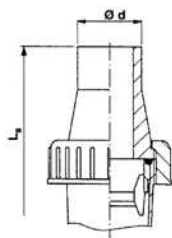
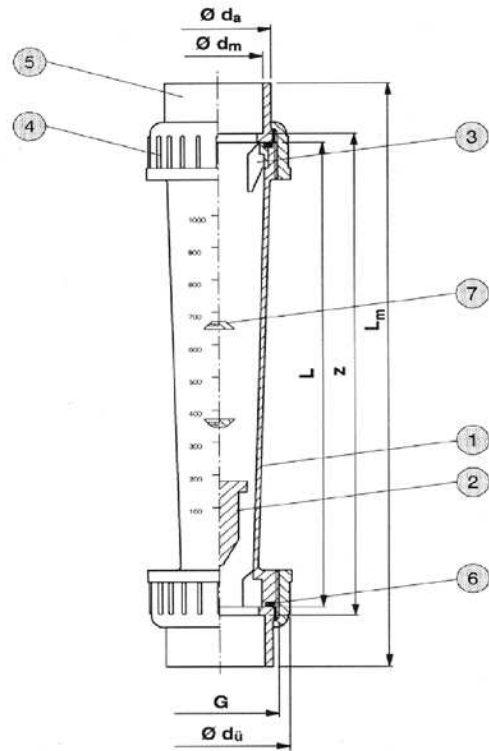


Screw connection  
with threaded  
socket

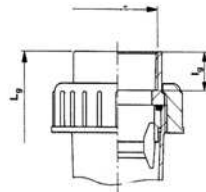


**Individual parts**

Pos.	Designation	Qty.	Material
1	Measuring tube	1	PSU, PVC, PVDF
2	Float	1	PVDF
3	Insert, top	2	PVDF
4	Union nut	2	PVC, PP, PVDF
5	Insertion part	2	PVC, PP, PVDF
6	O-ring	2	EPDM, FPM
7	Setpoint indicator	2	PS



Screw connection  
with fusion spigot



Screw connection  
with threaded socket

**Dimensions and weights**

Measuring range l/h H <sub>2</sub> O	Dimensions in mm																Weight in kg/unit
	DN	d <sub>ü</sub>	G	L	Adhesive socket			Fusion socket			Spigot PP			Threaded socket			
					d <sub>m</sub>	z	L <sub>m</sub>	d <sub>m</sub>	z	L <sub>m</sub>	d	L <sub>s</sub>	s	d <sub>g</sub>	L <sub>g</sub>	l <sub>g</sub>	PSU
1.5–15 2.5–25 5–50 10–100	10	35	3/4"	165	16	171	199	15.5	175	201				3/8"	199	11	0.08
8–80 15–150 20–200	15	43	1"	185	20	191	223	19.5	195	223	20	293	1.9	1/2"	223	13	0.13
15–150 30–300 50–500 100–1,000	25	60	1 1/2"	200	32	206	250	31.5	210	246	32	320	3.0	1"	250	17	0.24



## Limit value contact Z 40 min. and Z 42 max.

For float-type flow meters M 335/M 350/M 123

### Use

The limit value contacts Z 40 and Z 42 are used for external monitoring of limited flow values on our float-type flow meters. They are pushed onto the guide located on the flow measuring device and can be set to any desired value of the corresponding scale.

### Function

A solenoid installed in the float closes or opens a reed contact permanently cast in the limit value contact. The switching function is bistable. This means that the switching state is maintained even if the solenoid float moves away from the contact.

### Switching states

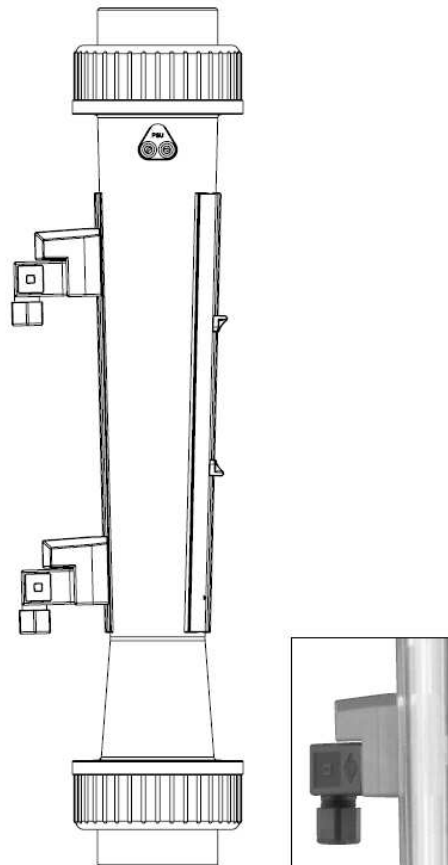
	Float above	Float below
Z 40 min	open	closed
Z 42 max	closed	open

### Attention

When retrofitting limit value contacts, ensure that the standard float is replaced with a solenoid float. The solenoid float is clearly identified by a "M" on the top.

### Technical data

Switching voltage*	max. 230 V~
Switching rating*	max. 10 W/12 VA
Switching current*	max. 0.5 A
Contact resistance	< 200 mOhm
Leakage resistance	> 10 <sup>11</sup> Ohm
Permissible ambient temperature	0 to +55 °C
Protection type	in acc. with DIN 40050-IP 65
Switching hysteresis	1-2 mm float travel



### Order numbers

Z 40 min.	17.100.686
Z 42 max.	17.100.687

We reserve the right to make technical changes in the interest of improvement.

\* Even a brief overshoot is not permitted. This is uncontrollable with inductive or capacitive peaks, e. g. with contactors or solenoid valves. It is therefore recommended to use a limit value switch or a contact protection relay.