

## Flow Monitor

# DUM



## OVERVIEW

### Operation

- Float measuring principle

### Application

- Cooling systems and cooling circuits
- Mechanical engineering
- Medical engineering
- Pharmaceutical industry
- Chemical industry
- Research & Development

### Features

- Universal orientation
- High reliability
- High switch accuracy
- Wide switch range
- Infinitely variable switch point adjustment by operator
- EX-version according to ATEX directive available
- UL Recognized version available
- High pressure resistance
- Threaded connection, special thread on request

### Installation information

- The operating instructions for DUM Module BASICS / ...ATEX must be observed!
- **Download: [www.meister-flow.com](http://www.meister-flow.com)**

## OPERATING DATA

<b>Operating pressure, max.</b>	200 bar (Brass version)
	300 bar (Stainless steel version)
<b>Pressure drop</b>	0,02 – 0,8 bar
<b>Temperature, max.</b>	100 °C (optional 160 °C)
<b>Measuring accuracy</b>	±5 % of full scale

Changed operating data apply to the device in explosion-proof design according to ATEX directive. Refer to the Operating Instructions for DUM Module ATEX.

For UL approved devices, changed operating data apply. Refer to the Operating Instructions for DUM Module BASICS.

Download: [www.meister-flow.com](http://www.meister-flow.com)

## MEASURING RANGES

Type	Switch range for H <sub>2</sub> O at 20 °C <sup>(1)</sup>		
	l/min	gph	gpm
DUM-4	0,2 – 4	3,0 – 63,5	
DUM-5	0,6 – 5	9,5 – 79	
DUM-8	0,5 – 8	8 – 127	
DUM-14	1 – 14	15 – 222	
DUM-28	1 – 28	15 – 445	
DUM-40	2 – 40	30 – 635	
DUM-55	4 – 55	60 – 870	
DUM-70	1 – 70		0,3 – 18,5
DUM-90	8 – 90		2,1 – 23,8
DUM-110	5 – 110		1,3 – 29,0
DUM-150	10 – 150		2,6 – 39,5
DUM-220	35 – 220		9 – 58
DUM-250	35 – 250		9 – 66

<sup>(1)</sup> The specified measuring- / switch ranges are valid for water having a density of 1.00 kg/dm<sup>3</sup>, 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 (absolute value): 1.00 kg/dm<sup>3</sup>.

Upon request, special scales for deviating media, different operating conditions and installation positions (only for devices which can be installed in any position) are available.

The specified switch values are switch-off points, i.e. switch values by decreasing flow.

Other measuring- /switch ranges are available upon request.

## MATERIALS

### Brass version, wetted parts

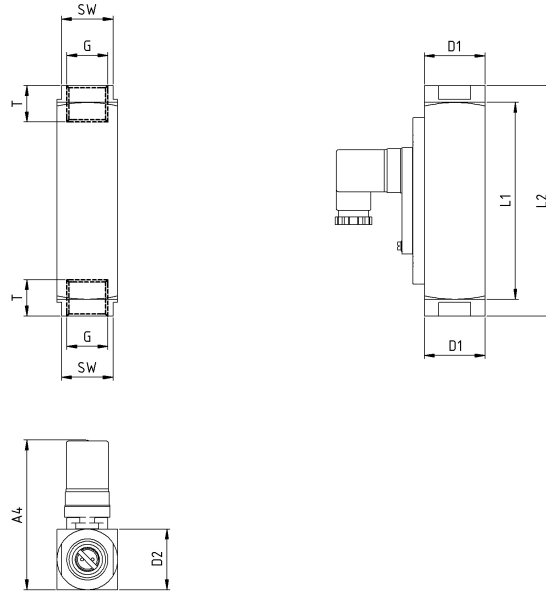
Spring:	1.4571
Gaskets:	NBR (optional FKM, EPDM) <sup>(2)</sup>
Threaded rings:	
only DUM-70 (1"),	
DUM-90 (1"), DUM-110 (1")	
DUM-150, DUM-220,	Brass
DUM-250	
Centering disc:	
only DUM-70, DUM-90,	
DUM-110	Brass, nickel-plated
all other wetted parts:	Brass, nickel-plated

### Stainless steel version, wetted parts

Spring:	1.4571
Gaskets:	FKM (optional NBR, EPDM) <sup>(2)</sup>
Threaded rings:	
only DUM-70 (1"),	
DUM-90 (1"), DUM-110 (1")	
DUM-150, DUM-220,	1.4571
DUM-250	
Centering disc:	
only DUM-70, DUM-90,	
DUM-110	1.4571
all other wetted parts:	1.4571

<sup>(2)</sup> Other gasket materials on request

# TECHNICAL DRAWING



## SUMMARY OF TYPES

Type	Overall dimensions [mm]												Weight approx. [g]
	G	DN	SW	L1	L2	T	D1	D2	A1	A2	A3	A4	
DUM-4													
DUM-5	1/4"	8	27	117	131	10	30	30	-	-	-	~88	850
DUM-8	3/8"	10	27	117	131	15	30	30	-	-	-	~88	850
DUM-14	1/2"	15	27	117	131	14	30	30	-	-	-	~88	850
DUM-28												~88	
DUM-40	1/2"	15	27	132	146	14	30	30	-	-	-	~88	900
	3/4"	20	32	132	174	15	35 <sup>(3)</sup>	30 <sup>(3)</sup>	-	-	-	~88	900
DUM-55	1/2"	15	27	132	146	14	30	30	-	-	-	~88	900
	3/4"	20	32	132	174	15	35 <sup>(3)</sup>	30 <sup>(3)</sup>	-	-	-	~88	900
DUM-70	3/4"	20	34	130	152	15	40	40	-	-	-	~98	1400
	1"	25	40 <sup>(4)</sup>	156 <sup>(4)</sup>	156	17	40	40	-	-	-	~98	1100
DUM-90	3/4"	20	34	130	152	15	40	40	-	-	-	~98	1400
	1"	25	40 <sup>(4)</sup>	156 <sup>(4)</sup>	156	17	40	40	-	-	-	~98	1100
DUM-110	3/4"	20	34	130	152	15	40	40	-	-	-	~98	1400
	1"	25	40 <sup>(4)</sup>	156 <sup>(4)</sup>	156	17	40	40	-	-	-	~98	1100
DUM-150	1 1/4"	32	50 <sup>(4)</sup>	200 <sup>(4)</sup>	200	20	50	50	-	-	-	~108	2750
DUM-220	1 1/4"	32	50 <sup>(4)</sup>	200 <sup>(4)</sup>	200	20	50	50	-	-	-	~108	3000
	1 1/2"	40	60 <sup>(4)</sup>	200 <sup>(4)</sup>	200	20	60	60	-	-	-	~116	3800
DUM-250	1 1/4"	32	50 <sup>(4)</sup>	200 <sup>(4)</sup>	200	20	50	50	-	-	-	~108	3000
	1 1/2"	40	60 <sup>(4)</sup>	200 <sup>(4)</sup>	200	20	60	60	-	-	-	~116	3800

<sup>(3)</sup> Device body is 30 mm, 4-sided, process connection D 35 mm

<sup>(4)</sup> no process connection

## ELECTRICAL DATA

<b>Change over (COG)</b>	250V · 1,5A · 50VA <sup>(5)</sup>
<b>Normally open (NOC)</b>	250V · 3A · 100VA
<b>Change over M12x1 (-20 °C – 85 °C)</b>	250V · 1,5A · 50VA <sup>(5)</sup>
<b>Normally open M12x1 (-20 °C – 85 °C)</b>	250V · 3A · 100VA
<b>Change over PLC</b>	250V · 1A · 60VA <sup>(6)</sup>

### EX-version in compliance with ATEX directive

**ATEX II 2 G Ex mb IIC T6 Gb & ATEX II 2 D Ex tb IIIC T80 °C**

**ATEX II 2 G Ex mb IIC T5 Gb & ATEX II 2 D Ex tb IIIC T100 °C**

<b>Change over</b>	250V · 1A · 30VA <sup>(5)</sup>
<b>Normally open</b>	250V · 2A · 60VA

### UL Recognized switch contacts

<b>Change over</b>	240V · 1,5A · 50VA <sup>(5)</sup>
<b>Normally open</b>	250V · 3A · 100VA

<sup>(5)</sup> Minimum load 3VA

<sup>(6)</sup> Not available with DUM-150, DUM-220 und DUM-250

## ELECTRICAL CONNECTION

- Connector in compliance with EN 175301-803, Form A (DIN 43650, Form A)
- Connector M12x1
- Cable (1 m)

### EX-version in compliance with ATEX directive

- Cable (2 m)

### UL Recognized switch contacts

- Connector in compliance with EN 175301-803, Form A
- Cable (1 m)

### Ingress Protection

IP65: Connector in compliance with EN 175301-803, Form A  
IP67: Cable or connector M12x1

### Output signal

The contact opens / changes when the flow decreases below the set point.

### Power supply

Not required (potential-free reed contacts)

### Connector types

Other connector types or cable lengths on request

## CONNECTION DIAGRAM

