

Technical Specifications

MASS-STREAM™

D-6300

Technical specifications digital mass flow meters



M+W Instruments™
a Bronkhorst® company

Model	flow capacity			
D-6310	0.01	...	0.2	I _n /min Air (min)
	0.1	...	2.0	I _n /min Air (max)
D-6320	0.05	...	1.0	I _n /min Air (min)
	0.25	...	5.0	I _n /min Air (max)
D-6340	0.1	...	5.0	I _n /min Air (min)
	0.5	...	50	I _n /min Air (max)
D-6360	0.4	...	20	I _n /min Air (min)
	2.0	...	200	I _n /min Air (max)
D-6370	2.0	...	100	I _n /min Air (min)
	10	...	1,000	I _n /min Air (max)
D-6380	10	...	500	I _n /min Air (min)
	50	...	5,000	I _n /min Air (max)



Technical specifications digital mass flow controllers



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Model	flow capacity			
D-6311	0.01	...	0.2	I_n /min Air (min)
	0.1	...	2.0	I_n /min Air (max)
D-6321	0.05	...	1.0	I_n /min Air (min)
	0.25	...	5.0	I_n /min Air (max)
D-6341 / D-6343	0.1	...	5.0	I_n /min Air (min)
	0.5	...	50	I_n /min Air (max)
D-6361 / D-6363	0.4	...	20	I_n /min Air (min)
	2.0	...	200	I_n /min Air (max)
D-6371 / D-6373	2.0	...	100	I_n /min Air (min)
	10	...	1,000	I_n /min Air (max)
D-6383	10	...	500	I_n /min Air (min)
	50	...	5,000	I_n /min Air (max)



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Measurement System

- **Accuracy**
(based on air calibration) **± 2% FS including non-linearity**
± 1.5% FS on request
- **Repeatability** **< 0.2% FS**
- **Temperature sensitivity** **0.2% RD / °C (Air)**
- **Pressure sensitivity** **0.3% RD / bar typical Air**
- **Attitude sensitivity** **at 90° deviation from horizontal**
max. error 0.2% at 1 bar typical N2
- **Control stability** **< 0.2 % FS**
- **Leak integrity (outboard)** **tested < 2 x 10⁻⁸ mbar l/s He**
- **Response time (sensor τ 63%)**
D-631• / D-632• : **0.3 seconds**
other models : **0.9 seconds**
- **Settling time (controller)** **approx. 2 seconds (not applicable for BJ valves)**
- **RFI (Radio Frequency Interference)** **according to CE**

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Operating Limits

- **Measuring range (turn-down-ratio)**
mass flow meters : up to 1 ... 100% (1 : 100)
mass flow controllers : up to 2 ... 100% (1 : 50)
- **Type of gases**
almost all gases,
compatible with chosen material
- **Temperature**
0 ... 50 °C
- **Pressure rating**
aluminium body : inlet pressure max. 10 bar (g)
stainless steel body : inlet pressure max. 20 bar (g)
- **Warm up time**
for optimum accuracy : within 30 min
for accuracy $\pm 4\%$ FS : within 30 seconds

Mechanical Parts

- **Sensor**
stainless steel SS316 (AISI 316L)
- **Body**
anodised Aluminium AL 50ST/51ST or
stainless steel SS316 (AISI 316L)
- **Sieves**
stainless steel SS316 (AISI 316L)
- **Support rings**
stainless steel SS316 (AISI 316L) or Teflon
- **Protection class**
IP-65

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Electrical Properties

- **Supply voltage** **+15 ... 24 Vdc ± 10%**
- **Current peak values**

mass flow meter	approx. 75 mA	at 0 % flow
	approx. 125 mA	at 100 %flow
mass flow controller	add 250 mA	
display	add 30 mA	if applicable
fieldbus	add 50 mA	if applicable
- **Output signal**
0 ... 10 Vdc / 0 ... 5 Vdc active
0 ... 20 mA / 4 ... 20 mA active
- **Connector 8-pol round DIN (M16, male) for analog and RS232**

additional connector		
for interface	5-pol M12 (male) for	Flow-Bus
		DeviceNet™
		Modbus-RTU / RS-485
	5-pol M12 (female) for	Profibus-DP®