

Full Bore Magflowmeter for Low-flow measurement

- Combination of magflowsensor fitting S051 and electronics SE56
- Continuous measurement or Batch Control
- Clean in place (CIP)
- Low-flow measurements down to 3 l/h

Type 8051 can be combined with...



Type 6223

Solenoid control valve



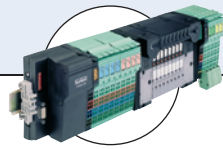
Type 2100 (8692)

Angle seat valve with Control unit



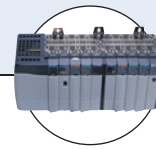
Type 2731 (8692)

TopControl system



Type 8644

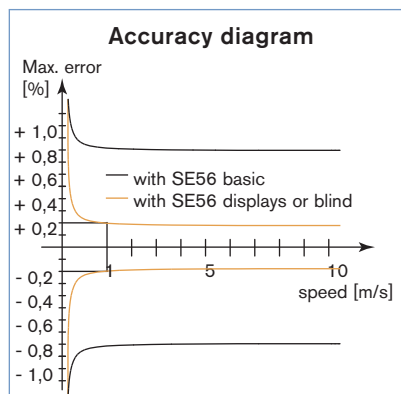
Valve islands



PLC

The complete full bore magflowmeter Type 8051, which consists of a magnetic sensor fitting Type S051 connected to an electronics Type SE56 (blind in compact version or with display in compact or remote version), is designed for applications with liquids with a minimum conductivity of 5 $\mu\text{S}/\text{cm}$.

Combined with a valve as the actuating element, the complete full bore magflowmeter Type 8051 can control high-precision dosing and filling operations.



General data - S051 sensor fitting	
Compatibility	SE56 electronics (see corresponding data sheet)
Materials	
Body	Stainless steel 304 (1.4301)
Wetted part (connection)	Stainless steel 316L (1.4404) or 304 (1.4301) for full lining
Electrode	Stainless steel 316L [Hastelloy C, Titanium, Tantalum, Platinum-rhodium on request]
Lining / Seal	PTFE / FKM, EPDM or FFKM
Electrical connection	2 cable glands (PG9)

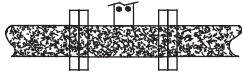
Complete magflowmeter 8051 data - (S051 sensor fitting + SE56 electronics)	
Pipe diameter	DN03 up to DN20
Measuring range	0 l/h ... 10 l/h up to 0 l/h... 12 500 l/h
Process connection	Thread ISO 228-1, NPT (DIN 11851, SMS 1145, Clamp ISO 2852 or BS 4825, Flanges DIN 2501, ANSI on request)
Medium temperature	see medium temperature chart on page 3 go to page
Medium pressure max.	PN16 (232 PSI) (PN40 (580 PSI), on request)
Vacuum resistance	200 mbar (2.9 PSI) absolute at 100°C (212°F)
Accuracy ¹⁾ (see diagram, opposite)	$\pm 0.2\%$ of reading (SE56 standard; SE56 blind) $\pm 0.8\%$ of reading (SE56 basic)
Repeatability	$\pm 0.1\%$ (SE56 standard; SE56 blind) $\pm 0.2\%$ (SE56 basic)
Minimum conductivity	5 $\mu\text{S}/\text{cm}$ (or 20 $\mu\text{S}/\text{cm}$ with demineralized water)

¹⁾ under reference conditions: water temperature = 20°C, ambient temperature = 25°C, constant flow rate during the test, liquid speed > 1 m/s

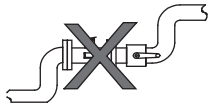
Installation



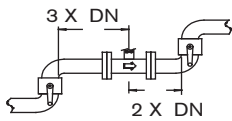
Avoid the functioning with the pipe partially filled.



During flowmeter operation the pipe must be completely full.

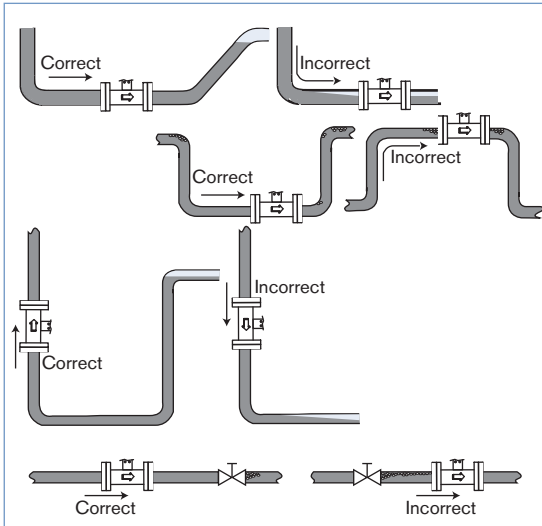


Avoid the installation near curves or hydraulic accessories.



Observe the upstream and downstream distances.

The sensor fitting can be installed into either horizontal or vertical pipes. Mount the S051 sensor fitting in the below as correct indicated ways to obtain an accurate flow measurement.



The suitable pipe size is selected using the diagram Flow / Velocity / DN (see diagram to the right).

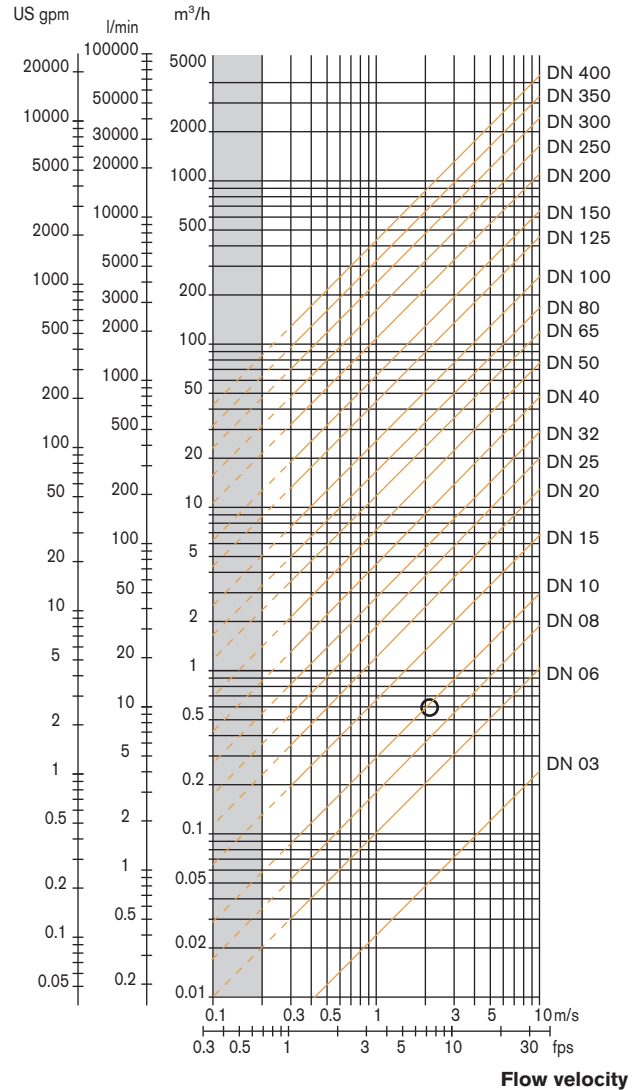
The flow sensor fitting is not designed for gas flow measurement.

Diagram Flow / Velocity / DN

Example:






- Specification of nominal flow: 10 l/min
- Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN10

Flow rate



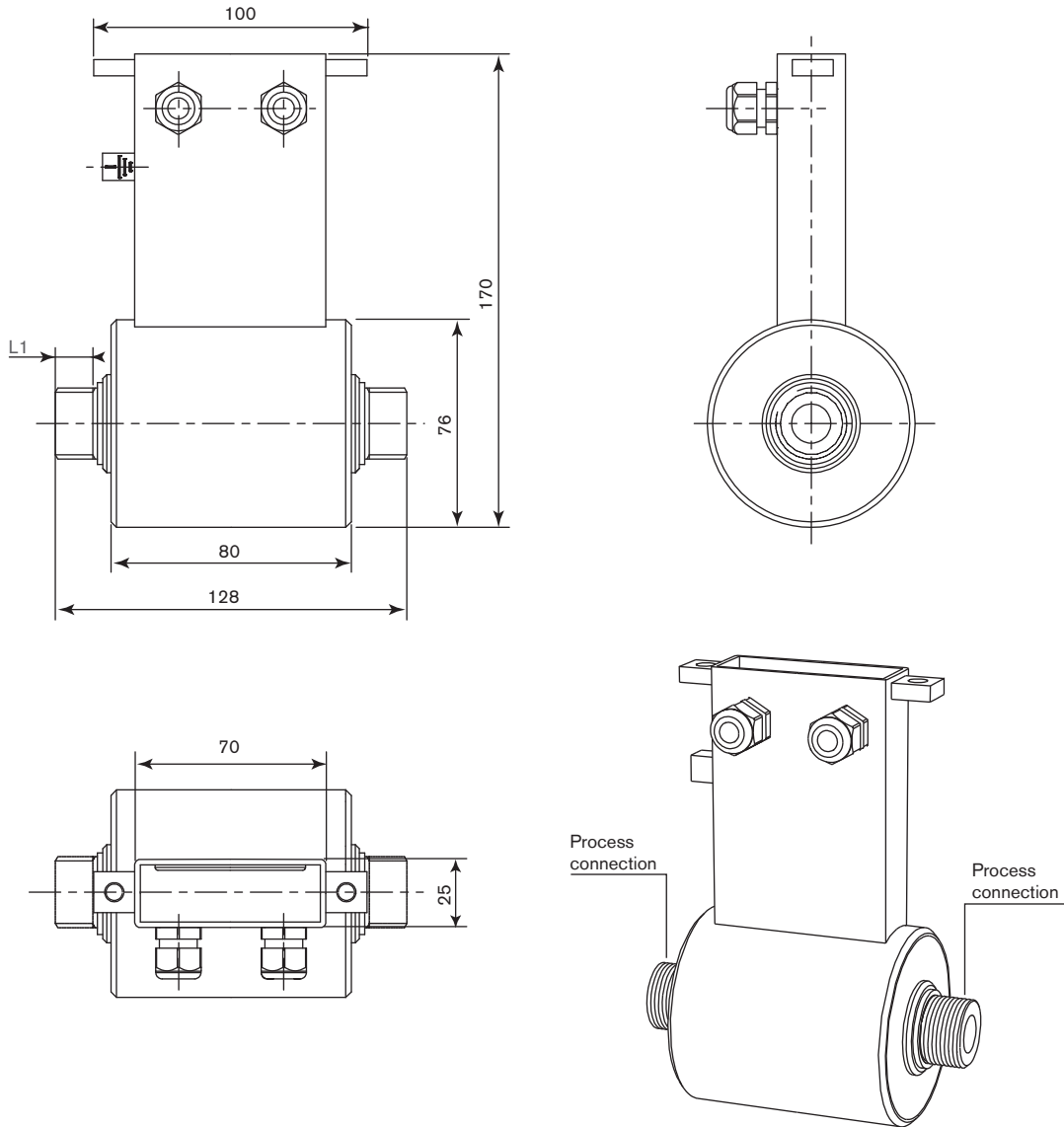
DTS 1000101292 EN Version: H Status: RL (released | freigegeben | validé) printed: 27.06.2011

Medium temperature chart

	SE56 standard compact 	SE56 standard remote 	SE56 basic compact 	SE56 blind compact 
 S051 Sensor fitting	-20°C up to 100°C (-4°F up to 212°F)	-20°C up to 130°C (-4°F up to 266°F)	-10°C up to 100°C (14°F up to 212°F)	-20°C up to 100°C (-4°F up to 212°F) [up to 130°C (up to 266°F) for max. 1 hour]

Dimensions [mm] of Type S051 standard sensor fitting (without full lining)

NOTE: Dimensions of SE56 electronics, see corresponding data sheet.



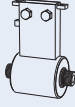
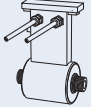
DN [mm]	Thread [inch]	L1 [mm]
03	G or NPT 1/4"	16.4
06	G or NPT 3/8"	16.4
10	G or NPT 1/2"	17.4
15	G or NPT 3/4"	20.0
20	G or NPT 1"	20.0

Ordering charts for Low-flow magflowmeter 8051

A complete magflowmeter Type 8051 consists of: - a full bore sensor fitting Type S051
- an electronics Type SE56

Please order the relevant sensor fitting and the electronics remotely!

Full bore sensor fitting Type S051

Description	DN [mm]	Process connection	Flow rate range [l/h]		Body material	Wetted parts material			Item no.
			min. 0...0.4 m/s	max. 0...10 m/s		Connection / Electrode	Seal	Lining	
	03	G1/4" (ISO 228-1)	0 ... 10	0 ... 250	SS 304	SS 316L	FKM	PTFE	554 321
		NPT1/4"	0 ... 10	0 ... 250	SS 304	SS 316L	FKM	PTFE	554 213
	06	G3/8" (ISO 228-1)	0 ... 40	0 ... 1000	SS 304	SS 316L	FKM	PTFE	553 065
		NPT3/8"	0 ... 40	0 ... 1000	SS 304	SS 316L	FKM	PTFE	555 892
	10	G1/2" (ISO 228-1)	0 ... 120	0 ... 3000	SS 304	SS 316L	FKM	PTFE	553 374
		NPT1/2"	0 ... 120	0 ... 3000	SS 304	SS 316L	FKM	PTFE	555 111
	15	G3/4" (ISO 228-1)	0 ... 240	0 ... 6000	SS 304	SS 316L	FKM	PTFE	553 481
		NPT3/4"	0 ... 240	0 ... 6000	SS 304	SS 316L	FKM	PTFE	557 659
20	G1" (ISO 228-1)	0 ... 500	0 ... 12500	SS 304	SS 316L	FKM	PTFE	553 539	
	NPT1"	0 ... 500	0 ... 12500	SS 304	SS 316L	FKM	PTFE	553 663	
Remote version with 10 m cable (included) 	03	G1/4" (ISO 228-1)	0 ... 10	0 ... 250	SS 304	SS 316L	FKM	PTFE	448 487
	06	G3/8" (ISO 228-1)	0 ... 40	0 ... 1000	SS 304	SS 316L	FKM	PTFE	448 488
	10	G1/2" (ISO 228-1)	0 ... 120	0 ... 3000	SS 304	SS 316L	FKM	PTFE	448 489
	15	G3/4" (ISO 228-1)	0 ... 240	0 ... 6000	SS 304	SS 316L	FKM	PTFE	448 490
	20	G1" (ISO 228-1)	0 ... 500	0 ... 12500	SS 304	SS 316L	FKM	PTFE	448 491

 Further versions on request

Please also use the "request for quotation" form on page 7 for ordering a customized Low-flow sensor fitting [go to page](#).

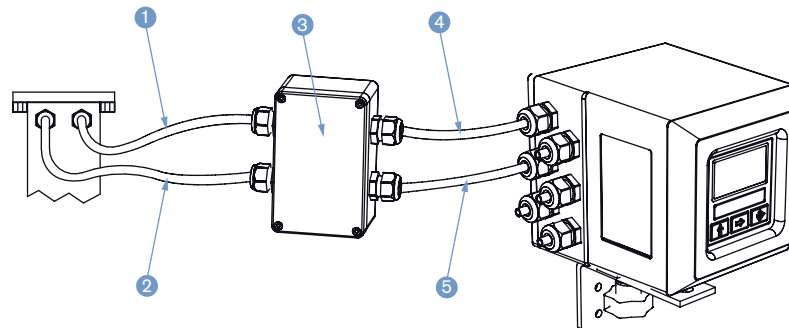
Electronics Type SE56 (for more data, refer to data sheet Type SE56)

Description	Power supply	Outputs	Body material	Electrical connection	Item no.
Standard compact version with local display	90...265 V AC	2 transistors	Aluminium	6 cable glands	558 745
			Stainless steel	6 cable glands	559 780
		2 transistors + 4...20 mA	Aluminium	6 cable glands	558 747
			Stainless steel	6 cable glands	558 306
Standard wall-mounting version with local display	90...265 V AC	2 transistors	Aluminium	6 cable glands	559 781
			Stainless steel	6 cable glands	558 310
		2 transistors + 4...20 mA	Aluminium	6 cable glands	558 750
			Stainless steel	6 cable glands	558 308
Basic compact version with display	90...265 V AC	2 transistors	Nylon	3 cable glands	562 439
		2 transistors + 4...20 mA	Nylon	3 cable glands	562 440
	18...63 V DC	2 transistors	Nylon	3 cable glands	562 443
		2 transistors + 4...20 mA	Nylon	3 cable glands	562 444
Basic compact version without display	90...265 V AC	2 transistors	Nylon	3 cable glands	562 441
		2 transistors + 4...20 mA	Nylon	3 cable glands	562 442
	18...63 V DC	2 transistors	Nylon	3 cable glands	562 445
		2 transistors + 4...20 mA	Nylon	3 cable glands	562 446
Blind compact version	20...30 V DC	up to 4 transistors	Stainless steel	2 cable glands	559 132
		up to 4 transistors + 4...20 mA	Stainless steel	2 cable glands	559 133
		up to 4 transistors + PROFIBUS DP	Stainless steel	2 cable glands	559 134

Ordering chart for spare parts/accessories for sensor fitting Type S051

Description	Purpose	No. on drawing	Item no.
Electrode cable, 10 m long	for connection between sensor fitting Type S054/S055 without junction box, S051 or S056 and electronics Type SE56*	1	448 518
	for connection between sensor fitting Type S054/S055 with junction box and electronics Type SE56* or for connection between extension cable kit and electronics Type SE56*	4	562 851
Coil cable, 10 m long	for connection between sensor fitting Type S054/S055 without junction box S051 or S056 and electronics Type SE56*	2	448 519
	for connection between sensor fitting Type S054/S055 with junction box and electronics Type SE56* or for connection between extension cable kit and electronics Type SE56*	5	562 852
Extension cable kit	including a connecting box and resin	3	562 853

* (see corresponding data sheet)



i Further versions on request



Electrical connection

Electrode and coil cables length

www.industrialdynamics.com

1-800-940-0453