

Full Bore Magflowmeter - General purpose version

- Combination of magflowsensor body Type S054 or S055 and transmitter / batch controller SE56
- Continuous measurement or Batch Control
- Version without (S054) or with (S055) flanges
- For water treatment and general purpose applications

Type S055 can be combined with...



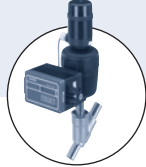
Type 6223

Solenoid control valve



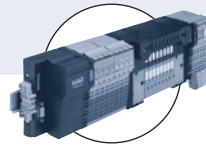
Type 2731 (8630)

TopControl system



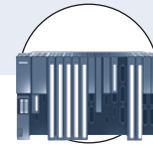
Type 2702 (1067)

SideControl system

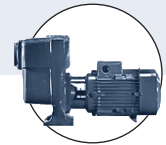


Type 8644

Valve islands



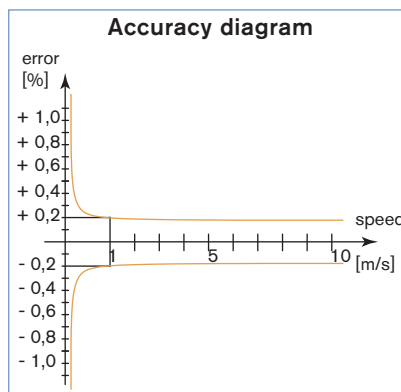
PLC



Pumps

The complete full bore magflowmeter Type 8055, which consists of a magnetic sensor body Type S054 or S055 connected to the flow transmitter / batch controller Type SE56 (blind in compact version or with display in compact or separate version), is designed for applications with conductivities as low as 5 $\mu\text{S}/\text{cm}$.

Combined with a valve as the actuating element, the complete full bore magflowmeter-Type 8055 can control high-precision dosing operations and flow measurement in potable water treatment and waste water treatment.



Technical data

General data - S054/S055 sensor body

| | |
|------------------------------|---|
| Compatibility | SE56 electronics (see corresponding datasheet) |
| Materials | |
| Body | Carbon steel painted [or stainless steel 304 or 316]* |
| Electrode | Stainless steel 316L (3 in standard) [or Hastelloy C, Titanium, Tantalum, Platinum-rhodium]* |
| Lining | PP (max. 16 bar) [or PTFE]* |
| Gasket | FKM or EPDM* (with PP lining) [or without gasket (with PTFE lining)] |
| Electrical connection | 2 cable glands (PG9) |

Complete system data 8055 (S054/S055 sensor + SE56 electronics)

| | |
|-------------------------------|--|
| Pipe diameter | DN 25 up to DN 100 [up to DN 2000]* |
| Measuring range | 0 ... 0.72 m ³ /h up to 0 ... 280 m ³ /h |
| Process connection | S054: wafer - S055: Flange DIN, ANSI [JIS]* |
| Medium temperature | |
| Compact version | 0 up to 60°C (with PP lining) [-20 up to 100°C (with PTFE lining)] |
| Separate version | 0 up to 60°C (with PP lining) [-20 up to 150°C (with PTFE lining)] |
| Medium pressure max. | PN 16 (with PP lining) or [up to PN 64 (with Ebonite or PTFE lining)]* |
| Vacuum resistance | 200 mbar absolute at 100°C |
| Accuracy ¹⁾ | ±0.2% of reading (see diagram, opposite) |
| Repeatability | < ±0.1% |
| Minimum conductivity | 5 $\mu\text{S}/\text{cm}$ (or 20 $\mu\text{S}/\text{cm}$ with demineralized water) |

Environment - S054/S055 sensor body

| | |
|----------------------------|---|
| Ambient temperature | -20 up to: 60°C (with display version) or 40°C (with blind version) |
|----------------------------|---|

Standard - S054/S055 sensor body

| | |
|-------------------------|---|
| Protection class | IP67 (Compact version); IP68 (Separate version) |
| Standard | |
| EMI | EN55011 (Group 1, Class B) |
| Safety | IEC1000-4-2/3/4/5/6/11 EN61010 |

* on request

¹⁾ under reference conditions: water temperature = 20°C, ambient temperature = 25°C, test time > 60 s., converter warm-up > 60', constant flow rate during the test, pressure = 500 mbar, liquid speed > 1m/s

Ordering information for complete full bore magflowmeter Type 8055

A complete full bore magflowmeter Type 8055 consists of a sensor body S054 or S055 and an electronic transmitter / batch controller SE56. The transmitter / batch controller is only delivered in combination with the sensor body as a part of a complete magflowmeter. The following information is necessary for the selection of a complete full bore magflowmeter:

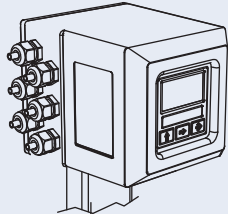
- **item no** of the sensor body **Type S054 or Type S055** (see Ordering Chart)
- **item no** of the transmitter / batch controller **Type SE56** (see separate datasheet or Ordering chart on page 6)

More info.

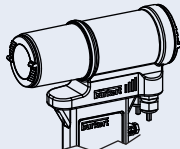
For more technical information about this product, click on this box... you will come to our website for this product where you can download the datasheet.

Examples for variations of complete full bore magflowmeter

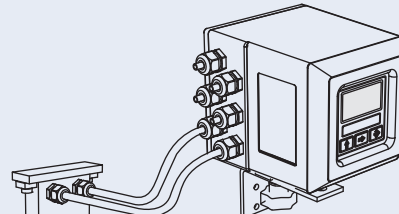
Transmitter / batch controller Type SE56



With local display
Compact version

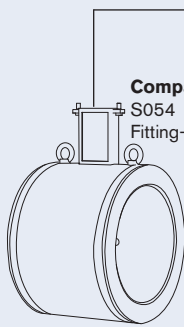


Without display (blind)
Compact version

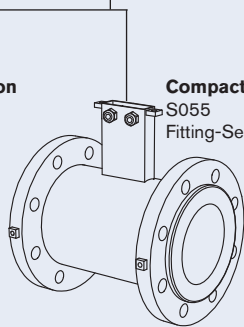


With local display
Remote version

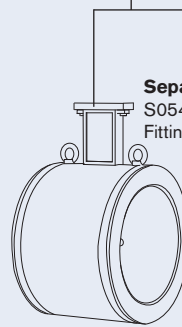
Magnetic sensor body Type S054 or Type S055



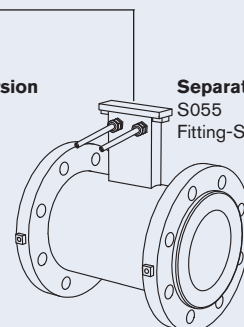
Compact version
S054
Fitting-Sensor



Compact version
S055
Fitting-Sensor



Separate version
S054
Fitting-Sensor



Separate version
S055
Fitting-Sensor

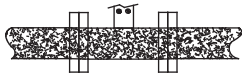
Design and operating principle

The sensor body Type S054 or S055 consists of a stainless steel pipe section internally lined with insulating material. Two electrodes mounted opposite to each other on the internal surface of the tube generate an electrical signal. The coils generating the magnetic field are placed outside the pipe. The signal generated by the sensor body S054 or S055 must be amplified and processed by an electronic transmitter / batch controller (SE56) which outputs an electrical signal proportional to the fluid flow rate, and powers the coils generating the magnetic field. Faraday's induction law is the basis for this magnetic flow measurement.

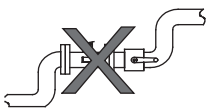
Installation



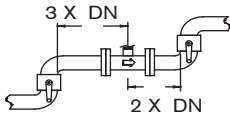
Avoid the functioning with the pipe partially empty.



During the functioning the pipe must be completely full.

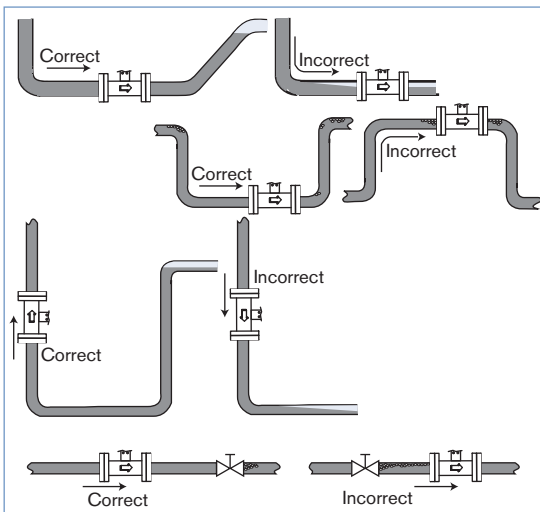


Avoid the installation near curves or hydraulic accessories.



Observe the upstream and downstream distances.

The flow rate sensor body can be installed into either horizontal or vertical pipes. Mount the S054 or S055 sensor body in these correct ways to obtain an accurate flow measurement.



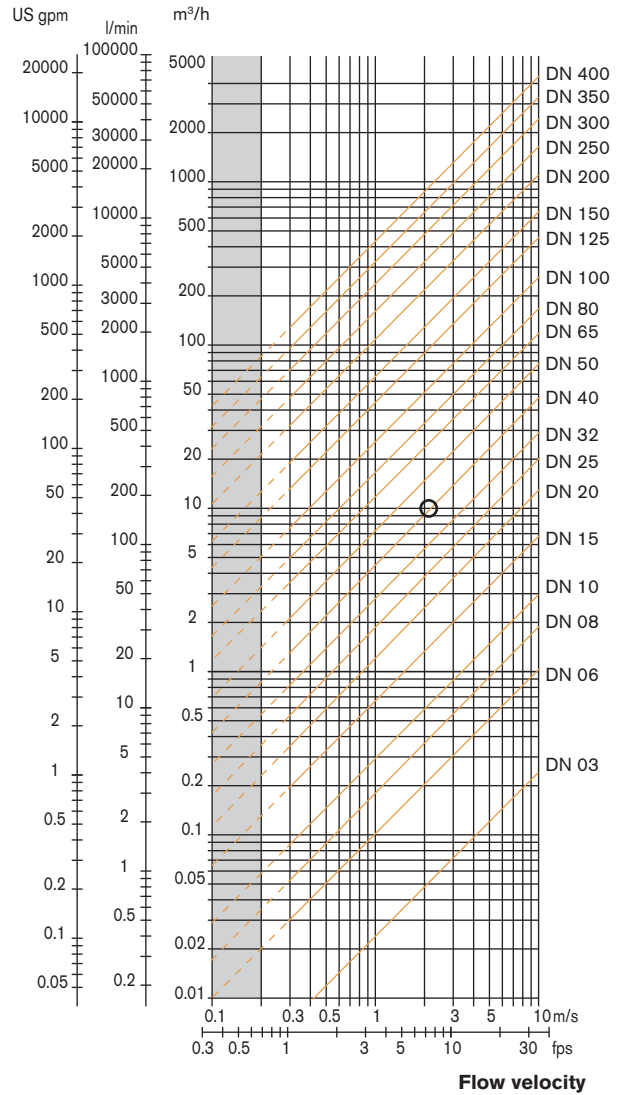
The suitable pipe size is selected using the diagram Flow / Velocity / DN, upside.
The flow sensor body is not designed for gas flow measurement.

Selection of fitting / pipe size

Example:

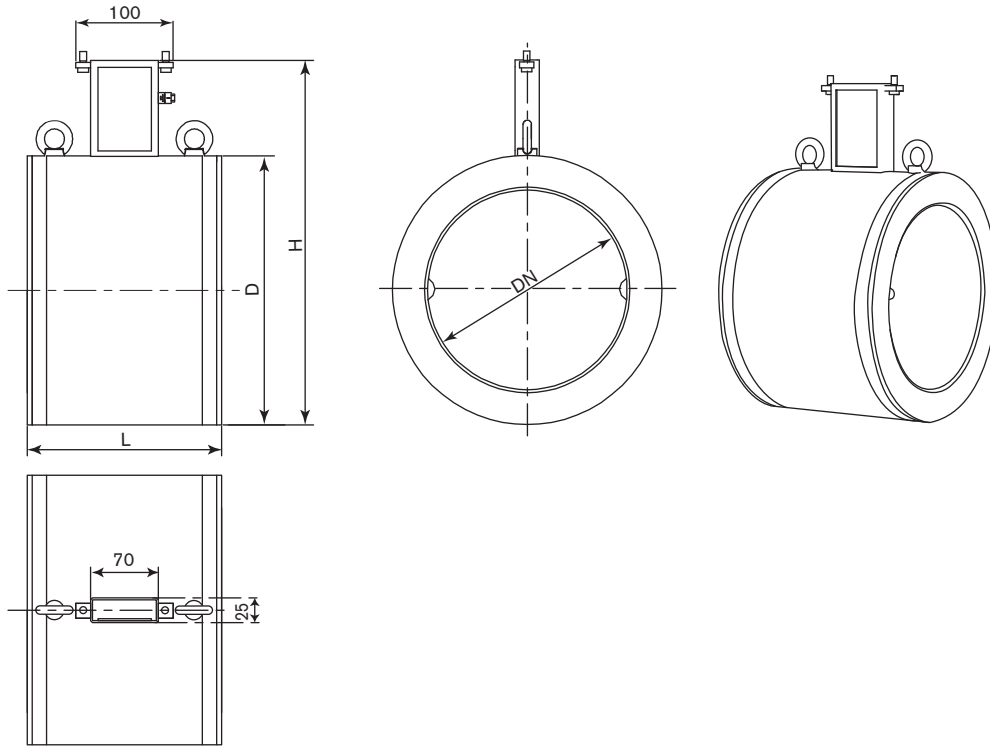
- Specification of nominal flow: 10 m³/h
- Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN40

Flow rate



Dimensions [mm] of Type S054 sensor body - wafer version

NOTE: Dimensions of SE56 flowtransmitter, see corresponding datasheet.

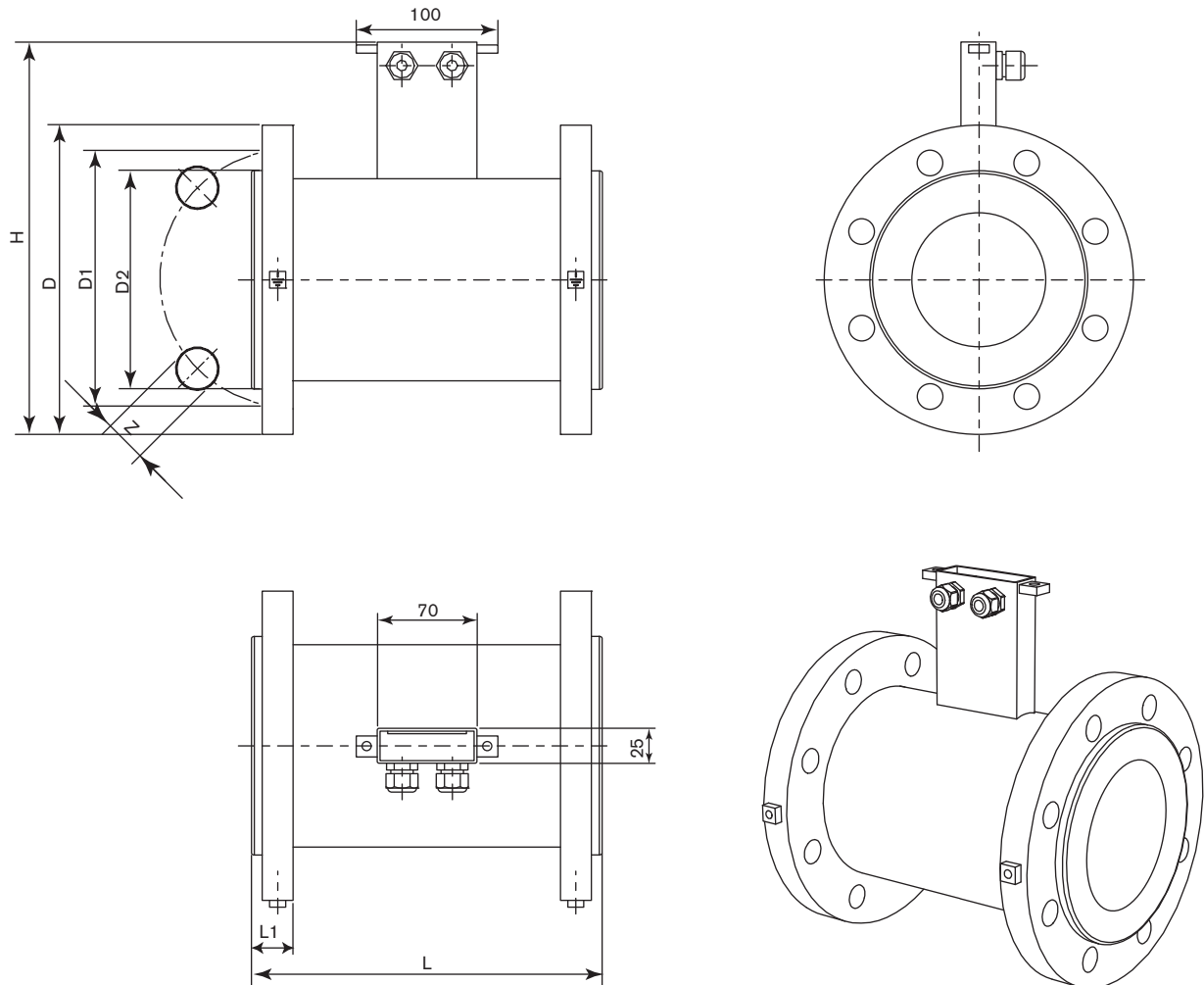


| DN | L* | H | D |
|-----|-----|-----|-----|
| 25 | 100 | 147 | 56 |
| 32 | 100 | 153 | 62 |
| 40 | 100 | 161 | 70 |
| 50 | 100 | 177 | 86 |
| 65 | 150 | 199 | 108 |
| 80 | 150 | 209 | 118 |
| 100 | 150 | 235 | 144 |

* tolerance +0 mm
-3 mm

Dimensions [mm] of Type S055 sensor body - flanges version

NOTE: Dimensions of SE56 flowtransmitter, see corresponding datasheet.



S055 with flanges PN16

| DN | H | L | Standard | L1 | Z | D2 | D1 | D |
|-----|-----|-----|-------------|------|----------|-------|-------|-------|
| 25 | 185 | 200 | DIN 2501 | 16.5 | 4 x 14 | 51 | 85 | 115 |
| | 182 | | ANSI 150 RF | 16.8 | 4 x 15.9 | 43.5 | 79.4 | 107.9 |
| 32 | 203 | 200 | DIN 2501 | 18.5 | 4 x 18 | 62 | 100 | 140 |
| | 192 | | ANSI 150 RF | 18.4 | 4 x 15.9 | 53 | 88.9 | 117.5 |
| 40 | 213 | 200 | DIN 2501 | 19.0 | 4 x 18 | 72 | 110 | 150 |
| | 202 | | ANSI 150 RF | 20.5 | 4 x 15.9 | 62.5 | 98.4 | 127 |
| 50 | 228 | 200 | DIN 2501 | 21.5 | 4 x 18 | 87 | 125 | 165 |
| | 222 | | ANSI 150 RF | 22.5 | 4 x 19 | 81.6 | 120.6 | 152.4 |
| 65 | 248 | 200 | DIN 2501 | 21.5 | 4 x 18 | 107 | 145 | 185 |
| | 245 | | ANSI 150 RF | 25.2 | 4 x 19 | 100.7 | 139.7 | 177.8 |
| 80 | 263 | 200 | DIN 2501 | 24.0 | 8 x 18 | 122 | 160 | 200 |
| | 258 | | ANSI 150 RF | 27.8 | 4 x 19 | 113.4 | 152.4 | 190.5 |
| 100 | 283 | 250 | DIN 2501 | 27.0 | 8 x 18 | 142 | 180 | 220 |
| | 287 | | ANSI 150 RF | 28.8 | 8 x 19 | 151.5 | 190.5 | 228.6 |

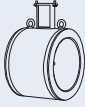
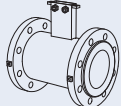
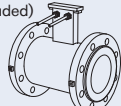
Ordering chart for universal magflowmeter 8055

A complete magflowmeter Type 8055 consists of:

- a full bore sensor body, wafer version Type S054 or flanges version Type S055
- a flow transmitter Type SE56

Please order the relevant sensor body and the flow transmitter / batch controller separately!

Full bore Sensor body Type S054 or S055

| Description | Orifice [mm] | Process connection | Flow rate range [m ³ /h] | | Body material | Number of electrode | Electrode material | Lining material | Item no. |
|--|--------------|--------------------|-------------------------------------|-----------------|---------------|------------------------------|--------------------|-----------------|----------|
| | | | min. 0...0.4 m/s | max. 0...10 m/s | | | | | |
| Type S054 Compact version  | 25 | Wafer type | 0 ... 0.72 | 0 ... 18 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 554 532 |
| | 32 | Wafer type | 0 ... 1.16 | 0 ... 29 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 559 435 |
| | 40 | Wafer type | 0 ... 1.80 | 0 ... 45 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 554 101 |
| | 50 | Wafer type | 0 ... 2.88 | 0 ... 72 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 554 700 |
| | 65 | Wafer type | 0 ... 4.80 | 0 ... 120 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 559 436 |
| | 80 | Wafer type | 0 ... 7.20 | 0 ... 180 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 554 142 |
| | 100 | Wafer type | 0 ... 11.20 | 0 ... 280 | Carbon steel | 3 (2 measure + 1 for ground) | SS 316L | PP | 554 342 |
| Type S055 Compact version  | 25 | DIN 2501 | 0 ... 0.72 | 0 ... 18 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 540 |
| | | ANSI 150 RF | 0 ... 0.72 | 0 ... 18 | Carbon steel | 2 (2 measure) | SS 316L | PP | 554 353 |
| | 32 | DIN 2501 | 0 ... 1.16 | 0 ... 29 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 541 |
| | | ANSI 150 RF | 0 ... 1.16 | 0 ... 29 | Carbon steel | 2 (2 measure) | SS 316L | PP | 560 047 |
| | 40 | DIN 2501 | 0 ... 1.80 | 0 ... 45 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 542 |
| | | ANSI 150 RF | 0 ... 1.80 | 0 ... 45 | Carbon steel | 2 (2 measure) | SS 316L | PP | 560 048 |
| | 50 | DIN 2501 | 0 ... 2.88 | 0 ... 72 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 485 |
| | | ANSI 150 RF | 0 ... 2.88 | 0 ... 72 | Carbon steel | 2 (2 measure) | SS 316L | PP | 554 354 |
| | 65 | DIN 2501 | 0 ... 4.80 | 0 ... 120 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 393 |
| | | ANSI 150 RF | 0 ... 4.80 | 0 ... 120 | Carbon steel | 2 (2 measure) | SS 316L | PP | 558 785 |
| | 80 | DIN 2501 | 0 ... 7.20 | 0 ... 180 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 394 |
| | | ANSI 150 RF | 0 ... 7.20 | 0 ... 180 | Carbon steel | 2 (2 measure) | SS 316L | PP | 554 351 |
| 100 | DIN 2501 | 0 ... 11.20 | 0 ... 280 | Carbon steel | 2 (2 measure) | SS 316L | PP | 553 489 | |
| | ANSI 150 RF | 0 ... 11.20 | 0 ... 280 | Carbon steel | 2 (2 measure) | SS 316L | PP | 554 352 | |
| Type S055 Separate version with 10 m cable (included)  | 25 | DIN 2501 | 0 ... 0.72 | 0 ... 18 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 492 |
| | 32 | DIN 2501 | 0 ... 1.16 | 0 ... 29 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 493 |
| | 40 | DIN 2501 | 0 ... 1.80 | 0 ... 45 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 494 |
| | 50 | DIN 2501 | 0 ... 2.88 | 0 ... 72 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 495 |
| | 65 | DIN 2501 | 0 ... 4.80 | 0 ... 120 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 496 |
| | 80 | DIN 2501 | 0 ... 7.20 | 0 ... 180 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 497 |
| | 100 | DIN 2501 | 0 ... 11.20 | 0 ... 280 | Carbon steel | 2 (2 measure) | SS 316L | PP | 448 498 |

Flow transmitter Type SE56 (for more data, refer to datasheet Type SE56)

| Description | Power supply | Outputs | Body material | Electrical connection | Item no. |
|------------------------------------|---------------|---------------------------|-----------------|-----------------------|----------|
| With local display compact version | 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 |
| With local display remote version | 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 |
| Blind compact version | 20 - 30 V DC | Transistor | Stainless steel | 2 cable glands | 559 132 |
| | | Transistor + 4...20 mA | Stainless steel | 2 cable glands | 559 133 |
| | | Transistor + Profibus DP | Stainless steel | 2 cable glands | 559 134 |

i Further versions on request

Separate sensor body version Type S054. Please also use the "request for quotation" form on page 8 for ordering a customized sensor body. [go to page](#)

Ordering chart for spare parts/accessories for sensor body Type S054 or S055

| Description | Item no. |
|---|----------|
| Electrodes cable for connection between sensor body and electronics Type SE56*, Poliolefina insulation, 10 m long | 448 518 |
| Coils cable for connection between sensor body and electronics Type SE56*, 10 m long | 448 519 |

* see corresponding datasheet

Universal sensor body Type S054 or S055 - request for quotation

Note

You can fill out the fields directly in the PDF file before printing out the form.

Please fill out and send to your nearest Bürkert facility* with your inquiry or order.

NOTE : Please take into account that the sensor body Type S054 and S055 must be associated with the electronic Type SE56.

| | |
|------------------|-----------------|
| Company: | Contact person: |
| Customer No.: | Department: |
| Address: | Tel. / Fax.: |
| Postcode / Town: | E-mail: |

Full Bore Magflow sensor body

Wafer version S054:

Flanges version S055:

Quantity:

Desired delivery date:

| | | | | | |
|---|--|---|---|--|--------------------------------|
| ■ Pipe diameter: | <input type="checkbox"/> DN 25 | <input type="checkbox"/> DN 32 | <input type="checkbox"/> DN 40 | <input type="checkbox"/> DN 50 | |
| | <input type="checkbox"/> DN 65 | <input type="checkbox"/> DN 80 | <input type="checkbox"/> DN 100 | <input type="checkbox"/> DN >100 | <input type="text"/> DN value* |
| ■ Process connection: | <input type="checkbox"/> DIN | <input type="checkbox"/> ANSI 150 | <input type="checkbox"/> ANSI 300 | <input type="checkbox"/> JIS 10 K | |
| ■ Pressure: | <input type="checkbox"/> PN 10 | <input type="checkbox"/> PN 16 | <input type="checkbox"/> PN 25 | <input type="checkbox"/> PN 40 | <input type="checkbox"/> PN 64 |
| ■ Number of electrodes ¹⁾ and Lining material: | <input type="checkbox"/> 2 and PP (PN16) | <input type="checkbox"/> 2 and PTFE (PN40) | <input type="checkbox"/> 3 and PP (PN16) | <input type="checkbox"/> 3 and PTFE (PN40) | |
| ■ Materials: | | | | | |
| Body | <input type="checkbox"/> Carbon steel | <input type="checkbox"/> Stainless steel 304 | <input type="checkbox"/> Stainless steel 316L | | |
| Seal | <input type="checkbox"/> FKM | <input type="checkbox"/> EPDM | | | |
| Electrodes | <input type="checkbox"/> 316L | <input type="checkbox"/> Hastelloy | <input type="checkbox"/> Tantalum | | |
| | <input type="checkbox"/> Titanium | <input type="checkbox"/> Platinum | | | |
| ■ Sensor body version: | <input type="checkbox"/> Compact | <input type="checkbox"/> Separate (10 m cable included) | | | |

* from DN 200 up to 2000: Ebonite or PTFE Lining material (if PTFE not selected then Ebonite in standard)

¹⁾ If the pipe is in plastic then it is advised to choose 3, if it is in metal then 2 electrodes are enough.

To find your nearest Bürkert facility, click on the orange box →

www.burkert.com