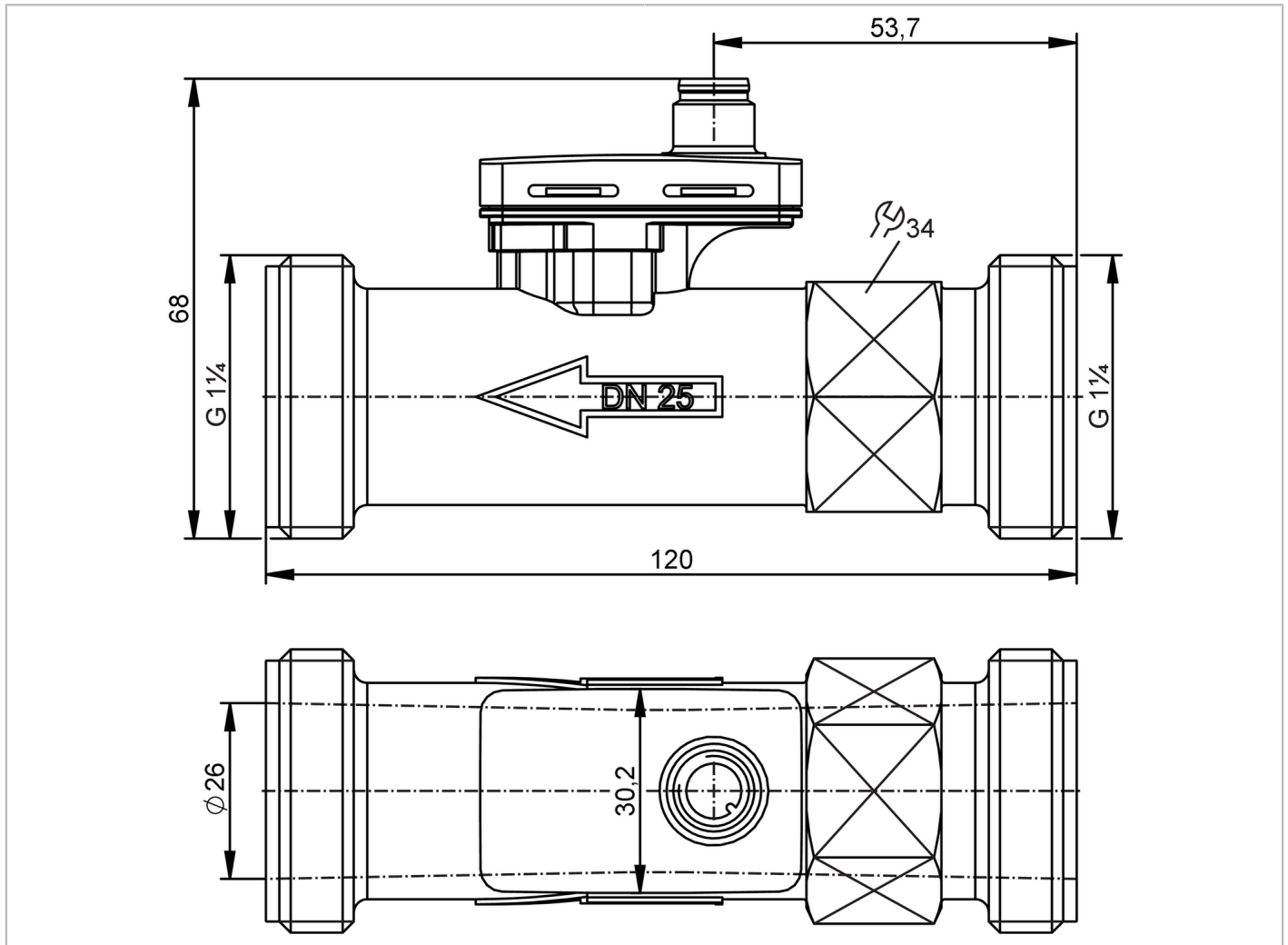


SV8151



Vortex flow meter

SVR54XGXD0KG/US



Product characteristics

| | | |
|------------------------------|--|-------------------|
| Number of inputs and outputs | Number of analog outputs: 1 | |
| Measuring range | 9...150 l/min | 0.283...4.709 m/s |
| Process connection | threaded connection G 1 1/4 external thread DN25 | |

Application

| | | |
|-----------------------------|---|---------|
| Special feature | gold-plated contacts | |
| Measuring element | 1 x Pt 1000; (to DIN EN 60751, class B) | |
| Application | for industrial applications | |
| Installation | connection to pipe by means of an adapter | |
| Media | ultra-pure water; water; glycol solutions; Coolants | |
| Medium temperature [°C] | -15...125 | |
| Min. burst pressure | 10 bar | 1 MPa |
| Note on min. burst pressure | 125 °C | |
| Pressure rating | 16 bar | 1.6 MPa |
| Note on pressure rating | ≤ 90 °C | |

Electrical data

| | |
|-----------------------|-----------|
| Operating voltage [V] | 8...33 DC |
|-----------------------|-----------|

SV8151



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| | | |
|----------------------------|------|-----------------|
| Current consumption | [mA] | < 5 |
| Min. insulation resistance | [MΩ] | 100; (500 V DC) |
| Protection class | | III |
| Power-on delay time | [s] | < 2 |
| Measuring principle | | Vortex |

Inputs / outputs

| | | |
|------------------------------|-----------------------------|--|
| Number of inputs and outputs | Number of analog outputs: 1 | |
|------------------------------|-----------------------------|--|

Outputs

| | | |
|--------------------------|---------------|--|
| Total number of outputs | 1 | |
| Output signal | analog signal | |
| Number of analog outputs | 1 | |
| Analog current output | [mA] | 4...20 |
| Max. load | [Ω] | < (U _b - 8 V) / 20 mA; U _b = 24 V: 800 |

Measuring/setting range

| | | |
|-----------------|---------------|-------------------|
| Measuring range | 9...150 l/min | 0.283...4.709 m/s |
|-----------------|---------------|-------------------|

Temperature monitoring

| | | |
|------------------------------------|--------|-----------|
| Internal heating temperature probe | 1 K/mW | |
| Measuring range | [°C] | -15...125 |

Accuracy / deviations

Flow monitoring

| | | |
|-----------------------------------|-----------------------------|---|
| Accuracy (in the measuring range) | water | |
| Accuracy (in the measuring range) | water | Q < 50 % MEW: < 1 % MEW / Q > 50 % MEW: < 2 % MEW |
| | glycol solutions (35%) | 2 > v < 6 cSt: ± 5% MEW / 6 > v < 15 cSt: ± 10% MEW |
| Repeatability | 0,2; (% of the final value) | |

Temperature monitoring

| | | |
|----------|-----|-------------------|
| Accuracy | [K] | ± 0,3 ± 0,005 x T |
|----------|-----|-------------------|

Reaction times

Flow monitoring

| | | |
|---------------|-----|--------------------------|
| Response time | [s] | 0.38; (T ₀₉) |
|---------------|-----|--------------------------|

Temperature monitoring

| | | |
|--|-----|-------------|
| Dynamic response T ₀₅ / T ₀₉ | [s] | < 10 / < 30 |
|--|-----|-------------|

Operating conditions

| | | |
|-----------------------------|---|----------|
| Ambient temperature | [°C] | -15...85 |
| Note on ambient temperature | Medium temperature > 0 °C: -40...85 | |
| Storage temperature | [°C] | -40...85 |
| Protection | IP 65 | |
| Cavitation | P(absolute) discharge / P(difference) > 5.5 to avoid cavitation | |

Tests / approvals

| | | |
|------------------|---------------------|--------------|
| EMC | EN IEC 61326-1:2021 | |
| Shock resistance | DIN EN 60068-2-27 | 30 g (11 ms) |

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| | | |
|------------------------------|---|-------------------------------|
| Vibration resistance | DIN EN 60068-2-6 | with water / 10...61 Hz 1 mm |
| | | with water / 61...2000 Hz 2 g |
| MTTF [years] | | 395.9 |
| UL approval | File number UL | E364788 |
| Pressure equipment directive | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |

Mechanical data

| | | |
|--------------------------|--|------------------|
| Weight [g] | | 147.8 |
| Housing | | rectangular |
| Dimensions [mm] | | 120 x 41.91 x 68 |
| Material | Housing: PPS 40% glass fiber; electronics: PC 10% glass fiber | |
| Materials (wetted parts) | sensor: PPSU; Pipe section: PPS 40% glass fiber; sealing: EPDM | |
| Tightening torque [Nm] | | 15 |
| Process connection | threaded connection G 1 1/4 external thread DN25 | |

Remarks

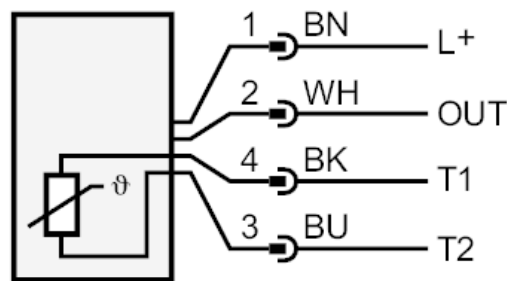
| | | |
|---------------|--|--|
| Remarks | MW = Measured value | |
| | MEW = Final value of the measuring range | |
| Pack quantity | 1 pcs. | |

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



OUT: analog output
 T1 / T2: Pt1000
 Colors to DIN EN 60947-5-2

Core colors :

BK = black
 BN = brown
 BU = blue
 WH = white

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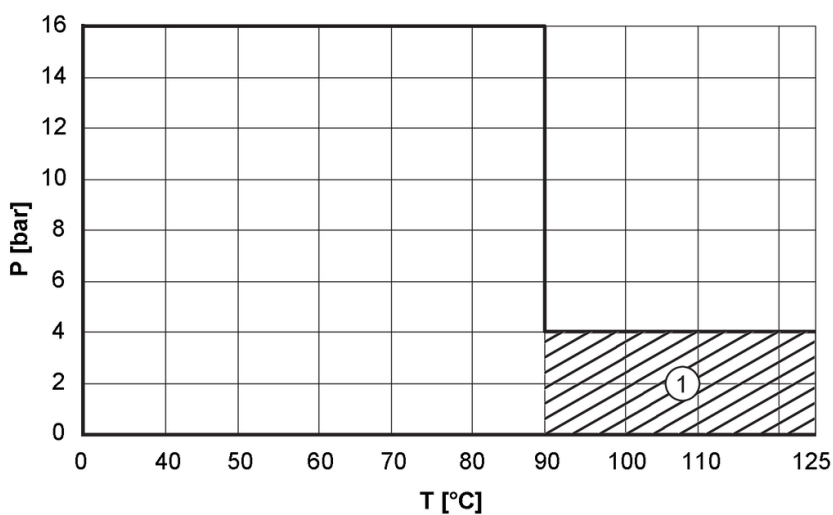
Other data

determination using the compensation value and the response threshold for glycol-water mixtures

| | | |
|---|-------------------------|---------------------------------------|
| determination of the compensation value Q0 | [l/min] | $9.375 \times (I - 4mA) - 1.0v + 1.0$ |
| determination of the response threshold Qmin | [l/min] | $8.0 + v$ |
| v = | kinematische Viskosität | |

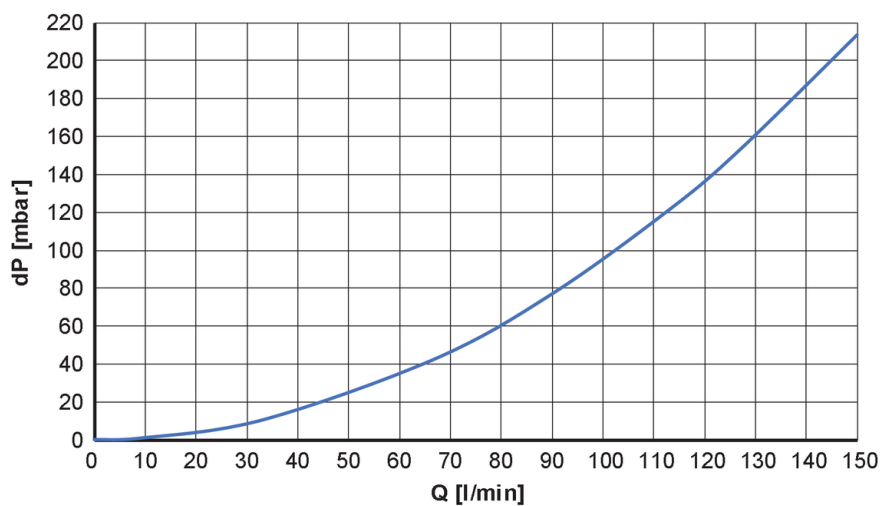
Diagrams and graphs

Pressure rating



P [bar] = pressure
T [°C] = temperature
1 = permanent

Pressure loss



dP [mbar] = Pressure loss
Q [l/min] = volumetric flow quantity