

# SV4504



## SV vortex flowmeters with display for water based media

SVK12XXX50KG/US-100



1 Rc 1/2  
DN 8



### Product characteristics

|                              |                                                |                 |
|------------------------------|------------------------------------------------|-----------------|
| Number of inputs and outputs | Number of analog outputs: 2                    |                 |
| Measuring range              | 1...20 l/min                                   | 0.06...1.2 m³/h |
| Process connection           | threaded connection Rc 1/2 Internal thread DN8 |                 |

### Application

|                         |                                   |
|-------------------------|-----------------------------------|
| System                  | gold-plated contacts              |
| Application             | for industrial applications       |
| Media                   | water; glycol solutions; Coolants |
| Medium temperature [°C] | -10...90                          |



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|                                   |                             |                 |
|-----------------------------------|-----------------------------|-----------------|
| Pressure rating                   | 12 bar                      | 1.2 MPa         |
| Note on pressure rating           | up to 40 °C                 |                 |
| Electrical data                   |                             |                 |
| Operating voltage                 | [V]                         | 18...30 DC      |
| Current consumption               | [mA]                        | < 30            |
| Min. insulation resistance        | [MΩ]                        | 100; (500 V DC) |
| Protection class                  |                             | III             |
| Reverse polarity protection       |                             | yes             |
| Power-on delay time               | [s]                         | < 3             |
| Measuring principle               |                             | Vortex          |
| Inputs / outputs                  |                             |                 |
| Number of inputs and outputs      | Number of analog outputs: 2 |                 |
| Outputs                           |                             |                 |
| Total number of outputs           | 2                           |                 |
| Output signal                     | analog signal               |                 |
| Number of analog outputs          | 2                           |                 |
| Analog current output             | [mA]                        | 4...20          |
| Max. load                         | [Ω]                         | 500             |
| Short-circuit protection          | yes                         |                 |
| Overload protection               | yes                         |                 |
| Measuring/setting range           |                             |                 |
| Measuring range                   | 1...20 l/min                | 0.06...1.2 m³/h |
| Display range                     | 0...24 l/min                | 0...1.44 m³/h   |
| Resolution                        | 0.1 l/min                   | 0.005 m³/h      |
| Analog start point ASP            | 0...16 l/min                | 0...0.96 m³/h   |
| Analog end point AEP              | 4...20 l/min                | 0.24...1.2 m³/h |
| In steps of                       | 0.1 l/min                   | 0.005 m³/h      |
| Measuring dynamics                | 1:20                        |                 |
| Temperature monitoring            |                             |                 |
| Measuring range                   | [°C]                        | -10...90        |
| Display range                     | [°C]                        | -30...110       |
| Resolution                        | [°C]                        | 0.5             |
| Analog start point                | [°C]                        | -10...70        |
| Analog end point                  | [°C]                        | 10...90         |
| In steps of                       | [°C]                        | 0.5             |
| Accuracy / deviations             |                             |                 |
| Flow monitoring                   |                             |                 |
| Accuracy (in the measuring range) | ± 2 % MEW; (water)          |                 |
| Repeatability                     | ± 0,5 % MEW                 |                 |
| Temperature monitoring            |                             |                 |
| Accuracy                          | [K]                         | ± 1             |



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| Reaction times                |                                                                                       |                                       |
|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------------|
| Flow monitoring               |                                                                                       |                                       |
| Response time                 | [s]                                                                                   | 1; (dAP = 0)                          |
| Damping process value dAP     | [s]                                                                                   | 0...5                                 |
| Temperature monitoring        |                                                                                       |                                       |
| Dynamic response T05 / T09    | [s]                                                                                   | T09 = 6                               |
| Software / programming        |                                                                                       |                                       |
| Parameter setting options     | Damping for the analog output dAA; Display unit                                       |                                       |
| Operating conditions          |                                                                                       |                                       |
| Ambient temperature           | [°C]                                                                                  | 0...60                                |
| Note on ambient temperature   | medium temperature < 80 °C                                                            |                                       |
|                               | medium temperature < 90 °C: 0...50 °C                                                 |                                       |
| Storage temperature           | [°C]                                                                                  | -20...80                              |
| Protection                    | IP 65; IP 67                                                                          |                                       |
| Tests / approvals             |                                                                                       |                                       |
| EMC                           | DIN EN 61000-6-2                                                                      |                                       |
|                               | DIN EN 61000-6-3                                                                      |                                       |
| CPA approval                  | model number                                                                          | 001VO                                 |
|                               | accuracy class                                                                        | -                                     |
|                               | maximum allowable error                                                               | ± 2 % FS                              |
|                               | Q (min)                                                                               | 0,09 m³/h                             |
|                               | Q (t)                                                                                 | 0,24 m³/h                             |
|                               | Q (max)                                                                               | 1,2 m³/h                              |
| Shock resistance              | DIN EN 60068-2-27                                                                     | 5 g (11 ms)                           |
| Vibration resistance          | DIN EN 60068-2-6                                                                      | with water / 10...50 Hz 1 mm          |
|                               |                                                                                       | with water / 50...2000 Hz 2 g         |
| MTTF                          | [years]                                                                               | 342                                   |
| UL approval                   | UL approval number                                                                    | I002                                  |
| Pressure equipment directive  | sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                                       |
| Mechanical data               |                                                                                       |                                       |
| Weight                        | [g]                                                                                   | 441.5                                 |
| Housing                       | rectangular                                                                           |                                       |
| Dimensions                    | [mm]                                                                                  | 110 x 45 x 72                         |
| Material                      | stainless steel (1.4404 / 316L); PC; PBT+PC-GF30; PPS; TPE-U                          |                                       |
| Materials (wetted parts)      | stainless steel (1.4404 / 316L); ETFE; PA 6T; PPS; FKM                                |                                       |
| Tightening torque             | [Nm]                                                                                  | 30                                    |
| Process connection            | threaded connection Rc 1/2 Internal thread DN8                                        |                                       |
| Displays / operating elements |                                                                                       |                                       |
| Display                       |                                                                                       | Color display 1,44", 128 x 128 pixels |
|                               |                                                                                       | 2 x LED, yellow                       |
| Remarks                       |                                                                                       |                                       |
| Remarks                       | MW = Measured value                                                                   |                                       |
|                               | MEW = Final value of the measuring range                                              |                                       |
| Pack quantity                 | 1 pcs.                                                                                |                                       |

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### Electrical connection

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



### Connection



- OUT1:
- OUT2:
- Colors to DIN EN 60947-5-2 :
- Core colors :
- BK = black
- BN = brown
- BU = blue
- WH = white

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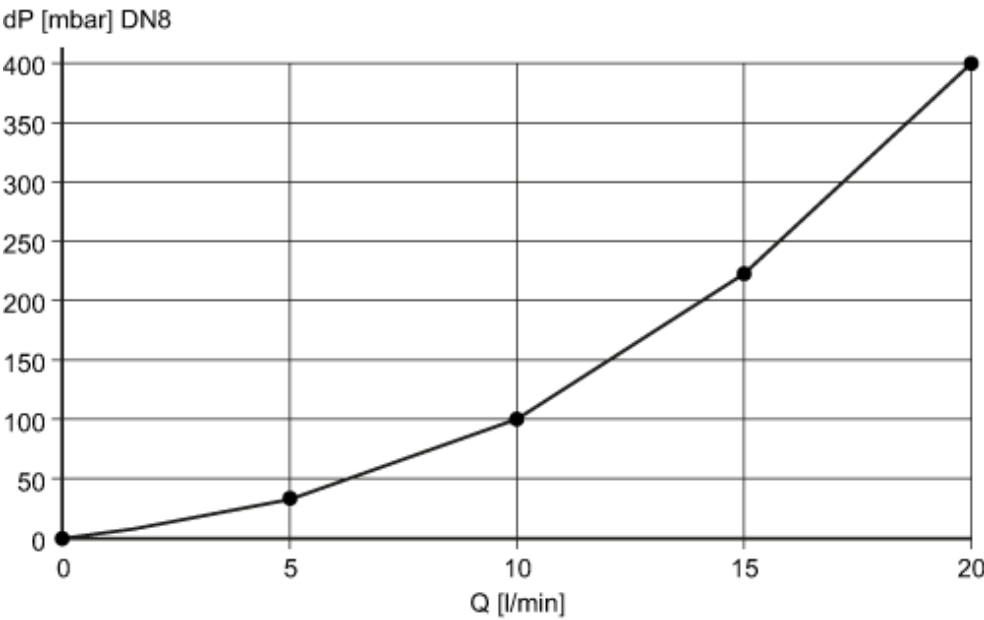


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### Diagrams and graphs

Pressure loss



dP Pressure loss  
Q volumetric flow quantity

pressure rating (bar)

