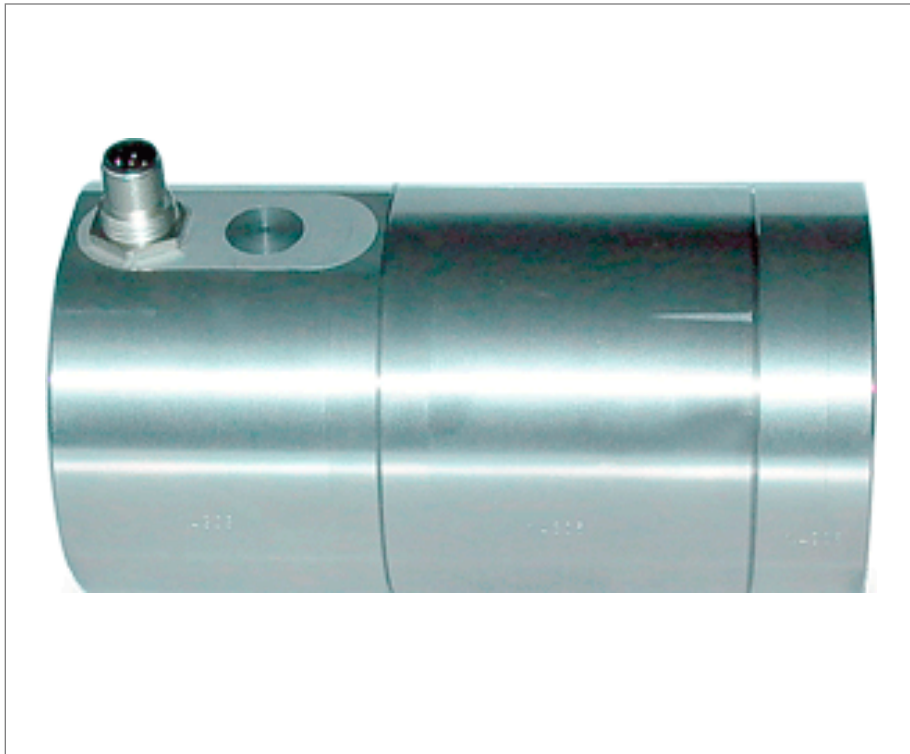


Certified according to DIN EN ISO 9001

## Technical Datasheet



### SRZ\*\*\* Compact

Helical Flow Meter with Integrated Electronics

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## Description

The helical flow meters SRZ\*-Compact are positive displacement meters with built in HALL sensors. They provide a high resolution and a reverse flow detection.

For the reverse flow detection the SRZ provide 2 frequency outputs with 90° phase shift (pinning "A" and "N") or a dedicated signal "direction" (pinning "C" and "R").

The SRZs are perfectly suited for media with high viscosity (30 mm<sup>2</sup>/s up to 1x10<sup>6</sup>mm<sup>2</sup>/s). They provide high accuracy and low pressure drop.

The meters do not produce pulsations and are insensitive to pulsations.

### Application

- Flow measurement of highly viscose media
- Flow measurement with high resolution
- Measuring of net consumption

### Highlights

- Forward- backward detection
- Pulsation free
- Very high resolution

## Technical Data

| Type / Size          | Measuring range <sup>1,2</sup><br>ltr./min | K-Factor <sup>3</sup><br>Pulses/ltr. | Frequency range <sup>4</sup><br>in Hz |
|----------------------|--------------------------------------------|--------------------------------------|---------------------------------------|
| SRZ 40-*-A/C/R       | 0.40 up to 40                              | 7,000                                | 40 up to 4,800                        |
| SRZ 40-*-H1N         | 0.40 up to 40                              | 33,000                               | 200 up to 22,000                      |
| SRZ 40-*-H2 N/A/C/R  | 0.40 up to 22                              | 66,000                               | 400 up to 25,000                      |
| SRZ 40-*-H3 N/A/C/R  | 0.40 up to 11                              | 132,000                              | 800 up to 25,000                      |
| SRZ 100-*-A/C/R      | 1.0 up to 100                              | 1,700                                | 28 up to 2,900                        |
| SRZ 100-*-H1N        | 1.0 up to 100                              | 8,000                                | 120 up to 14,000                      |
| SRZ 100-*-H2 N/A/C/R | 1.0 up to 90                               | 16,000                               | 240 up to 25,000                      |
| SRZ 400-*-A/C/R      | 4.0 up to 400                              | 428                                  | 14 up to 1,800                        |

|                        |                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------|
| Measuring media:       | Fluids free of ferro-magnetic particles (version H1 – H3)                                                            |
| Linearity:             | ±0.5% of actual flow at 30 mm <sup>2</sup> /s or higher<br>±0.25% of actual flow at 100 mm <sup>2</sup> /s or higher |
| Repeatability:         | ±0.1% at 30 mm <sup>2</sup> /s or higher                                                                             |
| Operating temperature: | –20 up to +70°C                                                                                                      |
| Materials:             | SS 303 or SS316Ti / SS316L                                                                                           |
| Ingress protection:    | IP67                                                                                                                 |

## Notes

- 1) Extension of the measuring range to lower flows upon request
- 2) With the versions H2 and H3 the maximum flow is limited by the maximum output frequency
- 3) Typical output frequency for the specified flow range. The operating frequency range of the pickup and the output stage is 0.5Hz < f < 25,000Hz.

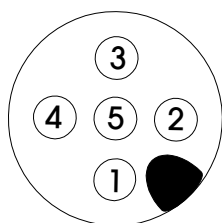
## Electrical Data

|                                 |                                                                       |
|---------------------------------|-----------------------------------------------------------------------|
| Supply voltage:                 | 15 V DC or 24 V DC                                                    |
| Allowed supply voltage range:   | 12 to 30 V DC                                                         |
| Supply current:                 | typically < 20 mA without load                                        |
| <b>Output stage pin 2 and 4</b> |                                                                       |
| Type:                           | Push-pull, asymmetrical output resistance 470 / 720 $\Omega$          |
| Max. load current:              | > 10 mA (typically up to 20 mA)                                       |
| Output level low:               | 1 V @ 1 mA<br>5 V @ 10 mA                                             |
| Output level high:              | 22 V @ 1 mA load and 24 V supply<br>16 V @ 10 mA load and 24 V supply |
| Output short circuit:           | to GND: infinite<br>to +24 V: < 1s                                    |
| <b>Output stage pin 5</b>       |                                                                       |
| Type:                           | Push pull, 470 $\Omega$ output resistance                             |
| Max. load current:              | > 10 mA (typically up to 20 mA)                                       |
| Output level low:               | 1 V @ 1 mA<br>5 V @ 10 mA                                             |
| Output level high:              | 22 V @ 1 mA load at 24 V supply<br>19 V @ 10 mA load at 24 V supply   |
| Output short circuit:           | to GND or to +24 V: < 1 s                                             |

## Pin assignment

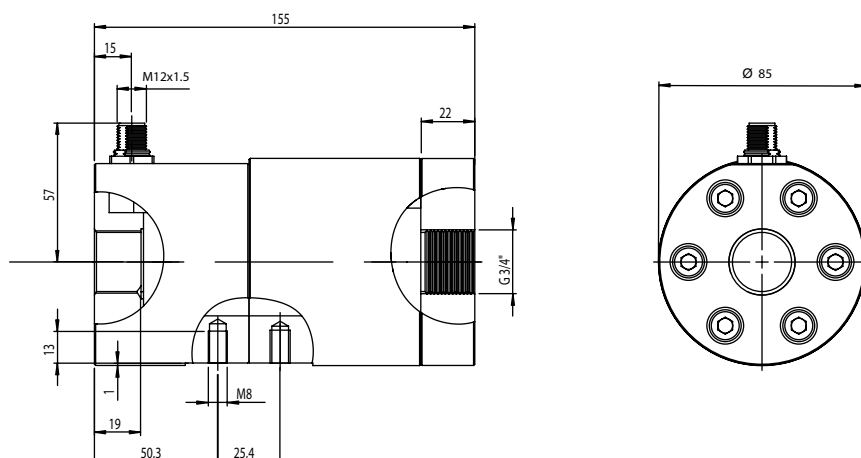
| Type   | Pin 1 | Pin 2                  | Pin 3 | Pin 4 | Pin 5                          |
|--------|-------|------------------------|-------|-------|--------------------------------|
| SRZ-*A | + UB  | $\frac{1}{2} f_A$      | GND   | f     | $\frac{1}{2} f_B$ <sup>1</sup> |
| SRZ-*C | + UB  | direction <sup>2</sup> | GND   | f     | PE <sup>3</sup>                |
| SRZ-*R | + UB  | direction <sup>2</sup> | GND   | f     | n. c.                          |
| SRZ-*N | + UB  | $f_B$ <sup>1</sup>     | GND   | $f_A$ | n. c.                          |

- 1) At flow in direction of the arrow  $f_B$  lags  $f_A$  by 90°
- 2) At flow in direction of the arrow "direction" is "low"
- 3) The protective ground at pin 5 must only be used additionally to a proper grounding of the housing

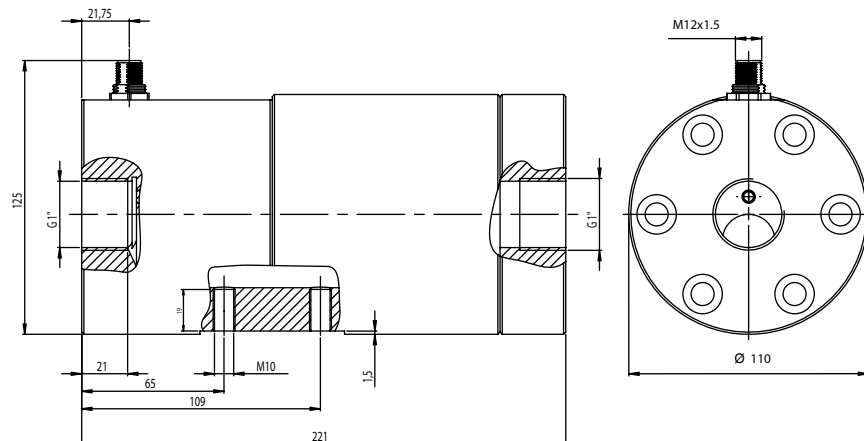


## Dimensional Drawings (mm)

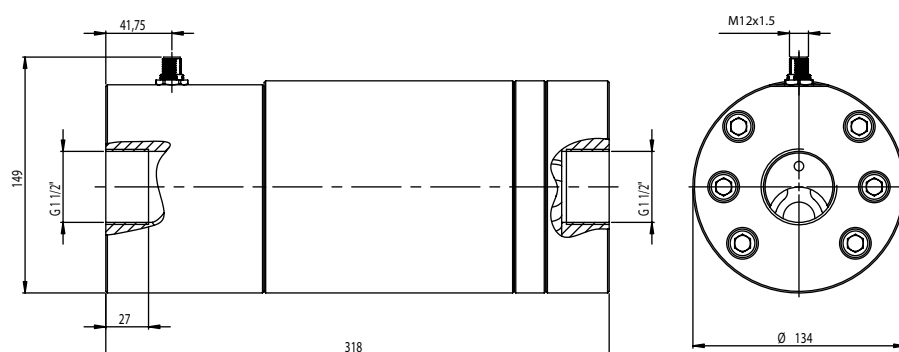
### SRZ 40 Compact:



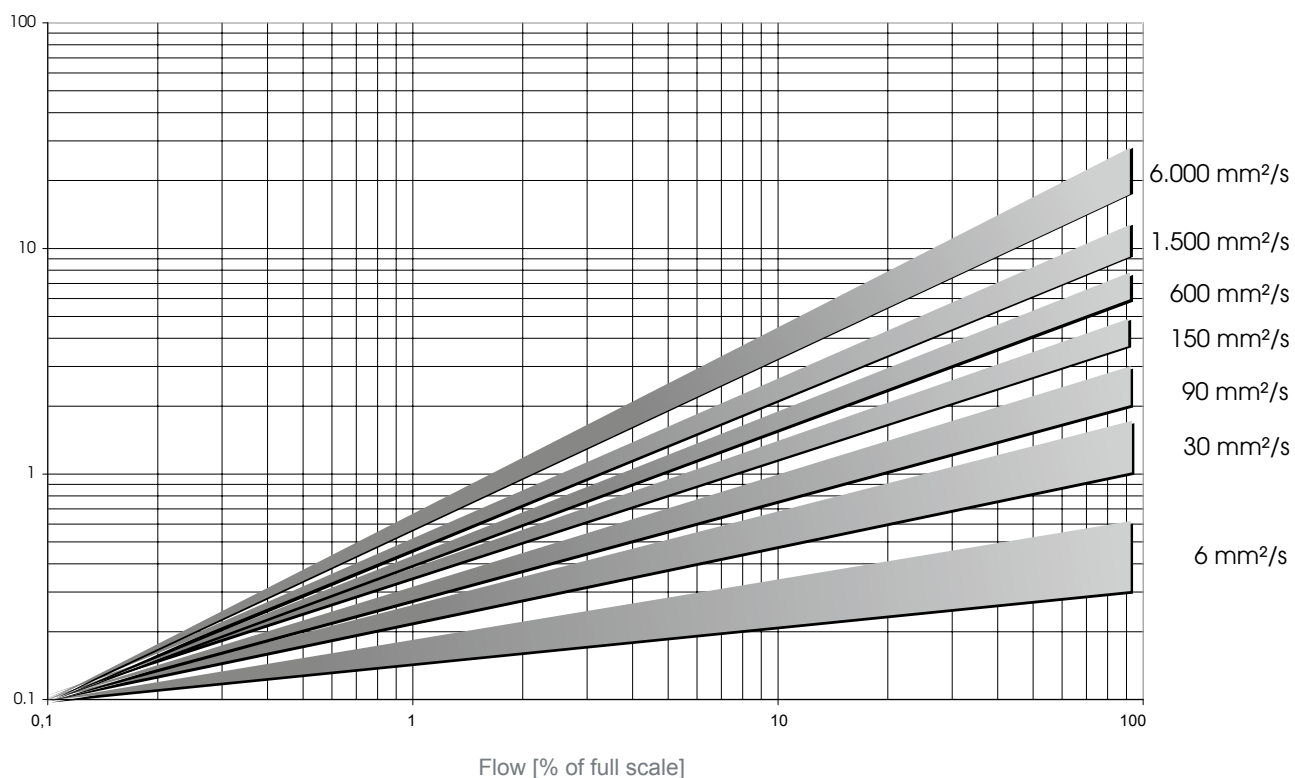
### SRZ 100 Compact:



### SRZ 400 Compact:



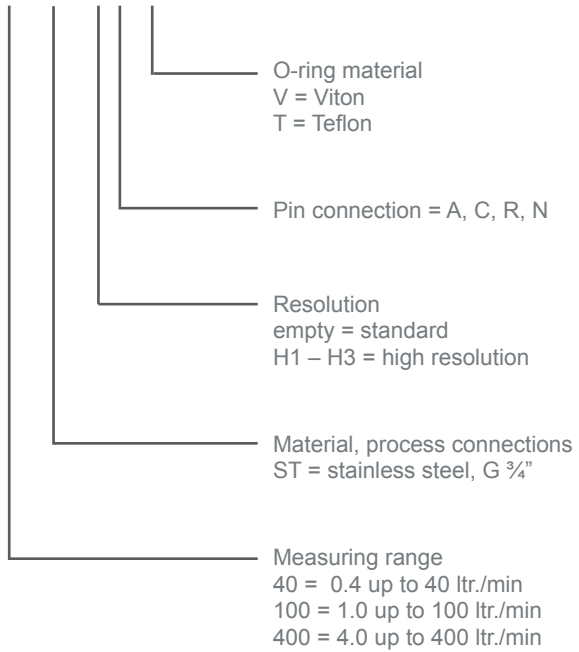
**Pressure Drop:**  
bar (typical values)



|         |     |      |     |            |
|---------|-----|------|-----|------------|
| SRZ 40  | 0.4 | 4.0  | 40  | litr. /min |
| SRZ 100 | 1.0 | 10.0 | 100 | litr. /min |
| SRZ 400 | 4.0 | 40.0 | 400 | litr. /min |

## Ordering Codes:

SRZ \*\* - \*\* - \*\*\* - \*



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