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Specifikation
Instrument Program

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Küppers Elektromechanik GmbH
Flow Meters
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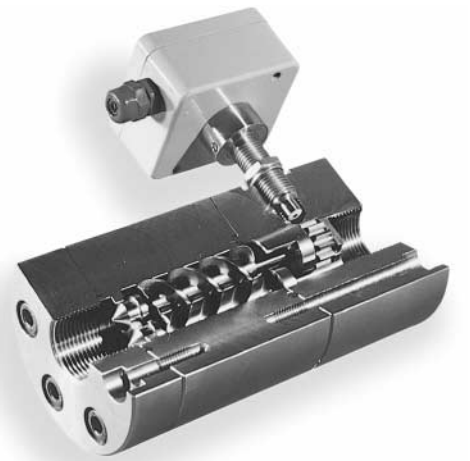
SRZ Series Helical Flow Meters

Design and Principle

Two highly accurate cycloid-shaped screw spindles mesh and rotate inside a cylindrical housing with two overlapping holes in the form of a figure 8, which forms the measuring chamber.



The medium flows in axial direction and rotates the spindles, it is forced along the measuring chamber bores by the profile of the spindles.
This happens without pulsation and with minimum leakage.
A pickup will inductively detect the speed of the spindle pair through the housing via a pole wheel with a high number of gears. The speed of the spindles is absolutely proportional to the volume flow over a very wide range. Pulses per volume unit will finally serve the evaluation (please see pickup and amplifier datasheets.)The K-factor (calibration factor) of the helical flow meter defines the exact pulserate per litre. We calibrate our flow meters to determine their K-factors. Calibration records are part of delivery. When calibrating we consider as much as possible operating viscosities and customers' specifications.

Pickups and Amplifiers

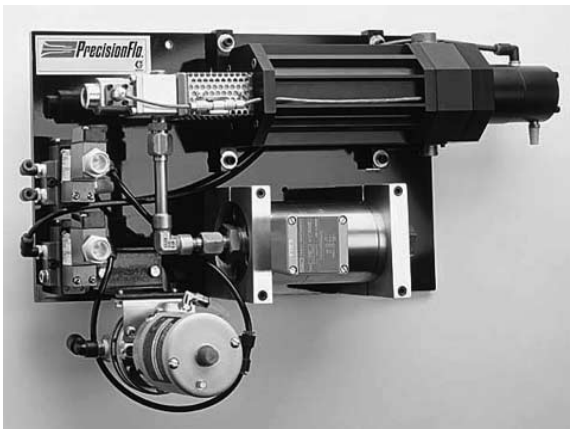
The pickups are suitable for fluid temperatures up to +150°C and ambient temperatures up to +50°C (higher temperatures on request).
For detailed information on our pickups and amplifiers ask for datasheets. The following types are available for our SRZ flow meters:

- **VTE*/P** Carrier-Frequency Pickup and Amplifier
  with two pickups double pulserate and reverse-flow detection are possible

- **VTM**** Local Display Unit
  with frequency and analogue output

Applications

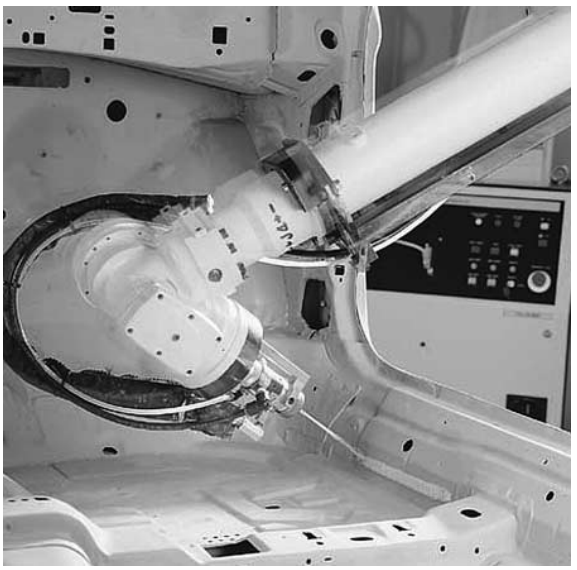
- Polyurethane and polymer
- Glues and sealing materials
- Heavy fuel oil
- Petrochemical products
- Thixotropical fluids
- Fat and oils with varying viscosities
- Hydraulic test rigs with varying viscosities and fluids



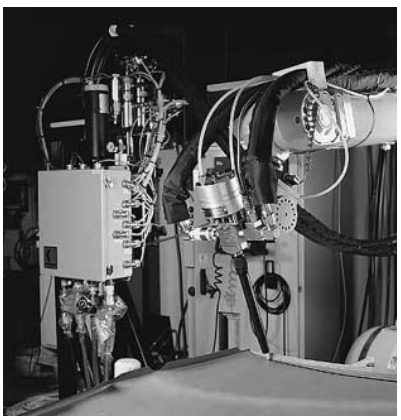
SRZ as a component of a precision PVC dispensing system for seam sealing of cars

Characteristics

- High accuracy
- Wide measuring ranges 1:100, 1:400
- Suitable for pressures up to 400 bar
- Largely independent of viscosity, perfect for 30 up to 1×10^6 mm²/s
- Low pressure drop compared with other positive displacement meters
- Double pulse rate and reverse-flow detection possible
- Pulsation-free measurement, non-sensitive to pulsating flows
- Ex-protection EExiaIICT6 for zone 1 (zone 0 subject to individual inspection)
- Resistant to corrosion by advanced materials and bearings
- Low operating noise



robotically applied PVC



appliance of two component structural adhesive

manually dispensed cavity wax

Technical Data

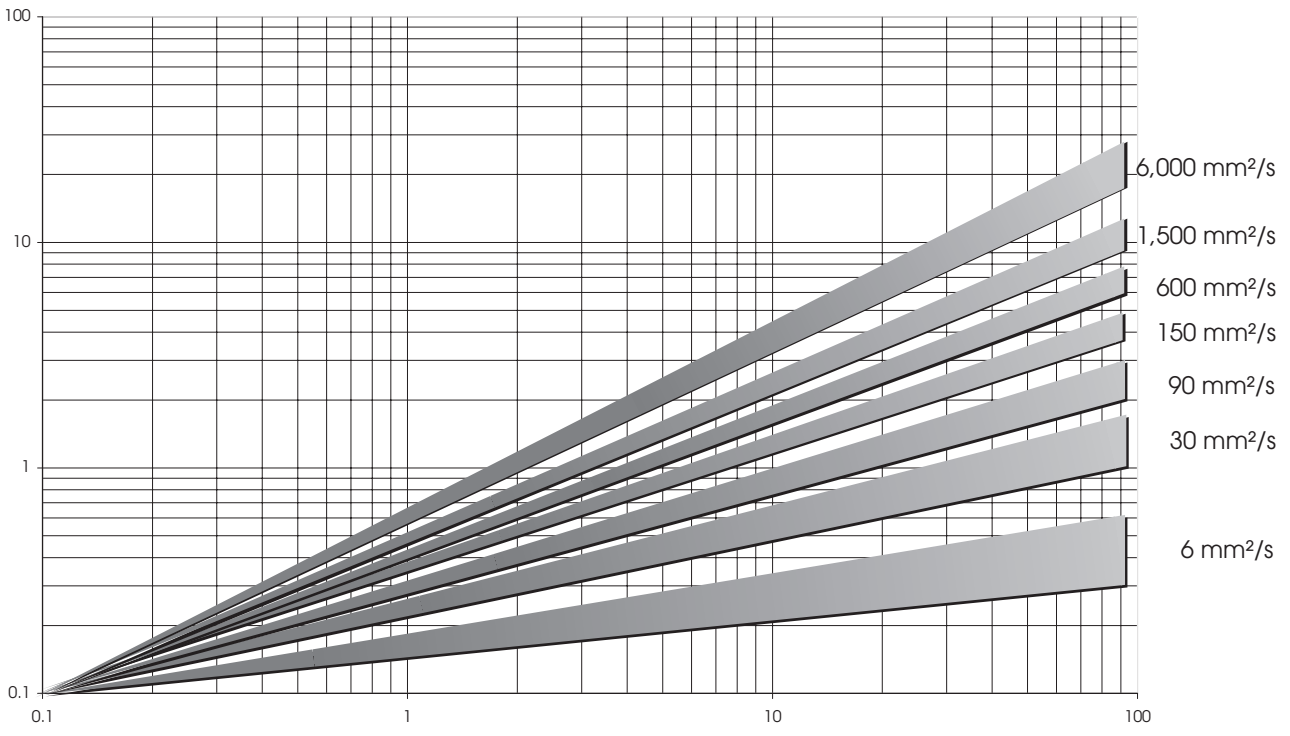
SRZ Type	Measuring Range	K-Factor	Frequency Range
SRZ 10	0.01 up to 4 ltr./min	16,500 pulses/ltr.	3 up to 1,140 Hz
SRZ 20	0.04 up to 16 ltr./min	9,000 pulses/ltr.	6 up to 2,500 Hz
SRZ 40	0.4 up to 40 ltr./min	3,500 pulses/ltr.	20 up to 2,400 Hz
SRZ 100	1.0 up to 100 ltr./min	850 pulses/ltr.	8 up to 850 Hz
SRZ 400	4.0 up to 400 ltr./min	214 pulses/ltr.	14 up to 1,450 Hz

The measuring ranges are based on a viscosity of 30 mm²/s, K-factor and freqency figures are average values – the individual figures are recorded during calibration.
Please note different pulse rates and frequency ranges for high temperature versions:
SRZ 10: 11,200 pulses/ltr. and 2 up to 760 Hz, SRZ 40: 1,750 pulses/ltr. and 11 up to 1,167 Hz

Linearity: . . . . . .each ±0.5% of actual flow value (from 30 mm²/s onwards)
each ±0.25% of actual flow value (from 100 mm²/s onwards)
Repeatability: . . . . . .each ±0.1%
Operating Pressure: . . . . . .each PN 16/40 up to PN 400
Temperature: . . . . . .each up to +150°C fluid temperature (higher temperatures on request)
Viscosity: . . . . . .each 30 up to 1 x 10^6 mm²/s (below 30 mm²/s with restricted measuring range and vertical mounting position)
Materials: . . . . . .each stainless steel as per DIN 1.4305/1.4122 (AISI 303)
or DIN 1.4571/1.4460 (AISI 316 Ti/329)

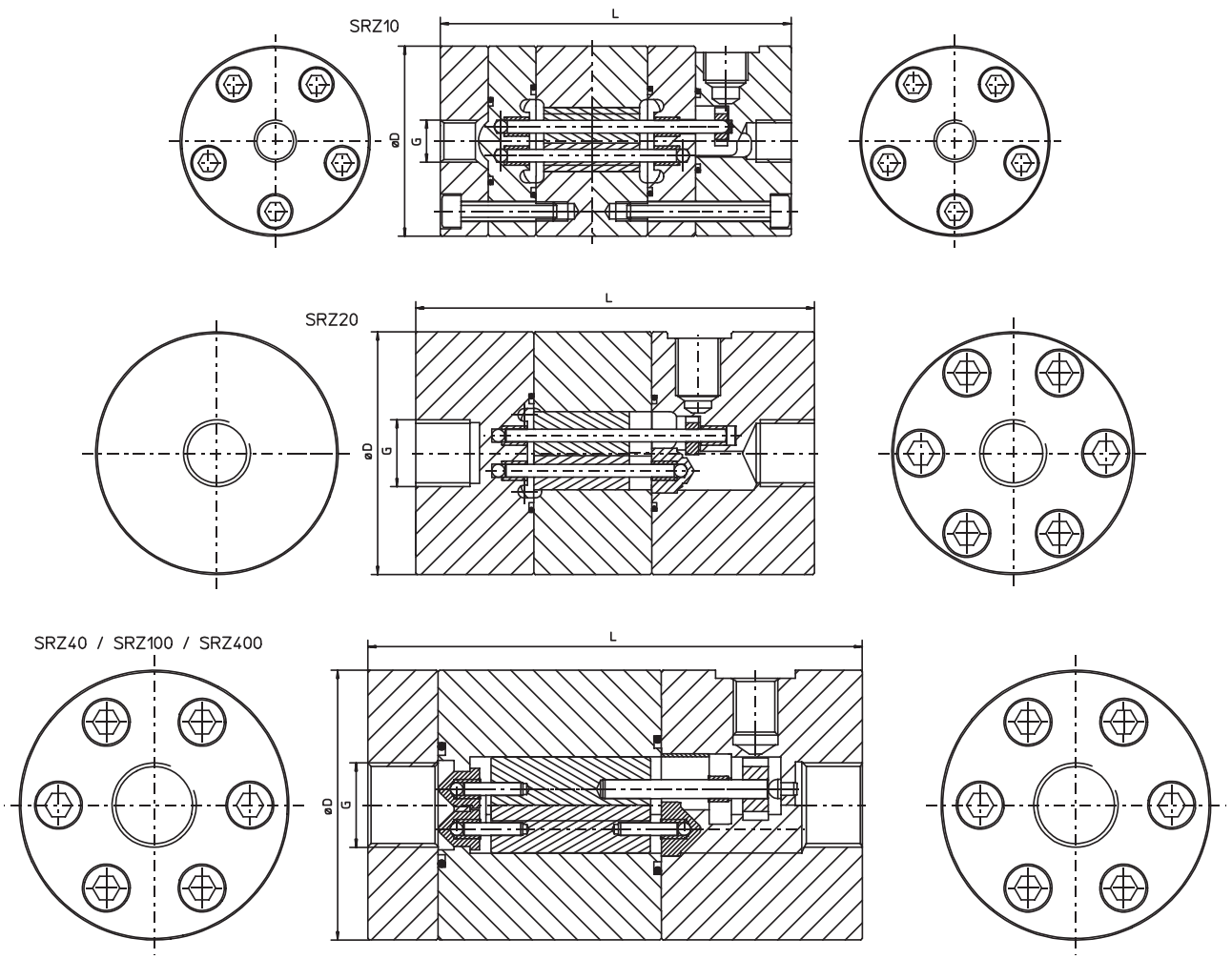
Pressure Drop Diagram

pressure drop in bar (average values)



SRZ 10	.0.04	.0.4	.4 ltr./min
SRZ 20	.0.16	.1.6	.16 ltr./min
SRZ 40	.0.4	.4.0	.40 ltr./min
SRZ 100	.1.0	.10.0	.100 ltr./min
SRZ 400	.4.0	.40.0	.400 ltr./min

Cross Section Drawings



Dimensions

Type	G	L	D	PN
SRZ 10	¼"	110 mm	60 mm	400 bar
SRZ 20	½"	125 mm	76 mm	400 bar
SRZ 40	¾"	155 mm	85 mm	400 bar
SRZ 100	1"	221 mm	110 mm	400 bar
SRZ 400	1½"	318 mm	134 mm	400 bar

Website
http://www.kem-kueppers.com