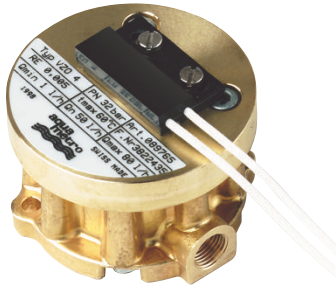


VZO 4 and 8 OEM

Technical data ¹⁾



- fuel oil meters for OEMs (original equipment manufacturers), to be mounted under the burner cover
- meters with lateral internal threaded connections
- with 230 V Reed pulser to display measurement values on remote totaliser or on burner control unit
- for mounting in horizontal, vertical or inclined positions

Type			VZO 4 OEM	VZO 8 OEM
Nominal diameter		mm	4	8
		inch	1/8	1/4
Connection threads of meter		inch	1/8	1/4
Nominal pressure		bar	32	25
Temperature	T _{max}	° C	60	60
Maximum flow rate	Q _{max} ²⁾	l/h	80	200
Nominal flow rate	Q_{cont} ²⁾	l/h	50	135
Minimal flow rate	Q _{min} ³⁾	l/h	1	4
Approx. starting flow rate		l/h	0.4	1.6
Max. permissible error			±1 % of actual value ³⁾	
Repeatability			±0.2 %	
Safety filter mesh size		mm	-	0.150
Dirt filter mesh size		mm	0.080	0.100
Volume of the measuring chamber		approx. cm ³	5	12.5
Weight		approx. kg	0.65	0.75
Reed pulsers	RE	l/pulse	0.005	0.0125
Pulse frequency		at Q _{max}	4.444	4.444
		at Q _{min}	0.056	0.089

1) Manufacturer's specification, valid for the reference conditions as specified under Meter data.

2) For burners and engines or motors, the meter must be selected on the basis of the permanent flow rate. For higher viscosities, or if the meter is installed on the suction side, the pressure drop and any reduction in the measuring range must also be taken into consideration.

3) Max. permissible error: VZO 4 OEM: 1 l/h...2 l/h = +1 % / -2 %.

Safety precaution

When connecting the Reed pulser to a low-voltage power source (50...250 VAC/DC), the specialist installing the equipment is responsible for ensuring that all local regulations are observed (e.g. regulations for electrical installations, personnel safety).

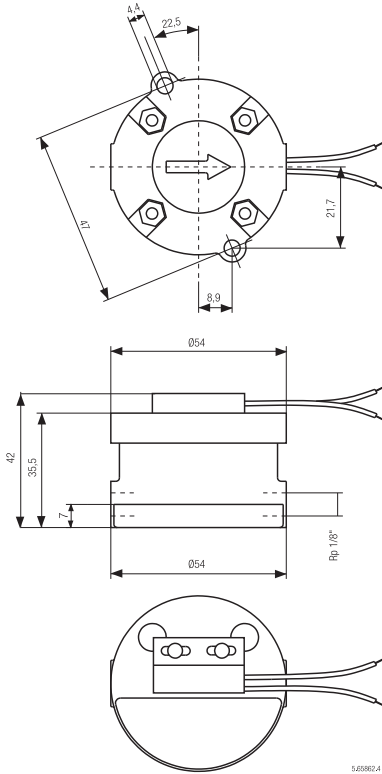
Avoid disturb of electromagnetically fields.

Pressure drop curves

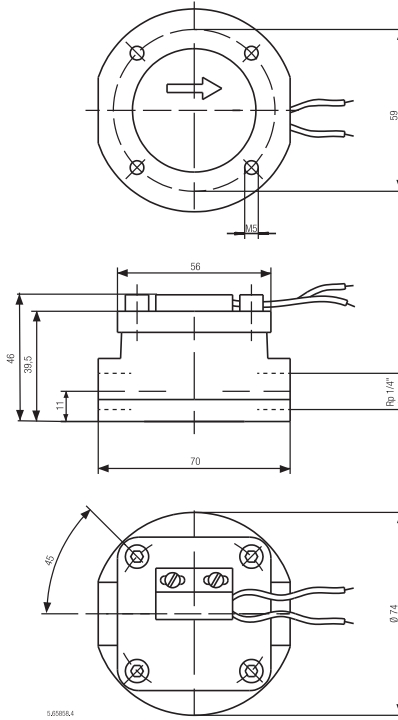
See Meter data

Dimensions in mm

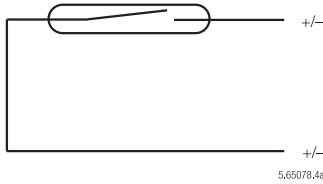
VZO 4 OEM



VZO 8 OEM



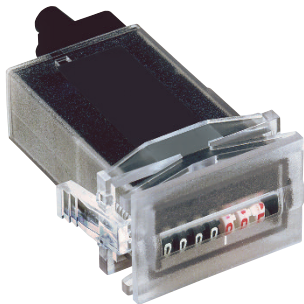
RE Pulsers



Switching element:
Switching voltage:
Switching current:
Quiescent current:
Switching power:
ON-time:
Temperature:
Protection class:
Connections:

- Reed switch with dry contact (inert gas)
- max. 230 VAC/DC
- max. 50 mA
- Open Contact
- max. 3 VA
- 40...55 %
- Ambient -10...+60 °C
- IP 65 (IEC 60529) against dust and water-jets
- Cable cross section 2 x 0.5 mm², length 480 mm

Remote totaliser for VZO 4 OEM



Power supply:
Pulse value (input):
Smallest readable amount:
Registration capacity:
Registration:
Panel cut-out:
Installation depth:

- 230 V, 50/60 Hz
- 0.005 l
- 0.005 l
- 10 000 l
- at Q before return to zero 200 h
- 27 x 14.4 – 0/+ 0.2 mm
- 56 mm

Ordering specifications

	Type	Description	Order No.
	VZO 4 OEM-RE 0.005	Version for OEMs	89765
		Remote totaliser for VZO 4 OEM	93349
	VZO 8 OEM-RE 0.0125	Version for OEMs	89771

Pressure drop curves

Viscosity information

Kinematic viscosity
Dynamic viscosity

Stokes, Centi-Stokes, mm^2/s
Pascal seconds, millipascal seconds
Poise, Centipoise (outmoded)

St, cSt, mm^2/s
Pas, mPa.s
P, cP

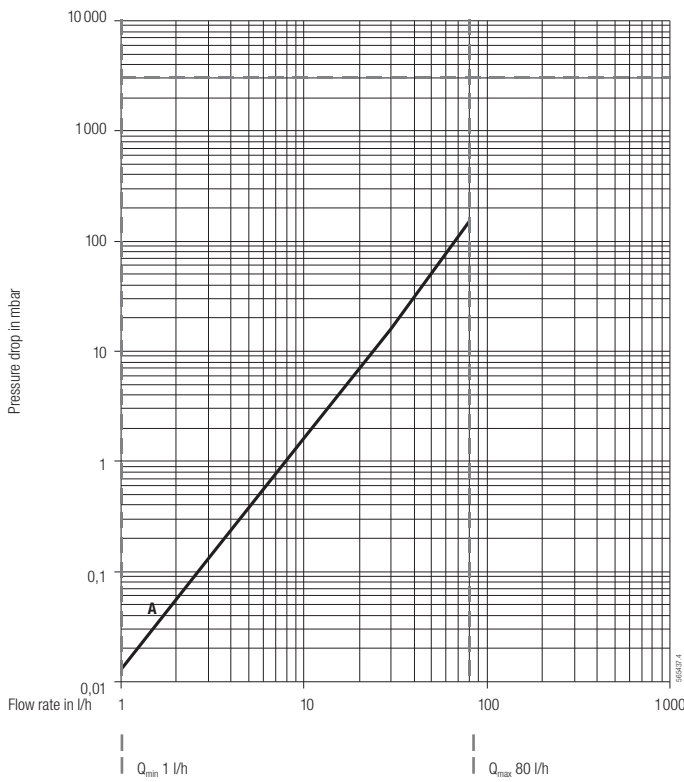
Conversion

cSt \times density = mPa.s
Engler degrees °E to mPa.s: only use conversion table
Saybolt units to mPa.s: only use conversion table
Redwood units to mPa.s: only use conversion table

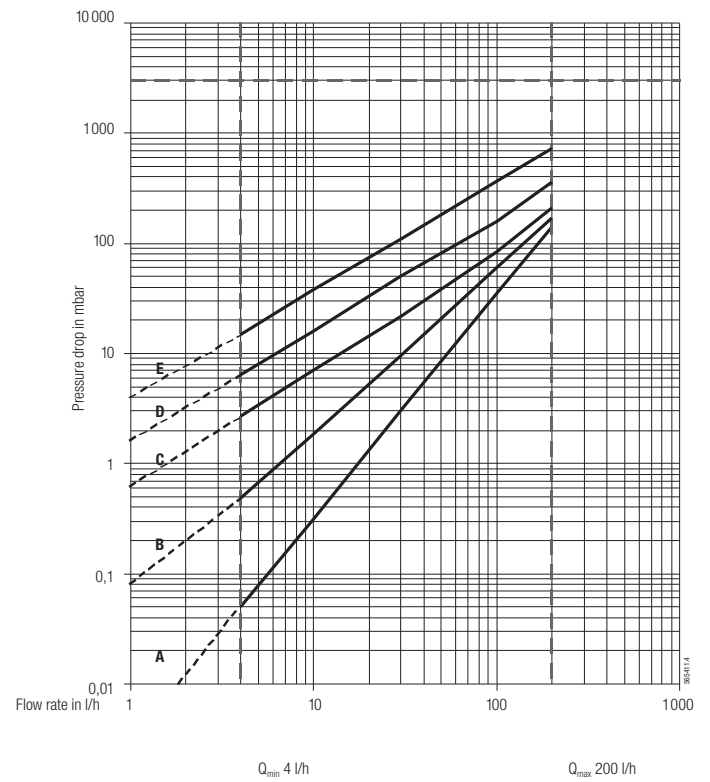
Rule of thumb

1 cSt 1 mm^2/s 1 mPa.s

DN 4



DN 8



Viscosity diagrams:

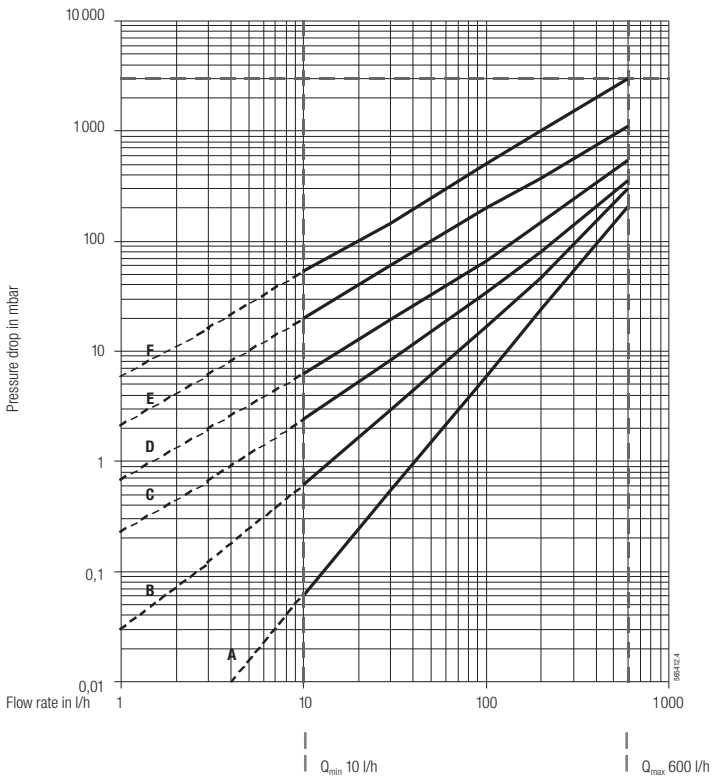
A = 5 mPa.s
B = 50 mPa.s

C = 100 mPa.s
D = 200 mPa.s

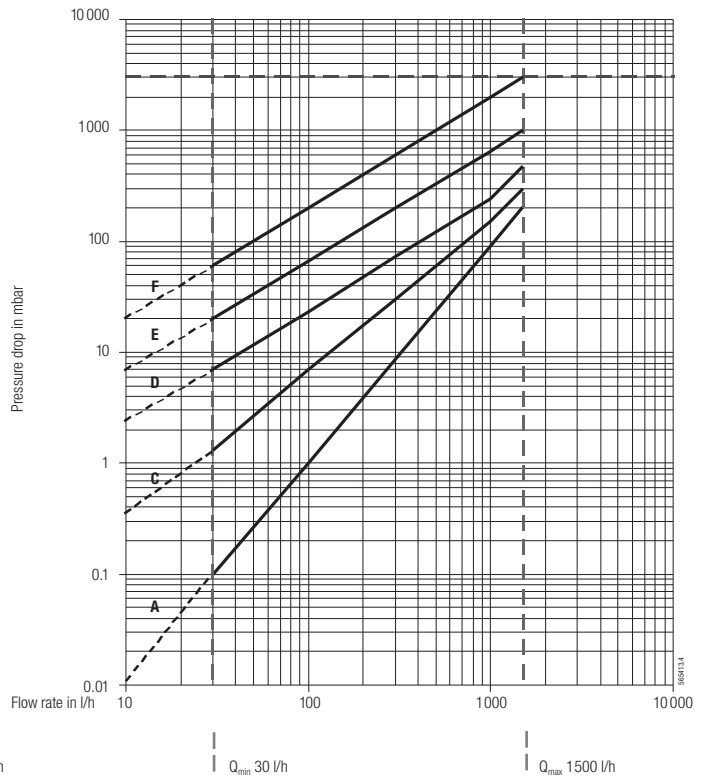
E = 500 mPa.s

For a pressure drop of more than 1 bar, it is recommended to use the next larger meter size.
Maximum permissible pressure drop = 3 bar

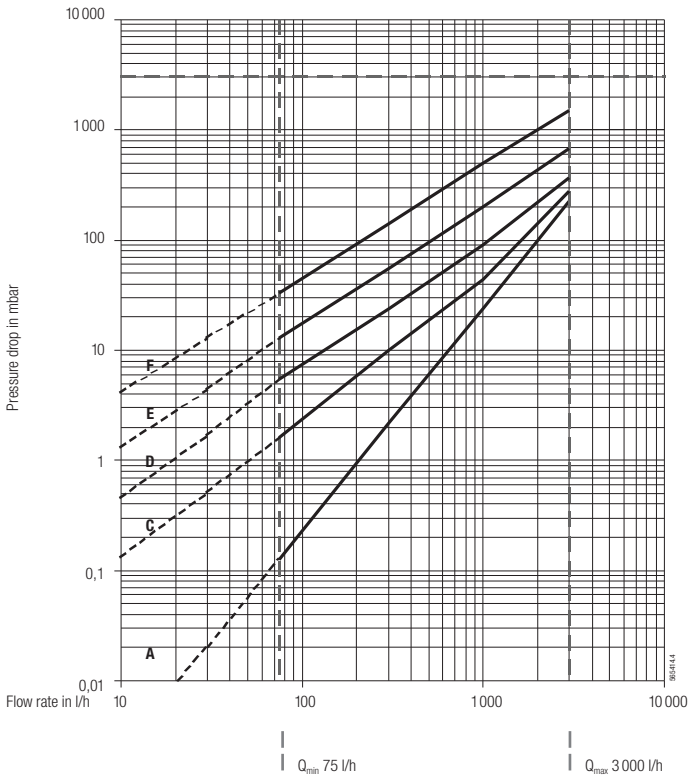
DN 15



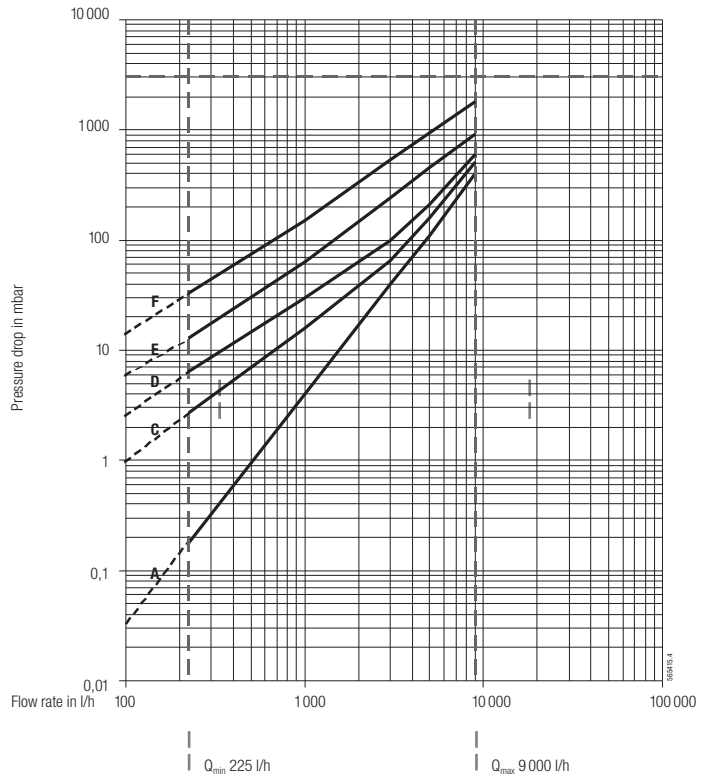
DN 20



DN 25



DN 40



Viscosity diagrams:

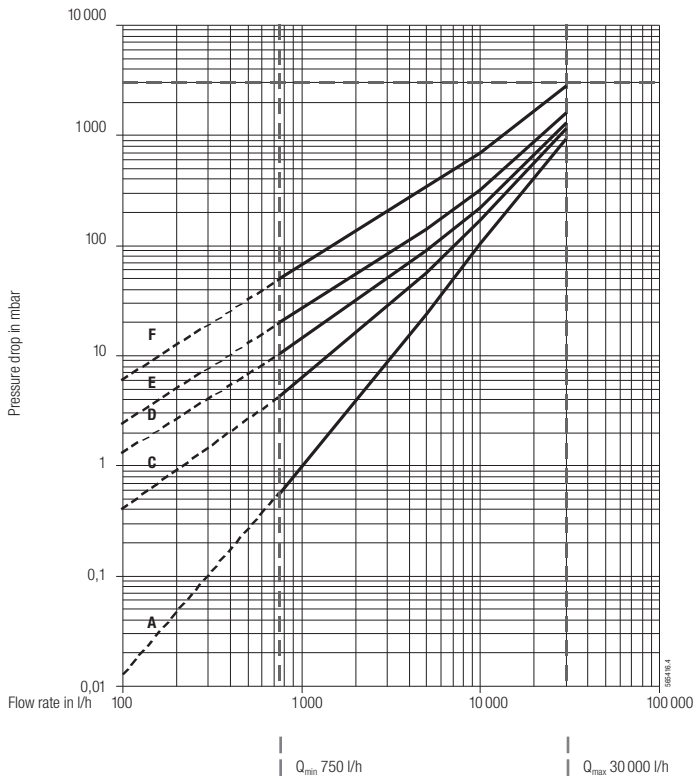
A = 5 mPa.s
B = 25 mPa.s

C = 50 mPa.s
D = 100 mPa.s

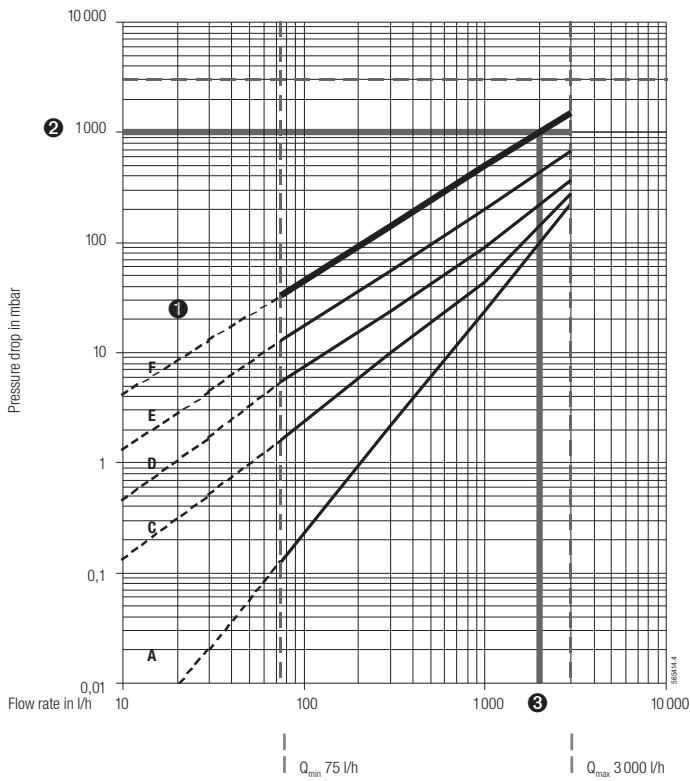
E = 200 mPa.s
F = 500 mPa.s

For a pressure drop of more than 1 bar, it is recommended to use the next larger meter size.
Maximum permissible pressure drop = 3 bar

DN 50



Example



Mineral oil, viscosity 450 mPa.s
VZO 25 mounted on pressure side of pumps

- ① Viscosity curves DN 25
select closest curve
F = 500 mPa.s
- ② Assume max. permissible pressure drop = 1 bar
- ③ The intersection of curve F with the line corresponding to 1 bar gives a flow rate of 2000 l/h.