

Pressure drop curves

Viscosity information

Kinematic viscosity
Dynamic viscosity

Stokes, Centi-Stokes, mm²/s
Pascal seconds, millipascal seconds
Poise, Centipoise (outmoded)

St, cSt, mm²/s
Pas, mPa.s
P, cP

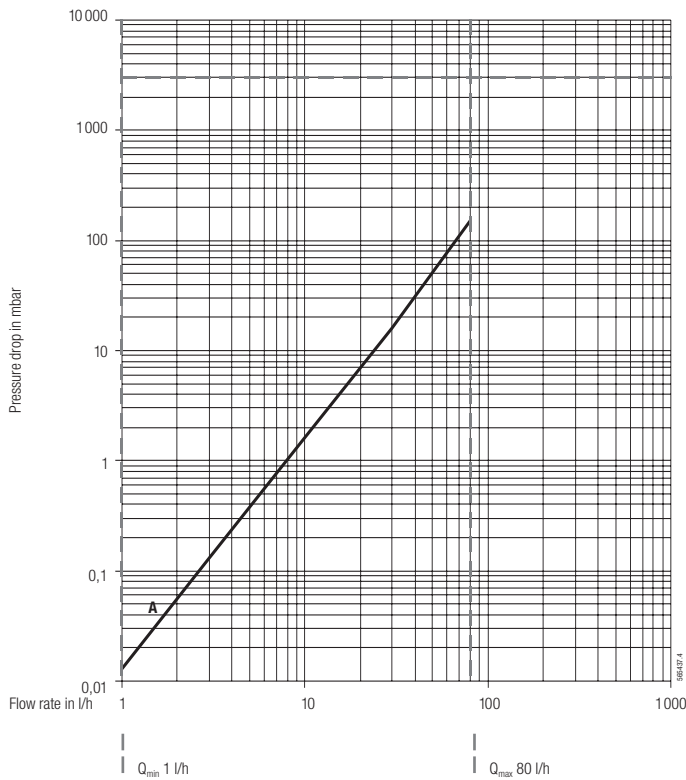
Conversion

cSt × 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

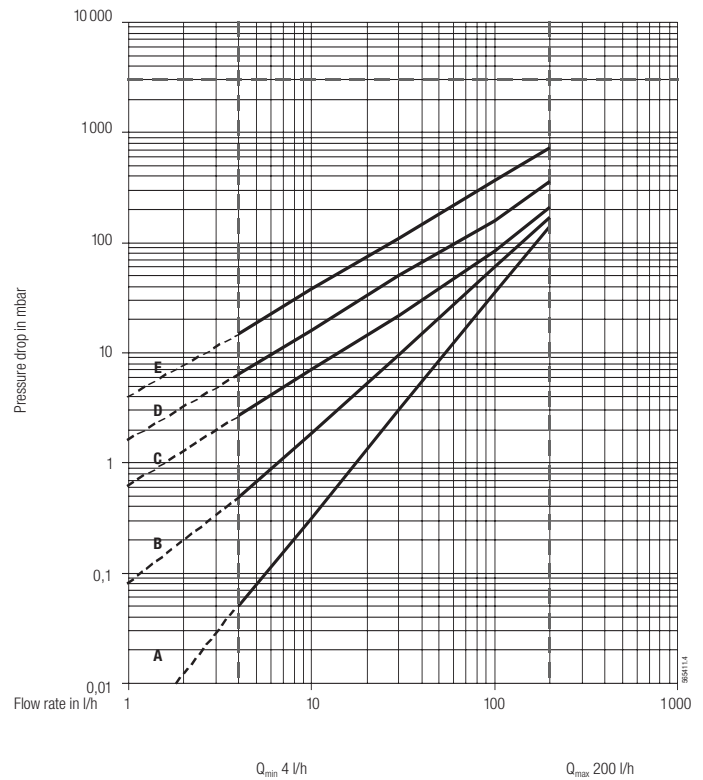
Rule of thumb

1 cSt → 1 mm²/s → 1 mPa.s

DN 4



DN 8



Viscosity diagrams:

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

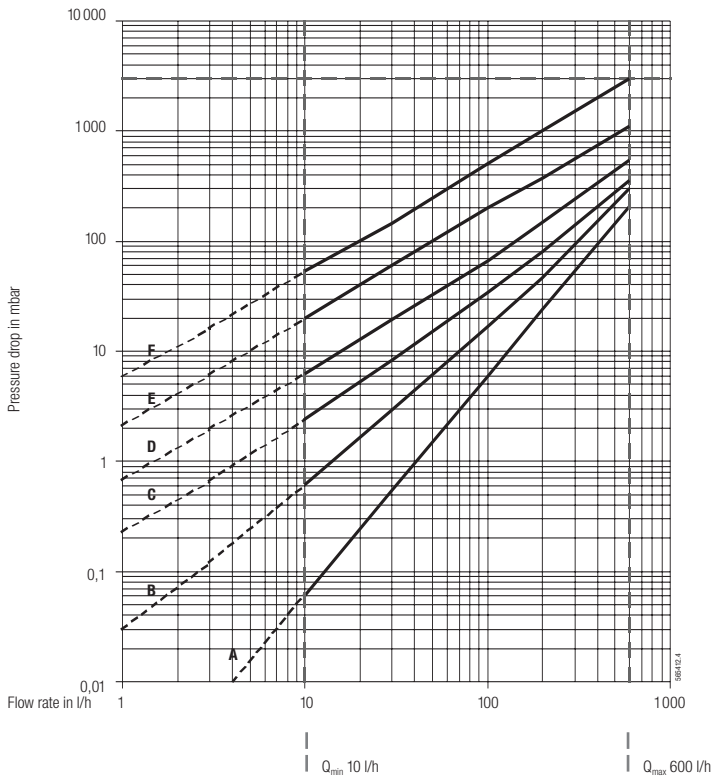
C = 100 mPa.s
D = 200 mPa.s

E = 500 mPa.s

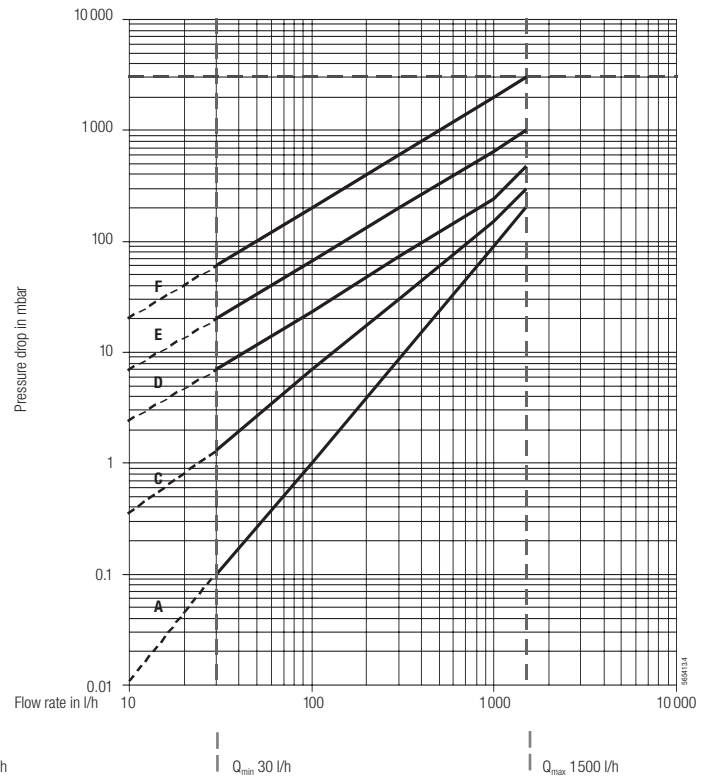
For a pressure drop of more than 1 bar, it is recommended to use the next larger meter size.
Maximum permissible pressure drop = 3 bar

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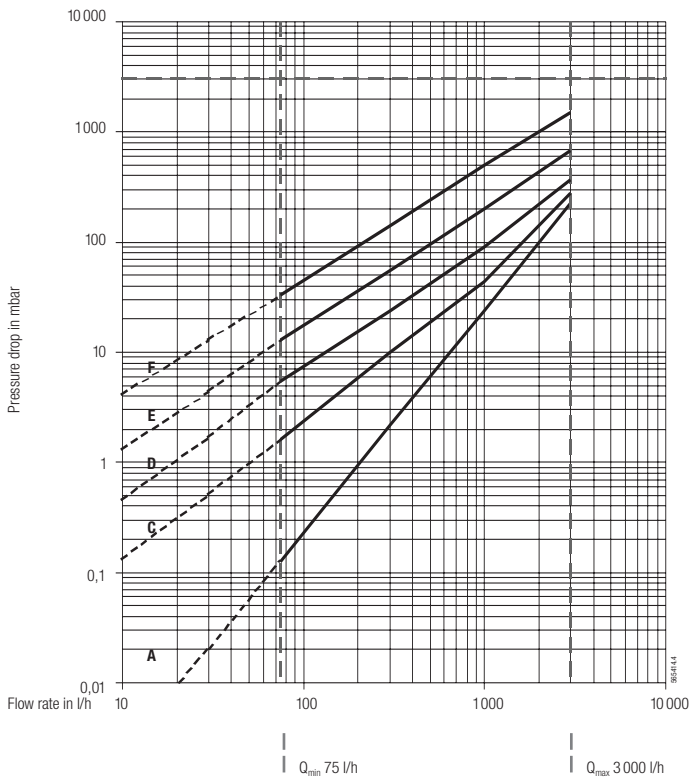
DN 15



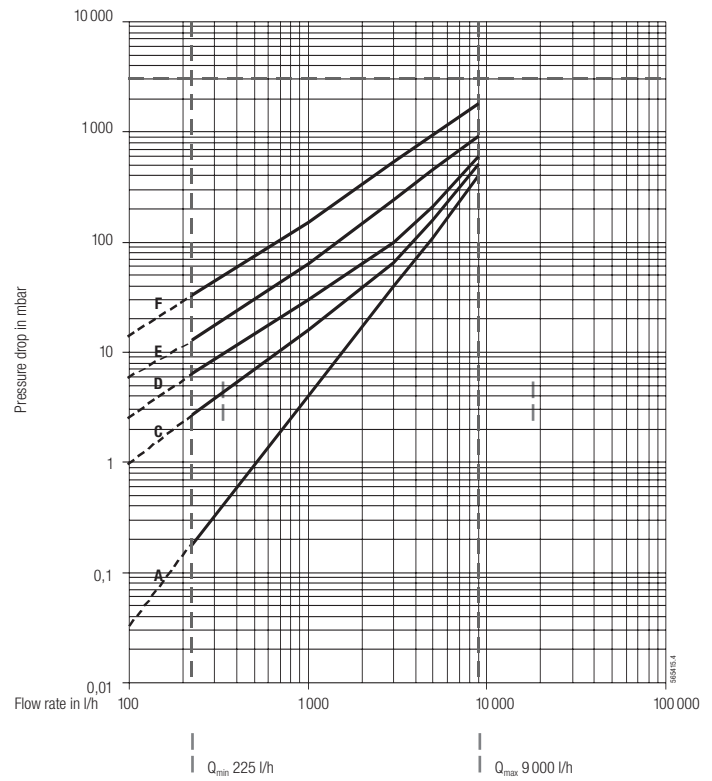
DN 20



DN 25



DN 40



Viscosity diagrams:

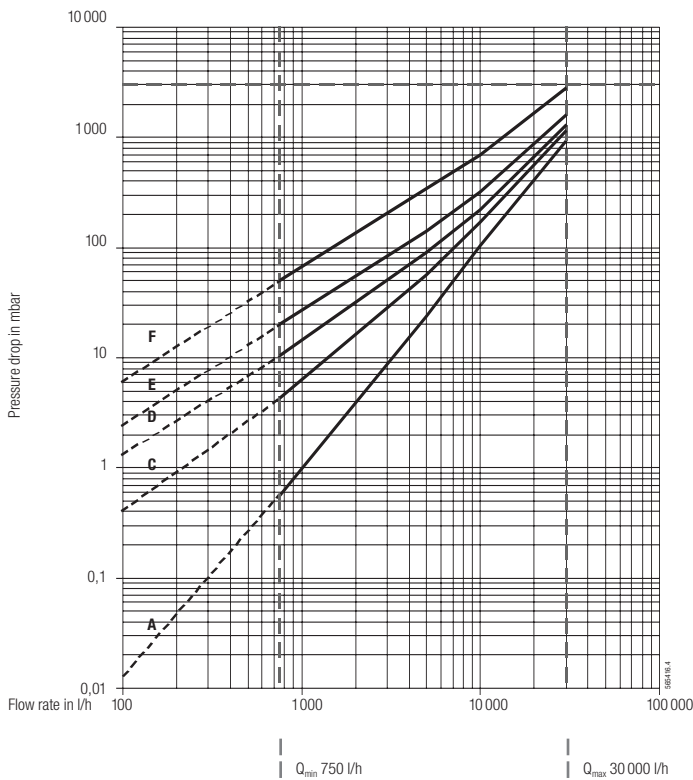
A = 5 mPa.s
B = 25 mPa.s

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

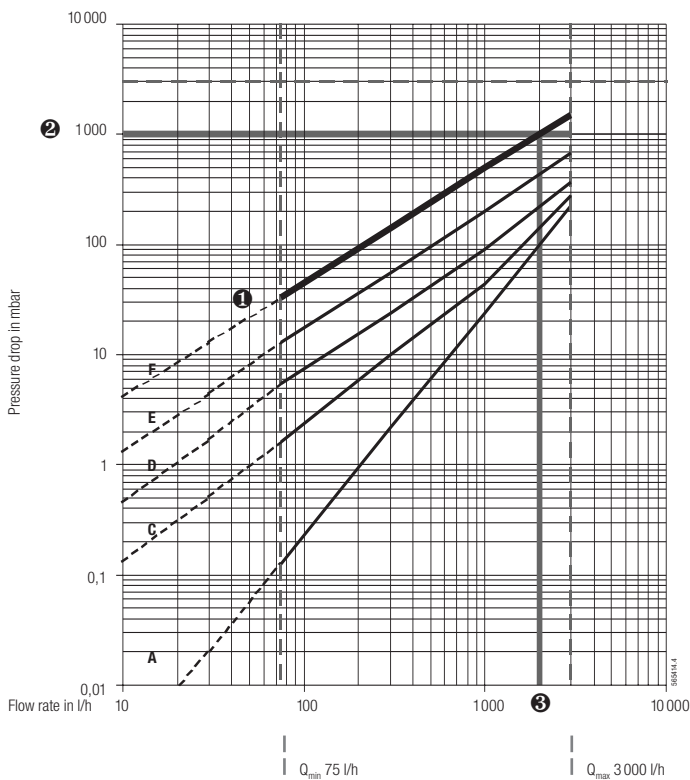
E = 200 mPa.s
F = 500 mPa.s

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.

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