The following summary of the capacity data for the comprehensive ProMinent® dosing pump range facilitates pump selection based on a given back pressure (bar) and feed rate (l/h).

When selecting a pump type, please specify the co-ordinate of the back pressure (bar) and feed rate (l/h).
Data Required For Specification Of Dosing Pump And Accessories

**Pump Specification Data**

- Min./max. required feed rate \( \text{I/h} \)
- Available power supply \( \text{V, Hz} \)
- Min./max. operating temperature \( ^\circ\text{C} \)
- Properties of process chemical
- Name, concentration %
- Solids content %
- Dynamic viscosity \( \text{mPa} (= \text{cP}) \)
- Vapour pressure at operating temperature \( \text{bar} \)
- Remarks, e.g. abrasive, gaseous, flammable, corrosive towards

**Suction conditions:**
- Min./max. suction lift \( \text{m} \)
- Min./max. positive suction head \( \text{m} \)
- Pressure in chemical tank \( \text{bar} \)
- Suction line length \( \text{m} \)
- Suction line diameter \( \text{mm} \)

**Discharge conditions:**
- Min./max. back pressure \( \text{bar} \)
- Min./max. discharge head \( \text{m} \)
- Min./max. negative discharge head \( \text{m} \)
- Discharge line length \( \text{m} \)
- Discharge line diameter \( \text{mm} \)
- Number of valves and fittings in suction and discharge line

**Data required for proportional dosing:**
- Water flow \( Q \text{ min./max. m}^3/\text{h} \)
- Required final concentration \( \text{g/m}^3, \text{ppm} \)

**Example:**

A required dose in \( \text{mg/l} = \text{g/m}^3 = \text{ppm} \)

(Water flow \( Q \text{ max. 50 m}^3/\text{h} \))

Pulse spacing (flow volume per pulse) of water meter 5 l.

Process fluid = sodium hypochlorite solution \( \text{Na ClO} \) with 12 % chlorine (by weight) = 120 g/kg = 150 g/l = 150 mg/ml

Selected dosing pump GALa 1005 NPB2 with 0.41 ml/per stroke volume, at max. 10800 strokes/h.

Variables: pump type, pulse spacing and concentration. The stroke rate (max. throughput \( l/\text{h} \); pulse spacing \( l/pulse = 50,000 \text{l}/h : 5 \text{l/pulse} = 10000 \text{pulses/h} \)) must not exceed the max. stroke frequency (10800 strokes/h) of the dosing pump.

Feed quantity = \[
\frac{\text{water throughput \( Q \text{ max. (l/h) x stroke volume (l)} \}}{\text{pulse spacing (l))}} = \frac{50,000 \text{l} x 0.00041 \text{l}}{\text{h x 5 l}} = 4.1 \text{l/h}
\]

Final dose = \[
\frac{\text{concentration (mg/ml) x stroke volume (l)} \}}{\text{pulse spacing (l))}} = \frac{150 \text{mg} x 0.41 \text{ml}}{\text{ml x 5 l}} = 12.3 \text{mg/l}
\]

= \[
\frac{12.3 \text{g/m}^3}{\text{12.3 ppm chlorine Cl}_2}
\]