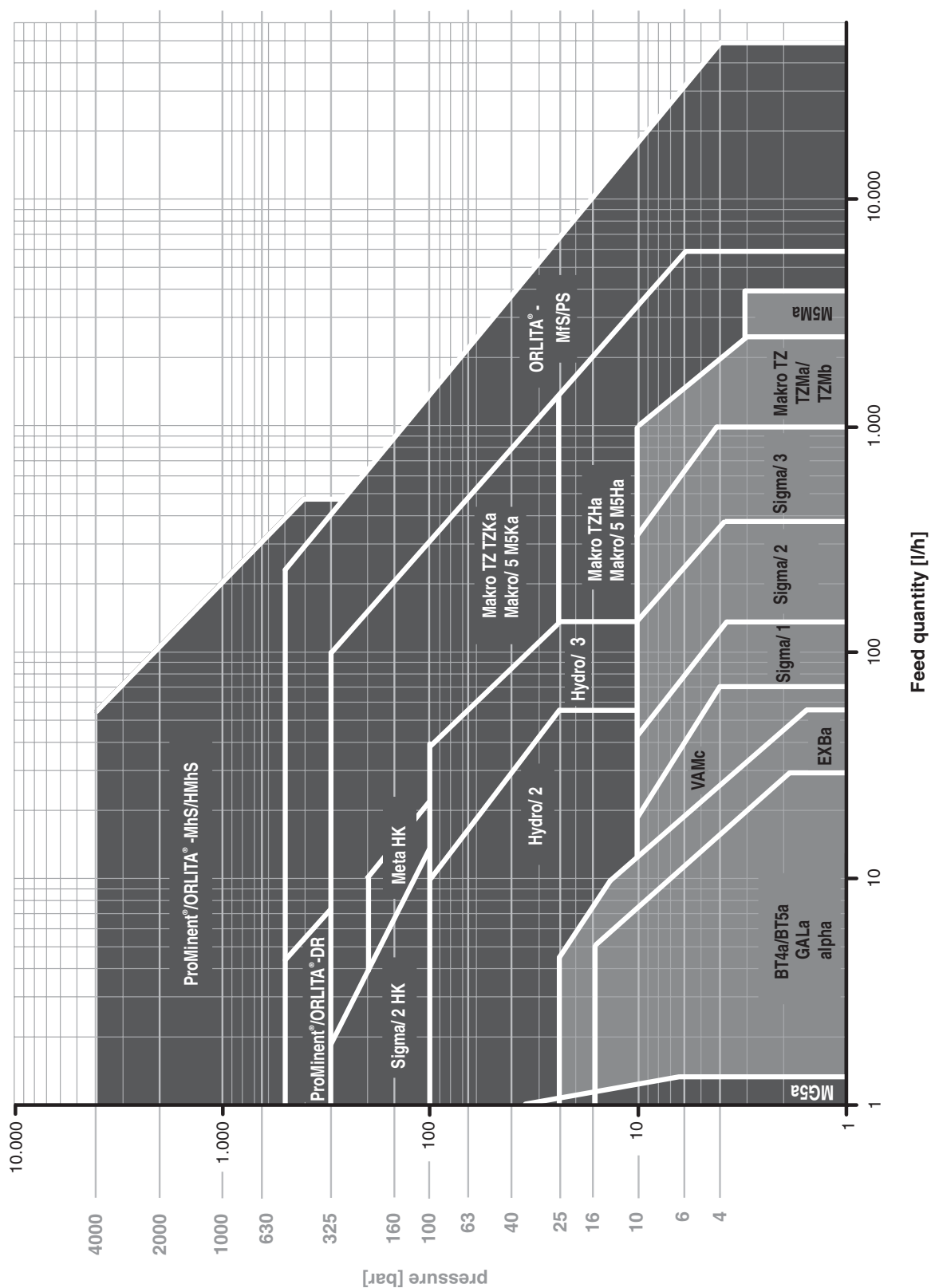# Capacity Data

Capacity Data Dosing Pumps

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).

pk_0_001_5

Data Required For Specification Of Dosing Pump And Accessories

Pump Specification Data

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

Suction conditions:

Min./max. suction lift	m _____
Min./max. positive suction head	m _____
Pressure in chemical tank	bar _____
Suction line length	m _____
Suction line diameter	mm _____

Discharge conditions:

Min./max. back pressure	bar _____
Min./max. discharge head	m _____
Min./max. negative discharge head	m _____
Discharge line length	m _____
Discharge line diameter	mm _____
Number of valves and fittings in suction and discharge line	_____

Data required for proportional dosing:

Water flow Q min./max.	m^3/h _____
Required final concentration	g/m^3, ppm _____

Example:

A required dose in mg/l = g/m^3 = ppm

(Water flow Q max. 50 m^3/h)

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

Process fluid = sodium hypochlorite solution Na OCl 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/h: pulse spacing l/pulse = 50,000 l/h : 5 l/pulse = 10000 pulses/h) must not exceed the max. stroke frequency (10800 strokes/h) of the dosing pump.

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

$$\text{Final dose} = \frac{\text{concentration (mg/ml) x stroke volume (l)}}{\text{pulse spacing (l)}} = \frac{150\ mg \times 0.41\ ml}{ml \times 5\ l} = 12.3\ mg/l$$
$$= 12.3\ g/m^3$$
$$= 12.3\ ppm\ \text{chlorine}\ Cl_2$$