



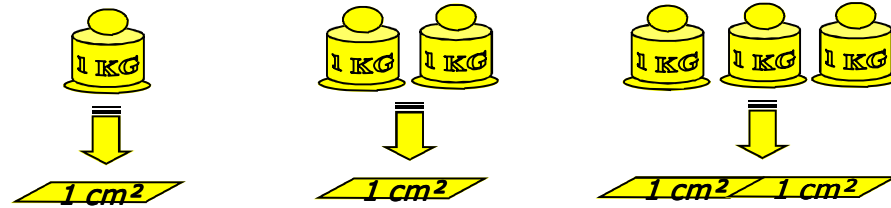
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Pump Fundamentals



Pressure & Flow rate

Pressure is the result of a force perpedicularly applied on a area, the international standards indicate the Pascal as the official pressure unit of measure, however, bar (100.000 Pa or 0,1 MPa) or psi (6894,7 Pa) are still widely used in most industries.



$$1 \text{ Kg} / 1 \text{ cm}^2 = 1 \text{ bar} \quad 2 \text{ Kg} / 1 \text{ cm}^2 = 2 \text{ bar} \quad 3 \text{ Kg} / 2 \text{ cm}^2 = 1,5 \text{ bar}$$

Pressure is commonly used to energise a water jet by converting its pressure into high speed by means of nozzles of dermied size, the higher is the pressure, the higher is the resulting speed of the water jet, the higher is the impact

Flow rate is the amount of water delivered by a given area in a unit of time. In our industry it is typically expressed in Liter/min, cubic meter/hours, gallons/min. The flow rate of positive displacement plunger pumps is the product of the pump displacement (volume of the cylinder by the number of cylinders) by the pump speed (rpm).