

## USEFUL FORMULAS

<p><b>How do you calculate the number of rpm you need for the flow rate (l/min) you want?</b></p> $RPM = Q_{richiesta} * \frac{RPM_{targa}}{Q_{targa}}$	<p><b>How do you convert HP into KW?</b></p> $KW = HP * 0,736$
<p><b>If you have to run a pump at a set rpm, how do you calculate the flow rate it will give you?</b></p> $Q = RPM_{richiesta} * \frac{Q_{targa}}{RPM_{targa}}$	<p><b>What is the best nozzle <sup>(*)</sup> for your system?</b></p> $\text{numero Ugello} = Q * \sqrt{0, \frac{193}{P}}$
<p><b>How do you calculate the torque for a hydraulically operated system?</b></p> $Nm = 9,6 * \frac{W}{RPM}$	<p><b>What is the correct flow rate for a given nozzle <sup>(*)</sup>?</b></p> $Q = \text{numero Ugello} * \sqrt{\frac{P}{0,193}}$
<p><b>How much power does a pump consume?</b></p> $HP = \frac{P_{richiesta} * Q_{richiesta}}{390}$ $KW = \frac{P_{richiesta} * Q_{richiesta}}{520}$	<p><b>What is the maximum pressure of a system with a given flow rate and nozzle <sup>(*)</sup>?</b></p> $P = \left( \frac{Q}{\text{numero Ugello}} \right)^2 * 0,193$
<p>Q: Flow rate [l/min]  P: Pressure [bar]  RPM: Number of revolutions per minute pump PTO  Nozzle number: take the nearest full value  *: if you have a system with several nozzles, Q is the sum of the flow rates of the nozzles</p>	<p><b>How do you convert the flow rate?</b></p> $Q \left[ \frac{m^3}{h} \right] = 16,6 Q \left[ \frac{l}{min} \right]$

## METRIC SYSTEM AND IMPERIAL SYSTEM CONVERSION TABLE

	METRIC SYSTEM	IMPERIAL SYSTEM
Length	1 mm	0.03937 in
Area	1 mm <sup>2</sup>	0.001550 in <sup>2</sup>
Pressure	1 bar	14.5 psi
Flow rate	1 l/min	0.264 gpm
Torque	1 N*m	8.85 Lbf*in
Temperature	1 °C	(°F - 32) · 5/9
Power	1 kW	1.34 HP
Weight	1 kg	2.205 lbs
Volume	1 l	33.814 oz