TOHNICHI power torque tools tighten screws accurately when they are used correctly.

Calculating the compressor capacity.
The compressor capacity necessary to drive a power torque tool can be determined by the volume of air required to tighten each screw (m³/piece) and the number of screws requiring tightening (piece/h). Provide some allowance, however, for leakage and future system expansion.

<table>
<thead>
<tr>
<th>Volume of air consumption [m³/min]</th>
<th>Volume of air required to tighten each screw [m³/piece]</th>
<th>Number of screws to be tightened [Piece/h]</th>
<th>Thread ratio</th>
<th>Thread/10</th>
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</table>

Volume of air required to tighten each screw : Volume of air (standard air) necessary for tightening one screw (number of threads tightened = 10). Values are given in the specification column for each tool.

Number of screws to be tightened : Number of screws to be tightened per hour.
Thread ratio : The number of threads to be tightened divided by 10, the standard number of threads. For example, when the number of threads is 6, the ratio is 0.6.

Example:
When four thousand M5 screws (number of threads: eight) are to be tightened using several U500CN tools. (volume of air required to tighten each screw: 0.0031 [m³/piece])

Volume of air consumption = \(0.0031 \times 4000 \times 0.8 \times \frac{1}{60}\) [m³/min]

= 0.165 [m³/min]

Compressor output = 0.165 \times 6.5 [kW]

= 1.07 [kW]

(The motor output necessary for the compressor to discharge 1 [N] is 6.5 [kW] at a gauge pressure of 0.7 [MPa])

Cost of tightening power = \(0.0031 \times 4\) [yen/piece]

= 0.0124 [yen/piece]

(Cost of compressed air is 4 [yen/piece] at a gauge pressure of 0.7 [MPa], including the costs of electricity, compressor depreciation, etc.)