## CHARACTERISTICS

<table>
<thead>
<tr>
<th>cm³/rev. [cu.in/rev.]</th>
<th>cm³/rev. (at 100 bar) [cu.in/rev. (at 1500 PSI)]</th>
<th>cm³/rev. (at 1000 PSI) [cu.in/rev. (at 1500 PSI)]</th>
<th>Max. power [kW] [HP]</th>
<th>Max.speed [RPM]</th>
<th>Pressure max. [bar] [PSI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>17500 [1 067,3]</td>
<td>27825 [14 150]</td>
<td>100</td>
<td>450 [6 527]</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>20000 [1 219,8]</td>
<td>31800 [16 171]</td>
<td>90</td>
<td>450 [6 527]</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>25000 [1 524,8]</td>
<td>39750 [20 214]</td>
<td>72</td>
<td>415 [6 019]</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>27500 [1 677,2]</td>
<td>43725 [22 235]</td>
<td>65</td>
<td>380 [5 511]</td>
<td></td>
</tr>
</tbody>
</table>

**Theoretical torque**

**Max.power**

**Max.speed**

**Pressure max.**

Motor inertia = 0.01 kg.m²

Noise emissions = 60 dBA
Hydraulic motors MI250

POCLAIN HYDRAULICS

MODEL

Valving System

Torque Module

C1
Cam ring type
1 displacement
$\text{cm}^3/\text{tr} \quad [\text{cu.in/rev.}]$

<table>
<thead>
<tr>
<th>cm$^3$/tr</th>
<th>[cu.in/rev]</th>
</tr>
</thead>
<tbody>
<tr>
<td>17500</td>
<td>1067.3</td>
</tr>
<tr>
<td>20000</td>
<td>1219.8</td>
</tr>
<tr>
<td>22500</td>
<td>1372.3</td>
</tr>
<tr>
<td>25000</td>
<td>1524.8</td>
</tr>
<tr>
<td>27500</td>
<td>1677.2</td>
</tr>
<tr>
<td>30000</td>
<td>1829.7</td>
</tr>
</tbody>
</table>

D1
Valving type
1-displacement valving

D2
Valving cover
Without mounting

D3
Connection type
- ISO 6162-2 flanges DN38
- ISO 1179-1 Connections
**CODE**

Bearing support unit
Bearing support with circular fixation on the torque arm

Bearing support
Bearing support for shaft

Shaft type
Splined shaft DIN 5480
Shaft for shrink disks

Options Motors Installation Valving systems Model code

<table>
<thead>
<tr>
<th>Code</th>
<th>Options</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Fluorinated elastomer seals</td>
<td>Additional drain on valving systems (Steel plug)</td>
</tr>
<tr>
<td>P1</td>
<td>T4 Speed sensor installed</td>
<td>Predisposition for speed sensor</td>
</tr>
<tr>
<td>S</td>
<td>Diamond™</td>
<td>Surface heat treatment of the shaft</td>
</tr>
<tr>
<td>D</td>
<td>Special paint or no paint</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>High efficiency</td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>Customized identification plate</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>TR Speed sensor installed</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>(if P3 = L) Hollow shaft</td>
<td></td>
</tr>
</tbody>
</table>

POCLAIN HYDRAULICS

Hydraulic motors M1250

14/11/2014
Methodology:
This document is intended for manufacturers of machines that incorporate Poclain Hydraulics products. It describes the technical characteristics of Poclain Hydraulics products and specifies installation conditions that will ensure optimum operation.
This document includes important comments concerning safety. They are indicated in the following way:

- Safety comment.

This document also includes essential operating instructions for the product and general information. These are indicated in the following way:

- Essential instructions.
- General information.
- Information on the model number.
- Information on the model code.
- Weight of component without oil.
- Volume of oil.
- Units.
- Tightening torque.
- Screws.

Information intended for Poclain-Hydraulics personnel.

The views in this document are created using metric standards.
The dimensional data is given in mm and in inches (inches are between brackets and italic)
MOTORs

Motor with splined shaft

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
<th>F</th>
<th>P</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>I</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Model code

Options Motors

Installation Valving systems

Pinion characteristics

- Norme: DIN 5480
- Module: 5
- Number of teeth: 38
- Pitch diameter (mm [in]): 190 [7.48]
- Pressure angle: 30°

920 kg [2028 lb]

20 l [1220 cu.in]
Motor with shrink disc

POCLAIN HYDRAULICS

Hydraulic motors MI250

Motor with shrink disc

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
<th>F</th>
<th>P</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>I</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>A</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>A</td>
<td>L</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

940 kg [2070 lb]

20 l [1220 cu.in]
Efficiency torque

Overall efficiency

Average values given for guidance for code 0 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C [122°F].

[Graph showing efficiency torque with tr/min (RPM) on the x-axis and bar (PSI) on the y-axis, with efficiency contours labeled.]
VALVING SYSTEM

Hydraulic connections

---

<table>
<thead>
<tr>
<th>Power supply</th>
<th>Case drain</th>
<th>Pressure gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-L</td>
<td>1 - 2</td>
<td>3 - 4</td>
</tr>
<tr>
<td>GAZ (BSPP)</td>
<td>GAZ (BSPP)</td>
<td>ISO 1179-1</td>
</tr>
<tr>
<td>ISO 6162-2</td>
<td>ISO 1179-1</td>
<td>ISO 1179-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>DN 38</th>
<th>G1</th>
<th>G1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. pressure</td>
<td>bar [PSI]</td>
<td>450 [6527]</td>
<td>2.5 [36]</td>
</tr>
<tr>
<td>Peak pressure</td>
<td>bar [PSI]</td>
<td>15 [218]</td>
<td></td>
</tr>
</tbody>
</table>

You are strongly advised to use the fluids specified in brochure “Installation guide” N° 801478197L.

To find the connections’ tightening torques, see the brochure “Installation guide” N° 801478197L.
INSTALLATION

Lifting method

Before any lifting we recommend you to check the center of gravity position.

MI250 motor can't accept any axial or radial load.

Shrink disc coupling (for hollow shaft)

The hollow shaft enables the MI250 motor to be fitted on a transverse shaft. This facilitates access to the coupling system. This system, on the external side of the machine, requires 1 shrink disc coupling which is not furnished with the motor.
Torque arms mounting

We recommend a length of the torque arm of 1250 mm [49.21 in].

In order to avoid residual forces due to misalignment and twisting, the end of the arms must retain freedom of movement in 2 axis.

Bracket mounting

To avoid axial or radial loads, we recommend you to check particularly the alignment of the axis.

For more information see technical catalogue “Installation guide N° 801478197L.

You are strongly advised to use the fluids specified in brochure “Installation guide” N° 801478197L.

To find the connections’ tightening torques, see the brochure “Installation guide” N° 801478197L.
OPTIONS

You can accumulate more than one optional part. Consult your Poclain Hydraulics sales engineer.

5 Drain on the valving system

2 S 8 Installed speed sensor or predisposition

Designation

<table>
<thead>
<tr>
<th>Designation</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td>1 Speed sensor installed</td>
<td>2</td>
</tr>
<tr>
<td>1R Speed sensor installed (direction of rotation)</td>
<td>5</td>
</tr>
<tr>
<td>Predisposition for speed sensor</td>
<td>8</td>
</tr>
</tbody>
</table>

Max. length Y = 18.65 [0.73]

Standard number of pulses per revolution = 120

Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.

To install the sensor, see the "Installation guide" brochure No. 801478197L.
**J Treated shaft**

Heat treatment on the indicated bearing radius and splines.

**1 Fluorinated elastomer seals**

Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.

Consult your Poclain Hydraulics sales engineer.

**7 Diamond™**

Special treatment of the motor core which considerably increases its strength, making the motor much more tolerant to temporary instances of the operating conditions being exceeded.

**A Hollow shaft**

Treated areas

- Ø 279,92 ±0,02
- Ø 200,02 ±0,02
- Ø 100 [dia. 3.94]
- 127 [4.99]
Special paint or no paint

The motors are delivered with Poclain Hydraulics yellow ochre primer as standard.

Consult your Poclain Hydraulics application engineer for other colors of primer or topcoat.

High efficiency

Reinforced piston sealing to improve volumetric efficiency.

For a precise calculation, consult your Poclain Hydraulics application engineer.

Customized identification plate

Your part number can be engraved on the plate.

Consult your Poclain Hydraulics application engineer for other possibilities.