MW24
HYDRAULIC MOTORS
CHARACTERISTICS

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<td>1 401</td>
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<td>80</td>
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<td>100</td>
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<td>100</td>
<td>100</td>
<td>90</td>
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</table>

Contact your Poclain Hydraulics application engineer to find out how the displacement shift from the third to the second displacement is controlled and to find out transmission capabilities in terms of displacement shift when the vehicle is in motion.
CONTENT

Model code

Wheel motor
- Dimensions for standard motor
- Load curves
- Wheel rim mountings
- Hydraulic connections

Brakes
- DYNA+™ Brake

Options
Hydraulic motors MW24

**MODEL**

**Standard piston**
- Standard rings: 1
- High efficiency rings: 2

**Cam «valving system side»**

<table>
<thead>
<tr>
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<td></td>
<td>6</td>
<td>9</td>
<td>0</td>
<td>H</td>
<td>M</td>
<td>Q</td>
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</table>

**Cam «bearing support side»**

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Cylinder block «valving system side»**

**Cylinder block «bearing support side»**

**4-displacement valving**

**Preferential direction of rotation**
- Clockwise: D
- Counterclockwise: G

**Without mounting**: 1
**Lug fixing**: 2

**Hydraulic connections**
- ISO 6162: 1
- ISO 9974-1: 7
- ISO 6162: 1
- ISO 11926-1: 7
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)

Associated documents

- **Document type**: Generic installation
  - **N°**: 801478197L

Poclain Hydraulics Patents

- **Document type**: MW motor
  - **N°**: FR2796992
- **Document type**: MW motor
  - **N°**: US6347572
- **Document type**: Dyna + brake
  - **N°**: FR2796886
- **Document type**: Dyna + brake
  - **N°**: US6357558
- **Document type**: Dyna + brake
  - **N°**: FR2797008
WHEEL MOTOR

Dimensions for standard motor

- **Weight**: 216 kg [475 lb]
- **Volume**: 5.00 L [300 cu.in]

Motor model code:

- **Wheel Motor**

Dimensions:

- Ø 385 [15.16 dia.]
- 15°
- 15°
- 15°
- 15°
- Ø 425 max. [16.73 dia.]
- 185 [7.28]
- Y1
- Y2
- AR 1

Model code options:

- Brake
- Motor
- Options

08/01/2013
Load curves

Permissible radial loads

Test conditions:

Static: 0 tr/min (0 RPM) 0 bar (0 PSI)
Dynamic: 0 tr/min (0 RPM), code 0 displacement, without axial load at max. torque

Service life of bearings

Test conditions:

L: Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

The service life of the components is influenced by the pressure. You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components comply with the application's specifications. For an accurate calculation, consult your Poclain Hydraulics application engineer.

Actual output torque

The starting torque is taken to be approximately 85% of the first value for available pressure. For a precise calculation, consult your Poclain Hydraulics application engineer.
Wheel rim mountings

<table>
<thead>
<tr>
<th>A (⌀)</th>
<th>B</th>
<th>C</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 2 1</td>
<td>Ø 220.8 [8.69 dia.]</td>
<td>Ø 275 [10.83 dia.]</td>
<td>Ø 360 [14.17 dia.]</td>
</tr>
<tr>
<td>7 5 1</td>
<td>Ø 220.8 [8.69 dia.]</td>
<td>Ø 335.0 [13.19 dia.]</td>
<td>Ø 360.0 [14.17 dia.]</td>
</tr>
</tbody>
</table>

(1)* 0 [-0.008] - 0.2 [-0.008]

Studs

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studs</td>
<td>M20x1.5 3.5 [0.14] 29 [1.14] 25 [0.98]</td>
</tr>
<tr>
<td>Class (1)</td>
<td>12.9 600 [442.5]</td>
</tr>
<tr>
<td>(2)</td>
<td>770 [567.9]</td>
</tr>
</tbody>
</table>

(*) The tightening torques are given for the indicated loads.
(1) Wheel rim: Suggested tightening torque for wheel rim mountings (Re steel disc > 240 N/mm² (>34 800 PSI)).
(2) Standard: Suggested tightening torque in other cases (Re steel flange 360 > N/mm² (>52 215 PSI)).
Chassis mountings

Take care over the immediate environment of the connections.

<table>
<thead>
<tr>
<th>ØM (1)</th>
<th>ØU</th>
<th>S</th>
<th>Ra V</th>
<th>Class</th>
<th>(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>330 [12.99]</td>
<td>385 [15.16]</td>
<td>0.2</td>
<td>12.5µm [0.008]</td>
<td>2 x 5 x M20</td>
<td>690 N.m [508.9 lb.ft]</td>
</tr>
</tbody>
</table>

(1) + 0.3/+0.2 [+ 0.012/+ 0.008]

(*) The tightening torques are given for the indicated loads.

For other chassis mounting possibilities, please consult your Poclain Hydraulics engineer.

Hydraulic connections

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

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

Do not put either a check valve or a poppet valve on the pilot line.
**DYNA+™ Brake**

Brake operation

This multi-disk brake operates in two distinct ways:

- Either by an absence of pressure (static braking): The spring applies a force to the static piston that is transmitted to the dynamic piston, which clamps the fixed and free disks, preventing the shaft from turning. Braking torque decreases linearly as a function of unlocking pressure.
- Or by braking pressure (dynamic braking). The braking command creates a pressure on the dynamic braking piston, which clamps the fixed and free disks, preventing the shaft from turning. Braking torque increases linearly as a function of the unlocking pressure.

Brake release pressure vented.

Do not use both dynamic and parking brake simultaneously.

The use of certain oils, can not offer the characteristics ones above. Consult your Poclain Hydraulics sales engineer.

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**Hydraulically controlled dynamic braking**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. permissible brake torque</td>
<td>16 600 Nm [12 240 lb.ft]</td>
</tr>
<tr>
<td>Pressure to obtain max. permissible brake torque</td>
<td>120 bar [1 740 PSI]</td>
</tr>
<tr>
<td>Volume required for braking</td>
<td>22 cm³ [1.34 cu.in]</td>
</tr>
<tr>
<td>Mini. irrigation flow rate for dynamic braking</td>
<td>4 L/min [1.06 GPM]</td>
</tr>
</tbody>
</table>

**Hydraulically controlled parking brake**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking brake torque (new brakes)</td>
<td>9 580 Nm [7 070 lb.ft]</td>
</tr>
<tr>
<td>Parking brake torque (after 500 dynamic braking)</td>
<td>7 860 Nm [5 650 lb.ft]</td>
</tr>
<tr>
<td>Parking brake torque mini. requiring renovation</td>
<td>6 830 Nm [5 040 lb.ft]</td>
</tr>
<tr>
<td>Max. release brake pressure</td>
<td>30 bar [435 PSI]</td>
</tr>
<tr>
<td>Volume for brake release</td>
<td>86 cm³ [5.25 cu.in]</td>
</tr>
<tr>
<td>Inlet conditions for brake release in towing (Flow rate of 2 L/min)</td>
<td>14 bar [203 PSI]</td>
</tr>
<tr>
<td>Emergency dynamical braking torque at 0 bar to the case</td>
<td>8 000 Nm [5 900 lb.ft]</td>
</tr>
<tr>
<td>Max. energy dissipation</td>
<td>882 KJ</td>
</tr>
</tbody>
</table>

Indicative values coming from fly-wheel test bench. Braking performance must be performed on machine by the manufacturer.
OPTIONS

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

2 - S - Q - 8 - Installed speed sensor or predisposition

Designation
- T4 speed sensor (without rotation direction) 2
- TR speed sensor (digital rotation direction) S
- TD speed sensor (two phase shifted frequencies) Q
- Predisposition for speed sensor 8

Max. length Y = 13.4
Standard number of pulses per revolution = 60

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.
Thirteen subsidiaries and a worldwide network of more than 150 distributors and partners...