NEW

PVS PISTON PUMP
THRU SHAFT SERIES

NACHI AMERICA INC.
**Features**

**Energy-Saving Type with Drastically Reduced Loss**
A NACHI-proprietary semi-circular barrel swash plate that receives pressure on its surface ensures a stable discharge volume at all times. This eliminates excess discharge volume, and enables the effective use of power corresponding to the load cycle. This "energy-saving type" conserves energy, reduces power loss, and helps to reduce hydraulic costs.

**Silent Type That Demonstrates Its Power Quietly**
Proprietary low-noise mechanisms are incorporated on the shoe, swash plate, valve plate, and other locations to ensure silent operation. In particular, a semi-circular barrel swash plate stabilizes operation characteristics to ensure silent operation.

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**Dimensional Drawings**

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**PVS-0B-8N3-K-E5737A**

<table>
<thead>
<tr>
<th>Volume:</th>
<th>0.48 cu in (8 cc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Operating Pressure:</td>
<td>3000 psi</td>
</tr>
<tr>
<td>Allowable Peak Pressure:</td>
<td>3600 psi</td>
</tr>
<tr>
<td>Rotational Speed (max.):</td>
<td>1800/500 min⁻¹</td>
</tr>
<tr>
<td>Rotational Direction:</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Mounting Direction:</td>
<td>Horizon for pump shaft</td>
</tr>
<tr>
<td>Control Type:</td>
<td>Pressure compensation type</td>
</tr>
<tr>
<td>Mass:</td>
<td>16.9 lbs</td>
</tr>
<tr>
<td>Fluid:</td>
<td>Anti-wear Hydraulic fluid</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>ISO VG32-68</td>
</tr>
<tr>
<td>Temperature Range:</td>
<td>20~200 centistokes</td>
</tr>
<tr>
<td>Maximum Pressure:</td>
<td>40~140 °F</td>
</tr>
<tr>
<td>Suction Pressure:</td>
<td>4.3 psi</td>
</tr>
<tr>
<td>Drain Back Pressure:</td>
<td>14 psi</td>
</tr>
<tr>
<td>Drain Pressure:</td>
<td>28 psi</td>
</tr>
<tr>
<td>Filtration Suction:</td>
<td>150 mesh</td>
</tr>
<tr>
<td>Line:</td>
<td>10 micron</td>
</tr>
</tbody>
</table>

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**Setting of pressure and the displacement upon shipment**

P: Minimum pressure
q: Maximum pump capacity

1. Add shaft side torque to head side torque, and handle total torque less than 95.5 N·m
2. Pull total torque out of shaft side torque, and handle head torque less than 60 N·m

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**Note:**

1. Before starting up the pump, fill the pump case with clean hydraulic operating fluid through the lubrication port (13.4 cu in)
2. The maximum pressure (set pressure + surge pressure) that can be momentarily allowed.
3. Please refer to the standard catalog and instruction manual for the instruction of this pump.
PVS Series Variable Volume Piston Pumps

**Dimensional Drawings**

**PVS-1B-16/22N3-K-E5737A**

- **Detail of Suction port**
- **Discharge port**
- **Thru drive allowable torque**
- **Flow rate adjusting screw**
- **Pressure adjusting screw**
- **Lubrication port**

**Tandem-pump installation**

A sub-plate is necessary.

**Setting of pressure and the displacement upon shipment**

- **P:** Minimum pressure
- **q:** Maximum pump capacity

**Note:**
1. Before starting up the pump, fill the pump case with clean hydraulic operating fluid through the lubrication port (39 cu in)
2. Do not adjust screw (*part) because it's already been adjusted upon shipping.
3. Please refer to the standard catalog and instruction manual for the instruction of this pump.

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**PVS-2B-35/45N3-KE5737A**

- **Detail of Suction port**
- **Discharge Port**
- **Thru drive allowable torque**
- **Flow rate adjusting screw**
- **Pressure adjusting screw**
- **Lubrication port**

**Tandem-pump installation**

A sub-plate is necessary.

**Setting of pressure and the displacement upon shipment**

- **P:** Minimum pressure
- **q:** Maximum pump capacity

**Note:**
1. Before starting up the pump, fill the pump case with clean hydraulic operating fluid through the lubrication port (39 cu in)
2. Do not adjust screw (*part) because it's already been adjusted upon shipping.
3. Please refer to the standard catalog and instruction manual for the instruction of this pump.
Model Code
How to Order

PVS – 0 B – 8 - N - 3 - K - E5737A

- **K**: Key Shaft
- **N**: Pressure Compensation type
- **R**: Load Sensing Type
- **P**: Remote Control Type
- **B**: Flange Type Mounting
- **PVS Series variable volume piston pump unit**

**Pressure adjustment range (A: constant discharge type)**
- 1: Up to 1000 psi
- 2: Up to 2000 psi
- 3: Up to 3000 psi

**Variable Control Mechanisms**
- **N**: Pressure Compensation type
- **R**: Load Sensing Type
- **P**: Remote Control Type

**Pump Capacity (cc)**: 8, 16, 22, 35, 45

**Pump Size**: 0, 1, 2

Note: 1. Note that there are certain restrictions on pump capacity and motor capacity combinations.
   2. Design numbers are subject to change without notice.

Calculation of Torque

**[Formula]**

\[ T = \frac{P \times q \times \text{rev}}{2\pi \times \text{efficiency}} \]

(1000 psi = 7 MPa, 1 Cu in = 16.4 cc, temporarily efficiency is 80%)

**[Example]**

- **Front**: 0.4 Cu in at 2000 psi (Remote control: PVS-0B-8P2-K-E5737Z)
- **Rear**: 0.4 Cu in at 500 psi (Remote control: PVS-0B-8P1-K-E5737Z)

1) Caused Torque for Front: 18.3 Nm
2) Caused Torque for Rear: 4.6 Nm < 60 Nm
3) Total Torque: 22.8 Nm < 95.5 Nm