NSP HYDRAULIC POWER UNIT
• NEW DUAL VOLTAGE DESIGN •
230/460 VAC
**NSP 2.0 HYDRAULIC POWER UNIT**

- Variable vane uni-pump allows for compact design
- Simple structure and excellent reliability ensures easy handling and maintenance

---

**UVN Uni-Pump**

- New Dual Voltage cast iron motor provides a durable platform for diverse applications
- Nema premium efficiency motor
- High operating efficiency for lower power consumption and reduced heat generation

---

**Nachi Design**

- Reduced heat generation supports high precision applications
- 40% energy savings when compared to standard Nachi power units
- Minimal oil requirements reduces maintenance costs

---

**APPLICATIONS**

- CNC Machine
- Hydraulic Press
- Mill
- Lathe
- Injection Molding Machine

---

**NSP Motor Selection Curve**

- New Dual Voltage cast iron motor provides a durable platform for diverse applications
- Nema premium efficiency motor
- High operating efficiency for lower power consumption and reduced heat generation

---

**Oil Temperature Difference vs. Time**

- Tank Capacity 5.25 G
- 1014 psi
- 724 psi
- 507 psi

---

**dB vs. Pressure**

- *Temp & Pressure tests performed on NSP-20-*V*A4-E10
NSP 2.0 Hydraulic Power Unit

Pressure adjustment range (Table 2)
0: 0.49 in³/rev
1: 0.98 in³/rev
Note: 1. Indicates the above-mentioned maximum value at the time of shipment from the factory

Flow rate control range (max capacity)
0: 0.49 in³/rev
1: 0.98 in³/rev

Variable vane pump
Motor horsepower: 15: 2 hp, 22: 3 hp
Reservoir size (liters): 10, 20

### Model Code

**How to Order**

**NSP - 10 - 15V0A2 - F2T - E3045A**

- **Model No.**
- **Pump Capacity (Cu-in/rev)**
- **Flow Rate (Gpm)**
- **Motor Capacity (Hp)**
- **Maximum Pressure (Psi)**
- **Tank Capacity (Gal)**
- **Motor Voltage (Vac)**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Pump Capacity (Cu-in/rev)</th>
<th>Flow Rate (Gpm)</th>
<th>Motor Capacity (Hp)</th>
<th>Maximum Pressure (Psi)</th>
<th>Tank Capacity (Gal)</th>
<th>Motor Voltage (Vac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSP-10-15V0A*.-***-E3045A</td>
<td>0.49</td>
<td>3.8</td>
<td>2</td>
<td></td>
<td>2.5 (10L)</td>
<td></td>
</tr>
<tr>
<td>NSP-20-15V0A*.-***-E3045A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSP-10-15V1A*.-***-E3045A</td>
<td>0.98</td>
<td>7.6</td>
<td>2</td>
<td>1160</td>
<td>2.5 (10L)</td>
<td>230/460 Dual Voltage</td>
</tr>
<tr>
<td>NSP-10-22V1A*.-***-E3045A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSP-20-15V1A*.-***-E3045A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSP-20-22V1A*.-***-E3045A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Selection Precautions**

- **Circuit Configuration**
  The basic configuration is a standard NSP.* plus an external manifold (circuit).
  Provide piping with sufficient flexibility between the unit and external manifold. Make sure the maximum peak pressure (setting pressure + surge pressure) during operation does not exceed 14MPa.
  The following are typical pipe conditions at a reference maximum peak pressure at 14MPa or less as reference.

<table>
<thead>
<tr>
<th>Block Weight (kg)</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>6.5</td>
<td>8.5</td>
<td>10.5</td>
</tr>
<tr>
<td>Allowable Additional Weight (kg)</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

- **Paint Specifications**
  The interior and exterior of the tank and the motor are coated with a melamine baked-on resin coating, the motor is coated with a cation electrode-position coating, while the pump is spray painted with a lacquer finish. Color is Nachi standard color (Munsell No. N-1 70% gloss).

- **Rubber hose (for 14MPa) 1/2" x 2m** (Pipe Capacity: 250cm³) pump operating conditions: 1MPa→7MPa, full cutoff
  At pressures in excess of 14MPa, equip a circuit side surge cutoff relief valve.
  
- **Built-in Manifold Block**
  When a manifold block (optional) is built into the pump, make sure the block and valve total weight is not greater than 15kg.
<table>
<thead>
<tr>
<th>Model Number</th>
<th>Dimensions (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSP-10-15V0A*</td>
<td>16.93 15.59</td>
</tr>
<tr>
<td>NSP-10-15V1A*</td>
<td>16.93 19.61</td>
</tr>
<tr>
<td>NSP-20-15V0A*</td>
<td>18.11 15.59</td>
</tr>
<tr>
<td>NSP-20-15V1A*</td>
<td>18.11 19.61</td>
</tr>
<tr>
<td>NSP-20-22V1A*</td>
<td>18.11 16.61</td>
</tr>
<tr>
<td>NSP-20-22V1A*</td>
<td>18.11 20.63</td>
</tr>
</tbody>
</table>

Details of flange mounting surface:

- Code 61-1/2
- BSPT 1/2
- 2 x BSPT 3/4
- P: BSPT 1/2
- 4-M8x14 (17)
- 1.5
- Code 61-1/2

(*HP.4P

20L

(DRT

BSPT 1/2 BSPT 1/2 2 x BSPT 3/4

(Above Oil)

(Above Oil)