Pumps for Vegetable Oil

- **Features**
  - dry self-priming impeller pump NIROSTAR 2000-D or self-priming side channel centrifugal pump EP 40, both stainless steel
  - digital flow meter K600/3
  - 1.5 meter suction hose with non-return valve
  - 4 m filling hose, Ø 25 mm, G 1" with swivel connection
  - nozzle without automatic switch-off
  - holder for filling hose and nozzle
  - dimensions including pedestal d x w x h: 440 x 390 x 1330 mm (NIROSTAR) 390 x 390 x 1360 mm (EP)
  - new - now also available for vegetable oil: nozzle with automatic switch-off
  - pedestal

- **Impeller Pump NIROSTAR 2000-D**
  - flow rate depending on viscosity of the vegetable oil max. 75 L/min. (at about 20°C)
  - dry self-priming
  - operating pressure: max. 3 bar
  - power supply: 230 or 400 Volt
  - high capacity even at low temperatures and high viscosity of vegetable oil

- **Side Channel Centrifugal Pump EP 40 Niro**
  - flow rate depending on viscosity of the vegetable oil max. 75 L/min. (at about 20°C)
  - operating pressure: max. 2.2 bar
  - power supply: 230 or 400 Volt (optional 24 Volt)

- **Flow Meter K600/3**
  - high precision (±0.5%)
  - digital display (actual dispense volume 4-digit, total dispense volume 6-digit)
  - flow rate: max. 100 litre/min.
  - operating pressure: max. 30 bar
  - connections: 1" internal screw thread

---

**Code** | **Type** | **Version**
---|---|---
180037 | Pump unit for vegetable oil EP 40 Niro | without pedestal, 230 V
180038 | Pump unit for vegetable oil EP 40 Niro | without pedestal, 400 V
19002199 | Pump unit for vegetable oil NIROSTAR 2000-D | without pedestal, 230 V
19002196 | Pump unit for vegetable oil NIROSTAR 2000-D | without pedestal, 400 V
131130 | Automatic nozzle for commercial vehicles, 1" internal thread, for vegetable oil | 
131030 | Automatic nozzle for motorcars, 1" internal thread, for vegetable oil | 
12061050 | Pedestal for vegetable oil pump unit, blue | 

---
### Pump for Vegetable Oil in Steel Box

#### Features
- Dry self-priming impeller pump NIROSTAR 2000-D
- Motor protection with on/off switch
- Digital flow meter K600/4
- Nozzle without automatic switch-off
- 5 m filling hose, Ø 38 mm, G 1½” with swivel connection
- Heavy-duty steel box with large door
- Dimensions steel box d x w x h: 350 x 500 x 550 mm

Optional:
- Electronic key identification for access control including 10 keys
- **New** - Now also available for vegetable oil: nozzle with automatic switch-off

#### Impeller Pump NIROSTAR 2000-D
- Flow rate depending on viscosity of the vegetable oil: max. 75 L/min. (at about 20°C)
- Dry self-priming
- Operating pressure: max. 3 bar
- Power supply: 230 or 400 Volt
- High capacity even at low temperatures and high viscosity of vegetable oil

#### Flow Meter K600/4
- High precision (±0.5%)
- Digital display (actual dispense volume: 4-digit, total dispense volume: 6-digit)
- Flow rate: max. 150 litre/min.
- Operating pressure: max. 20 bar
- Connections: 1½” internal screw thread

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>19003192</td>
<td>Pump unit for vegetable oil in steel box with key *</td>
<td>NIROSTAR 2000-D 400 V</td>
</tr>
<tr>
<td>19003193</td>
<td>Pump unit for vegetable oil in steel box with key *</td>
<td>NIROSTAR 2000-D 230 V</td>
</tr>
<tr>
<td>19003190</td>
<td>Pump unit for vegetable oil in steel box</td>
<td>NIROSTAR 2000-D 400 V</td>
</tr>
<tr>
<td>19003191</td>
<td>Pump unit for vegetable oil in steel box</td>
<td>NIROSTAR 2000-D 230 V</td>
</tr>
<tr>
<td>131130</td>
<td>Automatic nozzle for commercial vehicles, 1” internal thread for vegetable oil</td>
<td></td>
</tr>
<tr>
<td>131030</td>
<td>Automatic nozzle for motorcars, 1” internal thread for vegetable oil</td>
<td></td>
</tr>
</tbody>
</table>

* Comes with 10 keys

---

ZUWA - Zumpe GmbH
Pumpen und Spritzgeräte

Franz-Fuchs-Str. 13 - 17 · D-83410 Laufen
Tel.: +49(0)8682-89340 · Fax: +49(0)8682-893434
E-mail: info@zuwa.de · Internet: www.zuwa.de
Vegetable oil fuel makes high demands on pumps and refuelling systems. Vegetable oil is characterized by an extremely high viscosity, 19 times higher than diesel fuel. This fact requires elaborated solutions for pumping the oil. The following issues should be taken into account:

- Length and diameter of suction and delivery line
- Ambiance temperature
- Storage of the vegetable oil: Is it stored in IBCs that are frequently changed or in a big storage tank?

Our fuel dispenser Self Service for vegetable oil provides for a complete system, available in two versions, which components fit perfectly for the characteristics of vegetable oil and ensure convenient handling.

We will be pleased to help you in finding the best solution according to your requirements.
### Technical Details

<table>
<thead>
<tr>
<th></th>
<th>Self Service 70 MC NIROSTAR</th>
<th>Self Service 70 MC VISCOMAT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pump</strong></td>
<td>NIROSTAR 2000-D dry self-priming impeller pump</td>
<td>VISCOMAT 90 self-priming vane pump</td>
</tr>
<tr>
<td><strong>Max. flow rate</strong></td>
<td>75 litre/minute at 20°C</td>
<td>60 litre/minute at 20°C</td>
</tr>
<tr>
<td><strong>Max. pressure</strong></td>
<td>3 bar</td>
<td>5 bar</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>230 or 400 Volt</td>
<td>230 or 400 Volt</td>
</tr>
<tr>
<td><strong>Flow meter</strong></td>
<td>K600/4 precision 0.5%</td>
<td>K600/3 precision 0.5%</td>
</tr>
<tr>
<td><strong>Nozzle</strong></td>
<td>without automatic switch-off</td>
<td>with automatic switch-off</td>
</tr>
<tr>
<td><strong>Filling hose</strong></td>
<td>1½”</td>
<td>1”</td>
</tr>
<tr>
<td><strong>Connections in/out</strong></td>
<td>1½”</td>
<td>1”</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td>excellent suction capability, especially suitable for IBCs that are often changed</td>
<td>high operating pressure</td>
</tr>
</tbody>
</table>

### Order Numbers

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>19002198</td>
<td>Vegetable oil fuel dispenser SELF SERVICE 70 MC NIROSTAR, 230 V</td>
</tr>
<tr>
<td>19002197</td>
<td>Vegetable oil fuel dispenser SELF SERVICE 70 MC NIROSTAR, 400 V</td>
</tr>
<tr>
<td>19002210</td>
<td>Vegetable oil fuel dispenser SELF SERVICE 70 MC VISCOMAT, 230 V</td>
</tr>
<tr>
<td>19002200</td>
<td>Vegetable oil fuel dispenser SELF SERVICE 70 MC VISCOMAT, 400 V</td>
</tr>
<tr>
<td>P12709</td>
<td>Magnetic key set (10 x user und 1 x administrator), reader and PC-software</td>
</tr>
<tr>
<td>P12495</td>
<td>Magnetic key set user (= 10 keys)</td>
</tr>
</tbody>
</table>