LIQUID PUMPS WITH EXPLOSION-PROOF MOTORS
OUR PUMPS START WITH YOUR SPECS

FEATURES

- UL/CSA approved motor
- Self-priming
- Run wet or dry
- Division 1 C & D
- Division 2 A, B, C & D
- High reliability
- Corrosion-resistant
- Easily customized
- Consistent performance

APPLICATIONS

- Liquid sample transfer
- Chemical dispensing
- Waste removal
- Liquid additive metering
- Solvent recycling
- Liquid recirculation

NF 1.300 (above) and NF 1.600 series liquid pumps for Class 1, Division 1, Groups C & D hazardous location areas offer safe transfer of explosive and hazardous liquids for chemical processing, petrochemical refining, and safety-critical applications. Self-priming up to 10 ft. \( H_2O \), the pumps boast a pressure of 88 psig. Powered by a 115/230 V 60 Hz single phase motor, they utilize 3/8" NPT port fluidic connections.

Contamination and maintenance-free, both models are available in corrosion-resistant versions. Class 1, Division 2, Groups A, B, C & D motors are available upon request and an ATEX certified version is also available for the NF 1.300. Our liquid diaphragm pumps are simple in design, durable, and perform their function without the need for flexible tubing or compressed air with their associated drawbacks.

These liquid pumps are excellent for either vacuum or pressure applications. They are ideal for low viscosity liquids and can be run dry continuously, without degradation and under the most severe operating conditions without external leakage. Choose among chemically-resistant wetted parts including PTFE, PVDF, EPDM, FFPM, FPM, and PP.

<table>
<thead>
<tr>
<th>Model</th>
<th>Flow rate</th>
<th>Suction head</th>
<th>Pressure head</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF 1.300</td>
<td>3 L/min</td>
<td>10 ft. ( H_2O )</td>
<td>88 psig</td>
<td>30 lb.</td>
</tr>
<tr>
<td>NF 1.600</td>
<td>6 L/min</td>
<td>10 ft. ( H_2O )</td>
<td>88 psig</td>
<td>30 lb.</td>
</tr>
</tbody>
</table>
LIQUID PUMPS WITH EXPLOSION-PROOF MOTORS
NF 1.300

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Type</th>
<th>Flow rate L/min</th>
<th>Max suction head ft. H₂O</th>
<th>Max pressure head psig</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF 1.300</td>
<td>3</td>
<td>10</td>
<td>88</td>
</tr>
</tbody>
</table>

**MATERIALS OF HEAD COMPONENTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Resonating diaphragm</th>
<th>Diaphragm</th>
<th>Head</th>
<th>Valves</th>
<th>O-Ring</th>
<th>Connection plate</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF 1.300 KT</td>
<td>PTFE</td>
<td>PTFE</td>
<td>PP</td>
<td>FFPM</td>
<td>PTFE</td>
<td>PTFE</td>
<td>FFPM</td>
</tr>
<tr>
<td>NF 1.300 TT</td>
<td>PVDF</td>
<td>PTFE</td>
<td>PP</td>
<td>FFPM</td>
<td>PTFE</td>
<td>FFPM</td>
<td>FFPM</td>
</tr>
<tr>
<td>NF 1.300 FT</td>
<td>PTFE</td>
<td>PTFE</td>
<td>PTFE</td>
<td>FFPM</td>
<td>PTFE</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**MOTOR SPECIFICATIONS**

- Voltage: 115 V / 230 V 60 Hz
- Current: 7 A / 3.5 A
- Motor protection class: Class 1, Division 1, Group C & D, T3C
- Allowed ambient temp.: 40 – 105 °F (5 – 40 °C)
- Allowed liquid temp.: 40 – 176 °F (5 – 80 °C)
- Maximum viscosity: 150 cSt
- Connections: 3/8" NPT
- Weight: 30 lb. (14 Kg)

**Head Types**

The pump head of the NF 1.300 (shown below) is made up of seven main parts. The diaphragm, intermediate plate, connection plate, O-Ring, resonating diaphragm and the valves are the only parts which come in contact with the liquid. The materials which are available as standard are listed in the table to the left.
NF 1.600

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Type</th>
<th>Flow rate L/min</th>
<th>Max suction head ft. H₂O</th>
<th>Max pressure head psig</th>
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</thead>
<tbody>
<tr>
<td>NF 1.600</td>
<td>6</td>
<td>10</td>
<td>88</td>
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</tbody>
</table>

**MATERIALS OF HEAD COMPONENTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Head</th>
<th>Valves</th>
<th>Sealing gaskets</th>
<th>Diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF 1.600 KT</td>
<td>PP</td>
<td>FFP M</td>
<td>PTFE</td>
<td>PTFE</td>
</tr>
<tr>
<td>NF 1.600 TT</td>
<td>PVDF</td>
<td>FFP M</td>
<td>PTFE</td>
<td>PTFE</td>
</tr>
<tr>
<td>NF 1.600 FT</td>
<td>PTFE</td>
<td>FFP M</td>
<td>PTFE</td>
<td>PTFE</td>
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**Four Diaphragm Technology**

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump. The circular motion of the motor shaft is converted into a linear movement by an eccentric. This motion is then transferred to four separate diaphragms by means of a special connecting rod which in conjunction with the inlet valve and outlet valves create a smooth pumping action.
ACCESSORIES:

**Pulsation Damper**
The liquid pulsation damper was developed because of increased interest in low pulsation performance. This product reduces the inherent pressure waves created by an oscillating diaphragm pump. It also aids in the reduction of vibration in system hoses and pipes. With the correct damper selection, a pressure fluctuation of less than 3 psi (200 mbar) can be achieved. Port threads are available in G or NPT threads.

**Diaphragm Pressure Control Valve**
The diaphragm valve is a pressure control device. The selected pressure is adjustable, and applied via a spring-loaded diaphragm. The valves are available in a variety of materials and with a locking set-screw, or an easily-adjusted control knob. This valve can be integrated into the NF 1.300 series pump head. Port threads are available in G or NPT threads.

FURTHER OPTIONS
- Special head materials
- Alternative voltage/frequency motors
- Air motors (NF 1.300)
- Overpressure relief valve (NF 1.300)
- ATEX certification (NF 1.300)