Flap Valve Diaphragm Pump

"Flapper Pump"

NDP-50FAN

- Heavy-duty
- Easy access
- In-line maintenance
- Top-suction / bottom-discharge
- Bolted construction
- Outside-accessible
- Self priming and high suction lift
Flap Valve Diaphragm Pump

"Flapper Pump"

- **Flapper Pump for Solids Handling**
  Yamada’s Flapper Pump is designed to support passage of solids up to 30 mm in diameter. Designed for durability in the field, the Flapper’s innovative flap-type check valve technology provides streaming passage of solids while minimizing clogging and downtime. Four external bolts release valve covers on either side permitting service and maintenance without removing the pump from installation.

- **Applications**
  - Mud water handling at mining/construction site
  - Wastewater handling at sewage plant, livestock farm and food factory
  - Wastewater handling at petrochemical plant

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Model NDP-50FAN  Model No. 854296

- **Principle of Operation**
  Compressed air enters the left air chamber, moving the center rod to the left, forcing liquid out of the left liquid chamber, while at the same time drawing liquid into the right liquid chamber. When the center rod is fully to the left the pneumatic logic system switches the supply of air from the left air chamber to the right air chamber. The center rod then moves to the right, forcing out the liquid from the right liquid chamber, while at the same time drawing liquid into the left liquid chamber. Through of this action a constant flow of liquid is achieved.

- **Performance curve**
  The performance curve shown indicates the data measured with fresh water (viscosity 1 mPa s, specific gravity 1.0) by dip grazing. The amount of liquid discharged from the pump greatly varies depending on various factors such as the “viscosity, specific gravity and slurry concentration of liquid to be transferred”, “suction lift”, “discharge head” and “pneumatic transportation distance”.

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Flap Valve Diaphragm Pump
Flapper Pump
Flapper Pump
**Specifications**

<table>
<thead>
<tr>
<th>Nominal port size</th>
<th>2” (50A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air connection Inlet</td>
<td>Rc3/4 (with an air cock)</td>
</tr>
<tr>
<td>Air connection Outlet</td>
<td>Rc1 (Equipped with a muffler)</td>
</tr>
<tr>
<td>Air supply pressure range</td>
<td>0.2MPa - 0.7MPa</td>
</tr>
<tr>
<td>Limit of slurry</td>
<td>30mm or less</td>
</tr>
<tr>
<td>Material of the main body (wetted part)</td>
<td>Aluminum (ADC12/AC4C-T6)</td>
</tr>
<tr>
<td>Material of Flap Valve</td>
<td>HNBR (SPCC)※1</td>
</tr>
<tr>
<td>Material of Valve Seat</td>
<td>HNBR (SPHC)※1</td>
</tr>
</tbody>
</table>

※1 Insert material

<table>
<thead>
<tr>
<th>Connection to liquid Inlet</th>
<th>Flange JIS 10K50A or equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge volume / cycle</td>
<td>2400 mL / cycle</td>
</tr>
<tr>
<td>Maximum discharge volume</td>
<td>600L/min</td>
</tr>
<tr>
<td>Maximum discharge pressure</td>
<td>0.7MPa</td>
</tr>
<tr>
<td>Maximum air consumption</td>
<td>7000L/min [ANR]</td>
</tr>
<tr>
<td>Noise level</td>
<td>94dB</td>
</tr>
<tr>
<td>Weight</td>
<td>52kg</td>
</tr>
</tbody>
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**Design Features**

Heavy-duty flap check valve permits passage of solids up to 30 mm.

Easy access to valve chambers for ease of maintenance

In-line maintenance facilitates servicing pump without removal from installation

Top-suction / bottom-discharge design keeps solids from settling in pump

Bolted construction

Self priming and high suction lift up to 4M

**Dimensions**
CAUTION WHEN SELECTING A PUMP

Yamada offers a large range of Air Operated Double Diaphragm Pumps to cater for many different kinds of materials and conditions. When selecting the most appropriate pump for a particular selection and installation please consult your local Yamada Pump Distributor or Yamada Corporation.

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* The specifications contained herein may be changed at any time without warning.