HDP 10 High Pressure Pump Series

Hammelmann process pumps are built to operate at continuous maximum duty. Just compare the crank shaft speed, average plunger speed and power rating.

High Pressure Pump
Weight: 94 kg

Features
- Power ratings up to 11 kW
- Vertical 3 cylinder design

Quality and reliability
- Crank section calculation by ‘Finite element method’ ensures long working life under continuous load
- Splash lubricated crank section
- Bellows form hermetic seal between the suction chamber and crank section
- Stainless steel or bronze suction chamber
- Solid ceramic or tungsten carbide plungers
- Stainless steel pump head free of alternating stress
- Choice of performance and pumped medium specific seal and pump head assemblies
- Flow control achieved with variable speed gear or frequency converter
- Flow turndown ratio 1:10

Stationary unit with electric motor
- Length: 1000 mm
- Width: 752 mm
- Height: 890 mm
- Weight: approx. 370 kg at 11 kW

Main dimensions without accessories such as suction line, pressure regulator etc. All shown as right side drive. Detailed dimensional drawings and weights available on request.

Energy efficient

Hammelmann
HDP 10 series, technical data

**Performance parameters**

<table>
<thead>
<tr>
<th>HDP</th>
<th>Q [l/min]</th>
<th>Required power rating [kW]</th>
<th>Operating pressure [bar]</th>
<th>D</th>
<th>r.p.m.</th>
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<tr>
<td>14</td>
<td>2.2</td>
<td>1100 1500 2200</td>
<td>8</td>
<td>1500/1800/2150</td>
<td>625 750 900</td>
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<td>2.7</td>
<td>900   1250 1850</td>
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<td>750 900</td>
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<td></td>
<td>3.2</td>
<td>770   1050 1550</td>
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<td>1500/1800/2150</td>
<td>625 750 900</td>
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<td>3.5</td>
<td>700   950 1400</td>
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<td>4.2</td>
<td>570   780 1150</td>
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<td>5.1</td>
<td>490   660 980</td>
<td>12</td>
<td>750 900</td>
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<th>Q</th>
<th>Op. pressure</th>
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**Conversion table**

- Rating: $1 \text{ kW} = 1.34 \text{ HP}$
- Op. pressure: $1 \text{ bar} = 14.5 \text{ psi}$
- Flow rate: $1 \text{ l} = 0.264 \text{ US gallon}$
- $1 \text{ l} = 0.22 \text{ Imp. gallon}$

**Sealing systems**

- HDP 14: Dynamic - Tungsten carbide plunger & bushing
  - Packing - Special ceramic plunger** / packing
- HDP 13: Dynamic - Ceramic plunger / bronze bushing
  - Packing - Ceramic plunger / packing
- HDP 12: Dynamic - Ceramic plunger / bronze bushing
  - Packing - Ceramic plunger / packing

* The dynamic high pressure sealing extends the advantages of the labyrinth design with further increased efficiency.
** Special ceramic plungers up to max. 2500 bar

- Rod force: 11.7 kN
- Stroke: 30 mm
- Mean piston speed at $n_2$
  - 625 r.p.m. = 0.63 m/sec
  - 750 r.p.m. = 0.75 m/sec
  - 900 r.p.m. = 0.90 m/sec

Hammelmann plunger pumps convert 93 to 98% of the shaft power to hydraulic energy.

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