Compact design
- Optimum space utilisation
- Integral reduction gear

Adaptability provides installation options
- Horizontal or vertical models
- Reversible pump head
- Central or side suction connection
- Discharge connections on both sides
- Left or right hand drive shaft
- Can operate at higher inclinations

Drive end
- Hammelmann standard industrial drive end specifically designed for continuous duty
- Pressurised oil lubrication system
- High quality spheroidal cast iron housing
- Clockwise or anticlockwise rotation

Easy servicing
- A single design for the suction and discharge valves
- Reversible valves and valve seats
- Service access via individual cover plates.
- Easy maintenance possible without removal of suction and pressure lines

Environmentally friendly
- Quiet drive end due to twin helical gears
- Piston rods hermetically sealed by the NBR bellows, no oil leakage

Water end: suitable for recycled water
Less wear due to:
- High grade solid ceramic plungers
- Wear resistant valve seats
- Low flow velocity over suction and discharge valves
- Packing seal sets within rust resistant stainless steel sleeves
- Slow plunger speed
### Technical data
#### HDP 146

- Rod force: 90 kN
- Stroke: 55 mm
- Mean piston speed at \( n_2 \):
  - 440 r.p.m. = 0,81 m/sec
  - 525 r.p.m. = 0,96 m/sec
  - 580 r.p.m. = 1,06 m/sec

<table>
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<tr>
<th>[l/min]</th>
<th>Pressure [bar]</th>
<th>Power required [kW]</th>
<th>Piston ( \phi )</th>
<th>( n_1 ) [r.p.m.]</th>
<th>( n_2 ) [r.p.m.]</th>
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<td>113</td>
<td>70</td>
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</tbody>
</table>

### Design details
- Horizontal, vertical, 3 cylinder
- Plungers: Solid ceramic
- Plunger sealing: Packing
- Crank section sealing: Bellows
- Valves: With ancillary sealing for recycled water
- Valves: Reversible
- Crank section lubrication: Pressurised circulating
- Crankshaft bearings: 2 x roller
- Drive shaft: Right or left

### Installation data
- Weight incl. lub. oil: Approx. 375 kg
- Mounting points: 4 x M20
- Mounting hole pattern:
  - HDP 146 horizontal: 454 x 280 mm
  - HDP 146 vertical: 344 x 304 mm
- Drive shaft: 55 mm dia. x 90,5 mm
- Shaft key: DIN 6885 – A
- Permissible lateral force: 12 kN
- Discharge connection: G 1 1/4” female
- Suction connection: 100 mm i/d, PN6 DIN 2 x 3”

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