HDP 120 High Pressure Pump Series

Design criteria

Hammelmann high pressure pumps are built to operate at the continuous maximum duty stated in the performance parameters. Just compare the crankshaft speed, average plunger speed, plunger diameter and power rating.

High pressure pump
Weight: approx. 380 kg

Features
- Power ratings up to 120 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

Quality and reliability
- Stainless steel stress free pump head
- Bellows form hermetic seal between the suction chamber and crank section
- Choice of application specific seal assemblies
- Solid ceramic or tungsten carbide plungers
- Choice of bronze (standard) or stainless steel suction chamber
- Crank section calculation by ‘Finite element method’ ensures long working life under continuous load
- Integral speed reduction gear
- Pressurised oil lubrication system with oil cooler/filter

Stationary unit with electric motor
Length: 1856 mm
Width: 850 mm
Height: 1290 mm
Weight: approx. 1600 kg
at 110 kW

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

Stationary unit with diesel motor
Length: 1990 mm
Width: 1160 mm
Height: 1405 mm
Weight: approx. 1420 kg
at 120 kW without full fuel tank

Hammelmann high pressure pumps
HDP 120 series, technical data

Performance parameters

<table>
<thead>
<tr>
<th>Q [l/min]*</th>
<th>Required power rating [kW]</th>
<th>D</th>
<th>r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n1</td>
<td>n2</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>1500</td>
<td>370</td>
</tr>
<tr>
<td>55</td>
<td></td>
<td>1500/1800</td>
<td>440</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>1800/2150</td>
<td>530</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>17,5</td>
<td>370</td>
</tr>
<tr>
<td>110/120**</td>
<td></td>
<td>1500</td>
<td>440</td>
</tr>
<tr>
<td></td>
<td>Operating pressure [bar]</td>
<td>1800/2150</td>
<td>530</td>
</tr>
<tr>
<td>13</td>
<td>1750 2150 2950 2900 3000</td>
<td>17,5</td>
<td>370</td>
</tr>
<tr>
<td>16</td>
<td>1450 1750 2450 2400</td>
<td>1500</td>
<td>440</td>
</tr>
<tr>
<td>19</td>
<td>1200 1500 2050 2450</td>
<td>1800/2150</td>
<td>530</td>
</tr>
<tr>
<td>18</td>
<td>1300 1600 2150 2600</td>
<td>20</td>
<td>370</td>
</tr>
<tr>
<td>21</td>
<td>1100 1350 1850 2200 2600</td>
<td>1500</td>
<td>440</td>
</tr>
<tr>
<td>25</td>
<td>930 1150 1550 1850 2250/2450</td>
<td>1800/2150</td>
<td>530</td>
</tr>
</tbody>
</table>

- Rod force: 82 kN
- Stroke: 55 mm
- Mean piston speed at n2
- 370 r.p.m. = 0.67 m/sec
- 440 r.p.m. = 0.81 m/sec
- 530 r.p.m. = 0.96 m/sec

*At pressures over 2000 bar approx. 5% of the flow rate is lost due to the compressibility factor of water

**At n2 = 530 r.p.m.: power rating up to 120 kW

Conversion table
- Rating 1 kW = 1.34 HP
- Op. pressure 1 bar = 14.5 psi
- Flow rate 1 l = 0.264 US gallon
- 1 l = 0.22 Imp. gallon

Type designations

<table>
<thead>
<tr>
<th>Sealing system</th>
<th>D</th>
<th>HDP Type</th>
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<tbody>
<tr>
<td>Hydrodynamic with tungsten carbide plungers</td>
<td>17.5 + 20</td>
<td>124</td>
</tr>
<tr>
<td>Hydrodynamic with solid ceramic plungers</td>
<td>25</td>
<td>123</td>
</tr>
<tr>
<td>Labyrinth with solid ceramic plungers</td>
<td>30 - 70</td>
<td>122</td>
</tr>
<tr>
<td>Packed sleeves with solid ceramic plungers</td>
<td>30 - 70</td>
<td>127</td>
</tr>
</tbody>
</table>

D = Piston/Plunger dia. [mm]

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