

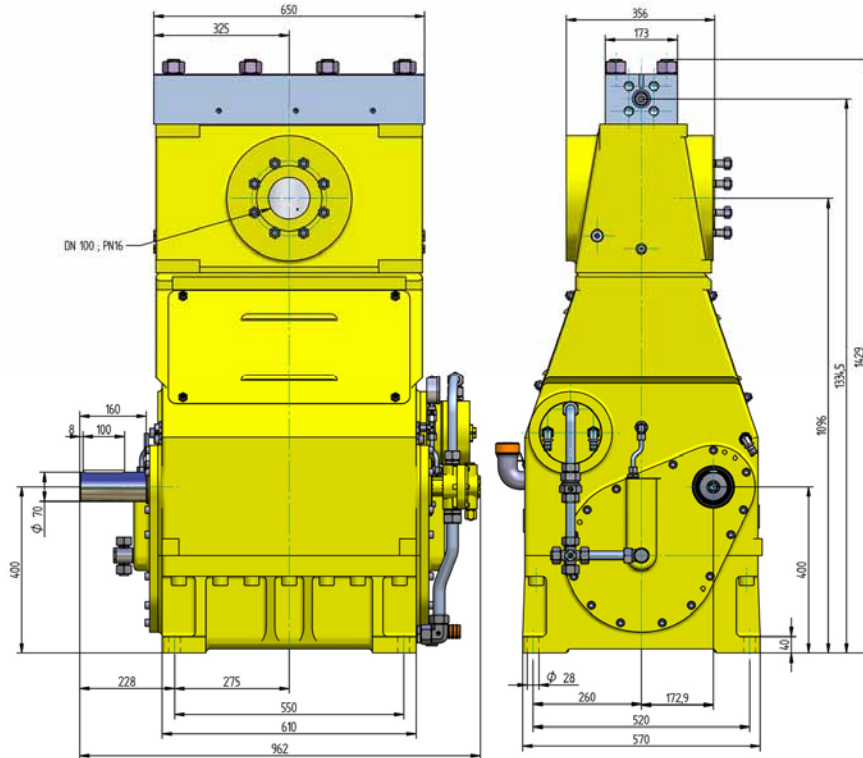
HDP 360 High Pressure Pump Series

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. 1700 kg



Features

- Power ratings up to 360 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

Quality and reliability

- Stainless steel pump head free of alternating stress
- Cross head piston bellows seal
- Choice of application specific seal assemblies
- Solid ceramic or tungsten carbide plungers
- Choice of bronze or stainless steel suction chamber
- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Crankshaft supported by 2 bearings and incorporating twin helical speed reducing gears
- Pressurised oil lubrication system with oil cooler/filter

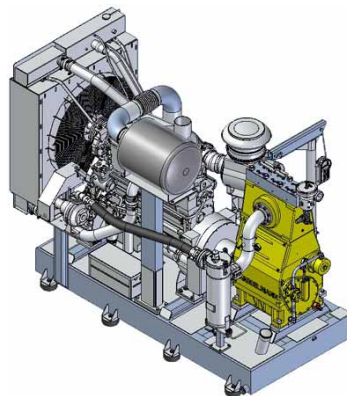
Stationary unit with diesel motor

Length: 3220 mm

Width: 1570 mm

Height: 2320 mm

Weight: approx. 6500 kg
at 403 kW with full fuel tank



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

HDP 360 series, technical data

Performance parameters (Standard design)

Note: Actual flow rates for water as pumped medium (volumetric efficiency has already been taken into account).

| HDP | Q [l/min] | Required power rating [kW] | | | | | D | r. p. m. | |
|----------------------|-----------|----------------------------|-------|-------|-----------|-----------|------|----------|-----|
| | | 200 | 250 | 300 | 350 | 360 | | n 1 | n 2 |
| | | Operating pressure [bar] | | | | | | | |
| 364 | 42* | 2500* | 3000* | | | | 28 | 1500 | 340 |
| | 51* | 2100* | 2600* | 3000* | | 1500/1800 | | 410 | |
| | 61* | | 2200* | 2650* | 3000* | 1800 | | 490 | |
| 364 | 68 | 1500 | 1900 | 2050* | | | 35 | 1500 | 340 |
| | 83 | 1250 | 1600 | 1900 | 2050* | 1500/1800 | | 410 | |
| | 99 | 1050 | 1300 | 1600 | 1850 | 1800 | | 490 | |
| *Ultra high pressure | | | | | | | | | |
| 363 | 89 | 1150 | 1450 | 1600 | | | 40 | 1500 | 340 |
| | 107 | 980 | 1200 | 1450 | 1600 | 1500/1800 | | 410 | |
| | 128 | 820 | 1000 | 1200 | 1400 | 1800 | | 490 | |
| 362 | 114 | 930 | 1150 | 1250 | | | 45 | 1500 | 340 |
| | 136 | 780 | 970 | 1150 | 1250 | 1500/1800 | | 410 | |
| | 163 | 650 | 810 | 970 | 1100 | 1800 | | 490 | |
| | 142 | 750 | 940 | 1000 | | | 50 | 1500 | 340 |
| | 170 | 630 | 790 | 940 | 1000 | 1500/1800 | | 410 | |
| | 204 | 520 | 650 | 790 | 920 | 1800 | | 490 | |
| | 174 | 620 | 780 | 840 | | | 55 | 1500 | 340 |
| | 208 | 520 | 650 | 780 | 840 | 1500/1800 | | 410 | |
| | 249 | 430 | 540 | 650 | 760 | 1800 | | 490 | |
| | 209 | 520 | 650 | 710 | | | 60 | 1500 | 340 |
| | 250 | 430 | 540 | 650 | 710 | 1500/1800 | | 410 | |
| | 300 | 360 | 450 | 540 | 640 | 1800 | | 490 | |
| | 247 | 440 | 560 | 600 | | | 65 | 1500 | 340 |
| | 296 | 370 | 460 | 560 | 600 | 1500/1800 | | 410 | |
| | 355 | 310 | 390 | 460 | 540 | 1800 | | 490 | |
| | 287 | 380 | 480 | 520 | | | 70 | 1500 | 340 |
| | 344 | 320 | 400 | 480 | 520 | 1500/1800 | | 410 | |
| | 412 | 260 | 330 | 400 | 470 | 1800 | | 490 | |
| 375 | 290 | 370 | 400 | | | 80 | 1500 | 340 | |
| 449 | 240 | 300 | 370 | 400 | 1500/1800 | | 410 | | |
| 538 | 200 | 250 | 300 | 360 | 1800 | | 490 | | |
| 474 | 230 | 290 | 310 | | | 90 | 1500 | 340 | |
| 568 | 190 | 240 | 290 | 310 | 1500/1800 | | 410 | | |
| 682 | 160 | 200 | 240 | 280 | 1800 | | 490 | | |
| 585 | 180 | 230 | 250 | | | 100 | 1500 | 340 | |
| 701 | 150 | 190 | 230 | 250 | 1500/1800 | | 410 | | |
| 841 | 130 | 160 | 190 | 230 | 1800 | | 490 | | |

- Rod force: 200 kN
- Stroke: 75 mm
- Mean piston speed at n₂
340 r.p.m. = 0,86 m/sec
410 r.p.m. = 1,03 m/sec
490 r.p.m. = 1,23 m/sec

Typical high pressure pump unit



- Stationary unit with diesel motor



- Diesel unit in container

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

D = Piston/Plunger dia. [mm]

n1 = Motor/Engine r.p.m.

n2 = Crankshaft r.p.

** The dynamic high pressure sealing extends the advantages of the labyrinth design with further increased efficiency.

| HDP | Seal** | Sealing system |
|-----|--------------------------|---|
| 364 | Dynamic D 28 | Tungsten carbide plunger & bushing |
| | Dynamic D 35 | Tungsten carbide plunger / bronze bushing |
| 363 | Dynamic | Ceramic plunger / bronze bushing |
| | Packing | Ceramic plunger / packing |
| 362 | Dynamic | Ceramic plunger / bronze bushing |
| | Packing | Ceramik plunger / packing |
| | Packings from 80 mm dia. | Ceramik plunger / packing |



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

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