# HDP 30 High Pressure Pump Series

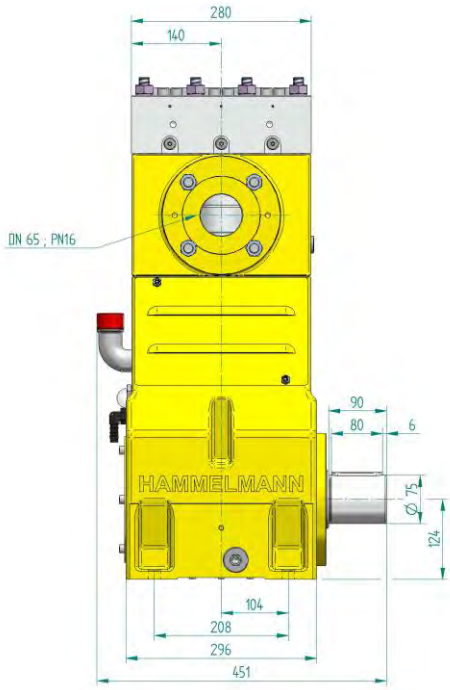
## Design criteria

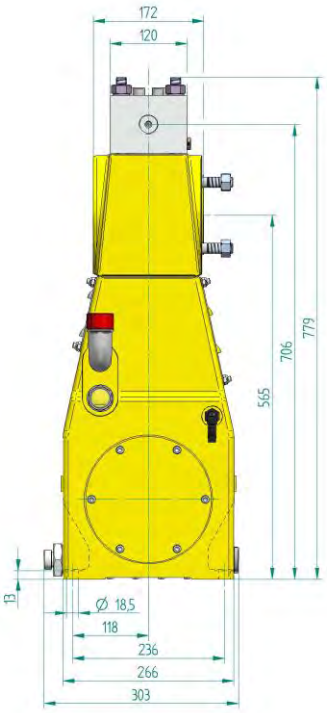
Hammelmann high pressure pumps are built to operate at the continuous maximum duty stated in the performance parameters. Just compare the crankshaft speed, average plunger speed, plunger diameter and power rating.

**High pressure pump**

Weight: approx. 190 kg

Energy efficient




## Features

- Power ratings up to 30 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

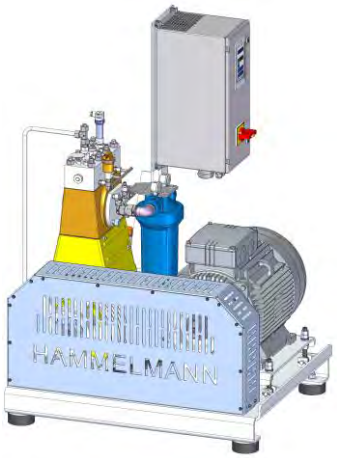
## Quality and reliability

- Stainless steel pump head free of alternating stress
- 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
- Splash lubrication

**Stationary unit with electric motor**

| | |
|---|---|
| Length: | 1060 mm |
| Width: | 840 mm |
| Height: | 1490 mm |
| Weight: | approx. 760 kg at 30 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.





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# HDP 30 series, technical data

**Performance parameters (Standardausführung)**

**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] 11 | 15 | 18,5 | 22 | 30 | D | r. p. m. n 1 | n 2 |
|---|---|---|---|---|---|---|---|---|---|
| | | Operating pressure [bar] | | | | | | | |
| 34 | 1,5* | 3100* | 3800* | | | | 8 | 1500 / 1800 / 2150 | 450 |
| | 2,1* | 2200* | 3000* | 3700* | 3800* | | | | 625 |
| | 2,6* | 1850 | 2500* | 3100* | 3700* | | | | 750 |
| | 3,1* | 1540 | 2100* | 2600* | 3100* | 3800* | | | 900 |
| | 3,2 / 2,4* | 1970 | 2700* | 3300* | 3800* | | 10 | | 450 |
| | 4,4 / 3,4* | 1420 | 1940 | 2400* | 2800* | 3800* | | | 625 |
| | 5,3 / 4,1* | 1180 | 1610 | 2000* | 2400* | 3200* | | | 750 |
| | 6,4 / 4,9* | 1000 | 1340 | 1660 | 1970 | 2700* | | | 900 |
| | 4,3 / 3,9* | 1370 | 1870 | 2300* | 2700* | 2800* | 12 | | 450 |
| | 5,9 / 5,4* | 1000 | 1340 | 1660 | 1970 | 2700* | | | 625 |
| | 7,1 / 6,5* | 820 | 1120 | 1380 | 1640 | 2200* | | | 750 |
| | 8,5 / 7,8* | 680 | 930 | 1150 | 1370 | 1870 | | | 900 |
| | 8,9 / 8,9* | 630 | 860 | 1060 | 1260 | 1700 | 15 | | 625 |
| | 11 / 11* | 530 | 720 | 880 | 1050 | 1430 | | | 750 |
| | 13 / 13* | 440 | 600 | 740 | 880 | 1200 | | | 900 |
| | 12 | 460 | 630 | 780 | 930 | 1250 | 17,5 | | 625 |
| | 15 | 400 | 530 | 650 | 770 | 1050 | | | 750 |
| | 18 | 320 | 440 | 540 | 640 | 880 | | | 900 |
| 33 | 17 | 350 | 480 | 600 | 710 | 950 | 20 | 1500/1800/ 2150 | 625 |
| | 20 | 300 | 400 | 500 | 600 | 810 | | | 750 |
| 32 | 20 | 300 | 400 | 500 | 600 | 800 | 22 | 1500 / 1800 / 2150 | 625 |
| | 24 | 240 | 330 | 410 | 500 | 670 | | | 750 |
| | 24 | 250 | 340 | 410 | 500 | 660 | 24 | | 625 |
| | 29 | 210 | 280 | 350 | 410 | 560 | | | 750 |
| | 27 | 210 | 300 | 350 | 420 | 570 | 26 | | 625 |
| | 32 | 170 | 240 | 300 | 350 | 480 | | | 750 |
| | 38 | 160 | 220 | 270 | 320 | 420 | 30 | | 625 |
| | 45 | 130 | 180 | 220 | 260 | 360 | | | 750 |
| | 52 | 120 | 160 | 200 | 230 | 310 | 35 | | 625 |
| | 62 | 100 | 130 | 160 | 200 | 260 | | | 750 |
| | 68 | 100 | 120 | 150 | 180 | 240 | 40 | | 625 |
| | 81 | 70 | 100 | 120 | 150 | 200 | | | 750 |
| | 86 | 70 | 100 | 120 | 140 | 200 | 45 | | 625 |
| | 103 | 60 | 80 | 100 | 120 | 160 | | | 750 |
| | 107 | 60 | 80 | 100 | 110 | 150 | 50 | | 625 |
| | 129 | 50 | 60 | 80 | 100 | 130 | | | 750 |
| | 130 | 50 | 60 | 80 | 100 | 130 | 55 | | 625 |
| | 156 | 40 | 50 | 70 | 80 | 110 | | | 750 |

*Ultra high pressure

| HDP | Seal ** | Sealing system |
|---|---|---|
| 34 | Dynamic | Tungsten carbide plunger & bushing |
| | Packing | Special ceramic plunger *** / packing |
| 33 | Dynamic | Ceramic plunger / bronze bushing |
| | Packing | Ceramic plunger / packing |
| 32 | Dynamic | Ceramic plunger / bronze bushing |
| | Packing | Ceramik 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.

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

- Rod force: 30 kN
- Stroke: 30 mm
- Mean piston speed at $n_2$
  450 r.p.m. = 0,45 m/sec
  625 r.p.m. = 0,63 m/sec
  750 r.p.m. = 0,75 m/sec
  900 r.p.m. = 0,90 m/sec

Typical high pressure pump units

- Stationary unit with diesel motor

- Stationary unit with electric motor

D = Piston/Plunger dia. [mm]
n1 = Motor/Engine r.p.m.
n2 = Crankshaft r.p.m.

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

- Stationary electric unit for cutting

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