

HDP 30 High Pressure Pump Series

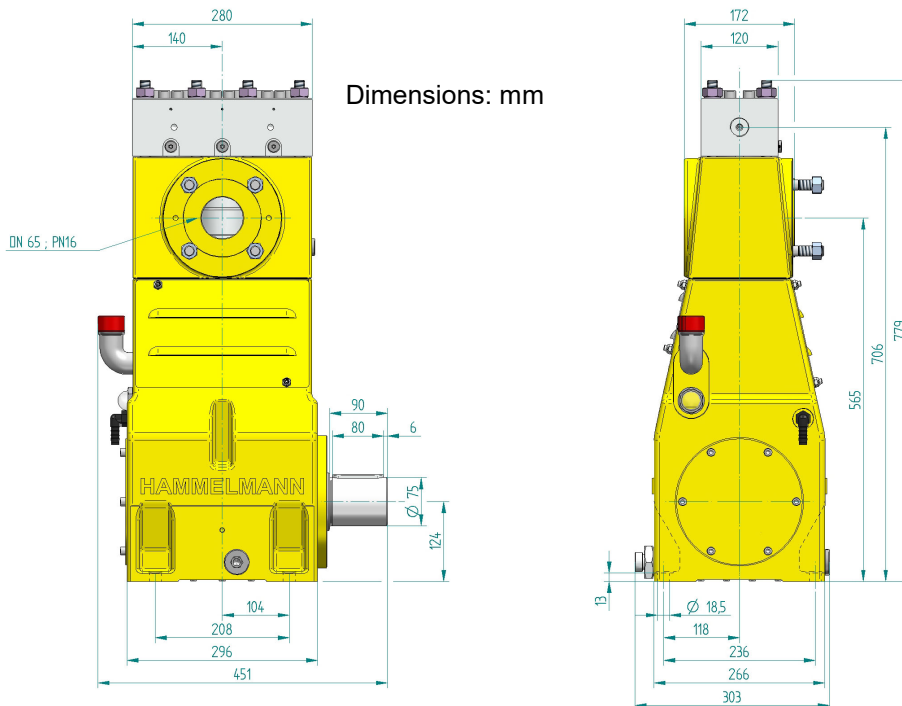
Design criteria

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. 419 lbs

Energy efficient →



Features

- Power ratings up to 40 HP
- 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
- Pressurised oil lubrication system

Stationary unit with electric motor

Length: 42 inch
 Width: 33 inch
 Height: 59 inch
 Weight: approx. 1,676 lbs at 40 HP

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.



HDP 30 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 [GPM]	Required power rating [HP]				
		15	20	25	30	40
Operating pressure [psig]						
34	0.4*	44950*	55100*			
	0.6*	31900*	43500*	53650*	55100*	
	0.7*	26830	36250*	44950*	53650*	
	0.8*	22330	30450*	37700*	44950*	55100*
	0.8 / 0.6*	28570	39150*	47850*	55100*	
	1.2 / 0.9*	20590	28130	34800*	40600*	55100*
	1.4 / 1.1*	17110	23350	29000*	34800*	46400*
	1.7 / 1.3*	14500	19430	24070	28570	39150*
	1.1 / 1.0*	19870	27120	33350*	39150*	40600*
	1.6 / 1.4*	14500	19430	24070	28570	39150*
	1.9 / 1.7*	11890	16240	20010	23780	31900*
	2.2 / 2.1*	9860	13490	16680	19870	27120
	2.3 / 2.3*	9140	14470	15370	18270	24650
	2.9 / 2.9*	7690	10440	12760	15230	20740
3.4 / 3.4*	6380	8700	10730	12760	17400	
3.2	6670	9140	11310	13490	18130	
4.0	5800	7690	9430	11170	15230	
7.8	4640	6380	7830	9280	12760	

D	r. p. m.	
	n 1	n 2
8	1500 / 1800 / 2150	
	450	625
	750	900
10	1500 / 1800 / 2150	
	450	625
	750	900
12	1500 / 1800 / 2150	
	450	625
	750	900
15	1500 / 1800 / 2150	
	625	750
	900	
17,5	1500 / 1800 / 2150	
	625	750
	900	

- Rod force: 6,744 lbf
- Stroke: 1.18 inch
- Mean piston speed at n₂
450 r.p.m. = 1.5 feet/sec
625 r.p.m. = 2.1 feet/sec
750 r.p.m. = 2.5 feet/sec
900 r.p.m. = 2.9 feet/sec

Typical high pressure pump units



- Stationary unit with diesel motor

*Ultra high pressure

HDP	Q	15	20	25	30	40
33	4.5	5080	6960	8700	10300	14210
	5.3	4350	5800	7250	8700	11750

20	1500/1800/2150	625	750
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32	5.3	4350	5800	7250	8700	11600
	6.3	3480	4790	5950	7250	9720
	6.3	3630	4930	5950	7250	9570
	7.7	3050	4060	5080	5950	8120
	7.1	3050	4350	5080	6090	8270
	8.4	2470	3480	4350	5080	6960
	10.0	2320	3190	3920	4640	6090
	11.9	1890	2610	3190	3770	5220
	13.7	1740	2320	2900	3340	4500
	16.4	1450	1890	2320	2900	3700
	18.0	1450	1750	2180	2610	3480
	21.3	1020	1450	1740	2180	2900
	22.7	1020	1450	1740	2030	2900
	27.2	870	1160	1450	1740	2320
	28.2	870	1160	1450	1600	2180
	34.1	730	870	1160	1450	1890
34.3	730	870	1160	1450	1890	
41.2	580	730	1020	1160	1600	

22	1500 / 1800 / 2150	625	750
		625	750
		625	750
		625	750
		625	750
		625	750
		625	750
		625	750
		625	750
		625	750



- Stationary unit with electric motor

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.



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

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

Conversion table
Rating 1 hp = 0,746 kW
Op. pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

- Stationary electric unit for cutting



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