

HDP 170 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 crank shaft speed, average plunger speed, plunger diameter and power rating.

High pressure pump

Weight: approx. 1150 lbs

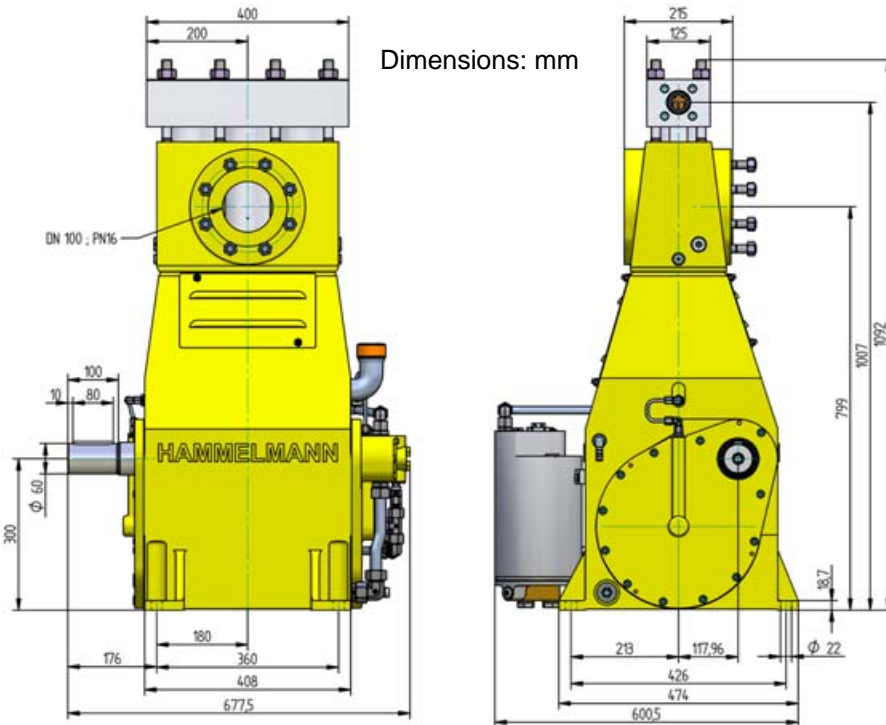


Features

- Power ratings up to 230 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

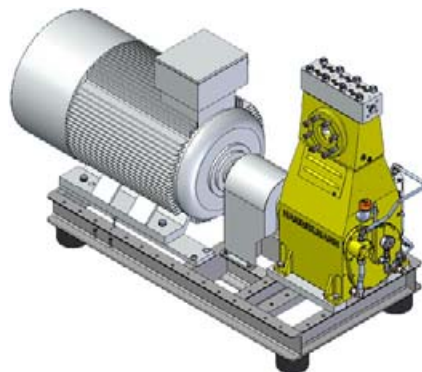
Quality and reliability

- 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

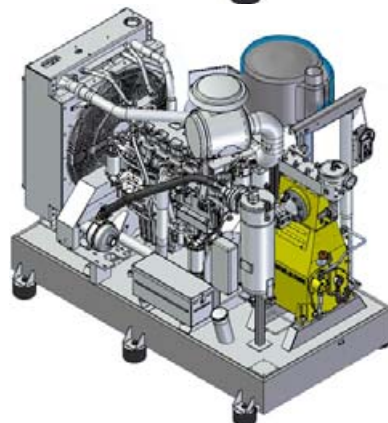
Length: 80 inch
Width: 34 inch
Height: 53 inch
Weight: approx. 4410 lbs at 210 HP



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: 94 inch
Width: 60 inch
Height: 78 inch
Weight: approx. 770 lbs at 250 HP with full fuel tank



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HDP 170 series, technical data

Performance parameters

Q [GPM]*	Required power rating [HP]						D	r.p.m.	
	100	120	150	175	215	230		n 1	n 2
Operating pressure [psig]									
5.0	29700	35500	43500				17,5	1500	385
6.1	24700	29700	36300	42800	43500			1500/1800	465
7.4	20300	24700	30500	36300	43500			1800/2150	555
6.6	22500	26800	33400	37700			20	1500	385
7.9	18900	22500	27600	33400	2600			1500/1800	465
9.5	1600	18900	23200	27600	2300	36300		1800/2150	555

* At pressures over 29,000 psi approx. 5% of the flow rate is lost due to the compressibility factor of water

10.6	14500	17400	21000	23900			25	1500	385
12.7		14500	17400	21000	23900			1500/1800	465
15.0			14500	17400	21000	23200		1800/2150	555

15.0	10000	12000	14500	16700			30	1500	385
18.2	8400	10000	12300	14500	16700			1500/1800	465
21.6	7000	8400	10300	12300	14500	16000		1800/2150	555
20.9	7400	8800	10900	12300			35	1500	385
24.8	6100	7400	9000	10900	12300			1500/1800	465
29.8	5100	6200	7500	9100	11000	11700		1800/2150	555
27.5	5700	6800	8300	9400			40	1500	385
32.7	4600	5700	7000	8300	9400			1500/1800	465
39.3	3900	4600	5800	7000	8400	9000		1800/2150	555
35.1	4500	5400	6500	7400			45	1500	385
42.0	3800	4500	5500	6500	7400			1500/1800	465
50.2	3000	3800	4500	5500	6700	7100		1800/2150	555
43.6	3600	4400	5400	6100			50	1500	385
52.3	3000	3600	4400	5200	6100			1500/1800	465
62.6	2500	3000	3600	4400	5400	5800		1800/2150	555
52.8	2900	3600	4400	4900			55	1500	385
63.1	2500	2900	3600	4400	4900			1500/1800	465
75.2	2000	2500	3000	3600	4400	4800		1800/2150	555
62.3	2500	3000	3600	4200			60	1500	385
74.4	2000	2500	3000	3600	4200			1500/1800	465
89.2	1700	2000	2500	3000	3800	3900		1800/2150	555
84.7	1700	2200	2600	3000			70	1500	385
101.4	1500	1700	2200	2600	3000			1500/1800	465
121.4	1300	1500	1900	2200	2800	2900		1800/2150	555

Type designations

Sealing system	D	HDP Type
Hydrodynamic with tungsten carbide plungers	0.7 + 0.8	174
Hydrodynamic with solid ceramic plungers	1	173
Labyrinth with solid ceramic plungers	1.2 – 2.8	172
Packed sleeves with solid ceramic plungers	1.2 – 2.8	177

D = Plunger dia. [inch]

D = Piston/Plunger dia. [mm]

n1 = Motor/Engine r.p.m.

n2 = Crankshaft r.p.m.

- Rod force: 60,500 lbf
- Stroke: 2.95 inch
- Mean piston speed at n₂
- 385 r.p.m. = 3.2 feet/sec
- 465 r.p.m. = 3.8 feet/sec
- 555 r.p.m. = 4.6 feet/sec

Typical high pressure pump units



- Stationary unit with electric motor



- Road going trailer or stationary units with sound damping cover



- 10 or 20 foot sound damped container versions

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