

HDP 340 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. 2,360 lbs

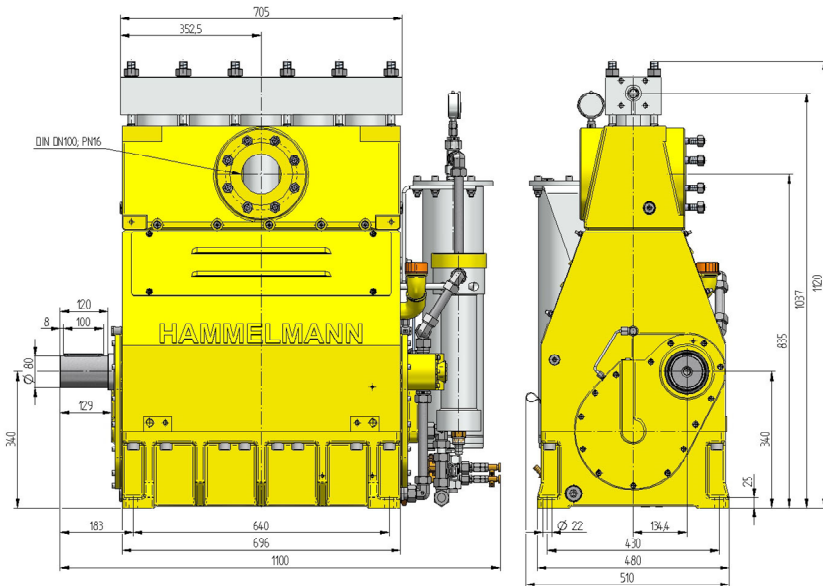


Features

- Power ratings up to 460 HP
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

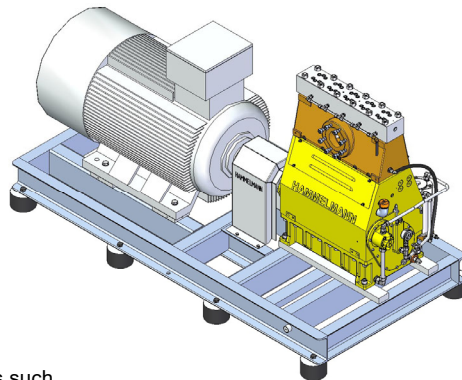
Quality and reliability

- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Stainless steel pump head free of alternating stress
- Crankshaft supported by 3 bearings and incorporating twin helical speed reducing gears
- Pressurised oil lubrication system with oil cooler/filter
- Bellows form hermetic seal between the suction chamber and crank section
- Solid ceramic or tungsten carbide plungers
- Choice of application specific seal assemblies
- Choice of bronze (standard) or stainless steel suction chamber



Stationary unit with electric motor

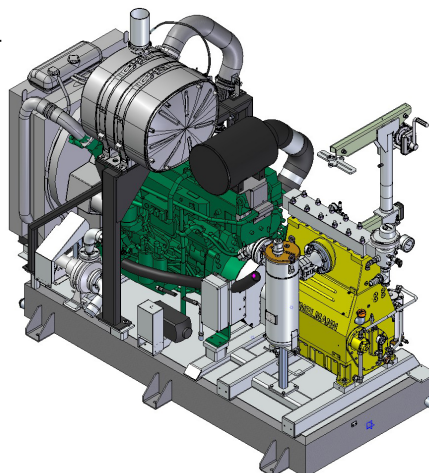
Length: 114.2 inch
 Width: 50.8 inch
 Height: 68.9 inch
 Weight: approx. 8,378 lbs at 460 HP



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.

Stationary unit with diesel engine

Length: 120.5 inch
 Width: 61.8 inch
 Height: 102.4 inch
 Weight: approx. 9,921 lbs with full fuel tank



Technical data, series HDP 340

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]						D	r.p.m.	
		150	180	270	340	400	460		n 1	n 2
		Operating pressure [psi]								
344	6.9 / 6.3*	33350*	40600*	60900*	65250*			17,5	1500	411
	8.2 / 7.7*	27840	33350*	50750*	63800*	65250*		17,5	1500/1800	493
	9.8 / 9.2*	23200	27840	42050*	52200*	63800*	65250*		1800/2150	591
	9.2 / 8.7*	24650	29000*	44950*				17,5	1500	411
	11.1/10.6*	20450	24650	37700*	46400*			17,5	1500/1800	493
	13.5/12.4*	17110	20450	30450	39150*	46400*			1800/2150	591
	11.1/10.3*	20300	24220	36250*	43500*			19,3	1500	411
	13.5/12.7*	16820	20300	30450*	37000*	43500*		19,3	1500/1800	493
	16.1/15.3*	14070	16820	25520	31900*	37700*	43500*		1800/2150	591
	12.1/11.4*	18850	22480	34800	40600*			20	1500	411
14.5/13.5*	15660	18850	28420	36250*	43500*		20	1500/1800	493	
17.2/16.1*	13050	15660	23780	30450*	37000*	40600*		1800/2150	591	
* Ultra high pressure										
343	19.0	12040	14500	21900	26100			25	1500	411
	22.7	10150	12040	18270	22770	26100		25	1500/1800	493
	27.2	8410	10150	15230	18995	22770	25810		1800/2150	591
	23.5	9570	11600	17400	20740			28	1500	411
	28.2	7980	9570	14500	18130	20740		28	1500/1800	493
	33.8	6670	7980	12180	15080	18130	20590		1800/2150	591
342	26.7	8410	10150	15230	17980			30	1500	411
	32.2	6960	8410	12620	15950	17980		30	1500/1800	493
	38.5	5800	6960	10590	13200	15950	17980		1800/2150	591
	33.5	6960	8270	12470	14940			33	1500	411
	40.1	5800	6960	10440	13050	14940		33	1500/1800	493
	48.0	4790	5800	8700	10880	13050	14790		1800/2150	591
	36.7	6090	7400	11170	13200			35	1500	411
	44.1	5080	6090	9280	11600	13200		35	1500/1800	493
	52.8	4350	5080	7690	9720	11600	13200		1800/2150	591
	48.6	4640	5800	8700	10150			40	1500	411
	58.3	3920	4640	7250	8850	10150		40	1500/1800	493
	70.0	3340	3920	5950	7400	8850	10150		1800/2150	591
	62.0	3770	4500	6820	7980			45	1500	411
	74.4	3050	3770	5800	6960	7980		45	1500/1800	493
	89.2	2610	3050	4640	5800	7250	7980		1800/2150	591
	77.6	3050	3630	5510	6530			50	1500	411
	92.9	2470	3050	4500	5800	6530		50	1500/1800	493
	111.4	2030	2470	3770	4790	5800	6530		1800/2150	591
	93.7	2470	3050	4500	5370			55	1500	411
	112.5	2030	2470	3770	4640	5370		55	1500/1800	493
	134.9	1740	2030	3190	3920	4640	5370		1800/2150	591
	110.4	2030	2030	3770	4500			60	1500	411
	132.5	1740	1740	3190	3920	4500		60	1500/1800	493
	159.0	1450	2180	2610	3340	3920	4500		1800/2150	591
	129.6	1740	1740	3190	3920			65	1500	411
	155.5	1450	1450	2900	3340	3920		65	1500/1800	493
	186.3	1450	1890	2320	2900	3340	3770		1800/2150	591
	150.2	1595	1600	2900	3340			70	1500	411
180.3	1450	1450	2320	2900	3340		70	1500/1800	493	
216.2	1020	1450	1890	2470	2900	3340		1800/2150	591	
196.4	1160	1450	2180	2610			80	1500	411	
235.5	1020	1160	1740	2180	2610		80	1500/1800	493	
282.2	870	1020	1450	1890	2180	2470		1800/2150	591	

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

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

- Rod force: 88 kN
- Stroke: 3 inch
- Mean piston speed at n2
 411 r.p.m. = 3.35 feet/sec
 493 r.p.m. = 4.0 feet/sec
 591 r.p.m. = 4.86 feet/sec

Typical high pressure pump units



- Stationary diesel unit in BDF-Container with workshop



- Stationary electric unit



- Electric unit in container



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

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