

High Pressure Pump Series HDP 480

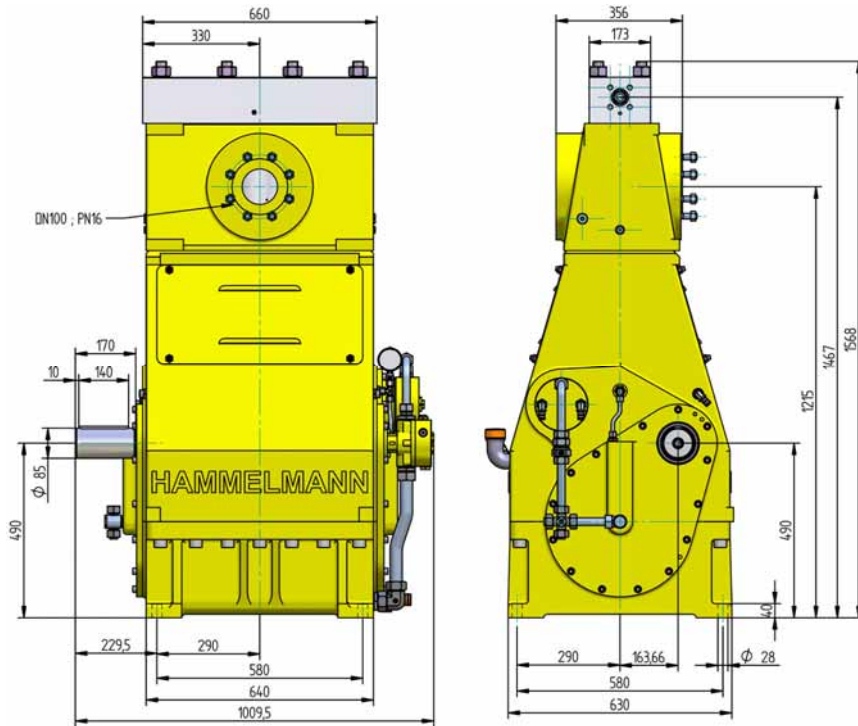
Design criteria

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: 1960 kg

Energy efficient →



Features

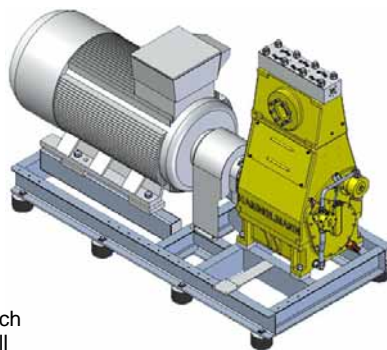
- Power ratings up to 480 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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 electric motor

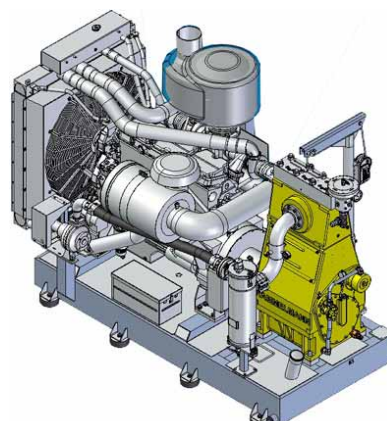
Length: 2896 mm
 Width: 1330 mm
 Height: 1910 mm
 Weight: approx. 5600 kg at 400 kW



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.

Stationary unit with diesel engine

Length: 3140 mm
 Width: 1690 mm
 Height: 2410 mm
 Weight: approx. 6700 kg at 522 kW with full fuel tank



HDP 480 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.	
		300	350	400	450	480		n 1	n 2
		Operating pressure [bar]							
484	52*	3000*					28	1500	315
	63*	2550*	2950*	3000*		1500/1800		380	
	77*	2100*	2450*	2750*	3000*	1800		465	
85 / 83* 102 / 100* 125 / 122*		1850	2050*			35	1500	315	
		1550	1800	2050*			1500/1800	380	
		1250	1450	1700	1900		1800	465	
					2050*				

- Rod force: 200 kN
- Stroke: 100 mm
- Mean piston speed at n₂
- 315 r.p.m. = 1,06 m/sec
- 380 r.p.m. = 1,27 m/sec
- 465 r.p.m. = 1,54 m/sec

*Ultra high pressure

483	113	1400	1600			40	1500	315
	136	1150	1350	1550	1600		1500/1800	380
	166	980	1150	1300	1450		1800	465

Typical high pressure pump units



- Stationary unit with diesel motor

482	143	1100	1250			45	1500	315	
	173	930	1080	1200	1250		1500/1800	380	
	212	770	900	1030	1150		1800	465	
	175	210	920	1020			50	1500	315
		256	760	880	1000	1020		1500/1800	380
			630	730	830	940		1800	465
	214	257	760	840			55	1500	315
		313	620	720	830	840		1500/1800	380
			520	600	690	770		1800	465
	258	309	640	710			60	1500	315
		377	520	610	690	710		1500/1800	380
			440	500	580	650		1800	465
	306	367	540	600			65	1500	315
		447	450	520	590	600		1500/1800	380
			370	430	490	550		1800	465
	354	425	470	520			70	1500	315
		518	380	440	510	520		1500/1800	380
			320	370	420	480		1800	465
	407	488	410	450			75	1500	315
		595	330	390	440	450		1500/1800	380
		280	320	370	410	1800		465	
463	556	360	400			80	1500	315	
	677	290	340	390	400		1500/1800	380	
		240	280	320	360		1800	465	
586	703	280	310			90	1500	315	
	857	230	270	310			1500/1800	380	
		190	220	250	290		1800	465	
723	868	230	250			100	1500	315	
	1058	190	220	250			1500/1800	380	
		150	180	200	230		1800	465	



- Stationary unit with electric motor

Conversion table
 Rating 1 kW = 1.34 HP
 Op. pressure bar = 14.5 psi
 Flow rate 1 l = 0.264 US gallon
 1 l = 0.22 Imp. gallon

HDP	Abdichtung**	Dichtsystem
484	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
483	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
482	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramik plunger / packing
	Packing from D 80 mm dia	Ceramic plunger / packing

D = Piston/Plunger dia. [mm]
 n1 = Motor/Engine r.p.m. [1/min]
 n2 = Crankshaft r.p.m. [1/min]

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

Energy efficient →

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

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