

HDP 300 High Pressure Pump series



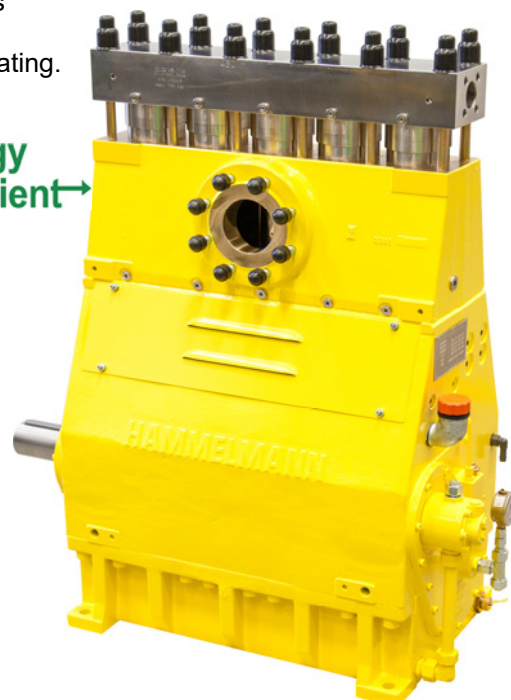
Design criteria

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. 1070 kg

Energy efficient →

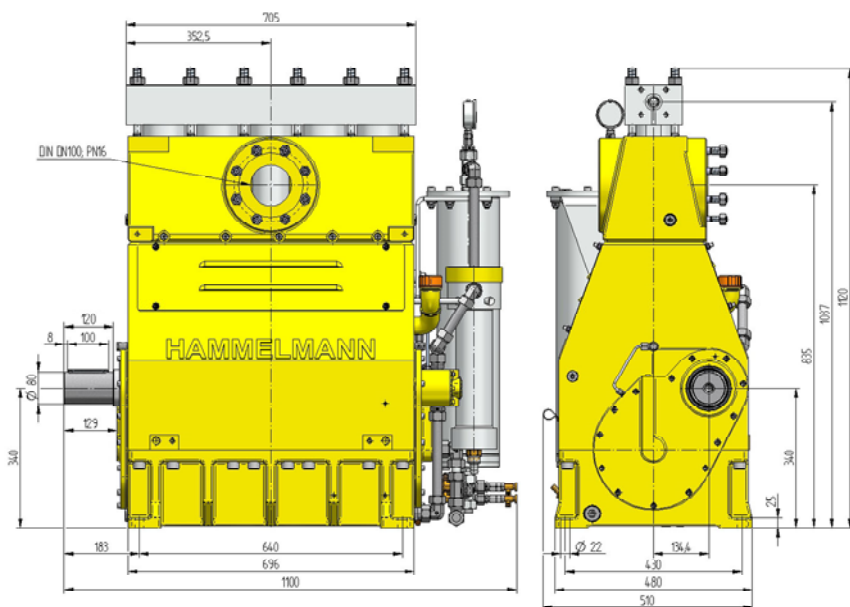


Features

- Power ratings up to 300 kW
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

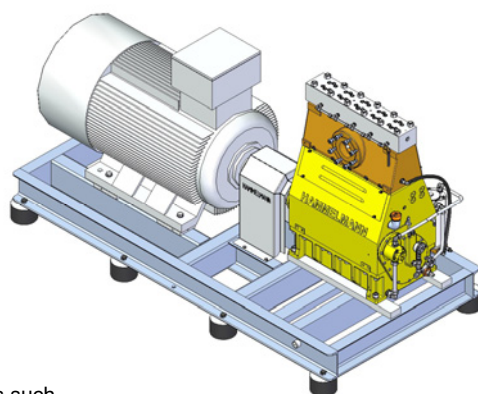
Quality and reliability

- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Stainless steel pump head free of alternating stress
- Integral speed reduction gear
- 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

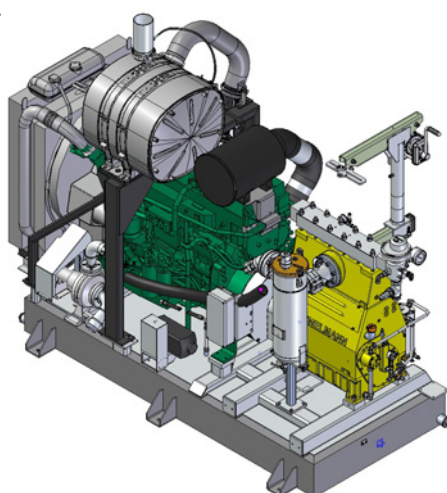
Length: 2570 mm
Width: 1290 mm
Height: 1440 mm
Weight: approx. 3200 kg at 250 kW



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: 3060 mm
Width: 1570 mm
Height: 2600 mm
Weight: approx. 4500 kg at 315 kW with full fuel tank



HAMMELMANN®

Technical data, series HDP 300

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.	
		110	132	160	200	250	300		n 1	n 2
		Operating pressure [bar]								
304	26/24*	2300*	2800*	3400*	4000*			15	1500	411
	31/29*	1920	2300*	2800*	3500*	4000*			1500/1800	493
	37/35*	1600	1920	2300*	2900*	3600*	4000*		1800/2150	591
	35/33*	1700	2000*	2500*	3100*			17,5	1500	411
	42/40*	1410	1700	2100*	2600*	3200*			1500/1800	493
	51/47*	1180	1410	1710	2100*	2700*	3200*		1800/2150	591
	46/43*	1300	1550	1880	2400*	2800*		20	1500	411
	55/51*	1080	1300	1570	1960	2500*	2800*		1500/1800	493
	65/61*	900	1080	1310	1640	2100*	2500*		1800/2150	591
* Ultra high pressure										
303	72	830	1000	1210	1510	1800		25	1500	411
	86	700	830	1000	1260	1570	1800		1500/1800	493
	103	580	700	840	1050	1310	1570		1800/2150	591
	89	660	800	960	1200	1430		28	1500	411
	107	550	660	800	1000	1250	1430		1500/1800	493
128	460	550	670	840	1040	1250		1800/2150	591	
302	101	580	700	840	1050	1240		30	1500	411
	122	480	580	700	870	1100	1240		1500/1800	493
	146	400	480	580	730	910	1100		1800/2150	591
	127	480	570	700	860	1030		33	1500	411
	152	400	480	580	720	900	1030		1500/1800	493
	182	330	400	480	600	750	900		1800/2150	591
	139	420	510	620	770	910		35	1500	411
	167	350	420	510	640	800	910		1500/1800	493
	200	300	350	430	530	670	800		1800/2150	591
	184	320	400	470	600	700		40	1500	411
	221	270	320	400	500	610	700		1500/1800	493
	265	230	270	330	410	510	610		1800/2150	591
	235	260	310	370	470	550		45	1500	411
	282	210	260	310	400	480	550		1500/1800	493
	338	180	210	260	320	400	500		1800/2150	591
	294	210	250	300	380	450		50	1500	411
	352	170	210	250	310	400	450		1500/1800	493
	422	140	170	210	260	330	400		1800/2150	591
	355	170	210	250	310	370		55	1500	411
	426	140	170	210	260	320	370		1500/1800	493
	511	120	140	170	220	270	320		1800/2150	591
	418	140	170	210	260	310		60	1500	411
	502	120	140	170	220	270	310		1500/1800	493
	602	100	120	150	180	230	270		1800/2150	591
	491	120	150	180	220	270		65	1500	411
	589	100	120	150	200	230	270		1500/1800	493
	706	100	100	120	160	200	230		1800/2150	591
	569	110	130	150	200	230		70	1500	411
	683	100	110	130	160	200	230		1500/1800	493
	819	70	100	110	130	170	200		1800/2150	591
	744	80	100	120	150	180		80	1500	411
	892	70	80	100	120	150	180		1500/1800	493
	1069	60	70	80	100	130	150		1800/2150	591

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

*** Special ceramic plungers up to max. 3200 bar.

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

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

CALDER

- Rod force: 88 kN
- Stroke: 75 mm
- Mean piston speed at n₂
411 r.p.m. = 1,02 m/sec
493 r.p.m. = 1,23 m/sec
591 r.p.m. = 1,48 m/sec

Typical high pressure pump units



- Stationary diesel unit in BDF-Container with workshop



- Stationary electric unit



- Electric unit in container

Energy efficient →

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

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