

HDP 300 High Pressure Pump series

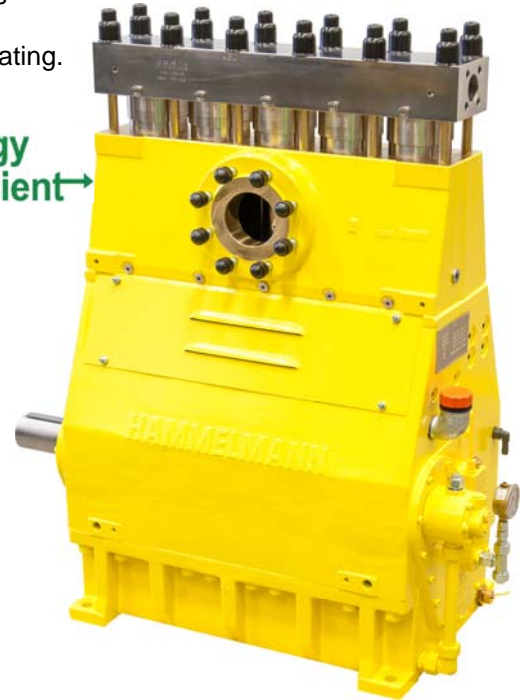
Design criteria

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 →

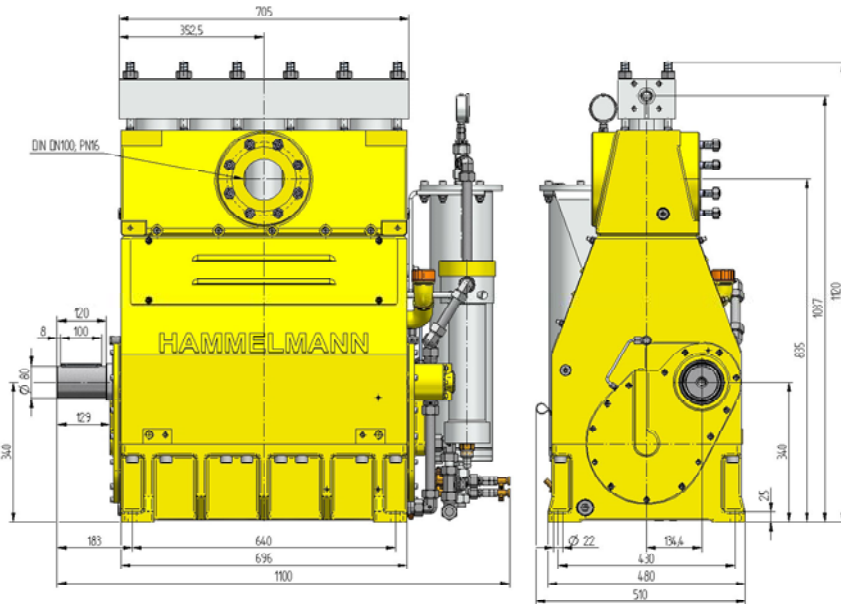


Features

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

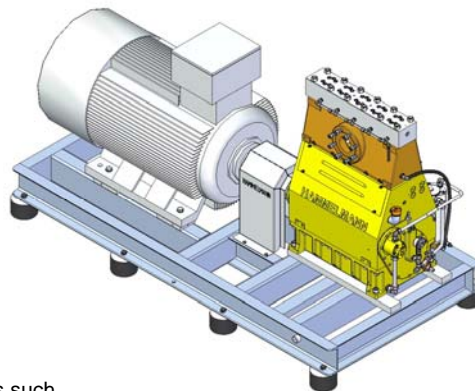
Quality and reliability

- 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

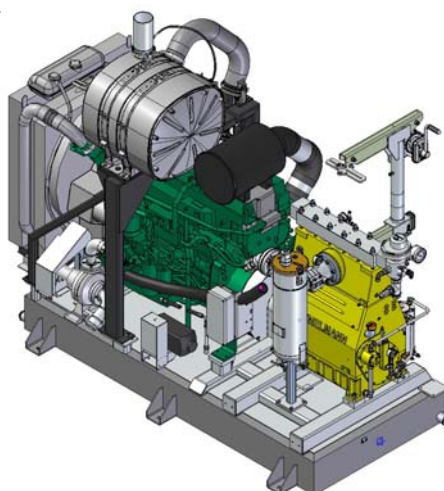
Length: 2570 mm
Width: 1290 mm
Height: 1440 mm
Weight: approx. 3200 kg at 250 kW



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



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	35/33*	1650	1950	2500*	3200*			17,5	1500	411
	42/39*	1350	1650	1950	2500*	3200*			1500/1800	493
	51/47*	1150	1350	1650	2300*	2600*	3200*		1800/2150	591
	46/42*	1250	1500	1850	2500*	2800*		20	1500	411
	55/51*	1050	1250	1500	1900	2400*	2800*		1500/1800	493
	66/62*	900	1050	1300	1600	2000*	2600*		1800/2150	591
303	70	810	970	1170	1470	1800		25	1500	411
	86	670	800	970	1220	1520	1800		1500/1800	493
	101	560	670	810	1020	1270	1600		1800/2150	591
	88	640	770	930	1170	1430		28	1500	411
	107	530	640	780	970	1210	1430		1500/1800	493
	126	450	540	650	810	1020	1300		1800/2150	591
302	101	560	670	810	1020	1240		30	1500	411
	122	460	560	670	840	1050	1240		1500/1800	493
	145	390	470	570	710	890	1100		1800/2150	591
	126	480	560	690	870	1030		33	1500	411
	152	390	470	570	720	900	1030		1500/1800	493
	182	330	390	480	600	750	900		1800/2150	591
	139	410	490	600	750	910		35	1500	411
	167	340	410	500	620	780	910		1500/1800	493
	200	290	340	420	520	650	800		1800/2150	591
	185	310	380	460	570	700		40	1500	411
	221	260	310	380	470	590	700		1500/1800	493
	264	220	260	320	400	500	620		1800/2150	591
	237	250	300	360	450	550		45	1500	411
	282	210	250	300	380	470	550		1500/1800	493
	337	170	210	250	310	390	480		1800/2150	591
	295	200	240	290	360	450		50	1500	411
	352	170	200	240	300	380	450		1500/1800	493
	421	140	170	200	250	320	380		1800/2150	591
	357	170	200	240	300	370		55	1500	411
	426	140	170	200	250	310	370		1500/1800	493
	509	120	140	170	210	260	320		1800/2150	591
	418	140	170	200	250	310		60	1500	411
	502	120	140	170	210	260	310		1500/1800	493
	600	100	120	140	180	220	270		1800/2150	591
	491	120	140	170	220	270		65	1500	411
	589	100	120	140	180	220	260		1500/1800	493
	704	80	100	120	150	190	230		1800/2150	591
	569	100	120	150	190	230		70	1500	411
	683	90	100	120	160	190	230		1500/1800	493
	818	70	90	100	130	160	200		1800/2150	591
744	80	95	115	145	170		80	1500	411	
892	65	80	95	120	150	170		1500/1800	493	
1069	55	65	80	100	125	150		1800/2150	591	

* Ultra high pressure

- 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

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

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

D = Piston/Plunger dia. [mm]

n1 = Motor/Engine r.p.m.

n2 = Crankshaft

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

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