

High Pressure Pump Series HDP 750

Design criteria

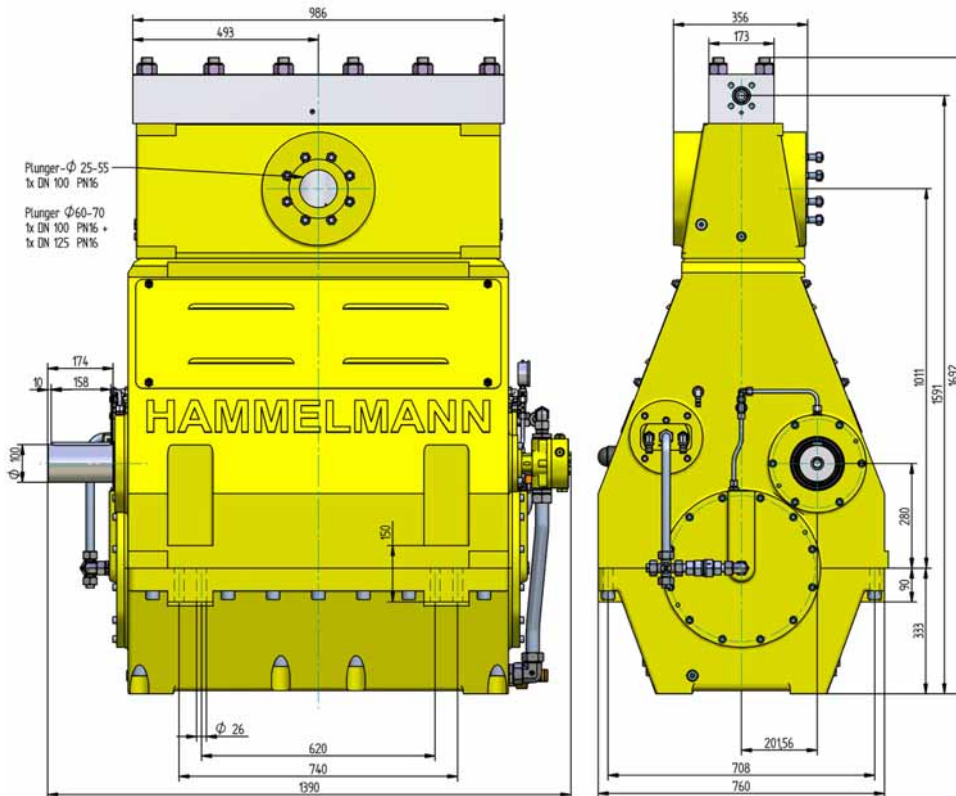
Hammelmann high pressure pumps are built to operate at the continuous maximum duty stated in the performance parameters. Just compare the crankshaft speed, average plunger speed, plunger diameter and power rating.

Energy efficient →



High pressure pump

Weight: approx. 3700 kg



Features

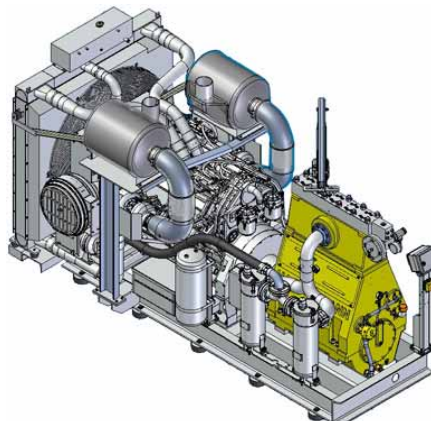
- Power ratings up to 750 kW
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

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
- Twin helical integral reduction gear with crankshaft supported by 4 bearings
- Pressurised oil lubrication system with oil cooler/filter

Stationary unit with diesel engine

Length: 3970 mm
Width: 2100 mm
Height: 2225 mm
Weight: approx. 9200 kg
at 839 kW and
without full fuel tank



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.

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HDP 750 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.	
		500	560	600	650	700	750		n 1	n 2
		Operating pressure [bar]								
754	87* 105* 129*	3000*	2800*	3000*				28	1500	315
		2500*	2350*	2500*	2700*	2950*	3000*		1500/1800	380
	141 / 139* 170 / 166* 208 / 203*	1850	2000*	1800	2000*	2050*		35	1500	315
		1500	1700	1800	1650	1750	1900		1500/1800	380
753	188	1400	1600					40	1500	315
	227	1150	1300	1400	1500	1600			1500/1800	380
	277	980	1100	1150	1250	1350	1450		1800	465
752	238	1100	1250					45	1500	315
	288	930	1030	1100	1200	1250			1500/1800	380
	353	770	860	930	1000	1080	1150		1800	465
	297	910	1020					50	1500	315
	357	750	840	900	980	1020			1500/1800	380
	437	620	700	750	810	870	940		1800	465
	357	750	840					55	1500	315
	429	620	690	740	810	840			1500/1800	380
	522	510	580	620	670	720	770		1800	465
	430	630	710					60	1500	315
	516	520	580	620	680	710			1500/1800	380
	628	430	480	520	560	610	650		1800	465
	509	540	600					65	1500	315
	611	440	500	530	580	600			1500/1800	380
	745	370	410	440	480	520	550		1800	465
	591	460	520					70	1500	315
709	380	430	460	500	520		1500/1800		380	
864	320	350	380	410	440	480	1800		465	
748	350	400					80	1500	315	
897	290	330	350	380	390			1500/1800	380	
1094	240	270	290	310	340	360		1800	465	
957	280	310					90	1500	315	
1148	230	260	280	300	310			1500/1800	380	
1399	190	210	230	250	270	290		1800	465	
1193	230	250					100	1500	315	
1432	180	210	220	240	250			1500/1800	380	
1745	150	170	180	200	220	230		1800	465	

*Ultra high pressure

- 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

Typical high pressure pump units



- Stationary unit with diesel motor



- Diesel unit in container with workshop



- Stationary unit with electric motor

HDP	Seal**	Sealing system
754	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
753	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
752	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramik plunger / packing
	Packings from 80 mm dia.	Ceramik plunger / packing

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

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

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



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

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