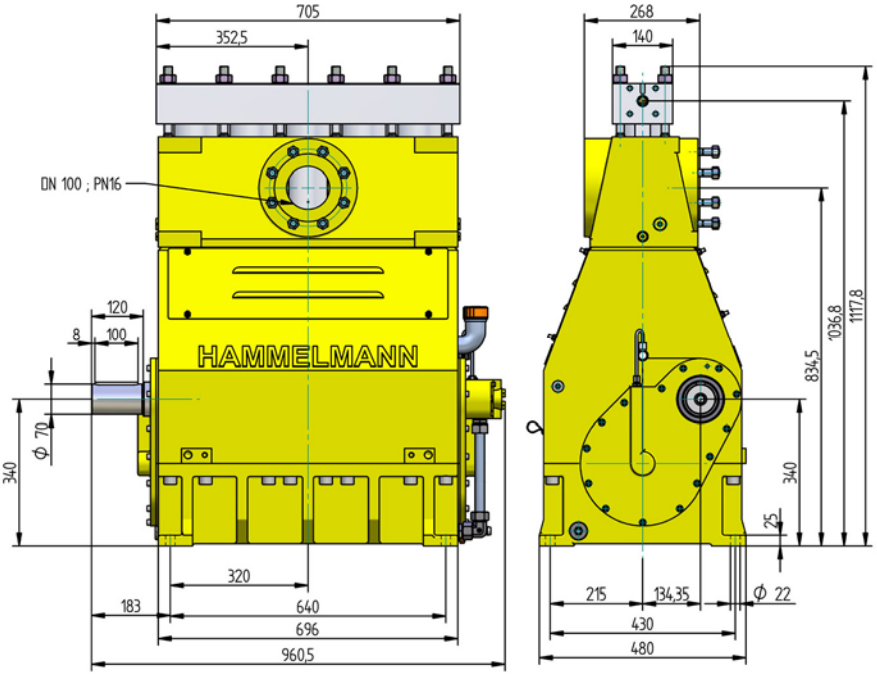
HDP 250 High Pressure Pump series

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



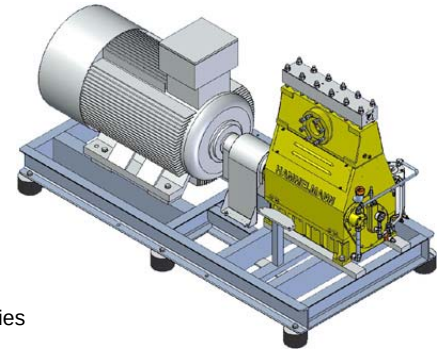
Energy efficient

Features

- Power ratings up to 250 kW
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

Stationary unit with electric motor

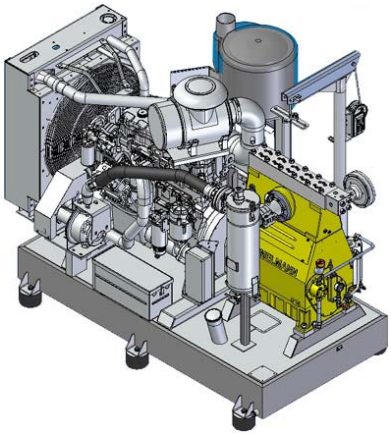
Length: 2578 mm
Width: 1290 mm
Height: 1440 mm
Weight: approx. 3200 kg at 250 kW



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: 2630 mm
Width: 1570 mm
Height: 2085 mm
Weight: approx. 4150 kg at 280 kW with full fuel tank



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 3 bearings and incorporating twin helical speed reducing gears
- Pressurised oil lubrication system with oil cooler/filter

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Technical data, series HDP 250

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] / Operating pressure [bar] 110	132	160	200	250	D	r.p.m. n 1	r.p.m. n 2
254	33 / 31*	1800	2250*	2750*	3000*		17,5	1500	390
	40 / 37*	1500	1800	2250*	2850*	3200*		1500/1800	465
	48 / 44*		1500	1800	2350*	3200*		1800/2150	555
	44 / 40*	1350	1650	2100*	2600*		20	1500	390
	52 / 48*		1350	1650	2150*	2600*		1500/1800	465
	63 / 57*			1350	1700	2400*		1800/2150	555
253	67			1250	1600	1650	25	1500	390
	80				1300	1650		1500/1800	465
	96					1450		1800/2150	555
252	97	610	730	890	1100	1160	30	1500	390
	116	510	610	740	920	1150		1500/1800	465
	139	420	510	620	770	1000		1800/2150	555
	132	450	540	650	810	850	35	1500	390
	158	370	450	540	680	850		1500/1800	465
	189	310	370	450	560	740		1800/2150	555
	174	340	410	500	620	650	40	1500	390
	208	280	340	410	520	650		1500/1800	465
	249	240	280	340	430	540		1800/2150	555
	222	270	320	390	490	510	45	1500	390
	266	220	270	330	410	510		1500/1800	465
	319	190	220	270	340	430		1800/2150	555
	277	220	260	320	400	420	50	1500	390
	332	180	220	260	330	410		1500/1800	465
	398	150	180	220	270	340		1800/2150	555
	336	180	210	260	330	340	55	1500	390
	400	150	180	220	270	340		1500/1800	465
	479	120	150	180	230	280		1800/2150	555
	395	150	180	220	270	290	60	1500	390
	473	120	150	180	230	280		1500/1800	465
	567	100	120	150	190	240		1800/2150	555
	538	110	130	160	200	210	70	1500	390
	644	90	110	130	170	210		1500/1800	465
	766	70	90	110	140	170		1800/2150	555

*Ultra high pressure 3200 bar only for stationary units

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

HDP	Seal **	Sealing system
254	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
253	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
252	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramik plunger / packing

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

*** Special ceramic plungers up to max. 2600 bar.

- Rod force: 82 kN
- Stroke: 75 mm
- Mean piston speed at n_2
  390 r.p.m. = 0,97 m/sec
  465 r.p.m. = 1,16 m/sec
  555 r.p.m. = 1,39 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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