

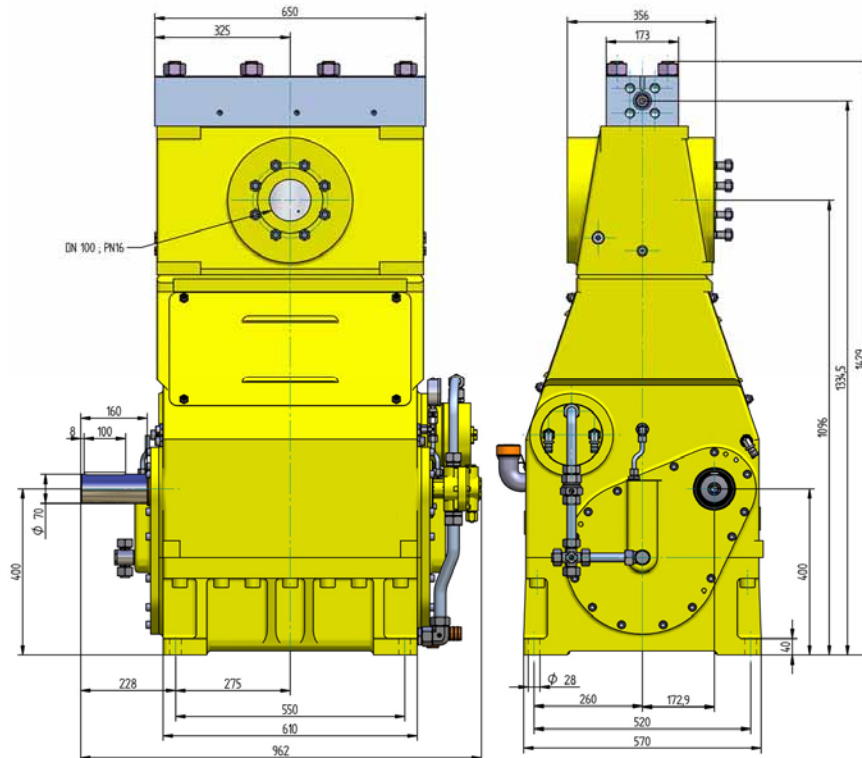
# HDP 380 High Pressure Pump Series

## 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. 1700 kg



### Features

- Power ratings up to 380 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

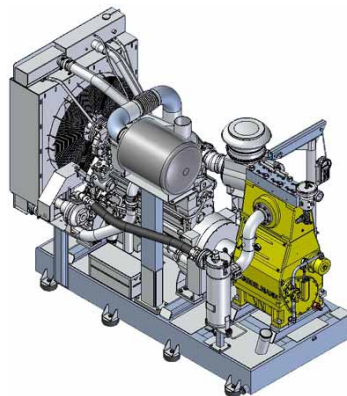
### Stationary unit with diesel motor

Length: 3220 mm

Width: 1570 mm

Height: 2320 mm

Weight: approx. 6500 kg  
at 403 kW with full fuel tank



Main dimensions without accessories such as suction line, pressure regulator etc. Detailed dimensional drawings and weights available on request.

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# HDP 380 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.	
		200	250	300	350	380		n 1	n 2
		Operating pressure [bar]							
384	42*	2550*	3000*				28	1500	340
	51*	2100*	2650*	3000*		1500/1800		410	
	61*	1680	2220*	2650*	3000*	1800		490	
384	68 / 67*	1550	1900	2200*		35	1500	340	
	83 / 81*	1300	1600	1900	2200*		1500/1800	410	
	99 / 97*	1070	1350	1600	1900		1800	490	
*Ultra high pressure									
383	89	1180	1480	1670		40	1500	340	
	107	980	1230	1470	1670		1500/1800	410	
	128	820	1030	1230	1440		1800	490	
383	117	930	1170	1320		45	1500	340	
	141	780	970	1170	1320		1500/1800	410	
	168	650	810	970	1140		1800	490	
382	142	760	950	1070		50	1500	340	
	170	630	790	940	1070		1500/1800	410	
	204	530	660	790	920		1800	490	
	382	174	630	780	880		55	1500	340
		208	520	650	780	880		1500/1800	410
		249	430	540	650	760		1800	490
	382	209	530	660	740		60	1500	340
		250	440	550	660	740		1500/1800	410
		300	360	460	550	640		1800	490
	382	247	450	560	630		65	1500	340
		296	370	470	560	630		1500/1800	410
		355	310	390	470	550		1800	490
382	287	390	480	540		70	1500	340	
	344	320	400	480	540		1500/1800	410	
	412	270	330	400	470		1800	490	
382	329	340	420	470		75	1500	340	
	394	280	350	420	470		1500/1800	410	
	473	230	290	350	410		1800	490	
382	371	290	370	410		80	1500	340	
	448	240	310	370	410		1500/1800	410	
	535	200	250	310	360		1800	490	
381 High flow	371	290	370	410		80	1500	340	
	448	240	310	370	410		1500/1800	410	
	535	200	250	310	360		1800	490	
	381 High flow	410	260	330	370		85	1500	340
		491	220	270	330	370		1500/1800	410
		592	180	230	270	320		1800	490
	381 High flow	465	230	290	330		90	1500	340
		556	190	240	290	330		1500/1800	410
		668	160	200	240	280		1800	490
	381 High flow	580	190	230	260		100	1500	340
		694	150	190	230	260		1500/1800	410
		833	130	160	190	230		1800	490
381 High flow	709	150	190	220		110	1500	340	
	849	130	160	190	220		1500/1800	410	
	1018	110	135	160	190		1800	490	

- Rod force: 210 kN
- Stroke: 75 mm
- Mean piston speed at n<sub>2</sub>  
340 r.p.m. = 0,86 m/sec  
410 r.p.m. = 1,03 m/sec  
490 r.p.m. = 1,23 m/sec

Typical high pressure pump units



- Stationary unit with diesel motor



- Diesel unit in container

**Energy efficient** →

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

D = Piston/Plunger dia. [mm]

n1 = Motor/Engine r.p.m.

n2 = Crankshaft r.p.

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

HDP	Seal**	Sealing system
384	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
383	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
382	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramik plunger / packing
381	Packing	Ceramik plunger / packing

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

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