

# HDP 170 High Pressure Pump Series

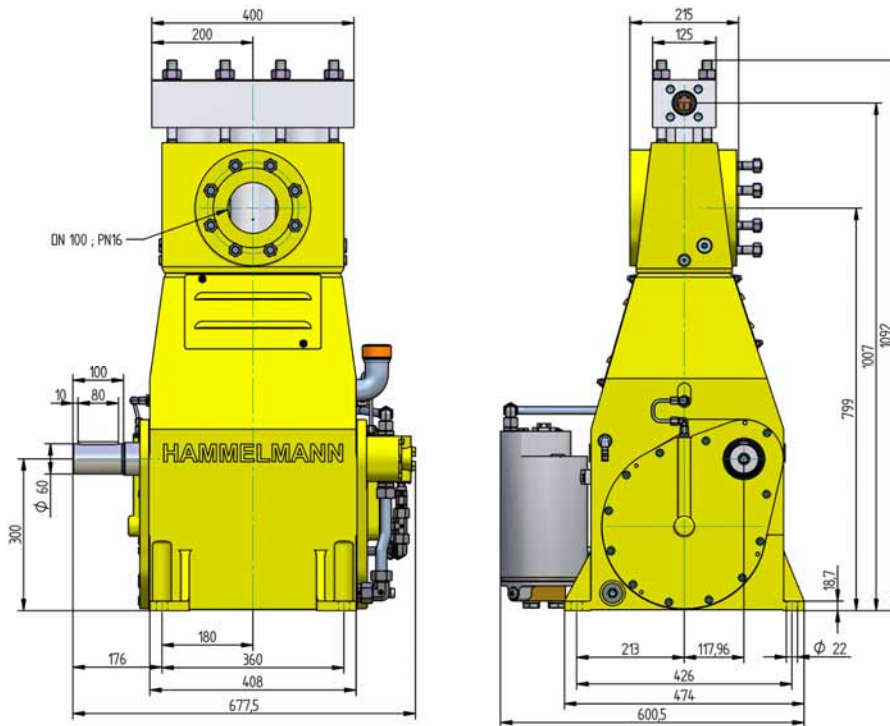
## Design criteria

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. 525 kg

Energy efficient →



### Features

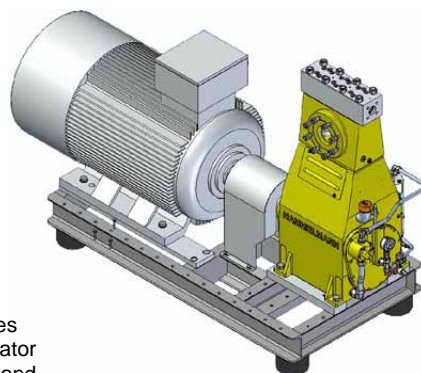
- Power ratings up to 170 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

### Quality and reliability

- Stainless steel pump head free of alternating stress
- Bellows form hermetic seal between the suction chamber and crank section
- Choice of application specific seal assemblies
- Solid ceramic or tungsten carbide plungers
- Choice of bronze (standard) or stainless steel suction chamber
- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Integral speed reduction gear
- Pressurised oil lubrication system with oil cooler/filter

### Stationary unit with electric motor

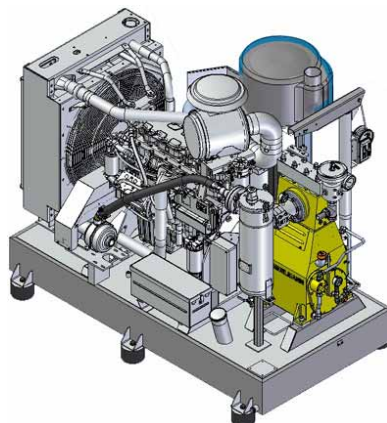
Length: 2048 mm  
Width: 885 mm  
Height: 1350 mm  
Weight: approx. 2000 kg at 160 kW



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

### Stationary unit with diesel motor

Length: 2405 mm  
Width: 1540 mm  
Height: 1995 mm  
Weight: approx. 3500 kg at 186 kW with full fuel tank



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# HDP 170 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.	
		75	90	110	132	160	170		n 1	n 2
		Operating pressure [bar]								
174	20 / 18*	2050*	2450*	3000*				17,5	1500	385
	24 / 22*	1700	2050*	2500*	3000*	3200*			1500/1800	465
	28 / 26*	1400	1700	2100*	2500*	3000*	3200*		1800/2150	555
174	26 / 24*	1550	1850	2300*	2600*			20	1500	385
	31 / 28*	1300	1550	1900	2300*	2600*			1500/1800	465
	37 / 34*	1100	1300	1600	1900	2300*	2600*		1800/2150	555
		*Ultra high pressure 3200 bar only for stationary units								
173	40	1000	1200	1450	1650			25	1500	385
	48		1000	1200	1450	1650			1500/1800	465
	57			1000	1200	1450	1650		1800/2150	555
172	57	690	830	1000	1150			30	1500	385
	69	580	690	850	1000	1150			1500/1800	465
	82	480	580	710	850	1000	1100		1800/2150	555
	79	510	610	750	850			35	1500	385
	94	420	510	620	750	850			1500/1800	465
	113	350	430	520	630	760	810		1800/2150	555
	104	390	470	570	650			40	1500	385
	124	320	390	480	570	650			1500/1800	465
	149	270	320	400	480	580	620		1800/2150	555
	133	310	370	450	510			45	1500	385
	159	260	310	380	450	510			1500/1800	465
	190	210	260	310	380	460	490		1800/2150	555
	165	250	300	370	420			50	1500	385
	198	210	250	300	360	420			1500/1800	465
	237	170	210	250	300	370	400		1800/2150	555
	200	200	250	300	340			55	1500	385
	239	170	200	250	300	340			1500/1800	465
	285	140	170	210	250	300	330		1800/2150	555
	236	170	210	250	290			60	1500	385
	282	140	170	210	250	290			1500/1800	465
	338	120	140	170	210	260	270		1800/2150	555
	280	145	170	210	240			65	1500	385
	334	120	145	180	210	240			1500/1800	465
	401	100	120	150	180	220	230		1800/2150	555
321	120	150	180	210			70	1500	385	
384	100	120	150	180	210			1500/1800	465	
460	90	100	130	150	190	200		1800/2150	555	

- Rod force: 82 kN
- Stroke: 75 mm
- Mean piston speed at n<sub>2</sub>  
385 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



- Mobile unit with electric motor



- Road going trailer or stationary units with sound damping cover



- 10 or 20 foot sound damped container versions

HDP	Seal **	Sealing system
174	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
173	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
172	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramik plunger / packing

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

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.

\*\*\* Special ceramic plungers up to max. 3000 bar.



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

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