

# HDP 120 High Pressure Pump Series

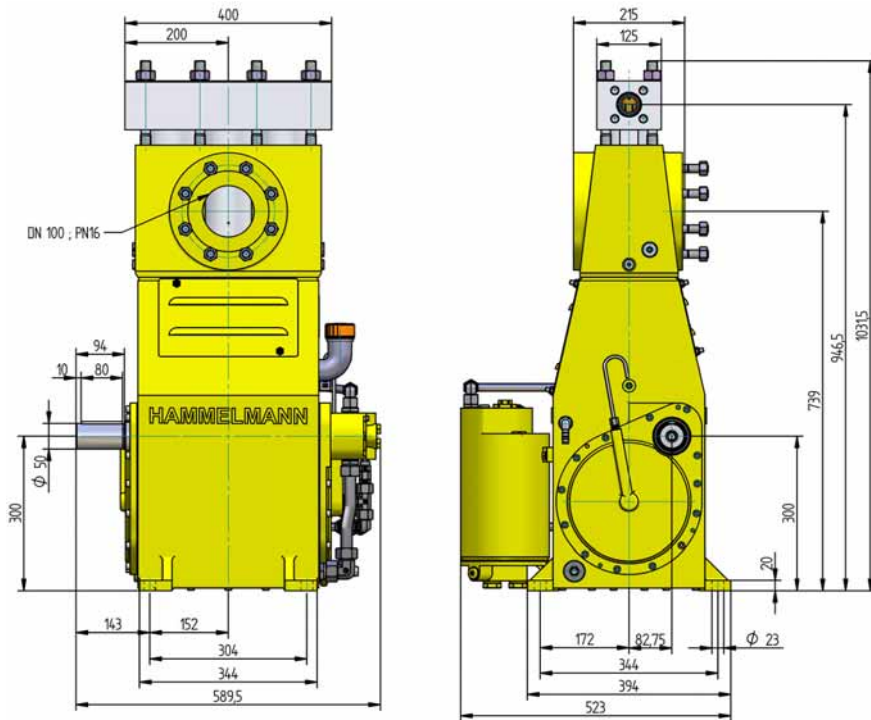
## Design criteria

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. 380 kg

Energy efficient →



### Features

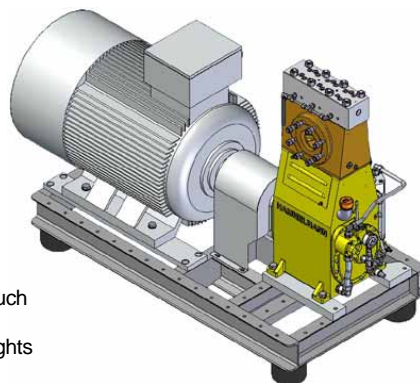
- Power ratings up to 120 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

### 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

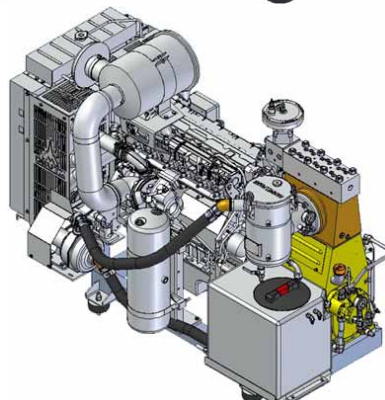
Length: 1856 mm  
Width: 850 mm  
Height: 1290 mm  
Weight: approx. 1600 kg at 110 kW



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: 1990 mm  
Width: 1160 mm  
Height: 1405 mm  
Weight: approx. 1420 kg at 120 kW without full fuel tank



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# HDP 120 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.	
		45	55	75	90	110	120		n 1	n 2
		Operating pressure [bar]								
124	14 / 12*	1750	2150*	3000*	3000*			17,5	1500	370
	17 / 15*	1450	1750	2450*	3000*				1500/1800	440
	20 / 18*	1200	1500	2050*	2450*	3200*	3200*	1800/2150	530	
	18 / 17*	1300	1600	2150*	2600*			20	1500	370
22 / 20*	1100	1350	1850	2200*	2600*		1500/1800		440	
26 / 24*	930	1150	1550	1850	2250*	2600*	1800/2150		530	
		*Ultra high pressure 3200 bar only for stationary units								
123	28	850	1050	1400	1650			25	1500	370
	33	700	850	1200	1400	1650			1500/1800	440
	40	600	700	1000	1200	1450	1650		1800/2150	530
122	40	600	700	1000	1150			30	1500	370
	48	500	600	800	1000	1150			1500/1800	440
	57	400	500	700	830	1000	1150		1800/2150	530
	55	430	530	720	850			35	1500	370
	66	360	440	600	720	850			1500/1800	440
	78	300	370	510	610	750	850		1800/2150	530
	72	330	410	560	650			40	1500	370
	87	280	340	460	550	650			1500/1800	440
	104	230	280	390	460	570	620		1800/2150	530
	92	260	320	440	520			45	1500	370
	111	220	270	370	440	520			1500/1800	440
	133	180	220	310	370	450	490		1800/2150	530
	115	210	260	360	420			50	1500	370
	138	180	220	300	360	420			1500/1800	440
	165	150	180	250	300	360	400		1800/2150	530
	139	180	220	290	350			55	1500	370
	166	140	180	250	290	350			1500/1800	440
	199	120	150	200	240	300	330		1800/2150	530
	167	150	180	250	290			60	1500	370
	200	120	150	210	250	290			1500/1800	440
	239	100	120	170	200	250	270		1800/2150	530
	194	125	155	210	240			65	1500	370
	233	105	130	170	210	240			1500/1800	440
	278	85	105	145	170	210	230		1800/2150	530
227	110	130	180	210			70	1500	370	
272	90	110	150	180	210			1500/1800	440	
326	70	90	120	150	180	200		1800/2150	530	

- Rod force: 82 kN
- Stroke: 55 mm
- Mean piston speed at n<sub>2</sub>
- 370 r.p.m. = 0,67 m/sec
- 440 r.p.m. = 0,81 m/sec
- 530 r.p.m. = 0,96 m/sec

Typical high pressure pump units



- Stationary unit with electric motor



- Road going or stationary trailer units with sound damping cover



- 10 or 20 foot sound damped container versions

HDP	Seal **	Sealing system
124	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
123	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
122	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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