

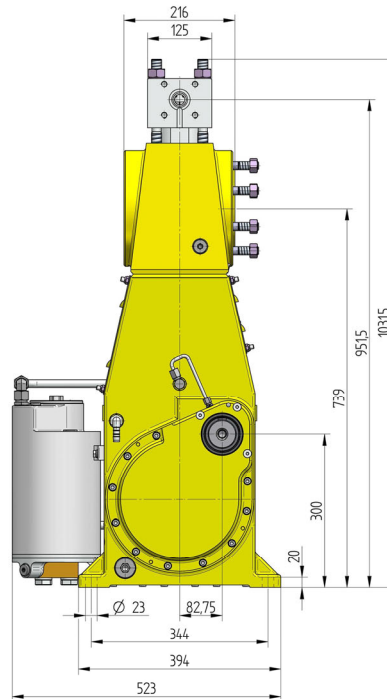
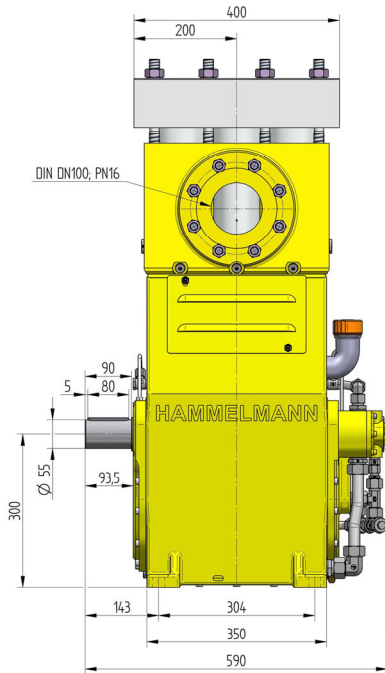
# HDP 140 High Pressure Pump Series

## 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. 838 lbs



Energy efficient →

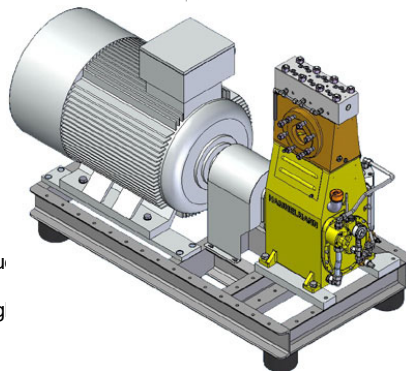


### Features

- Power ratings up to 190 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

### Stationary unit with electric motor

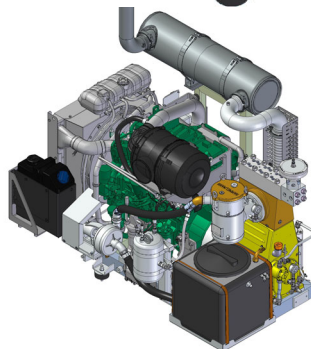
Length: 76.8 inch  
Width: 33.5 inch  
Height: 52 inch  
Weight: approx. 3528 lbs at 147 HP



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

### Stationary unit with diesel motor

Length: 82.7 inch  
Width: 51.2 inch  
Height: 63 inch  
Weight: approx. 3672 lbs at 214 HP without full fuel tank



### Quality and reliability

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

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# HDP 140 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 [GPM]	Required power rating [HP]						D	r.p.m.	
		60	75	100	120	150	190		n 1	n 2
		Operating pressure [psi]								
144	2.9/2.6*	33350*	40600*	55100*	65250*			15	1500	390
	3.4/3.2*	27260	33350*	44950*	55100*	65250*		1500/1800	467	
	4.2/3.7*	22770	27870	37700*	44950*	55100*	65250*	1500/1800/2150	560	
	4.0/3.4*	24070	29000*	40600*	46400*			17,5	1500	390
	4.8/4.2*	20160	24650	33350*	40600*	46400*		1500/1800	467	
	5.8/5.0*	16680	20450	27840	33350*	40600*	46400*	1500/1800/2150	560	
	4.8/4.2*	19720	19720	33350*	39150*	43500*			1500	390
	5.5/8.0*	16530	16530	27550	33350*	40600*	43500*	1500/1800	467	
	6.9/6.1*	13780	13780	22910	27550	33350*	43500*	1500/1800/2150	560	
5.0/4.8*	18420	18420	30450*	36250*	40600*		20	1500	390	
6.1/5.5*	15370	15370	25670	30450*	37700*	40600*	1500/1800	467		
7.1/6.6*	12760	12760	21320	25670	31900*	40600*	1500/1800/2150	560		

\*Ultra high pressure

143	7.9	11750	14500	19580	23490	26100		25	1500	390
	9.5	9860	12040	16390	19720	24070	26100	1500/1800	467	
	11.1	8270	10150	13630	16390	20010	25520	1500/1800/2150	560	
	9.8	9430	11600	15660	18850	20740		28	1500	390
	11.9	7830	9570	13050	15660	19140	20740	1500/1800	467	
	14.0	6530	1980	10880	13050	15950	20300	1500/1800/2150	560	

142	11.4	8120	10150	13630	16390	17980		30	1500	390
	13.5	6820	8410	11310	13630	16680	17980	1500/1800	467	
	16.1	5800	6960	9430	11600	13920	17690	1500/1800/2150	560	
	13.7	6820	8270	11310	13490	14940		33	1500	390
	16.6	5800	6960	9430	11310	13780	14940	1500/1800	467	
	19.8	4640	5800	7830	9430	11600	14650	1500/1800/2150	560	
	15.8	5950	7400	10150	12040	13200		35	1500	390
	18.5	5080	6090	8410	10150	12330	13200	1500/1800	467	
	22.2	4350	5080	6960	8410	10300	13050	1500/1800/2150	560	
	20.6	4640	5800	7690	9140	10150		40	1500	390
	24.6	3770	4640	6380	7690	9430	10150	1500/1800	467	
	29.3	3190	3920	5370	6380	7830	10150	1500/1800/2150	560	
	26.4	3630	4500	6090	7250	7980		45	1500	390
	31.4	3050	3770	5080	6090	7400	7980	1500/1800	467	
	37.5	2470	3050	4350	5080	6240	7830	1500/1800/2150	560	
	32.7	2900	3630	4930	5950	6530		50	1500	390
	39.1	2470	3050	4060	4930	5950	6530	1500/1800	467	
	46.7	2030	2470	3480	4060	5080	6380	1500/1800/2150	560	
	39.6	2470	3050	4060	4930	5370		55	1500	390
	47.3	2030	2470	3340	4060	4930	5370	1500/1800	467	
	56.5	1740	2030	2900	3340	4350	5220	1500/1800/2150	560	
	46.5	2030	2470	3340	4060	4500		60	1500	390
	55.7	1740	2030	2900	3480	4350		1500/1800	467	
	66.5	1450	1740	2320	2900	3480	4500	1500/1800/2150	560	
	54.6	1740	2180	2900	3480	3920		65	1500	390
	65.5	1450	1740	2470	2900	3630	3920	1500/1800	467	
	78.1	1160	1450	2030	2470	2900	3770	1500/1800/2150	560	
63.4	1450	1890	2470	3050	3340		70	1500	390	
75.8	1450	1600	2030	2470	3050	3340	1500/1800	467		
90.6	1020	1450	1740	2030	2610	3190	1500/1800/2150	560		

HDP	Seal **	Sealing system
144	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
143	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
142	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. 46,400 psi

- Rod force: 19,783 lbf
- Stroke: 2.20 inch
- Mean piston speed at n<sub>2</sub>  
390 r.p.m. = 2.36 feet/sec  
467 r.p.m. = 2.82 feet/sec  
560 r.p.m. = 3.38 feet/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

**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.m.

Conversion table  
Rating 1 hp = 0,746 kW  
Op. pressure 1 psi = 0,069 bar  
Flow rate 1 gpm = 0,227 m<sup>3</sup>/h

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