High Pressure Pump
Series HDP MC

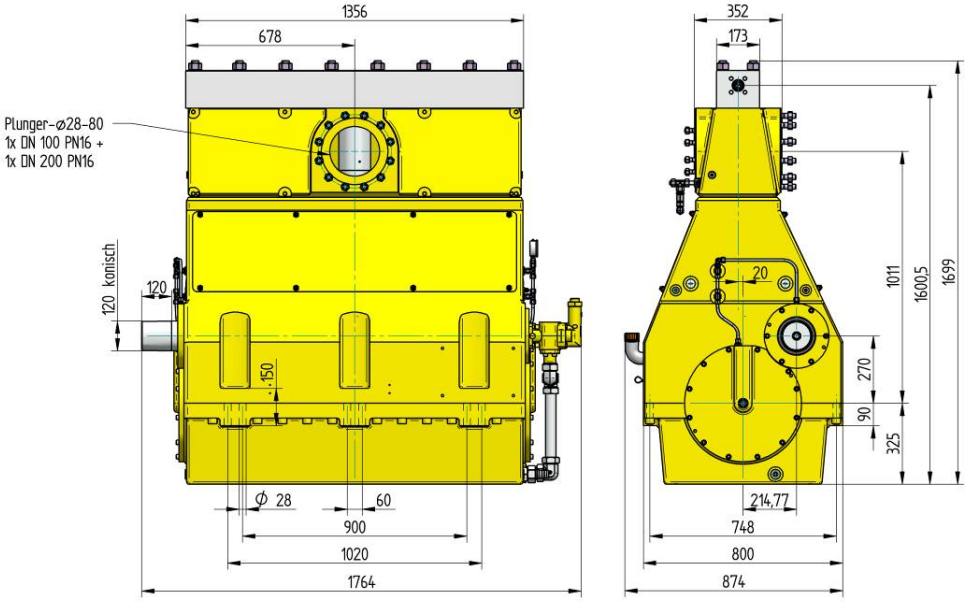
1500 HP

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: 11820 lbs



Features

- Power ratings up to 1500 HP
- Vertical 7 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
- Twin helical integral reduction gear with crankshaft supported by 4 bearings
- Pressurised oil lubrication system with oil cooler/filter

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HDP MC series, technical data

Performance parameters (Standard design)

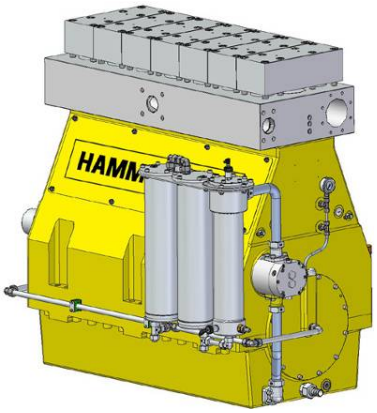
Note: Actual flow rates for water as pumped medium (volumetric efficiency has already been taken into account).

1500 HP

HDP	Q [GPM]	Required power rating [HP] / Operating pressure [psig] 950	1070	1200	1340	1500	D	r.p.m. n 1	n 2
MC 4	33.3*	43500*					28	1500	320
	38.8*	37000*	41300*	43500*				1500/1800	385
	47.0*	30500*	34800*	39200*	43500*			1800	460
	42.8	32500*	36700*	37700*			32	1500	320
	53.1 / 51.5*	27000	30500*	34200*	37700*			1500/1800	385
	63.4 / 61.5*	22600	25500	28700	31900*	35100*		1800	460
	53.9 / 52.3*	26800	31900*				35	1500	320
	63.9 / 62.8*	22500	25400	28300	31900*			1500/1800	385
	76.0 / 75.2*	18900	21000	23900	26100	30500*		1800	460
MC 3	70.5	21000	23200	23900			40	1500	320
	84.5	17400	19600	21800	23900			1500/1800	385
	101.4	14400	16000	18100	20300	22300		1800	460
	89.2	16700	18700	19100			45	1500	320
	107.4	13600	15400	17300	19100			1500/1800	385
	128.6	11300	12800	14400	16000	17500		1800	460
MC 2	111.4	13500	15100	15500			50	1500	320
	134.1	11000	12500	14100	15500			1500/1800	385
	160.2	9100	10300	11600	12900	14200		1800	460
	133.3	11200	12500	12800			55	1500	320
	159.7	9100	10300	11600	12800			1500/1800	385
	191.9	7500	8600	9600	10700	11700		1800	460
	158.7	9300	10400	10700			60	1500	320
	190.6	7700	8700	9700	10700			1500/1800	385
	232.1	6400	7300	8100	9000	9900		1800	460
	188.2	8000	9000	9100			65	1500	320
	226.0	6500	7400	8300	9100			1500/1800	385
	275.4	6400	6100	6800	7700	8400		1800	460
	218.3	6800	7700	7800			70	1500	320
	262.2	5700	6400	7100	7800			1500/1800	385
	319.4	4600	5200	5900	6700	7300		1800	460
	250.8	5900	6700	6800			75	1500	320
	301.0	4900	5500	6200	6800			1500/1800	385
	366.4	4100	4600	5200	5800	6200		1800	460
	276.4	5200	5900				80	1500	320
	331.6	4200	4800	6400	5900			1500/1800	385
	404.2	3500	4100	4500	5100	5500		1800	460
MC 1 High flow	276.4	5200	5900				80	1500	320
	331.6	4200	4800	6400	5900			1500/1800	385
	404.2	3500	4100	4500	5100	5500		1800	460
	312.0	4600	5200	6400			85	1500	320
	374.4	3800	4200	4800	6400			1500/1800	385
	458.6	3200	3500	4100	4500	4900		1800	460
	353.5	4100	4600	4800			90	1500	320
	424.2	3300	3800	4400	4800			1500/1800	385
	516.9	2800	3200	3600	4100	4400		1800	460
	441.1	3300	3800				100	1500	320
	529.3	2800	3000	3500	3800			1500/1800	385
	645.0	2300	2600	2900	3200	3500		1800	460
	539.1	2800	3000	3200			110	1500	320
	647.1	2300	2500	2900	3200			1500/1800	385
	788.6	1900	2100	2400	2700	2900		1800	460

*Ultra high pressure

- Rod force: 47,210 lbf
- Stroke: 3.94 inch
- Mean piston speed at n_2
  320 r.p.m. = 3.5 feet/sec
  385 r.p.m. = 4.2 feet/sec
  460 r.p.m. = 5.1 feet/sec



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 m³/h

HDP	Seal **	Sealing system
MC4	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
MC3	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
MC2	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramik plunger / packing
MC1	Packing	Ceramik plunger / packing

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

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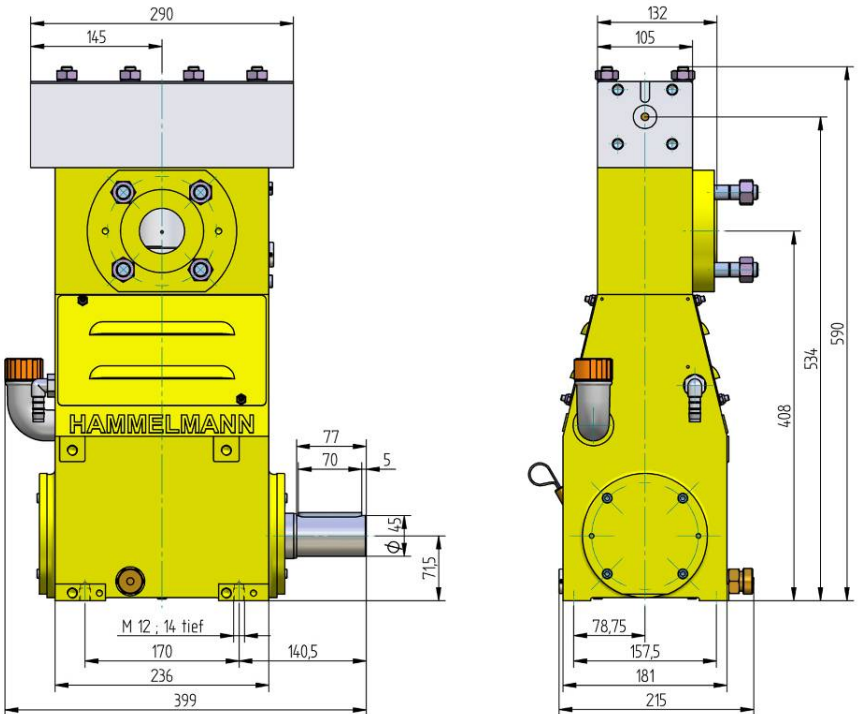
HDP 10 High Pressure Pump Series

Hammelmann process pumps are built to operate at continuous maximum duty. Just compare the crank shaft speed, average plunger speed and power rating.

Energy efficient

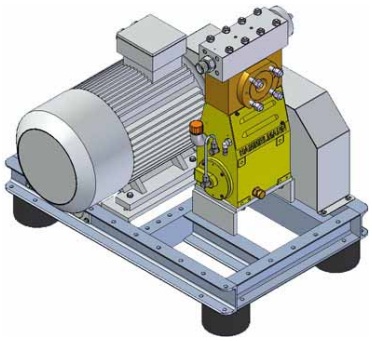
High Pressure Pump

Weight: 210 lbs



Stationary unit with electric motor

Length: 39 inch
Width: 29 inch
Height: 35 inch
Weight: approx. 820 lbs at 15 HP



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.

Features

- Power ratings up to 15 HP
- Vertical 3 cylinder design

Quality and reliability

- Crank section calculation by ‘Finite element method’ ensures long working life under continuous load
- Splash lubricated crank section
- Bellows form hermetic seal between the suction chamber and crank section
- Stainless steel or bronze suction chamber
- Solid ceramic or tungsten carbide plungers
- Stainless steel pump head free of alternating stress
- Choice of performance and pumped medium specific seal and pump head assemblies
- Flow control achieved with variable speed gear or frequency converter
- Flow turndown ratio 1:10

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HDP 10 series, technical data

Performance parameters

HDP	Q [GPM]*	Required power rating [HP] 5,5	10	15	D	r.p.m. n_1	n_2
		Operating pressure [psig]					
14	0.6 0.7 0.8	15950 13100 11200	21800 18100 15200	31900 26800 22500	8	1500/1800/2150	625 750 900
	0.9 1.1 1.3	10200 8300 7100	13800 11300 9800	20300 16700 14200	10		625 750 900
13	0.9 1.1 1.3	10200 8300 7100	13800 11300 9800	20300 16700 14200	10	1500/1800/2150	625 750 900
	1.7 1.8 2.1	6800 5800 5100	9300 8000 7000	13600 11700 10300	12		625 750 900
12	2.4 2.9	5000 3800	6100 5100	9100 7500	15	1500/1800/2150	625 750
	3.2 4.0	3200 2800	4400 3600	6500 5500	17,5		625 750
	4.2 5.3	2500 2100	3400 2800	5100 4200	20		625 750
	6.6 8.2	1600 1400	2200 1900	3200 2800	25		625 750
	9.8 11.9	1100 900	1500 1200	2200 1900	30		625 750
	13.5 16.4	800 700	1100 900	1700 1400	35		625 750
	18.0 21.6	600 500	800 700	1200 1100	40		625 750
	22.7 27.2	500 400	700 500	1000 800	45		625 750

- Rod force: 2,600 lbf
- Stroke: 1.18 inch
- Mean piston speed at n_2

625 r.p.m. = 2.1 feet/sec

750 r.p.m. = 2.5 feet/sec

900 r.p.m. = 3.0 feet/sec

Energy efficient

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

Conversion table
Rating 1 hp = 0,746 kW
Op.pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

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

HDP	Seal*	Sealing system
14	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger** / packing
13	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
12	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. 2500 bar

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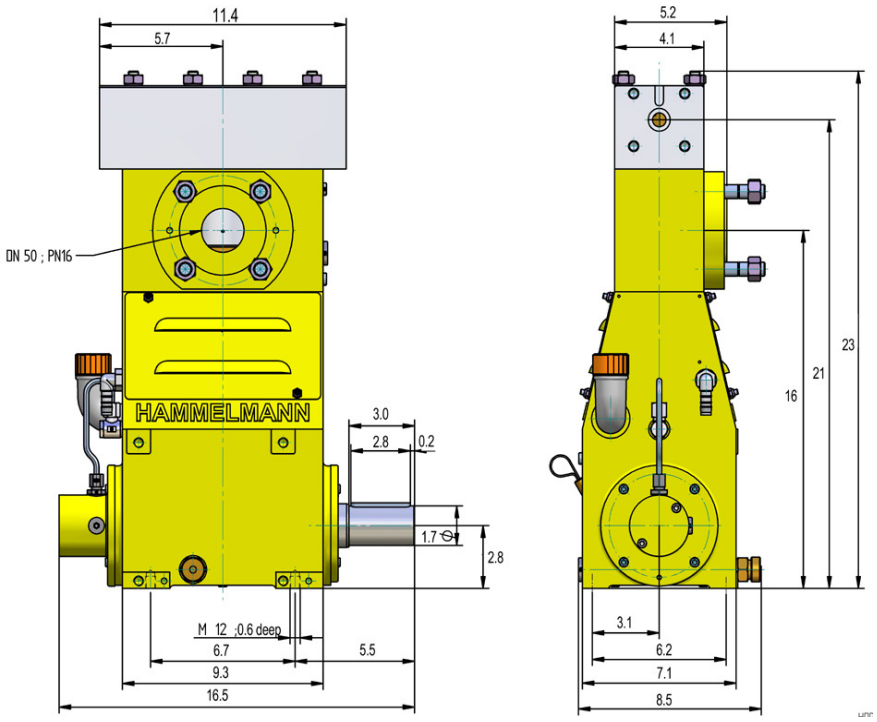
HDP 20 High Pressure Pump Series

Design criteria

Hammelmann high pressure pumps are built to operate at the continuous maximum duty stated in the performance parameters. Just compare the crank shaft speed, average plunger speed, plunger diameter and power rating.

High Pressure Pump
Weight: 210 lbs

Dimensions: inches



Energy efficient

Features

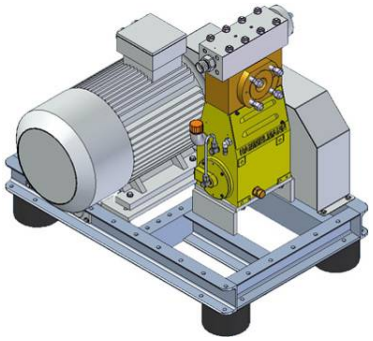
- Power ratings up to 25 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries
-

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
- Pressurised oil lubrication system
- Separate oil pump

Stationary unit
with electric motor

Length: 39 inch
Width: 29 inch
Height: 35 inch
Weight: approx. 990 lbs
at 29 HP



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.

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HDP 20 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] 15	20	25	D	r.p.m. n_1	n_2
		Operating pressure [psig]					
24	0.6 0.7 0.8	31900 26800 22500	43500 36300 30500	55100* 45000 37700	8	1500/1800/2150	625 750 900
	0.9 1.2 1.4	20300 16700 14200	28300 23200 18900	31900 29000 23900	10		625 750 900
23	0.9 1,2 1.4	20300 16700 14200	26100 23200 18900	26100	10	1500/1800/2150	625 750 900
	1.6 1.8 2.1	13600 11700 10300	18100 16000 13900	22500 19600 16700	12		625 750 900
22	2.4 2.9	9100 7500	12500 10300	14400 12600	15	1500/1800/2150	625 750
	3.2 4.0	6700 5500	9000 7500	10600 9300	17,5		625 750
	4.2 5.3	5100 4200	7000 5800	8100 7100	20		625 750
	6.6 8.2	3200 2800	4400 3600	5200 4500	25		625 750
	9.8 12	2200 1890	3000 2600	3600 3200	30		625 750
	13 16	1670 1380	2200 1890	2600 2300	35		625 750
	17 22	1230 1090	1740 1450	2000 1740	40		625 750
	22 27	1020 800	1380 1090	1600 1380	45		625 750

* increased permissible rod force to 4,290 lbf

Conversion table
Rating 1 hp = 0,746 kW
Op.pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

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

HDP	Seal**	Sealing system
24	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger*** / packing
23	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
22	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. 36300 psig.

- Rod force: 3,960 lbf
- Stroke: 1.18 inch
- Mean piston speed at n_2
  625 r.p.m. = 2.1 feet/sec
  750 r.p.m. = 2.5 feet/sec
  900 r.p.m. = 3.0 feet/sec

Typical high pressure pump units

- Stationary unit with electric motor

- Stationary electric unit with sound damping cover

Energy efficient

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

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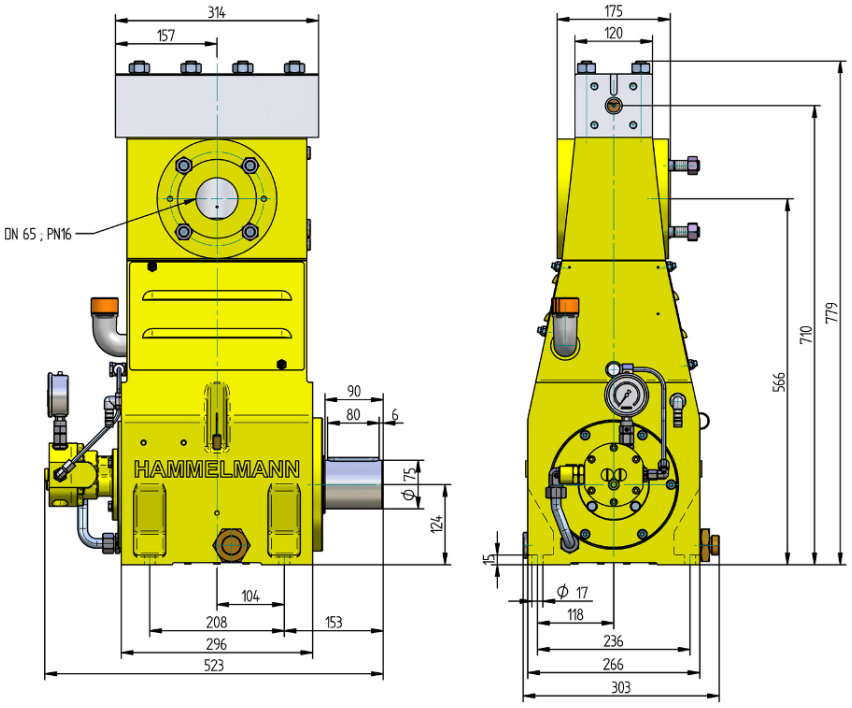
HAMMELMANN®

HDP 40 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 crank shaft speed, average plunger speed, plunger diameter and power rating.

High pressure pump
Weight: approx. 440 lbs



Dimensions: mm

Features

- Power ratings up to 50 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

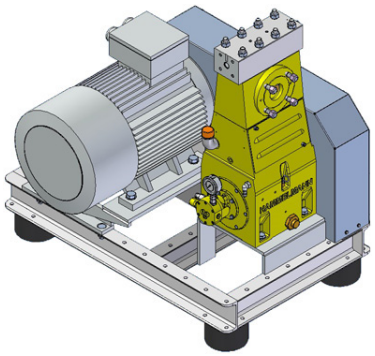
Quality and reliability

- 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
- Pressurised oil lubrication system

Stationary unit with electric motor

Length:	43 inch
Width:	32 inch
Height:	43 inch
Weight:	approx. 1600 lbs at 40 HP

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.



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HDP 40 series, technical data

Performance parameters

Note: Actual flow rates for water as pumped medium (volumetric efficiency has already been taken into account).

HDP	Q [GPM]	Required power rating [HP] / Operating pressure [psig] 20	25	30	40	50	D	r.p.m. n 1	r.p.m. n 2
44	1.5 / 1.5*	19600	23900	29700*	40600*	43500*	12	1500 / 1800 / 2150	625
	1.8 / 1.7*	16000	20300	23900	34100*	42100*	12		750
	2.2 / 1.9*	13500	16700	19600	26800	34800*	12		900
	2.2	12500	15400	18100	24700	31900*	15		625
	2.9	10400	12800	15200	21000	25400	15		750
	3.4	8700	10700	12800	17400	21800	15		900
	3.3	9100	11300	13500	18100	22500	17,5		625
	4.0	7700	9400	11200	15200	18900	17,5		750
	4.8	6400	7800	9400	12800	16000	17,5		900
43	4.4	7000	8700	10300	14100	17400	20	1500/1800/ 2150	625
	5.3	5800	7300	8600	11700	14500	20		750
42	5.3	5800	7100	8600	11600	14200	22	1500 / 1800 / 2150	625
	6.3	4800	5900	7100	9700	11900	22		750
	6.3	4800	5900	7100	9700	12000	24		625
	7.7	4100	4900	5900	8100	10000	24		750
	7.4	4100	5100	6100	8300	10300	26		625
	9.0	3500	4200	5100	7000	86000	26		750
	10.0	3000	3800	4500	6200	7700	30		625
	11.9	2600	3200	3800	5200	6400	30		750
	13.7	2200	2800	3300	4500	5700	35		625
	16.4	1900	2300	2800	3800	4600	35		750
	18.0	1700	2200	2500	3500	4400	40		625
	21.6	1500	1800	2100	2900	3600	40		750
	22.7	1400	1700	2000	2800	3300	45		625
	27.2	1200	1400	1700	2300	2800	45		750
	28.2	1100	1400	1600	2200	2800	50		625
	33.8	900	1200	1400	1900	2300	50		750
	34.1	900	1200	1300	1800	2300	55		625
	41.0	700	900	1100	1500	1900	55		750

*Ultra high pressure

Conversion table
Rating 1 hp = 0,746 kW
Op.pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

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

HDP	Seal **	Sealing system
44	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
43	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
42	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. 36300 psig.

- Rod force: 8,770 lbf
- Stroke: 1.18 inch
- Mean piston speed at n_2
  625 r.p.m. = 2.1 feet/sec
  750 r.p.m. = 2.5 feet/sec
  900 r.p.m. = 3.0 feet/sec

Typical high pressure pump units

- Stationary unit with diesel motor

- Stationary unit with electric motor

- Mobile electric unit with hose reel

Energy efficient

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

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HAMMELMANN®

HDP 70 High Pressure Pump Series

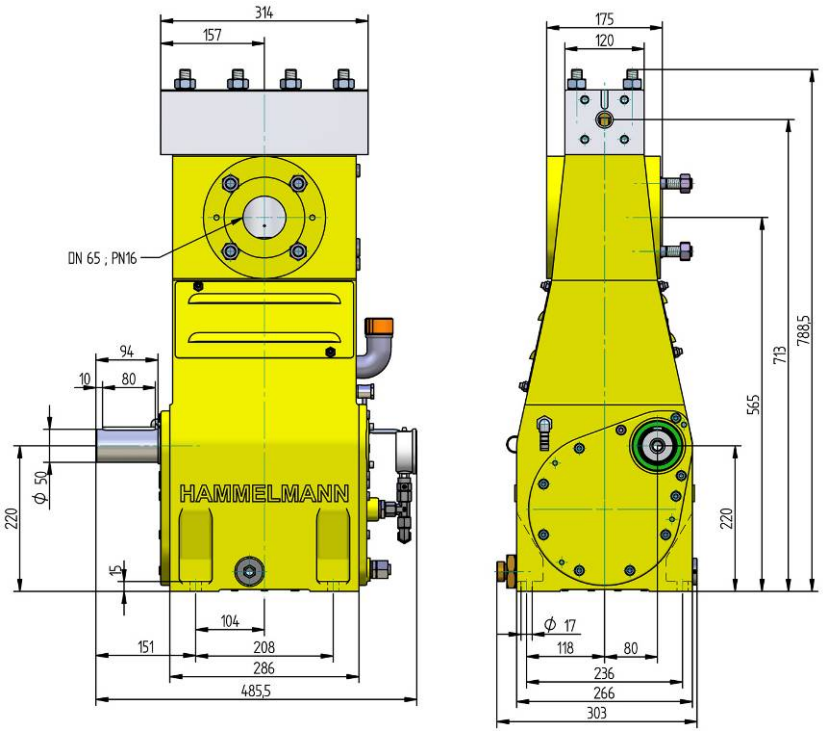
Design criteria

Hammelmann high pressure pumps are built to operate at the continuous maximum duty stated in the performance parameters. Just compare the crank shaft speed, average plunger speed, plunger diameter and power rating.

High pressure pump

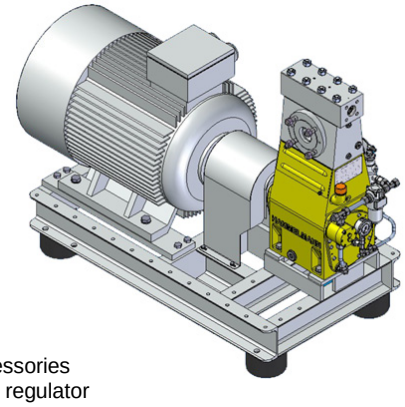
Weight: approx. 470 lbs

Dimensions: mm



Stationary unit with electric motor

Length: 59 inch
Width: 28 inch
Height: 43 inch
Weight: approx. 521 lbs at 100 HP



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.

Features

- Power ratings up to 95 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

Quality and reliability

- Stainless steel pump head free of alternating stress
- 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

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HDP 70 series, technical data

Performance parameters (Standard design)

HDP	Q (GPM)	Required power rating [HP] 40	50	60	75	95	D	r.p.m. n 1	n 2
		Operating pressure (psig)							
74	1.9 / 1.9*	29000*	35500*	43500*			12	1500	625
	2.4 / 2.3*	23900	29700*	36300*	43500*			1500/1800	750
	2.9 / 2.7*	20300	24700	30500*	37000*	43500*		1800/2150	900
	3.1 / 3.0	18100	22500	27600	34100*		15	1500	625
	3.8 / 3.6	15200	18900	23200	28300	34800*		1500/1800	750
	4.5 / 4.3	12900	16000	18900	23200	29700*		1800/2150	900
	4.5	13500	16700	20300	24700		17,5	1500	625
	5.1	11300	14100	16700	20300	25400		1500/1800	750
	6.1	9400	11700	14200	17400	21800		1800/2150	900
73	5.5	10300	12800	15200	18900		20	1500	625
	6.9	8700	10700	13100	16000	19600		1500/1800	750
72	6.9	8700	10700	13100	16000	16400	22	1500	625
	8.4	7300	8800	10900	13200	16400		1500/1800	750
	8.4	7300	9000	10900	13300	13800	24	1500	625
	10.0	6100	7500	9100	11300	13800		1500/1800	750
	10.0	6200	7700	9300	11300	11700	26	1500	625
	11.9	5100	6400	7700	9400	11700		1500/1800	750
	13.2	4600	5700	7000	8600		30	1500	625
	15.6	3800	4800	5800	7100	8700		1500/1800	750
	18.2	3300	4200	5100	6200		35	1500	625
	21.4	2800	3500	4200	5200	6400		1500/1800	750
	24.0	2600	3200	3900	4800		40	1500	625
	28.2	2200	2600	3200	3900	4900		1500/1800	750
	30.4	2000	2500	3000	3800		45	1500	625
	35.6	1600	2000	2500	3000	3900		1500/1800	750
	37.5	1600	1900	2500	3000		50	1500	625
	44.1	1300	1600	2000	2500	3000		1500/1800	750
	45.4	1300	1600	2000	2500		55	1500	625
	53.1	1000	1300	1600	2000	2600		1500/1800	750

*****Ultra high pressure

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

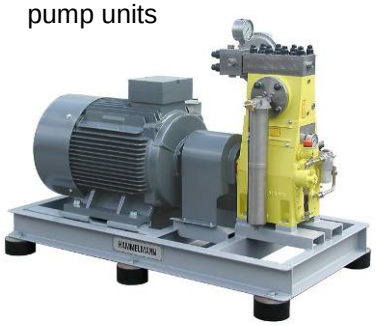
Conversion table
Rating 1 hp = 0,746 kW
Op.pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

HDP	Seal **	Sealing system
74	Dynamic	Tungsten carbide plunger & bushing
	Packing	Special ceramic plunger *** / packing
73	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
72	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. 37700 psig.

- Rod force: 9,670 lbf
- Stroke: 1.57 inch
- Mean piston speed at n_2
  625 r.p.m. = 3.3 feet/sec
  750 r.p.m. = 3.9 feet/sec
  900 r.p.m. = 4.7 feet/sec

Typical high pressure pump units



- Stationary unit with electric motor

1‘ 10 “

- Trolley

Energy efficient

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

- Stationary or road going trailer units with sound damping cover
- 10 foot sound damped container versions

Hammelmann Corp. 436 Southpointe Drive
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http://www.hammelmann.com

HAMMELMANN®

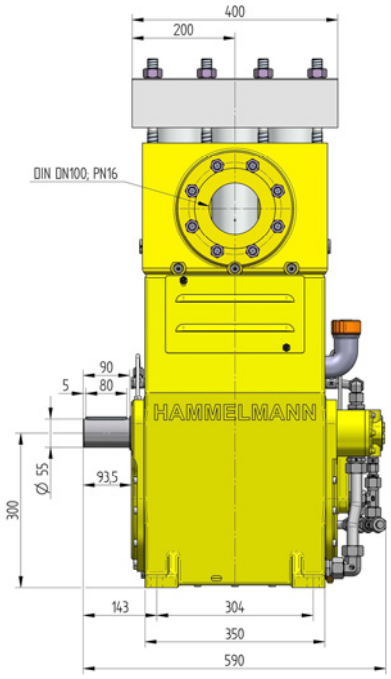
HDP 140 High Pressure Pump Series

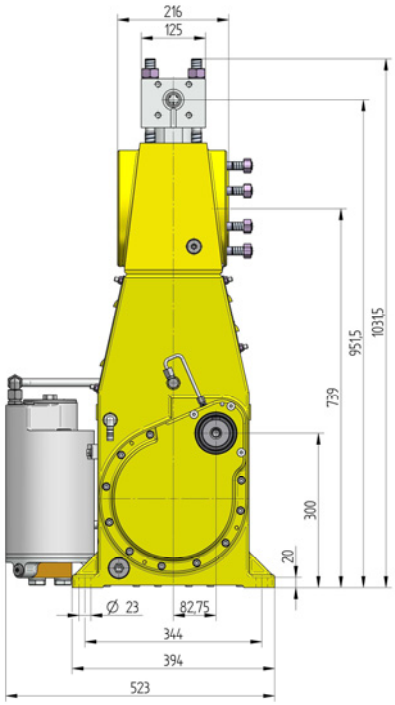
Design criteria

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





Features

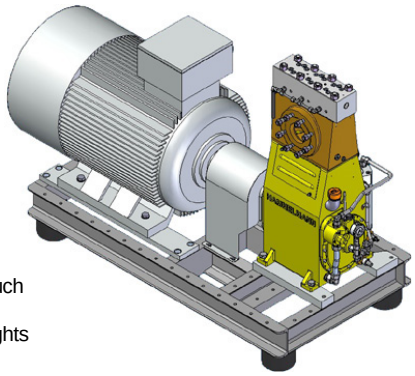
- Power ratings up to 190 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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

Stationary unit with electric motor

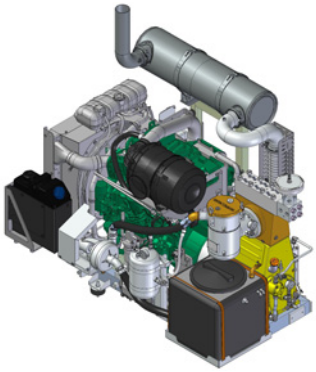
Length: 76.8 inch
Width: 33.5 inch
Height: 52 inch
Weight: approx. 3528 lbs at 147 HP



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



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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] 60	75	100	120	150	190	D	r.p.m. n 1	n 2
		Operating pressure [psi]								
144	4.0/3.4*	24070	29440*	39880*	46400*				1500	390
	4.8/4.2*	20160	24650	33640*	40310*	46400*		17,5	1500/1800	467
	5.8/5.0*	16680	20450	27840*	33500*	40890*	46400*		1800/2150	560
	5.0/4.8*	18420	22480	30600*	36830*	40600*			1500	390
	6.1/5.5*	15370	18850	25670	30890*	37700*		20	1500/1800	467
	7.1/6.6*	12760	15660	21320	25670	31320*	40600*		1800/2150	560
143	7.9	11750	14360	19580	23490	26100			1500	390
	9.5	9860	12040	16530	19720	24070		25	1500/1800	467
	11.1	8270	10010	13630	16390	20010	26100		1800/2150	560
	9.8	9280	11310	15370	18560	20740			1500	390
	11.9	7690	9430	12760	15370	18850		28	1500/1800	467
	14.0	6530	7830	10730	12910	15810	20740		1800/2150	560
142	11.4	8120	10010	13630	16390	17980			1500	390
	13.5	6820	8410	11460	13780	16820		30	1500/1800	467
	16.1	5660	6960	9430	11460	13920	17980		1800/2150	560
	12.9	6960	8560	11750	14070	15810			1500	390
	15.3	5950	7250	9860	11890	14500		32	1500/1800	467
	18.5	4930	5950	8270	9860	12040	15810		1800/2150	560
	15.8	5950	7400	10010	12040	13200			1500	390
	18.5	5080	6090	8410	10010	12330		35	1500/1800	467
	22.2	4210	5080	6960	8410	10300	13200		1800/2150	560
	20.6	4640	5660	7690	9140	10150			1500	390
	24.6	3920	4790	6380	7690	9430	10150	40	1500/1800	467
	29.3	3190	3920	5370	6380	7830	9860		1800/2150	560
	26.4	3630	4500	6090	7250	7980			1500	390
	31.4	3050	3770	5080	6090	7400	7980	45	1500/1800	467
	37.5	2470	3050	4210	5080	6240	7690		1800/2150	560
	32.7	2900	3630	4930	5950	6530			1500	390
	39.1	2470	3050	4060	4930	6090	6530	50	1500/1800	467
	46.7	2030	2470	3480	4060	5080	6240		1800/2150	560
	39.6	2470	3050	4060	4930	5370			1500	390
	47.3	2030	2470	3340	4060	4930	5370	55	1500/1800	467
	56.5	1740	2030	2760	3340	4210	5080		1800/2150	560
	46.5	2030	2470	3340	4060	4500			1500	390
	55.7	1740	2030	2900	3480	4210	4500	60	1500/1800	467
	66.5	1450	1740	2320	2900	3480	4350		1800/2150	560
	54.6	1740	2030	2900	3480	3920			1500	390
	65.5	1450	1740	2320	2900	3480	3920	65	1500/1800	467
	78.1	1160	1450	2030	2320	2900	3630		1800/2150	560
	63.4	1450	1890	2470	3050	3340			1500	390
	75.8	1310	1600	2030	2470	3050	3340	70	1500/1800	467
	90.6	1020	1310	1740	2030	2610	3190		1800/2150	560

*Ultra high pressure

- Rod force: 19,783 lbf
- Stroke: 2.20 inch
- Mean piston speed at n_2
- 390 r.p.m. = 2.36 fee/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

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

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 m³/h

** 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

Energy efficient

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

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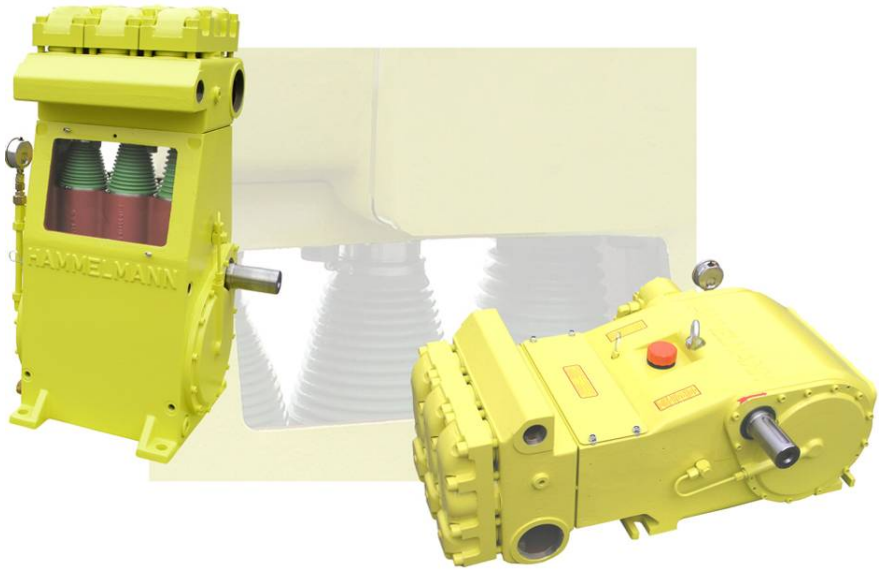
http://www.hammelmann.com

HAMMELMANN®

HDP 146 High pressure high flow pump



Compact design

- Optimum space utilisation
- Integral reduction gear

Adaptability provides installation options

- Horizontal or vertical models
- Reversible pump head
- Central or side suction connection
- Discharge connections on both sides
- Left or right hand drive shaft
- Can operate at higher inclinations

Water end: suitable for recycled water

Less wear due to :

- High grade solid ceramic plungers
- Wear resistant valve seats
- Low flow velocity over suction and discharge valves
- Packing seal sets within rust resistant stainless steel sleeves
- Slow plunger speed

Drive end

- Hammelmann standard industrial drive end specifically designed for continuous duty
- Pressurised oil lubrication system
- High quality spheroidal cast iron housing
- Clockwise or anticlockwise rotation

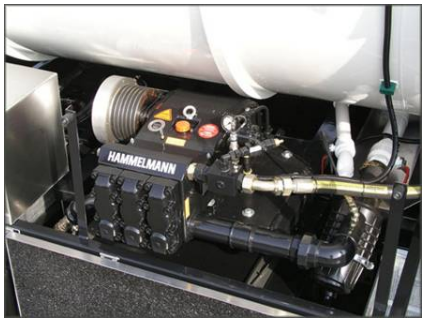
Easy servicing

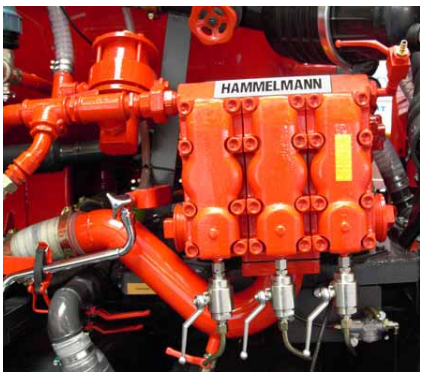
- Reversible valve seats
- Suction and discharge valves use identical components
- Maintenance possible without removal of suction and pressure lines
- All service access front/above
- Fixed valve housing accessible via light weight cover plates

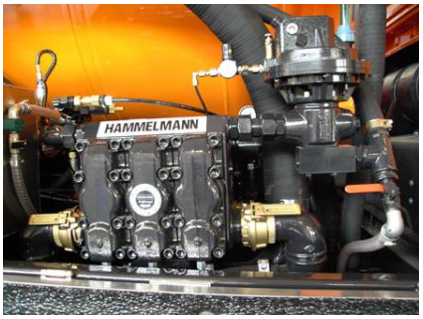
Environmentally friendly

- Quiet drive end due to twin helical gears
- Piston rods hermetically sealed by the NBR bellows, no oil leakage

Installations







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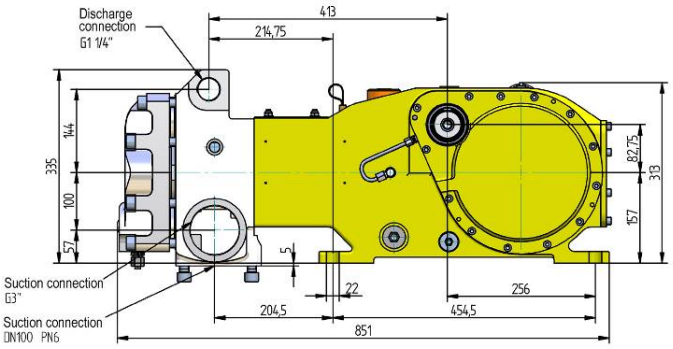
Technical data
HDP 146

- Rod force: 66,420 lbf
- Stroke: 2.17 in.
- Mean piston speed at n_2
  440 r.p.m. = 2.7 feet/sec
  525 r.p.m. = 3.1 feet/sec
  580 r.p.m. = 3.5 feet/sec

[GPM]	Pressure [psig]	Power required [HP]	Piston ∅	n_1 [r.p.m.]	n_2 [r.p.m.]
71.3	3300	150	70	1250/1500/1800	440
85.8	3300	180	70	1500/1800/2150	525
94.2	3000	180	70	1650	580
81.6	2900	150	75	1250/1500/1800	440
97.7	2900	180	75	1500/1800/2150	525
107.4	2600	180	75	1650	580
92.9	2500	150	80	1250/1500/1800	440
110.9	2500	180	80	1500/1800/2150	525
122.0	2300	180	80	1650	580

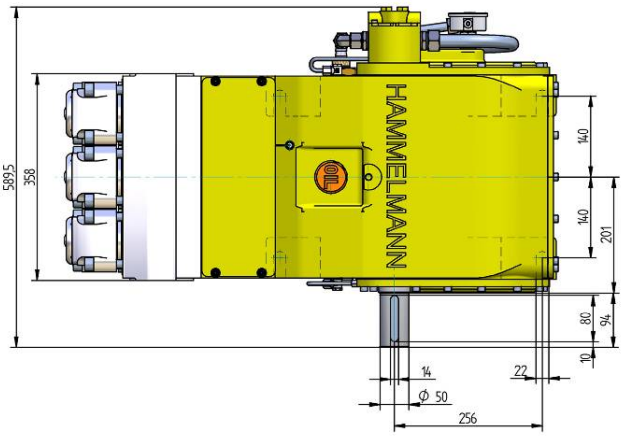
Technical details

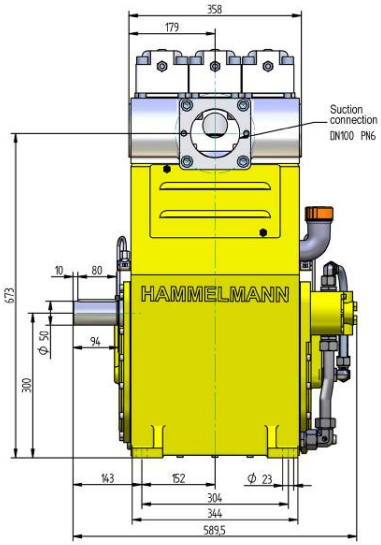
Design	Horizontal, vertical, 3 cylinder
Plungers	Solid ceramic
Plunger sealing	Triple packing rings
Crank section sealing	Bellows
Valves	With ancillary sealing for recycled water
Valves	Reversible
Crank section lubrication	Pressurised circulating
Crankshaft bearings	2 x roller
Drive shaft	Right or left

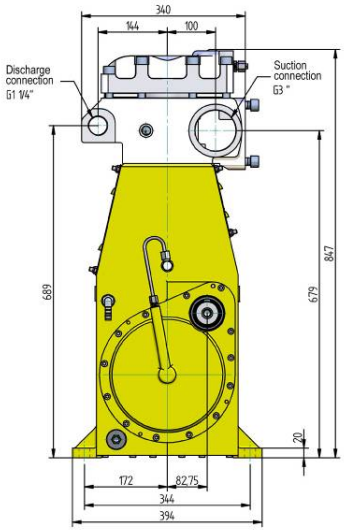


Installation data

Weight	Approx. 770 lbs
Mounting points	4 x M20
Mounting hole pattern HDP 146 horizontal HDP 146 vertical	 18“ x 11“ 13.5“ x 12“
Drive shaft	2“ dia. x 3.7“
Shaft key	DIN 6885 – A
Permissible lateral force	8.850 lbf
Discharge connection	G 1 1/4” female
Suction connection	4“ i/d, PN87 DIN 2 x 3 “







Horizontal design

Vertical design

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Phone (001) 937-859-8777
Fax: (001) 937-859-9188
http://www.hammelmann.com

HAMMELMANN®

HDP 196 High pressure, high flow pump

Compact design

- Optimum space utilisation
- Light weight
- Integral reduction gear

Adaptability provides installation options

- Reversible pump head
- Central or side suction connection
- Discharge connections on both sides
- Operates at any angle

Drive end

- Hammelmann standard industrial drive end specifically designed for continuous duty
- Pressurised oil lubrication system
- High quality spheroidal cast iron housing
- Clockwise or anticlockwise rotation

Water end: suitable for recycled water

Less wear due to :

- High grade solid ceramic plungers
- Wear resistant valve seats
- Low flow velocity over suction and discharge valves
- Packing seal sets within rust resistant stainless steel sleeves
- Slow plunger speed

Easy servicing

- Reversible valve seats
- Suction and discharge valves use identical components
- Maintenance possible without removal of suction and pressure lines
- All service access from front/above
- Fixed valve housing accessible via light weight cover plates

Environmentally friendly

- Quiet drive end due to twin helical gears
- Piston rods hermetically sealed by the NBR bellows, no oil leakage

HAMMELMANN®

Technical data
HDP 196

- Rod force: 66,420 lbf
- Stroke: 2.95 in.
- Mean piston speed at n_2
  460 r.p.m. = 3.7 feet/sec
  550 r.p.m. = 4.5 feet/sec

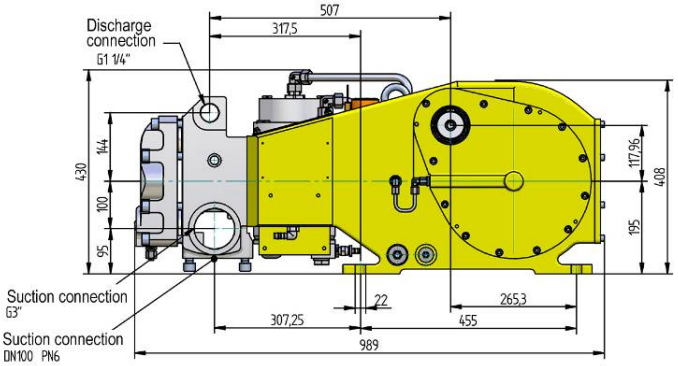
[GPM]	Pressure [psig]	Power required [HP]	Piston ∅	n_1 [r.p.m.]	n_2 [r.p.m.]
101.9	3000	200	70	1500/1800	460
121.4	3000	240	70	1800/2150	550
116.2	2700	200	75	1500/1800	460
141.0	2700	240	75	1800/2150	550
133.3	2300	200	80	1500/1800	460
159.7	2300	240	80	1800/2150	550

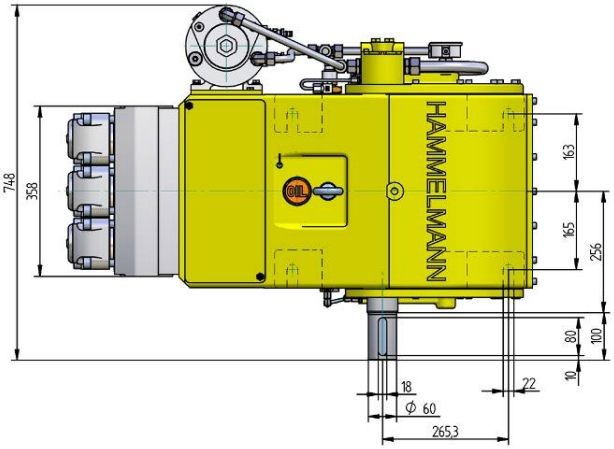
Technical details

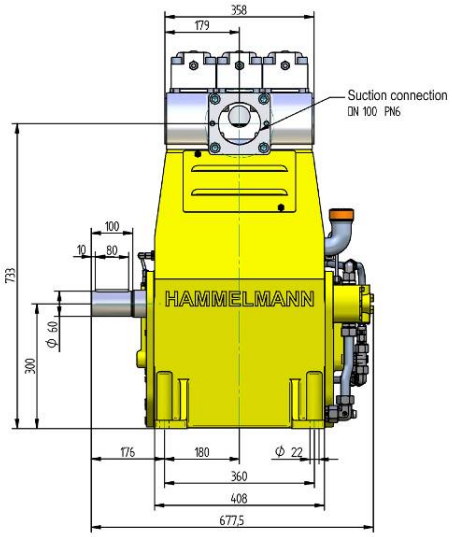
Design	Horizontal, vertical, 3 cylinder
Plungers	Solid ceramic
Plunger sealing	Triple packing rings
Crank section sealing	Bellows
Valves	With ancillary sealing for recycled water
Valves, special feature	Reversible
Crank section lubrication	Pressurised circulating
Crankshaft bearings	2 x roller
Drive shaft	Right

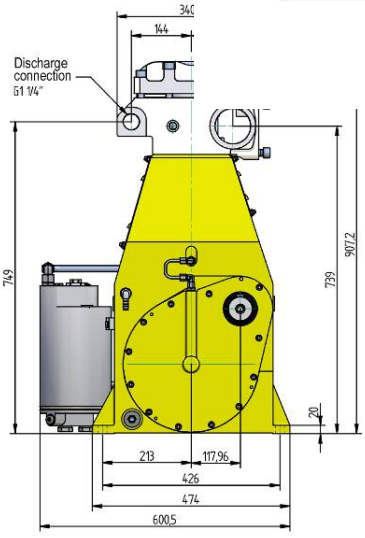
Installation data

Weight incl. lub. oil	1,157 lbs
Mounting hole pattern	14“ x 17“
Drive shaft	2.36“ dia. x 3.7“
Shaft key	DIN 6885 – A
Permissible lateral force	11,800 lbf
Discharge connection	1 1/4” female
Suction connection	4“ i/d, P87 DIN 2631, 2 x 3 “









Horizontal design

Vertical design

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HAMMELMANN®

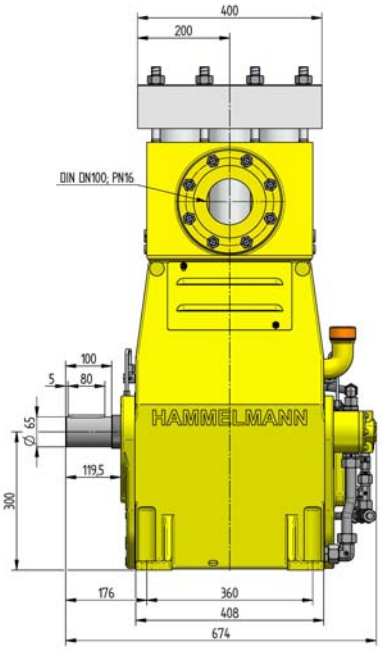
HDP 200 High Pressure Pump Series

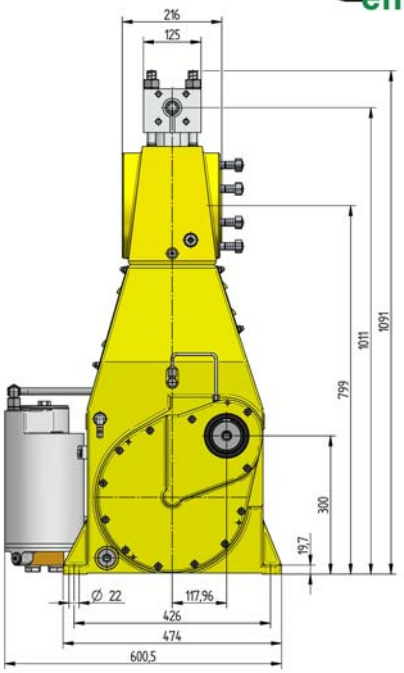
Design criteria

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

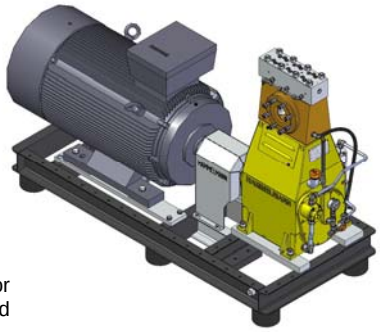
Weight: approx. 1,157 lbs





Stationary unit with electric motor

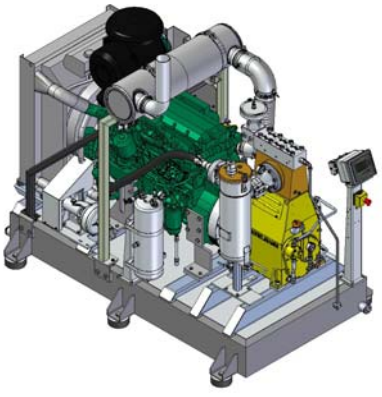
Length: 80.2 inch
Width: 33.5 inch
Height: 54.3 inch
Weight: approx. 4,409 lbs at 215 HP



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: 100.8 inch
Width: 60.6 inch
Height: 80.7 inch
Weight: approx. 7,055 lbs at 315 HP with full fuel tank



Features

- Power ratings up to 270 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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

HAMMELMANN®

HDP 200 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] 100	120	150	175	215	270	D	r.p.m. n 1	n 2
		Operating pressure [psig]								
204	5.5/5.3*	27550	33350*	41330*	46400*				1500	416
	6.6/6.1*	22480	27550	34080*	40600*	46400*		17,5	1500/1800	495
	7.9/7.4*	19580	23200	29000*	34080*	41330*	46400*		1800/2150	593
	7.7/7.4*	21030	25380	30450*	36250*	40600*			1500	416
	9/8.7*	17400	21030	25380	31180*	37700*	40600*	20	1500/1800	495
	10.8/10.6*	14500	17400	21750	25380	31180*	40600*		1800/2150	593
	*Ultra high pressure									
203	11.4	13780	16680	19580	23930	26100			1500	416
	13.7	11600	14500	16680	19580	23930	26100	25	1500/1800	495
	16.4	9430	11600	13780	16680	20300	25380		1800/2150	593
	14.5	10880	13050	15950	18850	20740			1500	416
	17.2	8700	10880	13050	15950	18850	20740	28	1500/1800	495
	20.6	7250	8700	10880	13050	15950	20300		1800/2150	593
202	16.1	9430	11170	13780	16680	17980			1500	416
	19.3	7830	9430	11600	13780	16680	17980	30	1500/1800	495
	23.0	6530	7980	9430	11600	13780	17400		1800/2150	593
	20.6	7540	9140	11170	13490	14940			1500	416
	24.3	6380	7690	9430	11310	13780	14940	33	1500/1800	495
	29.0	5370	6530	1980	9570	11600	14500		1800/2150	593
	22.2	6820	8270	10010	12040	13200			1500	416
	26.4	5800	6960	8410	10150	12330	13200	35	1500/1800	495
	31.7	4790	5800	7110	8410	10300	12760		1800/2150	593
	29.3	5220	6380	7690	9280	10150			1500	416
	34.8	4350	5370	6530	7830	9430	10150	40	1500/1800	495
	41.7	3630	4500	5370	6530	7830	10010		1800/2150	593
	37.8	4210	5080	6090	7400	7980			1500	416
	44.6	3480	4210	5080	6090	7400	7980	45	1500/1800	495
	53.3	2900	3480	4350	5220	6240	7830		1800/2150	593
	47.0	3340	4060	4930	5950	6530			1500	416
	55.7	2900	3340	4210	4930	6090	6530	50	1500/1800	495
	66.5	2320	2900	3480	4210	5080	6380		1800/2150	593
	57.0	2760	3340	4060	4930	5370			1500	416
	67.1	2320	2760	3480	4060	4930	5370	55	1500/1800	495
	80.0	2030	2320	2900	3480	4210	5220		1800/2150	593
	67.1	2320	2760	3480	4060	4500			1500	416
	79.2	2030	2320	2900	3480	4210	4500	60	1500/1800	495
	94.8	1600	2760	2470	2900	3480	4350		1800/2150	593
	78.7	2030	2470	2900	3480	3920			1500	416
	93.7	1740	2030	2470	2900	3630	3920	65	1500/1800	495
	112.2	1450	1740	2030	2470	3050	3770		1800/2150	593
	91.3	1740	2030	2470	3050	3340			1500	416
	108.0	1450	1740	2180	2610	3050	3340	70	1500/1800	495
	129.1	1160	1450	1740	2180	2610	3190		1800/2150	593

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

** The dynamic high pressure sealing extends the advantages of the labyrinth design with further increased efficiency.
*** Special ceramic plungers up to max. 43,500 psi

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 m³/h

Energy efficient

- Rod force: 19,783 lbf
- Stroke: 2.95 inch
- Mean piston speed at n_2
  416 r.p.m. = 3.4 feet/sec
  495 r.p.m. = 4.1 feet/sec
  593 r.p.m. = 4.9 feet/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

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

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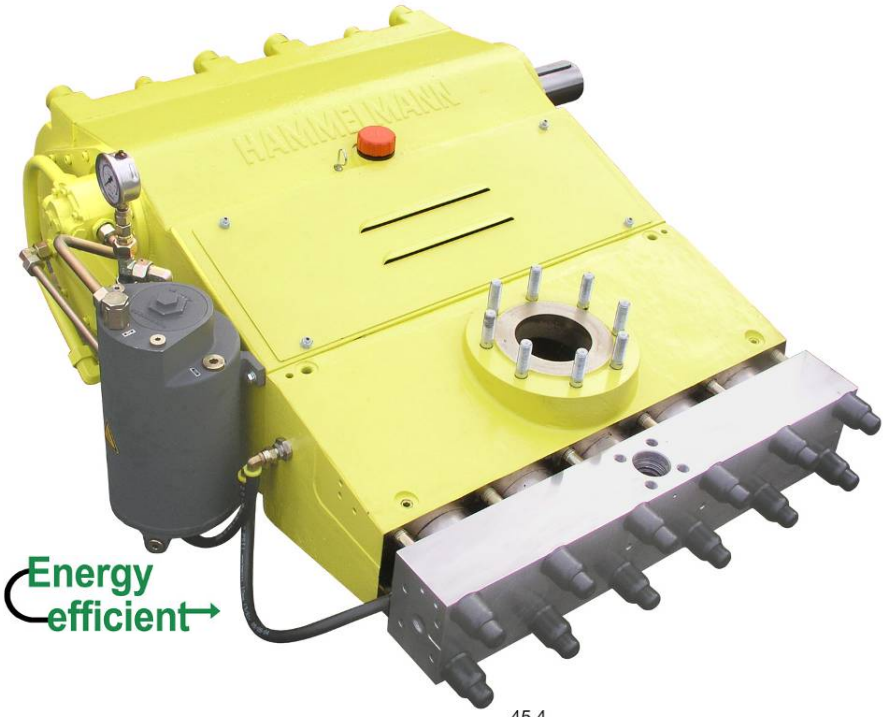
HAMMELMANN®

HDP 250 L 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.

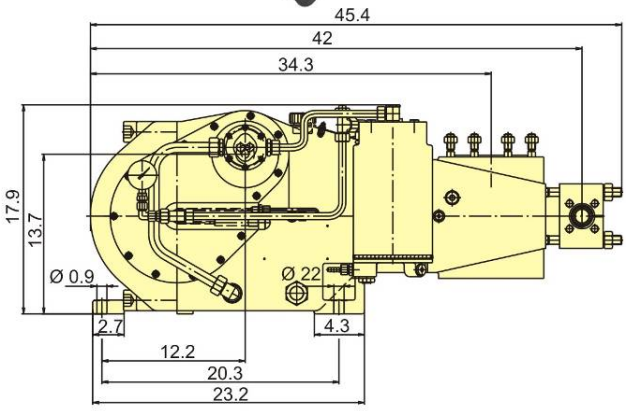


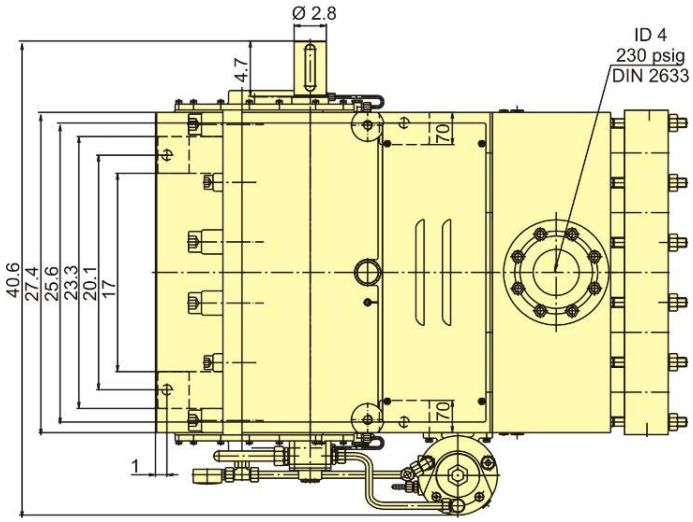
Features

- Power ratings up to 335 HP
- Horizontal 5 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 3 bearings and incorporating twin helical speed reducing gears
- Pressurised oil lubrication system with oil cooler/filter





High pressure pump
Weight: approx. 2300 lbs

Dimensions: inches

HAMMELMANN®

Technical data, series HDP 250 L

Performance parameters

Q [GPM]*	Required power rating [HP] 150	175	215	270	335	D	r.p.m. n 1	n 2
	Operating pressure [psig]							
8.4	26100	32600	39900	43500			1500	390
10.0	21800	26100	32600	41300	43500	17,5	1500/1800	465
12.1	18100	21800	26100	34100	43500		1800/2150	555
11.1	19600	23900	30500	37700			1500	390
13.2	16700	19600	23900	31200	37700	20	1500/1800	465
15.8			19600	24700	32600		1800/2150	555
17.7			18100	23200	23900		1500	390
21.1				18900	23900	25	1500/1800	465
25.3					19600		1800/2150	555
25.6	8800	10600	12900	16000	16800		1500	390
30.6	7400	8800	10700	13300	16700	30	1500/26000	465
36.7	6100	7400	9000	11200	13900		26000/2150	555
34.8	6500	7800	9400	11700	12300		1500	390
41.7	5400	6500	7800	9900	12300	35	1500/26000	465
49.9	4500	5400	6500	8100	10300		26000/2150	555
45.9	4900	5900	7300	9000	9400		1500	390
54.9	4100	4900	5900	7500	9400	40	1500/26000	465
65.7	3500	4100	4900	6200	7800		26000/2150	555
58.6	3900	4600	5700	7100	7400		1500	390
70.2	3200	3900	4800	5900	7100	45	1500/26000	465
84.2	2800	3200	3900	4900	6200		26000/2150	555
73.1	3200	3800	4600	5800	6200		1500	390
87.6	2600	3200	3800	4800	5900	50	1500/26000	465
105.1	2200	2600	3200	3900	4900		26000/2150	555
89.5	2600	3000	3800	4800	4900		1500	390
107.2	2200	2600	3200	3900	4900	55	1500/26000	465
128.3	1700	2200	2600	3300	4100		26000/2150	555
104.3	2200	2600	3200	3900	4200		1500	390
124.9	1700	2200	2600	3300	4100	60	1500/26000	465
149.7	1500	1700	2200	2800	3500		26000/2150	555
142.0	1600	1900	2300	2900	3000		1500	390
170.0	1300	1600	1900	2500	3000	70	1500/26000	465
202.2	1000	1300	1500	2000	2500		26000/2150	555

* At pressures over 29,000 psi approx. 5% of the flow rate is lost due to the compressibility factor of water

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

- Rod force: 18,430 lbf
- Stroke: 2.95 inch
- Mean piston speed at n_2
  390 r.p.m. = 3.2 feet/sec
  465 r.p.m. = 3.8 feet/sec
  555 r.p.m. = 4.6 feet/sec

Energy efficient

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

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http://www.hammelmann.com

HAMMELMANN®

HDP 300 High Pressure Pump series

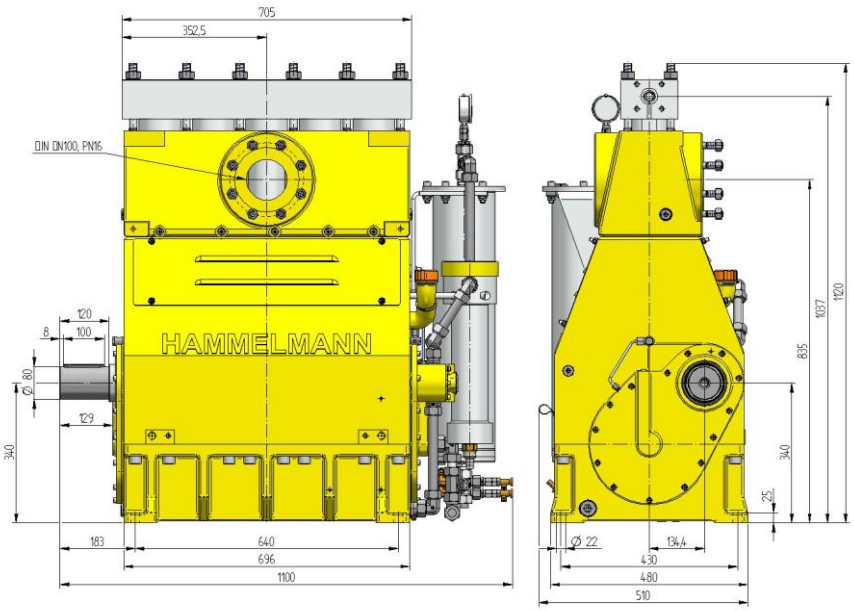
Design criteria

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. 2,360 lbs

Energy efficient



Features

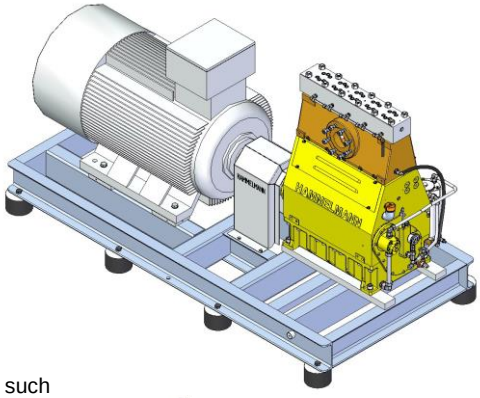
- Power ratings up to 400 HP
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

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
- Crankshaft supported by 3 bearings and incorporating twin helical speed reducing gears
- 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

Stationary unit with electric motor

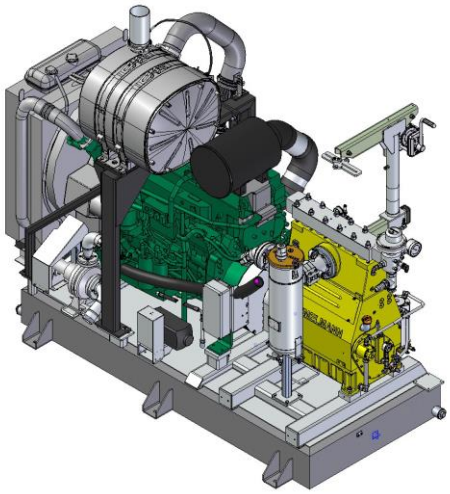
Length: 101 inch
Width: 50.8 inch
Height: 56.7 inch
Weight: approx. 7,055 lbs at 335 HP



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: 120.5 inch
Width: 61.8 inch
Height: 102.4 inch
Weight: approx. 9,921 lbs at 422 HP with full fuel tank



HAMMELMANN®

Technical data, series HDP 300

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] Operating pressure [psi] 150	180	210	270	340	400	D	r.p.m. n 1	n 2
304	9.2 / 8.7*	23930	28280	36250*	46400*			17,5	1500	411
	11.1/10.3*	19580	23930	28280	36250*	46400*			1500/1800	493
	13.5/12.4*	16680	19580	23930	33350*	37700*	46400*		1800/2150	591
	12.1/11.1*	18130	21750	26830	36250	40600*		20	1500	411
	14.5/13.5*	15230	18130	21750	27550	34800*	40600*		1500/1800	493
	17.4/16.4*	13050	15230	18850	23200	29000*	37700*		1800/2150	591
303	18.5	11750	14070	16970	21320	26100		25	1500	411
	22.7	9720	11600	14070	17690	22040	26100		1500/1800	493
	26.7	8120	9720	11750	14790	18420	23200		1800/2150	591
	23.2	9280	11170	12040	16970	20740		28	1500	411
	28.2	7690	9280	11310	14070	17550	20740		1500/1800	493
	33.3	6530	7830	9430	11750	14790	18850		1800/2150	591
302	26.7	8120	8270	11750	14790	17980		30	1500	411
	32.2	6670	8120	9720	12180	15230	17980		1500/1800	493
	38.3	5660	8270	8270	10300	12910	15950		1800/2150	591
	30.6	7110	8560	10300	12910	15810		32	1500	411
	36.7	5950	7110	8560	10730	13490	15810		1500/1800	493
	43.8	4930	5950	7250	8990	11310	14210		1800/2150	591
	36.7	5950	7110	8700	10880	13200		35	1500	411
	44.1	4930	5950	7250	8990	11310	13200		1500/1800	493
	52.8	4210	4930	6090	7540	9430	11600		1800/2150	591
	48.8	4500	5510	6670	8270	10150		40	1500	411
	58.3	3770	4500	5510	6820	8560	10150		1500/1800	493
	69.7	3190	3770	4640	5800	7250	8990		1800/2150	591
	62.6	3630	4350	5220	6530	7980		45	1500	411
	74.4	3050	3630	4350	5510	6820	7980		1500/1800	493
	89.0	2470	3050	3630	4500	5660	6960		1800/2150	591
	77.9	2900	3480	4210	5220	6530		50	1500	411
	92.9	2470	2900	3480	4350	5510	6530		1500/1800	493
	111.1	2030	2470	2900	3630	4640	5510		1800/2150	591
	94.2	2470	2900	3480	4350	5370		55	1500	411
	112.5	2030	2470	2900	3630	4500	5370		1500/1800	493
	134.4	1740	2030	2470	3050	3770	4640		1800/2150	591
	110.4	2030	2470	2900	3630	4500		60	1500	411
	132.5	1740	2030	2470	3050	3770	4500		1500/1800	493
	158.4	1450	1740	2030	2610	3190	3920		1800/2150	591
	129.6	1740	2030	2470	3190	3920		65	1500	411
	155.5	1450	1740	2030	2610	3190	3770		1500/1800	493
	185.9	1160	1450	1740	2180	2760	3340		1800/2150	591
	150.2	1450	1740	2180	2760	3340		70	1500	411
	180.3	1310	1450	1740	2320	2760	3340		1500/1800	493
	216.0	1020	1310	1450	1890	2320	2900		1800/2150	591
	196.4	1160	1380	1670	2100	2470		80	1500	411
	235.5	940	1160	1380	1740	2180	2470		1500/1800	493
	282.2	800	940	1160	1450	1810	2180		1800/2150	591

* Ultra high pressure

- Rod force: 88 kN
- Stroke: 3 inch
- Mean piston speed at n_2
  411 r.p.m. = 3.35 feet/sec
  493 r.p.m. = 4.0 feet/sec
  591 r.p.m. = 4.86 feet/sec

Typical high pressure pump units

- Stationary diesel unit in BDF-Container with workshop

- Stationary electric unit

- Electric unit in container

** 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

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

Conversion table
Rating 1 hp = 0,746 kW
Op.pressure 1 psi = 0,069 bar
Flow rate 1 gpm = 0,227 m³/h

Energy efficient

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

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http://www.hammelmann.com

HAMMELMANN®

HDP 400-2 High Pressure Pump series

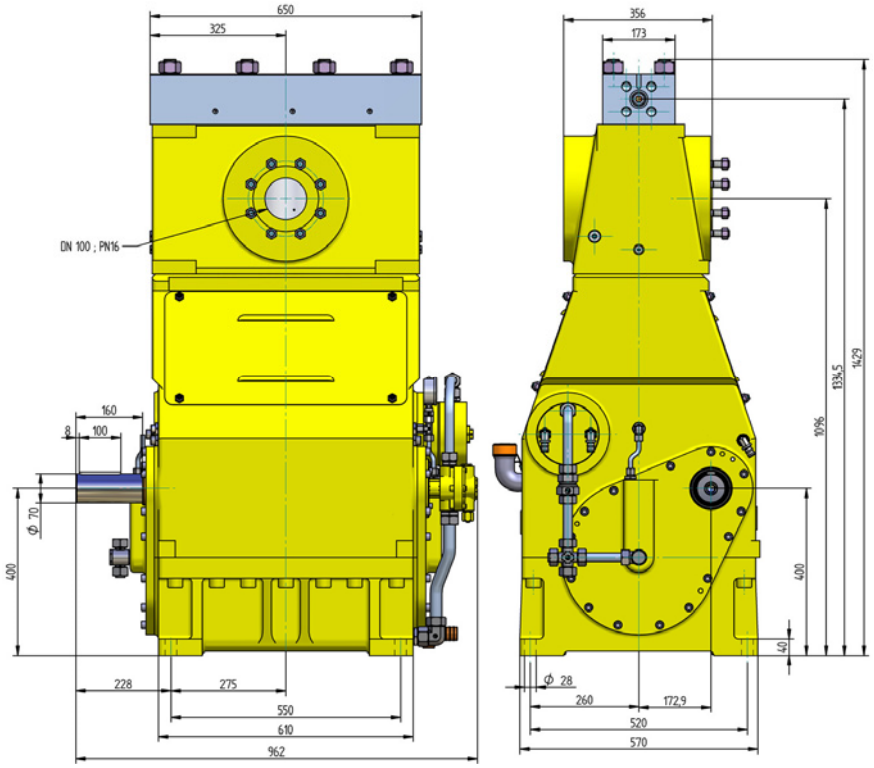
Design criteria

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 ratin

High pressure pump

Weight: approx. 3748 lbs

Energy efficient



Features

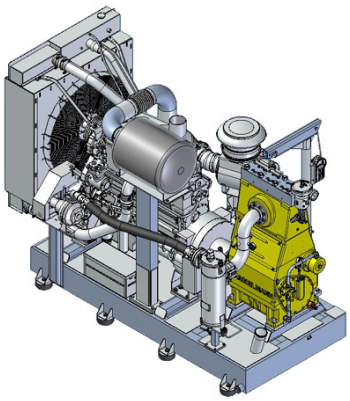
- Power ratings up to 540 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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

Stationary unit with diesel engine

Length:	152.7 inch
Width:	56.7 inch
Height:	89.4 inch
Weight:	approx. 11795 lbs at 540 HP



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.

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HAMMELMANN®

Technical data, series HDP 400-2

Performance parameters (Standard design)

HDP	Q [GPM]	Required power rating [HP / Operating pressure [psig]] 270	340	400	470	540	D	r. p. m. n 1	r. p. m. n 2
404	11.9*	34800*	43500*				28	1500	340
	14.5*	29000*	36250*	43500*				1500/1800	410
	17.2*	23930	30450*	36250*	42050*	43500*		1800	490
	16.1 / 15.3*	26100	32630*	37700*			32	1500	340
	19.3 / 18.5*	22480	26830	33350*	37700*			1500/1800	410
	23.2 / 22.2*	22480	22480	26830	32630*	37700*		1800	490
	19.3 / 18.7*	21750	26830	31900*			35	1500	340
	23.5 / 22.4*	17400	21750	26100	31180*			1500/1800	410
	28.2 / 27.2	14500	18850	21750	26100	29000*		1800	490
403	25.1	16680	20300	24220			40	1500	340
	30.4	13780	16680	20300	24220			1500/1800	410
	36.2	11600	14500	17400	20300	23200		1800	490
	33.0	12330	15230	18850			45	1500	340
	39.6	10150	13050	15230	18130			1500/1800	410
	47.5	8700	10880	13050	15230	17400		1800	490
402	40.1	10440	12760	15520			50	1500	340
	48.3	8700	10880	12760	15230			1500/1800	410
	57.6	7250	8990	10880	12760	14500		1800	490
	48.6	8560	10730	12760			55	1500	340
	58.6	7110	8850	10440	12470			1500/1800	410
	70.0	5800	7400	8850	10440	12040		1800	490
	58.9	7110	8700	10730			60	1500	340
	71.0	5800	7250	8700	10300			1500/1800	410
	84.7	4790	6090	7250	8560	9860		1800	490
	69.4	5950	7540	9140			65	1500	340
	83.7	4930	6240	7540	8700			1500/1800	410
	100.1	4060	5220	6240	7250	8410		1800	490
	80.8	5080	6380	7830			70	1500	340
	97.4	4210	5370	6240	7400			1500/1800	410
	116.4	3480	4500	5370	6240	7110		1800	490
	92.4	4350	5660	6820			75	1500	340
	111.4	3770	4640	5510	6530			1500/1800	410
	133.1	3050	3920	4640	5510	6240		1800	490
	104.5	3920	4930	5950			80	1500	340
	125.9	3190	4060	4930	5800			1500/1800	410
	150.5	2760	3480	4060	4890	5510		1800	490
401 High flow	104.5	3920	4930	5950			80	1500	340
	125.9	3190	4060	4930	5800			1500/1800	410
	150.5	2760	3480	4060	4790	5510		1800	490
	115.6	3480	4500	5370			85	1500	340
	139.4	2900	3770	4500	5220			1500/1800	410
	166.6	2470	3050	3770	4350	4930		1800	490
	130.9	3190	3920	4790			90	1500	340
	157.9	2610	3190	3920	4640			1500/1800	410
	188.8	2180	2760	3190	3770	4350		1800	490
	162.9	2470	3190	3770			100	1500	340
	196.4	2030	2610	3190	3630			1500/1800	410
	234.7	1740	2180	2610	3050	3480		1800	490
	199.6	2030	2610	3190			110	1500	340
	240.8	1740	2175	2470	3050			1500/1800	410
	287.8	1450	1740	2180	2470	2900		1800	490
	238.4	1740	2180	2610			120	1500	340
	284.6	1450	1890	2180	2610			1500/1800	410
	340.3	1310	1600	1890	2180	2470		1800	490

*Ultra high pressure

Note: Actual flow rates for water as pumped medium (volumetric efficiency has already been taken into account).

- Rod force: 47,209 lbf
- Stroke: 3.15 inch
- Mean piston speed at n_2
  340 r.p.m. = 3.0 feet/sec
  410 r.p.m. = 3.6 feet/sec
  490 r.p.m. = 4.3 feet/sec

Typical high pressure pump units

- 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

Conversion table

Rating	1 hp	= 0,746 kW
Op.pressure	1 psi	= 0,069 bar
Flow rate	1 gpm	= 0,227 m³/h

HDP	Seal**	Sealing system
404	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
403	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
402	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramic plunger / packing
401	Packing	Ceramic plunger / packing

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

HAMMELMANN®

High Pressure Pump Series HDP 500

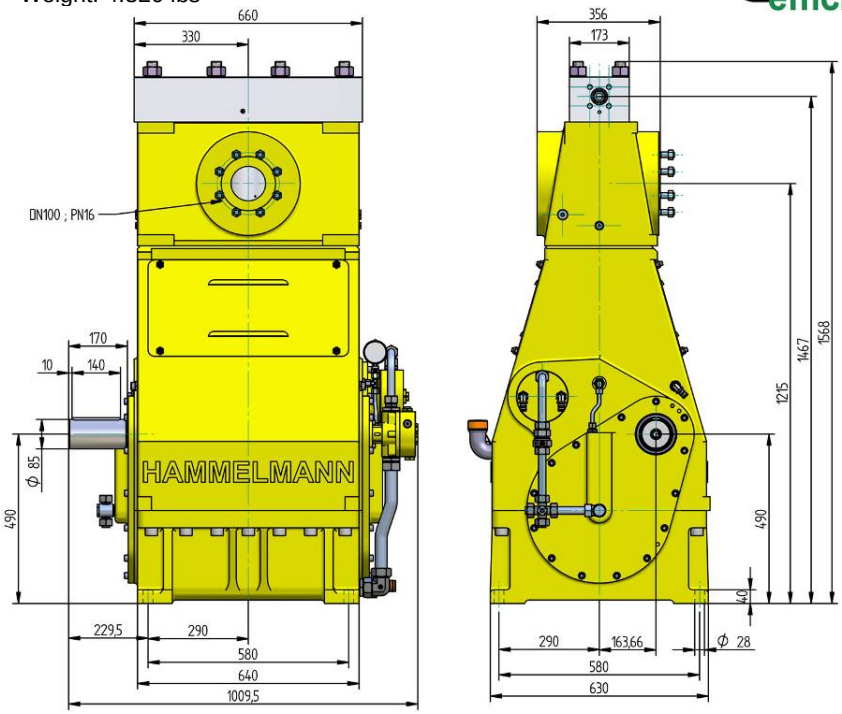
Design criteria

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

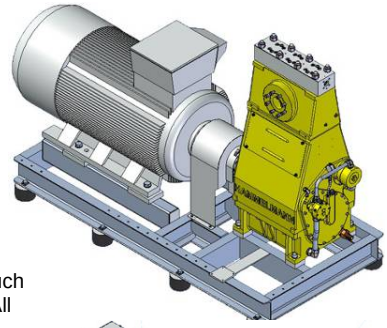
Weight: 4.320 lbs

Energy efficient



Stationary unit with electric motor

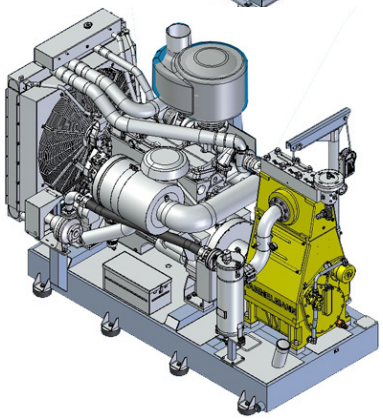
Length: 114 inch
Width: 52 inch
Height: 75 inch
Weight: approx. 12,348 lbs at 536 HP



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: 120 inch
Width: 66 inch
Height: 94 inch
Weight: approx. 14,773 lbs at 700 HP with full fuel tank



Features

- Power ratings up to 670 HP
- 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

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HAMMELMANN®

HDP 500 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] 400	470	540	600	670	D	r.p.m. n 1	n 2
		Operating pressure [psig]							
504	13.7*	43500*					28	1500	315
	16.6*	37000*	43500*					1500/1800	380
	20.3*	30500*	35500*	39900*	43500*			1800	465
	18*	32600*	37700*				32	1500	315
	22.4/ 21.6*	27100	31600*	36300*	37700*			1500/1800	380
	27.5 / 26.4*	22200	25800	29700*	33400*	35400*		1800	465
	13.7 / 21.9*	26800	31900*				35	1500	315
	26.9 / 26.4*	22500	26100	30500*	31900*			1500/1800	380
	33.0 / 32.2*	18100	21000	24700	27600	31900*		1800	465
		*Ultra high pressure							
503	29.8	20700	24200				40	1500	315
	35.9	17000	19900	22800	24200			1500/1800	380
	43.8	14200	16500	18900	21300	23600		1800	465
	37.0	16400	19100				45	1500	315
	44.6	13500	15700	18000	19100			1500/1800	380
	54.1	11200	13100	14900	16800	18700		1800	465
502	46.2	13300	15500				50	1500	315
	55.4	10900	12800	14500	15500			1500/1800	380
	67.6	9000	10600	12000	13600	15100		1800	465
	56.5	11000	12800				55	1500	315
	67.8	9000	10400	12000	12800			1500/1800	380
	82.6	7500	8700	10000	11200	12500		1800	465
	68.1	9300	10700				60	1500	315
	81.6	7500	8800	10000	10700			1500/1800	380
	99.5	6200	7400	8400	9400	10400		1800	465
	80.8	7800	9100				65	1500	315
	96.9	6400	7500	8600	9100			1500/1800	380
	118.0	5400	6200	7100	8000	9000		1800	465
	93.5	6800	7800				70	1500	315
	112.2	5500	6500	7400	7800			1500/1800	380
	136.8	4600	5400	6100	7000	7700		1800	465
	107.4	5900	6800				75	1500	315
	128.8	4800	5700	6400	6800			1500/1800	380
	157.1	4100	4600	5400	6100	6700		1800	465
	118.6	5200	5900				80	1500	315
	142.0	4200	4900	5700	5900			1500/1800	380
	173.2	3500	4100	4600	5400	5900		1800	465
501 High flow	118.6	5200	5900				80	1500	315
	142.0	4200	4900	5700	5900			1500/1800	380
	173.2	3500	4100	4600	5400	5900		1800	465
	133.8	4600	5400				85	1500	315
	160.5	3800	4500	5100	5400			1500/1800	380
	195.6	3200	3600	4200	4600	5200		1800	465
	151.5	4100	4800				90	1500	315
	181.9	3300	3900	4500	4800			1500/1800	380
	221.5	2800	3200	3800	4200	4600		1800	465
	187.2	3300	3800				100	1500	315
	224.4	2800	3200	3600	3800			1500/1800	380
	273.5	2200	2600	3000	3300	3800		1800	465
	231.0	2800	3200				110	1500	315
	277.2	2200	2600	2900	3200			1500/1800	380
	337.9	1900	2200	2500	2800	3000		1800	465

- Rod force: 47,200 lbf
- Stroke: 3.94 inch

Mean piston speed at n_2

315 r.p.m. = 3.5 feet/sec

380 r.p.m. = 4.2 feet/sec

465 r.p.m. = 5.1 feet/sec

Typical high pressure pump units

- Stationary unit with diesel motor

- Stationary unit with electric motor

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. [1/min]
n2 = Crankshaft r.p.m. [1/min]

Conversion table

Rating	1 hp	=	0,746 kW
Op.pressure	1 psi	=	0,069 bar
Flow rate	1 gpm	=	0,227 m³/h

HDP	Seal**	Sealing system
504	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
503	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
502	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramik plunger / packing
501	Packing	Ceramik plunger / packing

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

HAMMELMANN®

High Pressure Pump Series HDP 800

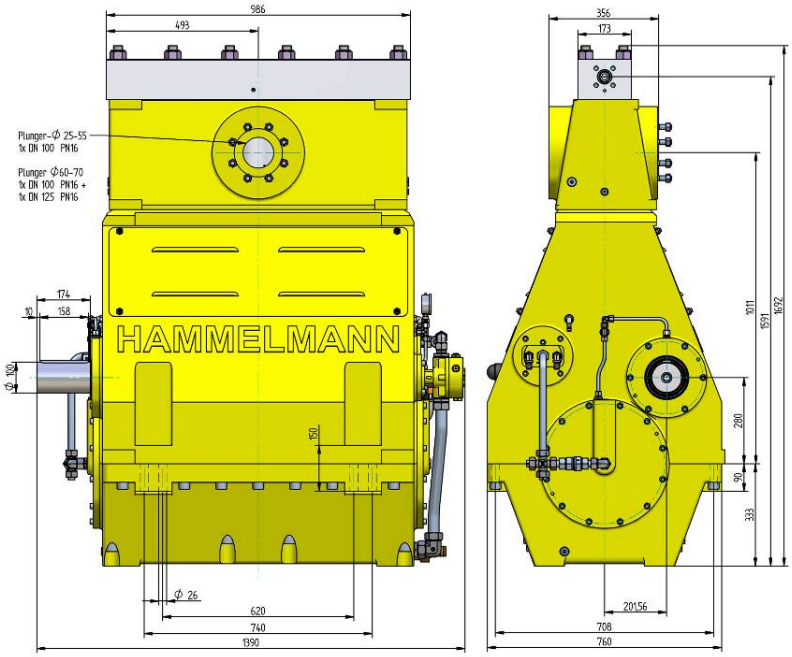
Design criteria

Energy efficient

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.

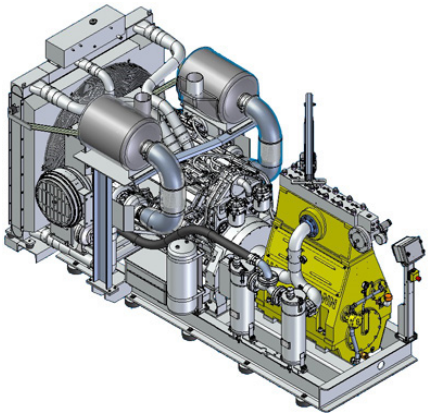
High pressure pump

Weight: approx. 8,170 lbs



Stationary unit with diesel engine

Length: 156 inch
Width: 83 inch
Height: 87 inch
Weight: approx. 20,300 lbs at 1100 HP and without full fuel tank



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.

Features

- Power ratings up to 1070 HP
- Vertical 5 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
- Twin helical integral reduction gear with crankshaft supported by 4 bearings
- Pressurised oil lubrication system with oil cooler/filter

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HAMMELMANN®

HDP 800 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 [lGPM]	Required power rating [HP] 670	750	840	950	1070	D	r.p.m. n 1	n 2
		Operating pressure [psig]							
804	23.0	43500*						1500	315
	27.7	36300*	40600*	43500*			28	1500/1800	380
	34.1	30500*	34100*	37700*	42100*	43500*		1800	465
	130.1*	32600*	36500*					1500	315
	37.5 / 36.2*	27000	30200*	34100*	37700*		32	1500/1800	380
	45.7 / 44.4*	22000	24700	27800	31200*	35400*		1800	465
	37.2 / 36.7*	26800	31200*	31900*				1500	315
	44.9 / 43.8*	21800	24700	28300	31900*		35	1500/1800	380
	54.9 / 53.6*	18100	20300	23200	26100	30500*		1800	465
		* Ultra high pressure							
803	49.9	20700	23200	24200				1500	315
	59.9	17100	19100	21500	24200		40	1500/1800	380
	72.9	14200	16000	17800	20200	22800		1800	465
	61.8	16400	17700	19100				1500	315
	74.2	13500	15100	17000	19100		45	1500/1800	380
	90.3	11200	12600	14100	16000	18000		1800	465
802	77.1	13300	14900	15500				1500	315
	92.4	10900	12200	13800	15500		50	1500/1800	380
	112.7	9100	10200	11500	12900	14500		1800	465
	94.2	11000	12300	12800				1500	315
	113.3	9000	10200	11300	12800		55	1500/1800	380
	137.8	7500	8400	9400	10600	12000		1800	465
	113.5	9300	10300	10700				1500	315
	136.2	7500	8400	9600	10700		60	1500/1800	380
	165.8	6200	7100	8000	9000	10000		1800	465
	134.4	7800	8800	9100				1500	315
	161.3	6400	7300	8100	9100		65	1500/1800	380
	196.7	5400	6000	6800	7700	8600		1800	465
	156.0	6800	7500	7800				1500	315
	187.2	5500	6200	7000	7800		70	1500/1800	380
	228.1	4600	5200	5800	6500	7400		1800	465
	178.2	5900	6400	6800				1500	315
	214.9	4800	5400	6100	6800		75	1500/1800	380
	261.9	280	4500	5100	5700	6400		1800	465
	197.5	5200	5800	5900				1500	315
	236.8	4200	4800	5400	5900		80	1500/1800	380
	288.8	3500	3900	4500	5100	5700		1800	465
801 High flow	197.5	5200	5800	5900				1500	315
	236.8	4200	4800	5400	5900		80	1500/1800	380
	288.8	3500	3900	4500	5100	5700		1800	465
	236.8	4500	5100	5400				1500	315
	267.4	3800	4200	4800	5400		85	1500/1800	380
	327.6	3000	3500	3900	4500	4900		1800	465
	252.6	4100	4500	4800				1500	315
	303.1	3300	3800	4200	4800		90	1500/1800	380
	369.3	2800	3000	3500	3900	4500		1800	465
	315.0	3300	3600	3800				1500	315
	378.0	2800	3000	3300	3800		100	1500/1800	380
	460.7	2200	2500	2800	3200	3600		1800	465
	385.2	2800	3000	3200				1500	315
	462.3	2200	2500	2800	3200		110	1500/1800	380
	563.1	1900	2000	2300	2600	2900		1800	465

HDP	Seal**	Sealing system
804	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
803	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
802	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramic plunger / packing
801	Packing	Ceramic plunger / packing

D = Piston/Plunger dia. [mm]
n1 = Motor/Engine r.p.m. [1/min]
n2 = Crankshaft r.p.m.[1/min]

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

- Rod force: 47,200 lbf
- Stroke: 3.94 inch
- Mean piston speed at n_2
  315 r.p.m. = 3.5 feet/sec
  380 r.p.m. = 4.2 feet/sec
  465 r.p.m. = 5.1 feet/sec

Typical high pressure pump units

- Stationary unit with diesel motor

- Diesel unit in container with workshop

- Stationary unit with electric motor

Energy efficient

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

Conversion table

Rating	1 hp	=	0,746 kW
Op.pressure	1 psi	=	0,069 bar
Flow rate	1 gpm	=	0,227 m³/h

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