

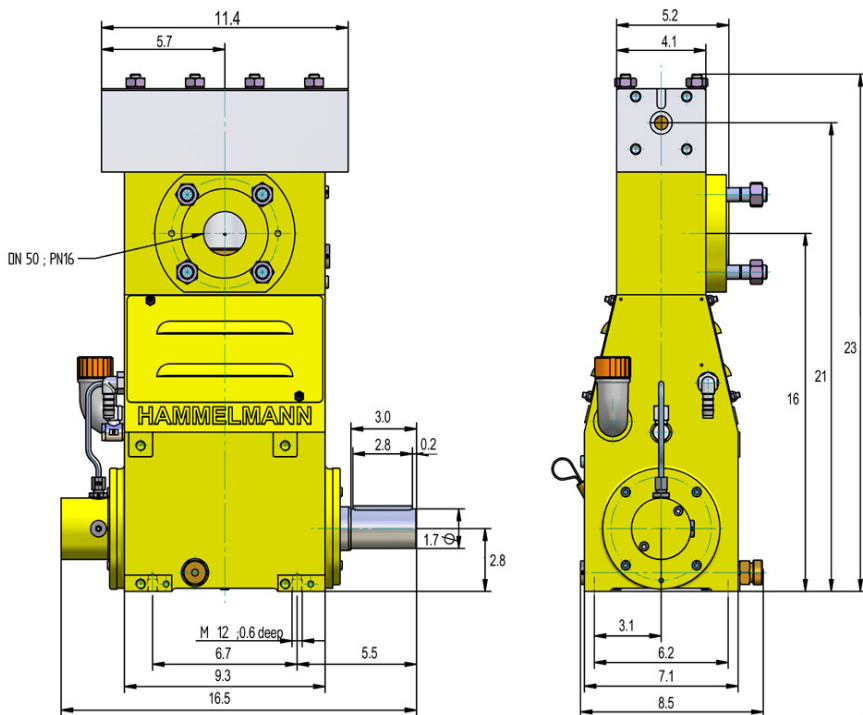
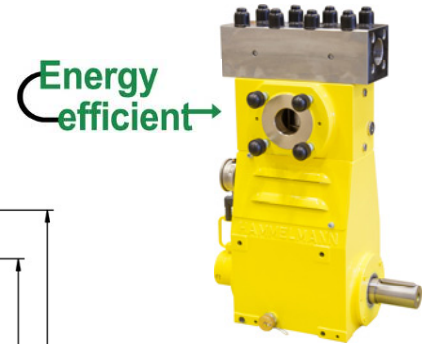
HDP 20 High Pressure Pump Series

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



Features

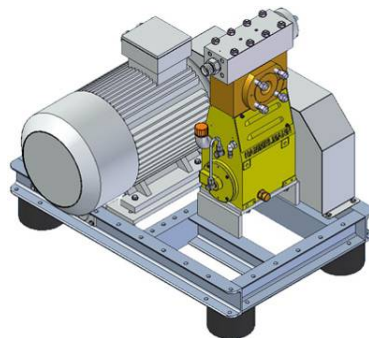
- Power ratings up to 25 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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.

HAMMELMANN®

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

* increased permissible rod force to 4,290 lbf

- Rod force: 3,960 lbf
- Stroke: 1.18 inch
- Mean piston speed at n₂
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.

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.

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