

# HDP 20 High Pressure Pump Series

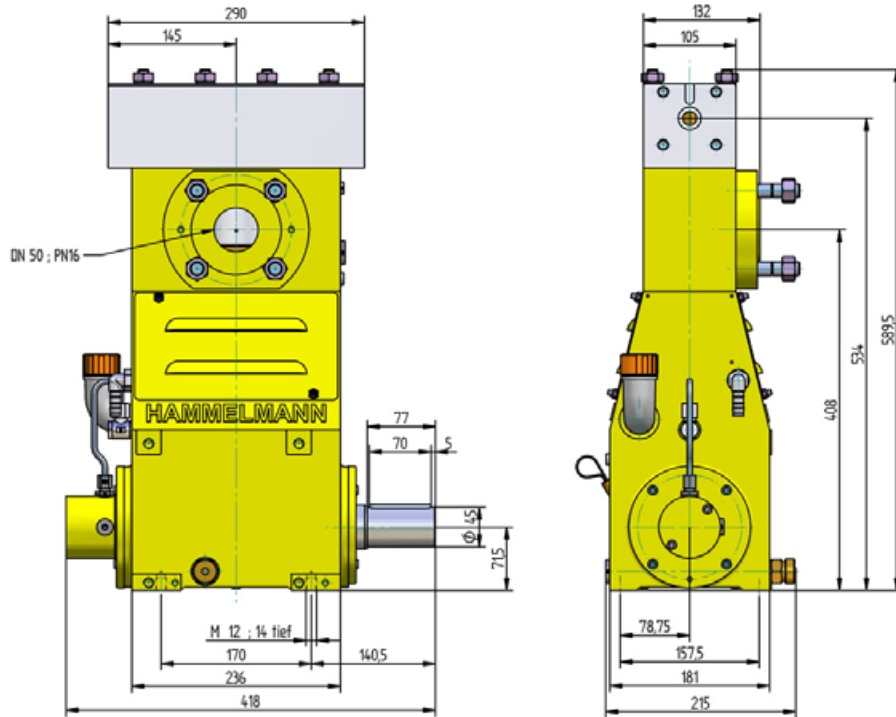
## Design criteria

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: mm



### Features

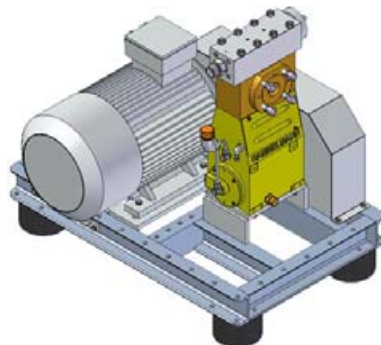
- Power ratings up to 25 HP
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries
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### Quality and reliability

- 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.

# HDP 20 series, technical data

## Performance parameters

Q [GPM]*	Required power rating [HP]			D	r.p.m.	
	15	20	25		n <sub>1</sub>	n <sub>2</sub>
	Operating pressure [psig]					
0.6	31900	43500	50800	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
1.1	16700	23200	29000			750
1.3	14200	18900	23900			900

- Rod force: 3,960 lbf
- Stroke: 1.18 inch
- Mean piston speed at n<sub>2</sub>  
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

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

0.9	20300	26100	26100	10	1500/1800/2150	625
1.1	16700	23200	26100			750
1.3	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
2.4	9100	12500	14400	15	1500/1800/2150	625
2.9	7500	10300	12600			750
3.2	6500	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	2600	3200	3800			750
13	1670	2200	2600	35	1500/1800/2150	625
16	1380	1890	2300			750
18	1230	1740	2000	40	1500/1800/2150	625
22	1090	1450	1740			750
23	1020	1380	1600	45	1500/1800/2150	625
27	800	1090	1380			750

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

D = Piston/Plunger dia. [mm]  
 n<sub>1</sub> = Motor/Engine r.p.m.  
 n<sub>2</sub> = Crankshaft r.p.m.



- Stationary unit with electric motor



## Type designations

Sealing system	D	HDP Type
Hydrodynamic with tungsten carbide plungers	8	24
Labyrinth with solid ceramic plungers	10 - 45	22
Packed sleeves with solid ceramic plungers	10 - 45	27



- Stationary electric unit with sound damping cover

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