

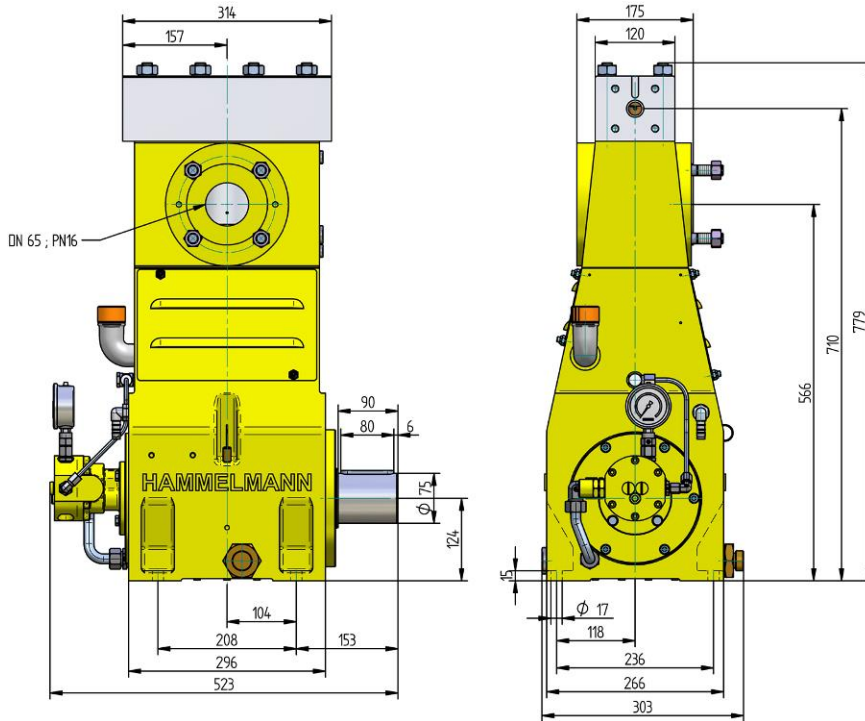
# HDP 40 High Pressure Pump Series

## 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

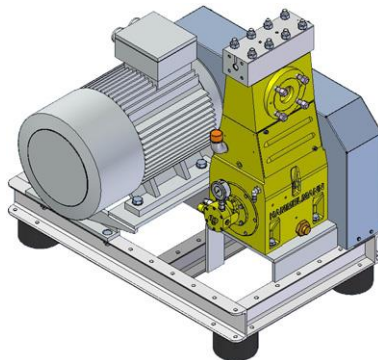


Dimensions: mm

### 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.



Energy efficient →



### 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

# 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]					D	r.p.m.		
		20	25	30	40	50		n 1	n 2	
		Operating pressure [psig]								
44	0.4*	55100*					8	1500 / 1800 / 2150	450	
	0.6*	40600*	49010*	55100*		625				
	0.7*	34650*	41610*	48570*		750				
	0.8*	29720*	35520*	41320*	55100*	900				
	0.6*	36970*	44510*	51760*	65250*		10		450	
	0.9*	27550	32770*	38130*	50750*	61040*			625	
	1.4 / 1.1*	22910	28270	32480*	43350*	52200*			750	
	1.7 / 1.3*	18990	23490	27840	36970*	44510*	900		12	450
	1.2 / 1.0*	26530*	31610*	37550*	49010*	55100**	625			
	1.5 / 1.4*	19570	23920	29720*	40600*	50020*	750			
	1.8 / 1.7*	15950	20300	23920	34070*	42050*	900			
	2.2 / 2.1*	13480	16675	19570	26820	34800*	15		625	
	2.4 / 2.2*	12470	15370	18120	24650	31900*			750	
	2.9	10440	12760	15220	21020	25370			900	
	3.4	8700	10730	12760	17400	21750	17,5		625	
	3.3	9130	11310	13480	18120	22470			750	
4.0	7680	9420	11160	15220	18850	900				
4.8	6380	7830	9420	12760	15950					

\*Ultra high pressure \*\* increased rod force allowed

43	4.4	7000	8700	10300	14100	17400	20	1500/1800/2150	625
	5.3	5800	7300	8600	11700	14500			750

42	5.3	5800	7100	8600	11600	14200	22	1500 / 1800 / 2150	625	
	6.3	4800	5900	7100	9700	11900			750	
	6.3	4800	5900	7100	9700	12000			24	625
	7.7	4100	4900	5900	8100	10000				750
	7.4	4100	5100	6100	8300	10300			26	625
	9.0	3500	4200	5100	7000	86000				750
	10.0	3000	3800	4500	6200	7700			30	625
	11.9	2600	3200	3800	5200	6400				750
	13.7	2200	2800	3300	4500	5700			35	625
	16.4	1900	2300	2800	3800	4600				750
	18.0	1700	2200	2500	3500	4400			40	625
	21.6	1500	1800	2100	2900	3600				750
	22.7	1400	1700	2000	2800	3300			45	625
	27.2	1200	1400	1700	2300	2800				750
	28.2	1100	1400	1600	2200	2800			50	625
	33.8	900	1200	1400	1900	2300				750
34.1	900	1200	1300	1800	2300	55	625			
41.0	700	900	1100	1500	1900		750			

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.

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- Rod force: 8,770 lbf
- Stroke: 1.18 inch
- Mean piston speed at n<sub>2</sub>  
 450 r.p.m. = 2.1 feet/sec  
 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

D = Piston/Plunger dia. [mm]

n<sub>1</sub> = Motor/Engine r.p.m.

n<sub>2</sub> = 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

**Energy efficient** →

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

**HAMMELMANN**®