

# HDP 40 High Pressure Pump Series

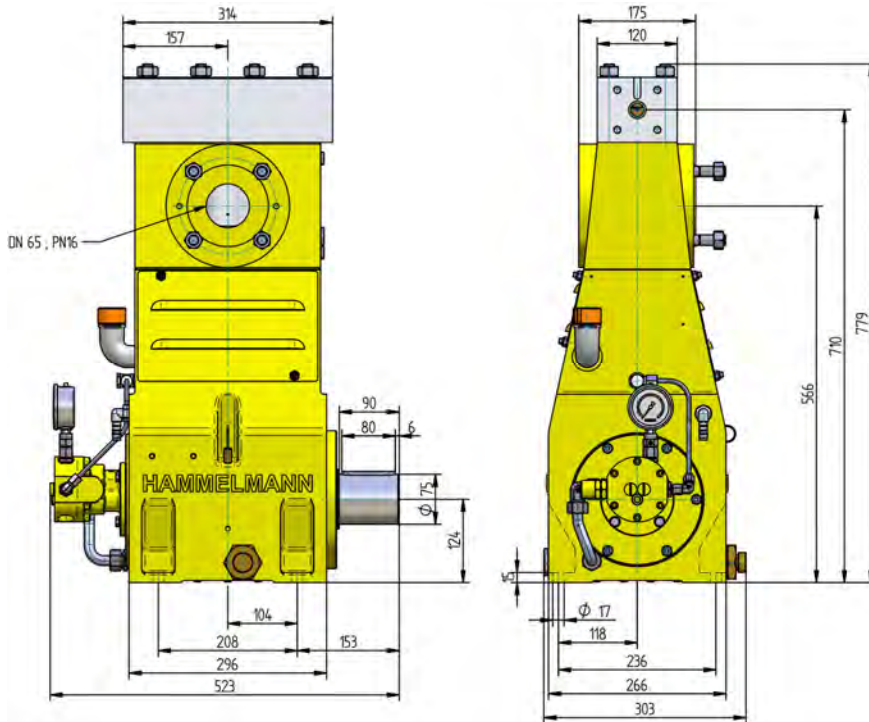
## Design criteria

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

### High pressure pump

Weight: approx. 200 kg

Energy efficient →



### Features

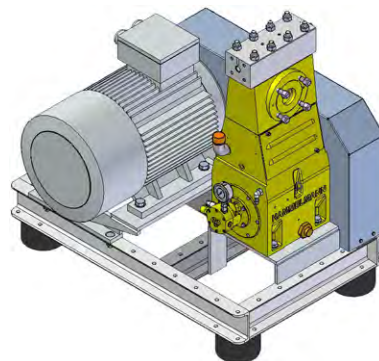
- Power ratings up to 37 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

### 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: 1100 mm  
 Width: 833 mm  
 Height: 1100 mm  
 Weight: approx. 730 kg at 30 kW



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 40 series, technical data

## Performance parameters (Standardausführung)

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

HDP	Q [l/min]	Required power rating [kW]					D	r. p. m.	
		15	18,5	22	30	37		n 1	n 2
		Operating pressure [bar]							
44	1,5*	3800*					1500 / 1800 / 2150	450 625 750 900	
	2,1*	3000*	3700*	3800*					
	2,6*	2500*	3100*	3700*					
	3,1*	2100*	2600*	3100*	3800*				
	3,2 / 2,4*	2700*	3300*	3900*	4500*				
	4,4 / 3,4*	1940	2400*	2800*	3900*	4500*			
	5,3 / 4,1*	1610	2000*	2400*	3200*	4000*			
	6,4 / 4,9*	1340	1660	1970	2700*	3300*			
	4,3 / 3,9*	1870	2300*	2700*	3700*	3800**			
	5,9 / 5,4*	1340	1660	1970	2700*	3300*			
	7,1 / 6,5*	1120	1380	1640	2200*	2800*			
	8,5 / 7,8*	930	1150	1370	1870	2300*			
	8,9 / 8,9*	860	1060	1260	1720	2100*			
	11 / 11*	720	880	1050	1430	1770			
13 / 13*	600	740	880	1200	1470				
12	630	780	930	1260	1560	17,5	625 750 900		
15	530	650	770	1050	1300				
18	440	540	640	880	1080				

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

43	17	480	600	710	970	1200	20	1500/1800/ 2150	625 750
	20	400	500	600	810	1000			

42	20	400	500	600	800	1000	1500 / 1800 / 2150	625 750
	24	330	410	500	670	820		
	24	340	410	500	670	830		
	29	280	350	410	560	700		
	27	300	350	420	570	710		
	32	240	300	350	480	600		
	38	220	270	320	430	530		
	45	180	220	260	360	440		
	52	160	200	230	320	400		
	62	130	160	200	260	320		
	68	120	150	180	240	300		
	81	100	120	150	200	250		
	86	100	120	140	200	240		
	103	80	100	120	160	200		
	107	80	100	110	150	200		
	129	60	80	100	130	160		
130	60	80	100	130	160	55	625 750	
156	50	70	80	110	130			

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. 2500 bar.

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

### Conversion table

Rating 1 kW = 1.34 HP  
Op. pressure 1 bar = 14.5 psi  
Flow rate 1 l = 0.264 US gallon  
1 l = 0.22 Imp. gallon

- Rod force: 39 kN
- Stroke: 30 mm
- Mean piston speed at n<sub>2</sub>  
450 r.p.m. = 0,45 m/sec  
625 r.p.m. = 0,63 m/sec  
750 r.p.m. = 0,75 m/sec  
900 r.p.m. = 0,90 m/sec

Typical high pressure pump units



- Stationary unit with diesel motor



- Stationary unit with electric motor



- Mobile electric unit with hose reel



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