

HDP 40 High Pressure Pump Series

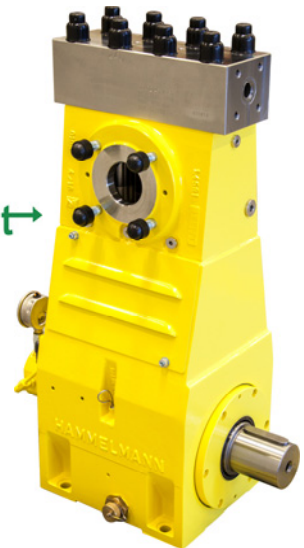
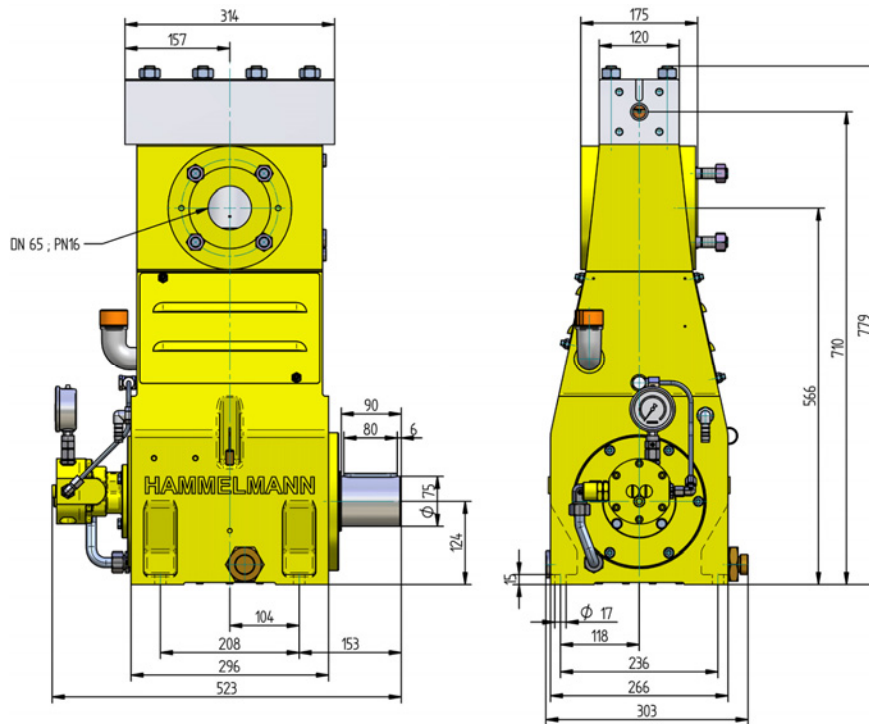
Design criteria

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

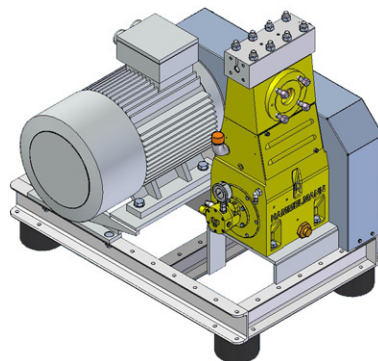
- Power ratings up to 37 kW
- Vertical 3 cylinder design
- Wide variety of complementary ancillaries

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.

+44 1905 751790
sales@calder.co.uk
www.calderltd.com

Calder Ltd
Prescott Drive
Worcester
WR4 9NE
United Kingdom

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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*					8	1500 / 1800 / 2150	450
	2,1*	3000*	3700*	3800*					625
	2,6*	2500*	3100*	3700*					750
	3,1*	2100*	2600*	3100*	3800*				900
	3,2 / 2,4*	2700*	3300*	3900*	4500*		10		450
	4,4 / 3,4*	1940	2400*	2800*	3900*	4500*			625
	5,3 / 4,1*	1610	2000*	2400*	3200*	4000*			750
	6,4 / 4,9*	1340	1660	1970	2700*	3300*			900
	4,3 / 3,9*	1870	2300*	2700*	3700*	3800**	12		450
	5,9 / 5,4*	1340	1660	1970	2700*	3300*			625
	7,1 / 6,5*	1120	1380	1640	2200*	2800*			750
	8,5 / 7,8*	930	1150	1370	1870	2300*			900
	8,9 / 8,9*	860	1060	1260	1720	2100*	15		625
	11 / 11*	720	880	1050	1430	1770			750
	13 / 13*	600	740	880	1200	1470			900
	12	630	780	930	1260	1560	17,5		625
	15	530	650	770	1050	1300			750
	18	440	540	640	880	1080			900

*Ultra high pressure ** increased rod force allowed

43	17 20	480 400	600 500	710 600	970 810	1200 1000	20	1500/1800/ 2150	625 750
42	20 24	400 330	500 410	600 500	800 670	1000 820	22	1500 / 1800 / 2150	625 750
	24 29	340 280	410 350	500 410	670 560	830 700	24		625 750
	27 32	300 240	350 300	420 350	570 480	710 600	26		625 750
	38 45	220 180	270 220	320 260	430 360	530 440	30		625 750
	52 62	160 130	200 160	230 200	320 260	400 320	35		625 750
	68 81	120 100	150 120	180 150	240 200	300 250	40		625 750
	86 103	100 80	120 100	140 120	200 160	240 200	45		625 750
	107 129	80 60	100 80	110 100	150 130	200 160	50		625 750
	130 156	60 50	80 70	100 80	130 110	160 130	55		625 750

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. 2500 bar.



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

- Rod force: 39 kN
- Stroke: 30 mm
- Mean piston speed at n₂
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

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



- Mobile electric unit with hose reel

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