

High Pressure Pump Series HDP MC

1100 kW

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.



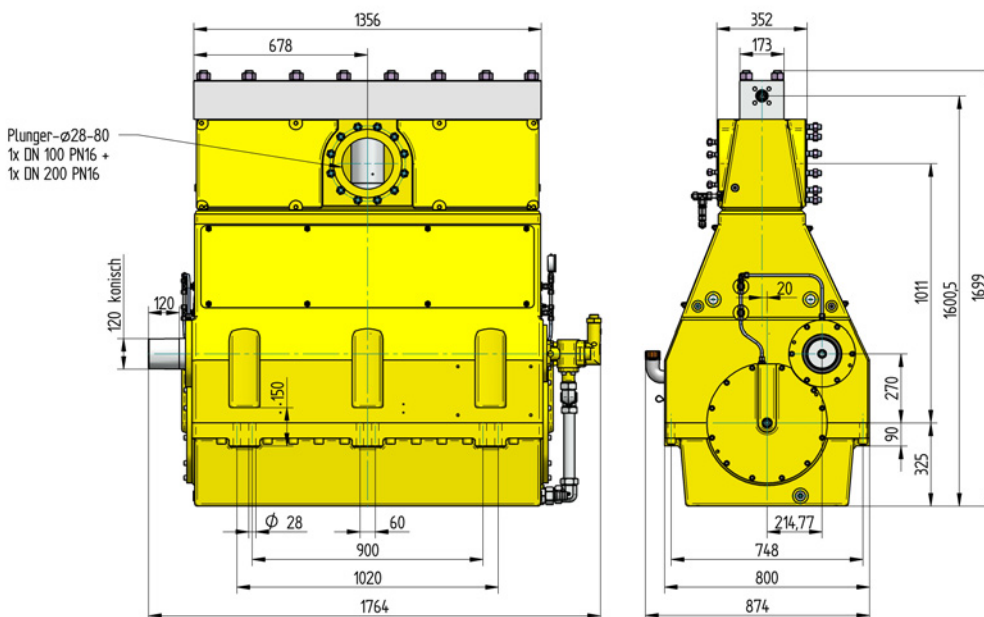
High pressure pump
Weight: 5361 kg

Features

- Power ratings up to 1100 kW
- Vertical 7 cylinder design
- Wide variety of complementary ancillaries

Quality and reliability

- Stainless steel pump head free of alternating stress
- Cross head piston bellows seal
- Choice of 'application specific' seal assemblies
- Solid ceramic or tungsten carbide plungers
- Choice of bronze or stainless steel suction chamber
- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Twin helical integral reduction gear with crankshaft supported by 4 bearings
- Pressurised oil lubrication system with oil cooler/filter



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HDP MC series, technical data

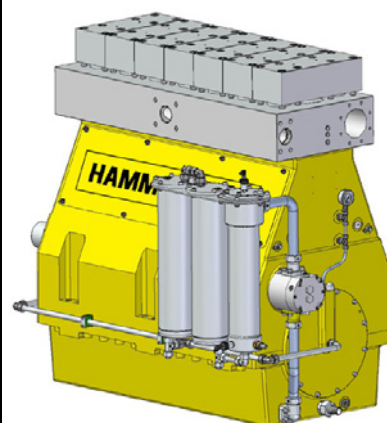
Performance parameters (Standard design)

1100 kW

HDP	Q [l/min]	Required power rating [kW]					D	r.p.m.	
		710	800	900	1000	1100		n 1	n 2
		Operating pressure [bar]							
MC 4	126* 147* 178*	3000*	2850*	3000*			28	1500 1500/1800 1800	320 385 460
	162* 201 / 195* 240 / 233*	2240* 1860 1560	2530* 2100* 1760	2600* 2360* 1980	2600*	2420*	32	1500 1500/1800 1800	320 385 460
	204 / 198* 241 / 238* 288 / 285*	1850 1550 1300	2200* 1750 1450	1950 1800	2200*	2100*	35	1500 1500/1800 1800	320 385 460
*Ultra high pressure									
MC 3	267 320 384	1450 1200 990	1600 1350 1100	1650 1500 1250	1650 1400	1540	40	1500 1500/1800 1800	320 385 460
	338 407 487	1150 940 780	1290 1060 880	1320 1190 990	1320 1100	1210	45	1500 1500/1800 1800	320 385 460
MC 2	422 508 607	930 760 630	1040 860 710	1070 970 800	1070 890	980	50	1500 1500/1800 1800	320 385 460
	505 605 727	770 630 520	860 710 590	880 800 660	880 740	810	55	1500 1500/1800 1800	320 385 460
	601 722 879	640 530 440	720 600 500	740 670 560	740 620	680	60	1500 1500/1800 1800	320 385 460
	713 856 1043	550 450 370	620 510 420	630 570 470	630 530	580	65	1500 1500/1800 1800	320 385 460
	827 993 1210	470 390 320	530 440 360	540 490 410	540 460	500	70	1500 1500/1800 1800	320 385 460
	950 1140 1388	410 340 280	460 380 320	470 430 360	470 400	430	75	1500 1500/1800 1800	320 385 460
	1047 1256 1531	360 290 240	410 330 280	370 310	410 350	380	80	1500 1500/1800 1800	320 385 460
	1182 1418 1737	320 260 220	360 290 240	370 330 280	370 310	340	85	1500 1500/1800 1800	320 385 460
MC 1 High flow	1339 1607 1958	280 230 190	320 260 220	330 300 250	330 280	300	90	1500 1500/1800 1800	320 385 460
	1671 2005 2443	230 190 160	260 210 180	240 200	260 220	240	100	1500 1500/1800 1800	320 385 460
	2042 2451 2987	190 155 130	210 175 145	220 200 165	220 185	200	110	1500 1500/1800 1800	320 385 460

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

- Rod force: 210 kN
- Stroke: 100 mm
- Mean piston speed at n₂
320 r.p.m. = 1,06 m/sec
385 r.p.m. = 1,28 m/sec
460 r.p.m. = 1,54 m/sec



D = Piston/Plunger dia. [mm]
n1 = Motor/Engine r.p.m. [1/min]
n2 = Crankshaft r.p.m.[1/min]

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

HDP	Seal **	Sealing system
MC4	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
MC3	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
MC2	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramik plunger / packing
MC1	Packing	Ceramik plunger / packing

** The dynamic high pressure sealing extends the advantages of the labyrinth design with further increased efficiency.

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