

1100 kW

High Pressure Pump Series HDP MC

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

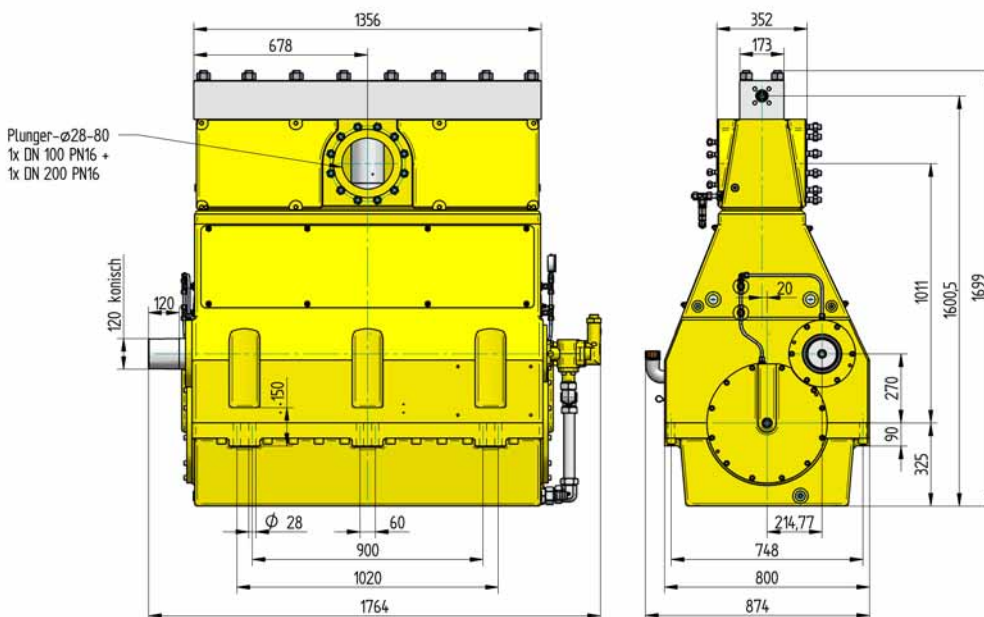
Weight: 5361 kg

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

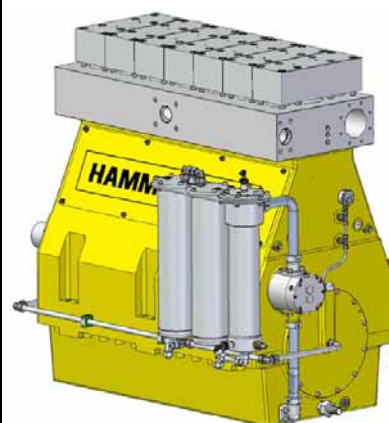
Performance parameters (Standard design)

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	320
		2550*	2400*	2700*	3000*			1500/1800	385
		2100*					1800	460	
MC 4	162* 201 / 195* 240 / 233*	2240*	2530*	2600*			32	1500	320
		1860	2100*	2360*	2600*			1500/1800	385
		1560	1760	1980	2200*	2420*	1800	460	
MC 4	204 / 198* 241 / 238* 288 / 285*	1850	2200*	1950			35	1500	320
		1550	1750	1800	2200*			1500/1800	385
		1300	1450	1650	1800	2100*	1800	460	
*Ultra high pressure									
MC 3	267 320 384	1450	1600	1650			40	1500	320
		1200	1350	1500	1650			1500/1800	385
		990	1100	1250	1400	1540	1800	460	
MC 3	338 407 487	1150	1290	1320			45	1500	320
		940	1060	1190	1320			1500/1800	385
		780	880	990	1100	1210	1800	460	
MC 2	422 508 607	930	1040	1070			50	1500	320
		760	860	970	1070			1500/1800	385
		630	710	800	890	980	1800	460	
	505 605 727	770	860	880			55	1500	320
		630	710	800	880			1500/1800	385
		520	590	660	740	810	1800	460	
	601 722 879	640	720	740			60	1500	320
		530	600	670	740			1500/1800	385
		440	500	560	620	680	1800	460	
	713 856 1043	550	620	630			65	1500	320
	450	510	570	630		1500/1800		385	
	370	420	470	530	580	1800	460		
827 993 1210	470	530	540			70	1500	320	
	390	440	490	540			1500/1800	385	
	320	360	410	460	500	1800	460		
950 1140 1388	410	460	470			75	1500	320	
	340	380	430	470			1500/1800	385	
	280	320	360	400	430	1800	460		
1047 1256 1531	360	410				80	1500	320	
	290	330	370	410			1500/1800	385	
	240	280	310	350	380	1800	460		
MC 1 High flow	1182 1418 1737	320	360	370			85	1500	320
		260	290	330	370			1500/1800	385
		220	240	280	310	340	1800	460	
	1339 1607 1958	280	320	330			90	1500	320
		230	260	300	330			1500/1800	385
		190	220	250	280	300	1800	460	
	1671 2005 2443	230	260				100	1500	320
		190	210	240	260			1500/1800	385
		160	180	200	220	240	1800	460	
	2042 2451 2987	190	210	220			110	1500	320
	155	175	200	220		1500/1800		385	
	130	145	165	185	200	1800	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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