

# 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.



**1500 HP**

## In planning

Availability  
expected  
early 2012

## Features

- Power ratings up to 1500 HP
- 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

Hammelmann Corp. 600 Progress Road  
Dayton, Ohio 45449  
eMail: mail@hammelmann.com

Phone: (001) 937-859-8777  
Fax (001) 937-859-9188  
www.hammelmann.com

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# HDP MC series, technical data

## Performance parameters - preliminary - (Standard design)

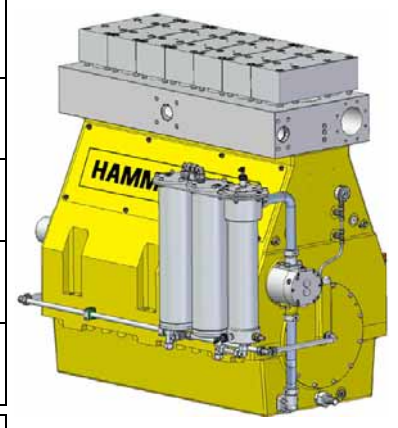
Note: Actual flow rates for water as pumped medium  
(volumetric efficiency has already been taken into account).

HDP	Q [GPM]	Required power rating [HP]					D	r.p.m.	
		950	1070	1200	1340	1500		n 1	n 2
		Operating pressure [psig]							
MC 4	33.3*	43500*					28	1500	320
	38.8*	37000*	41300*	43500*		1500/1800		385	
	47.0*	30500*	34800*	39200*	43500*	1800		460	
	53.9 / 52.3*	26800	31900*			35	1500	320	
63.9 / 62.8*	22500	25400	28300	31900*	1500/1800		385		
76.0 / 75.2*	18900	21000	23900	26100	1800		460		
*Ultra high pressure									
MC 3	70.5	21000	23200	23900		40	1500	320	
	84.5	17400	19600	21800	23900		1500/1800	385	
	101.4	14400	16000	18100	20300		1800	460	
	89.2	16700	18700	19100		45	1500	320	
107.4	13600	15400	17300	19100	1500/1800		385		
128.6	11300	12800	14400	16000	1800		460		
MC 2	111.4	13500	15100	15500		50	1500	320	
	134.1	11000	12500	14100	15500		1500/1800	385	
	160.2	9100	10300	11600	12900		1800	460	
	133.3	11200	12500	12800		55	1500	320	
	159.7	9100	10300	11600	12800		1500/1800	385	
	191.9	7500	8600	9600	10700		1800	460	
	158.7	9300	10400	10700		60	1500	320	
	190.6	7700	8700	9700	10700		1500/1800	385	
	232.1	6400	7300	8100	9000		1800	460	
	188.2	8000	9000	9100		65	1500	320	
	226.0	6500	7400	8300	9100		1500/1800	385	
	275.4	6400	6100	6800	7700		1800	460	
	218.3	6800	7700	7800		70	1500	320	
	262.2	5700	6400	7100	7800		1500/1800	385	
	319.4	4600	5200	5900	6700		1800	460	
	250.8	5900	6700	6800		75	1500	320	
301.0	4900	5500	6200	6800	1500/1800		385		
366.4	4100	4600	5200	5800	1800		460		
276.4	5200	5900			80	1500	320		
331.6	4200	4800	6400	5900		1500/1800	385		
404.2	3500	4100	4500	5100		1800	460		
MC 1 High flow	276.4	5200	5900			80	1500	320	
	331.6	4200	4800	6400	5900		1500/1800	385	
	404.2	3500	4100	4500	5100		1800	460	
	312.0	4600	5200	6400		85	1500	320	
	374.4	3800	4200	4800	6400		1500/1800	385	
	458.6	3200	3500	4100	4500		1800	460	
	353.5	4100	4600	4800		90	1500	320	
	424.2	3300	3800	4400	4800		1500/1800	385	
	516.9	2800	3200	3600	4100		1800	460	
	441.1	3300	3800			100	1500	320	
	529.3	2800	3000	3500	3800		1500/1800	385	
	645.0	2300	2600	2900	3200		1800	460	
539.1	2800	3000	3200		110	1500	320		
647.1	2300	2500	2900	3200		1500/1800	385		
788.6	1900	2100	2400	2700		1800	460		

**1500 HP**

**In planning**  
Availability  
expected  
early 2012

- Rod force: 47,210 lbf
- Stroke: 3.94 inch
- Mean piston speed at n<sub>2</sub>  
320 r.p.m. = 3.5 feet/sec  
385 r.p.m. = 4.2 feet/sec  
460 r.p.m. = 5.1 feet/sec



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

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.

