

# High Pressure Pump Series HDP 750

## 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.

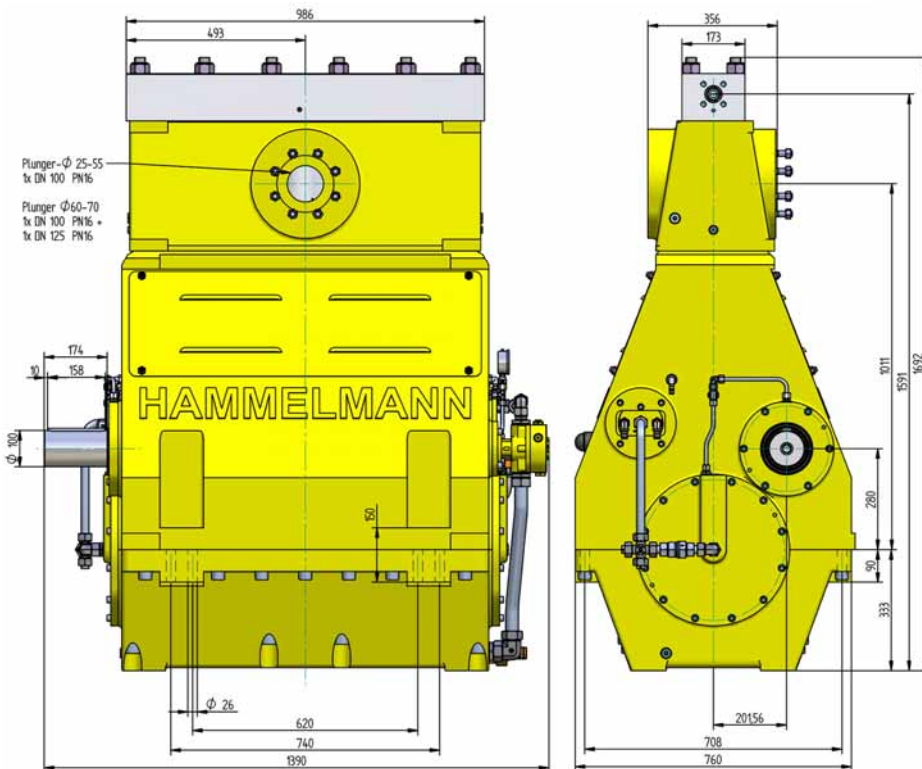
Energy efficient →



## High pressure pump

Weight: approx. 7,700 lbs

Dimensions: mm



## Features

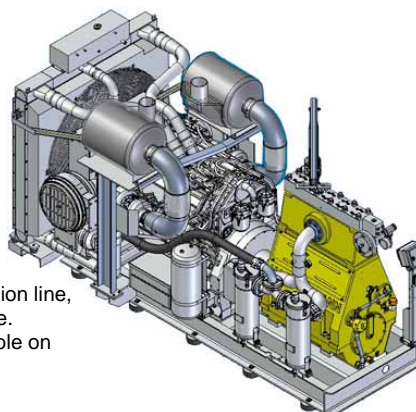
- Power ratings up to 1000 HP
- Vertical 5 cylinder design
- Wide variety of complementary ancillaries

## 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

## Stationary unit with diesel engine

Length: 156 inch  
 Width: 83 inch  
 Height: 87 inch  
 Weight: approx. 20,300 lbs at 1100 HP and without full fuel tank



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.

**HAMMELMANN**

# HDP 750 series, technical data

## Performance parameters (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.	
		670	750	800	870	940	1000		n 1	n 2
		Operating pressure [psig]								
754	23.0*	43500*						28	1500	315
	27.7*	36300*	40600*	43500*					1500/1800	380
	34.1*	30500*	34100*	36300*	39200*	42800*	43500*		1800	465
754	37.2 / 36.7*	26800	29000*					35	1500	315
	44.9 / 43.8*	21800	24700	26100	29000*	29700*			1500/1800	380
	54.9 / 53.6*	18100	20300	21800	23900	25400	27600		1800	465
* Ultra high pressure										
753	49.6	20300	23200					40	1500	315
	59.9	16700	18900	20300	21800	23200			1500/1800	380
	73.1	14200	16000	16700	18100	19600	21000		1800	465
752	62.8	16000	18100					45	1500	315
	76.0	13500	14900	16000	17400	18100			1500/1800	380
	93.2	11200	12500	13500	14500	15700	16700		1800	465
	78.4	13200	14800					50	1500	315
	94.2	10900	12200	13100	14200	14800			1500/1800	380
	115.4	9000	10200	10900	11700	12600	13600		1800	465
	94.2	10900	12200					55	1500	315
	113.3	9000	10000	10700	11700	12200			1500/1800	380
	137.8	7400	8400	9000	9700	10400	11200		1800	465
	113.5	9100	10300					60	1500	315
	136.2	7500	8400	9000	9900	10300			1500/1800	380
	165.8	6200	7000	7500	8100	8800	9400		1800	465
	134.4	7800	8700					65	1500	315
	161.3	6400	7300	7700	8400	8700			1500/1800	380
	196.7	5400	5900	6400	7000	7500	8000		1800	465
	156.0	6700	7500					70	1500	315
	187.2	5500	6200	6700	7300	7500			1500/1800	380
	228.1	4600	5100	5500	5900	6400	7000		1800	465
197.5	5100	5800					80	1500	315	
236.8	4200	4800	5100	5500	5700			1500/1800	380	
288.8	3500	3900	4200	4500	4900	5200		1800	465	
252.6	4100	4500					90	1500	315	
303.1	3300	3800	4100	4400	4500			1500/1800	380	
369.3	2800	3000	3300	3600	3900	4200		1800	465	
315.0	3300	3600					100	1500	315	
378.0	2600	3000	3200	3500	3600			1500/1800	380	
460.7	2200	2500	2600	2900	3200	3300		1800	465	

HDP	Seal**	Sealing system
754	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
753	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramic plunger / packing
752	Dynamic	Ceramic plunger / bronze bushing
	Packing	Ceramik plunger / packing
	Packings from 80 mm dia.	Ceramik plunger / packing

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

- Rod force: 45,000 lbf
- Stroke: 3.94 inch
- Mean piston speed at n<sub>2</sub>  
315 r.p.m. = 3.5 feet/sec  
380 r.p.m. = 4.2 feet/sec  
465 r.p.m. = 5.1 feet/sec

Typical high pressure pump units



- Stationary unit with diesel motor



- Diesel unit in container with workshop



- Stationary unit with electric motor

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

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



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

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