

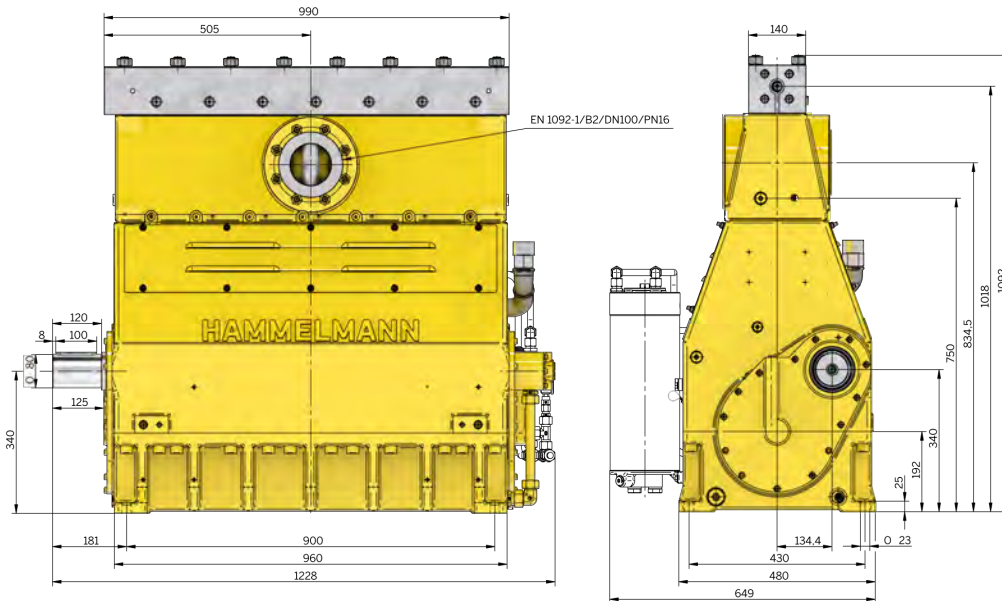
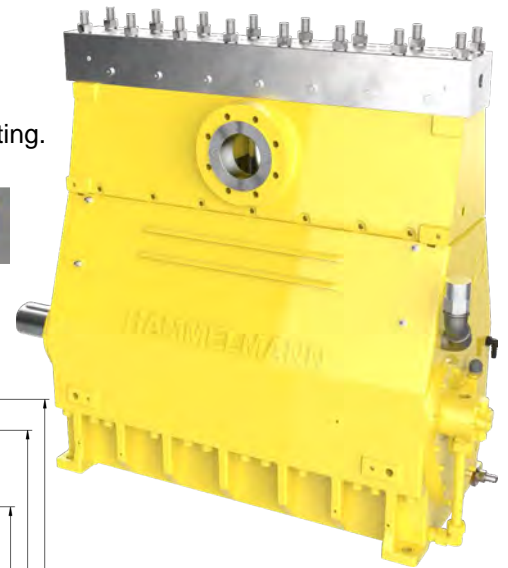
# HDP 470 High Pressure Pumps series

## 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. 1620 kg



### Features

- Power ratings up to 470 kW
- Vertical 7 cylinder design

### Quality and reliability

- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Stainless steel pump head free of alternating stress
- Integral speed reduction gear
- Pressurized oil lubrication system with oil cooler/filter
- Bellows form hermetic seal between the suction chamber and crank section
- High component similarity to existing pump series
- Minimum crankshaft speed with external oil pump 32 r.p.m.

### Stationary unit with diesel engine

Length: 3970 mm  
 Width: 1640 mm  
 Height: 2672 mm  
 Weight: ca. 6500 kg  
 bei 470 kW



Main dimensions, without accessories such as suction lines, automatic pressure control, etc. Binding dimensional drawings and weights on request.



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# Technical data, series HDP 470

Performance parameters (Standard design)

HDP	Q [l/min]	Required power rating [kW]						D	Drehzahl	
		200	250	300	350	400	470		n 1	n 2
		Operatin pressure [bar]								
474	52/46*	2200*	2800*	3200*				17,5	1500	411
	62/55*	1830	2300*	2800*	3200*		1500/1800		493	
	75/66*	1530	1910	2300*	2700*	3100*	1800/2150		591	
	63/56*	1810	2300*	2700*	3000*		19,3	1500	411	
	76/67*	1510	1880	2300*	2600*	3000*		1500/1800	493	
	91/81*	1260	1570	1880	2200*	2500*		1800/2150	591	
	68/60*	1680	2100*	2500*	2800*		20	1500	411	
	81/72*	1400	1750	2100*	2500*	2800*		1500/1800	493	
	97/86*	1170	1460	1750	2100*	2300*		1800/2150	591	
*Höchstdruck										
473	101	1080	1350	1610	1800		25	1500	411	
	121	900	1120	1350	1570	1800		1500/1800	493	
	145	750	940	1120	1310	1500		1800/2150	591	
	125	860	1070	1100	1430			28	1500	411
150	720	900	910	1250	1430	1500/1800	493			
180	600	750	760	1040	1200	1800/2150	591			
472	142	750	930	1120	1240		30	1500	411	
	170	620	780	930	1100	1240		1500/1800	493	
	204	520	650	780	910	1040		1800/2150	591	
	177	620	770	930	1030		33	1500	411	
	213	510	640	770	900	1030		1500/1800	493	
	255	430	540	640	750	860		1800/2150	591	
	195	550	700	820	910		35	1500	411	
	234	460	570	700	800	910		1500/1800	493	
	281	380	480	570	670	760		1800/2150	591	
	258	420	530	630	700		40	1500	411	
	309	350	440	530	610	700		1500/1800	493	
	370	300	370	440	510	580		1800/2150	591	
	329	330	420	500	550		45	1500	411	
	395	280	350	420	480	550		1500/1800	493	
	474	230	300	350	400	460		1800/2150	591	
	411	270	340	400	450		50	1500	411	
	493	220	280	340	400	450		1500/1800	493	
	591	200	230	280	330	370		1800/2150	591	
	497	220	280	330	370		55	1500	411	
	596	200	230	280	320	370		1500/1800	493	
	715	150	200	230	270	310		1800/2150	591	
	586	200	230	280	310		60	1500	411	
	703	160	200	230	270	310		1500/1800	493	
	842	130	160	200	230	260		1800/2150	591	
	687	160	200	240	270		65	1500	411	
	825	130	170	200	230	270		1500/1800	493	
	988	110	140	170	200	220		1800/2150	591	
797	140	170	210	230		70	1500	411		
956	110	140	170	200	230		1500/1800	493		
1146	100	120	140	170	200		1800/2150	591		
1041	110	130	160	180		80	1500	411		
1249	100	110	130	150	180		1500/1800	493		
1497	70	100	110	130	150		1800/2150	591		

**Achtung: Tatsächliche Fördermengen für das Medium Wasser (volume-trischer Wirkungsgrad bereits berücksichtigt)**

- Rod force: 88 kN
- Stroke: 75 mm
- Mean plunger speed at n<sub>2</sub>  
411 1/min. = 1,02 m/sec  
493 1/min. = 1,23 m/sec  
591 1/min. = 1,48 m/sec

- Typical high-pressure pump units



- Diesel-unit in container



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

HDP	Abdichtung**	Dichtsystem
474	Dynamic D 28	Tungsten carbide plunger & bushing
	Dynamic D 35	Tungsten carbide plunger / bronze bushing
473	Dynamic	Dynamic
	Packing	Ceramic plunger / packing
472	Dynamic D 50 -75	Ceramic plunger / bronze bushing
	Packing D 50 - 80	Ceramic plunger / packing

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

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

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

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