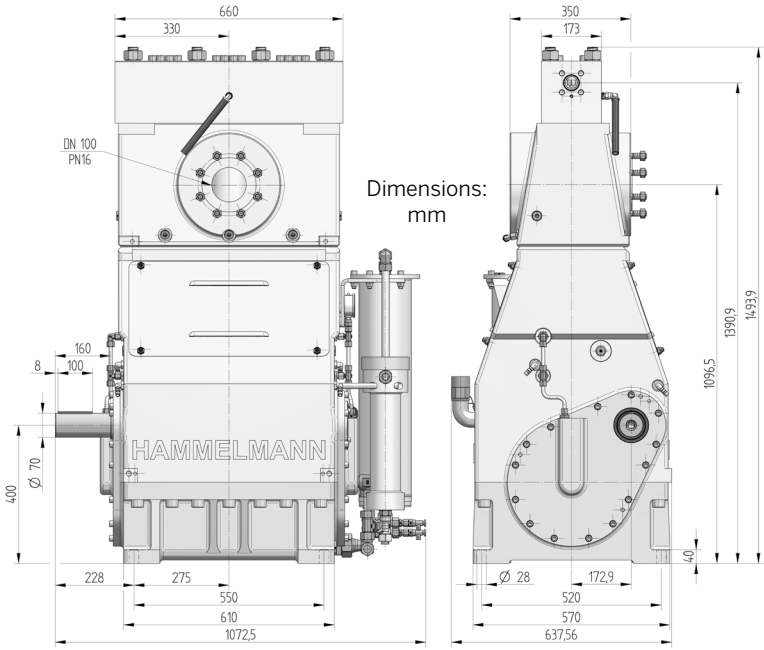
HAMPRO® 400 Process plunger pump

Hammelmann process 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.



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
- Pressurised oil lubrication system with oil cooler/filter
- Bellows form hermetic seal between the suction chamber and crank section
- Large selection of materials available for different fluids
- Minimum crankshaft speed with external oilpump 50 r.p.m.

Features

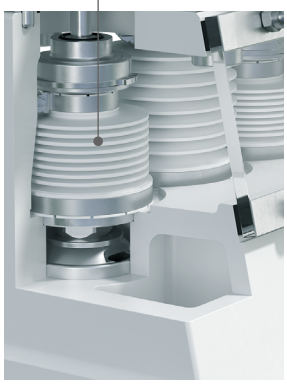
- Power ratings up to 440 kW
- Vertical 3 cylinder design

Technical details HAMPRO® 400

Operating pressure	Flow rate
up to 3200 bar	up to 77 m^3/h
Design	**Weight**
Vertical 3 cylinder design	~ 1700 kg

Weight and dimensions refer to the pump only, without accessories. Detailed dimensional drawings and weights on request.

The bellow system is gastight.



Zero Emission

ZERO EMISSION VDI 2440

TA-Luft, (Clean Air) certified to VDI 2440

In the Zero Emission design the pumped fluid is hermetically sealed within the pump preventing leakage to atmosphere during operation.

HAMMELMANN®

Technical data, series HAMPRO® 400: Performance parameters (standard design)

HAM PRO®	Q** [l/min]	Q** [m³/h]	Required power rating [kW] / Operating pressure [bar] 200	300	400	D [mm]	r.p.m. n1	r.p.m. n2
404	45	2,7	2400			28	1500	340
	46	2,8	1950	2950	3200		1427/1712	*390
	65	3,9	1650	2500	3000		1800	490
	58	3,5	1800	2600		32	1500	340
	62	3,7	1500	2250	2600		1427/1712	*390
	84	5,0	1300	1850	2600		1800	490
	71	4,3	1500	2200		35	1500	340
	77	4,6	1250	1850	2150		1427/1712	*390
	103	6,2	1000	1500	2000		1800	490
403	95	5,7	1150	1670		40	1500	340
	103	6,2	950	1450	1650		1427/1712	*390
	137	8,2	800	1200	1600		1800	490
	125	7,5	850	1300		45	1500	340
	134	8,0	750	1100	1300		1427/1712	*390
	180	10,8	600	900	1200		1800	490
402	152	9,1	720	1070		50	1500	340
	167	10,0	600	900	1050		1427/1712	*390
	218	13,1	500	750	1000		1800	490
	184	11,0	590	880		55	1500	340
	206	12,4	500	750	850		1427/1712	*390
	265	15,9	400	610	830		1800	490
	223	13,4	490	740		60	1500	340
	248	14,9	430	640	740		1427/1712	*390
	321	19,3	330	500	680		1800	490
	263	15,8	410	630		65	1500	340
	293	17,6	360	550	630		1427/1712	*390
	379	22,7	280	430	580		1800	490
	306	18,4	350	540		70	1500	340
	341	20,5	310	470	540		1427/1712	*390
	441	26,5	240	370	490		1800	490
	350	21,0	300	470		75	1500	340
	394	23,6	270	400	470		1427/1712	*390
	504	30,2	210	320	430		1800	490
	396	23,8	270	410		80	1500	340
	450	27,0	240	360	410		1427/1712	*390
	570	34,2	190	280	380		1800	490
401 High flow	396	23,8	270	410		80	1500	340
	450	27,0	240	360	410		1427/1712	*390
	570	34,2	190	280	380		1800	490
	438	26	240	370		85	1500	340
	509	31	210	320	360		1427/1712	*390
	631	38	170	260	340		1800	490
	496	30	220	330		90	1500	340
	572	34	190	280	330		1427/1712	*390
	715	43	150	220	300		1800	490
	617	37	170	260		100	1500	340
	709	43	150	230	260		1427/1712	*390
	889	53	120	180	240		1800	490
	756	45	140	220		110	1500	340
	860	52	120	190	220		1427/1712	*390
	1090	65	100	150	200		1800	490
	903	54	120	180		120	1500	340
	1026	62	100	160	180		1427/1712	*390
	1289	77	90	130	170		1800	490

Data

- Rod force: 210 kN
- Stroke: 80 mm
- Mean plunger speed at n2:

340 r.p.m. = 1,00 m/sec
390 r.p.m. = 1,23 m/sec
591 r.p.m. = 1,48 m/sec

Certificates

- Machine directive 2006/42/EG
- ATEX 2014/34/EG
- API 674
- TA-Luft (Clean Air)
- NORSOK M501
- NORSOK M650
- NACE MR0175

Standards

- DIN EN ISO 9001
- DIN EN ISO 14001
- DIN EN ISO 50001
- BS OHSAS 18001
- ASME-U
- Achilles
- EAC

ENERGY EFFICIENT

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

**Data refer to the medium water (compressibility considered)

* Speed limit for continuous service according to API 674 – 6.3.1

D = Plunger diameter

n1 = Motor/Engine r.p.m.

n2 = Crankshaft r.p.m.

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