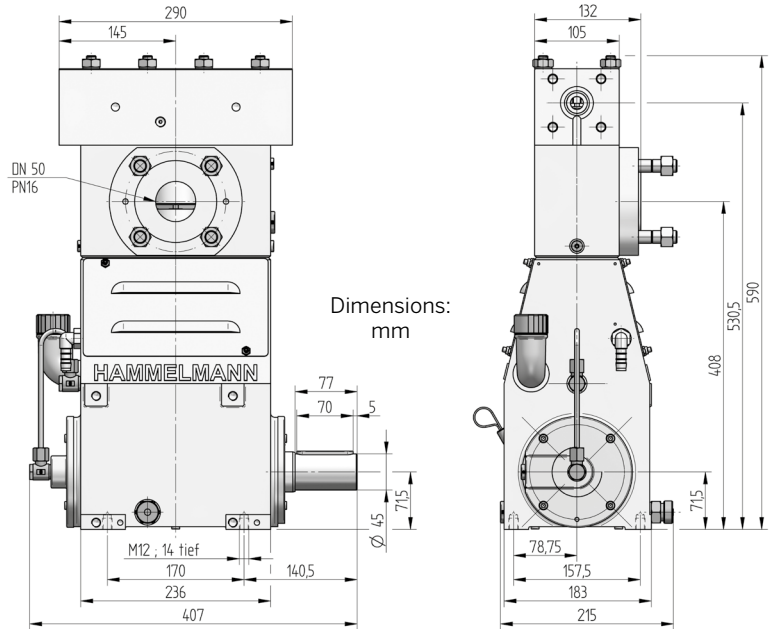


HAMPRO® 20 Process plunger pump

HAMMELMANN®

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.



Technical details HAMPRO® 20

Operating pressure	Flow rate	Design	Weight
up to 3800 bar	up to 6,2 m ³ /h	Vertical 3 cylinder design	~ 95 kg

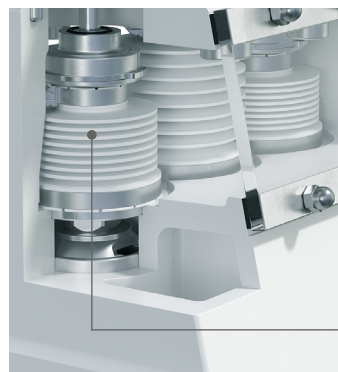
Weight and dimensions refer to the pump only, without accessories. Detailed dimensional drawings and weights on request.

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
- Bellows form hermetic seal between the suction chamber and crank section
- Large selection of materials available for different fluids
- Minimum crankshaft speed with external oil pump 50 r.p.m.

Features

- Power ratings up to 22 kW
- Vertical 3 cylinder design



Zero Emission



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.

The bellows system is gastight.

Technical data, series HAMPRO® 20: Performance parameters (standard design)

HAM PRO®	Q** [l/min]	Q** [m³/h]	Required power rating [kW]			D [mm]	r.p.m.	
			11	15	18,5		n1	n2
			Operating pressure [bar]					
24	1,7	0,10	2800	3500		8	1401/1681	*490
	2,2	0,13	2200	3000	3800		1500/1800	625
	3,2	0,19	1550	1050	1550		1500/1800	900
	2,9	0,17	1800	2200		10	1401/1681	*490
	3,6	0,22	1400	1900	2250		1500/1800	625
	5,4	0,32	980	1350	1650		1500/1800	900

Data

- Rod force: 17,6 kN
- Stroke: 30 mm
- Mean plunger speed at n2:

490 r.p.m. = 0,49 m/sec

625 r.p.m. = 0,63 m/sec

750 r.p.m. = 0,75 m/sec

900 r.p.m. = 0,90 m/sec

23	2,9	0,17	1800	2200		10	1401/1681	*490
	3,6	0,22	1400	1800			1500/1800	625
	4,4	0,26	980	1350			1500/1800	750
	4	0,24	1250	1550		12	1401/1681	*490
	7	0,42	970	1300	1550		1500/1800	625
	8	0,48	690	930	1150		1500/1800	750

Certificates

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

22	7	0,42	800	950		15	1401/1681	*490
	9	0,54	620	850	1000		1500/1800	625
	11	0,66	530	720	880		1500/1800	750
	9	0,54	590	730		17,5	1401/1681	*490
	12	0,72	460	620	730		1500/1800	625
	15	0,90	380	520	640		1500/1800	750
	13	0,78	450	560		20	1401/1681	*490
	16	0,96	350	480	560		1500/1800	625
	20	1,20	290	400	490		1500/1800	750
	20	1,20	280	350		25	1401/1681	*490
	25	1,50	220	300	360		1500/1800	625
	31	1,86	190	250	310		1500/1800	750
	30	1,8	200	240		30	1401/1681	*490
	37	2,2	150	210	250		1500/1800	625
	45	2,7	130	180	220		1500/1800	750
	41	2,5	140	180		35	1401/1681	*490
	51	3,1	115	150	180		1500/1800	625
	62	3,7	95	130	160		1500/1800	750
	54	3,2	110	140		40	1401/1681	*490
	66	4,0	85	120	140		1500/1800	625
82	4,9	75	100	120	1500/1800		750	
68	4,1	85	110		45	1401/1681	*490	
84	5,0	70	95	110		1500/1800	625	
103	6,2	55	75	95		1500/1800	750	

Standards

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



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.