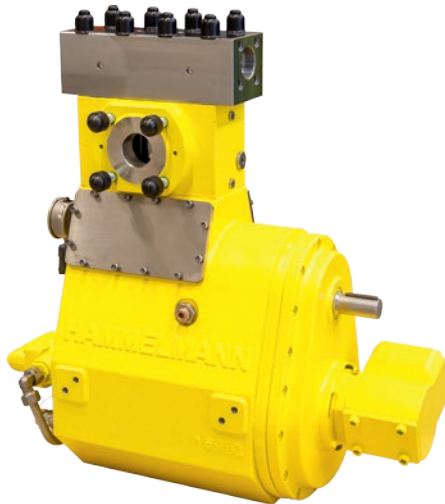


HAMPRO 20 V Process Plunger Pump

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.



Stroke adjustment operation

The stroke length is altered by turning the variator shaft. This can be achieved when the pump is not running as well as during operation. Once the adjustment has been made the variator shaft is held in position by the stepper motor. The system then runs with the newly adjusted stroke length providing the required flow rate.

- Smooth, automatic adjustment of the flow rate
- Compact design with small footprint
- Highly energy efficient, Flow rate adjustment without energy loss also under partial load
- Possible to control the flow rate down to zero

Adjustment

- The stroke alters in relation to the middle position.
- Very precise adjustment possible (API 675 with deviations)

Adjustment options

- Hand wheel
- Servomotor also available for hazardous areas
- Nominal power = up to 900 [W]
- Nominal supply voltage = 115/230 or 400/480 [V]
- Net frequency = 50/60Hz
- Communication interface:
 - Modbus
 - CANopen
 - CANmoiton
 - Maschinenbus
 - DeviceNet
 - EtherNet / IP
 - Profibus DP
 - Ether CAT

Features

- Power ratings up to 18,5 kW
- Vertical 3 cylinder design

Zero Emission



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



The bellow system is gastight.

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

Technical data, series HAMPRO 20 V

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 V	0 - 1,4	0 - 0,08	2950	3270		8	1000	450
	0 - 1,9	0 - 0,11	2450	3270			1200	540
	0 - 2,4	0 - 0,14	1950	2650	3270		1500	675
	0 - 2,9	0 - 0,17	1620	2210	2730		1800	810
	0 - 2,5	0 - 0,15	1850	2200		10	1000	450
	0 - 3	0 - 0,18	1550	2100	2200		1200	540
	0 - 3,9	0 - 0,23	1240	1700	2090		1500	675
	0 - 4,8	0 - 0,29	1040	1410	1740		1800	810

23 V	0 - 2,5	0 - 0,15	1850	2200		10	1000	450
	0 - 3	0 - 0,18	1550	2090			1200	540
	0 - 3,9	0 - 0,23	1240	1700	2090		1500	675
	0 - 4,8	0 - 0,29	1040	1410	1740		1800	810
	0 - 3,7	0 - 0,22	1300	1550		12	1000	450
	0 - 4,5	0 - 0,27	1050	1480	1550		1200	540
	0 - 6,2	0 - 0,37	860	1180	1450		1500	675
	0 - 7,5	0 - 0,45	720	980	1210		1800	810

22 V	0 - 6,1	0 - 0,37	830	990		15	1000	450
	0 - 7,3	0 - 0,44	690	930			1200	540
	0 - 9,7	0 - 0,58	550	750	930		1500	675
	0 - 11,9	0 - 0,71	460	630	780		1800	810
	0 - 8,5	0 - 0,51	610	730		17,5	1000	450
	0 - 10,1	0 - 0,61	510	700	720		1200	540
	0 - 13	0 - 0,78	410	550	680		1500	675
	0 - 16,2	0 - 0,97	340	460	570		1800	810
	0 - 11,2	0 - 0,67	470	560		20	1000	450
	0 - 13,5	0 - 0,81	390	530	550		1200	540
	0 - 17,3	0 - 1,04	310	420	520		1500	675
	0 - 21,6	0 - 1,30	260	350	440		1800	810
	0 - 17,7	0 - 1,06	300	350		25	1000	450
	0 - 21,3	0 - 1,28	250	340	350		1200	540
	0 - 27	0 - 1,62	200	270	340		1500	675
	0 - 33,5	0 - 2,01	170	230	280		1800	810
	0 - 25,8	0 - 1,55	200	240		30	1000	450
	0 - 31	0 - 1,86	170	230	240		1200	540
	0 - 40	0 - 2,40	140	190	230		1500	675
	0 - 48,6	0 - 2,92	120	160	190		1800	810
	0 - 35,2	0 - 2,11	150	180		35	1000	450
	0 - 42,2	0 - 2,53	120	170	180		1200	540
	0 - 55,1	0 - 3,31	100	140	170		1500	675
	0 - 67	0 - 4,02	80	120	140		1800	810
	0 - 46,1	0 - 2,77	110	140		40	1000	450
	0 - 55,3	0 - 3,32	90	130	140		1200	540
	0 - 71,3	0 - 4,28	80	110	130		1500	675
	0 - 88,6	0 - 5,32	60	90	110		1800	810
	0 - 58,5	0 - 3,51	90	110		45	1000	450
	0 - 70,2	0 - 4,21	70	100	110		1200	540
	0 - 90,7	0 - 5,44	60	80	100		1500	675
	0 - 111,2	0 - 6,67	50	70	90		1800	810

Data

- Rod force: 17,6 kN
- Stroke: 0 – 33 mm

Certificates

- Machine directive 2006/42/EU
- ATEX 94/9/EU
- API 675 (with deviations)
- TA-Luft
- 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



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

* Data refer to the medium water (compressibility considered)

D = Plunger diameter
n1 = Motor/Engine r.p.m.
n2 = Crankshaft r.p.m.

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