1.3 Technical Data

DRYVAC DV	200	300	500	Tolerance
Maximum pumping speed without gas ballast	210 m^3/h	280 m^3/h	460 m^3/h	± 5 %
DV 500 PFPE			380 m^3/h	
Ultimate partial pressure with purge gas for shaft seal inlet & outlet with gas ballast	< 0.05 mbar < 0.8 mbar	< 0.01 mbar < 0.5 mbar	< 0.01 mbar < 0.5 mbar	
DV 500 PFPE			< 0.05 mbar < 0.8 mbar	
Maximum permissible inlet pressure		1,050 mbar		
Max. perm. discharge pressure (relative to ambient) DV 500 Cat. 3	+200 mbar	+200 mbar	+200 mbar +100 mbar	
Leak rate, locally		< 10^{-5} mbar·l/s		
Water vapour tolerance with purge and gas ballast		50 mbar > 20 Nl/min		
Water vapour capacity without condensation between 10 – 50 mbar	1.5 to 7 kg/h	2 to 10 kg/h	3 to 12 kg/h	
Permissible ambient temperature DV 300, DV 500 Cat. 3	+5 to +50 °C	+5 to +50 °C +5 to +40 °C	+5 to +50 °C +5 to +40 °C	
Storage temperature		-30 to +60°C		
Contamination grade with/without purge		2/3		
Overvoltage category		3		
Noise level with silencer, at ultimate pressure (acc. to DIN EN ISO 2151)		65 dB(A)		KpA = 0.3 dB
Noise level with rigid exhaust pipe, at ultimate pressure (acc. to DIN EN ISO 2151)		65 dB(A)		KpA = 0.3 dB
Relative atmospheric humidity		95%, non-condensing		
Installation location		up to 2000 m (NHN) *		
Cooling		Water		
Mains voltage[1)2)]		380-460 V or 200-240 V		± 10 %
Frequency		50/60 Hz		± 5 %
Phases		3-ph		
Rated power (motor shaft)		7.5 kW	11 kW	± 0.5 kW
Max. current at 380/ 400 /460 V at 200/ 240 V	13.2 / 12.4 / 11.1 A 23.0 / 20.2	14.5 / 13.8 / 12.3 A 28.7 / 23.2	21.5 / 20.9 / 18.5 A 42.2 / 37.5	
Motor efficiency class calculated and configured acc. to EN 60034-30		IE3		
Power consumption at ultimate pressure	4.1 kW	4.5 kW	4.4 kW	
Mains fusing / characteristic at 400 V at 200 V		16 A (C type) 32 A (C type)	32 A (C type) 50 A (C type)	
Short-circuit interrupting capacity[3)]		< 30 kA_{eff}		
Connectable conductor cross-section, max.		6 mm^2	10 mm^2	
Switching frequency of the frequency converter		max. 15 kHz		

Description

DRYVAC DV	200	300	500	Tolerance
Speed	6,600 rpm	7,500 rpm	7,500 rpm	
DV 500 PFPE			6,900 rpm	
Min. permissible speed[4)]		1,200 rpm		
Protection class		IP 54***		
Lubricant filling	LVO 210 or LVO 410	LVO 210	LVO 210 or LVO 410	
Total lubricant quantity		1.0 l		
Intake flange		DN 63 ISO-K		
Discharge flange		DN 40 ISO-KF	DN 63 ISO-K	
Materials				
components in contact with gas in the pump chamber		Grey cast iron, graphite cast iron, FKM, steel, stainless steel		
Materials sealing the pump off in the pump chamber towards the outside		FKM, grey cast iron, steel, stainless steel, PTFE		
Weight, approx.	370 kg	370 kg	415 kg	
Water				
Water connection		G1/2˝		
Water temperature DV 500 Cat. 3	5 °C – 35 °C	5 °C – 35 °C	5 °C – 35 °C 5 °C – 30 °C	
Minimum supply pressure		2 bar(g)**		
Maximum supply pressure		7 bar(g)**		
Nominal flow		8 l/min		
Purge				
Connection		Ø D10		
Nominal setting pressure Purge gas (at nominal flow, valves open)		2.2 to 3.0 bar(g)**		± 5 %
Permissible setting pressure Purge gas (at purge gas flow)		2.2 to 3.5 bar(g)**		± 5 %
Permissible supply pressure Purge gas		4.0 to 10.0 bar(g)**		± 5 %
Purge gas flow shaft seal / rotor		6 l/min		± 10 %
Max. **Gas ballast flow** (P_{inlet} < 10 mbar) [5)]	100 l/min	100 l/min	150 l/min	± 10 %

Notes to the technical data

* The frequency converter standard ratings are valid for an installation altitude up to 1000 m.
If the altitude exceeds 1000 m both the input voltage and the rated output current must be derated for 1% per 100 m.

1) In the case of mains voltage drops or interruptions (brownouts) up to two seconds, operation is maintained and no error message is output. For mains voltages over 460 V this duration may be shorter.

2) Mains power grids: TN Systems, TT systems (earthing at the star point); for other types of mains power grid please consult us.
3) The pump is not suited for electric circuits capable of delivering a current in excess of 30 kA (rms) at maximum mains voltage.

4) The minimum permissible speed is relevant for the oil lubrication of bearings and gears. Running the pump at less than the minimum speed for more than 1 hour can cause damage to the pump due to a lack of lubrication. (see Section 4.4.2)

5) The gas ballast flow may vary due to different conditions!
The gas ballast flow through the DV pump is much dependent on the inlet pressure!

**bar(g): bar (gauge) is the overpressure, i.e. atmospheric pressure = 0 bar(g)

*** equivalent

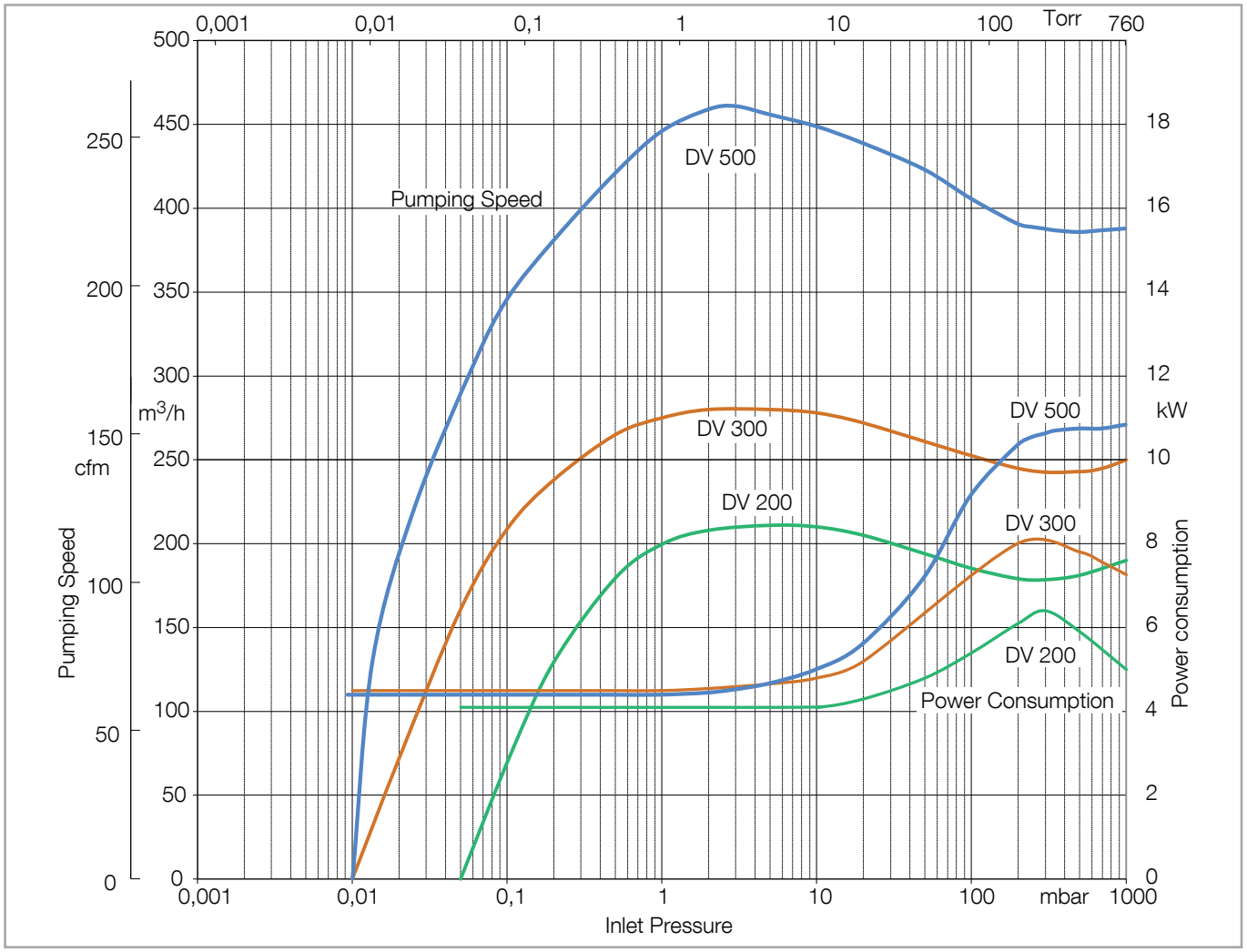

Fig. 1.1 Pumping speed curves and power consumption DV 200, DV 300, and DV 500

Description

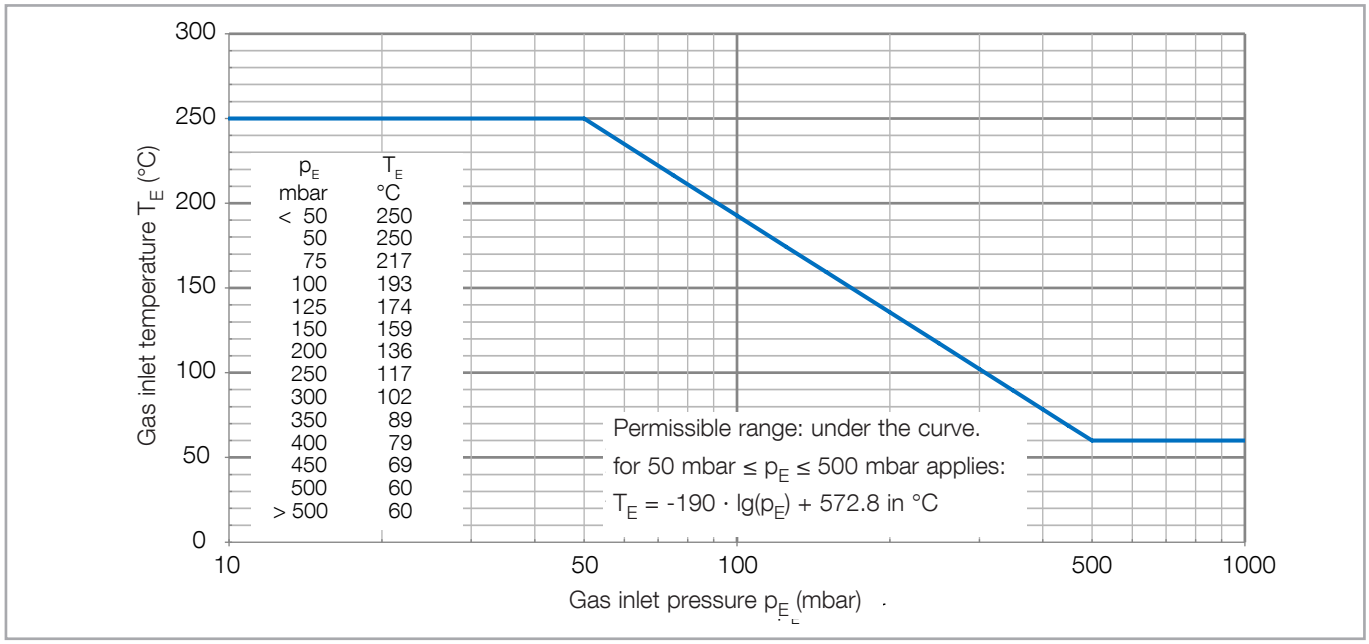

Fig. 1.2 Permissible gas inlet temperature as function of the inlet pressure

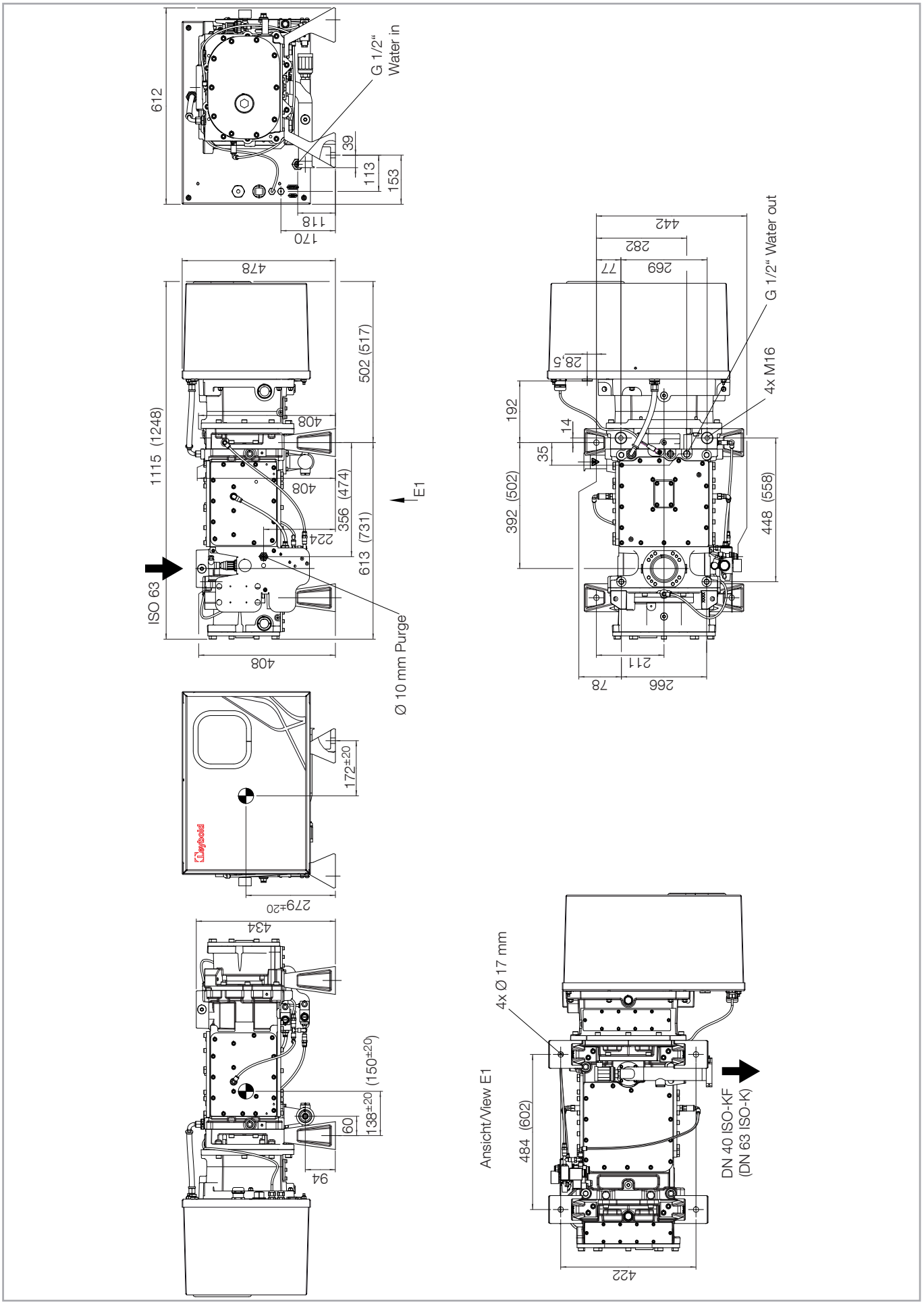

Fig. 1.3 Dimensional drawing DV 200, DV 300 & (DV 500), dimensions in mm