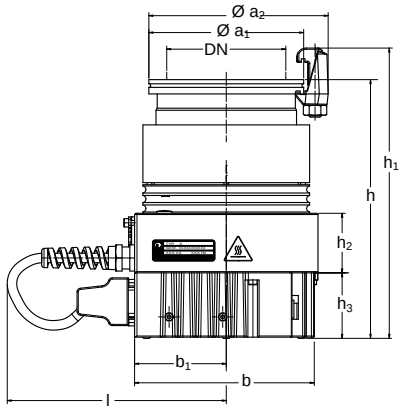
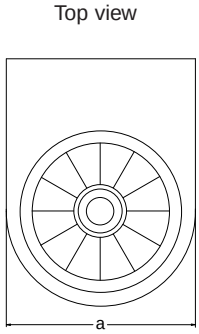
TURBOVAC TW 300 H

Typical Applications

- Mass spectrometers
- R & D, e.g.
  - UHV systems
  - Particle accelerators
- Load locks and transfer chambers



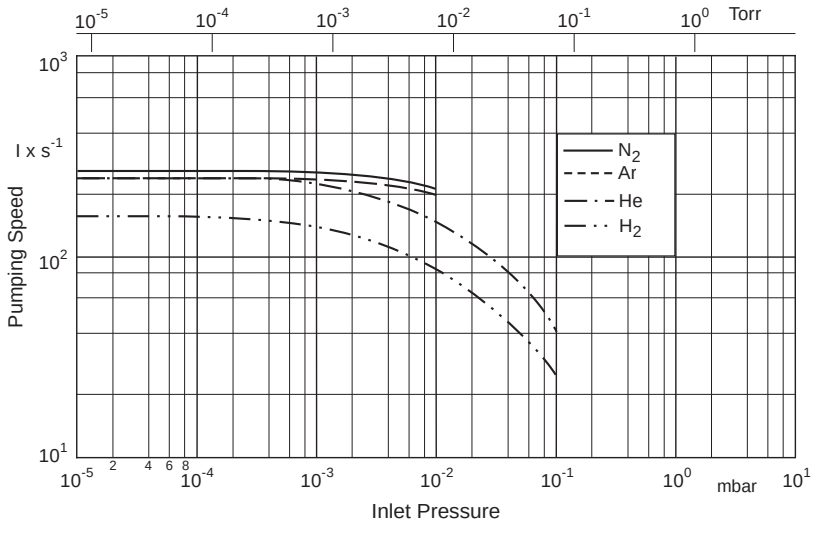


DN		a	a_1	a_2	h	h_1	h_2	h_3	b	b_1	l
100 ISO-K	mm	160	130	171	217	243	50	55	154	77	186
	in.	6.30	5.12	6.73	8.54	9.57	1.97	2.17	6.06	3.03	7.32
100 CF	mm	160	151.5	–	219.4	–	50	55	154	77	186
	in.	6.30	5.96	–	8.64	–	1.97	2.17	6.06	3.03	7.32

Dimensional drawing for the TURBOVAC TW 300 H

Technical Features

- Integrated or external frequency converter
- Compact design
- Operation in any orientation
- High pumping speed and compression for light gases
- Highly effective air-cooling unit
- Oil-free pump for generating clean high and ultrahigh-vacuum conditions



Pumping speed as a function of the inlet pressure

Advantages to the User

- Space-saving
- Easy to integrate into complex vacuum systems
- High foreline tolerance allows the use of downsized fore-vacuum pumps
- Low operating costs

Technical Data

TURBOVAC TW 300 H

Inlet flange	**DN**	O-ring sealed 100 ISO-K	Metal sealed 100 CF
Pump housing		Aluminum	Stainless stel
Pumping speed at 10^{-5} / 10^{-3} mbar			
N_2	**l x s^{-1}**	240 / 240	
Ar	**l x s^{-1}**	240 / 240	
H_2	**l x s^{-1}**	160 / 140	
He	**l x s^{-1}**	240 / 230	
Max. gas throughput *) at 10^{-1} mbar			
N_2 at 2 x 10^{-2} mbar	**mbar x l x s^{-1}**	3.7	
Ar at 1 x 10^{-2} mbar	**mbar x l x s^{-1}**	2.1	
H_2 at 1 x 10^{-1} mbar	**mbar x l x s^{-1}**	2.6	
He at 1 x 10^{-1} mbar	**mbar x l x s^{-1}**	4.5	
Max. compression when idle			
N_2		5,5 x 10^8 at 8 mbar	1 x 10^{10} at 6 mbar
Ar		1,5 x 10^8 at 10 mbar	
H_2		1,5 x 10^4 at 0.4 mbar	
He		4 x 10^5 at 2 mbar	
Ultimate pressure (for CF pumps)			
with two-stage oil-sealed rotary vane vacuum pump TRIVAC D 2,5 E	**mbar**	< 1 x 10^{-8} (< 0.75 x 10^{-8} Torr)	< 1 x 10^{-10} (< 0.75 x 10^{-10} Torr)
with dry compressing piston vacuum pump EcoDry M15	**mbar**		< 2 x 10^{-10} (< 1.5 x 10^{-10} Torr)
with diaphragm pump DIVAC 2,5 VT	**mbar**		< 1 x 10^{-9} (< 0.75 x 10^{-9} Torr)
Max. fore-line pressure for N_2	**mbar**	12 (9 Torr)	
Recommended fore-vacuum pump			
two-stage oil-sealed rotary vane vacuum pump		TRIVAC D 2,5 E	
dry compressing piston vacuum pump		EcoDry M15	
diaphragm pump		DIVAC 2,5 VT	
Run-up time to 95% of nominal speed	**min**	4	
Purge / vent port	**DN**	16 KF	
Cooling water connection (option)		2x G 1/8"	
Weight, approx.			
with / without frequency converter	**kg (lbs)**	6.8 / 6.0 (15 / 13.2)	
Operating voltage	**V DC**	24	
Max. power consumption			
Run up / ultimate presure	**W**	150 / 30	

*) for continuous operation when water-cooled

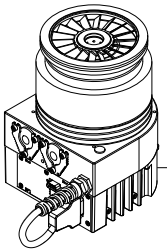
Note: TURBOVAC TW 250 S available for specific applications. Please consult factory

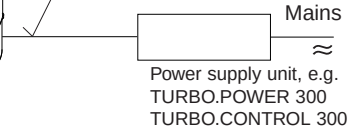
C09

Ordering Information				TURBOVAC TW 300 H
TW 300 H with integrated frequency converter TURBO.DRIVE S				Part No.
Inlet flange	Foreline flange	Cooling method	Interface	
DN 100 ISO-K	DN 16 KF	Convection	RS 485 C	800012V0007
DN 100 ISO-K	DN 16 KF	Air-cooled	RS 485 C	800012V0009
DN 100 ISO-K	DN 16 KF	Air-cooled	RS 232 C	800012V0013
DN 100 ISO-K	DN 16 KF	Water-cooled	RS 485 C	800012V0011
DN 100 CF	DN 16 KF	Convection	RS 485 C	800012V0008
DN 100 CF	DN 16 KF	Air-cooled	RS 485 C	800012V0010
DN 100 CF	DN 16 KF	Air-cooled	RS 232 C	800012V0014
DN 100 CF	DN 16 KF	Water-cooled	RS 485 C	800012V0012
TW 300 H without frequency converter TURBO.DRIVE S				
Inlet flange	Foreline flange	Cooling method	Interface	
DN 100 ISO-K	DN 16 KF	Convection	–	800012V0001
DN 100 ISO-K	DN 16 KF	Air-cooled	–	800012V0003
DN 100 ISO-K	DN 16 KF	Water-cooled	–	800012V0005
DN 100 CF	DN 16 KF	Convection	–	800012V0002
DN 100 CF	DN 16 KF	Air-cooled	–	800012V0004
DN 100 CF	DN 16 KF	Water-cooled	–	800012V0006
For operation, one frequency converter TURBO.DRIVE S is necessary				
Electronic frequency converter TURBO.DRIVE S with heat sink, RS 485 C interface				800070V0006
Electronic frequency converter TURBO.DRIVE S with heat sink, RS 232 C interface				800070V0005
Connecting cable (TURBO.DRIVE S - pump)				
1 m (3.5 ft)				152 47
3 m (10.5 ft)				864 40
5 m (17.5 ft)				864 50
Accessories, necessary for all pumps				
START/STOP switch for manual opertion of the turbomolecular pump				152 48
Power supplies				
TURBO.POWER 300				800100V0002
TURBO.CONTROL 300				800100V0001
Accessories, optional				
Water cooling unit with G 1/8" connection including 2 hose nozzles G 1/8", OD 10 mm for water hose, 4 gaskets, 2 blank-off plugs				800135V0002
Air cooling unit				800 000 249
Flange heater				
100 CF, 230 V, 50 Hz				854 27
100 CF, 110 V, 60 Hz				854 28
Splinter guard DN 100 ISO-K/CF				
coarse (3,2 x 3,2 mm)				200 18 692
fine (1,6 x 1,6 mm)				200 18 340
Vibration absorber				
DN 100 ISO-K				800131V0100
DN 100 CF				500 071
Accessories for serial interfaces RS 232 C and RS 485 C				see chapter “Turbomolecular Pumps”, para. “Accessories”

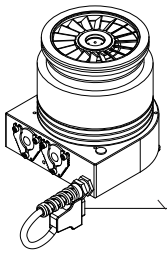
The modular concept

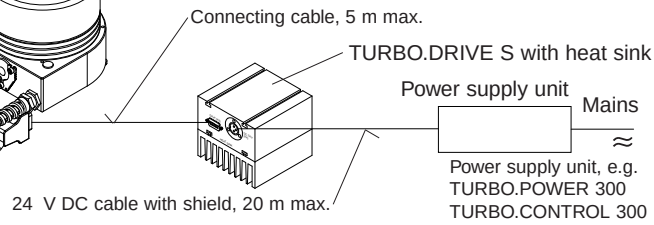
TW 300 H (without forced cooling)
with integrated frequency converter
TURBO.DRIVE S



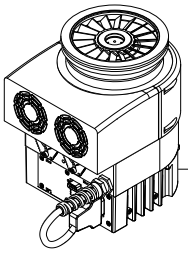


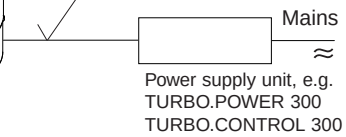
TW 300 H (without forced cooling)
without integrated frequency converter
TURBO.DRIVE S



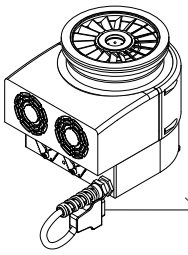


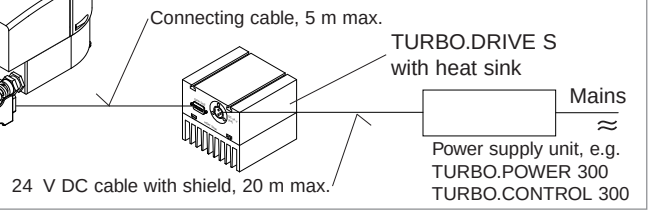
TW 300 H (with air cooling)
with integrated frequency converter
TURBO.DRIVE S





TW 300 H (with air cooling)
without integrated frequency converter
TURBO.DRIVE S





Notes