

<b>TURBOVAC</b>		<b>600 C</b>	<b>600 C</b>	<b>1000 C</b>	<b>1000 C</b>	<b>1000 C</b>
High-vacuum port	nom. diam.	160 ISO-K 160 CF	6" ANSI	160 ISO-K 160 CF	6" ANSI 200 CF	250 ISO-K
Pumping speed for N <sub>2</sub>	l·s <sup>-1</sup>	560	620	850	1100	1150
Ultimate pressure	mbar	< 10 <sup>-10</sup>	< 10 <sup>-10</sup>	< 10 <sup>-10</sup>	< 10 <sup>-10</sup>	< 10 <sup>-10</sup>
Forevacuum pressure	mbar	10 <sup>-3</sup> - 10 <sup>-2</sup>	10 <sup>-3</sup> - 10 <sup>-2</sup>	10 <sup>-3</sup> - 10 <sup>-2</sup>	10 <sup>-3</sup> - 10 <sup>-2</sup>	10 <sup>-3</sup> - 10 <sup>-2</sup>
Recommended fore- vacuum pump	TRIVAC	D 40 B	D 40 B	D 40 B	D 40 B	D 40 B
Recommended frequency converter	NT	1000/1500	1000/1500	1000/1500 VH	1000/1500 VH	1000/1500 VH
or	NT	20	20	20	20	20
Speed	rpm	36 000	36 000	36 000	36 000	36 000
Run-up time	approx. min.	3	3	4 <sup>1)</sup>	4 <sup>1)</sup>	4 <sup>1)</sup>
Coolant connection nozzle	mm	10	10	11 / 10 <sup>2)</sup>	11	11 / 10 <sup>2)</sup>
Coolant temperature	°C	10 - 30	10 - 30	10 - 30	10 - 30	10 - 30
Coolant flow rate at 15 °C	l/hr	30	30	30	30	30
Forevacuum port	nom. diam.	40 KF	40 KF	40 KF/63 ISO-K	40 KF	40 KF/63 ISO-K
Purge gas port	nom. diam.	10 KF	10 KF	10 KF <sup>3)</sup>	10 KF <sup>3)</sup>	10 KF <sup>3)</sup>
Vent port	nom. diam.	10 KF	10 KF	10 KF <sup>3)</sup>	10 KF <sup>3)</sup>	10 KF <sup>3)</sup>
Weight, approx.	kg	17	17	25	25	25
Max. ambient temperature at operation	°C	55	55	55	55	55
Max. bakeout temperature at CF flange	°C	100	-	100	100	-

- 1) with the NT 20: 9 min
- 2) 11 mm with 40 mm type KF forevacuum port  
10 mm with 63 mm type ISO-K forevacuum port
- 3) As of 1995 in some cases 16 mm KF

kg	lbs	mm	inch	°C	°F	mbar	Torr
2	4.4	10	0.35	10	50	10 <sup>-10</sup>	8·10 <sup>-11</sup>
8	17.7	11	0.43	15	59	8·10 <sup>-9</sup>	6·10 <sup>-9</sup>
12	26.5			25	77	10 <sup>-3</sup>	8·10 <sup>-4</sup>
17	37.5			45	113	10 <sup>-2</sup>	8·10 <sup>-3</sup>
25	55			55	131	0.5	0.4
				80	176	1	0.8
				100	212	15	11.2



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## 1.1 Standard equipment

The TURBOVAC is shipped in a sealed PE bag which also contains a desiccant.

The maximum effective life of the desiccant is one year.

Part of the standard equipment for the high-vacuum port are

- Splinter guard,
- Centering ring with FPM sealing ring; outer ring.

and for the forevacuum port

- Centering ring with O-ring and clamping ring.

Both the purge gas port and the airing port are blanked off for shipping.

The electronic frequency converter and the connector cables required for operation are not included as standard equipment with the pump.

PE = Polyethylene  
FPM = Fluoroelastomer, resistant to temperatures of up to 150°C (300 °F)

## 1.2 Order data

TURBOVAC 1100 C		Part No.
with high-vacuum port	DN 250 ISO-K	894 80
	DN 200 ISO-K	894 83
	DN 160 ISO-K	894 84

Electronic frequency converter		
TURBOTRONIK NT 20		
230 V		857 20
120 V		857 21

Connection cable TURBOVAC - TURBOTRONIK		
3 m long		857 65
5 m long		857 66
10 m long		857 67
20 m long		857 68

Purge gas filter with O-ring	200 18 515
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## 1.3 Technical data

TURBOVAC	1100 C
High-vacuum connection	DN 250/200/160 ISO-K
Max. permissible high-vacuum pressure ( $p_{HV}$ )	
During continuous-duty operation	$1 \cdot 10^{-2}$ mbar
In intermittent operation	on inquiry
Pumping speed for $N_2$	
At $p_{HV} \leq 10^{-3}$ mbar	approx. 1050 l/sec
At $p_{HV} \geq 10^{-3}$ mbar	see data sheet
Forevacuum connection	DN 63 ISO-K
Max. permissible forevacuum pressure ( $p_{FV}$ )	
at the forevacuum connector flange	
During continuous-duty operation	$1 \cdot 10^{-1}$ mbar
In intermittent operation	on inquiry
Required pumping speed at forevacuum pump corresponding to high-vacuum extraction + purging gas rate	
at $p_{HV} \leq 10^{-4}$ mbar	7 l/sec
Nominal rotation speed	30,000 r.p.m.
Run-up period	approx. 9 min.
Weight	22 kg
Required frequency converter	
TURBOTRONIK	NT 20
Ref. No. 857 20 (230 V) as of serial No.	Z9601221
Ref. No. 857 21 (120 V) as of serial No.	Z9600321
Purging gas connection	10 or 16 mm KF
Purging gas	Ambient air or $N_2$
Purging gas requirement	$0.6 \text{ mbar} \cdot \text{l} \cdot \text{sec}^{-1}$
Vent connection	DN 10 or 16 KF
Venting gas	Ambient air or special venting gas
Cooling water connections, hose nipple	10 mm diam.
Cooling water inlet temperature	10 to 30 °C
Cooling water requirements	See section 2.4
<b>Turbo Guard 3</b>	
Measuring range	0 °C - 140 °C ( $\pm 2$ °C)
Switching points	factory set
Relay contacts	24 V, max. 1 A, floating
Ambient temperature	0 °C - 55 °C
Storage temperature	-25 °C - 70 °C
EMC: Generic emission acc. to	EN 50081 Part 1
EMC: Generic immunity acc. to	EN 50082 Part 2