

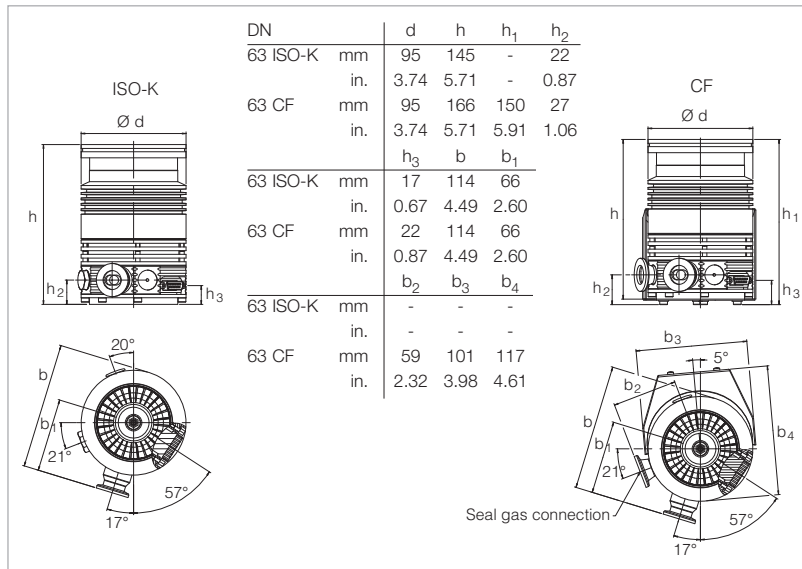
# Mechanical Rotor Suspension with Frequency Converter for Attaching or Separate with or without Compound Stage

## TURBOVAC SL 80 / SL 80 H / SL 80 C



### Typical Applications

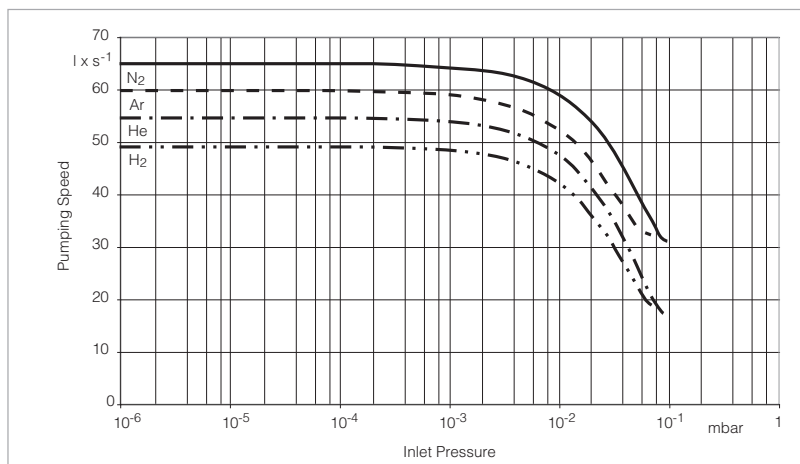
- Helium leak detectors
- Mass spectrometers (gas chromatography GC-MS), liquid chromatography (LC-MS), residual gas analysis, mobile analytical systems, etc.)
- Electron beam microscopy
- XHV-/UHV systems
- Transfer chambers



Dimensional drawing for the TURBOVAC SL 80: attachment examples

### Technical Features

- Oil-free pump
- High pressure foreline tolerance
- Excellent resistance to vibration due to proven mechanical bearings
- Efficient convection cooling due to a large number of cooling fins
- Purge gas/venting connection
- Installation in any orientation
- Flexible attachment of the frequency converter to the pump
- Small footprint
- Delayed venting through the frequency converter TURBO.DRIVE TD 400 (optional)
- Selection of interfaces, USB, RS 232 C, RS 485 C, Profibus



Pumping speed as a function of the inlet pressure

### Advantages to the User

- Easy to integrate into complex vacuum systems
- Space-saving
- Prepared for pumping of slightly corrosive gases owing to the seal gas connection
- High reliability, MTTF over 200,000 hours
- Matching accessories (fan, water cooling, seal gas/venting valves, power failure venting valves, flange heaters, different cable lengths etc.)
- High reliability due to self-monitoring

**Technical Data**
**TURBOVAC**

		<b>SL 80</b>			<b>SL 80 H</b>		<b>SL 80 C</b>
Connection							
Inlet	DN	40 ISO-KF	63 ISO-K	63 CF	63 ISO-K	63 CF	63 ISO-K
Outlet	DN		16 ISO-KF		16 ISO-KF		16 ISO-KF
Pumping speed							
N <sub>2</sub>	l x s <sup>-1</sup>	40	65	65	65		70
Ar	l x s <sup>-1</sup>	34	60	60	60		65
He	l x s <sup>-1</sup>	44	55	55	55		50
H <sub>2</sub>	l x s <sup>-1</sup>	40	49	49	49		45
Gas throughput							
N <sub>2</sub>	mbar · l x s <sup>-1</sup>		2.0		0.9		3.5
Ar	mbar · l x s <sup>-1</sup>		1.6		0.8		3.5
He	mbar · l x s <sup>-1</sup>		1.2		1.5		2.0
H <sub>2</sub>	mbar · l x s <sup>-1</sup>		0.5		0.6		1.0
Compression ratio							
N <sub>2</sub>			> 1 x 10 <sup>11</sup>		> 1 x 10 <sup>11</sup>		2 x 10 <sup>6</sup>
Ar			> 1 x 10 <sup>11</sup>		> 1 x 10 <sup>11</sup>		2 x 10 <sup>6</sup>
He			2 x 10 <sup>6</sup>		6 x 10 <sup>6</sup>		6 x 10 <sup>2</sup>
H <sub>2</sub>			4 x 10 <sup>4</sup>		8 x 10 <sup>4</sup>		2 x 10 <sup>2</sup>
Ultimate pressure	mbar Torr)		< 2 x 10 <sup>-10</sup> ( $< 1.5 \times 10^{-10}$ )		< 2 x 10 <sup>-10</sup> ( $< 1.5 \times 10^{-10}$ )		< 5 x 10 <sup>-8</sup> ( $< 4.0 \times 10^{-8}$ )
Max. foreline pressure for N <sub>2</sub>	mbar (Torr)		16 (12)		16 (12)		0.35 (0.26)
Recommended forevacuum pump			TRIVAC D 2,5 E / D 4 B SCROLLVAC SC 5 D / 15 D DIVAC 1.4 HV3		TRIVAC D 2,5 E / D 4 B SCROLLVAC SC 5 D / 15 D DIVAC 1.4 HV3		TRIVAC D 2,5 E / D 4 B SCROLLVAC SC 5 D / 15 D –
Nominal rotation speed	min <sup>-1</sup> (rpm)		72 000		72 000		72 000
Run-up time, approx.	min		1.5		1.5		1.5
Max. power consumption	W		120		120		120
Power consumption at ultimate pressure	W		17		17		17
Admissible ambient temperature	°C (°F)		+15 to +45 (+50 to +113)		+15 to +45 (+50 to +113)		+15 to +45 (+50 to +113)
Cooling							
standard			Convection		Convection		Convection
optional			Water / Air		Water / Air		Water / Air
Cooling water connection			G 1/8", inside thread / 8 mm hose nozzle		G 1/8", inside thread / 8 mm hose nozzle		G 1/8", inside thread / 8 mm hose nozzle
Cooling water consumption	l x h <sup>-1</sup>		15 to 60		15 to 60		15 to 60
Permissible cooling water pressure	bar		2 to 7		2 to 7		2 to 7
Permissible cooling water temperature	°C (°F)		10 to 40 (50 to 104)		10 to 40 (50 to 104)		10 to 40 (50 to 104)
Weight, approx.	kg (lbs)		1.8 (3.97)	1.9 (4.19)	3.1 (6.84)	1.9 (4.19)	3.1 (6.84)

 High  
Vacuum Pumps





**Technical Data**
**TURBO.DRIVE TD 400**

Mains connection	V DC	24
Max. current consumption	A	8
Max. power consumption	W	190
Max. output voltage	V	3 x 24
Interface		USB, RS 232 C, RS 485 C or Profibus
Protection rating	IP	20
Admissible ambient temperature	°C (°F)	+5 to +45 (+41 to +113)
Dimensions (W x H x D)	mm (in.)	100 x 90 x 100 (3.9 x 3.5 x 3.9)
Weight, approx.	kg (lbs)	0.7 (1.6)

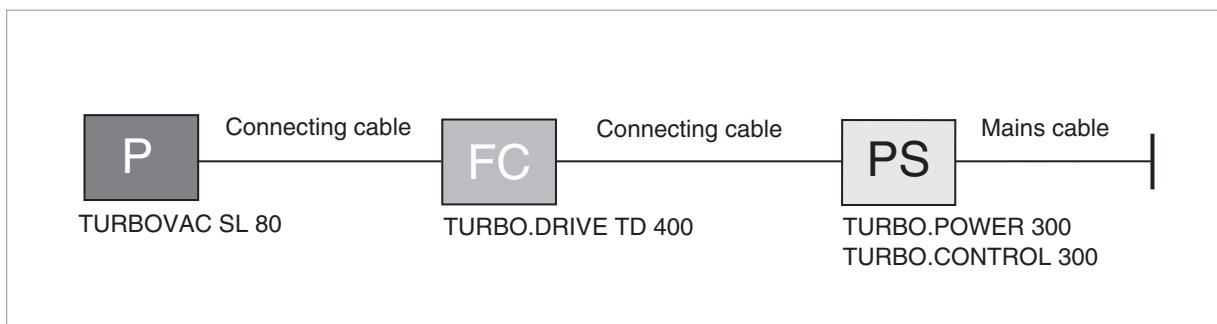
## Ordering Information

## TURBOVAC

### SL 80 / SL 80 H / SL 80 C

TURBOVAC SL 80	P	Part No.	
with compound stage DN 40 ISO-KF DN 63 ISO-K / DN 16 ISO-KF DN 63 ISO-K / DN 16 ISO-KF (SL 80 H) DN 63 CF / DN 16 ISO-KF DN 63 CF / DN 16 ISO-KF (SL 80 H) without compound stage DN 63 ISO-K / DN 16 ISO-KF (SL 80 C)		800002V3004 800002V3001 800002V3005 800002V3002 800002V3006  800002V3008	
Mandatory Accessories	P	FC	PS
Electronic frequency converter TURBO.DRIVE TD 400 with USB interface with RS 232 C interface with RS 485 C interface with Profibus		800073V0008 800073V0002 800073V0003 800073V0004	
Connecting cable pump - frequency converter 0.2 m (0.7 ft) 0.3 m (1.1 ft) 0.4 m (1.4 ft) 0.5 m (1.75 ft) 1.0 m (3.5 ft) 2.5 m (8.75 ft) 3.0 m (10.5 ft) 5.0 m (17.5 ft) 10.0 m (35.0 ft)		800152V0021 800152V0023 800152V0022 800152V0050 152 47 864 49 864 40 864 50 800080V10000	
Power supply and control unit TURBO.CONTROL 300		800100V0001	
24 V connecting cable power supply - TURBO.CONTROL 300 1 m ( 3.5 ft) 3 m (10.5 ft) 5 m (17.5 ft) 10 m (35.0 ft) 20 m (70.0 ft)		800091V0100 800091V0300 800091V0500 800091V1000 800091V2000	
Power supply TURBO.POWER 300		800100V0002	
24 V connecting cable power supply - TURBO.POWER 300 1 m ( 3.5 ft) 3 m (10.5 ft) 5 m (17.5 ft) 10 m (35.0 ft) 20 m (70.0 ft)		800094V0100 800094V0300 800094V0500 800094V1000 800094V2000	
Mains cable 3 m (10.5 ft) - TURBO.CONTROL 300 / TURBO.POWER 300 with EURO plug with UK plug with US plug 5-15 P with US plug 115 V AC, 2 m (7.5 ft)		800102V0002 800102V0003 800102V1002 992 76 513	
START/STOP switch for manual operation of the turbomolecular pump		152 48	
Forevacuum pump TRIVAC D 2,5 E 220-240 V, 50 Hz; 230 V, 60 Hz; Schuko plug, EURO version 110-120 V / 220-240 V, 50/60 Hz, without plug, (world version)		140 000 140 001	
TRIVAC D 4 B 1 phase EURO motor; 230 V, 50 Hz 1 phase dual voltage motor; 100-120 V / 200-240 V; 50/60 Hz		112 45 140 081 <sup>1)</sup>	
DIVAC 1.4 HV3 90-230 V, 50/60 Hz		127 90 V	
SCROLLVAC SC 5 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz		133 000 133 100	
SCROLLVAC SC 15 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz 3 phase motor; 380-415 V, 50 Hz / 200-230 V, 460 V, 60 Hz		133 001 133 101 133 003	
For further types, see Catalog Parts "Oil Sealed Vacuum Pumps" and "Dry Compressing Vacuum Pumps"			

<sup>1)</sup> The mains cord (Part No. 200 81 091) must be ordered additionally



## Ordering Information

## TURBOVAC SL 80 / SL 80 H / SL 80 C

Accessories, optional	P	FC	PS	Part No.
Mounting kit TD 400 for SL 80, incl. 0.2 m (0.7 ft.) long connecting cable pump - frequency converter for installing the frequency converter beside the pump for installing the frequency converter beneath the pump (not for 800073V0007)				<b>800110V0005</b> <b>800110V0008</b>
Water cooling unit with 2x G 1/8" connections, including 2 hose nozzles G 1/8" 8 mm (0.3 in.) OD, 2 gaskets (copper) 10 x 14 x 1 mm (0.4 x 0.6 x 0.04 in.) and hose clamps				<b>800135V0001</b>
Air cooling unit				<b>800136V0001</b>
Flange heater DN 63 CF, 230 V, 50 Hz DN 63 CF, 115 V, 60 Hz				<b>854 04</b> <b>854 07</b>
Inlet screen DN 40 ISO-KF DN 63 ISO-K (coarse) DN 63 CF (coarse)				<b>E 200 17 169</b> <b>E 200 17 170</b> <b>E 200 17 171</b>
Fine filter with centering ring DN 63 ISO-K				<b>887 20</b>
Vibration absorber DN 63 ISO-K DN 63 CF				<b>800131V0063</b> <b>500 070</b>
Pump connection adapter DN 10 ISO-KF / pump connection M 8 (incl. O-ring, filter and clamping ring)				<b>800110V0011</b>
Purge gas and venting valve gas flow at 1 bar 0.4 mbar x l x s <sup>-1</sup> (24 sccm), pump connection DN 10 ISO-KF / gas connection G 1/4" 230 V AC 100 - 115 V AC 24 V DC				<b>800152V0014</b> <b>800152V0042</b> <b>800152V0013</b>
Gas filter to G 1/4" for purge gas and venting valve				<b>800110V0012</b>
Replacement filter				<b>E 200 18 515</b>
Power failure venting valve, normally open 24 V DC, DN 16 ISO-KF				<b>800120V0021</b>
Power failure venting valve, normally open 24 V DC, DN 10 ISO-KF 230 V AC / 50/60 Hz, DN 10 ISO-KF				<b>174 46</b> <b>174 26</b>
Hat rail adaptor as mounting aid				<b>800110V0003</b>
Fin type cooler				<b>800110V0001</b>

High  
Vacuum Pumps

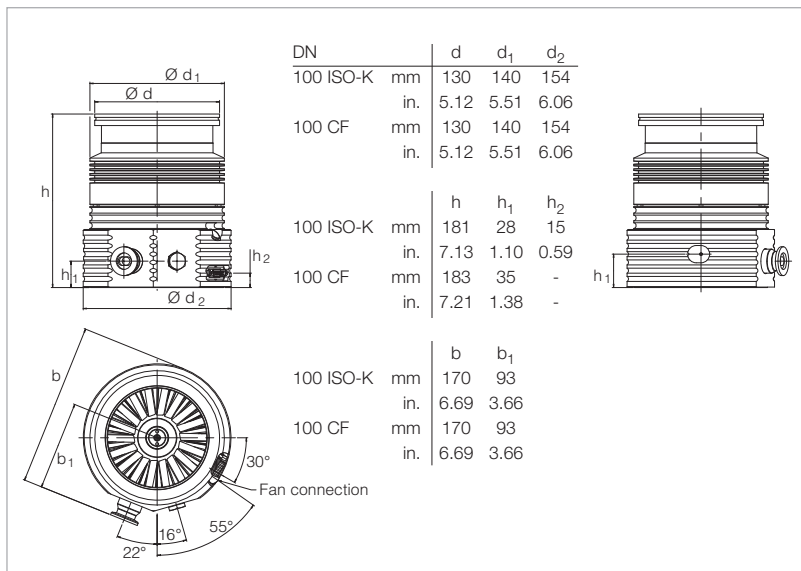
# Mechanical Rotor Suspension with Frequency Converter for Attaching or Separate with Compound Stage

## TURBOVAC SL 300



### Typical Applications

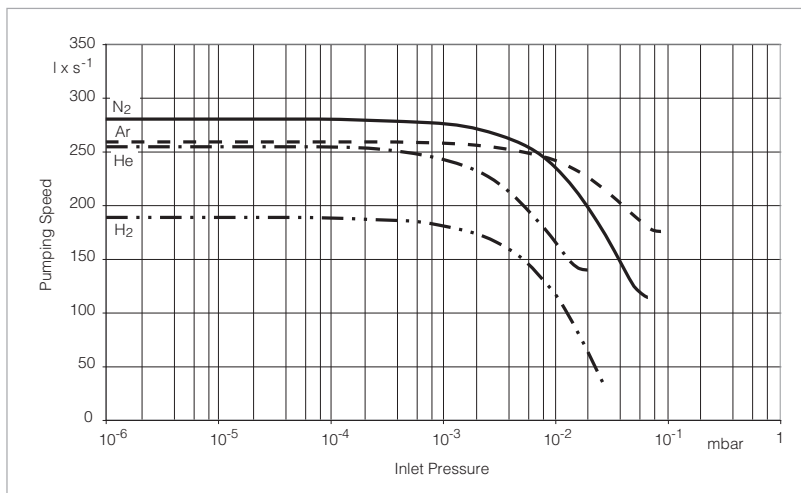
- Particle accelerators
- Mass spectrometers (gas chromatography GC-MS), liquid chromatography (LC-MS), time of flight (TOF-MS), residual gas analysis, etc.)
- Electron beam microscopy
- Coating technology
- XHV-/UHV systems
- Transfer chambers



Dimensional drawing for the TURBOVAC SL 300

### Technical Features

- Oil-free pump
- High pressure foreline tolerance
- Excellent resistance to vibration due to proven mechanical bearings
- Efficient convection cooling due to a large number of cooling fins
- Purge gas/venting connection
- Installation in any orientation
- Flexible attachment of the frequency converter to the pump
- Small footprint
- Delayed venting through the frequency converter TURBO.DRIVE TD 400 (optional)
- Selection of interfaces, USB, RS 232 C, RS 485 C, Profibus



Pumping speed as a function of the inlet pressure

### Advantages to the User

- Easy to integrate into complex vacuum systems
- Space-saving
- Prepared for pumping of slightly corrosive gases owing to the seal gas connection
- High reliability, MTTF over 200,000 hours
- Matching accessories (fan, water cooling, seal gas/venting valves, power failure venting valves, flange heaters, different cable lengths etc.)
- High reliability due to self-monitoring

## Technical Data

## TURBOVAC SL 300

Connection			
Inlet	DN	100 ISO-K	100 CF
Outlet	DN	16 ISO-KF	16 ISO-KF
Pumping speed			
N <sub>2</sub>	l x s <sup>-1</sup>	270	270
Ar	l x s <sup>-1</sup>	260	260
He	l x s <sup>-1</sup>	255	255
H <sub>2</sub>	l x s <sup>-1</sup>	190	190
Gas throughput			
N <sub>2</sub>	mbar · l x s <sup>-1</sup>	2.9	2.9
Ar	mbar · l x s <sup>-1</sup>	2.0	2.0
He	mbar · l x s <sup>-1</sup>	1.9	1.9
H <sub>2</sub>	mbar · l x s <sup>-1</sup>	0.9	1.9
Compression ratio			
N <sub>2</sub>		> 1 x 10 <sup>11</sup>	> 1 x 10 <sup>11</sup>
Ar		> 1 x 10 <sup>11</sup>	> 1 x 10 <sup>11</sup>
He		1 x 10 <sup>7</sup>	1 x 10 <sup>7</sup>
H <sub>2</sub>		2 x 10 <sup>5</sup>	2 x 10 <sup>5</sup>
Ultimate pressure	mbar (Torr)	< 1 x 10 <sup>-10</sup> (< 7.5 x 10 <sup>-11</sup> )	< 1 x 10 <sup>-10</sup> (< 7.5 x 10 <sup>-11</sup> )
Max. foreline pressure for N <sub>2</sub>	mbar (Torr)	8 (6)	8 (6)
Recommended forevacuum pump		TRIVAC D 2,5 E / TRIVAC D 4 B SCROLLVAC SC 5 /15 D DIVAC 3.8 HV3	TRIVAC D 2,5 E / TRIVAC D 4 B SCROLLVAC SC 5 /15 D DIVAC 3.8 HV3
Nominal rotation speed	min <sup>-1</sup> (rpm)	60 000	60 000
Run-up time, approx.	min	4	4
Max. power consumption	W	115	115
Power consumption at ultimate pressure	W	18	18
Admissible ambient temperature	°C (°F)	+15 to +45 (+50 to +113)	+15 to +45 (+50 to +113)
Cooling			
standard		Convection	Convection
optional		Water / Air	Water / Air
Cooling water connection		G 1/8", inside thread / 8 mm hose nozzle	G 1/8", inside thread / 8 mm hose nozzle
Cooling water consumption	l x h <sup>-1</sup>	30 to 60	30 to 60
Permissible cooling water pressure	bar	3 to 7	3 to 7
Permissible cooling water temperature	°C (°F)	15 to 35 (59 to 95)	15 to 35 (59 to 95)
Weight	kg (lbs)	5.2 (11.5)	7.4 (16.3)

High Vacuum Pumps





## Technical Data

## TURBO.DRIVE TD 400

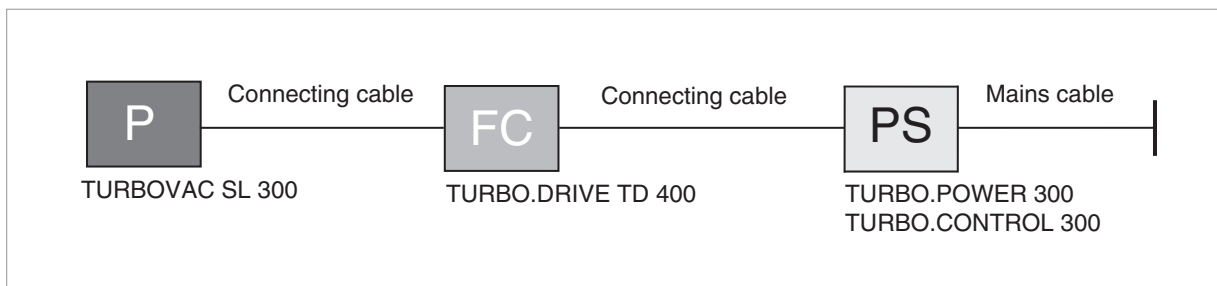
Mains connection	V DC	24
Max. current consumption	A	8
Max. power consumption	W	190
Max. output voltage	V	3 x 24
Interface		USB, RS 232 C, RS 485 C or Profibus
Protection rating	IP	20
Admissible ambient temperature	°C (°F)	+5 to +45 (+41 to +113)
Dimensions (W x H x D)	mm (in.)	100 x 90 x 100 (3.9 x 3.5 x 3.9)
Weight, approx.	kg (lbs)	0.7 (1.6)

## Ordering Information

## TURBOVAC SL 300

TURBOVAC SL 300 with Compound Stage	P	Part No.				
DN 100 ISO-K / DN 16 ISO-KF DN 100 CF / DN 16 ISO-KF		800170V3005 800170V3006				
Mandatory Accessories		P	FC	PS		
Electronic frequency converter TURBO.DRIVE TD 400 with USB interface with RS 232 C interface with RS 485 C interface with Profibus		800073V0008 800073V0002 800073V0003 800073V0004				
Connecting cable pump - frequency converter 0.2 m ( 0.7 ft) 0.3 m ( 1.1 ft) 0.4 m ( 1.4 ft) 0.5 m (1.75 ft) 1.0 m ( 3.5 ft) 2.5 m (8.75 ft) 3.0 m (10.5 ft) 5.0 m (17.5 ft) 10.0 m (35.0 ft)		800152V0021 800152V0023 800152V0022 800152V0050 152 47 864 49 864 40 864 50 800080V10000				
Power supply and control unit TURBO.CONTROL 300		800100V0001				
24 V connecting cable power supply - TURBO.CONTROL 300 1 m ( 3.5 ft) 3 m (10.5 ft) 5 m (17.5 ft) 10 m (35.0 ft) 20 m (70.0 ft)		800091V0100 800091V0300 800091V0500 800091V1000 800091V2000				
Power supply TURBO.POWER 300		800100V0002				
24 V connecting cable power supply - TURBO.POWER 300 1 m ( 3.5 ft) 3 m (10.5 ft) 5 m (17.5 ft) 10 m (35.0 ft) 20 m (70.0 ft)		800094V0100 800094V0300 800094V0500 800094V1000 800094V2000				
Mains cable 3 m (10.5 ft) - TURBO.CONTROL 300 / TURBO.POWER 300 with EURO plug with UK plug with US plug 5-15 P with US plug 115 V AC, 2 m (7.5 ft)		800102V0002 800102V0003 800102V1002 992 76 513				
START/STOP switch for manual operation of the turbomolecular pump		152 48				
Forevacuum pump TRIVAC D 2,5 E 220-240 V, 50 Hz; 230 V, 60 Hz; Schuko plug, EURO version 110-120 V / 220-240 V, 50/60 Hz, without plug, (world version)		140 000 140 001				
DIVAC 3.8 HV3 230 V, 50-60 Hz		127 95 V				
TRIVAC D 4 B 1 phase EURO motor; 230 V, 50 Hz 1 phase dual voltage motor; 100-120 V / 200-240 V; 50/60 Hz		112 45 140 081 <sup>1)</sup>				
SCROLLVAC SC 5 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz		133 000 133 100				
SCROLLVAC SC 15 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz 3 phase motor; 380-415 V, 50 Hz / 200-230 V, 460 V, 60 Hz		133 001 133 101 133 003				
For further types, see Catalog Parts "Oil Sealed Vacuum Pumps" and "Dry Compressing Vacuum Pumps"						

<sup>1)</sup> The mains cord (Part No. 200 81 091) must be ordered additionally



## Ordering Information

## TURBOVAC SL 300

Accessories, optional	P	FC	PS	Part No.
Mounting kit TD 400 for SL 300, incl. 0.2 m (0.7 ft.) long connecting cable pump - frequency converter for installing the frequency converter beside the pump for installing the frequency converter beneath the pump (not for 800073V0007)				<b>800110V0006</b>
				<b>800110V0009</b>
Water cooling unit with 2x G 1/8" connections, including 2 hose nozzles G 1/8" 8 mm (0.3 in.) OD, 2 gaskets (copper) 10 x 14 x 1 mm (0.4 x 0.6 x 0.04 in.) and hose clamps				<b>800135V0002</b>
Air cooling unit				<b>800136V0002</b>
Flange heater DN 100 CF, 230 V, 50 Hz DN 100 CF, 115 V, 60 Hz				<b>854 27</b>
				<b>854 28</b>
Inlet screen DN 100 ISO-K (coarse) DN 100 ISO-K (fine) DN 100 ISO-CF (coarse) DN 100 ISO-CF (fine)				<b>800132V0101</b>
				<b>800132V0102</b>
				<b>20091514</b>
				<b>E20017195</b>
Vibration absorber DN 100 ISO-K DN 100 CF				<b>800131V0100</b>
				<b>500 071</b>
Pump connection adapter DN 10 ISO-KF / pump connection M 8 (incl. O-ring, filter and clamping ring)				<b>800110V0011</b>
Purge gas and venting valve gas flow at 1 bar 0.2 mbar x l x s <sup>-1</sup> (12 sccm), pump connection DN 10 ISO-KF / gas connection G 1/4" 230 V AC 100 - 115 V AC 24 V DC				<b>800152V0019</b>
				<b>800152V0041</b>
				<b>113 50</b>
Gas filter to G 1/4" for purge gas and venting valve				<b>800110V0012</b>
Replacement filter				<b>E 200 18 515</b>
Power failure venting valve, normally open 24 V DC, DN 16 ISO-KF				<b>800120V0021</b>
Power failure venting valve, normally open 24 V DC, DN 10 ISO-KF 230 V AC / 50/60 Hz, DN 10 ISO-KF				<b>174 46</b>
				<b>174 26</b>
Hat rail adaptor as mounting aid				<b>800110V0003</b>
Fin type cooler				<b>800110V0001</b>

High Vacuum Pumps

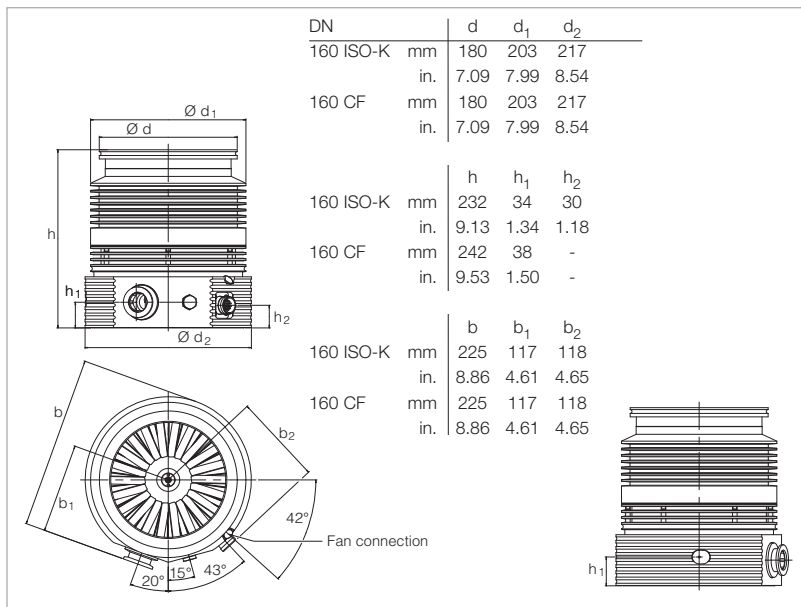
# Mechanical Rotor Suspension with Frequency Converter for Attaching or Separate with Compound Stage

## TURBOVAC SL 700



### Typical Applications

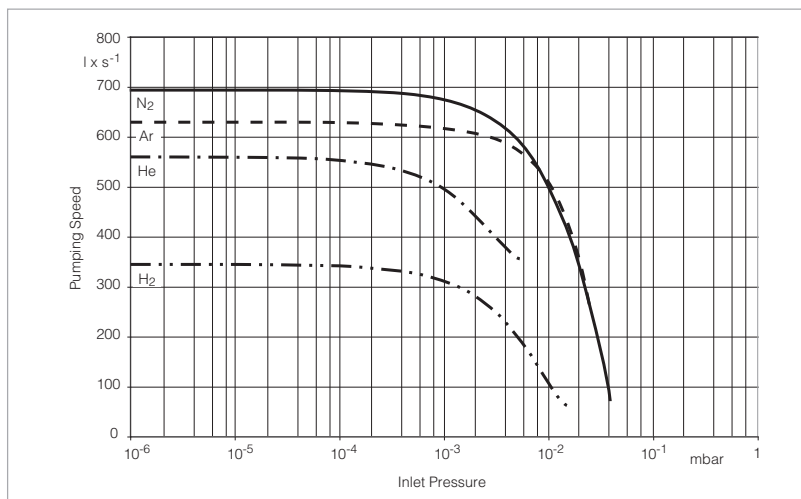
- Mass spectrometers (gas chromatography GC-MS), liquid chromatography (LC-MS), etc.
- Coating technology
- UHV systems
- Transfer chambers



Dimensional drawing for the TURBOVAC SL 700

### Technical Features

- Highest pumping speed in the DN 160 flange category
- Oil-free pump
- Excellent resistance to vibration due to proven mechanical bearings
- Purge gas/venting connection
- Installation in any orientation
- Flexible attachment of the frequency converter to the pump
- Small footprint
- Selection of interfaces, USB, RS 232 C, RS 485 C, Profibus



Pumping speed as a function of the inlet pressure

### Advantages to the User

- Easy to integrate into complex vacuum systems
- Space-saving
- Prepared for pumping of slightly corrosive gases owing to the seal gas connection
- High reliability, MTTF over 200,000 hours
- Matching accessories (fan, water cooling, seal gas/venting valves, power failure venting valves, flange heaters, different cable lengths etc.)
- High reliability due to self-monitoring

## Technical Data

## TURBOVAC SL 700

Connection			
Inlet	DN	160 ISO-K	160 CF
Outlet	DN	25 ISO-KF	25 ISO-KF
Pumping speed			
N <sub>2</sub>	l x s <sup>-1</sup>	690	690
Ar	l x s <sup>-1</sup>	630	630
He	l x s <sup>-1</sup>	580	580
H <sub>2</sub>	l x s <sup>-1</sup>	360	360
Gas throughput			
N <sub>2</sub>	mbar · l x s <sup>-1</sup>	5.6	5.6
Ar	mbar · l x s <sup>-1</sup>	4.6	4.6
He	mbar · l x s <sup>-1</sup>	2.0	2.0
H <sub>2</sub>	mbar · l x s <sup>-1</sup>	0.9	0.9
Compression ratio			
N <sub>2</sub>		> 1 x 10 <sup>11</sup>	> 1 x 10 <sup>11</sup>
Ar		> 11 x 10 <sup>11</sup>	> 11 x 10 <sup>11</sup>
He		1 x 10 <sup>7</sup>	1 x 10 <sup>7</sup>
H <sub>2</sub>		3 x 10 <sup>5</sup>	3 x 10 <sup>5</sup>
Ultimate pressure	mbar (Torr)	< 1 x 10 <sup>-9</sup> (< 7.5 x 10 <sup>-10</sup> )	< 1 x 10 <sup>-9</sup> (< 7.5 x 10 <sup>-10</sup> )
Max. foreline pressure for N <sub>2</sub>	mbar (Torr)	15.0 (11.3)	15.0 (11.3)
Recommended forevacuum pump		TRIVAC D 8 / 16 B SCROLLVAC SC 15 / 30 D	TRIVAC D 8 / 16 B SCROLLVAC SC 15 / 30 D
Nominal rotation speed	min <sup>-1</sup> (rpm)	48 000	48 000
Run-up time, approx.	min	≈ 5	≈ 5
Max. power consumption	W	270	270
Power consumption at ultimate pressure	W	60	60
Admissible ambient temperature	°C (°F)	+15 to +45 (+59 to +113)	+15 to +45 (+59 to +113)
Cooling			
standard		Convection	Convection
optional		Water / Air	Water / Air
Cooling water connection		G 1/8", inside thread / 10 mm hose nozzle	G 1/8", inside thread / 10 mm hose nozzle
Cooling water consumption	l x h <sup>-1</sup>	20 to 90	20 to 90
Permissible cooling water pressure	bar	3 to 7	3 to 7
Permissible cooling water temperature	°C (°F)	15 to 35 (59 to 95)	15 to 35 (59 to 95)
Weight	kg (lbs)	13.9 (30.6)	17.3 (38.2)

High Vacuum Pumps




## Technical Data

## TURBO.DRIVE TD 700

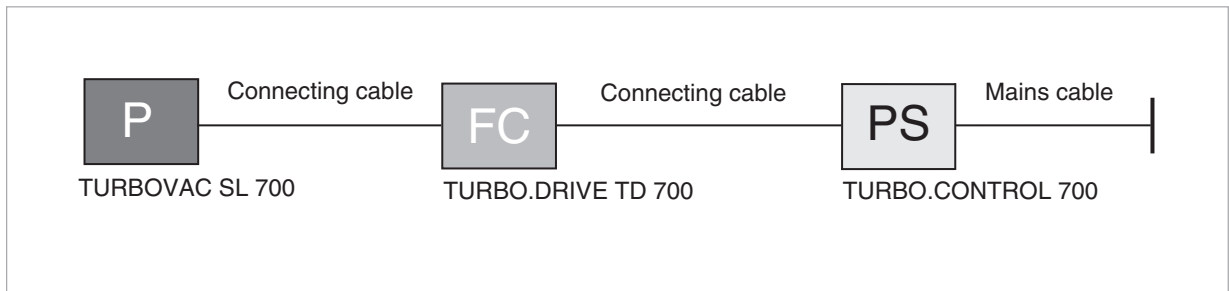
Mains connection	V DC	59
Max. current consumption	A	8
Max. power consumption	W	480
Max. output voltage	V	3 x 59
Interface		RS 232 C, RS 485 C or Profibus
Protection rating	IP	20
Admissible ambient temperature	°C (°F)	+10 to +45 (+50 to +113)
Dimensions (W x H x D)	mm (in.)	170 x 50 x 120.5 (6.7 x 2.0 x 4.7)
Weight, approx.	kg (lbs)	0.7 (1.6)

## Ordering Information

## TURBOVAC SL 700

TURBOVAC SL 700 with Compound Stage	P	Part No.	
DN 160 ISO-K / DN 25 ISO-KF DN 160 CF / DN 25 ISO-KF		800051V3001 800051V3002	
Mandatory Accessories	P	FC	PS
Electronic frequency converter TURBO.DRIVE TD 700 with RS 232 C interface with RS 485 C interface with Profibus		800074V0001 800074V0003 800074V0004	
Connecting cable pump - frequency converter 0.4 m ( 1.4 ft) 1.0 m ( 3.5 ft) 2.5 m ( 8.75 ft) 3.0 m (10.5 ft) 5.0 m (17.5 ft) 10.0 m (35.0 ft)		800080V0040 800084V0100 800080V0042 800084V0300 800084V0500 800084V1000	
Power supply and control unit TURBO.CONTROL 700		800101V0001	
Connecting cable TURBO.DRIVE TD 700 - TURBO.CONTROL 700 1 m ( 3.5 ft) 3 m (10.5 ft) 5 m (17.5 ft) 10 m (35.0 ft) 20 m (70.0 ft)		800093V0100 800093V0300 800093V0500 800093V1000 800093V2000	
Mains cable 3 m (10.5 ft) - TURBO.CONTROL 300 / TURBO.POWER 300 with EURO plug with UK plug with US plug 5-15 P with US plug 115 V AC, 2 m (7.5 ft)		800102V0002 800102V0003 800102V1002 992 76 513	
Air cooling unit or		800136V0003	
Water cooling unit with 2 cooling coils includes 4x G 1/8" connections, including 4 hose nozzles G 1/8" 8 mm (0.3 in.) OD, 4 gaskets (copper) 10 x 14 x 1 mm (0.4 x 0.6 x 0.04 in.) and hose clamps		800135V0004	
START/STOP switch for manual operation of the turbomolecular pump		152 48	
Forevacuum pump			
TRIVAC D 8 B 1 phase EURO motor; 230 V, 50 Hz 1 phase dual voltage motor; 100-120 V / 200-240 V; 50/60 Hz		112 55 140 082 <sup>1)</sup>	
TRIVAC D 16 B 1 phase EURO motor 3 phase motor		112 65 112 66	
SCROLLVAC SC 15 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz 3 phase motor; 380-415 V, 50 Hz / 200-230 V, 460 V, 60 Hz		133 001 133 101 133 003	
SCROLLVAC SC 30 D 1 phase motor; 200-230 V, 50/60 Hz 1 phase motor; 100-115 V, 50/60 Hz 3 phase motor; 380-415 V, 50 Hz / 200-230 V, 460 V, 60 Hz		133 002 133 102 133 004	
For further types, see Catalog Parts "Oil Sealed Vacuum Pumps" and "Dry Compressing Vacuum Pumps"			

<sup>1)</sup> The mains cord (Part No. 200 81 091) must be ordered additionally



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## TURBOVAC SL 700

Accessories, optional	P FC PS	Part No.
Mounting kit TD 700 for SL 700, incl. 0.2 m (0.7 ft.) long connecting cable pump - frequency converter for installing the frequency converter beside the pump for installing the frequency converter beneath the pump		<b>800110V0007</b>
		<b>800110V0010</b>
Flange heater DN 160 CF, 230 V, 50 Hz DN 100 CF, 115 V, 60 Hz		<b>854 37</b>
		<b>854 38</b>
Inlet screen DN 160 ISO-K DN 160 CF		<b>200 00 307</b>
		<b>200 17 247</b>
Vibration absorber DN 160 ISO-K DN 160 CF		<b>500 073</b>
		<b>500 072</b>
Pump connection adapter DN 10 ISO-KF / pump connection M 8 (incl. O-ring, filter and clamping ring)		<b>800110V0011</b>
Purge gas and venting valve gas flow at 1 bar $0.6 \text{ mbar} \times l \times \text{s}^{-1}$ (36 sccm), pump connection DN 10 ISO-KF / gas connection G 1/4" 230 V AC 100 - 115 V AC 24 V DC		<b>800152V0040</b>
		<b>800152V0043</b>
		<b>800152V0012</b>
Gas filter to G 1/4" for purge gas and venting valve		<b>800110V0012</b>
Replacement filter		<b>E 200 18 515</b>
Power failure venting valve, normally open 24 V DC, DN 16 ISO-KF		<b>800120V0021</b>
Power failure venting valve, normally open 24 V DC, DN 10 ISO-KF 230 V AC / 50/60 Hz, DN 10 ISO-KF		<b>174 46</b>
		<b>174 26</b>
Solenoid venting valve, normally closed 24 V DC, DN 16 ISO-KF		<b>800120V0011</b>