

Oil-free Scroll Vacuum Pumps

SC 5 D

SC 15 D

SC 30 D

SC 60 D

171.70.02



Scroll Pumps

SCROLLVAC SC 5 D, SC 15 D, SC 30 D, SC 60 D



Scroll vacuum pumps

In 1905 the principle of the scroll compressor was developed by the Frenchman Leon Creux. Starting only a few years ago, the scroll pump is now being used as an oil-free vacuum pump.

Every scroll pump consists of two or more Archimedes spirals engaging each other with an offset of 180°. Thus several crescent-shaped pockets of differing sizes are created. By means of an eccentric, a second spiral is made to orbit about a fixed spiral, thus reducing the volume of the pockets and compressing gases from the outside towards the inside thereby pumping the gases.

Important to the quality of a scroll pump is that precise manufacturing tolerances are maintained and that suitable materials are selected.

Benefits

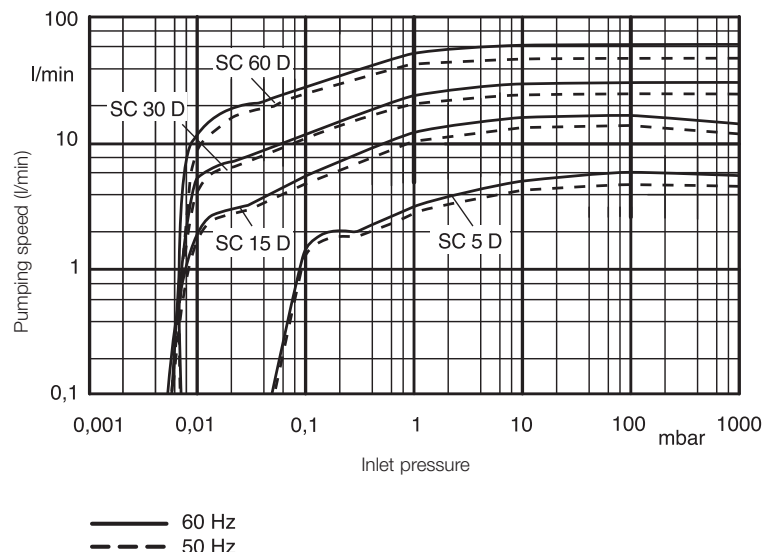
The dry compressing SC-D scroll pumps excel through the following:

- Absolutely oil-free
- Low base vacuum
- High effective pumping speed
- Low ultimate pressure
- Low noise level
- Low vibration operation
- Maximum inlet pressure
- Low weight
- Air cooling
- Low power consumption

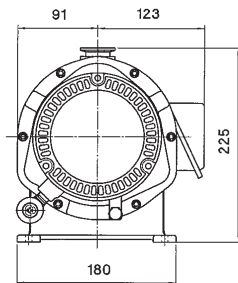
Applications

Oil-free scroll vacuum pumps well-suited for use in all applications which require a dry and clean vacuum:

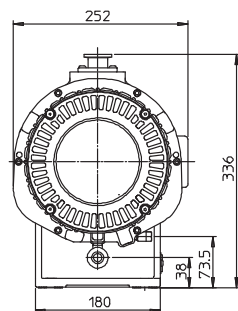
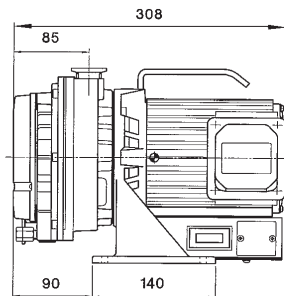
- Electron beam welding
- Lasers
- Leak detection systems
- Accelerators / synchrotrons
- Surface analysis instruments
- Scanning electron microscopes
- Load lock / transfer chambers
- Spectroscopy
- Lamps manufacture
- As a backing pump for turbomolecular pumps



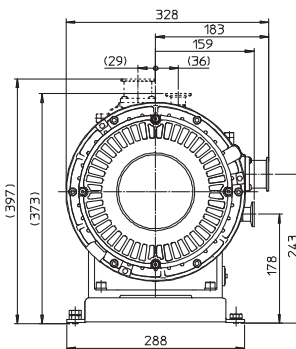
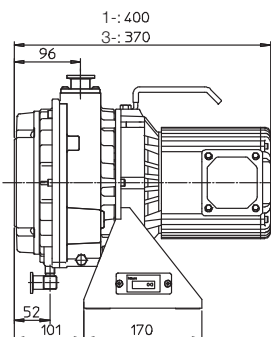
Dimensions, Maintenance Intervals



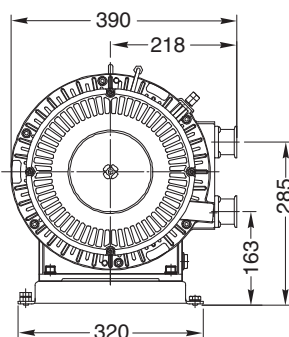
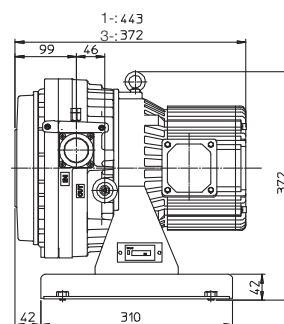
Dimensional drawing of the SC 5 D (all dimensions in mm)



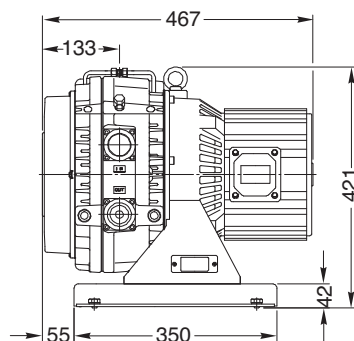
Dimensional drawing of the SC 15 D (all dimensions in mm)



Dimensional drawing of the SC 30 D (all dimensions in mm)



Dimensional drawing of the SC 60 D (all dimensions in mm)



Maintenance Intervals

In order to maintain the performance of the pump maintenance is required after a certain number of operating hours, depending upon application, but normally after 8,000h of operation.

For this we are offering a complete maintenance kits including seals, O-rings and bearings.

Technical Data

Ordering Information

Oil-free Scroll vacuum pump SCROLLVAC			SC 5 D	SC 15 D	SC 30 D	SC 60 D
Nominal pumping speed*	50 Hz / 60 Hz	m ³ /h	5.4 / 6.4	15.0 / 18.0	30.0 / 36.0	60.0 / 72.0
Pumping speed*	50 Hz / 60 Hz	m ³ /h	4.8 / 6.0	13.0 / 15.5	26.0 / 31.0	52.0 / 62.0
Attainable ultimate pressure		mbar	0.05	0.01	0.01	0.01
Leak rate		mbar l/s	10 ⁻⁶	10 ⁻⁶	10 ⁻⁶	10 ⁻⁴
Maximum inlet pressure		Atmosphere	Atmosphere	Atmosphere	Atmosphere	Atmosphere
Permissible ambient temperature		°C	5 - 40	5 - 40	5 - 40	5 - 40
Connections	Inlet / Exhaust	NW	25 / 16	25 / 16	40 / 25	40 / 40
Cooling		Air	Air	Air	Air	Air
Protection class		IP 20	IP 20	IP 20	IP 20	IP 20
Motor power		W	150	400	600	1400
Motor speed**	230 V, 50 Hz	min ⁻¹	1440	1450	1450	1460
	230 V, 60 Hz	min ⁻¹	1740	1730	1730	1760
Noise level a 1 m, free field measurement**		dB(A)	≤ 52	≤ 58	≤ 62	≤ 67
Dimensions (W x H x D)		mm	308 x 214 x 225	400 x 252 x 336	443 x 328 x 372	467 x 390 x 421
Weight						
equipped with single-phase motor		kg	14	25	44	—
equipped with three-phase motor		kg	—	23	38	60

* in accordance to DIN 28 400 ff

** applies to the version with single-phase motor

Ordering information	SC 5 D	SC 15 D	SC 30 D	SC 60 D
Single-phase motor, with cable and plug				
230V, 200V, 100V, 50 Hz Europe	133 000	133 001	133 002	—
115V, 100V, 200V, 230V, 60 Hz US / Japan	133 100	133 101	133 102	—
Three-phase motor, without cable				
200V, 380-415V, 50 Hz				
200-230V, 460V, 60 Hz	—	133 003	133 004	133 008

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