

COBRA DS 180/1000/2000



COBRA DS 180 - 2000

Principle of operation

The COBRA single-stage screw vacuum pump range takes advantage of the dry screw pump technology to maximize product uptime.

The advanced design allows for fewer moving parts, longer up-time between service, and lower nitrogen consumption than conventional multistage compression vacuum pumps.

The screw mechanism minimizes sliding areas inside the pump and thus has optimum restart capabilities. The innovative screw design results in a lower energy consumption as compared to standard screw designs. Using the indirect cooling principle the whole pump body is working at a uniform temperature level. There are no cold spots, and thus condensation is reduced to a minimum.

The COBRA series line is ideally suited for all harsh processes, that are found in the semiconductor industry of today and tomorrow.

High reliability

Due to the well proven twin screw design and the intelligent temperature management COBRA screw pumps are highly reliable even in the harshest applications in semiconductor processes and related applications. This results in a high life expectancy.

Low cost of ownership

Long MTBF (Mean time between failure) and preventive maintenance free operation are the main reasons for a low cost of ownership. Low utility consumption and the high reliability are responsible for lower production cost in the semiconductor industry.

Improved serviceability

A smaller number of parts with rotors made from one piece and the modular design result in lower costs for overhauls.

Tunable pump performance

The tunable pumping speed of the COBRA screw vacuum pumps allows for a flexible adaptation to changing process conditions. COBRA vacuum pumps can be used as pressure control element and will save energy by running always at the optimum pumping speed. The flexible programming of this feature allows for easy tool integration.

Advanced pump monitoring

COBRA vacuum pumps are well prepared for advanced monitoring, either at the pump directly or by the central monitoring system (CMS). With the latest version of the CMS vacuum pumps as well as abatement systems, vacuum valves and pipe heaters can be monitored.

Screw vacuum pumps for the Semiconductor Industry

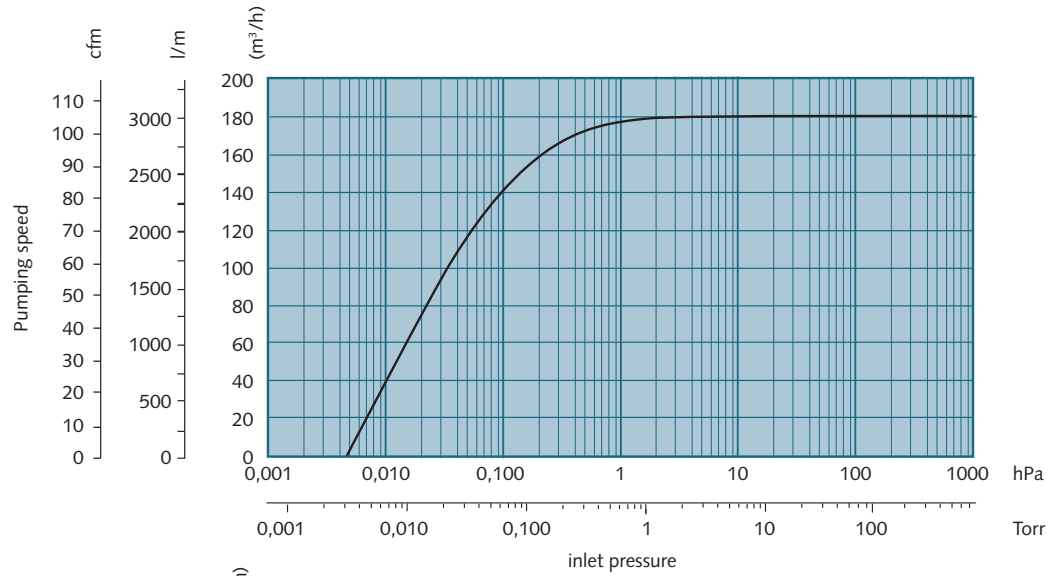
Technical data

Technical data		COBRA DS 180	COBRA DS 1000	COBRA DS 2000
Pumping speed	m ³ /h	180	960	1620
	l/min	3000	16000	27000
	cfm	106	556	954
Pumping speed range (frequency controlled)	m ³ /h	80 -180	250 - 960	400 - 1620
	l/min	1333 - 3000	4167 - 16000	6667 - 27000
	cfm	47 - 106	147 - 556	235 - 954
Ultimate pressure	hPa (mbar)	<0,01	<0,001	<0,001
	mTorr	<7,5	<0,75	<0,75
Power consumption at ultimate pressure	kW (energy saving screws)	3,2	3,4	3,9
	kW (standard screws)	4,6	4,3	5,5
Power consumption at ultimate pressure (idle mode)	kW (energy saving screws)	2,4	2,6	2,7
	kW (standard screws)	3,4	3,6	3,7
Cooling water consumption	l/min	2 - 8	2 - 8	2 - 8
Water pressure	bar	2 - 5	2 - 5	2 - 5
Nitrogen consumption	l/min	0 - 50	0 - 50	0 - 50
Nitrogen pressure	bar	1,5	1,5	1,5
Noise level	dB (A)	<62	<62	<62
Inlet/outlet size	inlet	DN 50	DN 100	DN 160
	outlet	DN 40	DN 40	DN 40
Weight	kg	289	435	470
Ambient temperature	°C	0 - 40	0 - 40	0 - 40
	°F	32 - 104	32 - 104	32 - 104

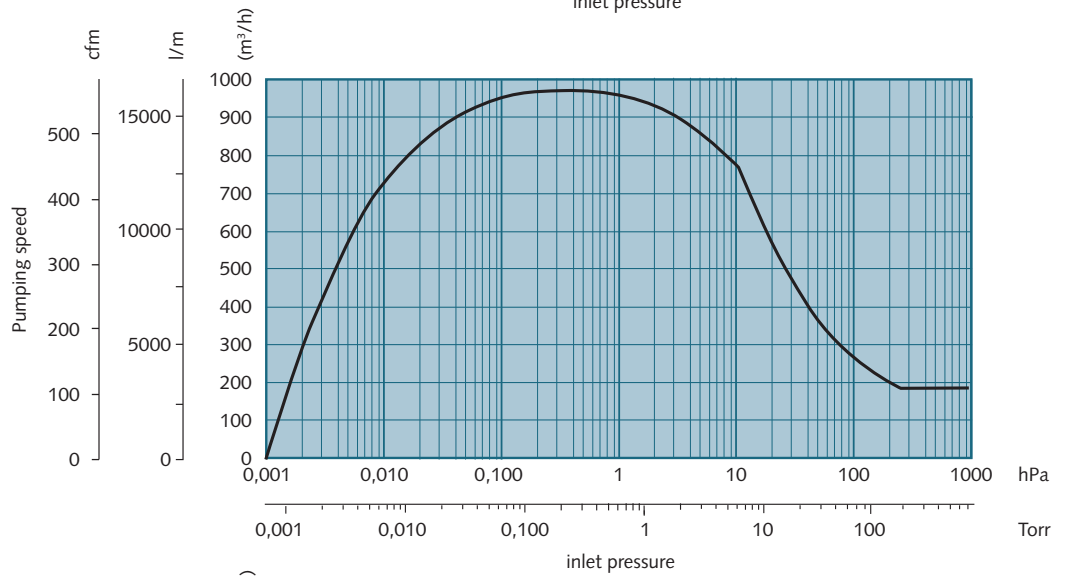
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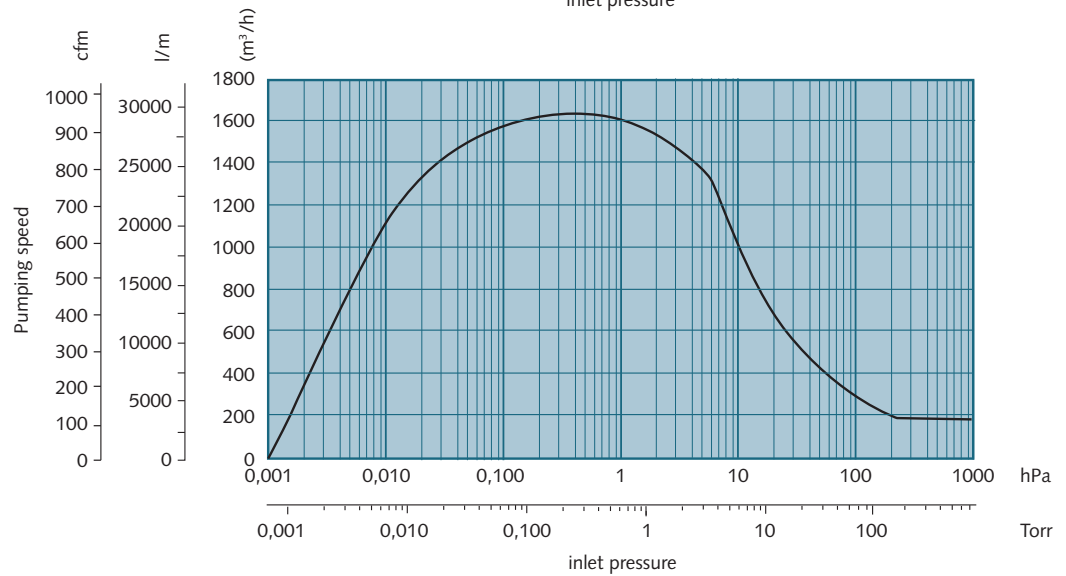
Suction capacity
COBRA DS 180



Suction capacity
COBRA DS 1000



Suction capacity
COBRA DS 2000



Screw vacuum pumps for the Semiconductor Industry



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Applications



Applications COBRA DS

- Metal Etch
- HDP-CVD (High-Density-Plasma-Chemical-Vapour-Deposition)
- RTP (Rapid-Thermal-Processing)
- SACVD (Sub-Atmospheric-CVD)
- MCVD (Modified-CVD)
- PECVD (Plasma-Enhanced-CVD)
- LPCVD (Low-Pressure-CVD)
- ALD (Atomic-Layer-Deposition)

Advantages COBRA DS

- Field proven dry screw design
- Corrosion resistant materials
- Adjustable temperature control
- Ease of service
- Low cost of ownership
- High MTBF
- Ideal for harsh applications

Our vacuum solutions

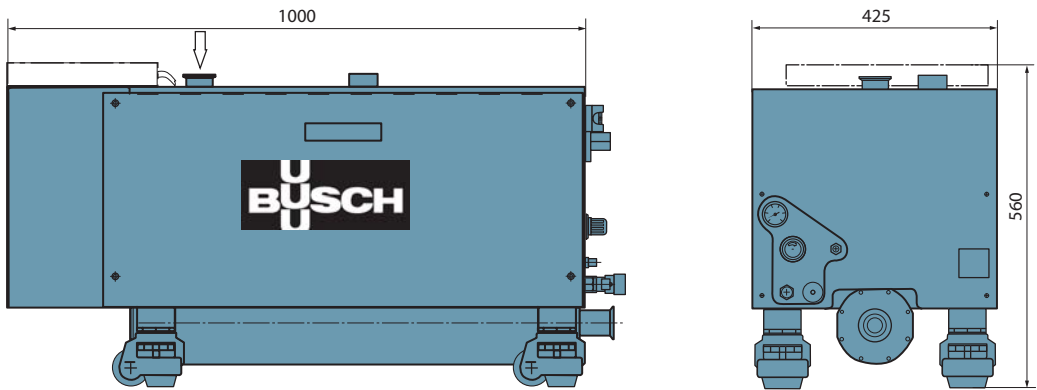
Our Semiconductor Vacuum Group supplies a full range of vacuum accessories suited to all semiconductor applications. In addition to this we offer a vacuum design facility providing turnkey/project management to both the end user and equipment manufacturers.

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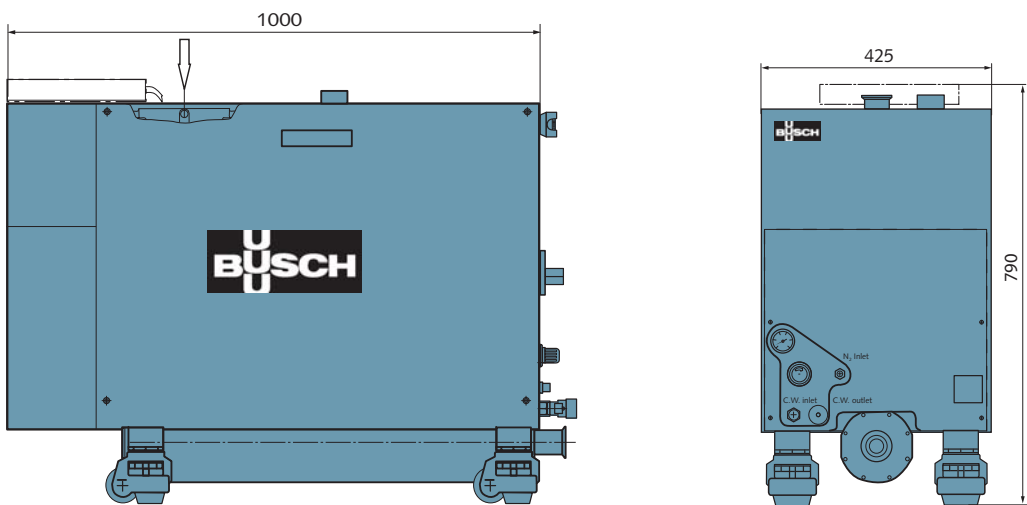
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Dimensions

Dimensions
COBRA DS 180



Dimensions
COBRA DS 1000/2000



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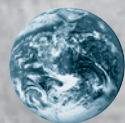
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