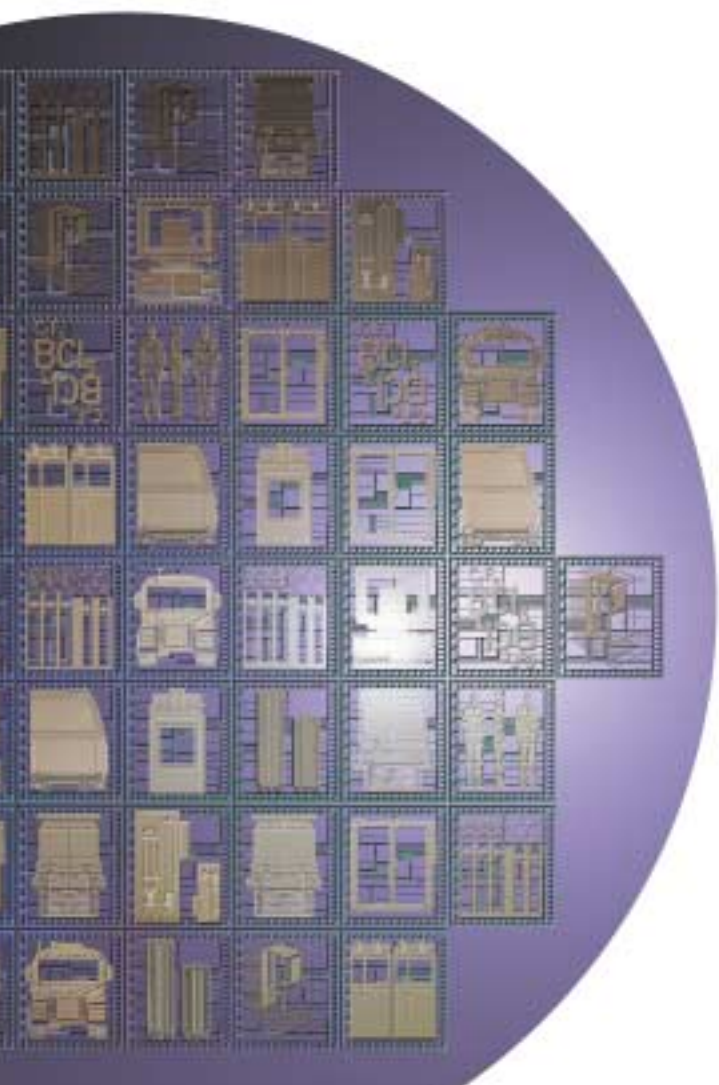


# iH/iL Series

Drypumps



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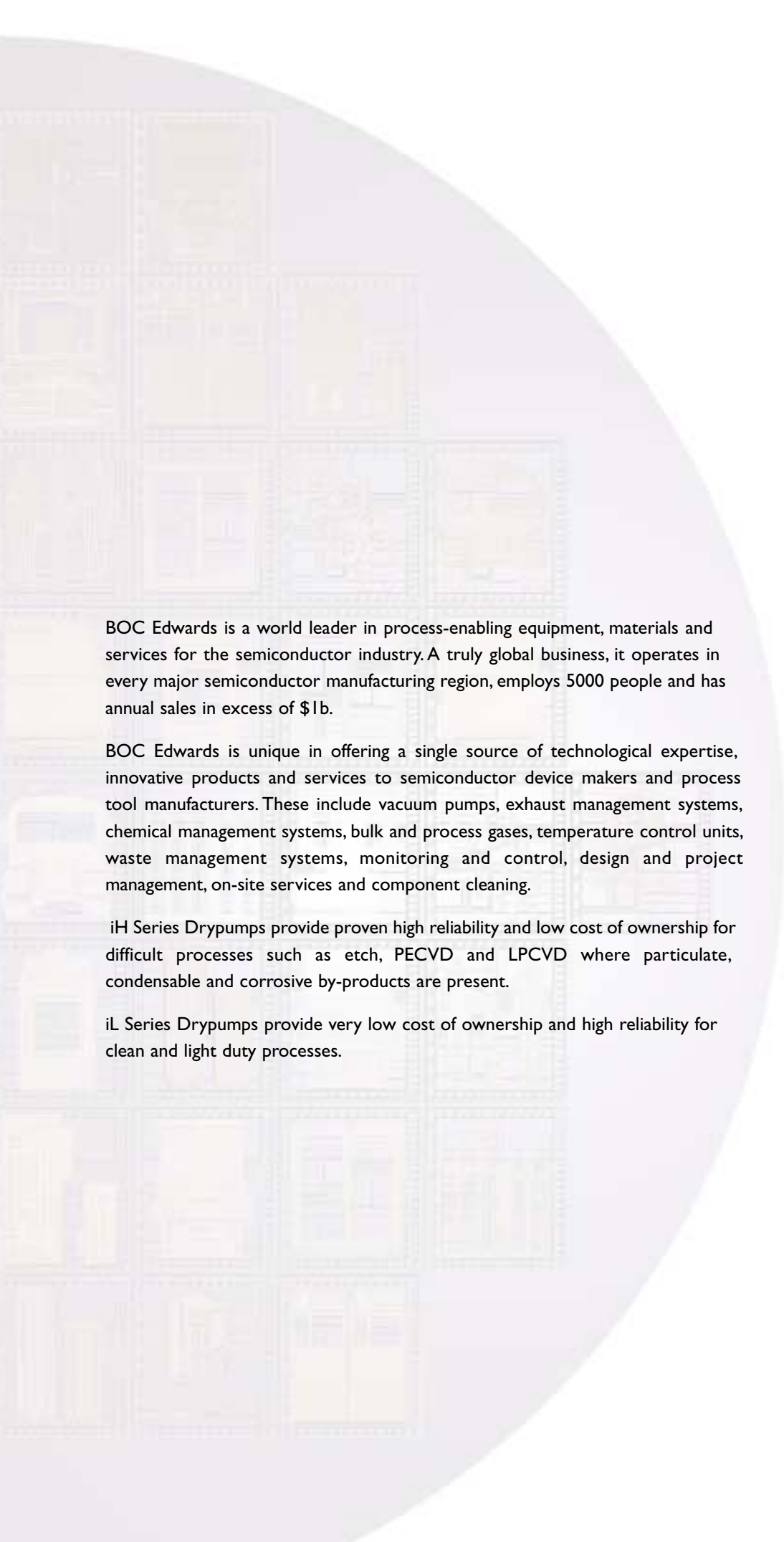
 **BOC EDWARDS**

*The 1st Choice for vacuum solutions*



**SEMICONDUCTOR INDUSTRY  
STANDARDS COMPLIANCE**

The iH & iL Series Drypumps comply with internationally recognised semiconductor industry standards: SEMI S2-200 (Semiconductor Equipment & Materials International), ETL (Energy Technology Laboratories), which conforms to UL Standard 3101-1, and CE (European Community Mark).



BOC Edwards is a world leader in process-enabling equipment, materials and services for the semiconductor industry. A truly global business, it operates in every major semiconductor manufacturing region, employs 5000 people and has annual sales in excess of \$1b.

BOC Edwards is unique in offering a single source of technological expertise, innovative products and services to semiconductor device makers and process tool manufacturers. These include vacuum pumps, exhaust management systems, chemical management systems, bulk and process gases, temperature control units, waste management systems, monitoring and control, design and project management, on-site services and component cleaning.

iH Series Drypumps provide proven high reliability and low cost of ownership for difficult processes such as etch, PECVD and LPCVD where particulate, condensable and corrosive by-products are present.

iL Series Drypumps provide very low cost of ownership and high reliability for clean and light duty processes.

# iH & iL Benefits

## Proven high reliability

The iH & iL Series Drypumps have been specifically designed to provide reliable operation over a wide range of applications.

The unique cantilevered shaft design eliminates bearings from the high vacuum end of the drypump and booster.

In addition to the cantilevered design, a high operating temperature and specially profiled rotors make the iH Series ideally suited to tough deposition and etch processes.



## Low cost of ownership

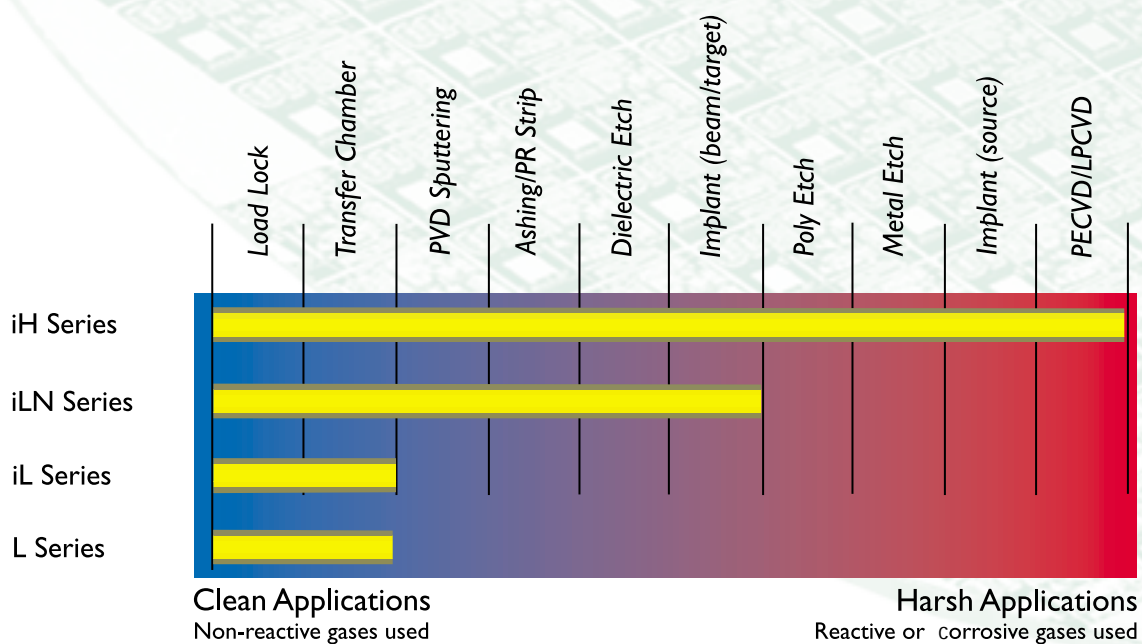
The iH & iL Series have been designed to minimise cost of ownership. Power and nitrogen requirements have been significantly reduced and cooling water usage has been minimised.

iH & iL Series require zero maintenance between overhauls, eliminating expensive periodic servicing and downtime.

## Small footprint

iH & iL Series have been designed to feature a small footprint, saving valuable fab floor space.

The pumps can be stacked to further minimise floor space requirements.





# iH & iL Applications

The design of iH & iL Series Drypumps has been the culmination of nearly 20 years' experience in drypumping and field experience from over 70,000 installed drypumps world-wide. iH & iL Series are now the pumps of choice for the world's first 300mm production lines.

iH & iL Series operate under the most arduous conditions in the world's top wafer manufacturing plants and have been proven to require zero periodic maintenance. The iH & iL Series provide application specific solutions for the full range of semiconductor fabrication processes.



## iH Series

The iH Series provides vacuum pumping solutions for a wide range of applications including the most difficult processes such as metal etch, PECVD and LPCVD.



## iL & iLN Series

iL Series pumps have been designed for clean applications such as load lock and transfer chambers and feature zero nitrogen consumption.

iLN Series pumps feature shaft seal nitrogen purge capability ideal for light duty applications such as dielectric etch.



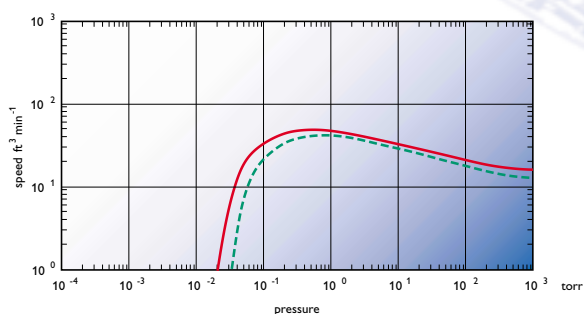
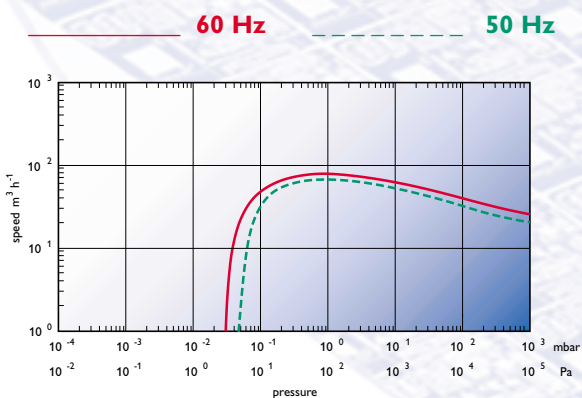
# iL Technical Data

## Specifications

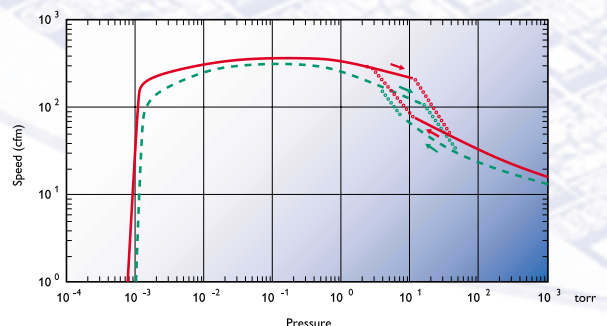
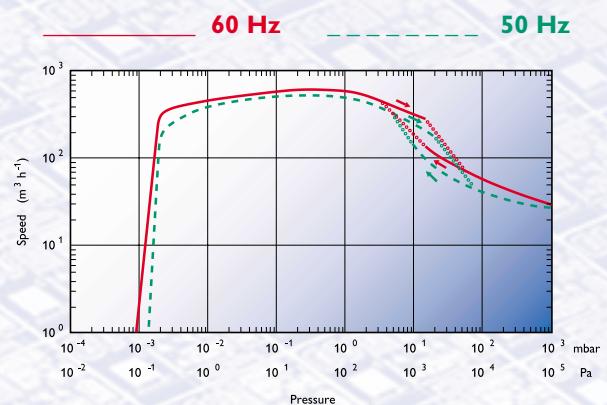
		<i>iL70/iL70N</i>		<i>iL600/iL600N</i>	
		50 Hz	60 Hz	50 Hz	60 Hz
• Peak speed	m <sup>3</sup> h <sup>-1</sup>	70	84	518	600
	cfm	41	49	305	353
	l min <sup>-1</sup>	1166	1400	8635	10000
• Ultimate vacuum	mbar	5 × 10 <sup>-2</sup>	3 × 10 <sup>-2</sup>	3 × 10 <sup>-3</sup>	2 × 10 <sup>-3</sup>
	torr	3.8 × 10 <sup>-2</sup>	2.3 × 10 <sup>-2</sup>	2.3 × 10 <sup>-3</sup>	1.5 × 10 <sup>-3</sup>
	Pa	5	3	0.3	0.2
	slm	0	0	0	0
• Typical iLN shaft seal nitrogen flow	slm	4	4	4	4
• Inlet connection	-	ISO63	ISO63	ISO100	ISO100
• Outlet connection	-	NW40	NW40	NW40	NW40
• Typical cooling water flow at 15 psi pressure drop	l h <sup>-1</sup>	90	90	150	150
	l min <sup>-1</sup>	1.5	1.5	2.5	2.5
• Weight	kg	230	230	405	405
• Power input at ultimate	kW	1.3	1.5	1.8	2.0
• Rated motor power	kW	1.8	2.2	3.6	4.4
• Oil capacity	l	0.75	0.75	1.5	1.5

All figures are typical

## Pumping Speed Curves - iL70/iL70N



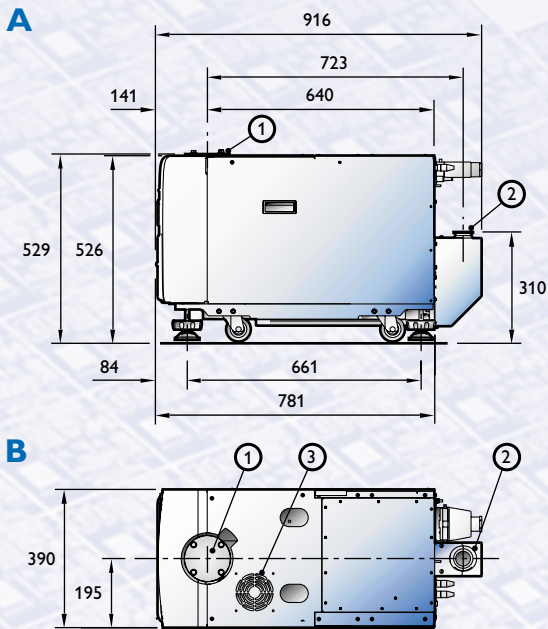
## Pumping Speed Curves - iL600/iL600N





# iL Dimensions

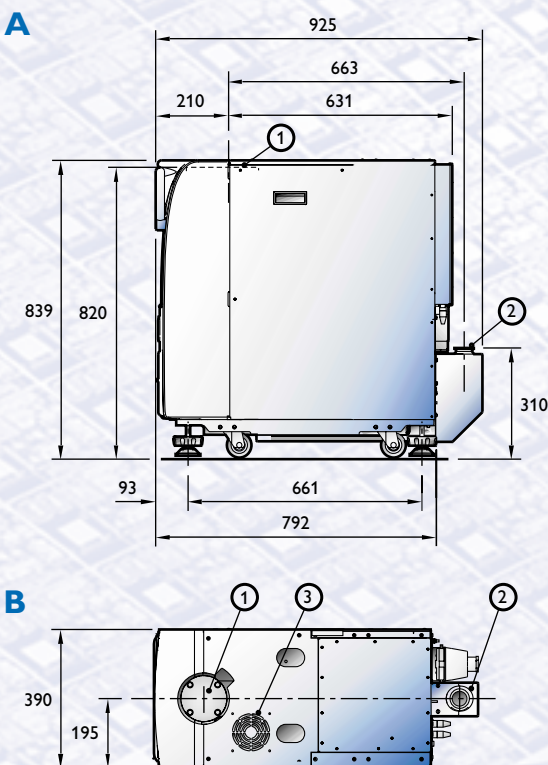
## iL70/iL70N



iL70/iL70N

- 1 INLET
- 2 OUTLET
- 3 AIR EXTRACTION PORT
- A SIDE VIEW
- B PLAN VIEW

## iL600/iL600N



iL600/ iL600N

# iH Technical Data

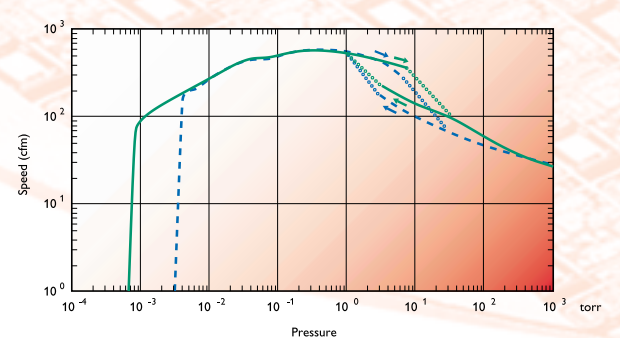
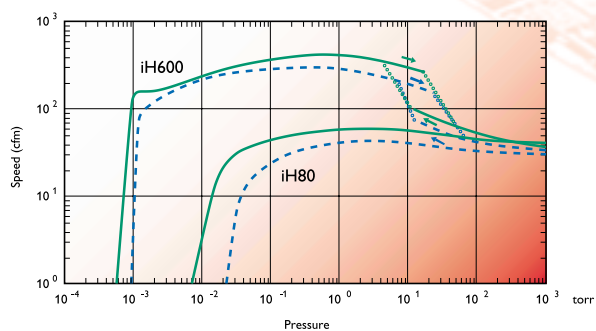
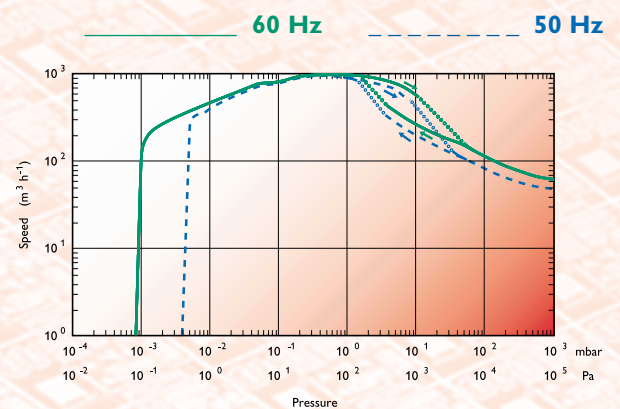
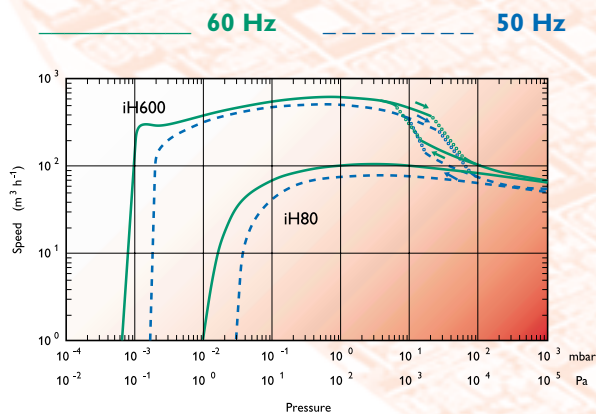
## Specifications

		<i>iH80</i>		<i>iH600</i>		<i>iH1000</i>	
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
• Peak Speed	m <sup>3</sup> h <sup>-1</sup>	86	103	518	600	950	1000
	cfm	51	61	305	353	560	589
	l min <sup>-1</sup>	1433	1717	8635	10000	15837	16670
• Ultimate vacuum (with shaft seal purge only)	mbar	3 × 10 <sup>-2</sup>	1 × 10 <sup>-2</sup>	2 × 10 <sup>-3</sup>	7 × 10 <sup>-4</sup>	2 × 10 <sup>-3</sup>	1 × 10 <sup>-3</sup>
	torr	2.3 × 10 <sup>-2</sup>	7.5 × 10 <sup>-3</sup>	1.5 × 10 <sup>-3</sup>	5.3 × 10 <sup>-4</sup>	1.5 × 10 <sup>-3</sup>	7.5 × 10 <sup>-4</sup>
	Pa	3	1	0.2	0.07	0.2	0.1
• Typical shaft seal nitrogen flow	slm	4	4	4	4	4	4
• Inlet connection		ISO63	ISO63	ISO100	ISO100	ISO100	ISO100
• Outlet connection		NW40	NW40	NW40	NW40	NW40	NW40
• Typical cooling water flow at 15 psi pressure drop	l h <sup>-1</sup>	120	120	240	240	240	240
	l min <sup>-1</sup>	2	2	4	4	4	4
• Weight	kg	240	240	415	415	430	430
• Power input at ultimate	kW	2.4	2.7	3.1	3.4	3.5	3.8
• Rated motor power	kW	2.9	3.5	5.1	6.1	5.1	6.1
• Oil capacity	l	0.85	0.85	1.65	1.65	1.65	1.65

All figures are typical and without gas ballast

## Pumping Speed Curves - iH600 and iH80

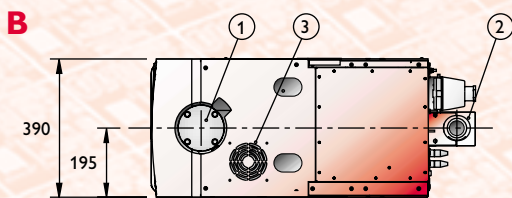
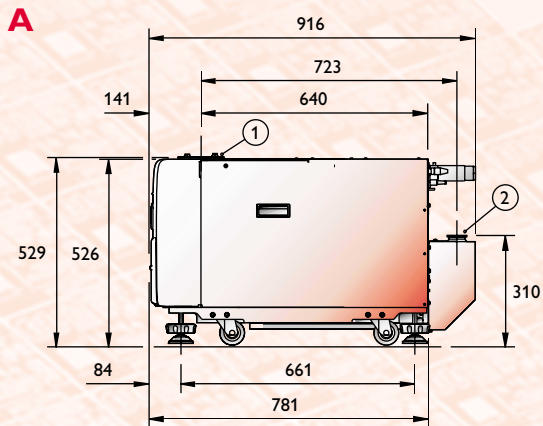
## Pumping Speed Curves - iH1000





# iH Dimensions

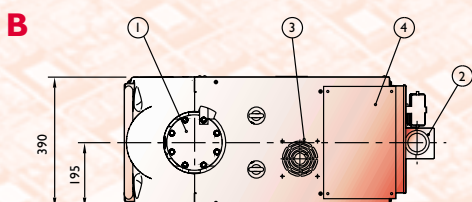
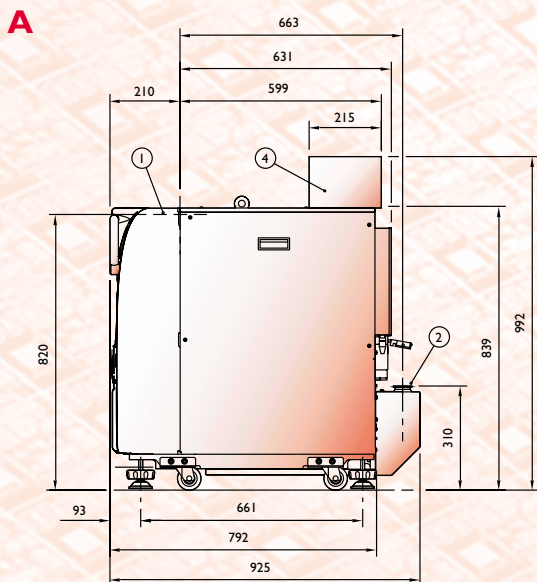
## iH80



iH80

- 1 INLET
- 2 OUTLET
- 3 AIR EXTRACTION PORT
- 4 INVERTER BOX (iH1000 ONLY)
- A SIDE VIEW
- B PLAN VIEW

## iH600/iH1000



iH600