



SERVICE OF VACUUM PUMP SYSTEMS
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MULTI-PROCESS DRY PUMPS ADP/ADS SERIES TWO



Multi-process dry pumps for the semiconductor industry

With a long history of innovation and exacting standards, Alcatel Vacuum Technology today offers a range of products adapted to various and multiple applications.

Alcatel products are compact, easy to use and maintain, and renowned for their robustness and efficiency. In addition to superior performance, Alcatel products have a low cost-of-ownership and quality technical support available worldwide.

With more than 15 years of experience in the semiconductor industry, the Adixen ADP/ADS Series Two offers high efficiency in all dry pumping applications.

The design of the Series Two brings high benefits for applications where cleanliness and reliability are key features.

The Series Two family covers a large range of vacuum requirements with 4 models. These models can be chosen in LM versions for clean applications, P versions for light/medium applications, and H for harsh applications.

Many major manufacturers from the Semiconductor industry have already selected this product. This choice allows them to reduce unscheduled downtime, to reduce overall running cost and increase profitability.

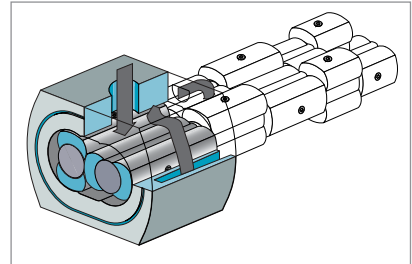


Series Two range

Features and benefits

HIGH RELIABILITY TO PROCESS

- Wide interstage channels are able to accommodate large quantities of powder and particles.
- High operating temperature with a precise closed-loop temperature management system, and a linear increase of gas temperature from inlet to outlet.
- Vertical pumping on each stage which prevents particulate accumulation in the swept volume.



Pump cutaway :
Basic pumping principle for high reliability.

SEMICONDUCTOR FAB RULES COMPLIANT

- Compact: The series 2 model is only 390 mm wide.
- Clean: Alcatel technology is a frictionless and oil-free pump mechanism. There is no risk of particulate contamination.
- Quiet: All models include an integrated silencer, eliminating the need for an additional external silencer.
- Semi S2 compliant.



Series 2 pumps are easy to install and maintain in a fab basement. Special frames can be proposed to adapt to your configuration.

LOW COST OF OWNERSHIP





- Low power consumption at working pressures and at Ultimate Pressure.
- With moderate heat generation, series 2 water consumption is extremely low.
- Nitrogen Purge level is easily set by the customer. Pumps for clean applications do not require any purge.



Power consumption, Nitrogen consumption and other parameters can be monitored from the fab network with Adixen Control and Monitoring Network.

ADP/ADS SERIES TWO

Range description

		LM	P	H
		LOAD LOCK TRANSFER CHAMBER PVD SPUTTERING	ASHING - STRIPPING - DIELECTRIC, POLY ETCH - IMPLANT SOURCE - MEDIUM CVD	PECVD LPCVD
Pumping speed Range				
100 m ³ /h 2 000 l/mn		ADP 122 LM Best performance in its category	ADP 122 P The right choice to back a turbo pump for many applications	ADP 122 H Designed for high reliability: special materials, special seals and enhanced purge cir- cuit
600 m ³ /h 10 000 l/mn		ADS 602 LM Very fast pump down	ADS 602 P The reference for medium CVD and Etch applications	ADS 602 H Proven reliability with most corrosive gases
1200 m ³ /h 20 000 l/mn		ADS 1202 LM Low power consumption No nitrogen purge needed	ADS 1202 P For applications that need high throughput with low C.O.O.	ADS 1202 H Best lifetime on Harsh LPCVD nitride furnaces
1800 m ³ /h 30 000 l/mn		ADS 1802 LM Robust mechanical design for heavy cycling	ADS 1802 P The smallest footprint for a 30 000 l/mn pump Low C.O.O. due to low power consumption at working pressures	ADS 1802 H Dedicated to high throughput applications such as 300 mm batch furnaces

Technical data

60 Hz	Units	ADP 122	ADS 602	ADS 1202	ADS 1802
Peak pumping speed	m ³ /h	112	560	1150	1700
	cfm	65.8	329	676	1000
	l/mn	1867	9333	19167	28333
Typical ultimate pressure (no purge) *	mbar	9 x 10 ⁻³	5 x 10 ⁻⁴	5 x 10 ⁻⁴	5 x 10 ⁻⁴
	torr	6.7 x 10 ⁻³	3.7 x 10 ⁻⁴	3.7 x 10 ⁻⁴	3.7 x 10 ⁻⁴
Max. ultimate pressure (no purge)	mbar	1.5 x 10 ⁻²	9 x 10 ⁻⁴	9 x 10 ⁻⁴	9 x 10 ⁻⁴
	torr	1.1 x 10 ⁻²	6.7 x 10 ⁻⁴	6.7 x 10 ⁻⁴	6.7 x 10 ⁻⁴
Ultimate pressure (35 SLM purge)	mbar	5 x 10 ⁻²	6 x 10 ⁻³	6 x 10 ⁻³	6 x 10 ⁻³
	torr	3.7 x 10 ⁻²	4.5 x 10 ⁻³	4.5 x 10 ⁻³	4.5 x 10 ⁻³
Power at ultimate	kW	1.5	2	3.2	3.5
Motor rating	kW	1.5	3	5.2	7.5

50 Hz					
Peak pumping speed	m ³ /h	95	480	1050	1700
	cfm	55.8	282	617	1000
	l/mn	1583	8000	17500	28333
Typical ultimate pressure (no purge)	mbar	1 x 10 ⁻²	8 x 10 ⁻⁴	8 x 10 ⁻⁴	8 x 10 ⁻⁴
	torr	7.5 x 10 ⁻³	6 x 10 ⁻⁴	6 x 10 ⁻⁴	6 x 10 ⁻⁴
Max. ultimate pressure (no purge)	mbar	3 x 10 ⁻²	2 x 10 ⁻³	2 x 10 ⁻³	9 x 10 ⁻⁴
	torr	2.2 x 10 ⁻²	1.5 x 10 ⁻³	1.5 x 10 ⁻³	6.7 x 10 ⁻⁴
Ultimate pressure (35 SLM purge)	mbar	9 x 10 ⁻²	9 x 10 ⁻³	9 x 10 ⁻³	6 x 10 ⁻³
	torr	6.7 x 10 ⁻²	6.7 x 10 ⁻³	6.7 x 10 ⁻³	4.5 x 10 ⁻³
Power at ultimate	kW	1.3	1.8	3	3.5
Motor rating	kW	1.5	3	5.2	7.5

Cooling water, quick connectors		1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Cooling water typical	l/mn	1	1	1.3	5
	gal/mn	0.26	0.26	0.34	1.1
Inlet connection	ISO-K / KF	DN 50	DN 100	DN 100	DN 100
Outlet connection	ISO-KF	DN 40	DN 40	DN 40	DN 40
Weight	kg	243	378	522	540
	lbs	540	840	1160	1190
Dimensions	Length	mm	830	830	995
	Width	mm	390	390	390
	Height	mm	580	875	985
	Length	inches	32.7	32.7	39.2
	Width	inches	15.4	15.4	15.4
	Height	inches	22.8	34.4	38.8
N2 purge	O for LM versions, depends on application for P and H versions				

* Represents about 80% of pumps manufactured.

Ordering information

Ordering P/N

All series Two models include as standard equipment the required dry pumps and associated blowers, water cooled motors, advanced electronic monitoring with facilities for communication, and sensors for safe pump operation.

	200/208 V 60 Hz	380/400 V 50 Hz	480 V 60 Hz	200/208 V 50 Hz
ADP 122 LM	P5WW100000202	P5WW300000202	P5WW600000202	P5WW700000202
ADP 602 LM	P6WW100001202	P6WW300001202	P6WW600001202	P6WW700001202
ADP 122 P	P1WW100000102	P1WW300000102	P1WW600000102	P1WW700000102
ADS 602 P	P2WW100001102	P2WW300001102	P2WW600001102	P2WW700001102
ADS 1202 P	P3WW100000102	P3WW300000102	P3WW600000102	P3WW700000102
ADS 1802 P	P10WW100000102	P10WW300000102	P10WW600000102	P10WW700000102
ADS 602 H	P7WW100011302	P7WW300011302	P7WW600011302	P7WW700011302
ADS 1202 H	P8WW100010302	P8WW300010302	P8WW600010302	P8WW700010302
ADS 1802 H	P9WW100010302	P9WW300010302	P9WW600010302	P9WW700010302

- Suggested part numbers (above) are pumps equipped with a plug for main power connection, no power failure protection, no exhaustable covers, no hand held display and exhaust at rear.
- Power failure protection, exhaustable covers and hardwire connection are proposed as options (specific part numbers).
- A hand held display is available as an accessory for the setting of internal parameters and to display status information of the pump.

LM models for clean applications do not require any purge system.

P models for light/medium applications include as standard equipment a system with precise purge flow control and temperature management.

H models for harsh applications include as standard equipment an enhanced full purge system, temperature management, heating jackets on the exhaust piping and is constructed with special materials to resist the harshest semiconductor applications.

Accessories

Description	P/N	P/N	P/N
Inlet isolation valve	Manual operation	24V AC operation	Cable 3.5 meters for 24V operation
Aluminium body for clean application DN50 ISO-KF	30384M	30384E	108119
Stainless steel body for all applications DN50 ISO-KF	30501M	30501E	108120
Stainless steel body for all applications DN100 ISO-K	30503M	30503E	106532

Manual or electro-pneumatically operated isolating valves



OEM interface

Description	P/N
OEM interface	on request (depending on tool model)



Cold trap

Description	P/N
Exhaust Cold trap for pumps powered with 200/208 V (*)	802099
Exhaust Cold trap for pumps powered with 380/480 V (*)	802100

(*) available only for horizontal exhaust

Description	P/N
Stacking frame	on request (depending on number of pumps)

Stacking frame are proposed as accessories to reduce footprint with utilization of Stand-alone pumps. A centralized utilities connection is also proposed for faster hook-up on site. The frame can be used for 2, 4 or 6 pumps.

Description	P/N
Set of two anti seismic brackets	A328947



Network historical data

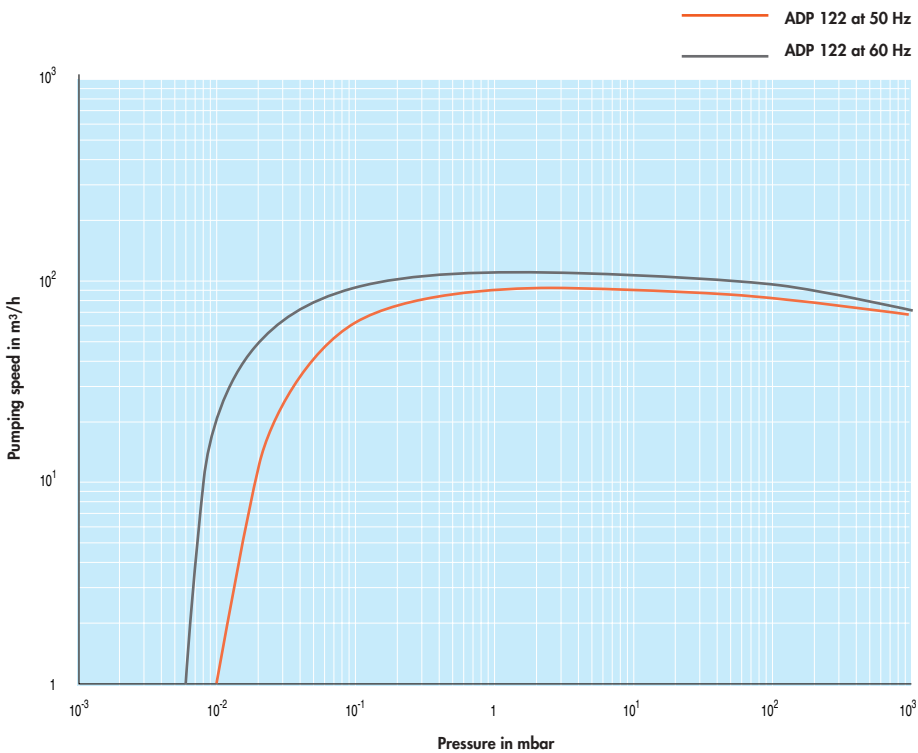
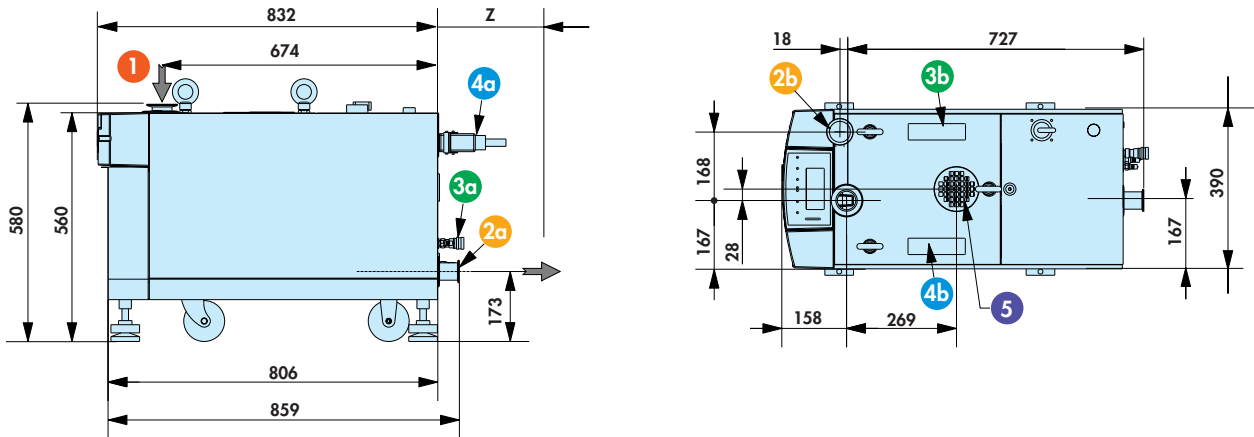
Description	P/N
Network supervision system	on request

Description	P/N
Hand held display	110942

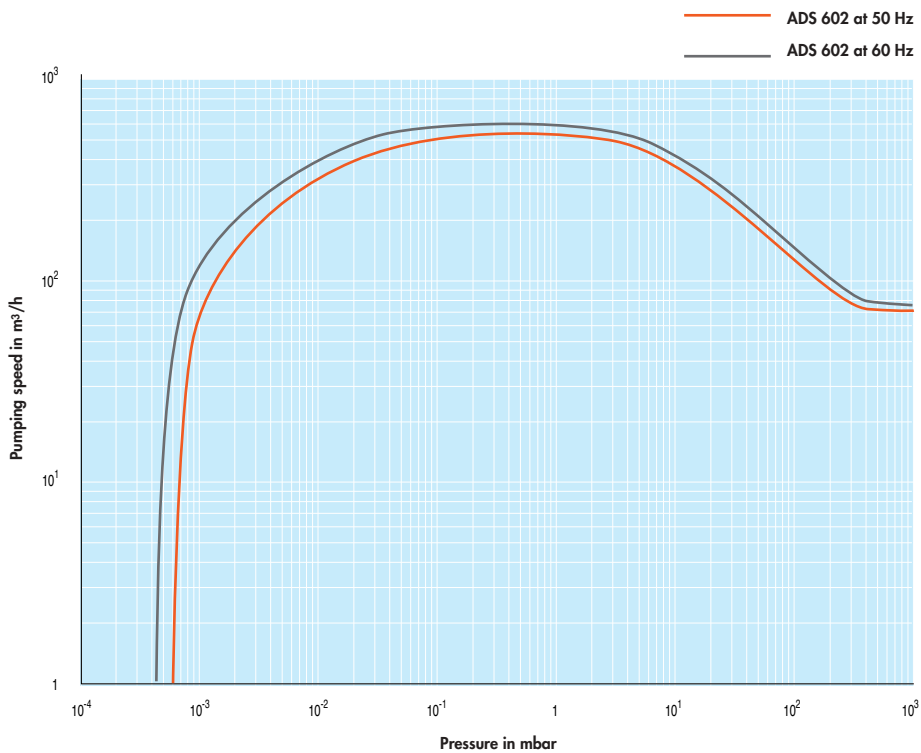
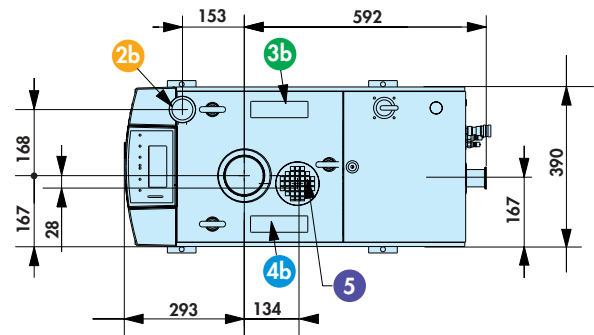
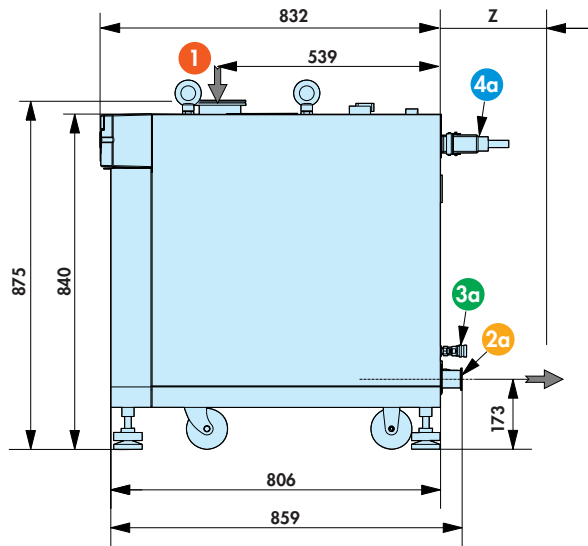
Hand-held remote control



ADP 122 pumping curves and dimensions

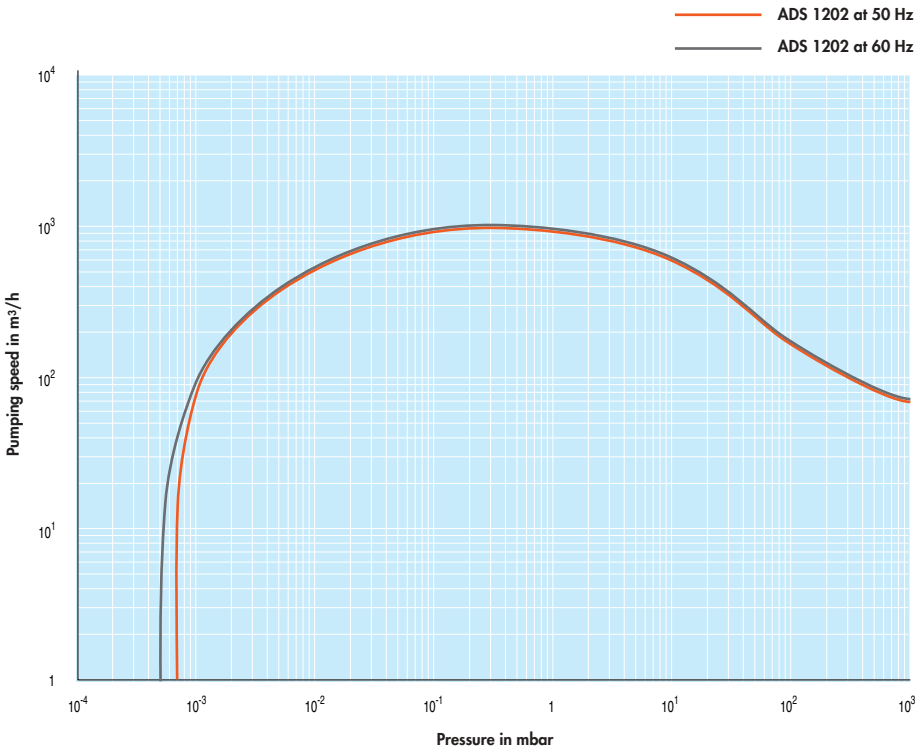
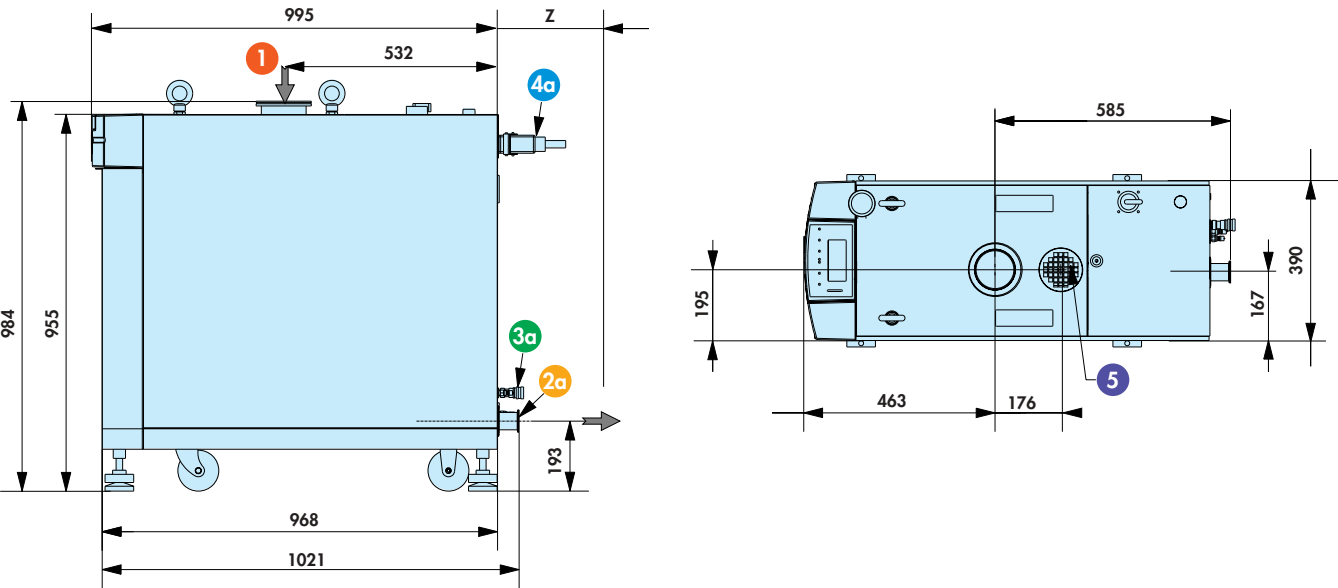


ADS 602 pumping curves and dimensions

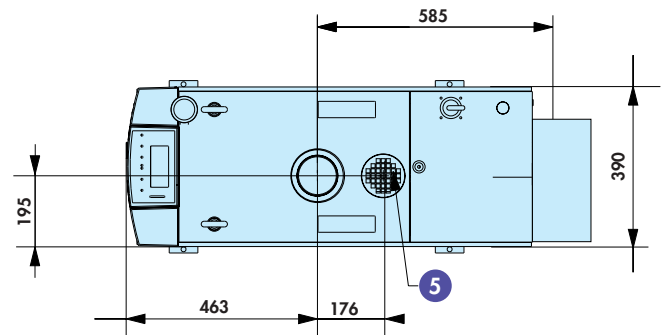
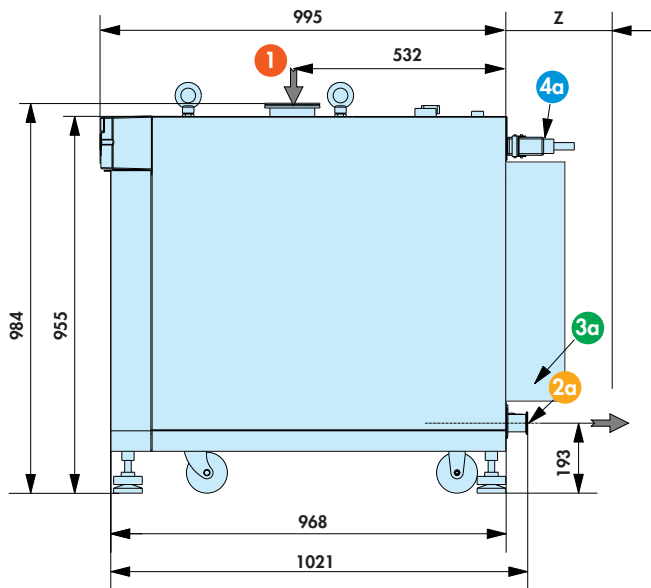


- 1 Inlet
- 2a Exhaust position
- 2b Alternative exhaust position
- 3a Water/N2 utilities position
- 3b Alternative water/N2 utilities connection
- 4a Main power position
- 4b Alternative main power position
- 5 Exhaustable cover connection
Ø : 100 mm

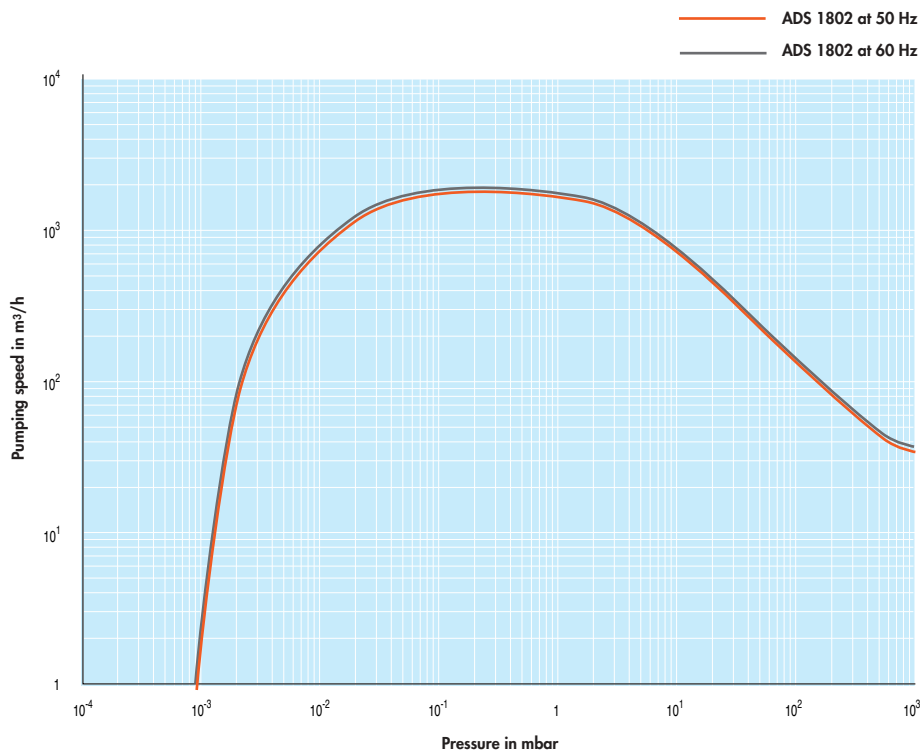
ADS 1202 pumping curves and dimensions



ADS 1802 pumping curves and dimensions



- 1 Inlet
- 2a Exhaust position
- 3a Water/N₂ utilities position
- 4a Main power position
- 5 Exhaustable cover connection
Ø : 100 mm



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