

EPX high vacuum dry pumps

The EPX Series offers on-tool pumping in a lighter and smaller package, requiring only 1.4 kilowatts of power. Using a unique, patented, single-shaft regenerative/ Holweck® stage mechanism, EPX pumps are capable of pumping from atmosphere to ultimate pressures of $<7 \times 10^{-7}$ Torr.

Offering enhanced performance in a modular package, EPX pumps can be integrated onto a process tool or mounted remotely. Integrated electronics also provide simple communication connections to the process tool.

The EPX Series supports clean and light duty semiconductor processing applications such as ash/strip and implant end station applications.



Features and benefits

- Unique, patented mechanism
 - Low ultimate pressure
 - Low vibration
- High reliability
 - Low service costs
 - Zero periodic maintenance
- Wide application range
- Greater efficiency
 - Low power
 - Sub-fab space savings
 - Idle mode
- Easy installation
 - Point of use or remote installation
 - Lightweight
 - Small footprint
 - Plug-and-pump tool interface

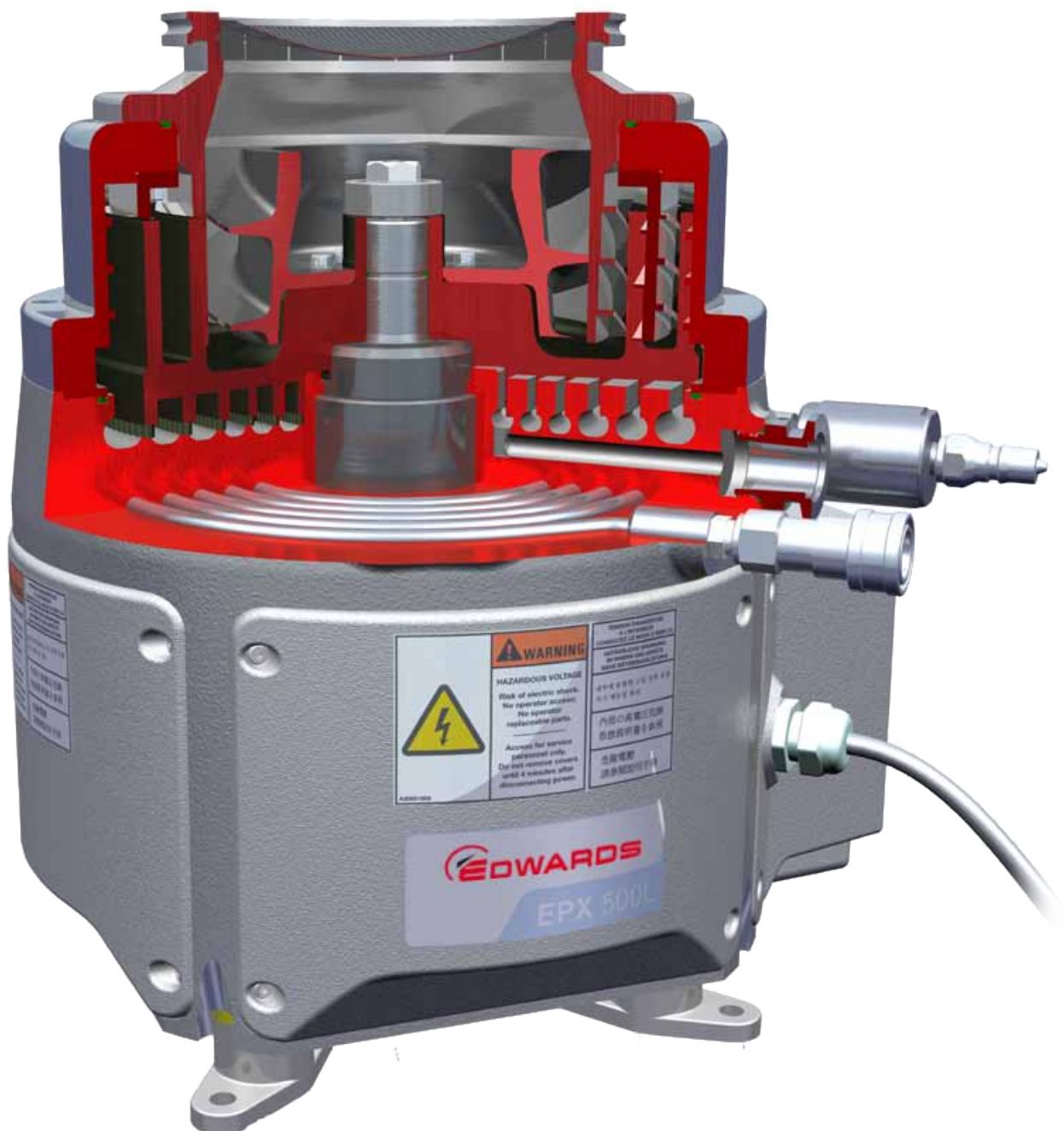
Design features

Unique patented mechanism

Field proven mechanism delivers outstanding performance with low cost of ownership.

Modular design offers minimal footprint and easy installation with networking and local control available using the End User Controller (EUC).

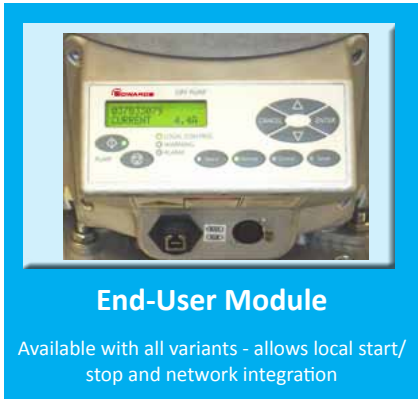
The MicroTIM tool interface allows plug-and-pump functionality with all major semiconductor tools.



Application range

EPX is available in a number of variants to meet the process requirements.

	Load Lock	Transfer	Metrology	Lithography	PVD Process	PVD Pre-Clean	RTA	Strip/Ashing	Silicon Etch	Metal Etch	Implant Source	HDP-CVD	RTP	SACVD	MCVD	PECVD	LPCVD	ALD	
EPX180		L ¹																	
EPX500		L ¹																	
Clean Applications										Harsh Applications									
Non-reactive gases used										Corrosive or reactive gases used									

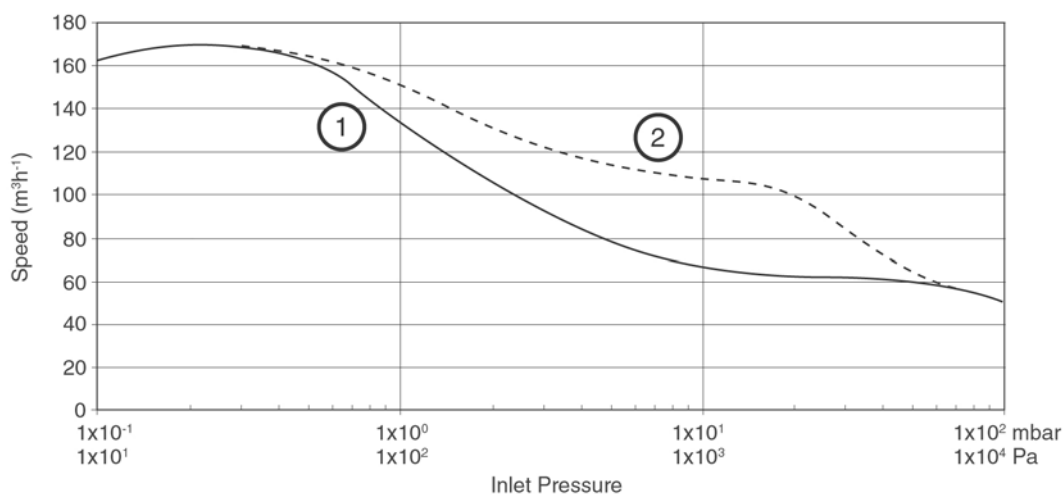


Specification - EPX180/180 Twin

		EPX180L/LE	EPX180N/NE	EPX Twin 180 L	EPX Twin 180 N
Peak speed	m ³ h ⁻¹	175	175	175	175
	cfm	106	106	106	106
	l min ⁻¹	3000	3000	3000	3000
Ultimate vacuum	mbar	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴
	Torr	<7 x 10 ⁻⁵	<7 x 10 ⁻⁵	<7.5 x 10 ⁻⁵	<7.5 x 10 ⁻⁵
	Pa	<1 x 10 ⁻²	<1 x 10 ⁻²	<1 x 10 ⁻²	<1 x 10 ⁻²
Typical nitrogen consumption	slm	0	25	0	25
Inlet/outlet connection		ISO63/NW25	ISO63/NW25	ISO63/NW25*	ISO63/NW25*
Noise	dB(A)	56	56	55	55
Cooling water consumption	l/h	120	120	300	300
Weight	kg	45	47	43.5	45
Power to Ultimate	kW	1.4	1.6	2.3	2.5
(in typical fab install at 700 Torr backing)	kW	1.3	1.5	2.2	2.4

* Two outlet connections are required

Performance curve

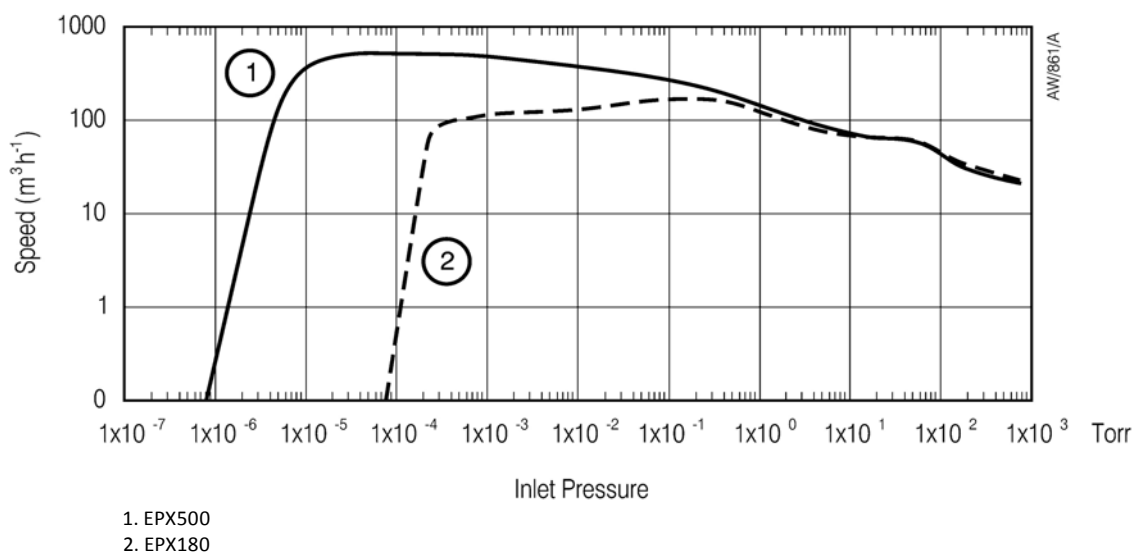


1. EPX180
2. EPX Twin 180

Specification - EPX500

		EPX500L/LE	EPX500N/NE
Peak speed	m^3h^{-1}	500	500
	cfm	295	295
	l min^{-1}	8335	8335
Ultimate vacuum	mbar	$<1 \times 10^{-6}$	$<1 \times 10^{-6}$
	Torr	$<7 \times 10^{-7}$	$<7 \times 10^{-7}$
	Pa	$<1 \times 10^{-4}$	$<1 \times 10^{-4}$
Typical nitrogen consumption	slm	0	25
Inlet/outlet connection		ISO160/NW25	ISO160/NW25
Noise	dB(A)	56	56
Cooling water consumption	l/h	120	120
Weight	kg	45	47
Power to Ultimate	kW	1.6	1.8
(in typical fab install at 700 Torr backing)	kW	1.5	1.7

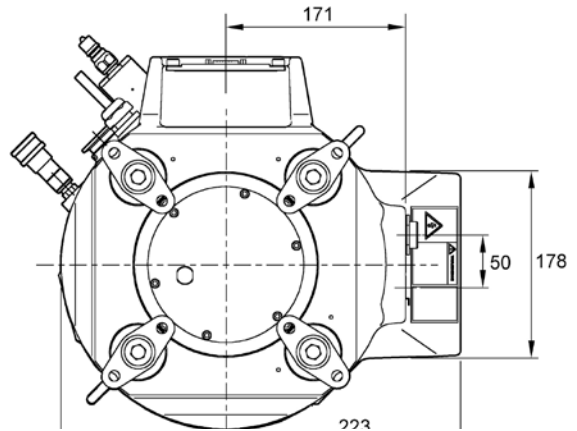
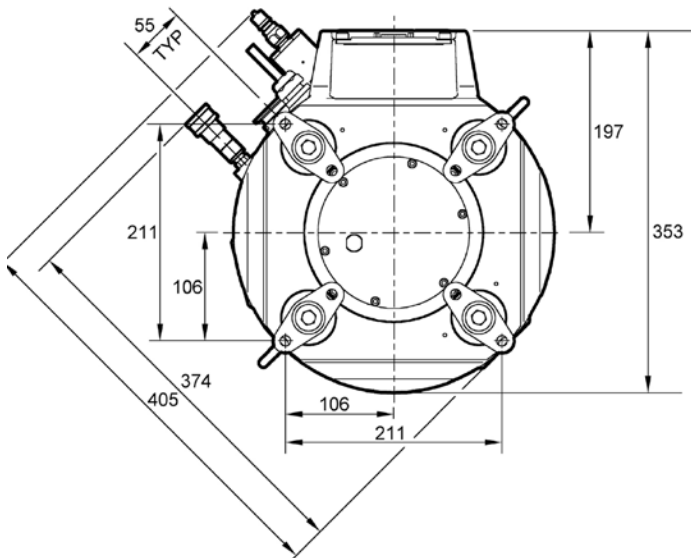
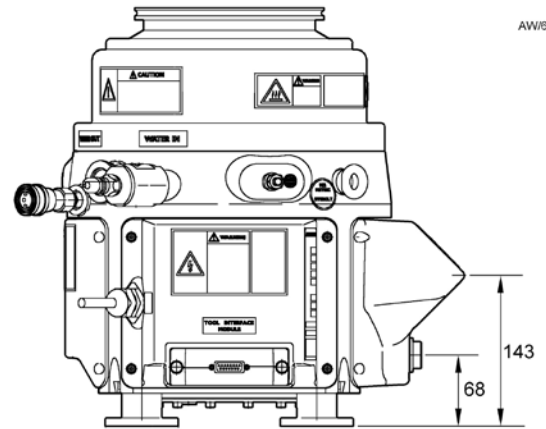
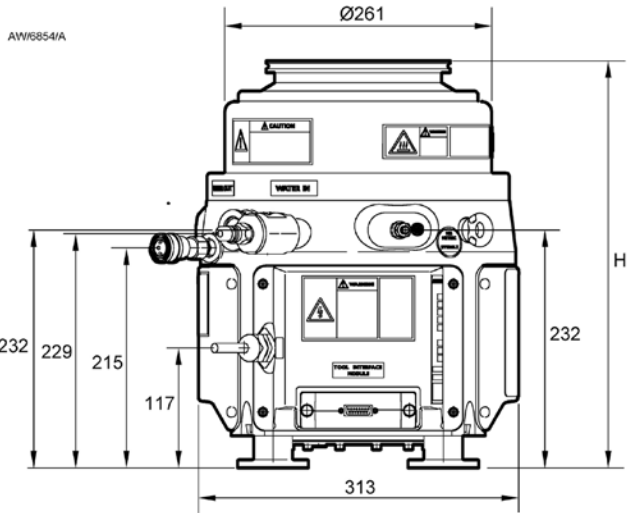
Performance curve



Dimensions

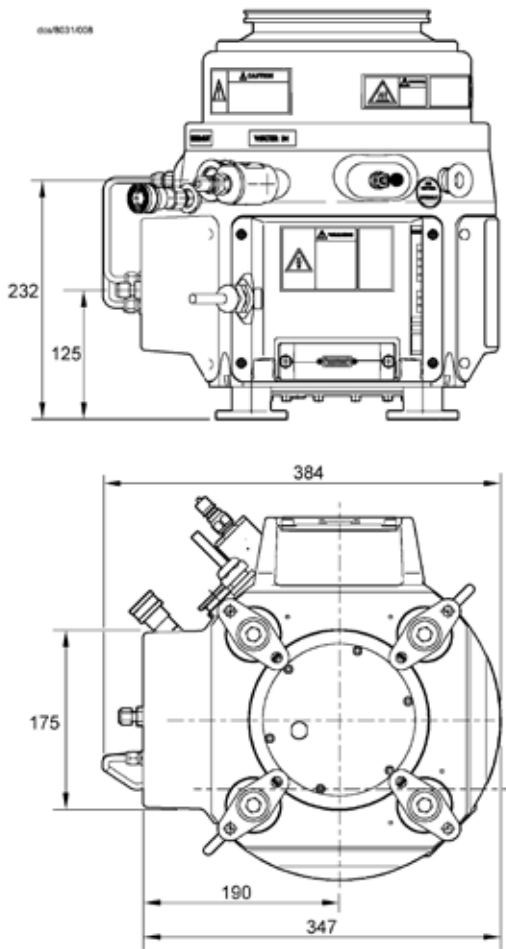
EPX L (EPX500L shown)

EPX LE (EPX500LE shown)

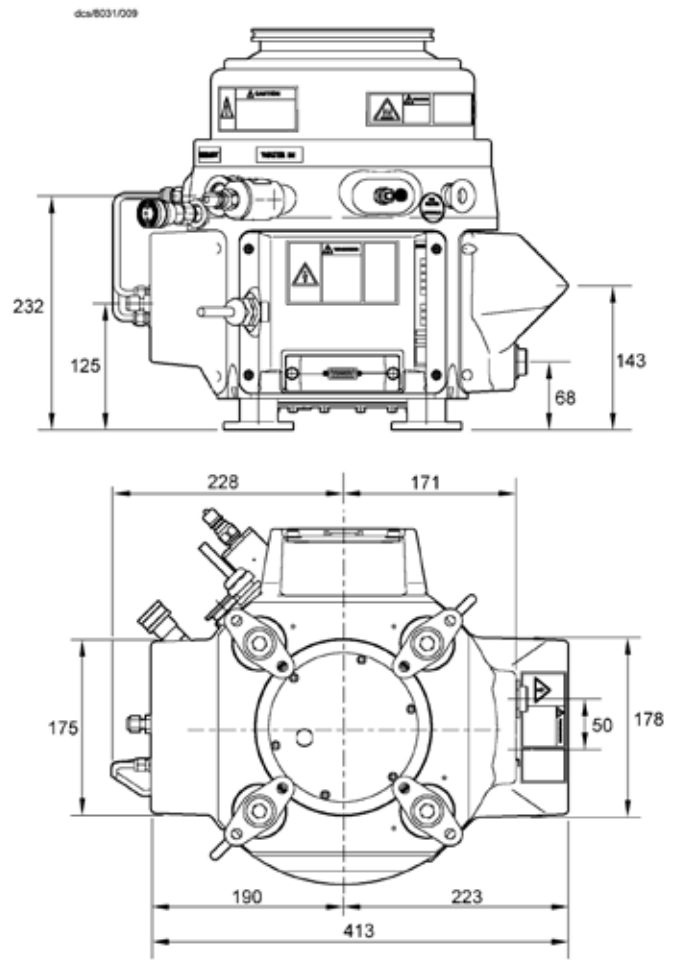


H = 388 (EPX180)
H = 397 (EPX500)

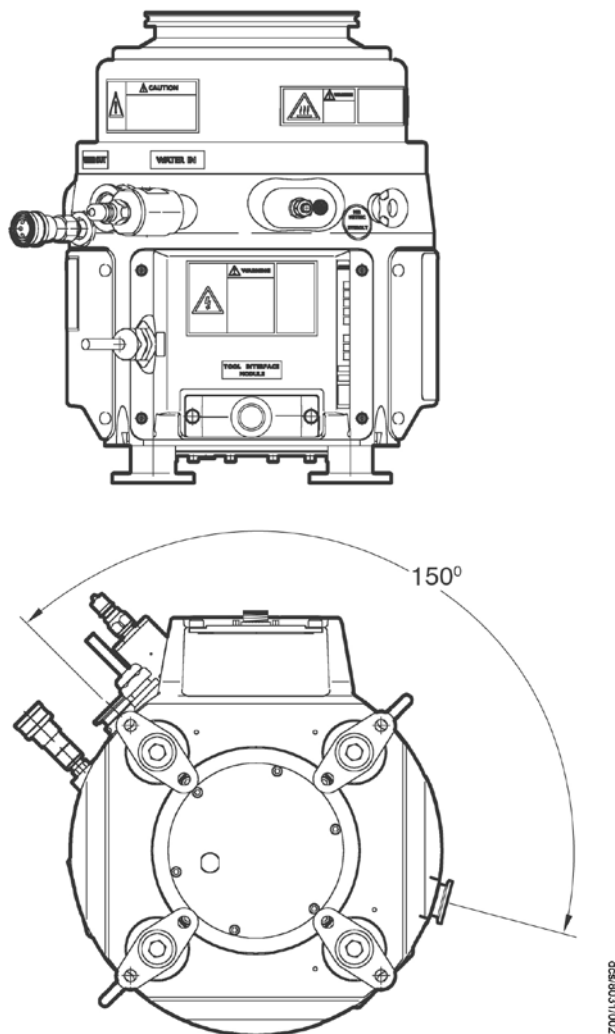
EPX N (EPX500N shown)



EPX NE (EPX500NE shown)



Dimensions - EPX180L Twin



Other dimensions are as EPX180.

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