

# CDX1000 dry vacuum pump

Edwards CDX1000 represents the next generation of dry pump technology. The CDX1000 is a double-ended screw mechanism for the chemical process, pharmaceutical and petrochemical industries.

This innovative technology leverages Edwards latest manufacturing and design philosophies. The CDX1000 is suited to larger processes where repeatability and reliability are key. Technologies and manufacturing techniques have been carefully selected to produce a robust, high performance machine that is simple to operate and maintain.



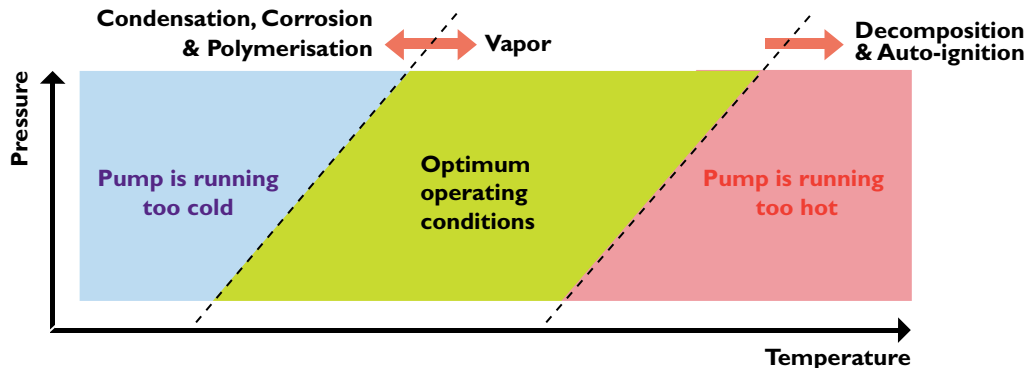
## Features and benefits

- Performance
  - Continuous from atmosphere to ultimate
  - Excellent temperature control
  - Large liquid slug capability
- Environment
  - No effluent generated
  - Dry running mechanism
  - Efficient solvent recovery
  - Low power
- Maintenance
  - On-site seal and bearing change
  - Flushable with water, solvent or steam
  - Low rotational speed
  - Cooled and filtered oil
  - Integral accessory modules
- Simplicity
  - Low parts count
  - Balanced rotor design
  - No compression plate
  - Industry standard motors



## Performance with reliability

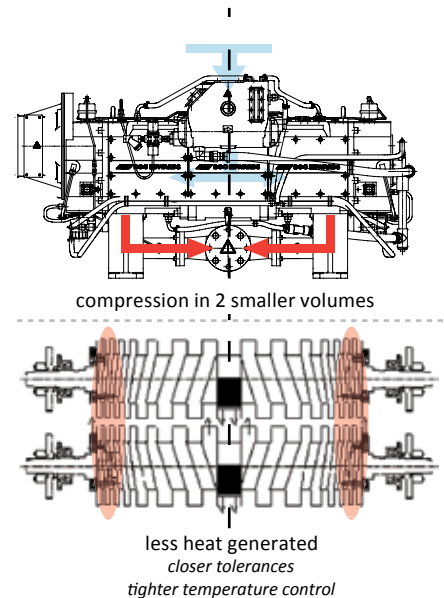
- Outstanding temperature control with Edwards standard indirect cooling
  - Process repeatability
  - Protects pump from thermal shock and corrosion
- Excellent liquid handling
  - No compression plate = no hydraulic lock
  - Self draining mechanism
- Dust and particulate tolerant
  - No expansion volumes
  - No cold seizures
- Extended maintenance period
  - Cooled and filtered oil system
- No complex controls
  - Direct on-line start



## Simple, rugged design

A robust mechanism for reliable, repeatable performance

- Double-ended, variable pitch screw
- Patented stator machining removes the need for a head plate
- No compression plate
- Minimal parts count
- Standard motors
- No coatings
- Low rotational speed



## Systemiation tailored to match your process needs

- Low cost, pre-engineered modules
- Customised systems
- Tailored applications support
  - Avoid problems
  - Solve issues if they arise
- Applicable to a wide range of processes
  - Match performance to process
  - Monitoring and control options
  - Dust, hard particle and liquid carry-over protection

## Maintainability

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The CDX1000 is designed to minimise scheduled down-time from line maintenance to overhaul.

- Minimised process line disturbance
  - Integral flame arrestors can be cleaned and inspected without breaking process lines
  - Silencers are drainable and cleanable
- Standard automotive style oil filters
- Bearing and seal change is possible on-site
- Recovery philosophy minimises pump removal
  - Clearances open up on cooling; no cold seizures
- Rotors do not require costly re-coating
- Rotors are not assembled as matched pairs



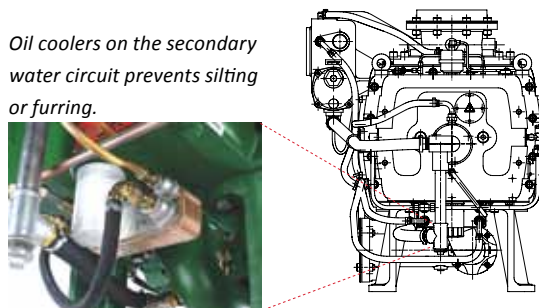
## Cool and clean

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The bearings and rotor stub shafts are fed cooled, filtered oil. Limiting the oil temperature prevents carburisation and degradation.

- Extended bearing and seal life

*Oil coolers on the secondary water circuit prevents silting or furring.*



## Applicable to a wide range of processes and industries

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### Processes

- Distillation
- Drying
- Evaporation/crystallisation
- Solvent/vapour recovery
- Filtration
- Sterilisation
- Central/house vacuum

### Industries

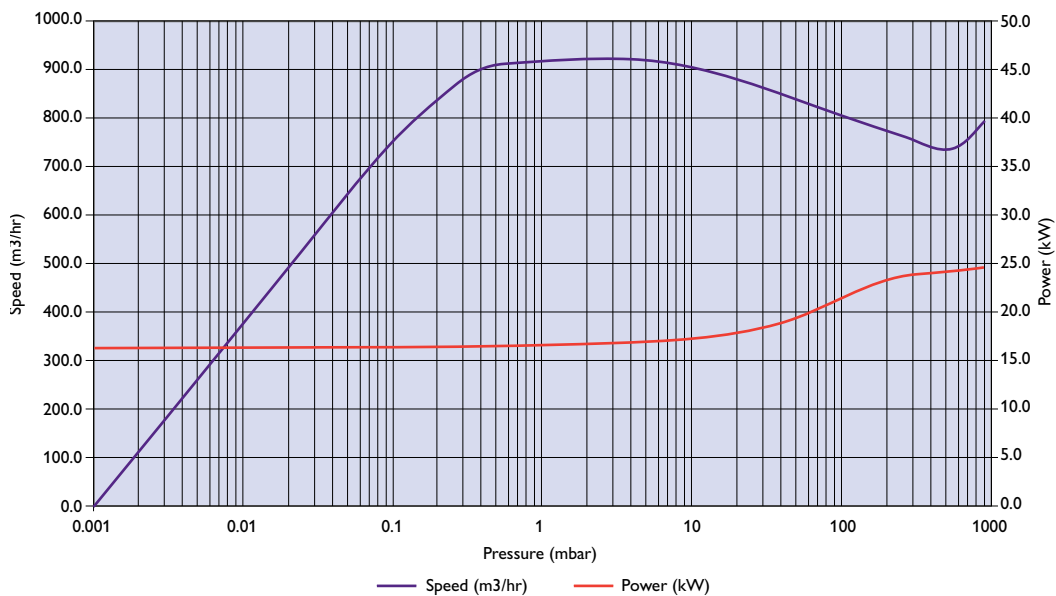
- Plastics
- Fatty acids, alcohols and amines
- Adhesives, paints and coatings
- Medical (Ethylene Oxide)
- Edible oils
- Silicones
- Basic chemicals

## Technical specification

	Units	50 Hz	60 Hz
Maximum pumping speed	m <sup>3</sup> h <sup>-1</sup>	900	
	ft <sup>3</sup> min <sup>-1</sup>	530	
Capacity at 10 mbar (7.5 Torr)	m <sup>3</sup> h <sup>-1</sup>	900	
	ft <sup>3</sup> min <sup>-1</sup>	530	
Ultimate vacuum	mbar	0.005	
	Torr	0.004	
Maximum back pressure - standard (optional*)	mbarA	1150	
	psig	2.0	
Power consumption at 10 mbar (7.5 Torr)	kW	17.1	
	hp	23.2	
Standard motor (380 - 400V, 3 ph, 50 Hz)	kW	30	
Standard motor (200 - 460V, 3 ph, 60 Hz)	hp	40	
Cooling water flow rate, (adjustable)	l min <sup>-1</sup>	10 - 20	
	gal min <sup>-1</sup>	2.64 - 5.28	
Cooling water supply temperature range		5 - 35 °C	41 - 95 °F
Cooling water supply pressure	barg	2 - 10	
	psig	29 - 145	
Seal purge flow (maximum), regulated to 0.3 - 0.5 barg, (5 - 7 psig)	l min <sup>-1</sup>	24	
	ft <sup>3</sup> min <sup>-1</sup>	0.85	
Seal purge supply pressure, (minimum - maximum)	barg	2 - 10	
	psig	29 - 145	
Noise (max. with exhaust silencer)	dB(A)	82	
Weight (with frame and standard motor)	kg	1710	1705
	lbs	3765	3745
Process connection, inlet	ANSI/DIN	6"/DN150	
Process connection, outlet	ANSI/DIN	3"/DN80	
Pumping mechanism		Variable pitched screw	

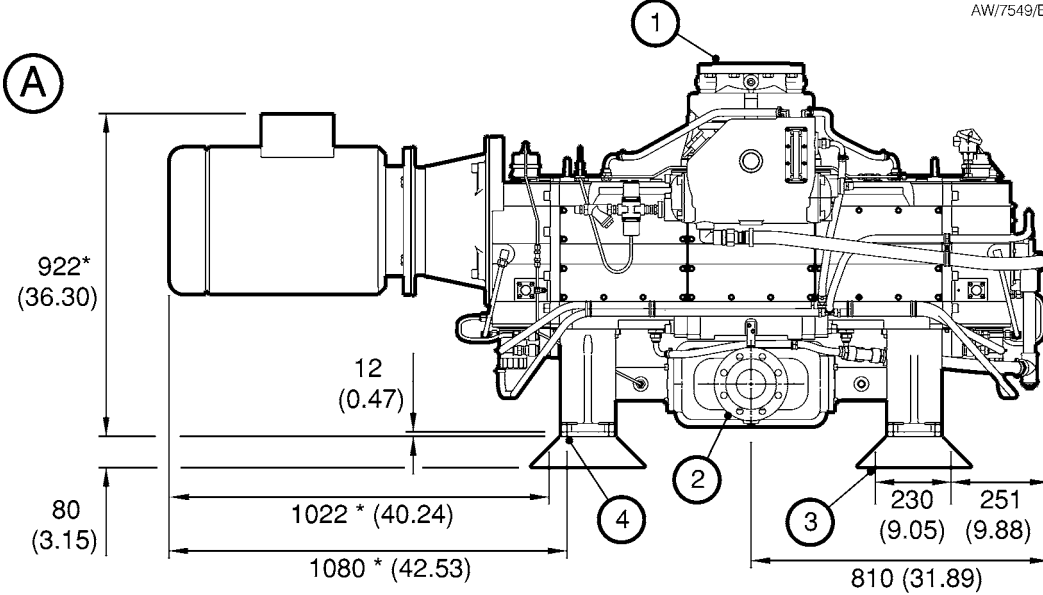
\* Consult Edwards

## Performance curve

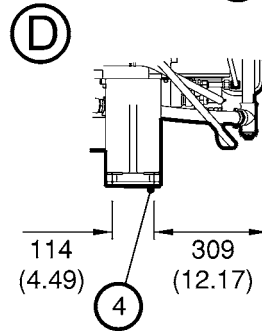
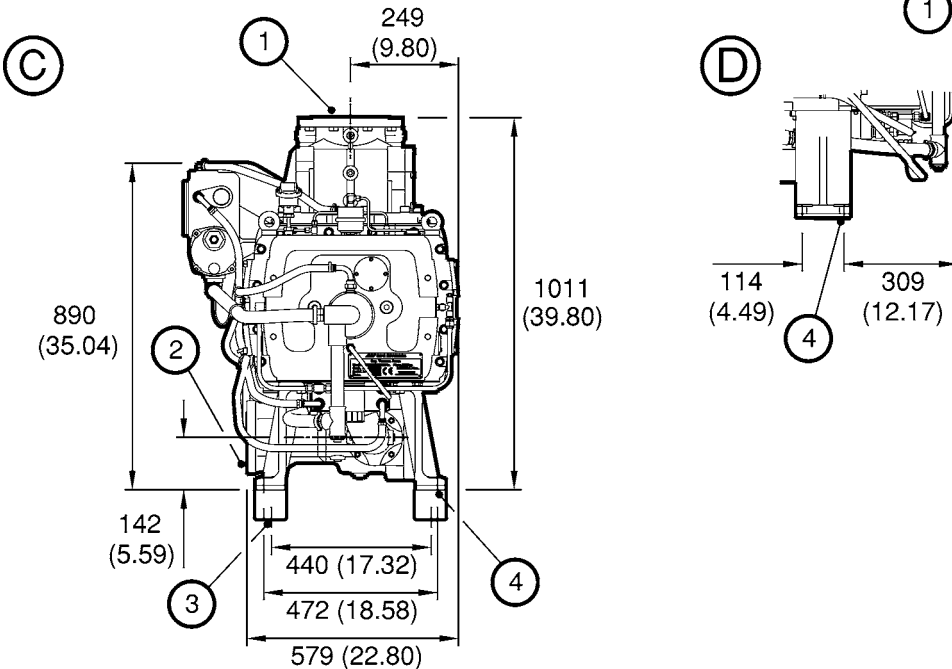
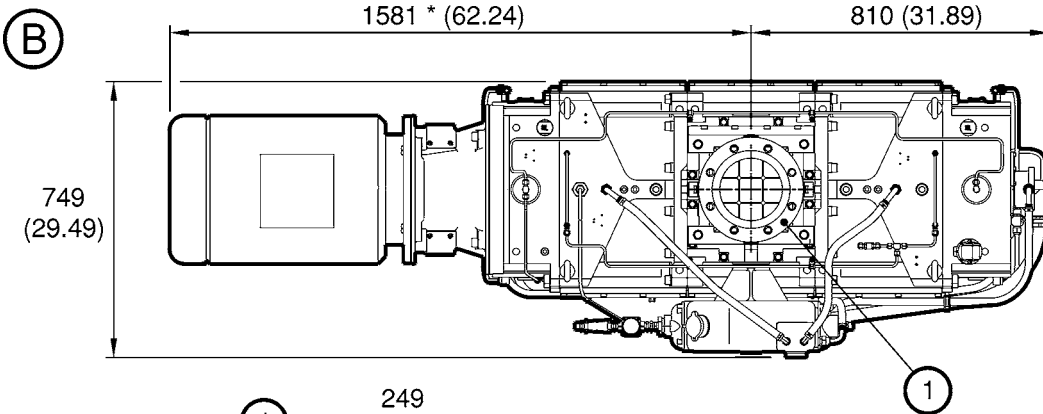


# Dimensions - mm (inch)

AW/7549/B



\* Maximum



Note: This diagram shows a CDX with integral flame arrestors.

- A Side view
- B Plan view
- C End view
- D Front fixing dimensions with mounting feet removed

- 1. Pump inlet
- 2. Pump outlet
- 3. Fixing-holes: Ø18 mm (0.71 inch), 2 holes on each mounting foot
- 4. Fixing-holes: Ø17 mm (0.67 inch), 2 holes on each mounting bracket

## Systemisation

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Because no two installations are identical, Edwards offers a custom systemisation design and build service, exactly matched to customer needs, using pre-engineered modules together with an extensive CAD capability. This also allows subsequent expansion or reconfiguration. A wide range of modules is available, including:

- EH\* and HV mechanical booster pumps
- Condensers
- Receivers
- Knockout pots
- Dust filters
- Solvent purging
- Flame arrestors
- Isolation and throttle control valves
- Instrumentation
- Silencers
- Inverter drives and pressure controls
- Electrical control panels
- Air blast closed-loop cooling
- Documentation
- Base skids

The requirement for these or other accessories is clarified through expert applications engineering.

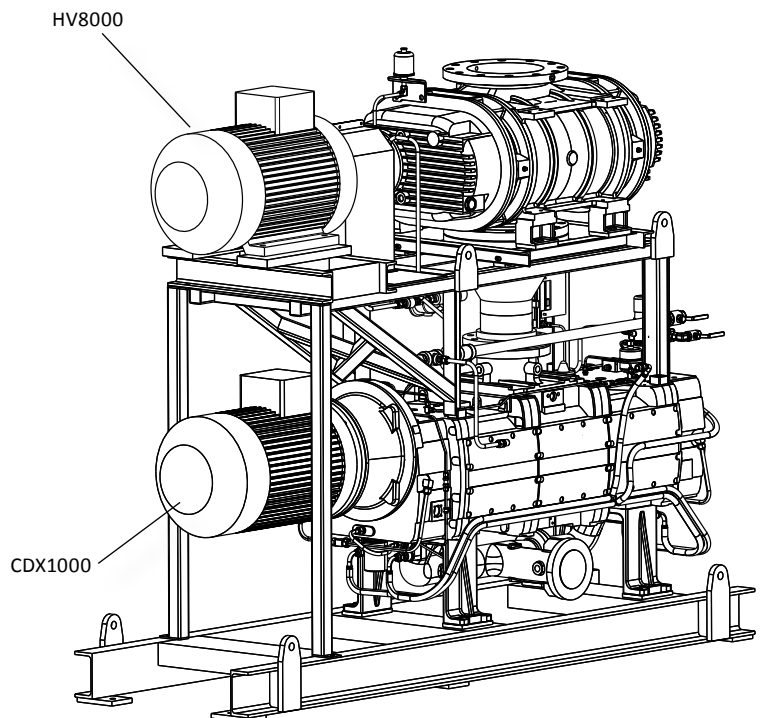
Work can be carried out to a customer's specifications, or to local or industry standard codes and practices. Full documentation is provided, and full certification can be obtained if necessary.

*\* Edwards EH Series boosters feature our unique hydrokinetic drive which provides significant cost and performance advantages over direct drive machines. The hydrokinetic drive removes any need for pressure sensors or bypass lines or inverters, and allows the booster to run from atmospheric pressure to ultimate vacuum, giving faster pumpdown and more flexible operation with less maintenance.*

## Systemisation to match your process

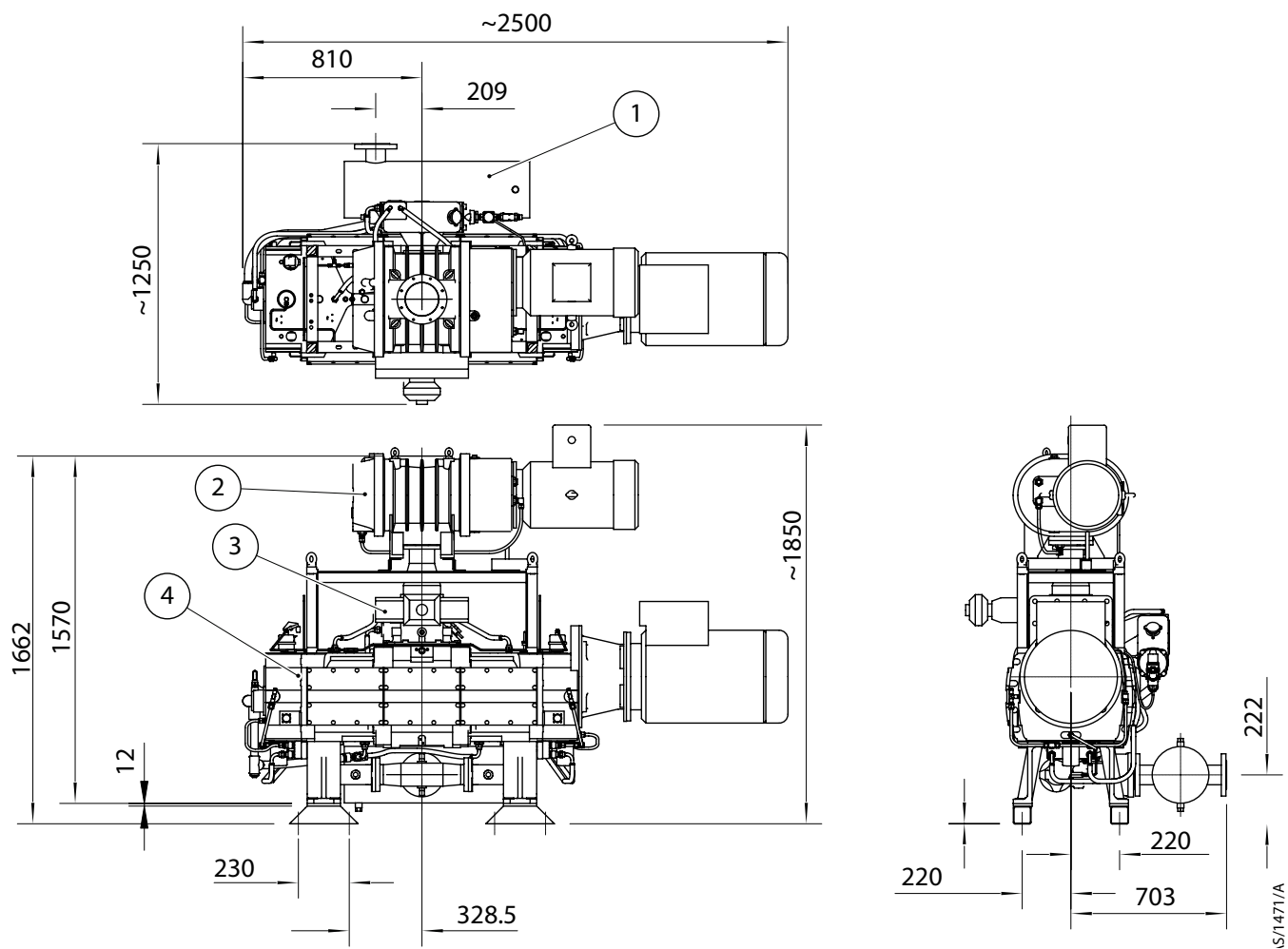
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- Pre-engineered modules
- Customised systems
- Tailored applications support to match performance to process

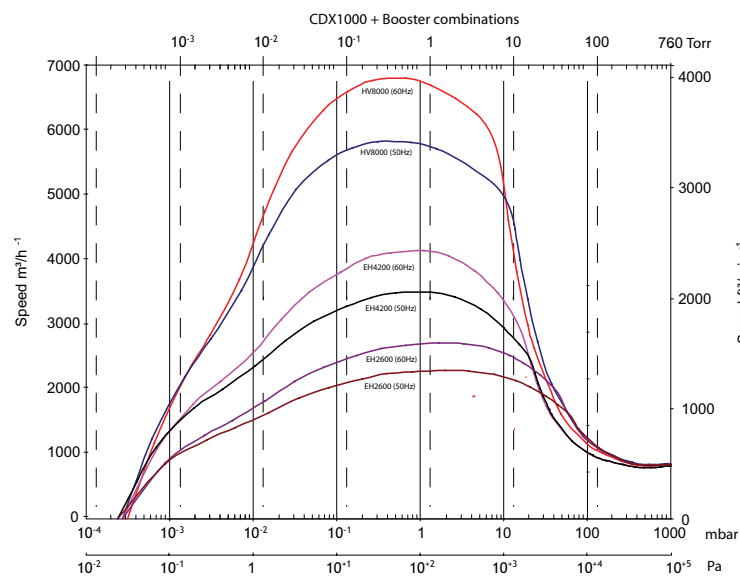


CDX1000 + HV8000 booster combination

## Dimensions - CDX + EH2600 combination

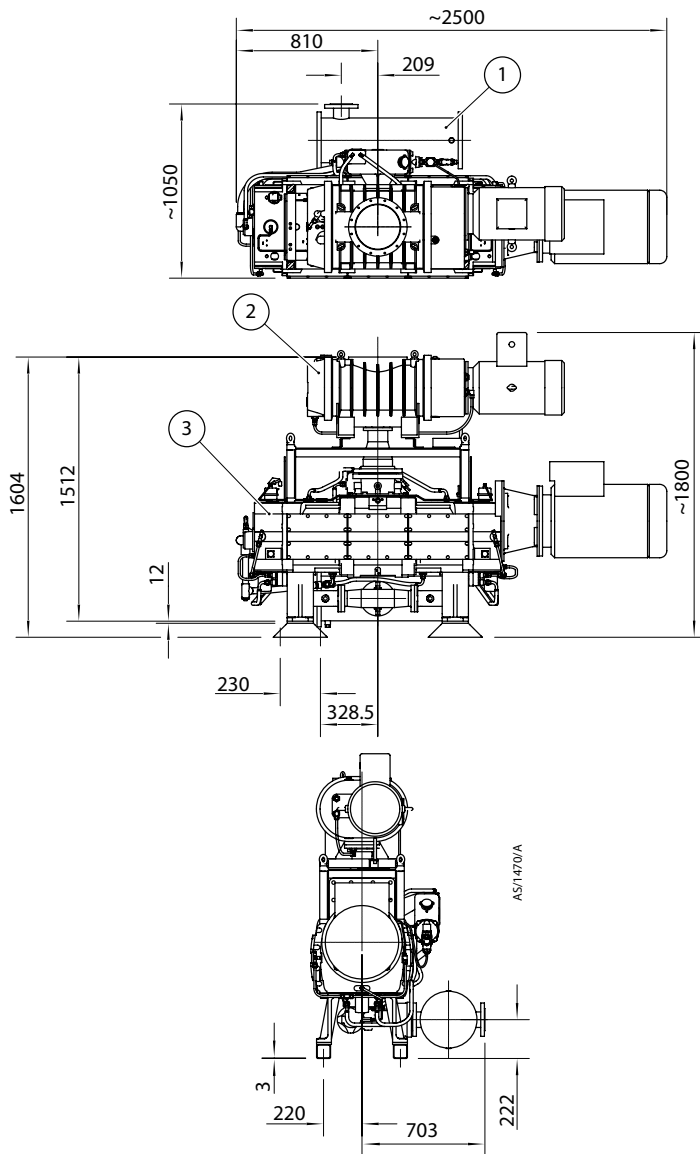


## Performance - CDX + EH/HV combinations

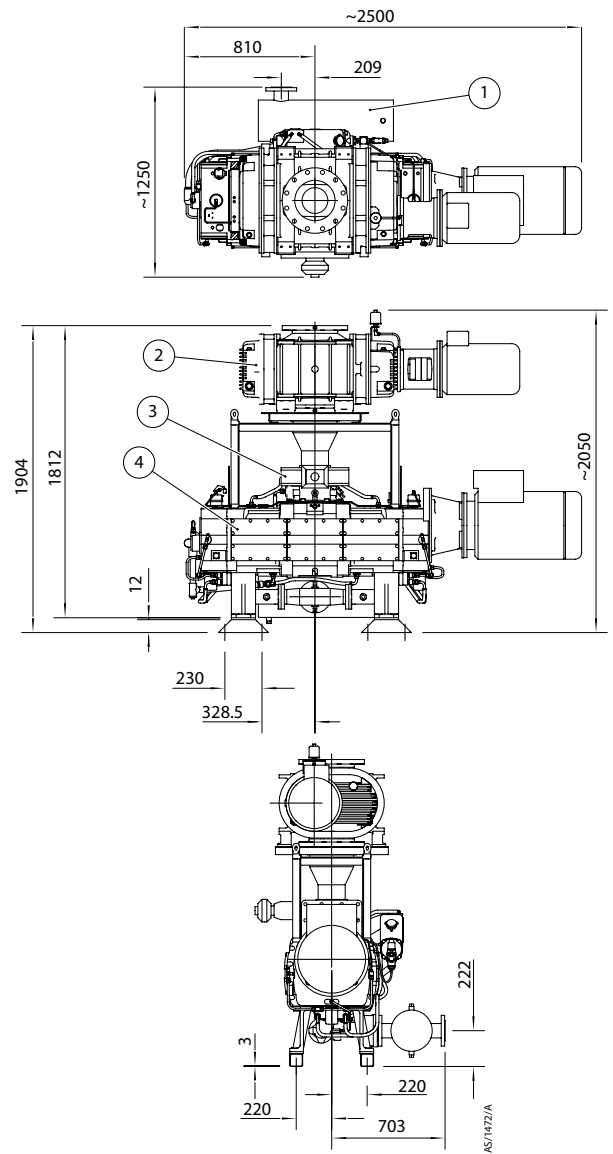


# Standard system dimensions - mm (inch)

## CDX + EH4200 Combination



## CDX + HV8000 Combination



## Global contacts

### EUROPE

UK Crawley +44 1293 528844  
 UK (local rate) 08459 212223  
 Belgium Brussels +32 2 300 0730  
 France Paris +33 1 4121 1256  
 Germany Munich 0800 000 1456  
 Italy Milan +39 02 48 4471

### USA

Niagara (toll free) +1 800 848 9800  
 BRAZIL  
 Sao Paulo +55 11 3952 5000  
 ISRAEL  
 Qiryat-Gat +972 8 681 0633

### ASIA PACIFIC

China (toll free) +86 400 111 9618  
 India, Pune +91 20 4075 2222  
 Japan, Yachiyo +81 47 458 8831  
 Korea, Bundang +82 31 716 7070  
 Singapore +65 6546 8408  
 Taiwan R.O.C. Jhunan Town +886 3758 1000