

XDS5 Scroll Vacuum Pump



The XDS pumps are an innovative design which use a bearing shield to isolate the vacuum environment from all forms of lubricant, not only making it totally dry, but hermetically sealed. The shield also protects the bearing from any process vapours.

Gas ballast allows vapour to be handled and opens up the range of applications to many that were previously unsuited to scroll pumps. The XDS5 pump is designed for pumping condensable vapours and uses materials selected for a wide range of laboratory wet chemistry applications.



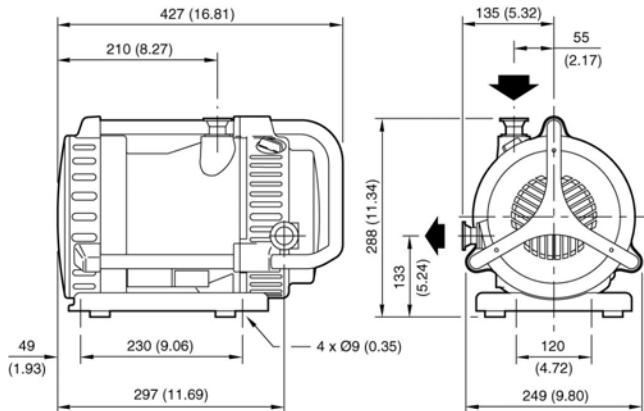
Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, which prevents process attack and means the bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means routine maintenance is done in minutes for low cost of ownership and maximum up-time
- Gas ballast feature to enable pumping of vapours

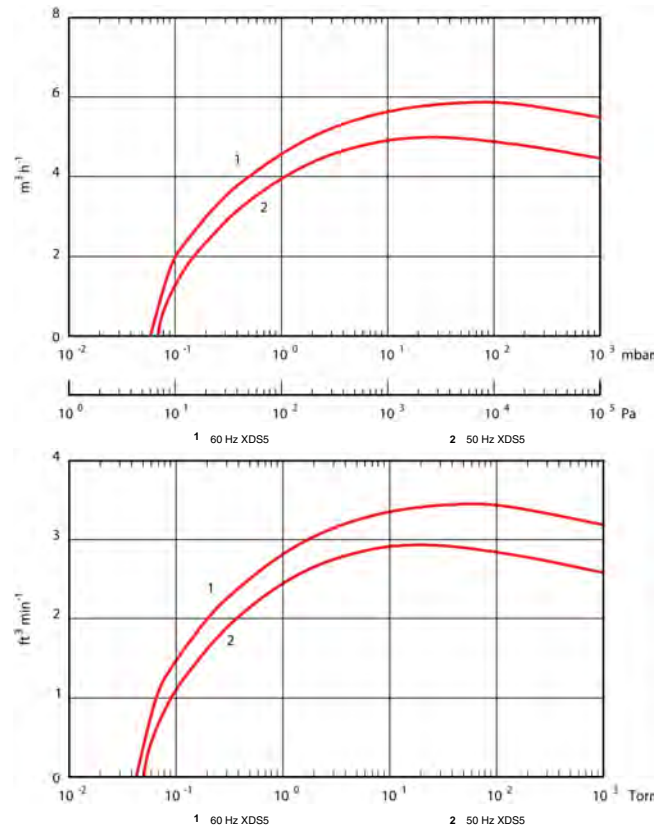
Applications

- General clean pumping applications
- Scanning Electron Microscopes - SEM
- Beam lines and high energy physics
- Backing turbo pumps
- Centrifuges, ultra-high speed

Dimensions



Performance Curves



Technical Data

Displacement	
50Hz	$5.7 \text{ m}^3 \text{ h}^{-1} / 3.4 \text{ ft}^3 \text{ min}^{-1}$
60Hz	$6.7 \text{ m}^3 \text{ h}^{-1} / 4.0 \text{ ft}^3 \text{ min}^{-1}$
Peak pumping speed ¹	
50Hz	$4.8 \text{ m}^3 \text{ h}^{-1} / 2.8 \text{ ft}^3 \text{ min}^{-1}$
60 Hz	$6.0 \text{ m}^3 \text{ h}^{-1} / 3.5 \text{ ft}^3 \text{ min}^{-1}$
Ultimate vacuum (Total pressure)	
50Hz	$7 \times 10^{-2} \text{ mbar} / 5.3 \times 10^{-2} \text{ Torr}$
60 Hz	$6 \times 10^{-2} \text{ mbar} / 4.5 \times 10^{-2} \text{ Torr}$
Max inlet pressure for water vapour	50 mbar / 38 Torr
Max water vapour pumping rate – GB I	70 gh^{-1}
Max water vapour pumping rate – GB II	200 gh^{-1}
Max allowed outlet pressure	0.2 bar gauge / 2.9 psig*
Max allowed inlet and gas ballast pressure	0.5 bar gauge / 7 psig
Motor power 1-ph and 3-ph	0.3kW
Power Connector 1-ph	IEC EN60320 C13
Nominal rotation speed 50/60 Hz	1500 / 1800 rpm
Weight	23 kg / 51 lb
Inlet flange	NW25
Exhaust flange	NW25
Noise level	55 dBA @ 50 Hz
Vibration	$<4.5 \text{ mms}^{-1} \text{ (rms)}$
Leak tightness (static)	$<1 \times 10^{-6} \text{ mbar ls}^{-1}$
Operating temperature range	10 to 40 °C / 50 to 104 °F

¹ Pumping speed measured to PNEUROP 6602.

* 1 bar gauge/14 psig for short period of time only

Ordering Information

Product Description	Order No.
XDS5 1-phase 115/230 V (set to 230 V) for Europe and UK.	A72401903
XDS5 1-phase 100/200 V (set to 200 V) for Japan.	A72401904
XDS5 3-phase 200/380/415/460 V set to high volts	A72401905
XDS5 1-phase 115/230 V (set to 115 V) for North America.	A72401906
Accessories & Spares	Order No.
Gas Ballast Adapter with 0.25mm hole	A50626801
Exhaust silencer XDS5/10	A50597000
Silencer spares kit	A50597800
2m electrical supply cable for 1-ph pumps, UK, Three-pin plug	A50505000
2m electrical supply cable for 1-ph pumps, North European plug	A50506000
2m electrical supply cable for 1-ph pumps, North America/Japan plug	A50507000
2m electrical supply cable for 1-ph pumps, no plug	A50508000
Spares Kit Tip Seal XDS5-5C/10-10C	A72601805

XDS10 Scroll Vacuum Pump



The XDS pumps are an innovative design which use a bearing shield to isolate the vacuum environment from all forms of lubricant, not only making it totally dry, but hermetically sealed. The shield also protects the bearing from any process vapours.

Gas ballast allows vapour to be handled and opens up the range of applications to many that were previously unsuited to scroll pumps. The XDS10 pump is designed as a dry option for general laboratory applications including backing turbo pumps. It is also used with electron microscopes and mass spectrometers.



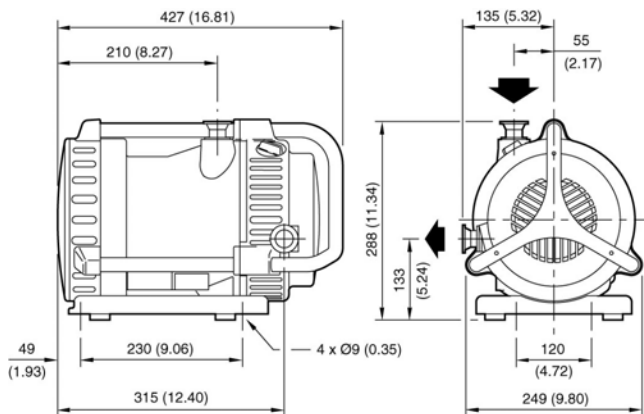
Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, which prevents process attack and means the bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means routine maintenance is done in minutes for low cost of ownership and maximum up-time
- Gas ballast feature to enable pumping of vapours

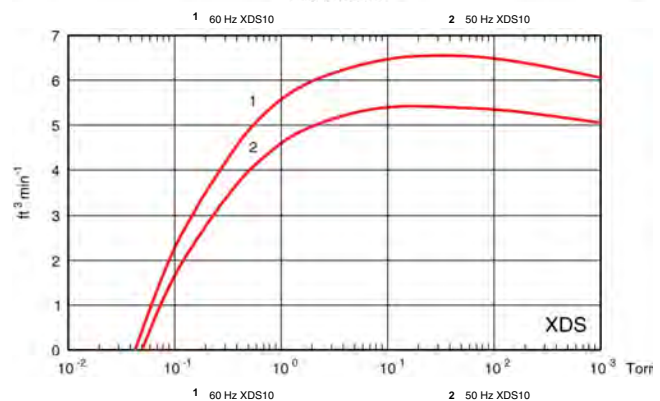
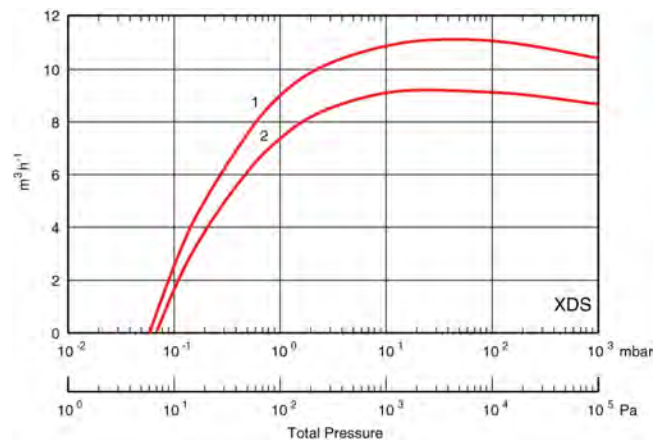
Applications

- General clean pumping applications
- Sputtering
- Beam lines and high energy physics
- Backing turbo pumps
- Load locks, fume hoods and glove boxes

Dimensions



Performance Curves



Technical Data

Displacement	
50Hz	11.3 m ³ h ⁻¹ / 6.7 ft ³ min ⁻¹
60Hz	13.4 m ³ h ⁻¹ / 7.9 ft ³ min ⁻¹
Peak pumping speed ¹	
50Hz	9.3 m ³ h ⁻¹ / 5.5 ft ³ min ⁻¹
60 Hz	11.1 m ³ h ⁻¹ / 6.5 ft ³ min ⁻¹
Ultimate vacuum (Total pressure)	
50Hz	7 x 10 ⁻² mbar / 5.3 x 10 ⁻² Torr
60 Hz	6 x 10 ⁻² mbar / 4.5 x 10 ⁻² Torr
Max inlet pressure for water vapour	35 mbar / 23 Torr
Max water vapour pumping rate – GB I	70 gh ⁻¹
Max water vapour pumping rate – GB II	200 gh ⁻¹
Max allowed outlet pressure	0.2 bar gauge / 2.9 psig*
Max allowed inlet and gas ballast pressure	0.5 bar gauge / 7 psig
Motor power 1-ph and 3-ph	0.3kW
Power connector 1-ph	IEC EN60320 C13
Nominal rotation speed 50/60 Hz	1500 / 1800 rpm
Weight	24.5 kg / 54 lb
Inlet flange	NW25
Exhaust flange	NW25
Noise level	55 dBA @ 50 Hz
Vibration	<4.5 mms ⁻¹ (rms)
Leak tightness (static)	<1 x 10 ⁻⁶ mbar ls ⁻¹
Operating temperature range	10 to 40 °C / 50 to 104 °F

¹ Pumping speed measured to PNEUROP 6602.

* 1 bar gauge/14 psig for short period of time only

Ordering Information

Product Description	Order No.
XDS10 1-phase 115/230 V (set to 230 V) for Europe and UK.	A72601903
XDS10 1-phase 100/200 V (set to 200 V) for Japan.	A72601904
XDS10 3-phase 200/380/415/460 V set to high volts	A72601905
XDS10 1-phase 115/230 V (set to 115 V) for North America.	A72601906
Accessories & Spares	Order No.
Gas Ballast Adapter with 0.25mm hole	A50626801
Exhaust silencer XDS5/10	A50597000
Silencer spares kit	A50597800
2m electrical supply cable for 1-ph pumps, UK, Three-pin plug	A50505000
2m electrical supply cable for 1-ph pumps, North European plug	A50506000
2m electrical supply cable for 1-ph pumps, North America/Japan plug	A50507000
2m electrical supply cable for 1-ph pumps, no plug	A50508000
Spares Kit Tip Seal XDS5-5C/10-10C	A72601805

XDS35i Scroll Vacuum Pump



The XDS35i pump has the same innovative bearing shield design as the XDS5 and XDS10. This isolates the vacuum environment from all forms of lubricant, not only making it totally dry but hermetically sealed. The shield also protects the bearing from any process vapours. Gas ballast allows vapour to be handled and opens up the range of applications to many that were previously unsuited to scroll pumps. The inverter drive controls the motor characteristics and ensures the pump always runs at optimum speed.



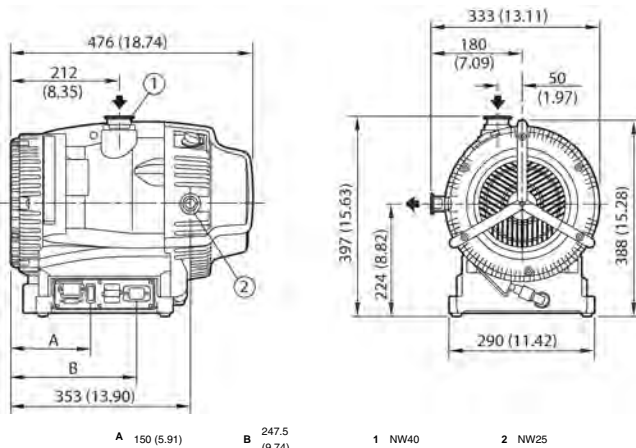
Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, this prevents process attack and means bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means maintenance is done in minutes for low cost of ownership and maximum up-time
- Inverter drive for consistent pumping speed at 50/60Hz

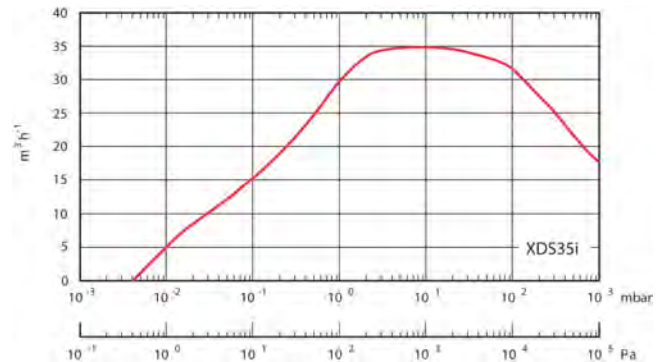
Applications

- Clean pumping applications
- Automotive
- Beam lines and high energy physics
- Centrifuges, ultra high speed
- Coating

Dimensions



Performance Curves



Technical Data

Displacement 50 or 60Hz	43 m ³ h ⁻¹ / 25 ft ³ min ⁻¹
Peak pumping speed 50 or 60Hz	35 m ³ h ⁻¹ / 21 ft ³ min ⁻¹
Ultimate vacuum (Total pressure)	1 x 10 ⁻² mbar / 8 x 10 ⁻³ Torr
Max inlet pressure for water vapour	35 mbar / 23 Torr
Max water vapour pumping rate – GB I	70 gh ⁻¹
Max water vapour pumping rate – GB II	240 gh ⁻¹
Max allowed outlet pressure	0.2 bar gauge / 2.9 psig*
Max allowed inlet and GB pressure	0.5 bar gauge / 7 psig
Motor power	0.52kW
Power connector	IEC EN60320 C19
Nominal rotation speed	1750 rpm
Weight	48 kg / 105 lb
Inlet flange	NW40
Exhaust flange	NW25
Noise level	57 dB (A)
Vibration	<4.5mms ⁻¹ (rms)
Leak tightness (static)	<1 x 10 ⁻⁶ mbar ls ⁻¹
Operating temperature range	10 to 40 °C / 50 to 104 °F

* 1 bar gauge / 14 psig for short period of time only.

Ordering Information

Product Description	Order No.
XDS35i 100-120/200-230V, 1-ph, 50/60Hz with an IEC60320 connector, factory set to 230V	A73001983
Accessories & Spares	Order No.
Gas Ballast Adapter with 0.25mm hole	A50626801
Exhaust silencer XDS35i	A50597001
Silencer spares kit	A50597801
2m Electrical supply cable, UK, three-pin plug	A50505003
2m Electrical supply cable, North European plug	A50506003
2m Electrical supply cable, North America/Japan plug	A50507003
2m Electrical supply cable, no plug	A50508003
Tip seal kit XDS35i	A73001801

XDS46i Scroll Vacuum Pump

The XDS46i pump is a development on the XDS35i and thus shares many of the same features and benefits but with a peak speed boosted to 40m³/hr. The XDS46i is optimised for maximum pumping speed at inlet pressures between 1 mbar and 10 mbar making it ideally suited for LCMS and ICPMS applications requiring a higher pumping speed than that offered by the XDS35i. Recent improvements in tip seal technology have led to reduced tip seal wear therefore giving a longer time between service interventions. The inverter drive controls the motor characteristics and ensures the pump always runs at optimum speed and allows the user to control the pump remotely.



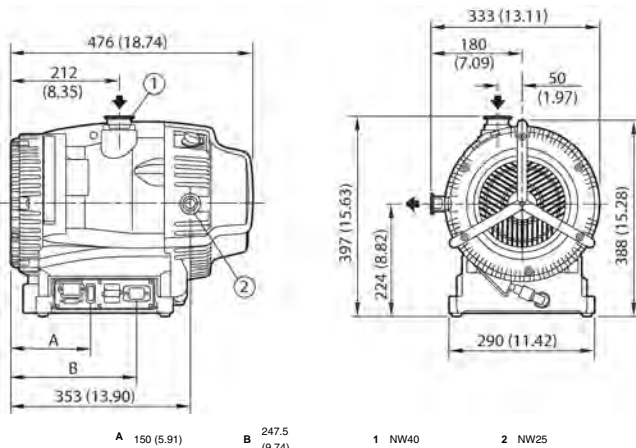
Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, this prevents process attack and means bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means maintenance is done in minutes for low cost of ownership and maximum up-time
- Inverter drive for consistent pumping speed at 50/60Hz

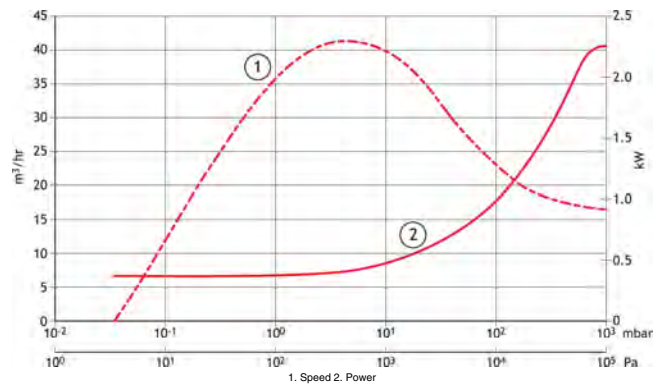
Applications

- LCMS inlet
- ICPMS inlet
- Coating

Dimensions



Performance Curves



Technical Data

Displacement 50 or 60Hz	60 m ³ h ⁻¹ / 35 ft ³ min ⁻¹
Peak pumping speed 50 or 60Hz	40 m ³ h ⁻¹ / 23.5 ft ³ min ⁻¹
Ultimate vacuum (Total pressure)	5 x 10 ⁻² mbar / 3.75 x 10 ⁻² Torr
Max continuous inlet pressure	40 mbar / 30 Torr
Max continuous outlet pressure	0.2 bar gauge / 2.9 psig
Max allowed inlet and GB pressure	0.5 bar gauge / 7 psig
Motor power	0.52kW
Power connector	IEC EN60320 C19
Nominal rotation speed	1750 rpm
Weight	48 kg / 105 lb
Inlet flange	NW40
Exhaust flange	NW25
Noise level	55.4 dB (A)
Vibration	<4.5mms ⁻¹ (rms)
Leak tightness (static)	<1 x 10 ⁻⁶ mbar ls ⁻¹
Operating temperature range	10 to 40 °C / 50 to 104 °F

Ordering Information

Product Description	Order No.
XDS46i 100-120/200-230V, 1-ph, 50/60Hz with an IEC60320 connector, factory set to 230V	A73101983
Accessories & Spares	Order No.
Gas Ballast Adapter with 0.25mm hole	A50626801
Exhaust silencer XDS35i	A50597001
Silencer spares kit	A50597801
2m Electrical supply cable, UK, three-pin plug	A50505003
2m Electrical supply cable, North European plug	A50506003
2m Electrical supply cable, North America/Japan plug	A50507003
2m Electrical supply cable, no plug	A50508003
Tip seal kit XDS46i	A73101801

XDS100B Scroll Booster Vacuum Pump

The XDS100B is a scroll booster, with a pumping mechanism designed specifically for high pumping speed. Like all booster pumps, it needs to be used in conjunction with a primary pump and is ideally matched with Edwards XDS35i or XDS46i scroll pumps. The XDS100B is optimised for maximum pumping speed at inlet pressures between 1 mbar and 10 mbar making it ideally suited for ultra high throughput LCMS applications. The advanced pump design has resulted in virtually no tip seal wear thus reducing service intervention and maximising uptime.

The inverter drive allows the pump to be connected to a single phase supply and controls the motor characteristics and ensures the pump always runs at optimum speed and allows the user to control the pump remotely.



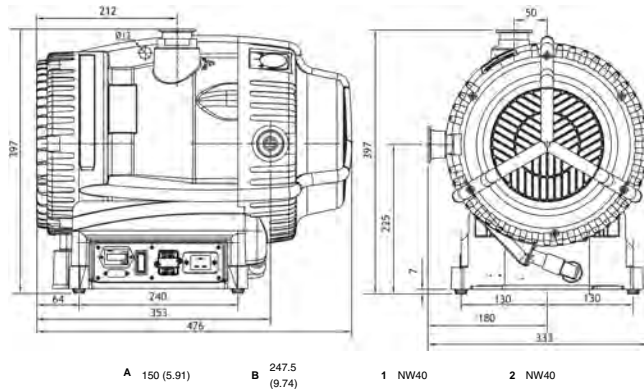
Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, this prevents process attack and means bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means maintenance is done in minutes for low cost of ownership and maximum up-time
- Inverter drive for consistent pumping speed at 50/60Hz

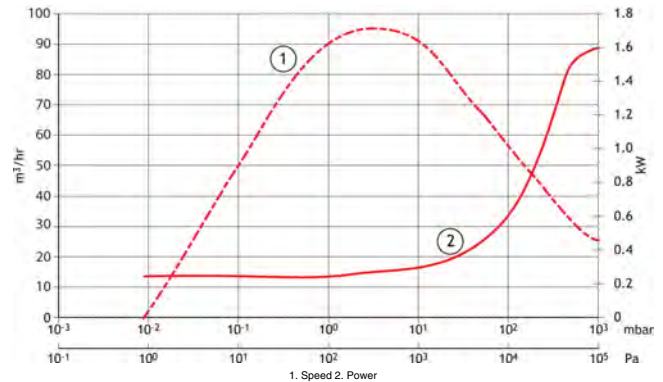
Applications

- High throughput – LCMS

Dimensions



Performance Curves



Technical Data

Pumping speed 50 or 60Hz	95 m ³ h ⁻¹ / 56 ft ³ min ⁻¹
Ultimate vacuum (Total pressure)*	<1 x 10 ⁻² mbar / <8 x 10 ⁻³ Torr
Max continuous inlet pressure	20 mbar / 15 Torr
Max continuous outlet pressure	60 mbar / 45 Torr
Max permitted inlet pressure for short duration	0.5 bar gauge / 7 psig
Max chamber volume to pump down from atmosphere	100 litres
Max chamber volume for cyclic duty – max 6 per hour	50 litres
Motor power	0.52kW
Nominal rotation speed	1750 rpm
Weight	48 kg / 105 lb
Inlet flange	NW40
Exhaust flange	NW40
Noise level	52.1 dB (A)
Vibration	<4.5mms ⁻¹ (rms)
Leak tightness (static)	<1 x 10 ⁻⁶ mbar ls ⁻¹
Operating temperature range	10 to 40 °C / 50 to 104 °F

* Ultimate pressure is backing pump dependant

Ordering Information

Product Description	Order No.
XDS100B 1-ph, 100-120/200-230V Set to 230V	A73201983
Accessories & Spares	Order No.
2m Electrical supply cable, UK, three-pin plug	A50505003
2m Electrical supply cable, North European plug	A50506003
2m Electrical supply cable, North America/Japan plug	A50507003
2m Electrical supply cable, no plug	A50508003
Tip seal kit XDS100B	A73201801

XDS-NGB Scroll Vacuum Pumps

XDS-NGB pumps are standard XDS pumps but with the gas ballast feature removed. They are for applications where it is advantageous to have the control knob and machining removed so that it cannot be accidentally opened. Example applications include rare gas recirculation and gas recovery.

Note: Mains leads must be ordered separately, please see the catalogue entry for the relevant standard XDS pump for the correct mains lead.



Features & Benefits

- Lubricant-free within the vacuum envelope and hermetically sealed means totally clean and dry vacuum to prevent cross contamination
- No atmosphere to vacuum shaft seals means bearings are completely isolated, which prevents process attack and means the bearings run cooler and last longer
- No oil changes required eliminating costs of contaminated oil disposal
- Simple single sided scroll design means routine maintenance is done in minutes for low cost of ownership and maximum up-time
- No gas ballast to eliminate accidental opening and resultant ingress of air

Technical Data

Technical Data and Dimensions are as per the standard XDS pumps but ignoring the water vapour handling capability and gas ballast facility.

Applications

- Rare gas recirculation
- Gas recovery

Ordering Information

Product Description	Order No.
XDS5-NGB 1-ph 115/230V set to 230V for Europe and UK	A72405903
XDS5-NGB 1-ph 100/200V set to 200V for Japan	A72405904
XDS5-NGB 3-ph 200/380/415/460V set to high volts	A72405905
XDS5-NGB 1-ph 115/230V set to 115V for North America	A72405906
XDS10-NGB 1-ph 115/230V set to 230V for Europe and UK	A72605903
XDS10-NGB 1-ph 100/200V set to 200V for Japan	A72605904
XDS10-NGB 3-ph 200/380/415/460V set to high volts	A72605905
XDS10-NGB 1-ph 115/230V set to 115V for North America	A72605906
XDS35i-NGB 1-ph 100-120/200-230V set to 230V	A73005983
Accessories & Spares	Order No.
NW25 inlet/exhaust filter with 5µm element	NRD380000
NW40 inlet filter with 5µm element	NRD383000
NW40 low profile inlet filter with 5µm element	NRD386000
Replacement 1µm element for NW25 filter	NRD382000
Replacement 1µm element for NW40 filter	NRD385000
Replacement 1µm element for NW40 low profile filter	NRD388000
Replacement 5µm element for NW25 filter	NRD381000
Replacement 5µm element for NW40 filter	NRD384000
Replacement 5µm element for NW40 low profile filter	NRD387000
Spares Kit Tip Seal XDS5-5C/10-10C	A72601805
Tip seal kit XDS35i	A73001801