

Anaesthetic Gas Scavenging System

Duplex • 24V a.c. controls • 50/60Hz

Anaesthetic Gas Scavenging (AGS) Plants are intended to provide a continuous low level vacuum supply to pipeline systems in healthcare facilities for the removal of waste anaesthetic gases captured from patient breathing circuits via AGS receivers. The plant shall be a duplex configuration such that the vacuum supply is maintained in single fault condition. The stated volumetric flow rate shall be delivered with one blower on standby.

AGS Plants shall comply with BS EN ISO 7396-2 and United Kingdom Department of Health (DoH) publications HTM 02-01, HTM 2022 and NHS Model Engineering Specification C11.

The entire AGS Plant shall be skid mounted, fully assembled and factory tested as a complete system. A test certificate shall be provided showing the results of all tests, which shall include the free-air flow rate obtained with the system delivering a working pressure of -125 mbar gauge. Type testing or testing in component form is not acceptable.

Pneumatech Anaesthetic Gas Scavenging Plant is CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. 2460 (DNV GL Presafe AS). Under this directive, Anaesthetic Gas Scavenging Plant is classified as Class IIa Medical Devices.

Regenerative Blowers

One sized regenerative blower shall be provided. The blower shall be oil-less, air cooled side channel regenerative type, suitable for both continuous operation and frequent start/stop. The motor shall be directly coupled to a fully enclosed impeller with contact free operation. All bearings shall be sealed and greased for life, requiring no further lubrication in service.

The motor shall also be afforded protection by means of a thermal overload relay with a manually reset function.

Plant Control Unit

The plant control unit shall incorporate a transformer to provide a nominal 24 V a.c. electrical supply to all internal controls and remote start switches and an interlock isolator shall be integrated into control panel door.

The vacuum level at the plant inlet shall be displayed on 63mm nominal diameter pressure gauge mounted on the plant control unit. The pressure gauge shall have a scale range of 0 to -400mbar gauge pressure and have an accuracy of $\pm 2\%$ or better across the middle half of the scale range.

At the pump outlet, the exhaust pipe shall be provided with a polymer coated autoclavable Pyrex drain flask at the lowest point.



Vacuum Regulation

The pipeline vacuum level shall be regulated by a vacuum relief valve fitted to close to the interface with the pipeline system. The valve shall incorporate a wire mesh filter to prevent ingress of large particulates, thereby protecting the impeller and housing.

Remote Start Switches

Remote start switches shall be connected in parallel such that the plant can be operated from any switch and the plant will continuously operate until all switches are turned off.

Building Management System Contacts

Means shall be provided to enable plant status indications to be relayed to a building management system (BMS) via an optional BMS relay module (supplied separately on request) with both normally open and normally closed volt-free contacts.

Simplex Anaesthetic Gas Scavenging Plant Specifications

230V 1-phase 50 Hz and 220V 1-phase 60 Hz Dual Frequency Motors – Oil-Less Side Channel Blowers

Model Name	AGS260/390S	AGS570/650S
Part Number	3265103-24V	3265107-24V
Free Air Aspired (l/min) ⁽¹⁾ 400V 50Hz /380V 60Hz	260 / 390	570 / 650
Nominal Motor Power per Blower (kW)	0.37	0.75
Starting Method	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	2.1	3.1
Motor Rated Supply per Blower (A)	6	10
Configuration	Simplex	Simplex
Stages per Blower	2	2
Nominal Pipe size	1.5"	1.5"
Service Connection (mm OD Cu Tube)	42 mm	42mm
Sound Pressure Level/Blower dB(A) ⁽³⁾	62	60
Cooling Air Flow per Blower (mm /s)	0.04	0.09
No. AGSS Outlets Served (HTM 2022/BS 6834:1987)	2/3	4/5
Length x Width x Height (m) ⁽⁴⁾	380x300x700	430x350x750
Plant Weight (kg)	21	27

Simplex Anaesthetic Gas Scavenging Plant Specifications

400V 3-phase 50 Hz and 380V 3-phase 60 Hz Dual Frequency Motors – Oil-Less Side Channel Blowers

Model Name	AGS260/390S	AGS570/650S	AGS1040/1300S	AGS1430/2080S
Part Number	3265104-24V	3265108-24V	3265112-24V	3265113-24V
Free Air Aspired (l/min) ⁽¹⁾ 400V 50Hz /380V 60Hz	260 / 390	570 / 650	1040 / 1300	1430 / 2080
Nominal Motor Power per Blower (kW)	0.37	0.75	1.1	1.5
Starting Method	DOL	DOL	DOL	DOL
Full Load Current per Compressor (A) ⁽²⁾	2.1	3.1	5.2	5.8
Motor Rated Supply per Blower (A)	6	10	16	16
Configuration	Simplex	Simplex	Simplex	Simplex
Stages per Blower	2	2	2	1
Nominal Pipe size	1.5"	1.5"	1.5"	1.5"
Service Connection (mm OD Cu Tube)	42 mm	42mm	42mm	42mm
Sound Pressure Level/Blower dB(A) ⁽³⁾	62	60	64	62
Cooling Air Flow per Blower (mm /s)	0.04	0.09	0.13	0.18
No. AGSS Outlets Served (HTM 2022/BS 6834:1987)	2/3	4/5	8/10	11/16
Length x Width x Height (m) ⁽⁴⁾	380x300x700	430x350x750	430x350x890	480x400x890
Plant Weight (kg)	21	27	33	33

Note:

1. System flow with an air intake at 1000 mbar at 20°C. Flow rates stated are subject to a tolerance of $\pm 5\%$.
2. These are typical figures and may vary with the specific motor used. Consult the motor nameplate for exact figures.
3. Measured in free field conditions according to DIN EN ISO 3744. Subject to a tolerance of ± 3 dB.
4. Dimensions do not include clearance for access and servicing.

Pneumatech Medical Gas Solutions reserves the right to change or revise specifications and product design in connection with any features or our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

