

Oxygen Concentrator Modules



Key Features

1. Skid mounted, self contained modules in a wide variety of capacities.
2. Full electronic controls displaying output and all control parameters and allowing control of each module.
3. Prepip inlet and outlet.
4. Prepip exhaust for venting outside the building including muffler for noise reduction.
5. Temperature independant output.

Benefits

- Modules are individually controlled and monitored for simplex or duplex PSA arrangements.
- Rigging and installation are simplified but each module is complete within itself to ensure correct operation.
- Modules can be operated at ideal pressure for oxygen production without affecting the delivery pressure.
- Noise is minimized and safety of workers can be protected from nitrogen exhaust.

Life
is in the
details.



Oxygen Standards



Medical oxygen is an irreplaceable essential for many basic medical procedures and treatments, and an invaluable adjunct to many other treatments. It is one of the drugs medical facilities cannot be without.

PSA oxygen modules are able to produce oxygen compliant with the United States Pharmacopeia (USP) monograph for Oxygen 93 or the European Pharmacopeia (EurPh) monograph for Oxygen 93. Both standards were created expressly to permit the use of PSA produced oxygen.

Component	Standard		
	EurPh Oxygen 93	USP Oxygen 93	Laboratory Assay from a BeaconMedæS PSA Module ¹
Oxygen v/v%	93 ±3%	> 90% < 96%	90- 95%
Carbon Monoxide	5 ppm	5 ppm	0.11 ppm
Carbon Dioxide	300 ppm	300 ppm	0.82 ppm
Water	67 ppm	-	3.8 ppm

¹Note: Feed air quality ISO8573-1 Class 1-4-1

Cylinder Oxygen is bulky, difficult and dangerous to transport. Oxygen in liquid form is both bulky and has very limited storage life. As a result, many medical facilities have only limited access to oxygen or can only obtain it at high cost. Even facilities with good and economical supply must assure they have oxygen available to see them through natural or man made disasters.

A solution is to produce oxygen on site using BeaconMedæS' PSA oxygen separation modules. PSA modules separate the oxygen from ambient air and allow the facility to have stand alone oxygen production capability right on the facility site.

BeaconMedæS PSA modules are the key element necessary to assemble an oxygen production plant complying with the CSA Z10083 or ISO 10083 standard, which prescribes the required elements of a safe on-site central oxygen producing facility for medical facilities requiring pharmacopeial oxygen.

Technical Specifications

model	Oxygen Product		Feed Air Required		Width (m)	Length (m)	Height (m)
	(lpm)	(cfm)	(lpm)	(cfm)			
OGP2	24	0.8	360	12.7	.6	.6	1.55
OGP3	42	1.5	492	17.4	.6	.6	1.65
OGP4	54	1.9	588	20.8	.6	.6	1.65
OGP5	72	2.5	882	31.2	.7	.7	1.9
OGP6	90	3.2	1,098	38.8	.9	.8	1.75
OGP8	120	4.2	1,650	58.3	.9	.8	1.75
OGP10	144	5.1	1,692	59.8	1.2	.9	2.1
OGP14	222	7.8	2,400	84.8	1.2	.9	2.1
OGP18	300	10.6	3,102	109.6	1.3	.9	2.4
OGP20	318	11.2	3,498	123.6	1.3	1	2.4
OGP23	348	12.3	4,002	141.4	1.3	1	3.2
OGP29	450	15.9	5,238	185.1	2	1	2.5
OGP35	540	19.1	5,820	205.7	2	1	2.5
OGP45	702	24.8	8,400	296.8	2	1	3.4
OGP55	852	30.1	9,900	349.8	2	1	3.4
OGP65	1,050	37.1	12,780	451.6	2	1	3.4
OGP84	1,302	46.0	15,900	561.8	2.2	2.4	3.2

Note: Output at 93% Concentration, 20°C Ambient, 20°C Inlet, 7.5 bar (108 psig) inlet. Concentration varies with demand. Approximately 20% more output is possible with 90% oxygen concentration, higher concentration is possible with reduced throughput (to a maximum of 95%).

BeaconMedæS

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Oxyplant Oxygen Concentrator Systems (PSA) – ISO 10083 EurPh/USP 400V 50Hz/380V 60Hz - 4 Bar Outlet

SPECIFICATION

Oxyplant System

Oxyplant is a modular system designed according to ISO 10083 and shall provide medical quality oxygen to the European Pharmacopoeia monograph, delivered at a pressure of 400 kPa (4 bar) gauge for supply of the hospital oxygen systems.

The system shall use Atlas Copco oil flooded rotary screw compressor, external refrigerant dryer, filters, galvanised steel air receiver vessel, PSA oxygen generator and steel oxygen receiver vessel(s). Supplied complete with graphic LCD controller and standard installed oxygen sensor/analyser.

Working Principal

All components shall be self-controlled, no central controller is required.

The compressor shall run to maintain pressure in air storage vessel with a typical set pressure of 700 kPa (7 bar) gauge. The generator shall be run in a way to maintain pressure in the oxygen storage vessel at 400 kPa (4 bar) gauge, or up to a maximum pressure of 500 kPa (5 bar) gauge with an oxygen purity of 93%. The controller shall provide functionality to easily adjust the oxygen purity level up to 95%.

In cases using dual independent production lines (according to ISO 10083) the system will work with the following logic:

- One generation line shall be determined as duty and the other shall in turn be set up as a back-up. It is recommended to switch between the lines once a week to ensure each generator is run. With this procedure service intervals shall be extended providing equal run hours on all components.
- The system shall be pressure controlled. Each line has a different set pressure. The duty line has a start pressure of 430 kPa (4.3 bar) gauge and the reserve line at a fixed pressure of 400 kPa (4 bar) gauge. If the duty line is shut-down or fails the main line pressure will fall. When the reserve set pressure is reached (400 kPa, 4 bar) the reserve line will come on-line to maintain working line pressure.
- Pressure shall be measured in the oxygen buffer tank TKx02. When the pressure depletes it reaches the start set point and the generator starts producing oxygen. When the pressure stop set-point is reached the generator shall go in stand-by mode.
- The generator shall automatically stop if the oxygen level falls below the set purity level (e.g. >92% as standard). In this case the reserve line will come on-line due to the pressure falling to 400 kPa (4 bar) gauge.
- The compressors shall run on their own pressure band and shall operate independently to the generators. As soon as the pressure in TKx01 reaches its set point (e.g. 700 kPa, 7 bar) the compressor shall go into unload/stop mode.

In the case of generator failure a general alarm fault shall be triggered at 91%. This level shall be adjustable. If the oxygen quality falls lower than 90% the generator shall stop and the reserve generator will start production of oxygen due to depletion of line pressure to 400 kPa (4 bar) gauge.

Oxygen Generator

The oxyplant generator shall incorporate pressure swing absorption (PSA) technology and supplied as a plug and play component for simple installation on site, including oxygen monitoring, service indications and relevant alarms.

Integral pressure vessels shall be ASME approved and validated for

fatigue load, protected by a safety pressure relief valve and include a pressure gauge. Non return valves shall be included to avoid back flow from the outlet of the generator. The vessels shall include chemically produced zeolite to adsorb specific types of molecules, such as water vapour or nitrogen - providing infinite lifetime if the dryers and filters are properly serviced.

Pneumatic valves shall control the generation and regeneration process to ensure proper changeover between the two towers. Valves shall be degreased for oxygen use and provided with an oxygen certificate, delivered with every unit.

The oxyplant generator shall include an oxygen sensor and analyser for continuous, online measurement of oxygen purity and shall be provided with a calibration report delivered with every unit. The sensor shall be insulated by solenoid valves during standstill to provide longer sensor lifetime. An inlet pressure regulator shall be included to reduce the inlet pressure to a maximum working pressure of 650 kPa (6.5 bar) gauge. A silencer shall be included to reduce the noise level during the exhaust/regeneration process.

The oxygen purity produced shall be between 90-95% with a compressed air inlet quality in accordance with ISO 8573-1 clause 1-4-1 and an air outlet quality in accordance with ISO 8573-1 clause 1-2-1. The system shall operate at a maximum ambient temperature of 45°C. The generator will require a single phase low voltage 240-110V 50-60Hz supply.

Control System

The oxyplant T4 control system shall provide an intelligent human machine interface including a real-time clock for recording operational parameters in the event log. The central control system shall include a BMS connection for a general fault condition.

The central control unit shall incorporate a user friendly touch screen 4" high-definition display with clear pictograms and indicators, providing easy access to system operational information.

Specifications:

- Supply voltage: 115-230V 50/60Hz
- Power consumption: 200W max
- CSA/UL approval available
- Protection degree: IP54 (Nema 3S)

Sensors

The oxygen generator shall include a long life and low maintenance Zirconia oxygen sensor to extend the period between sensor re-calibration.

Alarm Status

On screen alarms shall be:

- Low pressure
- Oxygen purity
- Low oxygen purity shut-down
- Low flow*
- Low dewpoint*
- Low dewpoint shut-down*

* These functions are available if optional flowmeter/dewpoint analyser is installed (4-20 mA).



Optional Control Equipment

An advanced T5 controller shall be available to provide additional functionality. Additionally the following features shall be included:

- E-mail and SMS event notification for additional convenience.
- Graphical log for analogue values.
- User friendly touch screen 6" high-definition colour display

Compressors

Compressors shall be Atlas Copco GA oil injected rotary screw compressors suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 750 kPa (7.5 bar) gauge. Compressors shall be supplied with a block and fin style after cooler with a dedicated quiet running fan to maximise cooling and efficiency. A multistage oil separator capable of achieving 2ppm oil carry over shall be fitted to minimise contamination and maintenance. EFF1 (CEMEP) rated TEFC, IP55 class F electric motors shall be used and incorporate maintenance-free greased for life bearings. Motors with lower efficiency ratings are not acceptable.

Dryer System

The dryer shall be an Atlas Copco FX refrigerated dryer module and shall include a simple plug and play concept. Pressure shall be self regulating. The dryer shall be able to reach 3°C PDP at 45°C. The dryer shall include the following components:

Refrigerant Circuit

- Refrigerant separator
- Refrigerant compressor
- Maximum pressure switch and fan control switch (FX 13-21)
- Condenser fan
- Condenser
- Capillary filter
- Capillary tube
- Hot gas bypass

Air Circuit

- Air inlet
- Air to refrigerant heat exchanger
- Air/heat exchanger
- Water separator
- Automatic drain
- Air outlet

Filters

Atlas Copco DD+ and PD+ high efficiency filter shall be used to remove oil and dust particles. An Atlas Copco QD activated carbon filter shall be included to absorb oil vapours providing clean air to ISO 8573-1 class 1. An additional filter shall be included to protect against zeolite dust particles and shall be suitable for steam sterilisation in an autoclave.

Air Receiver Assembly

Air receivers shall comply with DIRECTIVE 97/23/EC, supplied with relevant test certificates. Each air receiver shall be fitted with a zero loss electronic drain valve. Float type drain valves are not acceptable. The receiver assembly shall be fitted with a pressure safety valve capable of passing the maximum flow output of the compressor at 10% receiver overpressure. The receiver shall be further protected by a safety pressure relief valve and include a pressure gauge.

Oxygen Buffer Vessel

Oxygen vessel shall be of steel construction and approved according to Fluid Group 1 and shall be sized to ensure the oxygen supply is continuous. The vessel shall be protected by a safety pressure relief valve and include a pressure gauge.

Optional Booster System

Oil free, high pressure pistons compressors shall be provided suitable for the on site filling of 15,000 kPa (150 bar) gauge or 20,000 kPa (200 bar) gauge oxygen cylinders. Compressors shall operate on an inlet pressure auto-cycling system (auto start/stop). Compressors shall include the following components:

- Compressor, motor, starter, start/stop buttons, hour meter, high pressure safety shutdown, low inlet pressure shutdown, safety relief valves, pressure gauges, drive belt, belt guard, oxygen clean and cooling fans.

Optional Filling Ramp

A high pressure filling ramp shall be available suitable for on site cylinder filling and shall consist of a high pressure bar with individual isolation valves at each cylinder connection. The cylinders shall be protected from over pressurising by a safety pressure relief valve and shall include a pressure gauge. The filling ramp shall be tested up to 30,000 kPa (300 bar) gauge and shall be supplied complete with test certificate.

Optional Items

There shall be the followings options available for enhanced operation of the air plant system:-

- Atlas Copco oil free compressors
- Phase sequence relays that prevent unintentional reverse operation of the compressors
- OCS electronic water/oil drains for the air plant system
- VSD compressors
- Synthetic oil for increased compressor life
- Tropical thermostatic sensors for countries with high humidity
- Heavy duty inlet filters for compressors installed in areas of highly concentrated dust levels

Optional Dew Point and Flow Monitoring

The dryer shall be able to incorporate a dew point sensor with an accuracy of ±1°C in the range -20 to -80°C atmospheric dew point and 4-20mA analogue output. The PDP sensor shall ensure the air to the generator inlet is suitable in order to safeguard the generator from high moisture content. Additional purge control shall also be available.

Oxygen Standards

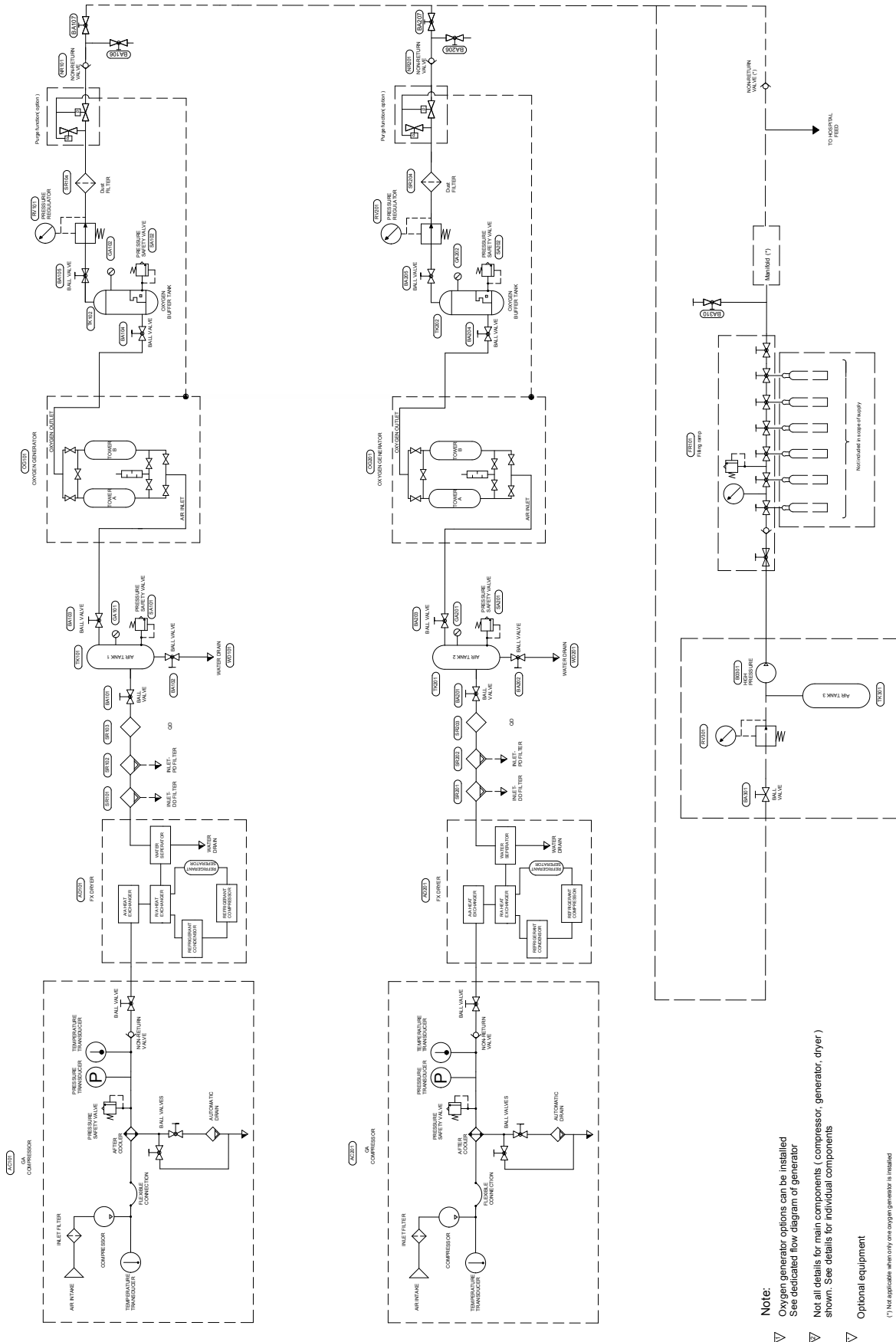
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Water	67 ppm	-	3.8 ppm

¹Note: Feed air quality ISO8573-1 Class 1-4-1

Flow Diagram

Flow diagram for Oxyplant with two generation lines and high pressure booster for filling cylinders:



Note:
 Oxygen generator options can be installed
 See dedicated flow diagram of generator

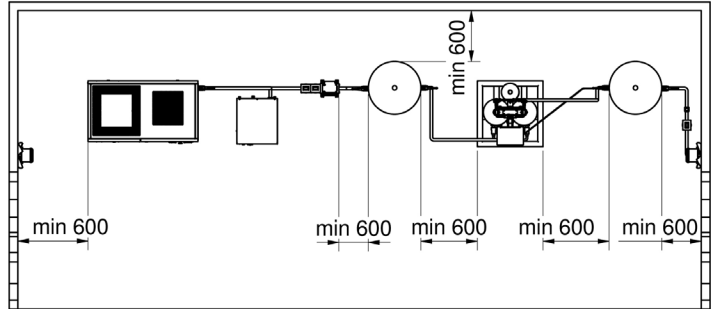
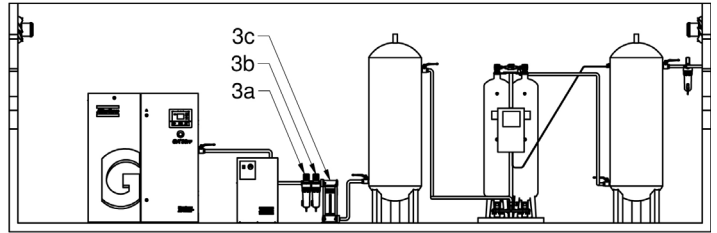
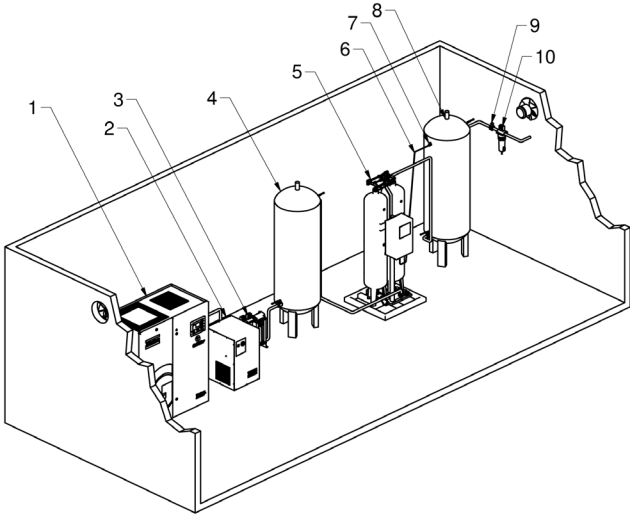
Not all details for main components (compressor, generator, dryer) shown. See details for individual components

Optional equipment

(*) Not applicable when only one oxygen generator is installed

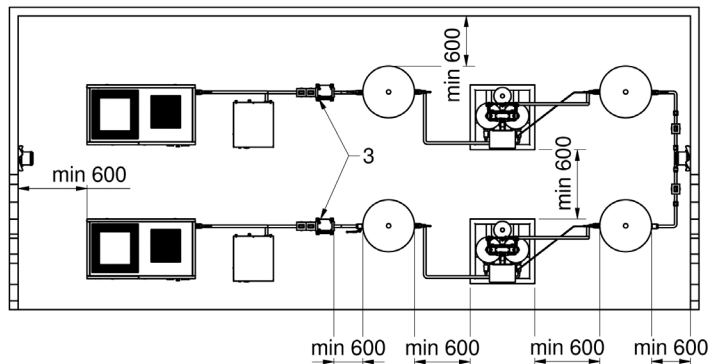
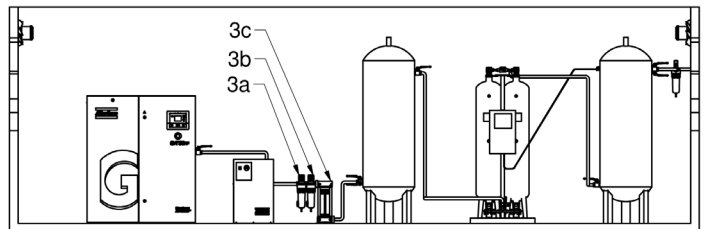
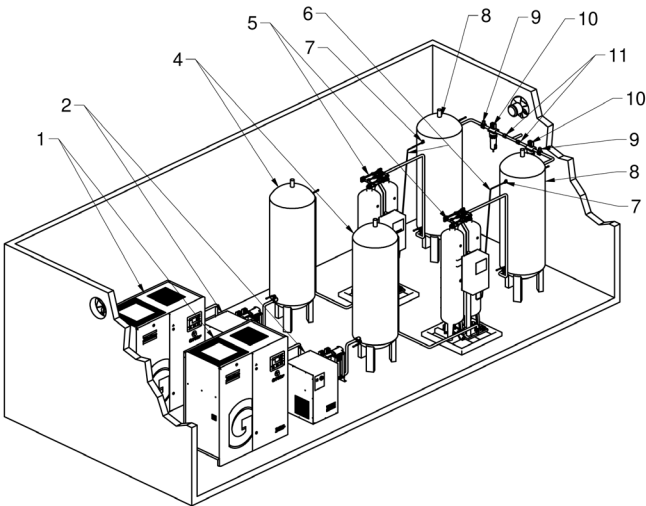


Typical Simplex Installation



1	Compressor	6	Purity measurement line
2	Refrigerant dryer	7	Ball valve
3	Filters DD-PD-QD	8	Oxygen tank
4	Air receiver	9	Pressure regulator
5	Oxygen generator	10	Dust filter

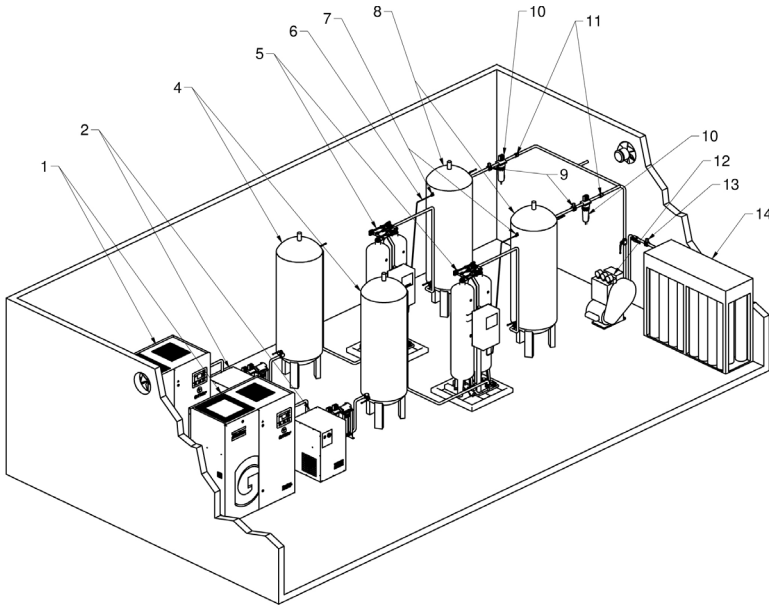
Typical Duplex Installation



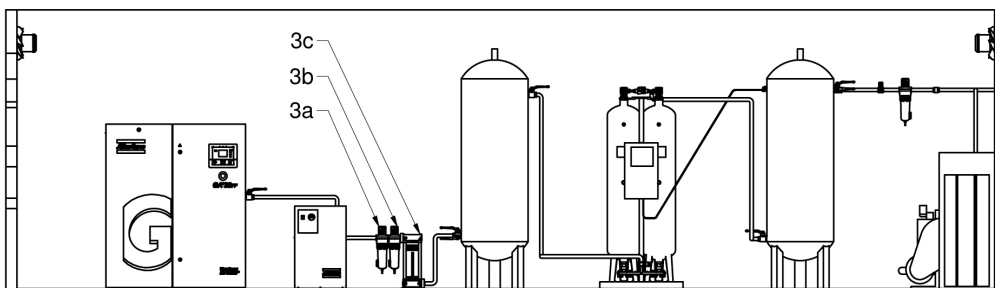
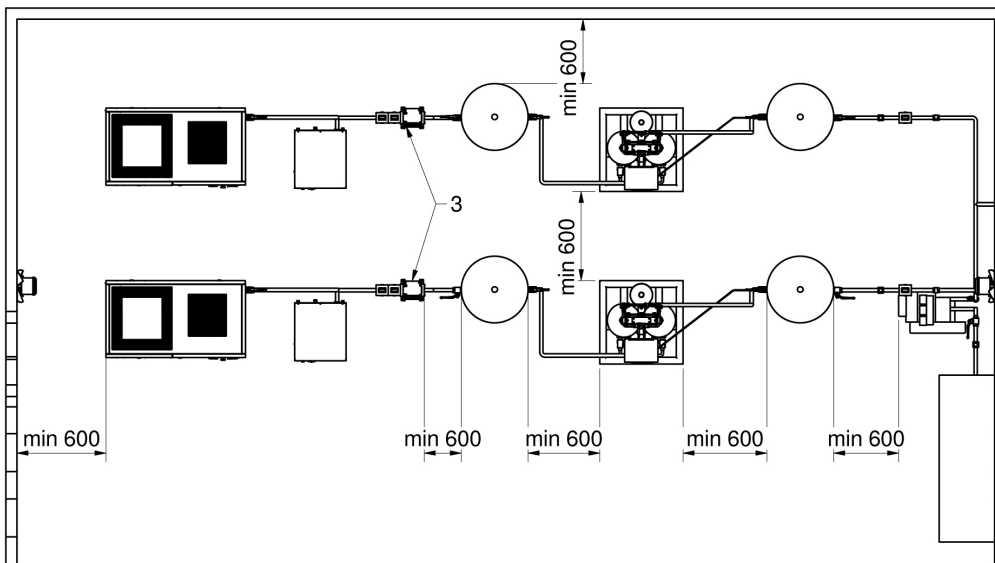
1	Compressor	6	Purity measurement line
2	Refrigerant dryer	7	Ball valve
3	Filters DD-PD-QD	8	Oxygen tank
4	Air receiver	9	Pressure regulator
5	Oxygen generator	10	Dust filter
		11	Non-return valve



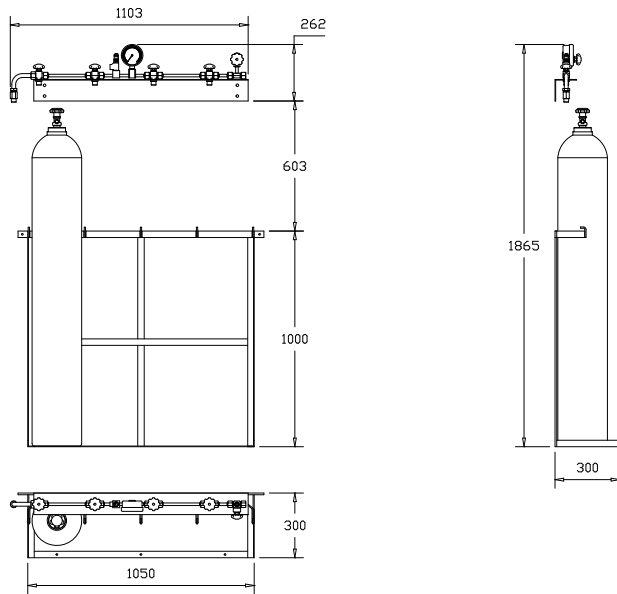
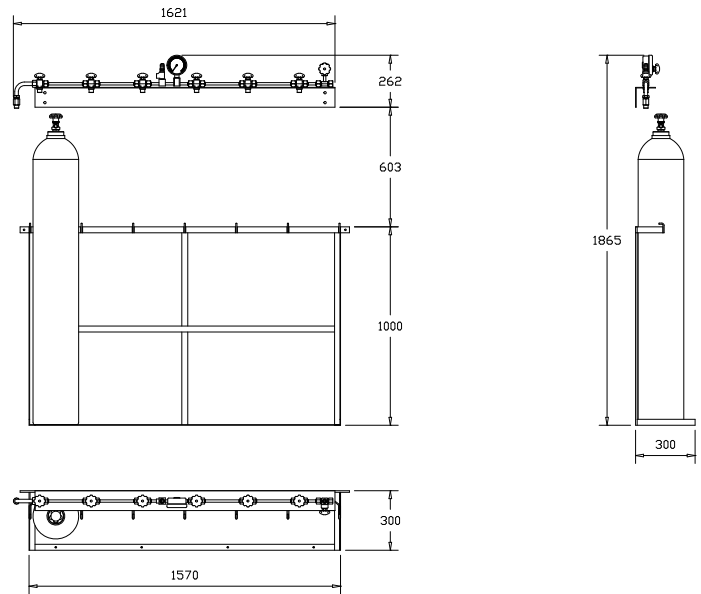
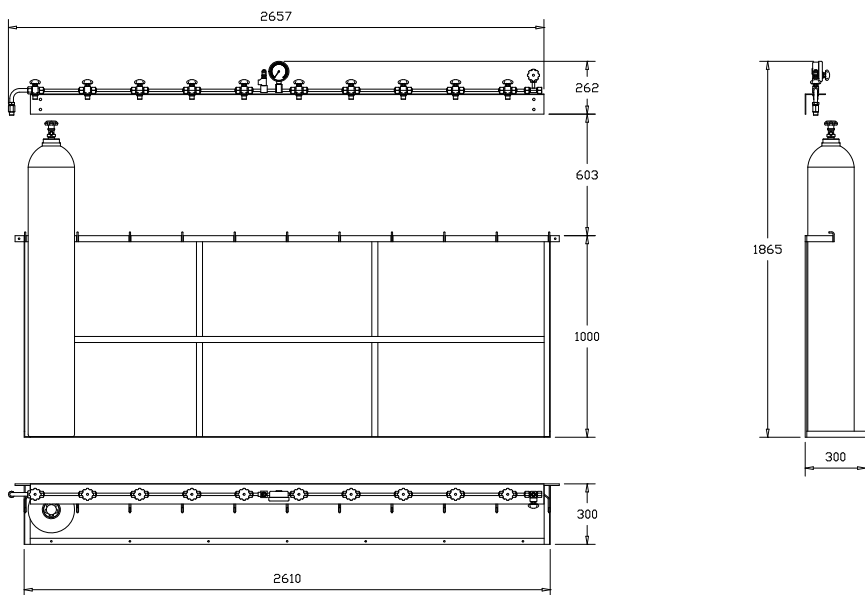
Typical Duplex Installation With Booster And Filling Ramp



1	Compressor	8	Oxygen tank
2	Refrigerant dryer	9	Pressure regulator
3	Filters DD-PD-QD	10	Dust filter
4	Air receiver	11	Non-return valve
5	Oxygen generator	12	High pressure booster
6	Purity measurement line	13	Pressure switch
7	Ball valve	14	Filling station



The oxygen plant must be installed on a level floor suitable for taking the weight of the plant. There must be a free space of 600mm around all the components (compressor, generator and vessels). On all inlet filters a drain tube must be installed. The drainpipes to the drain collector must not dip into the water. For draining of pure condensate water, install an oil/water separator. Air net connections from compressors to dryer, filters, vessels and generator must be provided locally, following sound engineering practise and after the generator according to ISO 7396-1 and all other applicable regulations.

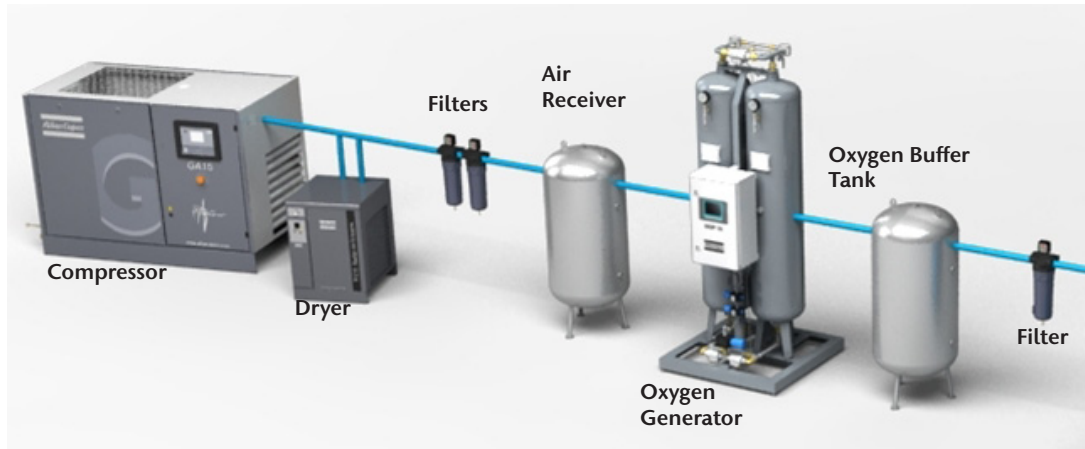
Cylinder Filling Ramp Installation
4 Cylinder

6 Cylinder

10 Cylinder


CGA, DIN, BS and other standard tailpipes are available - please specify

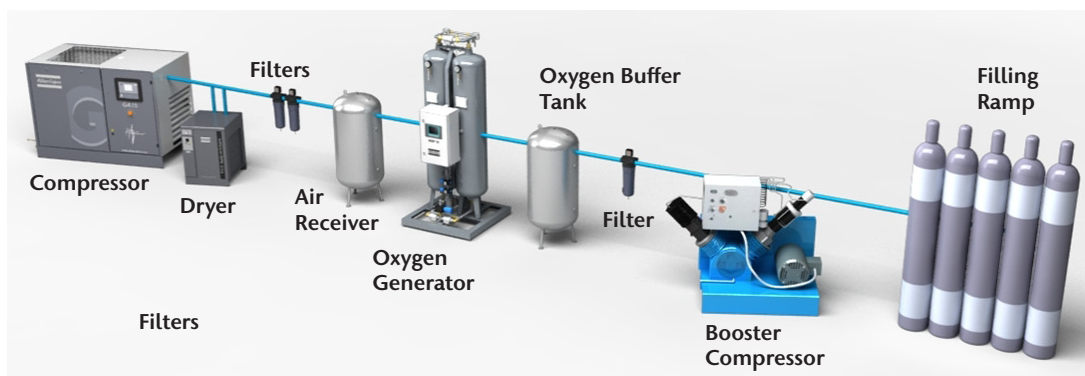


Typical Layout

Single line



Single line with booster and filling ramp



Dual line with booster and filling ramp





The BeaconMedæS oxyplant system is an arrangement of modular components which when assembled provide a fully compliant ISO 10083 system. The selection criteria should be based on the required oxygen purity level, flow output and supply voltage - once the correct oxyplant system is identified the following table identifies all the pre-configured components sufficiently matched to the oxygen generator flow output, making selection of a system quick and easy to do. For technical information on each component please refer to the relevant table on the following pages.

50 Hz

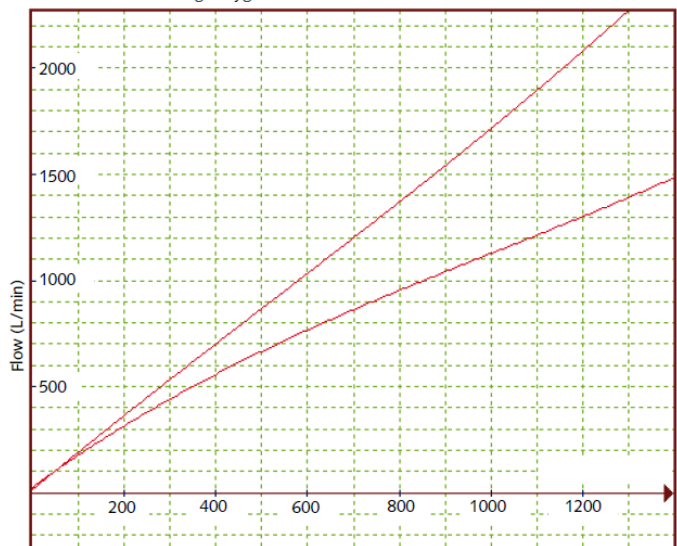
Model	Part No	Generator	Capacity		Compressor Model	Dryer Model	PD Filter Model	DD Filter Model	QD Filter Model	Air Receiver Model
			(lpm)	(cfm)						
Oxy-plant 4	OXYP 00001	OGP4 CE	54	1.9	GA5P-7,5 CE	FX6 (A5)	Filter PD20+	Filter DD20+	QD 20+	250 L 11 BAR
Oxy-plant 6	OXYP 00002	OGP6 CE	90	3.2	GA7P-7,5 CE	FX7 (A6)	Filter PD35+	Filter DD35+	QD 35+	250 L 11 BAR
Oxy-plant 8	OXYP 00003	OGP8 CE	120	4.2	GA11P-7,5 CE	FX9 (A7.5)	Filter PD35+	Filter DD35+	QD 35+	250 L 11 BAR
Oxy-plant 10	OXYP 00004	OGP10 CE	144	5.1	GA11+P A 7,5 APB	FX10 (A8)	Filter PD50+	Filter DD50+	QD 50+	500 L 11 BAR
Oxy-plant 14	OXYP 00005	OGP14 CE	222	7.8	GA15+P A 7,5 APB	FX11 (A9)	Filter PD70+	Filter DD70+	QD 70+	500 L 11 BAR
Oxy-plant 18	OXYP 00006	OGP18 CE	300	10.6	GA18+P A 7,5 APB	FX12 (A10)	Filter PD70+	Filter DD70+	QD 70+	500 L 11 BAR
Oxy-plant 20	OXYP 00007	OGP20 CE	318	11.2	GA22+P A 7,5 APB	FX15 (A13)	Filter PD70+	Filter DD70+	QD 70+	1000 L 11 BAR
Oxy-plant 23	OXYP 00042	OGP23 CE	350	-	GA22+P A 7,5 APB	FX15 (A13)	Filter PD70+	Filter DD70+	QD 70+	1000 L 11 BAR
Oxy-plant 29	OXYP 00008	OGP29 CE	450	15.9	GA30+P A 7,5 APB	FX16 (A14)	Filter PD130+	Filter DD130+	QD 130+	1000 L 11 BAR
Oxy-plant 35	OXYP 00038	OGP35 CE	540	-	GA30+P A 7,5 APB	FX17 A	Filter PD130+	Filter DD130+	QD 130+	1000 L 11 BAR
Oxy-plant 45	OXYP 00009	OGP45 CE	702	24.8	GA45+P A 7,5 APB	FX18 (A16)	Filter PD170+	Filter DD170+	QD 170+	2000 L 11 BAR
Oxy-plant 55	OXYP 00010	OGP55 CE	852	30.1	GA55P A 7,5 APB	FX18 (A16)	Filter PD210+	Filter DD210+	QD 210+	2000 L 11 BAR
Oxy-plant 65	OXYP 00011	OGP65 CE	1,050	37.1	GA75P A 7,5 APB	FX19,5 (A17,5)	Filter PD310+	Filter DD310+	QD 310+	2000 L 11 BAR
Oxy-plant 84	OXYP 00012	OGP84 CE	1,302	46.0	GA90P A 7,5 APB	FX20 (A18)	Filter PD310+	Filter DD310+	QD 310+	2000 L 11 BAR

Generator Sizing

HTM 02-01 Part A – Appendix M gives indication of the average oxygen consumption per bed (+/- 1.5 - 2 l/min per bed).

In surgery rooms consumption can peak to 10 l/min per bed.

Average oxygen flows based on bed numbers





60 Hz

Model	Part No	Generator	Capacity		Compressor	Dryer	PD Filter	DD Filter	QD Filter	Air Receiver
			(lpm)	(cfm)	Model	Model	Model	Model	Model	Model
Oxy-plant 4	OXYP 00013	OGP4 CE	54	1.9	GA5P-100 APL	FX6 (A5)	Filter PD20+	Filter DD20+	QD 20+	250 L 11 BAR
Oxy-plant 6	OXYP 00014	OGP6 CE	90	3.2	GA7P-100 APL	FX7 (A6)	Filter PD35+	Filter DD35+	QD 35+	250 L 11 BAR
Oxy-plant 8	OXYP 00015	OGP8 CE	120	4.2	GA11P-100 APL	FX9 (A7,5)	Filter PD35+	Filter DD35+	QD 35+	250 L 11 BAR
Oxy-plant 10	OXYP 00016	OGP10 CE	144	5.1	GA11+P A 100 APB	FX10 (A8)	Filter PD50+	Filter DD50+	QD 50+	500 L 11 BAR
Oxy-plant 14	OXYP 00017	OGP14 CE	222	7.8	GA15+P A 100 APB	FX11 (A9)	Filter PD70+	Filter DD70+	QD 70+	500 L 11 BAR
Oxy-plant 18	OXYP 00018	OGP18 CE	300	10.6	GA18+P A 100 APB	FX12 (A10)	Filter PD70+	Filter DD70+	QD 70+	500 L 11 BAR
Oxy-plant 20	OXYP 00019	OGP20 CE	318	11.2	GA22+P A 100 APB	FX15 (A13)	Filter PD70+	Filter DD70+	QD 70+	1000 L 11 BAR
Oxy-plant 23	OXYP 00043	OGP23 CE	350	-	GA22+P A 100 APB	FX15 (A13)	Filter PD70+	Filter DD70+	QD 70+	1000 L 11 BAR
Oxy-plant 29	OXYP 00020	OGP29 CE	450	15.9	GA30+P A 100 APB	FX16 (A14)	Filter PD130+	Filter DD130+	QD 130+	1000 L 11 BAR
Oxy-plant 35	OXYP 00039	OGP35 CE	540	-	GA30+P A 100 APB	FX17 (A15)	Filter PD130+	Filter DD130+	QD 130+	1000 L 11 BAR
Oxy-plant 45	OXYP 00021	OGP45 CE	702	24.8	GA45+P A 100 APB	FX18 (A16)	Filter PD170+	Filter DD170+	QD 170+	2000 L 11 BAR
Oxy-plant 55	OXYP 00022	OGP55 CE	852	30.1	GA55P A 100 APB	FX18 (A16)	Filter PD210+	Filter DD210+	QD 210+	2000 L 11 BAR
Oxy-plant 65	OXYP 00023	OGP65 CE	1,050	37.1	GA75P A 100 APB	FX19,5 (A17,5)	Filter PD310+	Filter DD310+	QD 310+	2000 L 11 BAR
Oxy-plant 84	OXYP 00024	OGP84 CE	1,302	46.0	GA90P A 100 APB	FX20 (A18)	Filter PD310+	Filter DD310+	QD 310+	2000 L 11 BAR



Compressor Selection Table - Fixed Speed

Model	Voltage / Frequency	Part No	Nominal Pressure	Nominal Motor Rating (kW)	Nosie level (dB[A])	Max Ambient Temp (°C)	Footprint L x W x H (mm)	Weight (kg)
GA5P CE	400 50 380 60	8153 0001 64 8153 0034 08	7.5 bar 100 psi	5.8 5.8	60	46	1250 x 820 x 1420	280
GA7P CE	400 50 380 60	8153 0002 06 8153 0034 40	7.5 bar 100 psi	8.5 8	61	46	1250 x 820 x 1420	270
GA11P CE	400 50 380 60	8153 0002 48 8153 0034 81	7.5 bar 100 psi	12.6 12	62	46	1250 x 820 x 1420	300
GA11+P CE	400 50 380 60	8152 7005 66 8152 7053 67	7.5 bar 100 psi	12.5 12.8	63	46	1255 x 692 x 1475	410
GA15+P CE	400 50 380 60	8152 7006 08 8152 7054 09	7.5 bar 100 psi	16.2 16.6	64	46	1255 x 692 x 1475	420
GA18+P CE	400 50 380 60	8152 7006 40 8152 7054 41	7.5 bar 100 psi	20.2 20.6	65	46	1255 x 692 x 1475	440
GA22+P CE	400 50 380 60	8152 7006 81 8152 7054 82	7.5 bar 100 psi	23.8 24.4	66	46	1255 x 692 x 1475	455
GA30+P CE	400 50 380 60	8153 5654 06 8153 5730 04	7.5 bar 100 psi	36.5 36.7	65	46	1766 x 970 x 1800	817
GA45+P CE	400 50 380 60	8153 5655 62 8153 5731 60	7.5 bar 100 psi	55.7 55.8	66	46	1766 x 970 x 1800	970
GA55P CE	400 50 380 60	8153 5853 88 8153 5926 08	7.5 bar 100 psi	58.4 65.7	69	46	2248 x 1080 x 1955	1229
GA75P CE	400 50 380 60	8153 5854 20 8153 5926 40	7.5 bar 100 psi	82.6 86.9	73	46	2248 x 1080 x 1955	1259
GA90P CE	400 50 380 60	8153 5855 37 8153 5927 56	7.5 bar 100 psi	96.7 106.5	73	46	2248 x 1080 x 1955	1425

* All figures are stated at 50Hz then 60Hz

** Figures stated at reference conditions

*** MOM standard compressors are available on request including 3rd party certification of the internal pressurised vessel

Oxygen Generator Selection Table

Model	Oxygen Product		Feed Air Required		Width (mm)	Length (mm)	Height (mm)
	(lpm)	(cfm)	(lpm)	(cfm)			
OGP4	54	1.9	588	20.8	600	600	1650
OGP6	90	3.2	1,098	38.8	900	800	1750
OGP8	120	4.2	1,650	58.3	900	800	1750
OGP10	144	5.1	1,692	59.8	1200	900	2100
OGP14	222	7.8	2,400	84.8	1200	900	2100
OGP18	300	10.6	3,102	109.6	1300	900	2400
OGP20	318	11.2	3,498	123.6	1300	1000	2400
OGP23	350	-	4,000	-	1300	1000	3200
OGP29	450	15.9	5,238	185.1	2000	1000	2500
OGP35	540	-	5,820	-	2000	1000	2500
OGP45	702	24.8	8,400	296.8	2000	1000	3400
OGP55	852	30.1	9,900	349.8	2000	1000	3400
OGP65	1,050	37.1	12,780	451.6	2000	1000	3400
OGP84	1,302	46.0	15,900	561.8	2200	2400	3200

* Output at 93% Concentration, 20°C Ambient, 20°C Inlet, 7.5 bar (108 psig) inlet. Concentration varies with demand. Approximately 20% more output is possible with 90% oxygen concentration, higher concentration is possible with reduced throughput (to a maximum of 95%). See Flow Factoring Table for details.



Dryer Selection Table - 50 Hz

Model	Voltage / Frequency	Part No	Footprint L x W x H (mm)	Weight (kg)
FX6	230 50 115 60	8102 2184 12 8102 2187 76	500 x 370 x 804	51
FX7	230 50 115 60	8102 2184 20 8102 2187 84	500 x 370 x 804	51
FX9	230 50 115 60	8102 2184 46 8102 2188 00	560 x 460 x 829	68
FX10	230 50 115 60	8102 2184 53 8102 2188 18	560 x 460 x 829	73
FX11	230 50 115 60	8102 2184 61 8102 2187 01	560 x 580 x 939	90
FX12	230 50 115 60	8102 2184 79 8102 2187 19	560 x 580 x 939	90
FX15	400 50 380 60	8102 2244 44 8102 2244 85	898 x 735 x 1002	158
FX16	400 50 380 60	8102 2244 51 8102 2244 93	898 x 735 x 1002	185
FX17	400 50 380 60	8102 2201 52 8102 2218 38		
FX18	400 50 380 60	8102 2201 60 8102 2218 46	1082 x 1020 x 1560	335
FX19,5	400 50 380 60	8102 2220 18 8102 2220 42	1082 x 1020 x 1560	350
FX20	400 50 380 60	8102 2201 86 8102 2218 61	2099 x 1020 x 1560	550

* All figures are stated at 50Hz then 60Hz

** Figures stated at reference conditions

Filter Selection Table

PD Filter			DD Filter		
Model	Part No	Weight (kg)	Model	Part No	Weight (kg)
PD20+	8102 2600 59	1.1	DD20+	8102 2600 42	1.1
PD35+	8102 2600 91	1.3	DD35+	8102 2600 83	1.3
PD50+	8102 2601 33	1.6	DD50+	8102 2601 25	1.6
PD70+	8102 2601 74	2.1	DD70+	8102 2601 66	2.1
PD130+	8102 2602 16	4.2	DD130+	8102 2602 08	4.2
PD170+	8102 2602 57	4.5	DD170+	8102 2602 40	4.5
PD210+	8102 2602 99	4.6	DD210+	8102 2602 81	4.6
PD310+	8102 2623 29	6.9	DD310+	8102 2603 23	6.9



QD Filter Selection Table

Model	Part No	Weight (kg)
QD20+	8102260075	1.1
QD35+	8102260117	1.3
QD50+	8102260158	1.6
QD70+	8102260190	2.1
QD130+	8102260232	4.2
QD170+	8102260273	4.5
QD210+	8102260315	4.6
QD310+	8102262360	6.9

Air Receiver Selection Table

Model	Part No	Volume (lites)	Footprint W x H (mm)	Weight (kg)
250 L CE	8101 0208 68	250	500/1950	80
500 L CE	8101 0208 92	500	600/2350	160
1000 L CE	8101 0209 59	1000	800/2550	304
2000 L CE	8101 0209 91	20000	1150/2605	557

* MOM standard receivers are available on request including 3rd party certification

High Pressure Booster Compressor Selection Table

Model	Part No	Flow		Cylinders per day B50 (water capacity 50L)		
		scfh	m3/h	2000 psi 137.89 bar	2200 psi 150 bar	2500 psi 172.37 bar
Booster 0.5-2.0 scfm	OB00001	120	3.2	13,2	12	-
Booster 3.8-10.0 scfm	OB00002	600	16	75,0	68,2	60
Booster 10.0-17.0 scfm	OB00003	1000	27	125,0	113,6	100

* Calculation based on commonly used cylinders B50 (water capacity 50Litters). For example this means booster OB00002 can provide 68 cylinders per day at a pressure of 150 bar.

Filling Ramp Selection Table

Model	Part No	Footprint L x W x H (mm)	Weight (kg)
4 Cylinder ramp (does not include cylinders)	OS00001	1103 x 300 x 1865	TBC
6 Cylinder ramp (does not include cylinders)	OS00002	1620 x 300 x 1865	TBC
10 Cylinder ramp (does not include cylinders)	OBS0003	2657 x 300 x 1865	TBC



Flow Factoring At Different Oxygen Purity Level

Model	90% Purity				93% Purity				95% Purity			
	Oxygen Product		Feed Air Required		Oxygen Product		Feed Air Required		Oxygen Product		Feed Air Required	
	(lpm)	(cfm)	(cfm)	(Nm ³ /h)	(lpm)	(cfm)	(cfm)	(Nm ³ /h)	(lpm)	(cfm)	(cfm)	(Nm ³ /h)
Oxyplant 4	66	2.4	22.9	36.00	54	2.0	21.4	35.4	54	2.0	21.2	34.8
Oxyplant 6	120	4.1	45.8	72.00	90	3.1	37.5	66	90	3.1	36.9	64.8
Oxyplant 8	138	5	64.9	102.00	120	4.3	59.8	99	114	4.1	58.1	96
Oxyplant 10	174	6	64.9	102.00	144	5.0	58.3	101.4	138	4.8	57.9	100.8
Oxyplant 14	252	8.9	98.5	154.80	222	7.8	84.8	144	198	7.0	81.2	138
Oxyplant 18	330	11.6	120.2	189.00	300	10.5	109.0	186	252	8.9	98.5	168
Oxyplant 20	360	12.7	137.4	216.00	318	11.2	123.4	210	300	10.6	120.0	204
Oxyplant 23	383	tbc	tbc	tbc	350	tbc	tbc	tbc	333	tbc	tbc	tbc
Oxyplant 29	516	18.3	206.1	324.00	450	16.0	185.8	314.4	432	15.3	182.0	307.8
Oxyplant 35	576	tbc	tbc	tbc	540	tbc	tbc	tbc	516	tbc	tbc	tbc
Oxyplant 45	804	28.3	324.5	510.00	702	24.7	295.7	504	642	22.6	288.7	492
Oxyplant 55	990	35	397.0	624.00	852	30.1	350.0	594	798	28.2	339.4	576
Oxyplant 65	1170	41.4	500.1	786.00	1050	37.2	452.9	768	936	33.1	442.3	750
Oxyplant 84	1512	53.4	614.6	966.00	1302	46.0	557.9	948	1218	43.0	529.7	900

