

**EQUIPMENT SPECIFICATION DATA****T5 Oxygen Generator without Product Compression****1. Scope of Supply**

Process module including instrument air system, control and switch gear panels, process piping, heating	<b>Yes</b>
2 adsorber vessels complete with sieve	<b>Yes</b>
Oxygen Process LP Buffer vessel ~10 m3 volume	<b>Yes</b>
Packaged outdoor Air Blower	<b>Yes</b>
Packaged Outdoor Vacuum Blower	<b>Yes</b>
Interconnecting Piping and components	<b>Yes</b>
Electrical installation kit	<b>Yes</b>
Product pipework to customer	<b>No</b>
Commissioning for first unit in each country	<b>Yes</b>

**2. Design Basis**

Area Location:	Outdoor / Indoor	<b>Outdoor</b>	
Area Classification:	Safe Area / Zone 2 / Zone 1	<b>Safe area</b>	
Ambient Data:	Atmosphere	<b>Generally unpolluted (1)</b>	
	Temperature ( min / max )	<b>-20 to +40 (2)</b>	°C
	Altitude	<b>&lt;= 300 (3)</b>	m
Wind speed	maximum	<b>46</b>	m/s
Seismic design		<b>not applied</b>	
Design Pressure (mechanical )		<b>1.0</b>	Barg
Outlet connection standard	Flange ANSI 150 RF	<b>3</b>	inch

(1) Equipment is impacted by NO/ NO2/ SO2/ H2S/ Ammonia/ Cl2/ ClO2/ acid gases and high dust levels.

(2) System is mechanically and electrically designed to operate in this range, however production varies: see below.

(3) For higher altitudes contact the Product Supply Team (PST).

**3. Performance Data - Oxygen Generator package**

Contained Oxygen Design Flow Rate	Guarantee +/- 5 %	<b>190 (1) (3) (5)</b>	Nm <sup>3</sup> /h
		<b>6.5</b>	MTDc
		<b>7.2</b>	STDc
Total flow of gas		<b>211</b>	Nm <sup>3</sup> /h
Oxygen Purity (Balance is mainly Nitrogen and Argon)	+/- 1 %	<b>90 (5)</b>	% by vol
Outlet Temperature		<b>~ambient +10</b>	°C
Outlet Pressure	min	<b>200</b>	mbarg
Outlet Pressure cycles every ~ 24 seconds	range	<b>200 to 270</b>	mbarg
Noise level 1m from plot boundary (free field)		<b>80</b>	dB(A)
Power at average annual of 20°C ambient		<b>66 (2)</b>	kW
Atmospheric Pressure Water Dew Point		<b>&lt;= -40</b>	°C
Argon/ Nitrogen		<b>4.27/ 5.73 (4)</b>	%

(1) Production is guaranteed between 0 and 30 °C ambient conditions.

(2) Power excludes Oxygen Compression power if fitted.

(3) Note the Oxygen compressor is limited to a flow of 5.48 MTDc/160 Nm<sup>3</sup>/h at 8 barg. At 2.5 barg full production is available.

(4) Light hydrocarbon in the feed air will concentrate in the oxygen by a factor of 10 times.

(5) Production and power stated is for 90%. For 93% Oxygen the flow will be derated by 6% and the power will remain the same.

### 3.2 Turndown Performance

Loading (% of full flow)	100	90	80	70	60
Power Consumed (% of full power)	100	90	84	77	68

(1) Expected turndown performance given. Plant will load follow slow moving demands. For any customer guarantee contact PST.

### 4. Utility Requirements

Condensate drain	0.8	litres/h
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(1) Condensate flow contains less than 0.5 litres of oil per year.

400 VAC / 3 ph + Neutral + Earth	380 to 420 V	50 Hz	
Fuse rating <b>without</b> compression for Core VSA		200	Amp

(1) Power is to be terminated inside the package in the switchgear.

### 5. Design Codes

Overall package is CE marked and compliant with PED, low voltage, EMC and Machinery directives

Adsorber vessels are to ASME VIII 1 2004 PED 97/23/EC/ Cat IV Module G.

Low Pressure O2 process buffer vessel PD 5500 PED 97/23/EC/ Cat IV Module G.

### 6. Weights and Dimensions

	L x W x H (m)	kg
Process skid	6.2 x 2.5 x 2.5	4900 (1)
Adsorber vessels	OD 1.25 x 4.5	4359 (2)
10 m3 Process Buffer Vessel	OD 1.8 x 4.8	3200 (3)
Air Blower	1.6 x 1.5 x 1.8	1100
Vacuum Blower	1.6 x 1.7 x 1.9	1200

(1) Process skid is an ISO container with weight on the four corner points.

(2) Adsorber vessels on four base plates 200 mm x 200 mm on 1250 mm PCD.

(3) 10 m3 buffer vessel on four base plates 250 mm x 200 mm on 1750 mm PCD.

