

PSA Oxygen Concentrator Module

ATF Series



The Advanced Technology Fractionators® (ATF) oxygen modules incorporate proven pressure swing adsorption (PSA) principles into a unique patented design, which allows these systems to be compact, efficient, rugged, and lower in cost. The ATF module offers unparalleled design flexibility and enables applications where on-site/on-board oxygen generation was previously impractical.

A patented single rotary distribution valve built into the ATF module is continuously rotated at low speed by a small motor. The valve is maintenance-free, self-cleaning, insensitive to contamination, and invulnerable to wear. It sequentially directs the flow of compressed air to a group of four sieve beds (adsorption), while at the same time another four beds are purged into the atmosphere through the valve (desorption). The remaining four of the twelve beds are interconnected through the valve to equalize pressure as the sieve beds sequentially transition between adsorption and desorption. The small amplitude pressure swings generated by the ATF's twelve sieve beds eliminate loud noise pulses, eliminate the need for a pressure regulator, and reduce compressor wear.

Features

- Reliable oxygen production
- Environmentally tolerant design
- Constant pneumatic impedance
- Constant delivery pressure
- Easily integrated

Typical Applications

Medical

- Oxygen Therapy
- Veterinary Medicine

Manufacturing

- Brazing/Soldering
- Glass Work/Blowing

Environmental

- Ozone (Generator) Feed Gas
- Environmental Remediation

Additional

- Fish Farming
- Cosmetic

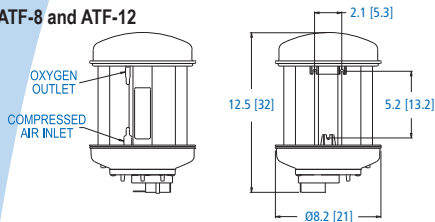
Specifications

	ATF-8	ATF-12	ATF-15	ATF-23	ATF-25	ATF-32
Performance Data¹						
Product Flow ²	8 SCFH (0.21 Nm ³ /hr or 3.8 LPM)	12 SCFH (0.31 Nm ³ /hr or 5.7 LPM)	15 SCFH (0.39 Nm ³ /hr or 7.1 LPM)	23 SCFH (0.60 Nm ³ /hr or 10.8 LPM)	25 SCFH (0.65 Nm ³ /hr or 12 LPM)	32 SCFH (0.84 Nm ³ /hr or 15 LPM)
Oxygen Delivery Pressure	9 psig (62 kPa or 0.62 barg)	9 psig (62 kPa or 0.62 barg)	7 psig (48 kPa or 0.48 barg)	7 psig (48 kPa or 0.48 barg)	14 psig (97 kPa or 0.97 barg)	14 psig (97 kPa or 0.97 barg)
Product Concentration	90-95%	90-95%	90-95%	90-95%	90-95%	90-95%
Product Dew Point	-100°F (-73°C)	-100°F (-73°C)	-100°F (-73°C)	-100°F (-73°C)	-100°F (-73°C)	-100°F (-73°C)
Dimensions (D x H) (nominal)	8 x 13 in (21 x 32 cm)	8 x 13 in (21 x 32 cm)	8 x 20 in (21 x 51 cm)	8 x 20 in (21 x 51 cm)	8 x 20 in (21 x 51 cm)	8 x 20 in (21 x 51 cm)
Weight	9.6 lb (4.4 kg)	9.8 lb (4.5 kg)	14.7 lb (6.7 kg)	14.7 lb (6.7 kg)	15 lb (6.8 kg)	15 lb (6.8 kg)
Physical Connections						
Compressed Air Inlet	½" ID tubing	½" ID tubing	½" ID tubing	½" ID tubing	½" ID tubing	½" ID tubing
Product Gas Outlet	¼" ID tubing	¼" ID tubing	¼" ID tubing	¼" ID tubing	¼" ID tubing	¼" ID tubing
Mounting Guidelines	Two integral mounting pads provided. Toe clamps (optional). Vertical mounting preferred. Must be isolated from compressor vibration.					
Storage Temperature	0-140°F (-18-60°C)					
Ambient Operating Conditions	Locate the oxygen concentrator subsystem in a well-ventilated area that is protected from weather elements and remains between 40°F (4°C) and 130°F (54°C) inside room or operating enclosure; 0°F (-18°C).					
Feed Air Requirements						
Flow ²	2.3 SCFM (3.9 Nm ³ /hr or 65 LPM)	3 SCFM (5.0 Nm ³ /hr or 85 LPM)	3.2 SCFM (5.4 Nm ³ /hr or 91 LPM)	4.2 SCFM (7.1 Nm ³ /hr or 120 LPM)	6.2 SCFM (10.5 Nm ³ /hr or 175 LPM)	6.2 SCFM (10.5 Nm ³ /hr or 175 LPM)
ISO Class Reference	Class 5.6.1 per ISO 8573.1	Class 5.6.1 per ISO 8573.1	Class 5.6.1 per ISO 8573.1	Class 5.6.1 per ISO 8573.1	Class 5.6.1 per ISO 8573.1	Class 5.6.1 per ISO 8573.1
Pressure	25 psig (172 kPa or 1.72 barg)	25 psig (172 kPa or 1.72 barg)	18 psig (124 kPa or 1.24 barg)	22 psig (152 kPa or 1.52 barg)	35 psig (241 kPa or 2.41 barg)	35 psig (241 kPa or 2.41 barg)
Temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature	O ₂ concentration performance rated at 120°F (50°C) inlet air temperature
Control Power Requirements (Single Phase)	120 V / 208 – 240 V ~ ±10%, 50/60 Hz, 0.025 A or 208 – 240 V ~ ±10%, 50 Hz, 0.025 A					
Typical Power Consumption						
120 V / 208 – 240 V ~ ±10%, 50/60 Hz	3 W (w/o compressor) 400 W (w/ compressor)	3 W (w/o compressor) 500 W (w/ compressor)	3 W (w/o compressor) 500 W (w/ compressor)	3 W (w/o compressor) 500 W (w/ compressor)	3 W (w/o compressor) 1000 W - 1300 W (w/ compressor)	3 W (w/o compressor) 1000 W - 1300 W (w/ compressor)
208 – 240 V ~ ±10%, 50 Hz	3 W (w/o compressor) 400 W (w/ compressor)	3 W (w/o compressor) 500 W (w/ compressor)	3 W (w/o compressor) 500 W (w/ compressor)	3 W (w/o compressor) 600 W (w/ compressor)	3 W (w/o compressor) 1000 W - 1100 W (w/ compressor)	3 W (w/o compressor) 1000 W (w/ compressor)
Gear Motor	7398/7383	7398	7371/7350	7371/7350	7350/7398	7371/7350
Compressed Air Quality Requirements	Clean Air (oil-less). Performance rated at 120°F (49°C).					
Certifications and Approvals	ISO 13485:2003					

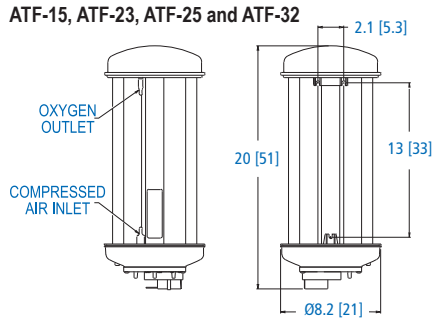
¹Oxygen concentration rated at 120°F (50°C).

²SCF (Standard cubic foot) gas measured at 1 atmosphere and 70°F / Nm³ (Normal cubic meter) gas measured at 1 atmosphere and 0°C / LPM (Liters per minute) gas measured at 1 atmosphere and 21°C

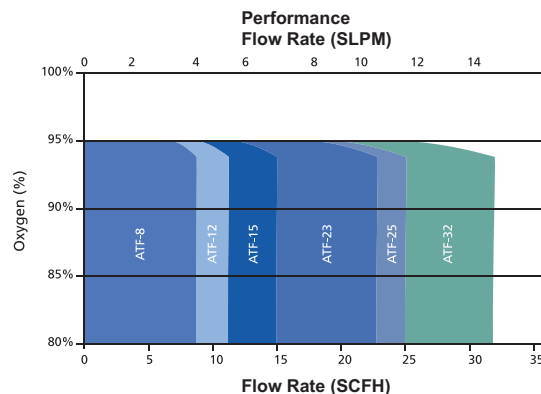
ATF-8 and ATF-12



ATF-15, ATF-23, ATF-25 and ATF-32



Note: Dimensions are in inches (cm). All dimensions are nominal.



Ordering Information

Model	Part Number	Description	Compressor Part Number	Motor	Compressor Max. Pressure ¹	RPM	HP	Power Consumption	Net Weight	
ATF-8	1265V	120 V / 208 – 240 V ~ ±10%, 50/60 Hz	7329	115 V, 60 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1660	1/3	0.4 kW	13 lb (6 kg)	
	7465V	208 – 240 V ~ ±10%, 50 Hz	7330	220 V, 50 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1430	1/3	0.4 kW	17 lb (8 kg)	
ATF-12	3586V	120 V / 208 – 240 V ~ ±10%, 50/60 Hz	1313	115 V, 60 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1650	1/3	0.5 kW	16 lb (7 kg)	
			1314	220 V, 50 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1425	1/3	0.5 kW	14 lb (6 kg)	
ATF-15	1242V	120 V / 208 – 240 V ~ ±10%, 50/60 Hz	1313	115 V, 60 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1650	1/3	0.5 kW	16 lb (7 kg)	
	1498V	208 – 240 V ~ ±10%, 50 Hz	1314	220 V, 50 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1425	1/3	0.5 kW	14 lb (6 kg)	
ATF-23	3161V	120 V / 208 – 240 V ~ ±10%, 60 Hz	7317	115 V, 60 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1680	1/3	0.5 kW	15 lb (7 kg)	
	3239V	208 – 240 V ~ ±10%, 50 Hz	3299	220 V, 50 Hz, 1Ø	30 psig (207 kPa or 2 barg)	1400	2/3	0.6 kW	15 lb (7 kg)	
ATF-25 ²	1280V	120 V / 208 – 240 V ~ ±10%, 50/60 Hz	1243	115 V, 60 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1700	1	1 kW	39 lb (18 kg)	
			7495	115 V, 60 Hz, 1Ø	36 psig (250 kPa or 2.5 barg)	1700	1.75	1.3 kW	40 lb (18 kg)	
			7497	220 V, 60 Hz, 1Ø	36 psig (250 kPa or 2.5 barg)	1700	1.75	1.3 kW	40 lb (18 kg)	
4140V	208 – 240 V ~ ±10%, 50 Hz	1244	220 V, 60/50 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1700/1425	1	1 kW	39 lb (18 kg)		
		7396	220 V, 50 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1400	1	1.1 kW	40 lb (18 kg)		
ATF-32	3328V	120 V / 208 – 240 V ~ ±10%, 60 Hz	1243	115 V, 60 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1700	1	1 kW	39 lb (18 kg)	
			7495	115 V, 60 Hz, 1Ø	36 psig (250 kPa or 2.5 barg)	1700	1.75	1.3 kW	40 lb (18 kg)	
			7497	220 V, 60 Hz, 1Ø	36 psig (250 kPa or 2.5 barg)	1700	1.75	1.3 kW	40 lb (18 kg)	
4104V	208 – 240 V ~ ±10%, 50 Hz	1244	220 V, 60/50 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1700/1425	1	1 kW	39 lb (18 kg)		
		7396	220 V, 50 Hz, 1Ø	45 psig (310 kPa or 3.1 barg)	1400	1	1.1 kW	40 lb (18 kg)		
Accessories (contact factory)	1312 / 1317	Solenoid Valve, 110 V / Solenoid Valve, 220 V								
	1345 / 1368	Pressure Relief Valve, 50 psig (345 kPa) / Pressure Relief Valve, 35 psig (241 kPa)								
	9009	Economy Heat Exchanger								
	9015 / 9017	Heat Exchanger with Fan, 120 V, 60 Hz / Heat Exchanger with Fan, 220 V, 50/60 Hz								
	9114	Flow meter, Dual-Scale 2 – 20 SCFH/1 – 10 LPM								
	9116 / 9124	Flow meter 2 – 25 LPM / Flow meter 5 – 50 SCFH								
	9125	Pressure Switch								
	9132	Filter, General Purpose Water Separator								
	9135	Continuous Oxygen Concentration Monitor								
	9150	Toe Clamps								
9155 / 9160	Compressed Air Hose ½" ID / Oxygen Product Hose ¼" ID									

Shipping Information	ATF-8	ATF-12	ATF-15	ATF-23	ATF-25	ATF-32
Class	92.5	92.5	92.5	92.5	92.5	92.5
Commodity Classification Number	8421.39.8040	8421.39.8040	8421.39.8040	8421.39.8040	8421.39.8040	8421.39.8040
Dimensions (W x D x H)	11 x 11 x 16 in (28 x 28 x 40 cm)	11 x 11 x 16 in (28 x 28 x 40 cm)	11 x 11 x 23 in (28 x 28 x 59 cm)	11 x 11 x 23 in (28 x 28 x 59 cm)	11 x 11 x 23 in (28 x 28 x 59 cm)	11 x 11 x 23 in (28 x 28 x 59 cm)
Gross Weight	11 lb (5 kg)	11 lb (5 kg)	17 lb (8 kg)	17 lb (8 kg)	17 lb (8 kg)	17 lb (8 kg)

Warranty: 1 Year Parts and Factory Labor*

* An unprotected or inadequately ventilated environment, or improper control power may cause damage to the oxygen generator not covered under warranty.

¹The maximum compressor pressure is a characteristic of the compressor and is higher than the air input pressure specification for the ATF modules.

²The ATF-25 and ATF-32 will achieve the specified oxygen flow and pressure when supplied with the specified air flow and pressure. Larger compressors are available to achieve slightly higher oxygen pressures. This technical data is presented as a basis for ATF and compressor selection only. Compressor performance is based upon nominal units tested with ATFs under lab conditions.

All performance ratings based on an ambient temperature up to 100°F (38°C), up to 1,000 feet elevation, and 80% relative humidity.



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