

## 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

- Anesthesia
- Oxygen Therapy
- Veterinary Medicine

### Manufacturing

- Brazing/Soldering
- Glass Work/Blowing

### Environmental

- Ozone (Generator) Feed Gas
- Environmental Remediation

### Additional

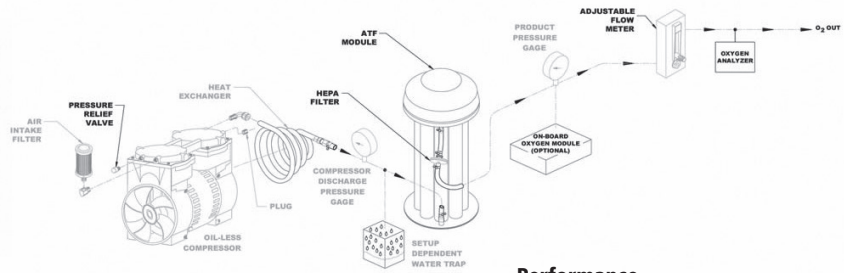
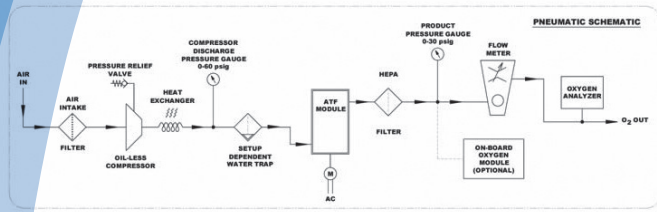
- Fish Farming
- Cosmetic

## Specifications

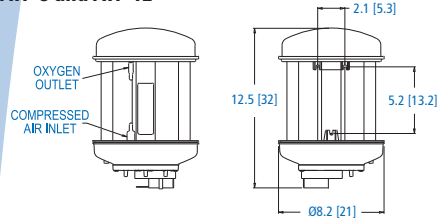
	ATF-8	ATF-12	ATF-15	ATF-23	ATF-25	ATF-32
<b>Product Characteristics</b>						
Input Air Requirements						
Flow <sup>1</sup>	65 LPM (2.3 SCFM)	85 LPM (3 SCFM)	91 LPM (3.2 SCFM)	120 LPM (4.2 SCFM)	175 LPM (6.2 SCFM)	175 LPM (6.2 SCFM)
Pressure	25 psig (172 kPa)	25 psig (172 kPa)	18 psig (124 kPa)	22 psig (152 kPa)	35 psig (241 kPa)	35 psig (241 kPa)
Performance Data						
Product Flow <sup>1</sup>	3.8 LPM (8 SCFH)	5.7 LPM (12 SCFH)	7.1 LPM (15 SCFH)	11 LPM (23 SCFH)	12 LPM (25 SCFH)	15 LPM (32 SCFH)
Oxygen Delivery Pressure	9 psig (62 kPa)	9 psig (62 kPa)	7 psig (48 kPa)	7 psig (48 kPa)	14 psig (97 kPa)	14 psig (97 kPa)
Product Concentration (nominal)	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
Ambient Operating Conditions	Locate the oxygen concentrator system 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) and 140°F (60°C) in storage					
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	3 W	3 W	3 W	3 W	3 W	3 W
Gear Motor	7398 (FMR 1268)/7383	7398 (FMR 1268)	7371 (FMR 1268)/7350 (FMR 1250)	7371 (FMR 1231)/7350 (FMR 1250)	7350 (FMR 1250)/7398 (FMR 1268)	7371 (FMR 1231)/7350 (FMR 1250)
Compressed Air Input Requirements	Clean Air (oil-less). Maximum Temperature of 170°F (77°C). Performance rated at 120°F (49°C).					
Mounting	Two integral mounting pads provided. Toe clamps (optional). Vertical mounting preferred. Must be isolated from compressor vibration.					

<sup>1</sup> LPM (Liters per minute) gas measured at 1 atmosphere and 21°C / SCF (Standard cubic foot) gas measured at 1 atmosphere and 70°F

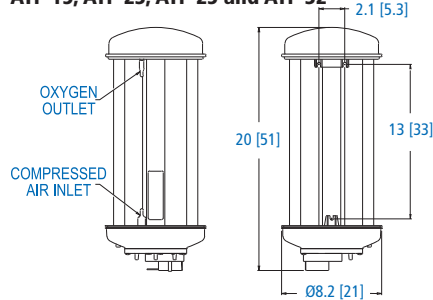
# System Installation Guide



## ATF-8 and ATF-12



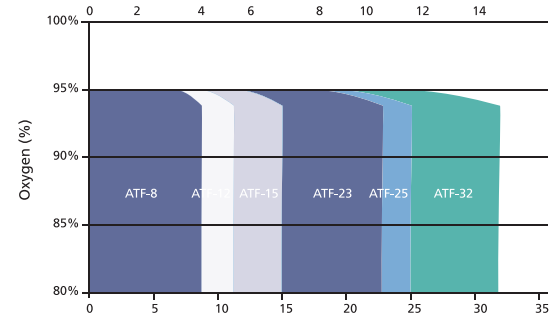
## ATF-15, ATF-23, ATF-25 and ATF-32



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

## Performance

Flow Rate (SLPM)



# Ordering Information

Model	Part Number	Description	Compressor Part Number	Motor	Compressor Max. Pressure <sup>1</sup>	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)	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)	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)	1650	1/3	0.5 kW	16 lb (7 kg)
			1314	220 V, 50 Hz, 1Ø	30 psig (207 kPa)	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)	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)	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)	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)	1400	2/3	0.6 kW	15 lb (7 kg)
ATF-25 <sup>2</sup>	1280V	120 V / 208-240 V ~ ±10%, 50/60 Hz	1243	115 V, 60 Hz, 1Ø	45 psig (310 kPa)	1700	1	1 kW	39 lb (18 kg)
			7495	115 V, 60 Hz, 1Ø	36 psig (250 kPa)	1700	1.75	1.3 kW	40 lb (18 kg)
			7497	220 V, 60 Hz, 1Ø	36 psig (250 kPa)	1700	1.75	1.3 kW	40 lb (18 kg)
ATF-32	4140V	208-240 V ~ ±10%, 50 Hz	1244	220 V, 60/50 Hz, 1Ø	45 psig (310 kPa)	1700/1425	1	1 kW	39 lb (18 kg)
			7396	220 V, 50 Hz, 1Ø	45 psig (310 kPa)	1400	1	1.1 kW	40 lb (18 kg)
Accessories (contact factory)	1243	120 V / 208-240 V ~ ±10%, 60 Hz	7495	115 V, 60 Hz, 1Ø	45 psig (310 kPa)	1700	1	1 kW	39 lb (18 kg)
	7497		7495	115 V, 60 Hz, 1Ø	36 psig (250 kPa)	1700	1.75	1.3 kW	40 lb (18 kg)
	7497		7497	220 V, 60 Hz, 1Ø	36 psig (250 kPa)	1700	1.75	1.3 kW	40 lb (18 kg)
	1244	208-240 V ~ ±10%, 50 Hz	7396	220 V, 60/50 Hz, 1Ø	45 psig (310 kPa)	1700/1425	1	1 kW	39 lb (18 kg)
	7396		7396	220 V, 50 Hz, 1Ø	45 psig (310 kPa)	1400	1	1 kW	40 lb (18 kg)
	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	Flowmeter, 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.

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

<sup>2</sup>The 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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