

The ATF[®] Series Advanced Technology Fractionators

Oxygen Concentrator Modules

The ATF Oxygen Module is the core component in an oxygen concentrator system which incorporates proven pressure swing adsorption (PSA) principles into a unique patented design that is far more compact, efficient, rugged and lower in cost than conventional PSA systems.

A patented single rotary distribution valve is built into the ATF module which continuously rotates at low speeds by a small motor. The valve is maintenance free, self-cleaning, insensitive to contamination and invulnerable to wear.

Unlike conventional PSA systems, the ATF eliminates dozens of components and interconnections enabling applications where on-site/on-board oxygen generation was previously impractical.

Compare the ATF vs. Conventional PSA Systems.

	Conventional	ATF
Pneumatic Connections	40-60	2
Electrical Connections	20-30	2
Solenoid Valves	2-8	None
Control Electronics	Required	None
Inlet Air Pressure (PSIG)	90	18-35
Pressure Reducing Regulator	Required	None
Maintenance	Required	None
External Product Tank	Required	None

FEATURES:

- Reliable Oxygen Production
- Environmentally Tolerant Design
- Compact & Lightweight
- Constant Pneumatic Impedance
- Constant Delivery Pressure
- ISO 13485:2003 Certified

BENEFITS:

- No Maintenance
- No External Product Tank Needed
- Low capital and Operating Costs
- Less than 5 Watts Power Consumption
- Quiet Operation
- Easily Integrated



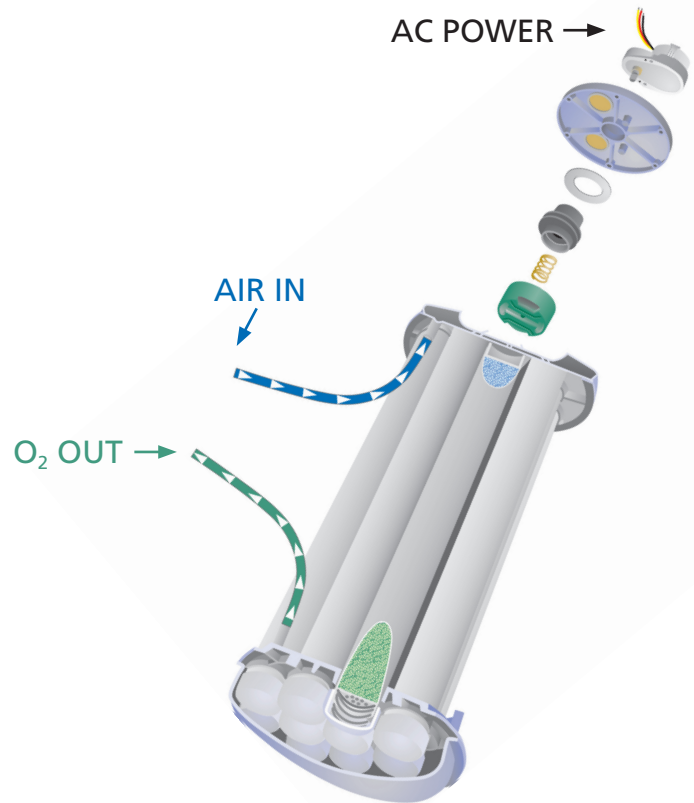
Patented Simplicity for Reliable Long Life

How to utilize the ATF:

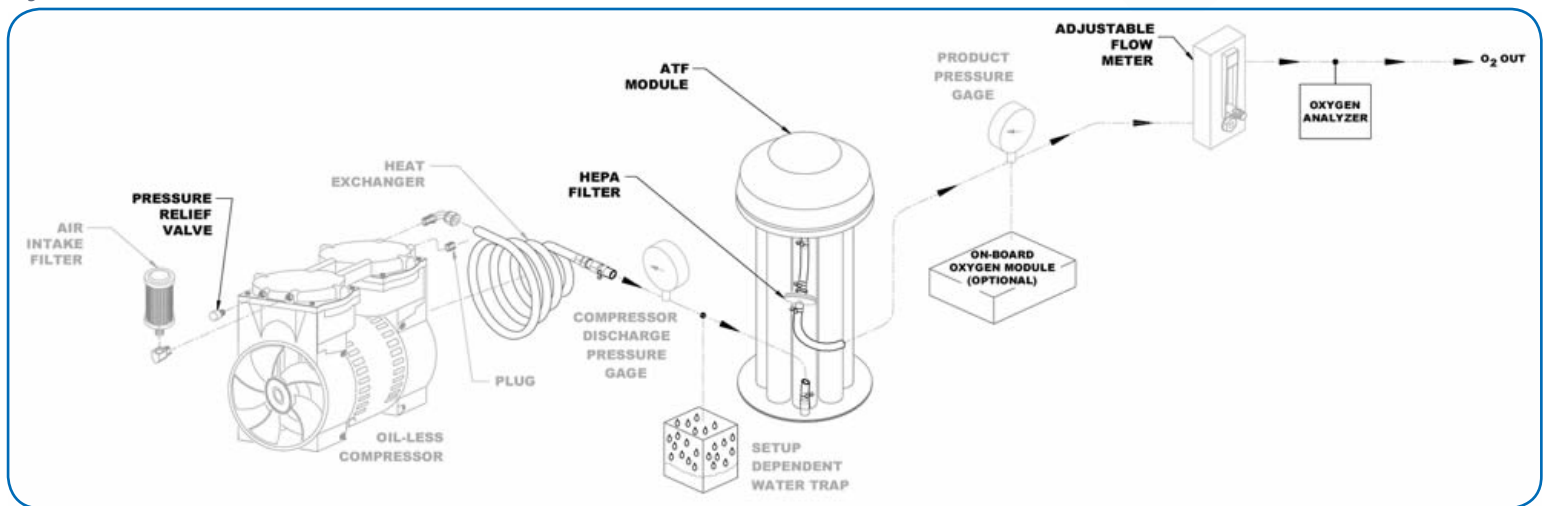
- Step 1:** Choose the appropriate ATF for your oxygen production needs
- Step 2:** Select the ATF Model Number
- Step 3:** Match ATF Model Number with a Recommended Compressor
- Step 4:** Additional Components for the ATF Series

How the ATF works:

The ATF 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 sieve beds eliminate loud noise pulses, eliminate the need for a pressure regulator and reduce compressor wear.



System Installation Guide



Step 1: Choose the appropriate ATF for your oxygen production needs

ATF-8 Series

The ATF-8 provides oxygen from 0-8 standard cubic feet per hour (SCFH)/ 0-3.8 liters per minute (LPM) at 90-95% purity.

ATF-12 Series

The ATF-12 provides oxygen from 0-12 SCFH/0-5.5 LPM at 90-95% purity.

ATF-15 Series

The ATF-15 provides oxygen from 0-15 SCFH/0-7 LPM at 90-95% purity.

ATF-23 Series

The ATF-23 provides oxygen from 0-23 SCFH/0-10.8 LPM at 90-95% purity.

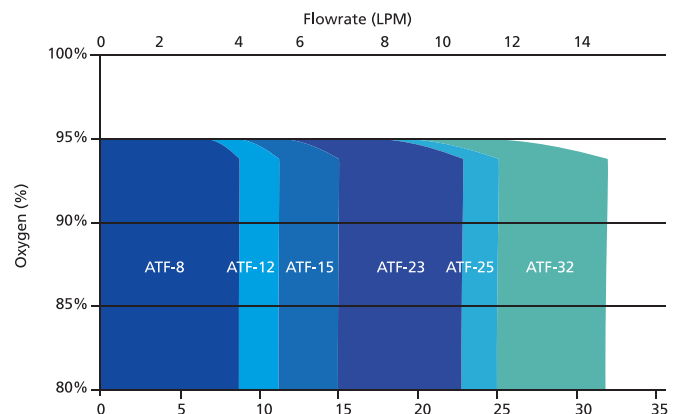
ATF-25 Series

The ATF-25 provides oxygen from 0-25 SCFH/0-11.8 LPM at 90-95% purity.

ATF-32 Series

The ATF-32 provides oxygen from 0-32 SCFH/ 0-15 LPM at 90-95% purity. Dimensions: 20" H x 8.2" Dia. (510 mm H x 210 mm Dia.)

Advanced Technology Fractionators PERFORMANCE DATA



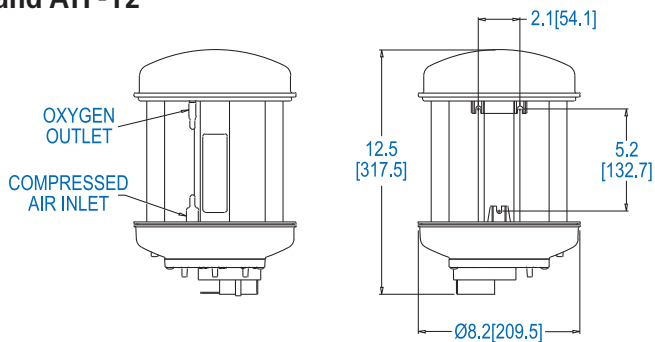
Step 2: Select the ATF Model Number

ATF Specifications and Performance

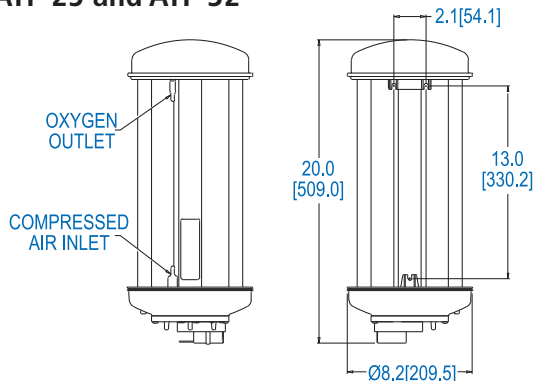
Name	Model #	Power Supply	Gear Motor	Input Air Requirements		Performance Data		Weight
				Flow	Pressure	Flow 90% (+3%/-5%) O ₂ at:	Oxygen Delivery Pressure	
ATF-8	1265V	120 VAC/208-240 VAC (+/-10%) 50 or 60 Hz., 25 mA.	1268	2.3 SCFM 65 LPM	25 PSIG 1.7 bar	8 SCFH 3.8 LPM 0.2 m ³ /hr 16 lb/day	9 PSIG 0.6 Bar 470 mm Hg 250 in H ₂ O	9.6 lbs 4.4 kg
ATF-12	3586V	120 VAC/208-240 VAC (+/-10%) 50 or 60 Hz., 25 mA.	1268	3.0 SCFM 85 LPM		12 SCFH 5.7 LPM 0.3 m ³ /hr 24 lb/day		9.8 lbs 4.5 kg
ATF-15	1242V	120 VAC/208-240 VAC (+/-10%) 50 or 60 Hz., 25 mA.	1231	3.2 SCFM 91 LPM	18 PSIG 1.2 bar	15 SCFH 7.1 LPM 0.4 m ³ /hr 30 lb/day	7 PSIG 0.5 bar 360 mm Hg 190 in H ₂ O	14.7 lbs 6.7 kg
	1498V	208-240 VAC (+/-10%) 50 Hz., 25 mA.	1250					
ATF-23	3161V	120 VAC/208-240 VAC (+/-10%) 60 Hz., 25 mA.	1231	4.2 SCFM 120 LPM	22 PSIG 1.5 bar	23 SCFH 11 LPM 0.7 m ³ /hr 46 lb/day		
	3239V	208-240 VAC (+/-10%) 50 Hz., 25 mA.	1250					
ATF-25	1280V	120 VAC/208-240 VAC (+/-10%) 50 or 60 Hz., 25 mA.	1250	6.2 SCFM 175 LPM	35 PSIG 2.4 bar	25 SCFH 12 LPM 0.7 m ³ /hr 50 lb/day	14 PSIG 1 Bar 720 mm Hg 390 in H ₂ O	15 lbs 6.8 kg
	4140V	208-240 VAC (+/-10%) 50 Hz., 25 mA.	1268					
ATF-32	3328V	120 VAC/208-240 VAC (+/-10%) 60 Hz., 25 mA.	1231					
	4104V	208-240 VAC (+/-10%) 50 Hz., 25 mA.	1250					

Envelope Dimensions inches (mm)

ATF-8 and ATF-12



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



ATF Characteristics:

Electrical:

Power consumption is 3 Watts

Compressed Air Input Requirements

Clean Air (oil-less)
Maximum Temperature of 170°F (77°C)
(Performance rated at 120°F (49°C))

Ambient Temperature Parameters

40°F-130°F (4°C-54°C) inside operating enclosure
0°F-140°F (-18°C-60°C) storage

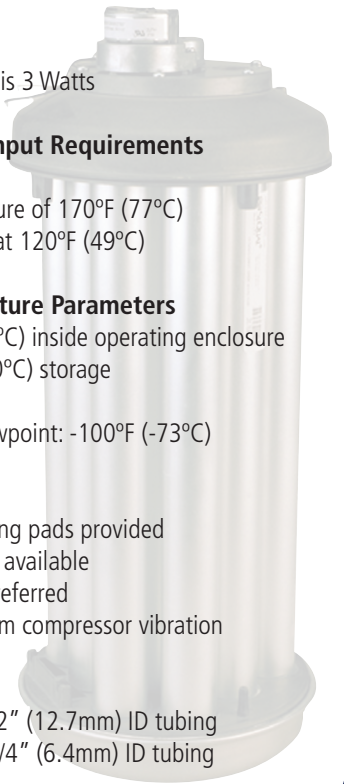
Oxygen Delivery Dewpoint: -100°F (-73°C)

Mounting

Two integral mounting pads provided
Optional toe clamps available
Vertical mounting preferred
Must be isolated from compressor vibration

Physical

Air inlet: Barb for 1/2" (12.7mm) ID tubing
O₂ outlet: Barb for 1/4" (6.4mm) ID tubing



Step 3: Match ATF Model Number with a Recommended Compressor

Match the chosen ATF model and part number with the appropriate oil-less compressor part number.

ATF Name	ATF Model #	Recommended Compressor Part Number	Motor	Compressor Max. Pressure (psi) ¹	RPM	HP	Power Consumption kW	Net Weight Lbs (kg)
ATF-8	1265V	1201	115V, 60Hz, 1Ø	30	1660	1/3	0.4	13 (5.9)
		1202	220V, 50Hz, 1Ø	30	1430	1/3	0.4	17 (7.7)
ATF-12	3586V	1313	115V, 60Hz, 1Ø	30	1650	1/3	0.5	16 (7.1)
		1314	220V, 50Hz, 1Ø	30	1425	1/3	0.5	14 (6.4)
ATF-15	1242V	1313	115V, 60Hz, 1Ø	30	1650	1/3	0.5	16 (7.1)
	1498V	1314	220V, 50Hz, 1Ø	30	1425	1/3	0.5	14 (6.4)
ATF-23	3161V	3160	115V, 60Hz, 1Ø	30	1650	2/3	0.6	18 (8.2)
	3239V	3299	220V, 50Hz, 1Ø	30	1400	2/3	0.6	15 (6.8)
ATF-25 ²	1280V	1318	115/220V, 60Hz, 1Ø	45	1725	1	1	60 (27)
		1243	115V, 60Hz, 1Ø		1700			39 (18)
	4140V	1244	220V, 60Hz/50Hz, 1Ø	45	1700/1425	1		39 (18)
ATF-32 ²	3328V	1318	115/220V, 60Hz, 1Ø	45	1725	1	1	60 (27)
		1243	115V, 60Hz, 1Ø		1700			39 (18)
	4104V	1244	220V, 60Hz/50Hz, 1Ø		1700/1425			39 (18)

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. Please call for additional information.

Step 4: Add Additional Components for the ATF Series

Add additional components required to run your ATF or add additional optional recommended accessories.

Part No.	Description	ATF-8	ATF-12	ATF-15	ATF-23	ATF-25	ATF-32
1312	Solenoid Valve, 110V	O	O	O	O	O	O
1317	Solenoid Valve, 220V	O	O	O	O	O	O
1345	Pressure Relief Valve, 50 psi					R	R
1368	Pressure Relief Valve, 35 psi	R	R	R	R		
9009	Economy Heat Exchanger	R	R	R	R		
9015	Heat Exchanger with Fan, 120V, 60Hz					R	R
9017	Heat Exchanger with Fan, 220V, 50/60Hz					R	R
9114	Flowmeter, Dual-Scale 2-20 SCFH/1-10 LPM	R	R	R	R		
9116	Flow Meter 2-25 LPM					R	R
9124	Flow Meter 5-50 SCFH					R	R
9125	Pressure Switch	O	O	O	O	O	O
9132	Filter, General Purpose Water Separator	O	O	O	O	R	R
9135	Continuous Oxygen Monitor	O	O	O	O	O	O
9150	Toe Clamps	R	R	R	R	R	R
9155	Compressed Air Hose ½" ID	R	R	R	R	R	R
9160	Oxygen Product Hose ¼" ID	R	R	R	R	R	R

Required

Optional



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