

AIRVANTAGE

AirVantage™
Energy Saving Technology

RE

- ▶ Metallic Pumps
- ▶ Hazardous Certified
- ▶ Upgrade Kits

**AirVantage™**
ENERGY SAVING TECHNOLOGY

SAVE Energy • SAVE Compressor Cost • SAVE Operator Cost

NEW



Redefining Performance

- ▶ Reduces air consumption up to 50%
- ▶ Adapts to process conditions
- ▶ Powered only by compressed air
- ▶ Saves energy while maintaining flow†
- ▶ Increases productivity
- ▶ Reduces compressor maintenance
- ▶ Drop-in center section upgrades fit competitor pumps



No Manual Setting!

- Auto adjusts to your process conditions



No Wiring or Batteries!

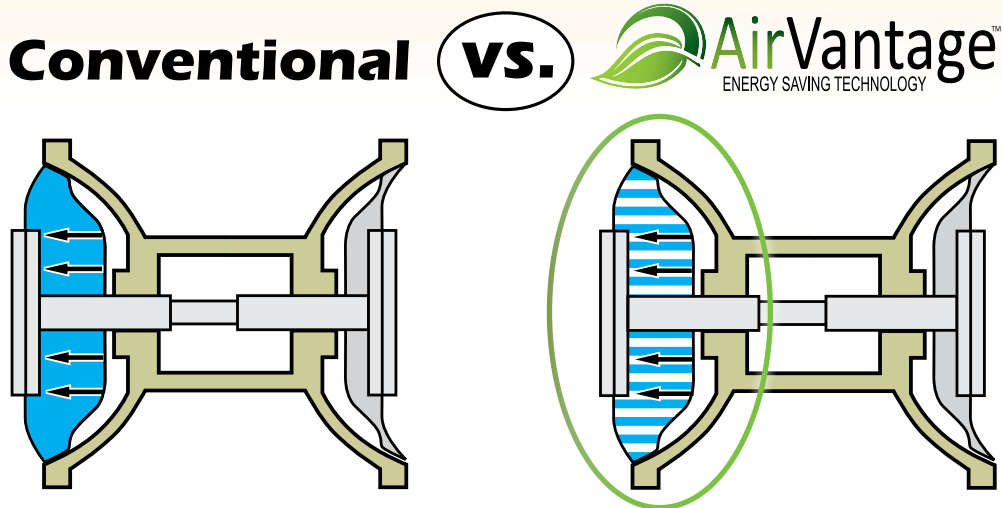
- Self contained 12V power generator

US Patent # 7,521,921.
Other Patents Pending

**VERSA-MATIC®**
WWW.AIRVANTAGEPUMP.COM

The AirVantage Difference

AirVantage is a new technology for Air Operated Double Diaphragm pumps that significantly reduces air consumption over conventional AODD pumps.



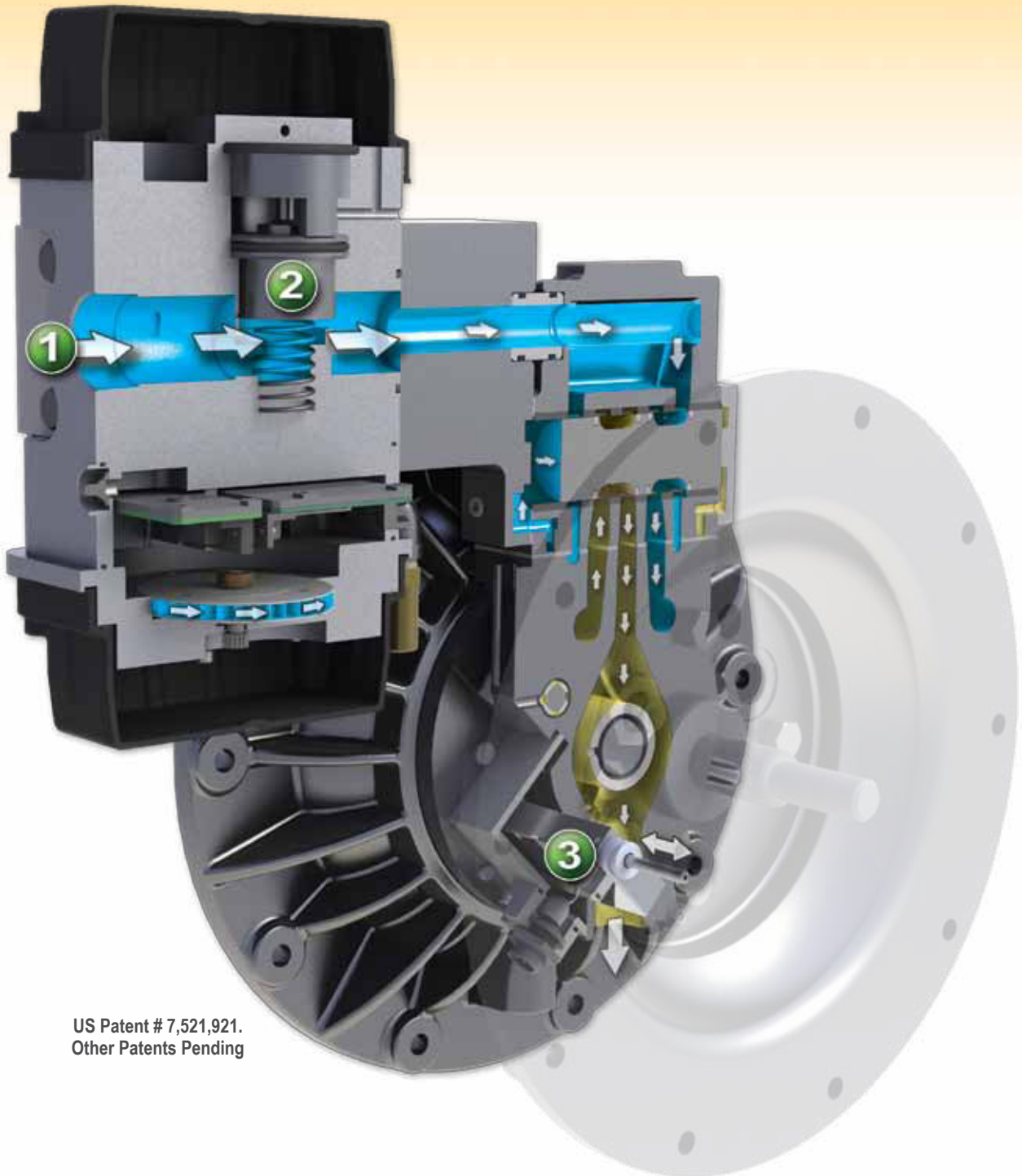
Without AirVantage
Conventional AODD pumps fully expand diaphragms to complete pump stroke, causing increased air usage and expense.

With AirVantage
AirVantage uses advanced technology to complete full diaphragm expansion using up to 50% less air while maintaining flow.

Benefits of AirVantage

- **Reduces air consumption**
 - Field testing shows up to 50% savings over conventional AODD pumps. AirVantage Technology is available with Versa-Matic® metallic pumps with discharge line sizes of 2" or greater. Versa-Matic center section upgrade kits are also available.
- **Adapts to process conditions**
 - Using an advanced learning program that receives velocity feedback from an embedded sensor, AirVantage optimizes energy consumption and automatically adapts to changes in system demand, constantly managing energy consumption.
- **Powered only by compressed air**
 - AirVantage uses a self-contained 12V power generator that converts a tiny portion of compressed air to power system electronics for managing energy.
- **Saves energy while maintaining flow†**
 - Field trials have proven that AirVantage can maintain comparable flow capacity while reducing air consumption saving thousands of dollars in annual energy costs.
- **Increases productivity**
 - By using less air to operate pumps, AirVantage allows for more compressed air capacity system-wide to run more pumps generating greater productivity and better throughput.
- **Reduces compressor maintenance**
 - Air compressors with reduced demand need fewer repairs, saving customers thousands of dollars in maintenance and repair parts.

†: Maintains plus or minus 5% flow variation



US Patent # 7,521,921.
Other Patents Pending

Step 1

- Air enters main inlet.
- Small amount of air directed to turbine that powers the unit.

Step 2

- Air Regulator Valve controls air flow volume.
- Air continues on standard path through air system.

Step 3



- Sensor monitors pump velocity, sends data to microprocessor.
- Microprocessor calculates ideal air usage, regulates air valve.



US Patent
7,521,921.
Other Patents
Pending



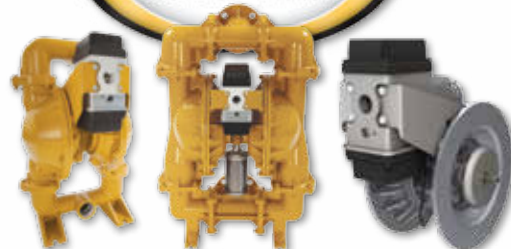
AirVantage Components

- **Air Regulator Control**
Contains PowerGen regulator and electro/pneumatic SMC pilot valve.
- **Mechanical Valve**
Opens and partially closes as directed by the Velocity Feedback System to save air while maintaining flow.
- **Velocity Feedback System**
Advanced learning program modulates air flow to optimize energy usage. Automatically adapts to changing process conditions. Green LED light is a diagnostic tool and indicates proper operation.
- **On/Off Switch**
On/Off switch allows the operator to measure air consumption with or without AirVantage once the pump goes on-line. AirVantage defaults to standard pump performance when in "off" mode.
- **PowerGen**  
Self contained 12V PowerGen module generates power for system using existing air. No need to run electrical or replace batteries.

**Certified
Best in Class**

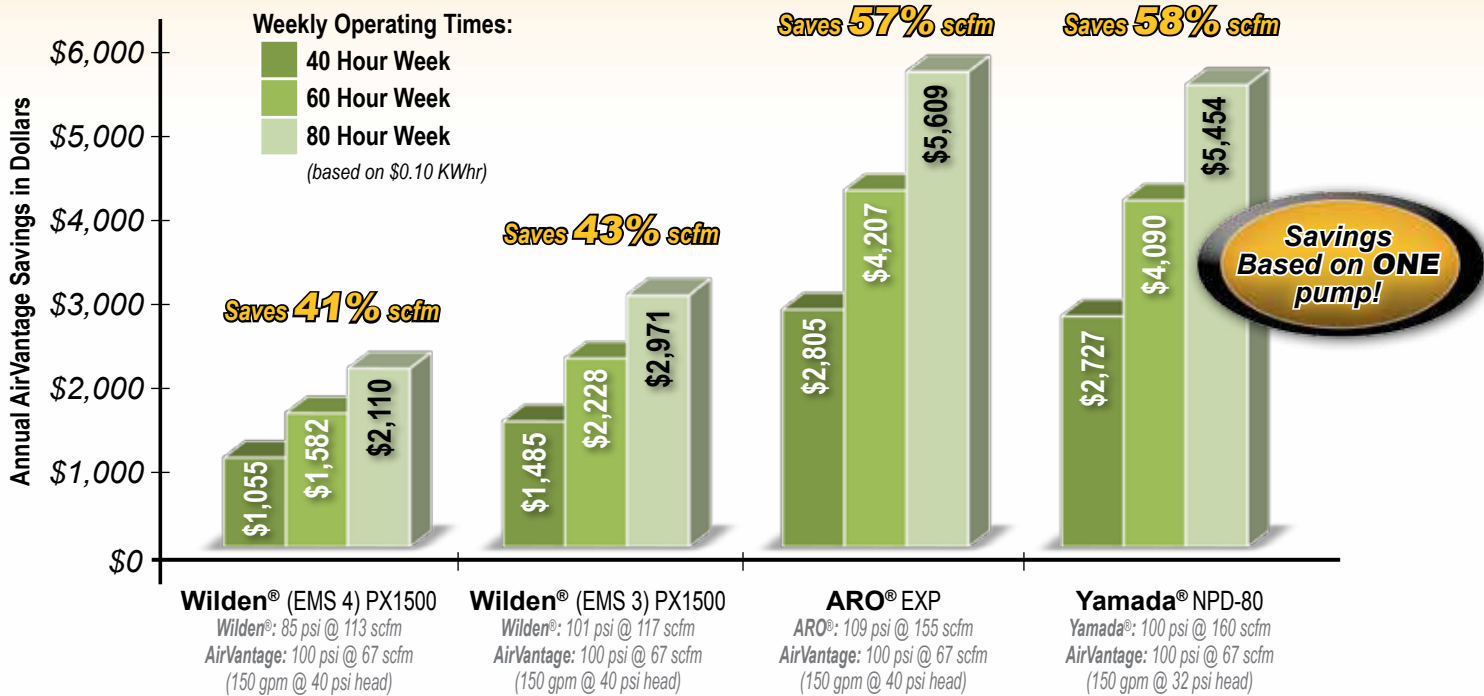


**FREE
30-DAY TRIAL**



Let us show you how much
you can save with our
FREE 30-day trial in your facility.
Receive a complete test report.

Annual Savings: AirVantage RE3 vs. Competition



*Comparisons made from published data

Wilden® is a registered trademark of Wilden Pump & Engineering Company a Dover Resources Company
 ARO® is a registered trademark of Ingersoll-Rand Company • Yamada® is a registered trademark of Yamada Corporation

AirVantage Saves More Than Energy Versa-Matic AirVantage vs. Standard Pump

Ways You Save with AirVantage	50% Energy Savings	25% Energy Savings
1. Energy Savings (20-50%)	\$3,000	\$1,500
2. Less Energy Draw From Compressor Systems • Avoid buying additional air compressor	\$25,000	\$25,000
3. Reduced Air Compressor Maintenance Expense • 50% annually, including spare parts	\$2,500	\$1,250
4. Reduced Pump Maintenance & Operating Costs	\$1,750	\$1,750
5. Reduced Decibel Levels 8-10% • Based on single OSHA violation expense	\$1,500	\$1,500
Total Value Calculated	\$33,750	\$31,000
Total Value minus Air Compressor	\$8,750	\$6,000

In addition to saving energy, these are some examples of how AirVantage can add value to your overall operation:

- When AODD pumps require less energy for operation, there is lower demand for compressed air throughout the facility.
- Lower air compressor demand reduces annual repair parts and maintenance costs.
- Because AirVantage is self-adapting, less time is spent monitoring and manually adjusting the air-valve settings for optimizing energy consumption.
- AirVantage also operates at lower decibel levels, making for a safer work environment.

Results may vary: • Estimates shown are based on a 3" size pump, operating at 40 hours per week using \$.10/KW/hr
 • Average factory air compressor maintenance costs estimated to be \$5,000 on repair parts and labor.

Ex SP Hazardous Certified Option



AirVantage is the only electronic air savings device in the world that is certified for hazardous locations. The ATEX Certified option is rated explosion proof and has passed both ATEX and UL/CSA standards for hazardous duty applications.

Improved Characteristics:

- ATEX valve housing armor to meet explosion-proof guidelines
- Recessed on-off switch with ATEX safety plug
- Static-free borosilicate glass LED lens cover
- Intrinsically Safe electrical fittings for ATEX compliant cables and glands
- ATEX approved circuitry

Definitions:

ATEX: ATmospheres EXplosibles, European Standard for equipment certified safe to be used in potentially hazardous environments.

UL/CSA: Underwriters Laboratory/Canadian Standards Association, North American standards for equipment certified safe to be used in potentially hazardous environments.

Explosion Proof: Pump prevents transmission of internal explosions by enclosing parts that could ignite the surrounding atmosphere.

Hazardous Service: Term for our ATEX certified pumps.

AirVantage Applications

Industries:

- Chemical / Petrochemical Processing
- Ceramic Glaze / Slip Processing
- Paints, Inks and Coatings
- Pulp and Paper Converters
- Adhesives Processing
- Industrial / Municipal Wastewater
- Construction / Utilities

Typical Applications & Usage:

Characteristics:	Application Type:	Description:
Long Hours of Operation	Recirculation, Mixing, Batching	Long hours of continuous operation consume the most energy. Small improvements in air consumption make huge impact on bottom line
High SCFM Consumption	Transfer, Loading, Offloading	Opportunities to reduce highest percentage of SCFM consumption
High Air Compressor Costs	Facility air capacity is at a premium	Reducing between 3-7 HP per pump can make a significant difference to compressor operation. <i>(ex: 40 pumps x 5HP = 200 HP reduction)</i>
Hazardous Service ATEX Certified	Recirculation, Mixing, Batching, Transfer, Loading, Offloading, and Processing	<i>Paints, Solvents, Fuels, Acids, and Hazardous Chemicals</i>

Saint Gobain • Niagara Falls, NY

See how AirVantage is saving customers money and how it works for them. If you need more proof take our FREE 30-day Trial Challenge and get the exact numbers for your facility.



Saint Gobain Statistics:

Industry: **Construction Materials**

Compressor Gain: **2.5 HP per pump**

Energy Reduction: **23%**

Annual Energy Savings: **\$1,200**



RE2 with Standard Muffler

“At Saint Gobain, we took the 30-Day Energy Savings Challenge within our facility and **reduced our energy cost by 23%** at our fluid separation point.

Fluid separation points at Saint Gobain are the most process-critical applications within our facility. They serve multiple functions, including recirculation and batch transfer. They run 24 hours a day, seven days a week. Over this period of time, AirVantage™ reduced our air consumption by 23% **while maintaining our desired flow rates.**

It was simple. All we did was install the trial AirVantage™ pump and it did the rest, **optimizing our energy consumption without special handling or monitoring.** As the pump application switched from batch transfer to recirculation to fluid separation, the AirVantage™ self-adjusted to the pressure drops and changing condition-points all by itself, using just the right amount of compressed air to operate our pump.

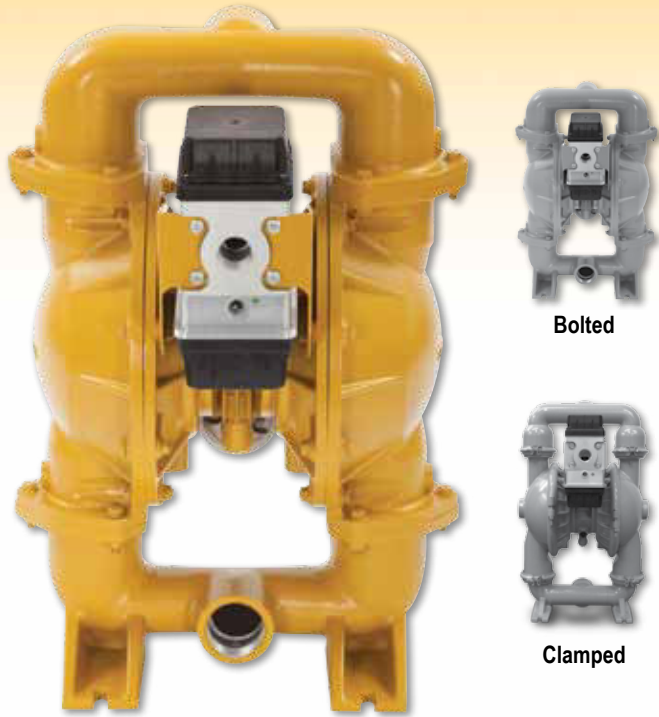
At the end of the product trial, test results showed the amount of compressed air the pump consumed with AirVantage™ versus data points collected prior to the product trial. We were surprised to learn that we can save as much as **\$1,200 in energy costs and increase our air compressor capacity by 2.5 HP per pump.**

We were very satisfied with the performance of the new system, and we plan to use AirVantage™ on all AODD pumps in the future.”

Rick Klok
Plant Manager
Grains and Powders Manufacturing Facility
Saint Gobain • Niagara Falls, NY

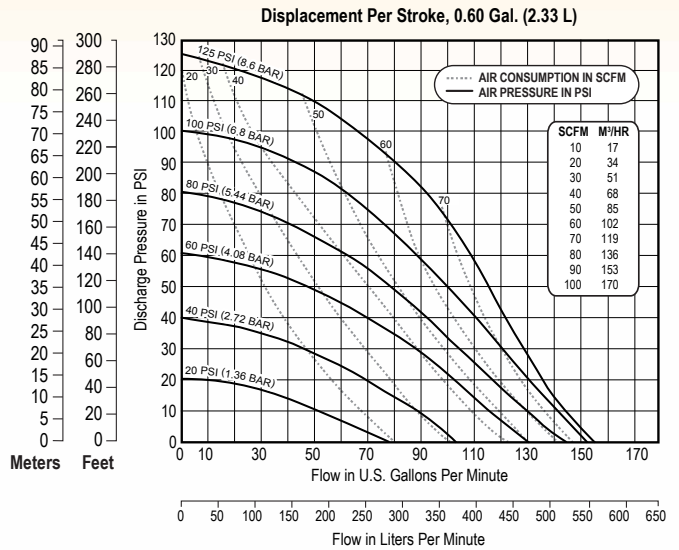
RE2 AirVantage™ - 2"

Energy Saving Technology

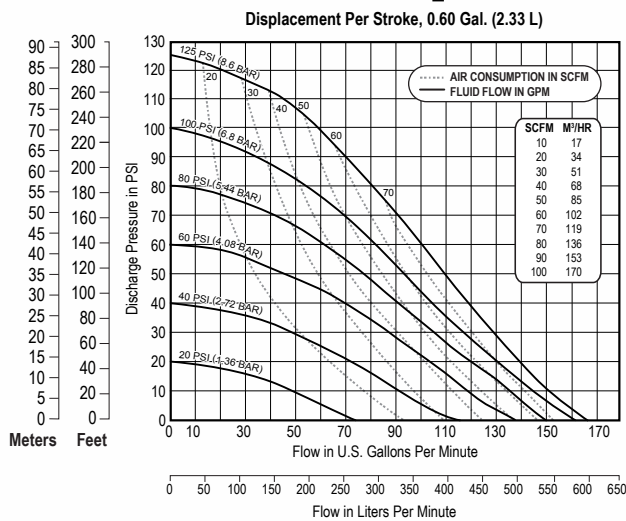


- Bolted or clamped
- ATEX certified option
- Complete center section upgrade kits available

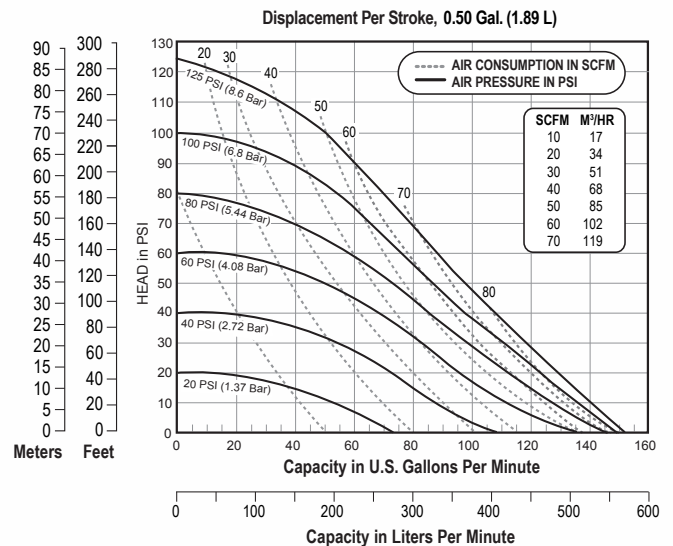
RE2 Aluminum • Bolted



RE2 Metallic • Clamped

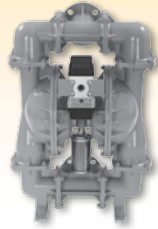
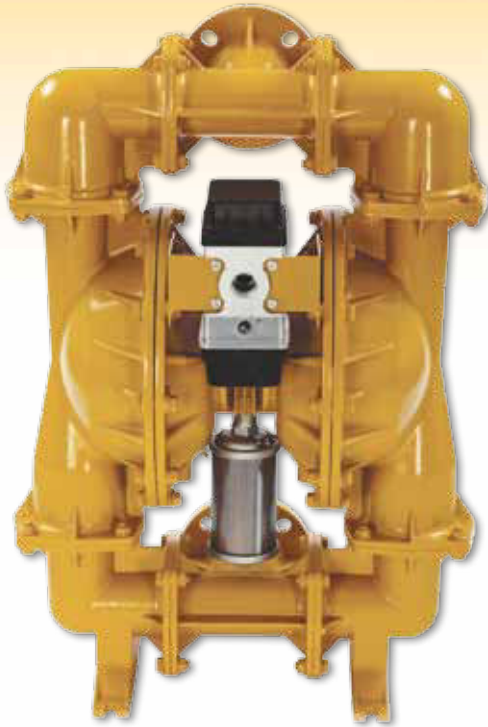


RE2 Stainless • Bolted



Performance based on the following: elastomer fitted pump, flooded suction, water at ambient conditions. The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.

Pump Model	Pump Design	Pipe Size		Capacity		Solids Handling Up to		Heads - Up to			Displacement per Stroke		Suction Lift (non PTFE)		ATEX Certified Optional	
		Intake	Discharge	GPM	LPM	Inch	MM	PSI	ft. of Water	BAR	M	Gallon	Liter	Dry		Wet
RE2	Bolted Aluminum	2" (internal)	2" (internal)	0-155	0-587	.43	11	125	289	8.6	88	.60	2.33	20'	25'	Yes
RE2	Clamped	2" (internal)	2" (internal)	0-165	0-625	.43	11	125	289	8.6	88	.60	2.33	20'	25'	Yes
RE2	Bolted Stainless/Hastelloy®	2" (internal)	2" (internal)	0-150	0-568	.43	11	125	289	8.6	88	.50	1.89	20'	25'	Yes



Bolted



Clamped

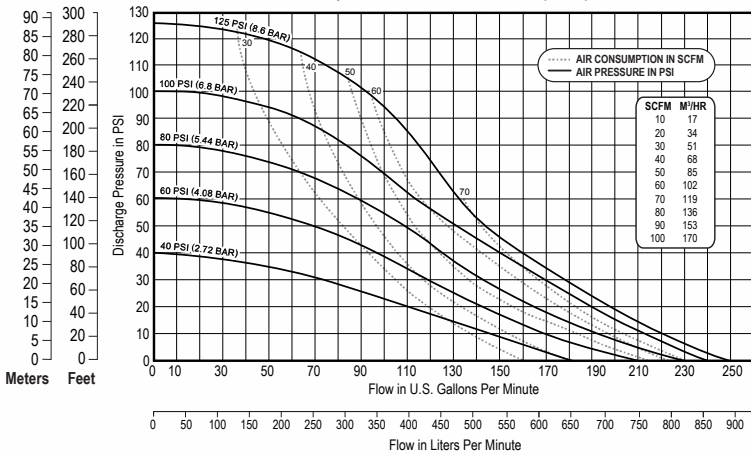
- Bolted or clamped
- ATEX certified option
- Complete center section upgrade kits available



You're covered by our AirVantage 5 year limited warranty.

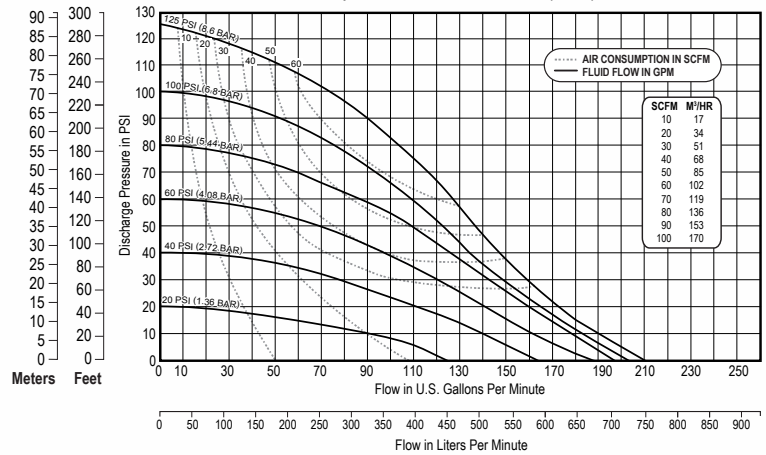
RE3 Metallic • Bolted

Displacement Per Stroke, 1.45 Gal. (5.49 L)



RE3 Metallic • Clamped

Displacement Per Stroke, 1.38 Gal. (5.22 L)



Performance based on the following: elastomer fitted pump, flooded suction, water at ambient conditions. The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.

Pump Model	Pump Design	Pipe Size		Capacity		Solids Handling Up to		Heads - Up to			Displacement per Stroke		Suction Lift (non PTFE)		ATEX Certified Optional	
		Intake	Discharge	GPM	LPM	Inch	MM	PSI	ft. of Water	BAR	M	Gallon	Liter	Dry		Wet
RE3	Bolted	3" (internal)	3" (internal)	0-245	0-927	.75	19.1	125	289	8.6	88	1.45	5.49	20'	25'	Yes
RE3	Clamped	3" (internal)	3" (internal)	0-210	0-795	.75	19.1	125	289	8.6	88	1.38	5.22	20'	25'	Yes

Center Section Upgrades Fit Competitor Pumps!



No Manual Setting!

- Auto adjusts to your process conditions



No Wiring or Batteries!

- Self contained 12V power generator

Improve your pumps efficiency while saving on:

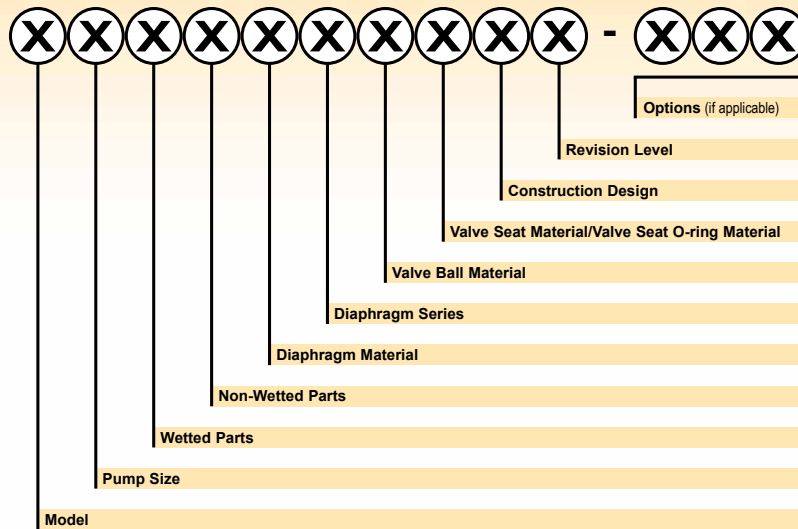
- Acquisition cost
- Installation time and materials

Versa-Matic® AirVantage upgrade kits make it possible to upgrade your existing pumps without having to purchase a new one.

Wilden Original Series Pumps	Versa-Matic AirVantage Compatible Center Sections			
	Rubber Fitted		PTFE Fitted	
Size:	2" discharge	3" discharge	2" discharge	3" discharge
Wilden® Model:	RP24-100-OE	RP34-100-OE	RP24-500-OE	RP34-100-OE
Wilden® T-Series	✓	✓	✓	✓
Wilden® M-Series	✓	✓	✓	✓
Wilden® P-Series	✓	✓	✓	✓

Wilden® is a registered tradename of Wilden Pump & Engineering Company a Dover Resources Company

Versa-Matic Model Identification Codes



Model

RE AirVantage

Pump Size

2 2"
3 3"

Wetted Parts

A Aluminum
C Cast Iron
S Stainless Steel
H Hastelloy® C

Non-Wetted Parts

A Aluminum

Diaphragm Material

1 Neoprene
2 Nitrile
3 (FKM) Fluorocarbon
4 Nordel
5 PTFE
6 XL
7 Hytrel
9 Geolast

Diaphragm Series

R Rugged
D Dome
X Thermo-Matic
T Tef-Matic (2-piece)
F FUSION (one-piece integrated plate)

Valve Ball Material

1 Neoprene
2 Nitrile
3 (FKM) Fluorocarbon
4 Nordel
5 PTFE
6 XL
7 Hytrel
8 Polyurethane
9 Geolast
A Acetal
S Stainless Steel

Valve Seat/Valve Seat O-ring Material

1 Neoprene
2 Nitrile
3 (FKM) Fluorocarbon
4 Nordel
5 PTFE
6 XL
7 Hytrel
8 Polyurethane
9 Geolast
A Aluminum w/ PTFE O-rings
S Stainless Steel w/ PTFE O-rings
C Carbon Steel w/ PTFE O-rings
H Hastelloy® C w/ PTFE O-rings
T PTFE Encapsulated Silicone O-rings

Construction Design

0 Clamped
9 Bolted

Hastelloy® is a registered trademark of Haynes International, Inc.

Optional Accessories:



Surge Suppressors

Maintains a constant air cushion volume for the most effective surge suppression.



Air Dryer

Removes 99% of the water, rust and other contaminants in compressed air lines.



Speed Control

Accurate control of variable flow rates with electric speed control system.



Filter/Regulators

Clean, dry air optimizes AODD pump operation and reduces maintenance.



FREE 30-DAY TRIAL

Take the AirVantage Challenge, contact your local Versa-Matic distributor to schedule a **FREE** on-site analysis.

Only AirVantage goes beyond talking and shows you how much you can save by putting our pump in your facility for **FREE**.
Its as easy as 1-2-3.

1. Contact Your Local Distributor

- Tell them you want to take the FREE AirVantage Challenge.

2. Schedule a FREE Evaluation

- We install monitors on your system to evaluate current air consumption (SCFM).
- Then we install AirVantage and evaluate air consumption (SCFM).

3. Review your FREE Test Results

- Data from the on-site testing is presented in a comprehensive report.
- We review the report with you and show how AirVantage can save you money.
- We provide you with a savings estimate.



We install our monitor to your system and evaluate air consumption (SCFM). Then we install AirVantage and show you the results.



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