

ARO

EXPert Series Air-Operated Diaphragm Pumps

EXPONENTIALLY Advanced



IR Ingersoll Rand



What's Behind the Name ARO?

Three letters. Eighty years. One goal: *to be a world-class manufacturer of positive displacement pumps and systems.* With an 80-year legacy of premier product performance and service excellence, ARO provides fluid handling equipment for customers and industries worldwide including chemical, manufacturing, energy, pharmaceutical, mining and more. The name ARO means *EX*Ponentially advanced, *EX*Ponentially reliable. And that's a name you can count on.



EXPerience the Legacy

A brand of Ingersoll Rand, ARO Fluid Handling Products is a leading global manufacturer of positive displacement pumps and systems. For over 80 years, ARO has delivered fluid handling products that help customers succeed in an ever-changing marketplace. Our EXPert Series air-operated diaphragm pumps underscore that commitment with superb performance matched by the industry's best total cost of ownership.

The pump of choice for process professionals and original equipment manufacturers, EXP brings unbeatable reliability and cutting-edge efficiency to a full spectrum of industries. At the heart of EXP lies innovative, patented air valve technology that yields long-term durability, efficiency, and safe, dependable operation.

Renowned performance and lower costs, backed by worldwide service and ARO's exclusive five-year warranty all add up to unsurpassed value and increased peace-of-mind.



EXPect High-Performance

A feat of modern engineering, our EXP series was designed from the inside out to include features not available in traditional diaphragm pumps. On its exterior, EXP incorporates unique safety features that prevent hazardous leaks and robust components that reduce maintenance and replacement costs.



- Engineered bolted construction with more bolts than the competition to prevent hazardous leaks
- Exclusive, dome-shaped ribless fluid caps that prevent leaks, provide structural integrity that resists “coldflow” (a deformation commonly found in non-metallic, polypropylene pumps) and makes cleaning and wash-down easier
- Modular air motor design makes maintenance and repairs easy

Built-In Advantages



Safety

Bolted construction and ribless fluid caps eliminate leaks to safeguard your employees and your business.



Innovation

Patented “unstallable” air-valve technology affords high-performance and eliminates costly downtime due to stalling and freezing.



Efficiency

Maximum flow rates and less air consumption have proven EXP to be up to 40% more efficient than competitors.



Reliability

With a convoluted diaphragm that lasts up to four times longer than traditional diaphragms, EXP assures greater longevity.



Versatility

A broad range of construction materials, port types, sizes, and variable flow and pressure rates makes EXP ideal for a wide spectrum of applications.



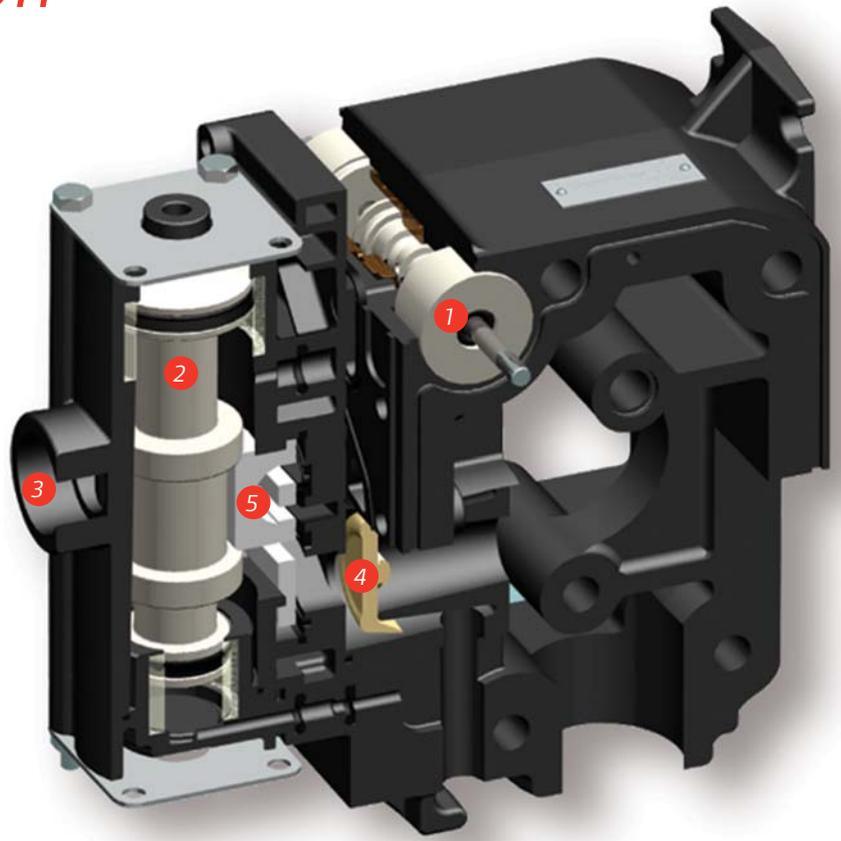
Value

EXP Series offers the industry’s lowest total cost-of-ownership, plus a five-year warranty for lasting peace of mind.



EXPerience Innovation

Innovations demonstrated outside EXP can be found at the heart of each pump as well. Let's take a closer look.



- (1) "Simul-Shift™" Valve
- (2) "Unbalanced" Major Air Valve
- (3) "Simplified" Major Air Valve Block
- (4) "Quick Dump™" Valves
- (5) "D" Valve

How the EXP Air Motor Works

As compressed air enters the pump, it presses the diaphragm against the Simul-Shift valve (1) which allows faster trip-over for superior flow with minimal pulsation. Simultaneously, the unbalanced air valve (2) maintains an ultra-positive signal as air shifts from the smaller end to the larger end of the valve.

When the main valve (3) opens and pressurizes the diaphragm air chamber, the quick dump valves (4) allow air to enter, and then exhaust the cold, wet air away from the main valve so the pump never freezes or stalls during operation. This eliminates the need for space heaters or hot water taps to keep fluid moving.

Finally, to keep things flowing smoothly, ceramic inserts (5) control air flow, affording faster, frictionless cycling without lubrication.

"D" Valve	"Simul-Shift™" Valve	"Unbalanced" Major Air Valve	"Quick Dump™" Valves	"Simplified" Major Air Valve Block
<ul style="list-style-type: none"> • Provides a positive seal • Helps assure optimum energy efficiency while avoiding costly air "blow-by" • Ceramic construction ensures long service life 	<ul style="list-style-type: none"> • Provides an ultra-positive, reliable shift signal that avoids stall-outs • Offers faster pump trip-over with less pulsation and superior material flow 	<ul style="list-style-type: none"> • Eliminates valve centering and stalling • Averts stall-outs, even under low air inlet pressure 	<ul style="list-style-type: none"> • Prevents pump icing by diverting cold, wet exhaust air from major air valve • Eliminates need for space heaters, hot water taps and other de-icing methods 	<ul style="list-style-type: none"> • Offers easy access and simple service • Requires no lubrication • Incorporates thermoplastic body for strength and corrosion resistance

EXPedite Efficiency

Every EXP pump includes patented features and unsurpassed structural integrity to protect your workforce, investment, and your bottom line. From bolted construction and thicker casings to our exclusive dome-shaped, ribless caps that prevent leaks, EXP pumps bridge the gap between safety and productivity. Our high-efficiency, patented design eliminates icing and stalling, plus EXP reduces downtime needed for maintenance. Add high flow rates and low air consumption, and you have a pump engineered for high-performance production.

Air Consumption Comparison

Efficient Results

When compared to competitors, EXP offers unbeatable results. In fact, it's the most efficient pump on the market today.

In this comparison, EXP is nearly 30% more efficient than the competition.

Cost Information

Hours per day:	8
Days per week:	5
Cost of 1 kW:	\$0.13
Number pumps in service:	1

Operating Point

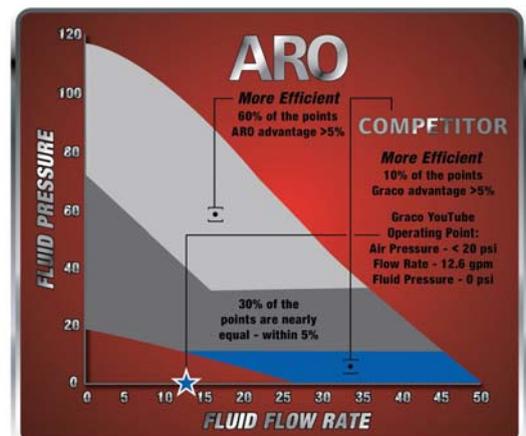
Capacity:	150 US GPM
Inlet air pressure:	80 psi

Model	Air Consumption(SCFM)	Annual Cost	Cost Savings
PD20P-FPS-PTT	98.10	\$3,718.58	\$1,531.56
Major Competitor	138.51	\$5,250.14	-----



Performance "Sweet Spot"

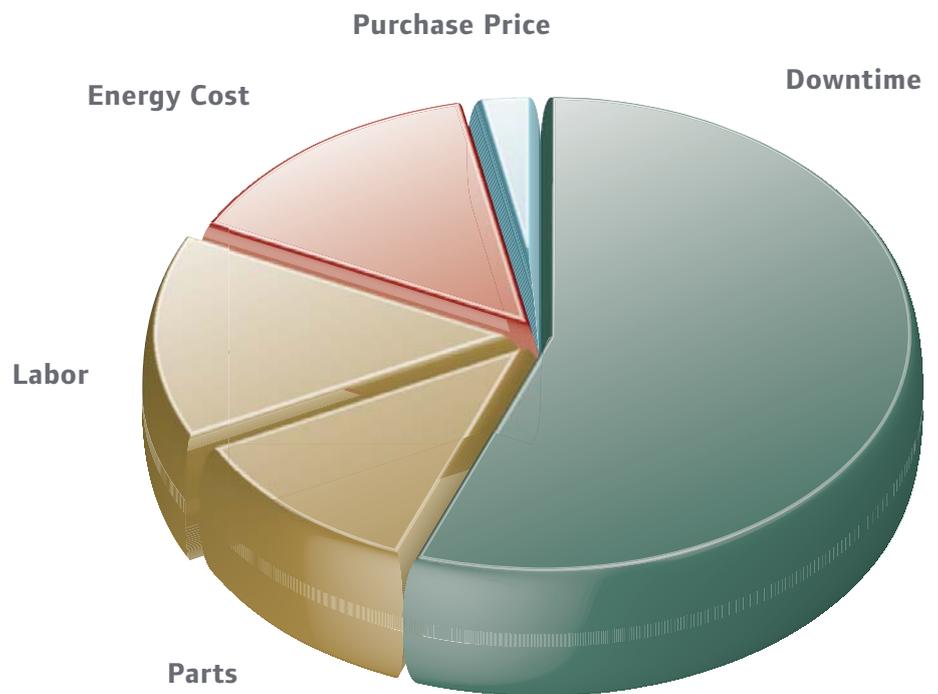
EXP provides a performance range that delivers peak efficiency for the most demanding continuous duty applications. The graph illustrates the broad superior performance of EXP versus a well-known competitor.



EXPLICIT Value

The purchase price of a traditional diaphragm pump is the smallest piece of the total cost-of-ownership pie. When you consider the cost of downtime, energy, parts and labor, you're faced with a sizeable financial burden. With its low maintenance, minimal energy use and longer-lasting components, EXP slices the total cost-of-ownership pie down to a much more digestible size. That's unbeatable value from a pump with unbeatable performance.

Traditional Diaphragm Pump Cost of Ownership Pie



Stretch Your Budget Farther

Ingersoll Rand understands that program budgets are tight, so we offer a finance program to help customers improve productivity by upgrading to more energy-efficient Ingersoll Rand ARO EXP pumps. Based on the total cost-of-ownership (including energy costs, installation, repairs, spare parts, downtime and purchase price), our pumps could pay for themselves in just a few months.

EXP shrinks the total cost of ownership pie by reducing downtime, energy consumption and costs associated with maintenance and repair. Through efficient, reliable operation, EXP delivers quantifiable value to your business.

Reliability	Efficiency	Serviceability
<ul style="list-style-type: none"> • Downtime eliminated, uptime increased • Extended pump life • Zero leakage, cleaner environment 	<ul style="list-style-type: none"> • No wasted air, energy • Lower overall operating costs 	<ul style="list-style-type: none"> • Reduced labor and parts costs • Reduced inventory: capital, stocking, taxes, etc.

EXPand Sustainability



In today's competitive global marketplace, the most successful companies identify ways to control costs and maintain high productivity while minimizing their environmental impact. Our EXP series helps you meet all of these goals.

- *Based on tests performed under the strict guidelines of the Hydraulic Institute of America, EXP proves to be up to 40% more efficient than competitor models.*
- *The ARO major air valve's modular design assures easy maintenance with fewer parts and valves that never need lubrication.*
- *Revolutionary convoluted diaphragm lasts up to four times longer than comparable diaphragms to reduce landfill waste and equipment replacement costs.*
- *Eliminated leaks, stalling and freezing lead to higher productivity and lower energy demand.*

EXPert Product and Service

The world's premier pump deserves world-class distribution and service – a promise Ingersoll Rand holds for every product. Regardless of your application or location, you can trust Ingersoll Rand technicians to provide experienced, timely service for worry-free support and value.

- Our Technical Services team has over 300 years combined experience in pump applications.
- EXP pumps are tested according to the strict guidelines of the Hydraulic Institute. 
- EXP is available through a broad network of factory authorized and trained channel partners.



Schedule a Fluid Handling Products Plant Audit

If you're serious about saving money, consider our free audit to evaluate the efficiency of fluid handling products and air operations at your plant. First, an Ingersoll Rand Specialty Distributor or Ingersoll Rand Sales Manager will provide a pre audit feasibility study to determine whether an audit can improve your efficiency or solve problems. Next, an Ingersoll Rand SWAT team member specialized in identifying savings opportunities and solutions will conduct your audit. Once the audit is completed, we generate a report to identify all pumps, their location, how they are used, and the cost savings that can be achieved by switching to Ingersoll Rand ARO EXP pumps.

ARO



Explore the ARO Family of Products

Whether you manufacture products for global distribution or energy for the community you call home, ARO Fluid Handling Products can meet your needs.



Diaphragm Pumps



Piston Pumps & Packages



Filters, Regulators and Lubricators



Pneumatic Valves and Cylinders



Pump Accessories



ARO Family of Expert Series
Diaphragm Pumps

Find out more on the web 

www.fluids.ingersollrand.com

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To discover how EXP can improve your process or to learn more about our other ARO Fluid Handling Products, visit www.fluids.ingersollrand.com. You'll also have access to operators' manuals and production data that can help you get even more value from your Ingersoll Rand equipment.



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