

Die-Hard Air Blowers for Specialty Uses

Your Choice. Our Commitment.[™]



Corrosion-Resistant Blower Grades:



Environmental Grade

Transfer of concentrated hydrogen sulfate & methane gases from ground, lagoons, anaerobic digesters, biofilters and venting processes.



Marine Duty Grade

Provides resistance to salt damage and far exceeds MIL-A-8625C and Coast Guard spec #259, and meets IEEE #45 for water-proof operation.



Chemical Processing Grade

Chem-Tough[™] blowers resist impact of an array of chemicals. Used in vent header off-gassing, spot source, and scrubber applications.



Landfill Grade

Extraction of hydrogen sulfide & methane gases from clean sites or multiple unknown chemicals from hazardous locations.

Contamination-Free Sanitary Blower Grades:



Food Processing Grade

Food-Tough[™] blowers, approved by the FDA, assist in venting of sterilization gases and provide contamination-free cleaning and filling air flow.



Pharmaceutical Grade

Provides sanitary air flow for ventilation and cleaning during powder and liquid product preparation.

Chem-Tough™ and Food-Tough™ Chemical Resistance

To stand up in corrosive and hazardous environments, chemical processing blowers have to be tough. That's why EG&G Rotron routinely applies Chem-Tough™, Rotron's engineered and proprietary process, whenever it builds blowers for handling chemical (vapor) streams. Chem-Tough™ combines the advantages of aluminum oxide ceramic and selected fluorocarbons to give Rotron blowers unheard-of levels of chemical resistance, hardness, abrasion resistance, permanent lubricity and more.

CHEM-TOUGH™ BRINGS YOU THE ROTRON ADVANTAGE

Through this unique proprietary process, Chem-Tough™ gives Rotron blowers these advantages:

- **OUTSTANDING CHEMICAL RESISTANCE**
Time after time, Chem-Tough™ finishing shows extremely high resistance to most common chemicals, as well as dramatically improved corrosion resistance over regular hard anodizing. Chem-Tough™ allows aluminum to achieve an equivalent corrosion resistance as Teflon®. Ninety-day immersion in acid or alkaline solution (pH 4.0-8.5) has no adverse effect. Neither does prolonged exposure to salt water, far exceeding military specification requirements for salt spray.
- **ABRASION RESISTANCE EQUIVALENT TO STEEL**
Excellent for smooth surfaces, Chem-Tough™ surface conversion provides higher wear resistance than either case-hardened steel or hard-chrome plate. Rub any other metal against the Chem-Tough™ finish, and the metal will show nothing but the slightest wear. Chem-Tough™ provides a perfect bond to the parent metal.
- **INCREASED HARDNESS**
With an equivalent hardness of Rc 40-60, Chem-Tough™ is approximately file-hard – the hardness of nitrated steel. Because the Chem-Tough™ surface becomes an integral part of the metal, it simply cannot peel or chip – neither can it be scratched, flaked or nicked under ordinary conditions.
- **PERMANENT DRY LUBRICITY**
By infusing polymers into aluminum, Chem-Tough™ gives the resulting surface a high degree of permanent lubricity and resistance to moisture. The polymers also level off surface asperities, significantly reducing surface tension. The result: blowers converted with Chem-Tough™ have a longer life, operate more efficiently, and call for less maintenance.

CHEM-TOUGH™ AT WORK

Chem-Tough™ employs the advantages of anodizing, hardcoat plating, low-friction polymers and dry lubricants to become an integral part of the blower's molecular structure.

Specifically, Chem-Tough™ first converts the aluminum surface to aluminum oxide, forming a new ceramic surface. The water in the ceramic is replaced with Teflon®, adding a multi-functional dimension to the surface; in the process, the aluminum crystals expand and form anchor crystals that remain hygroscopic for a short time. Then, under controlled conditions, particles of the specified polymer are infused to interlock with these anchor crystals. The new surface extends 1.5 mil above and below the original aluminum surface – and forms a permanent molecular bond with the metal.

The result: a plastic/ceramic surface that's harder than steel, is continuously lubricating, and resists damage from chemicals like no other. The kind of protection you need for your chemical processing blowers.

FOOD-TOUGH™ AT WORK

Food-Tough™ uses the same unique process as Chem-Tough™, and is designed for the food processing, medical and pharmaceutical markets. Food-Tough™ has USDA approval and meets FDA guidelines.

Introducing

Stainless Steel and Hastelloy

While Rotron's Chem-Tough™ and Food-Tough™ products can handle the vast majority of hazardous duty applications, occasionally customers require the ultimate in high level purity in aggressive gas and chemical environments, and rely on these Stainless Steel and Hastelloy blowers and components for the highest reliability and safety. These product offerings are another example of Rotron's commitment to respond to customer and market requirements. For additional information, contact your Rotron Field Sales Engineer.

Typical Sealing Options:

LO-LEAK™ LIP SEAL OPTION

The Lo-Leak™ Lip Seal option is available to control gas leakage for all DR models and is standard on all EN and CP models. Lip seals are used to prevent leakage at the motor shaft, and an RTV sealing compound is used to cut off all leakage paths at the blower's metal-to-metal surfaces. Castings are also vacuum impregnated. Estimate leakage rate = 5 cc/min or less.

DOUBLE FACE CARBON SEAL OPTION

For further minimization of gas leakage on all DR, EN and CP models, a pair of face seals work against each other on opposite sides of a common mating ring to effectively reduce gas leakage at the motor shaft. The face shields are continually lubricated from a reservoir to prolong seal life. The seal is completed by installing the blower to motor bolts with O-rings and sealing the covers to the housing with an RTV sealing compound. O-rings are also placed between the pipe flanges and the manifold. All castings are vacuum impregnated. Estimate leakage rate = 0.06 cc/min or less.

HERMETICALLY SEALED SPIRAL CONTAINMENT OPTION

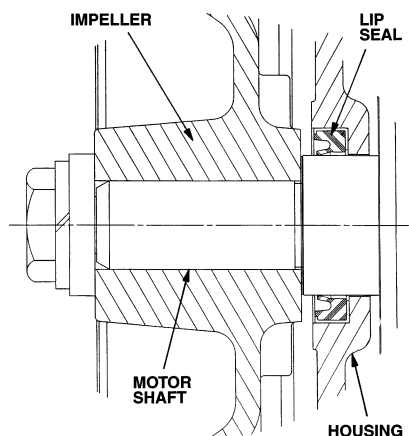
The containment option utilizes a series of O-rings to control gas leakage in Spiral blower models. The O-rings are placed at critical locations on the blower's housing and covers to contain gas leakage.

HERMETICALLY SEALED MAG DRIVE OPTION

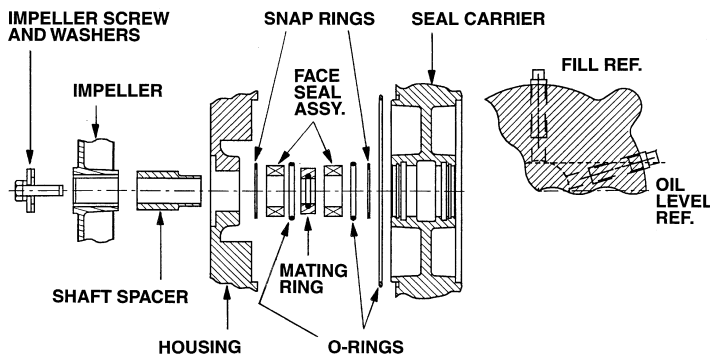
On smaller DR, EN and CP units, a magnet drive option has been an alternative for complete gas containment. O-rings are used throughout the product, and magnets attached to the motor shaft spin magnets inside the blower without shaft penetration.

NITROGEN PURGE/BLANKET OPTION

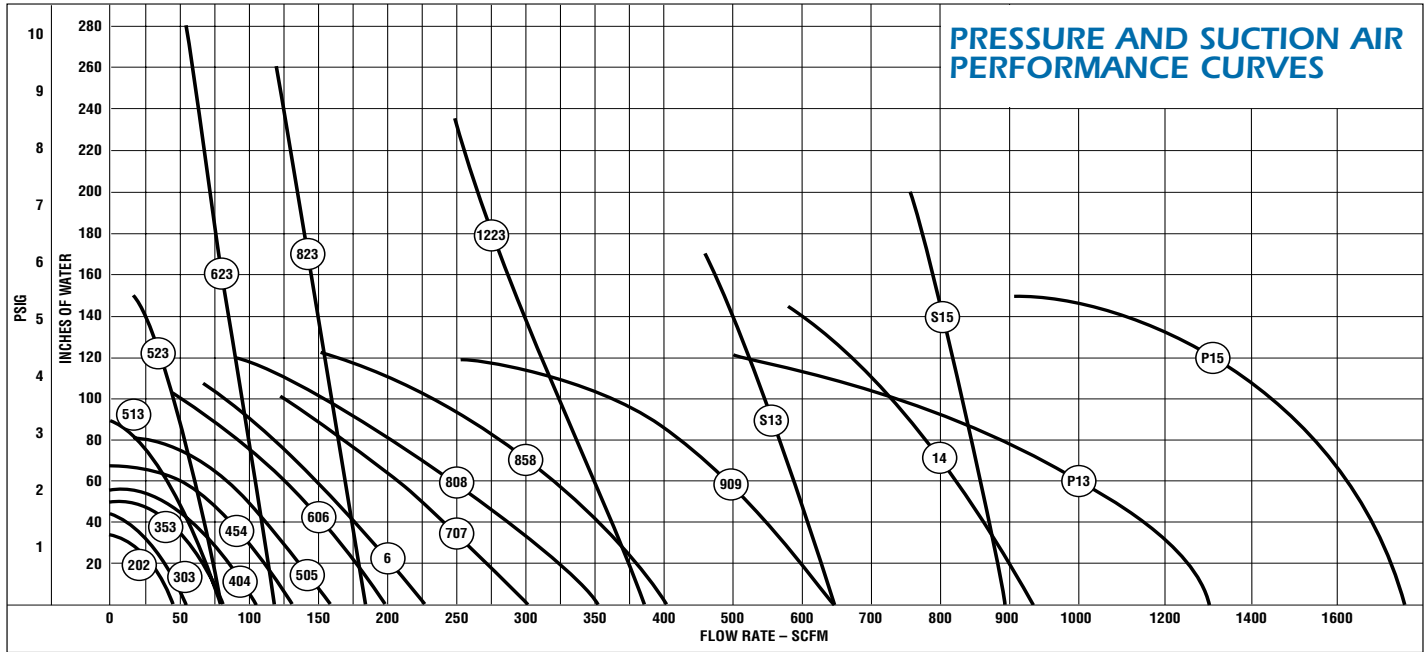
The nitrogen purge option is a carrier designed to accept a nitrogen line which will purge the space outside the shaft hole. Purges can be designed to bleed the nitrogen into the process called a blanket, or the carrier can have a second tap to carry away the leaking contaminants.



LO-LEAK™ LIP SEAL OPTION



DOUBLE FACE CARBON SEAL OPTION



Motor Options:

Rotron strives to provide the most complete variety of desired options on our products, including on our motors. By using motor vendors of high quality and versatility, we can provide motor features from multiple-released designs to meet your needs (i.e., a Chem Processing Inverter Duty Explosion-proof motor with space heaters and drains wound for 380 V-50 Hz service).

STANDARD MOTOR VARIATIONS

Chemical Processing (CP) features are added to TEFC, XP or HiE designs for Corrosive Gas service, Marine Duty service and Sanitary (food/pharmaceutical) service.

- 303 stainless steel shaft
- Cast iron and steel frame epoxy painted or zinc plated
- Stainless steel nameplate
- Gaskets and joint sealers on all metal-to-metal surfaces
- Zinc plated hardware
- Non-hygroscopic insulation; double dipped and baked stator
- Epoxy coating on rotor
- Oversized conduit box

High Efficiency (HiE) features are added to TEFC, ODP, XP or CP motors for maximum motor efficiency and life. Rotron HiE motors carry extra phase-to-phase protection for use with inverters between a 1750-3500 RPM range. Inverter Duty features are added to TEFC, ODP, XP or CP for use with Inverters/Variable Speed Drive Controllers. A wide range of RPM can be handled and should be specified at time of quote. For best compatibility, an inverter should be matched to the motor manufacturer's design.

PROJECT SPECIFIC MOTOR VARIATIONS

There are no limits to the options you can select or request for your product. Routine motor options include:

- International voltage & frequency (Hz)
- Oversized and/or Nema 4 intent T-box
- Drains
- Tropicalized windings
- Automotive duty
- Different shaft material
- Space heaters
- Regreasable bearings
- Plug and cord



Whether you've been a satisfied customer of Rotron, or you are making your first purchase, your choice is our commitment. It is our privilege to meet your needs. For further application assistance, or to request AMETEK Rotron's Product Sourcebook or Complete Product Catalog, please contact the factory for the sales representative in your area.