

# **Gardner Denver**

SAV350-500 (350-500 HP)  
FIXED SPEED ROTARY SCREW COMPRESSORS

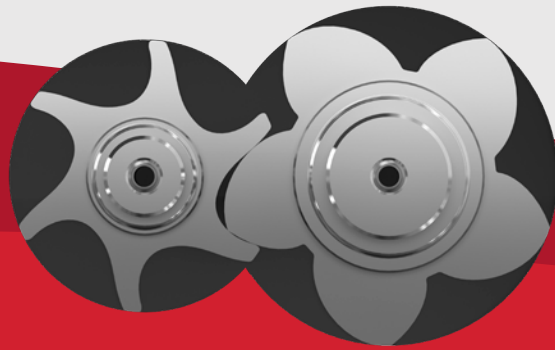
## **Electra Saver<sup>®</sup>**



# Slow Speed **Success**

## A Serious Legend

The engineering ingenuity of Gardner Denver began in 1859. For over 150 years, our compressed air products have been a dependable resource for meeting the world's most demanding and ever-changing industrial needs. A legend in its own right, the Electra Saver was founded on slow-speed, 1800 rpm design principles and has been providing decades of dependability.



Gardner Denver, 290 mm



Competition, 204 mm

Larger airends, running at slower speeds, maximize efficiency and increase reliability.

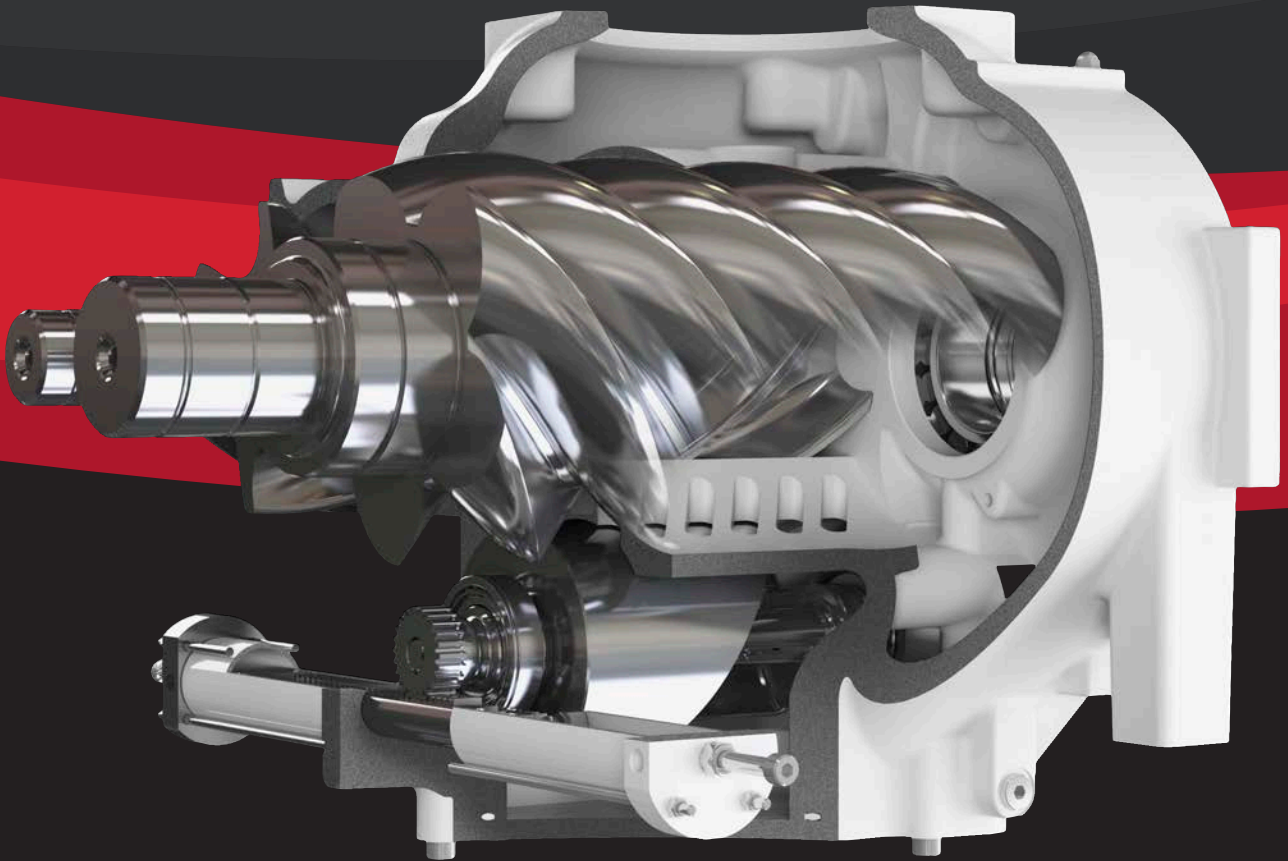
Rotor size shown for 200 hp compressors

Featuring super-sized bearings and up to **40% larger airends** than the competition, Electra Saver compressors not only outperform competition, but outlast them.

## A Serious Technological Advancement

Even with careful planning, most systems experience varying air demand. As a result, compressors operate below their full-load rated capacity at what is most commonly referred to as “partial load.” The horsepower consumed at partial load operation can be significant. Gardner Denver recognized this fact and developed a variable displacement technology designed to match compressor output to compressed air demand.

The patented TurnValve™ was introduced over 30 years ago to maximize compressor efficiency. The TurnValve displaced inlet throttling technology which was the most efficient means of compressor capacity control and eliminated wide pressure fluctuations and massive storage requirements.





# The TurnValve Defined

## Basic Operating Principle

Air is drawn in through the fully opened inlet valve. Volumes of air are encapsulated between the male and female rotors and airend housing. The volumes are reduced through further rotation of the rotors to a fixed compression ratio and discharged out of the airend at operating pressure.

## Design Features

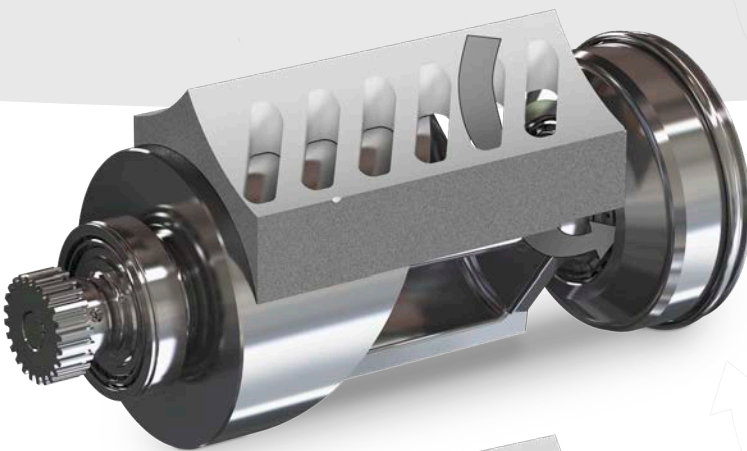
The cylindrical TurnValve has a helix-shaped relief on its outside diameter which mates to a precisely machined bore within the body of the airend housing. The TurnValve is supported axially by oversized tapered roller bearings to permit rotation through a hydraulically operated rack and pinion arrangement.

Openings, or windows, conjoin the compression chamber of the airend with the TurnValve bore where the circumference is sealed by tight clearances and lubricant to prevent air leakage during operation.



### Full Load Operation

When full capacity is required, the TurnValve is positioned such that the windows are closed, resulting in maximum volume output of the air end.



### Part Load Conditions

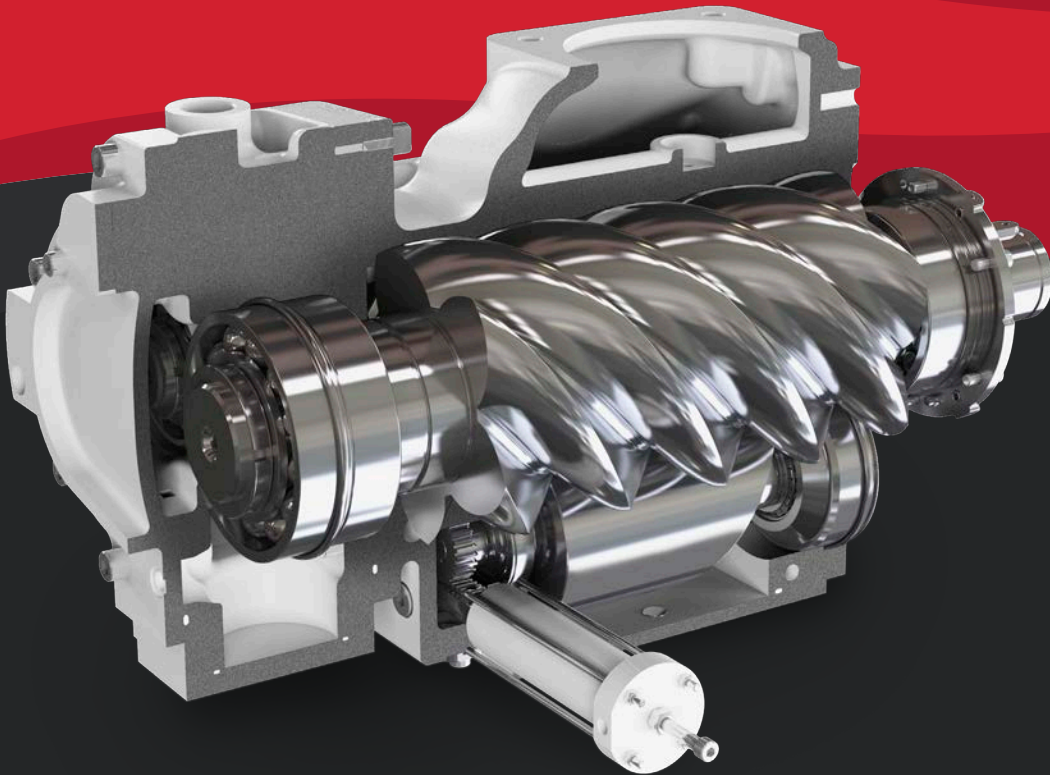
Upon detection of decreasing system air demand (rising pressure), the TurnValve is rotated into a position where the helix relief progressively opens the succession of windows until system air pressure has stabilized.



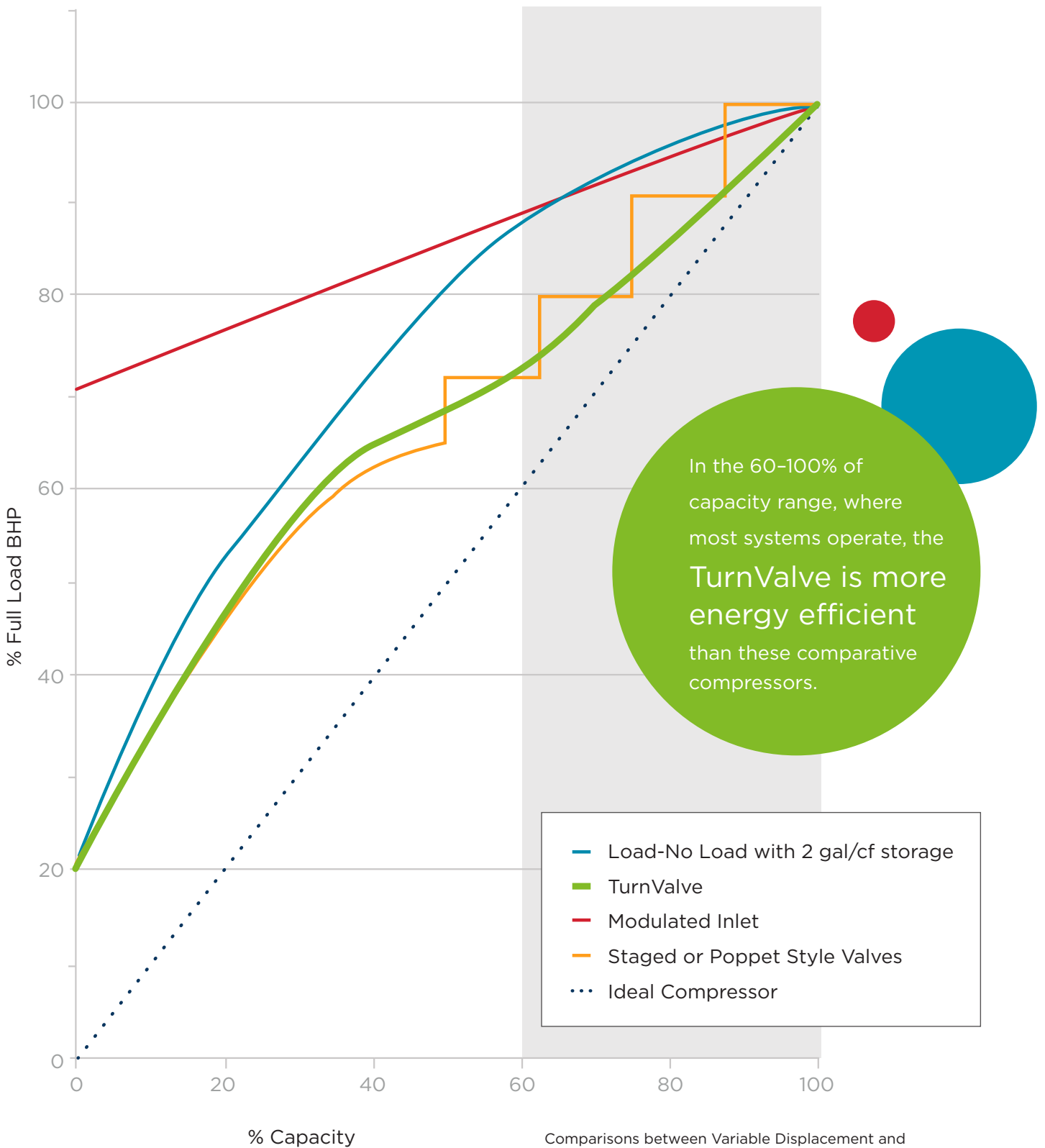
# The TurnValve Advantage

Trapped volumes of air are allowed to circulate back to the inlet without being compressed, resulting in only the required amount of air being compressed to meet system demands. The effective length of the rotor is shortened resulting in variable displacement operation allowing power use to drop, thus saving energy.

The TurnValve provides the exact amount of compressed air to maintain system pressure for maximum efficiency—no more, no less. In fact, in the 60-100% of capacity range, where most systems operate, the TurnValve is more energy efficient than comparative units.



# PARTIAL LOAD CAPACITY POWER CURVES



Comparisons between Variable Displacement and Variable Speed Compressors should be done with specific performance curves at required air flow.

# Best of the Best

## The Compressor to Exceed Your Demands

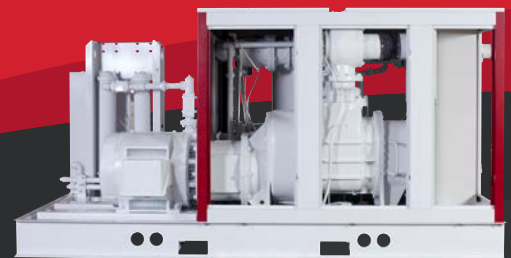
Whether it's the NEMA 4 control enclosure, directly driven airend, patented TurnValve technology or quiet enclosure, the Electra Saver™ is packed with high value standard and optional features that exceed your demands.

## Serviceability Redefined

The Electra Saver™ redefines serviceability. Available in a standard unenclosed configuration, all filters are easily accessible and no piping needs to be disconnected to service the separator.

## Unsurpassed Quality Components

Featuring a high performance airend, standard stainless steel control lines, seamless tubing for lubricant circulation, and 1800 rpm high efficiency motors, Gardner Denver thought of everything with the design of the Electra Saver™.







## Information at your Fingertips

All Electra Saver™ compressors come equipped with the AirSmart™ microprocessor controllers because microprocessor control technology is the simplest, yet most powerful compressor control design available. The AirSmart™ from Gardner Denver is built on the foundation of being easy to operate and an industry leader in self diagnostic, protective shutdown, service advisory and full text digital display capabilities.



## AirSmart™ Microprocessor Controller

- Low voltage 24V DC operation
  - Two pressure transducer inputs
  - Informative control panel
    - 4 line by 20 character LCD display
    - 4 status LEDs for “at a glance” compressor status
    - 9 buttons for easy control and menu navigation
    - Multiple language support
  - The controller is feature rich with maintenance and error handling information including:
    - 29 different sources for advisories
    - 68 different sources for system shutdown
    - Advisory/shutdown history stored in non-volatile memory
      - > Last 6 advisories
      - > Last 6 shutdowns
    - Distributor contact information
  - Part number is displayed when consumable item causes advisory or shutdown
  - Sequence capability for control of up to eight AirSmart™ controlled compressors\*
  - RS-232 serial communications for local monitoring\*
  - Ethernet communications for remote monitoring\*
- \*With optional communications/sequencer module.



# Keeping the System Healthy

Ensure your  
compressed air  
system remains a  
**total package**

## Total System Protection

Since 1859, Gardner Denver has been supporting the compressed air industry with high quality, long-lasting compressor and air treatment solutions. Carrying on that legacy, our robust line of parts, lubricant and downstream accessories ensure your system stays healthy.

Gardner Denver's focus on total system protection not only includes OEM parts and fluid solutions, but a commitment to the longevity of your equipment through our industry leading warranty programs.

Protect your investment.



## Best **Warranties** in the Industry

The engineering philosophy of Gardner Denver is to design high quality, reliable equipment and help you protect your new equipment to give you peace of mind. We offer a good, better, and best approach to warranty programs.



### **Standard Warranty**

Protects your newly purchased equipment if you encounter defects in materials or workmanship for 1 year and provides 2 years of parts and labor coverage for most major components.

### **Platinum 10-Year Extended Warranty**

The Platinum 10-Year Extended Warranty covers everything in the Standard Warranty as well as defects in materials or workmanship of the airend parts for 10 years and provides 5 years coverage on major components. The equipment must be maintained on-schedule in accordance with the requirements of the warranty statement and the operations manual.

### **Platinum+ Full Package Warranty**

Adds to the coverage of the Platinum 10-Year Extended Warranty and changes to a 5-year renewable service agreement with one of our factory-trained distributors. By paying for the additional protection, you gain peace of mind, a partnership with your trusted distributor, and the added coverage of wear items and other package components.

# Sales & Service **Distributors** Across America

## An Extensive Network

By leveraging the extensive network of Gardner Denver factory-trained authorized local distributors, your sales, service and technical support needs can be handled quickly and easily.



To find a distributor visit:  
[www.GardnerDenver.com](http://www.GardnerDenver.com)

# Specifications

## ELECTRA SAVER 350-500 HP ROTARY SCREW COMPRESSOR

MODEL	DRIVE MOTOR		50 Hz				60 Hz				NOISE LEVEL <sup>1</sup>	WEIGHT		DIMENSIONS L x W x H IN. (MM)
	HP	KW	NOMINAL PRESSURE		FAD		NOMINAL PRESSURE		FAD			LBS	KG	
			PSIG	BAR	ACFM	M <sup>3</sup> /MIN	PSIG	BAR	ACFM	M <sup>3</sup> /MIN				
SAV-350	350	260	100	6.9	1800	50.99	100	6.9	1684	47.71	84	14200	6441	
			125	8.6	1390	39.38	125	8.6	1434	40.62				
			150	10.3	1120	31.73	150	10.3	1166	33.03				
SAV-400	400	298	100	6.9	2070	56.64	100	6.9	1943	55.04	84	14500	6577	153 x 84 x 78 (3886 x 2134 x 1981)
			125	8.6	1670	47.31	125	8.6	1652	46.80				
			150	10.3	1310	37.11	150	10.3	1414	40.06				
SAV-500	500	373	100	6.9	2580	73.09	100	6.9	2459	69.66	85	15000	6804	
			125	8.6	2050	58.07	125	8.6	2118	60.00				
			150	10.3	1700	48.16	150	10.3	1634	46.29				

\* 110 psig available as field set option only. Order 100 psig unit and reset operating pressure in the field.

1) Noise level, weights and dimensions are for unenclosed models.



The leader in every market we serve  
by continuously improving all business processes  
with a focus on innovation and velocity

**Gardner  
Denver**<sup>®</sup>

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