Paradigm

5–15 HP Quiet Enclosed Reciprocating Air Compressors

GARDNER DENVER
1859 2009
SESQUICENTENNIAL

GD
GARDNER DENVER™

Experience Proven Results™

Which compressor is right for me?

When purchasing an air compressor, many people often ask:

"Is a rotary screw or reciprocating compressor right for me?"

Today, the choice of air compressors is abundant. A number of factors determine the answer to this question, including the operating requirements, application, and budget.

Ideal for constant-volume applications, rotary screw compressors are used extensively in applications above 30 hp and are often limited to a maximum air pressure of 150 psig. Rotary screw compressors typically have a higher initial cost than reciprocating compressors and require costly maintenance programs. Common advantages include a low noise level, low vibration, and 100% duty cycle.

Reciprocating (piston) air compressors are widely considered as 'work-horse' compressors. They may be seen in the corner of the garage, in auto body and tire shops, woodworking facilities, hospitals, construction sites, amusement parks, and industrial facilities. Industrial reciprocating compressors are able to operate in a *severe duty* environment, have *lower initial costs,* lower maintenance costs, and are ideal for *intermittent duty* operation. They *save energy* in no-load conditions and operate *efficiently* at partial loads, which results in a higher overall efficiency for many diverse applications. Piston compressors are *more forgiving* than rotaries and normally operate more dependably in less than ideal conditions.

Historically, it was not possible to provide the benefits of a reciprocating compressor in a low noise application. For this reason, rotary screw compressors have been misapplied in intermittent duty applications, resulting in frequent downtime, inefficient operation, problems with condensate, and higher maintenance costs.

Compressor Selection Guide

Industrial Reciprocating*	Rotary Screw
Intermittent duty applications	Constant volume applications
Lower initial cost	Higher initial cost
Lower maintenance costs	Higher maintenance cost
Easy maintenance	Requires structured maintenance programs
Typical pressure range up to 175 psig	Typical pressure range 100 to 150 psig
Typically 30 hp & below	Typically above 30 hp
Can operate in harsh environment	Requires ideal operating conditions
Low sound NOW available	Low sound available

* Single-acting lubricated

If you desire the advantages of a reciprocating compressor and the low noise of a rotary screw...

it is time for you to meet *Paradigm*.

Paradigm:
The 5 & 7.5 hp Low Noise Solution

The Gardner Denver Paradigm provides the advantages of a reciprocating compressor coupled with the low noise of a rotary screw. Ideal for areas with a low noise requirement, Paradigm can be installed directly within the work environment close to the point-of-use. This eliminates the need for a dedicated room or an outside installation and can save hundreds of feet in piping resulting in reduced pressure drops, ultimately increasing your bottom line.

par·a·digm

Function: *noun*
An example; a model; a pattern.

Source: www.dictionary.com

The Engineering Challenges of Quiet Enclosed

Heat Control

The majority of reciprocating compressors' discharge temperatures can reach a 400° F level or higher. Locating a compressor and motor together in the same cabinet requires a creative heat control solution. The heat from the compressor operation increases the electric motor operating temperature, thus reducing the motor's service life and long-term reliability.

The Paradigm 5 and 7.5 horsepower solution offers *two separate cooling circuits* with each one pulling cool ambient air. With the electric motor operating in its own isolated area of the package, Paradigm ensures the temperatures outlined by the motor manufacturer are not exceeded. Reliability and quiet operation are the result of this impressive engineering solution.

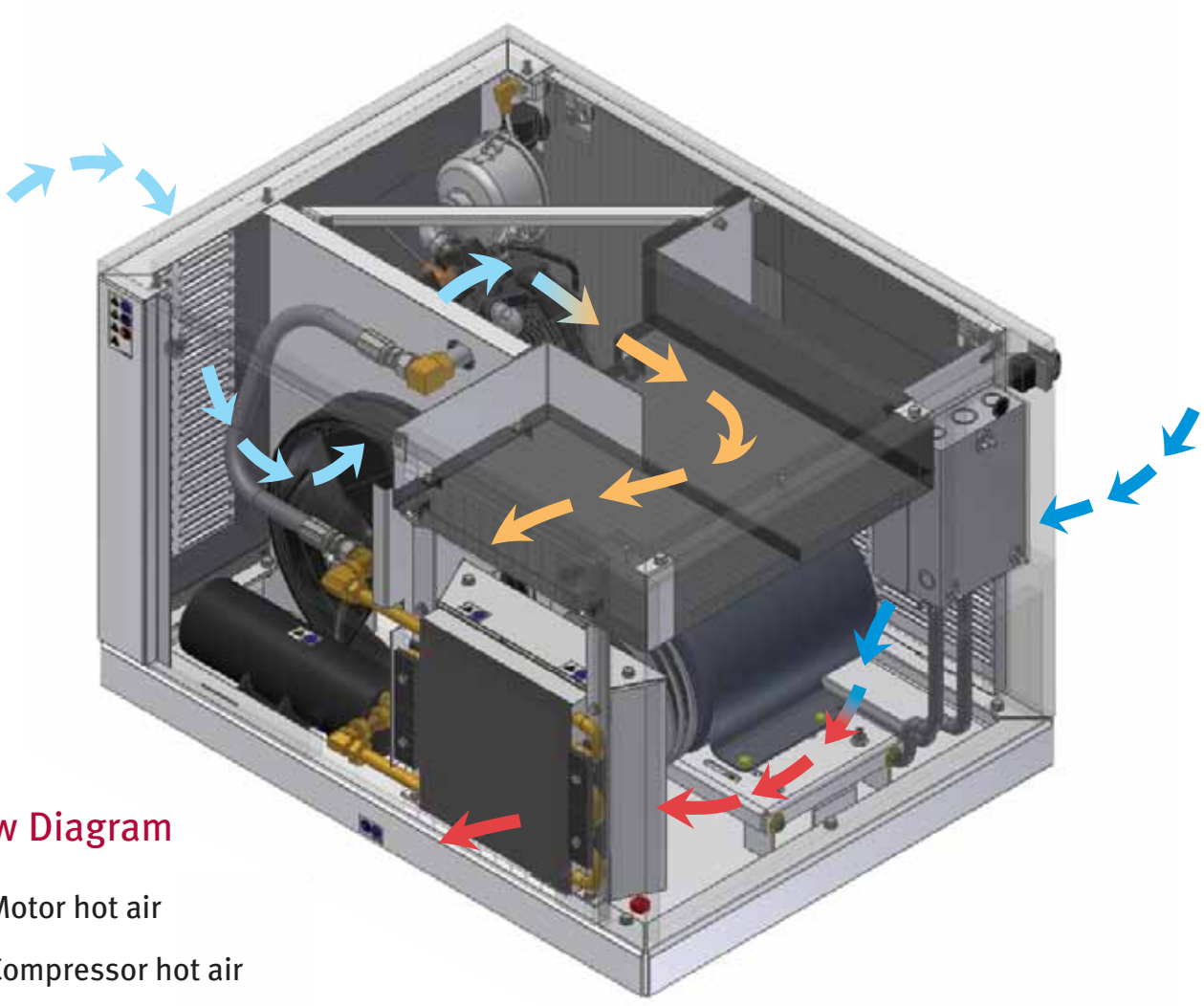
Vibration Minimization

A one-piece powder coated inner base supports both the compressor and the motor. Rubber vibration isolators separate the inner base from the enclosure for maximum noise and vibration control. The sound attenuating enclosure, made of 16 gauge steel with additional foam insulation, enables the compressor package to run quieter. Additional vibration pads between the enclosure and the tank are added for unmatched quiet operation.

Low Noise

hp	dB
5	67
7.5	68

The New Gardner Denver Paradigm is a prime example of a product that has evolved through analysis of our customers' needs and expectations. The Paradigm establishes a precedence in innovation, quality, reliability, long life and high performance.



Air Flow Diagram

- Motor hot air
- Compressor hot air
- Compressor cooling air
- Motor cooling air

Quality Accessories

QE 5 & 7.5 hp

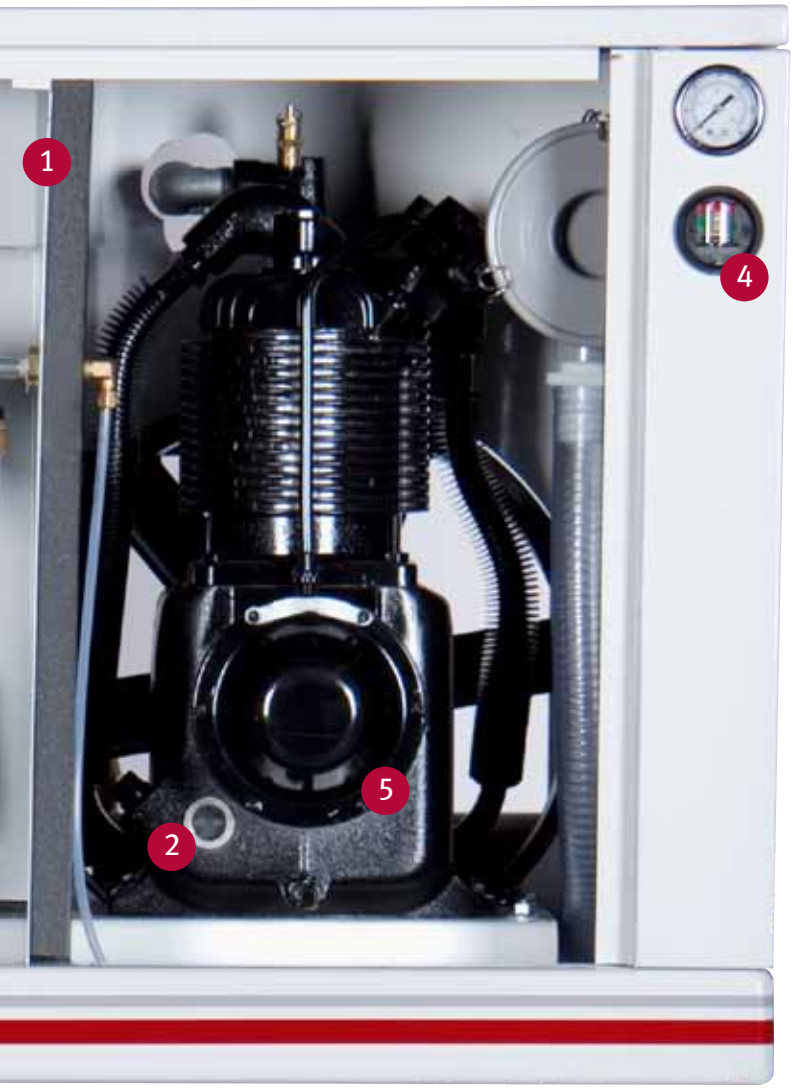
Competitive Advantages & Customer Benefits

1. Separate compressor and motor chambers with dedicated cooling circuits for *cooler operation and longer life*

2. Oil site gauge for *ease of monitoring and service*
3. Integrated heavy-duty air cooled aftercooler for *up to 65% moisture removal*
4. Filter maintenance indicator provides *user-friendly monitoring.* The graduated indicator monitors the compressor air filter. The position indicator progressively fills the window as air filter restriction increases and indicates the need for a filter change.

5. Industrial grade compressor incorporates unique features including gasketless cylinder/head design, stainless steel valve disks and tapered roller main bearings for *superior dependability.*
6. Innovative belt tensioning system for *easy service*
7. Axial flow fan for *superior cooling* of electric motor

- Superior 24-hour *service support* and *genuine replacement parts*
- Incredible *Five-Year warranty*



Standard Features

- Magnetic starter for thermal overload protection
- Manual tank drain
- Standard start/stop control
- Sound attenuating enclosure for low noise operation
- Front and back panels can be easily removed for fast and easy service access
- Ball valve on crankcase drain for easy maintenance of lubricant.
- Package easily fits through a standard 36" door
- 80/20 duty cycle

Optional Accessories

- NEMA 4 Starter/Pressure switch
- Moisture Separator
- Dual Control
- Low Oil Level Shutdown
- High Temperature Shut Down
- Electric Tank Drain
- TEFC Motors
- Premium Efficiency Motors
- Vibration Isolators

Paradigm:
The 10 & 15 hp Low Noise Solution

The Challenges of More Horsepower & More CFM

Heat Control

As the majority of reciprocating compressors' discharge temperatures can reach a 400° F level or higher, maximizing the motor's service life and its long term reliability remains the challenge in designing a 10 and 15 horsepower quiet enclosed compressor. More CFM requires a larger compressor, so removing the heat from the low noise enclosure requires another creative engineering solution.

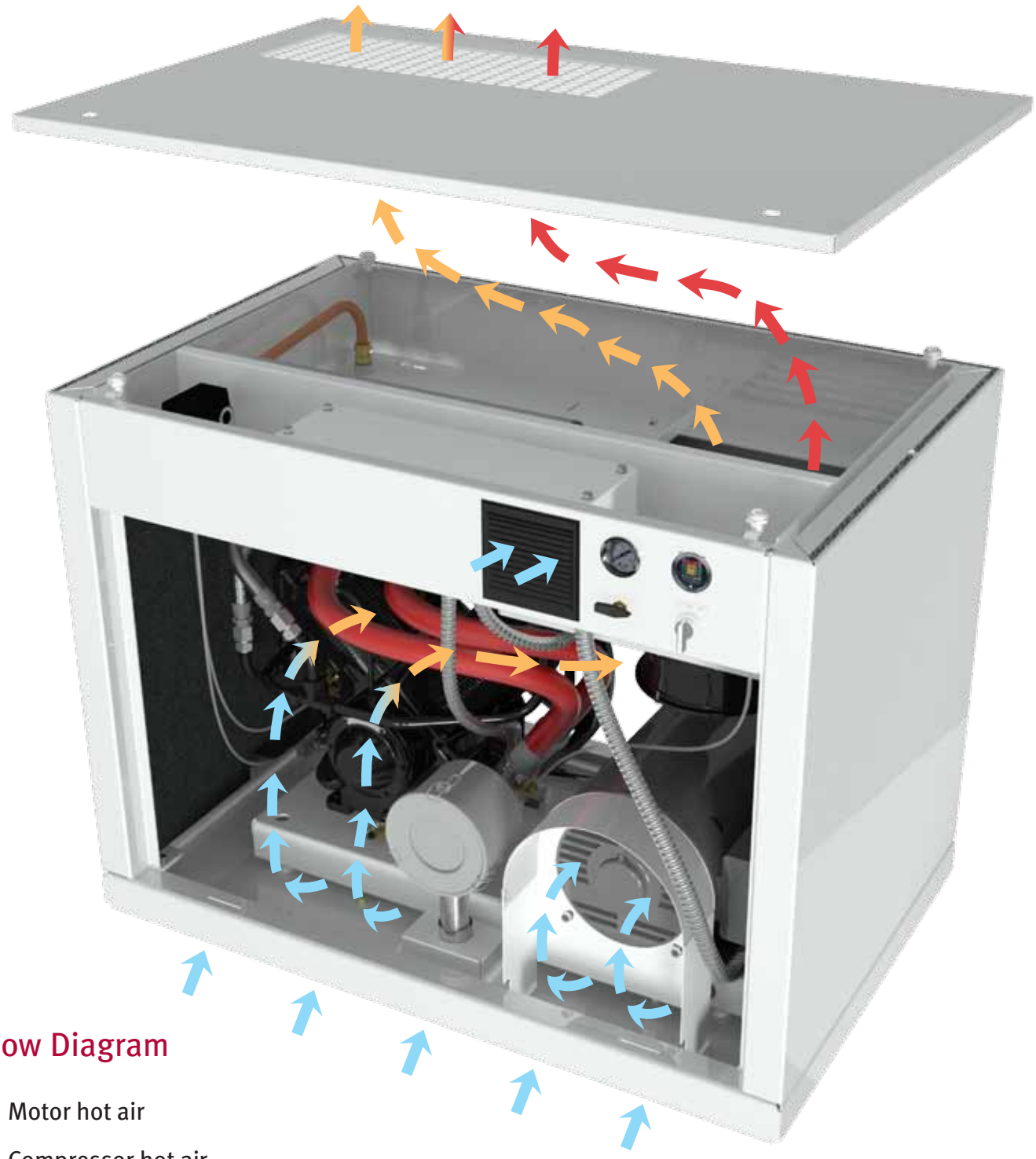
The 10 and 15 horsepower Paradigm solution implements dual cooling fans that pull cool ambient air from the bottom of the compressor through the package and discharge it through the top of the enclosure. Isolated coolers take the heat from the compressor pump through the included air cooled after cooler further reducing the temperature inside the enclosure.

Vibration Minimization

Similar to its 5 and 7.5 horsepower little brother, the 10 and 15 horsepower models have a one-piece powder coated inner base that supports both the compressor and the motor. Rubber vibration isolators separate the inner base from the enclosure for maximum noise and vibration control. The sound attenuating enclosure, made of 16 and 12 gauge steel with additional foam insulation, enables the compressor package to run quieter.

Low Noise

hp	dB
10	66
15	70



Air Flow Diagram

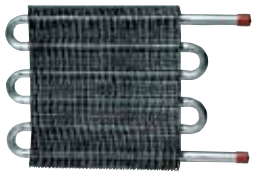
- Motor hot air
- Compressor hot air
- Cool air

Quality Accessories

QE 10 & 15 hp

Competitive Advantages & Customer Benefits

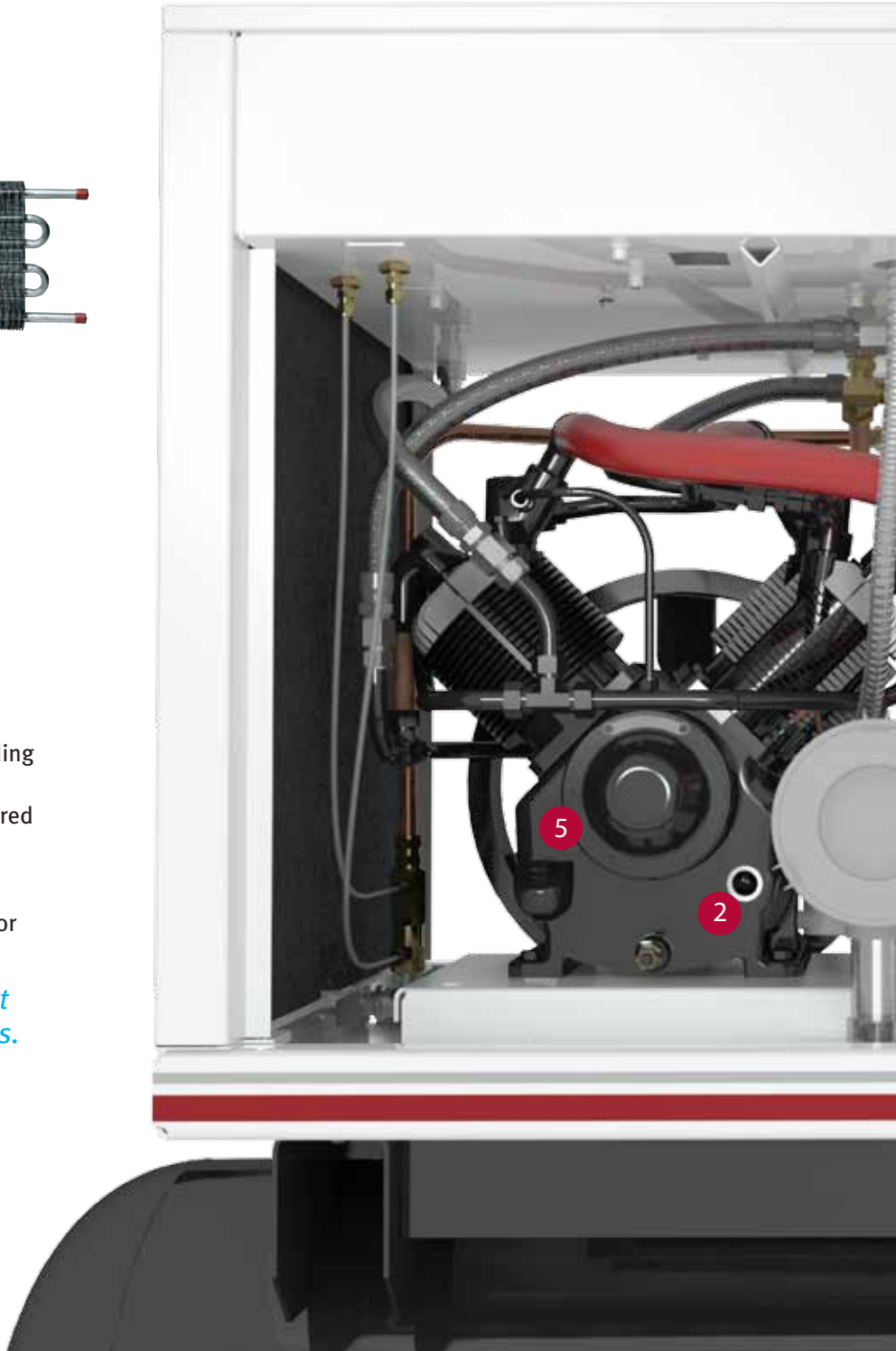
1. Dual cooling fans for *cooler operation and longer life.*
2. Oil site gauge for *ease of monitoring and service.*
3. Integrated heavy-duty air cooled aftercooler for *up to 65% moisture removal.*

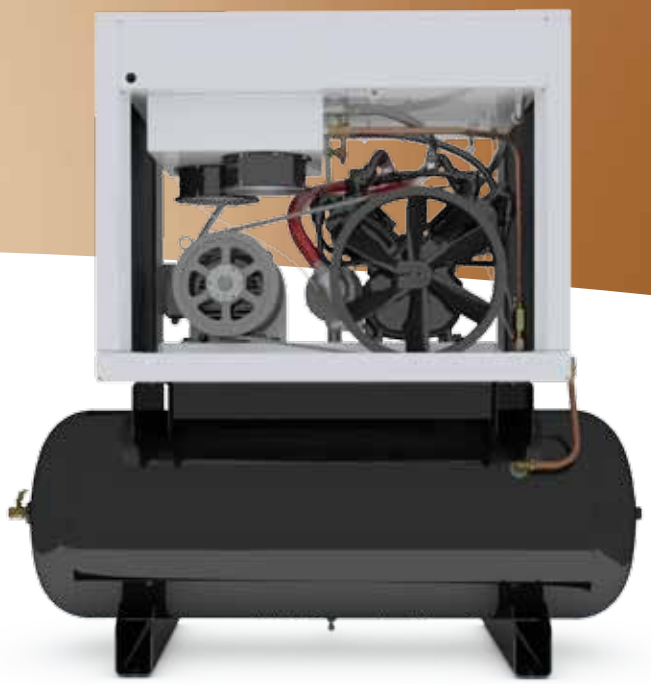


4. Filter maintenance indicator provides *user-friendly monitoring.* The graduated indicator monitors the compressor air filter. The position indicator progressively fills the window as air filter restriction increases and indicates the need for a filter change.

5. Industrial grade compressor incorporates unique features including gasket-less cylinder/head design, stainless steel valve disks and tapered roller main bearings for *superior dependability.*
6. Innovative belt tensioning system for *easy service.*

- Superior 24-hour *service support* and *genuine replacement parts.*
- Incredible *Five-Year warranty.*





Standard Features

- Magnetic starter for thermal overload protection
- Manual tank drain
- Standard start/stop control
- Low Oil Level Shutdown
- Sound attenuating enclosure for low noise operation
- Front and back panels can be easily removed for fast and easy service access
- Ball valve on crankcase drain for easy maintenance of lubricant
- Air intake pre-filter
- Package easily fits through a standard 36" door
- 80/20 duty cycle

Optional Accessories

- Moisture Separator
- Dual Control
- High Temperature Shut Down
- Electric Tank Drain
- Vibration Isolators

Paradigm Design Advantages

Competitive Advantages & Customer Benefits

1. Integral cylinder and head eliminating the possibility of blown head gaskets for *leak-free, trouble-free operation.*

2. Balanced aluminum alloy first stage piston(s) are weight matched to the cast iron second-stage piston(s) for *proper balance and minimized vibration.* Unique domed piston design for *maximum air delivery and efficiency.*

3. Lightweight, high-density, die-cast aluminum alloy connecting rods for *minimal reciprocating weight.* Precision-bored crankpin bearing and piston pin needle bearing are used to properly distribute bearing loads for *longer bearing life* than bushings.

4. Industrial grade, reliable, high-flow, low lift disc-type valves are made of corrosion resistant Swedish steel to ensure years of *trouble free* operation.

5. Tapered roller-type main bearings, providing full contact and support of the crankshaft, ensuring compressor *durability and long-life.*

RP15B Compressor

Standard Features

- Multi-finned cylinders for cooler operating temperatures resulting in long life and consistent performance.
- Two compression rings and one oil control ring to ensure low oil carry-over and provide efficient air delivery.
- Large-diameter finned tubing with the greatest cooling effect between stages for maximum compressor efficiency.
- Pressure relief valves located in inter-stage intercooler and discharge line for safe compressor operation.
- Precision balanced flywheel with cast fan blades for optimum compressor cooling and longer life.
- Removable manifolds for easy serviceability.
- Balanced rugged ductile iron crankshaft with large diameter throws for minimum bearing loads and counterweights to minimize vibration.
- Rugged cast iron oil reservoir with convenient sight gauge glass, corner oil fill boss and large oil drain for user-friendly serviceability.
- A pressure switch allows the compressor to start unloaded every time. This ensures the lowest amount of starting torque is required by the electric motor.

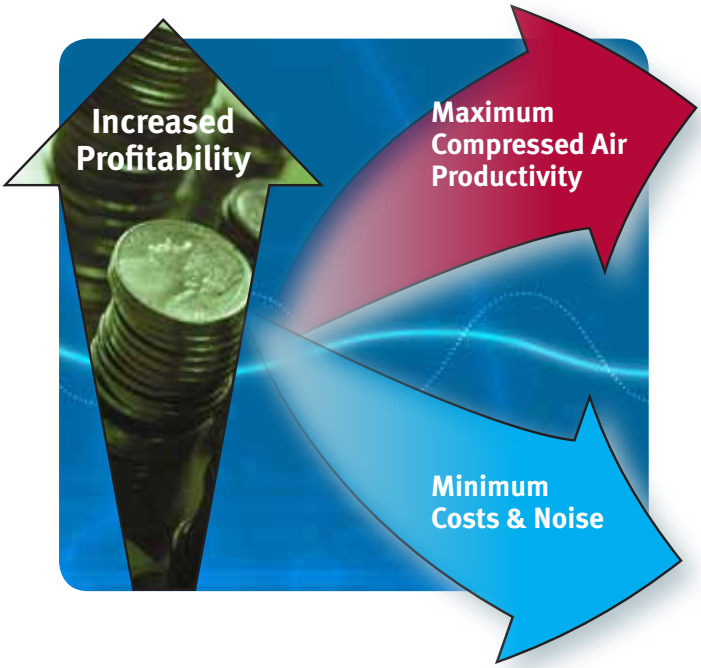
Paradigm
Time-proven Engineering Excellence

Today's Gardner Denver compressors are the product of decades of rigorous design and development. The first Gardner Denver single-stage compressor was introduced in 1919 and has since been continuously improved in design and performance through innovation in engineering, material, production techniques, and quality control.

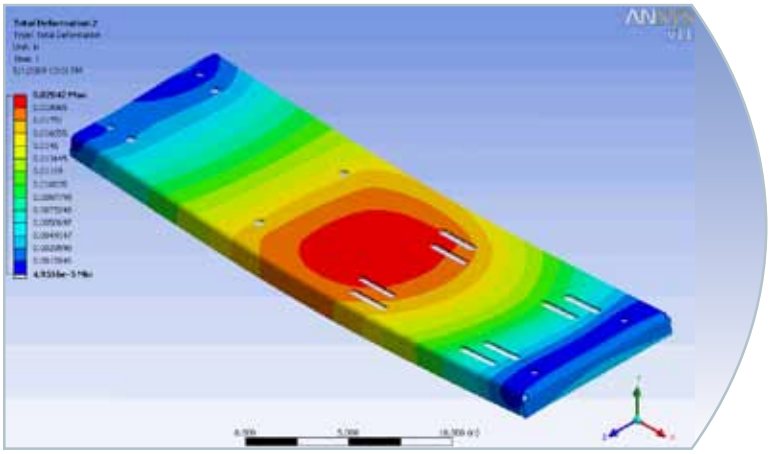
During the development of the Paradigm, the voice of our customers was a top priority. After a thorough analysis of our customers' needs and expectations, we developed a unique compressor with unmatched performance and reliability.

Featuring time-proven design and dependability, high performance and long life, Gardner Denver is a true leader in reciprocating compressors.

Throw away your loud compressor and buy a Paradigm!



Finite Element Analysis (FEA)
Structural analysis



Gardner Denver evaluated several designs using FEA structural analysis. With FEA, Gardner Denver engineers created a more rigid base to counter resonance, fatigue and vibration.

Sound Testing

Paradigm tested to CAGI adopted
ISO 2151 certified standards

With a commitment to research and development, Gardner Denver provides our customers with products which uphold our tradition of quality and proven results. As part of the new product development process, the Paradigm has passed extensive design reviews as well as performance, endurance and sound testing requirements.

BASE MOUNTED UNITS

Motor HP	Stockable Variant CABQEA	Pump Comp Model	L x W x H Dimensions inches	Aprox. Ship Wt.lbs.	Sound Level (dBA)	175 PSI Rating*		
						RPM	CFM Displ.	CFM Del'y
5	BER-5	RP15B	40½ x 31½ x 31	505	**67**	734	21.3	16.8
7½	BER-7F	RP15B	40½ x 31½ x 31	534	**68**	990	28.7	22.4
10	BER-10	RP30D	50½ x 32½ x 27	950	**66**	740	43.1	34.1
15	BER-15F	RP30D	50½ x 32½ x 27	1040	**70**	1045	60.9	46.6

HORIZONTAL TANK MOUNTED UNITS

Motor HP	Tank Cap Gal.	Stockable Variant CASQEA	Pump Comp Model	L x W x H Dimensions inches	Aprox. Ship Wt.lbs.	Sound Level (dBA)	175 PSI Rating*		
							RPM	CFM Displ.	CFM Del'y
5	80	HER5-8	RP15B	67 x 31½ x 53½	733	**67**	734	21.3	16.8
7½	80	HER7F-8	RP15B	67 x 31½ x 53½	762	**68**	990	28.7	22.4
10	120	HER10-12	RP30D	73 x 32 x 70	1220	**66**	740	43.1	34.1
15	120	HER15F-12	RP30D	73 x 32 x 70	1310	**70**	1045	60.9	46.6

**Units tested in accordance with CAGI/PNEUROP Acceptance Test Code PN2CPTC2.*

Other Innovative Products

FIL Series
High Efficiency Filters

A full range of filters 20–21,250 cfm; coalescing, particulate, and activated carbon for the removal of water, oil, and particulates from compressed air.

DS2 Series
Evacuator Drain Valves

A full family of zero air loss, energy efficient demand drains. Ruggedly designed to effectively and reliably prevent moisture damage to dryers, air tools, gauges, and other critical components.

RNC Series
Refrigerated Dryers

A full line of high quality refrigerated dryers with features and benefits unmatched by the competition. Designed to produce dew points as low as 38° F in compressed air.

DGH Series
Desiccant Dryers

A complete line of desiccant dryers for the removal of water vapor in compressed air to dew points as low as -100° F.

Gardner Denver®

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Supersedes GR-PARDM-100 3rd Ed. 3/10

Please recycle after use.