

IQ

Positive Displacement Blower
& Vacuum Pump Packages



GD
GARDNER DENVER™

Experience Proven Results™

IQ

IQ Blower Package

Gardner Denver

- Quality
- Tradition
- Innovation
- Results

What is IQ?

A factory direct blower package from Gardner Denver, the trusted solutions provider to the PD Blower and Vacuum Pump marketplace. With a track record of providing quality products since 1859, Gardner Denver is synonymous for proven results and will continue to earn the confidence of our customers.

What does IQ represent? Traditionally IQ is a measure of intelligence, for Gardner Denver, the IQ name is an abbreviation representing solutions for customers. The Gardner Denver IQ package design from 7.5–50 hp and 200–600 icfm, provides intelligent results.

IQ = Innovation, Quality, and so much more.

- Integrated full-voltage starter or Variable Frequency Drive (VFD) and blower packaging sequencing all available within the compact IQ footprint
- Intelligent digital monitoring capabilities with the AirSmart™ controller (standard on enclosed packages)
- Intensely quiet design tested per CAGI adopted ISO 2151 specifications
- Innovative removable discharge silencer ensures package integrity while providing end-user flexibility
- Quality and excellence: You deserve it. Gardner Denver has a tradition of providing it. We are confident you will experience it with the IQ blower package.



Experience Proven Results

with the leaders in blower design

Quality + Tradition = Trust

- Tradition: 150 years of quality manufacturing with proven results
- The IQ package includes a proven Gardner Denver blower/vacuum pump: Sutorbilt® Legend® Dual Splash Lubrication (DSL), HeliFlow®, & DuroFlow®.
- The IQ blower package is manufactured in our ISO 9001 certified facility in Sedalia, Missouri
- Gardner Denver is utilizing market and manufacturing synergies from the Variable Speed compressor line, allowing the IQ to have an extensive list of standard features not normally found in the marketplace
- Each IQ blower package is individually tested to meet rigorous performance specifications
- The AirSmart controller is pre-engineered to the customer's requirements
- Superior and consistent quality can be found in each IQ blower package as a result of:
 - Continual investment in the training of specialized manufacturing personnel
 - Quality inspections throughout the entire manufacturing process
- The IQ blower package is supported by a world-class distributor network of experienced and trusted sales/service professionals
- The IQ blower package offers a comprehensive 2-year warranty

IQ Blower Package Delivers

- Pressure to 15 psig 1034 mbarg
- Vacuum to 16" Hg 542 mbar
- Airflow to 600 icfm 1019 m³/h
- 7.5–50 hp 6–37 kW

Innovation

- Gardner Denver approach—engineer a more innovative, more compact, quieter and more robust product to meet stringent customer demands
- The IQ has been designed, tested and proven in our industry-leading research and development (R&D) facility
- Standard AirSmart Controller provides digital monitoring capabilities to all critical components
- Integrated full-voltage starter and VFD options no longer require outside mounting and electrical work
- The IQ and AirSmart Controller will allow up to eight blower packages to be connected together in a sequence group
- Remote monitoring capabilities provide smart services to your facility
- Removable discharge silencer isolates pulsations to ensure package longevity

Advanced Engineering Capabilities

Finite Element Analysis (FEA)

Structural analysis

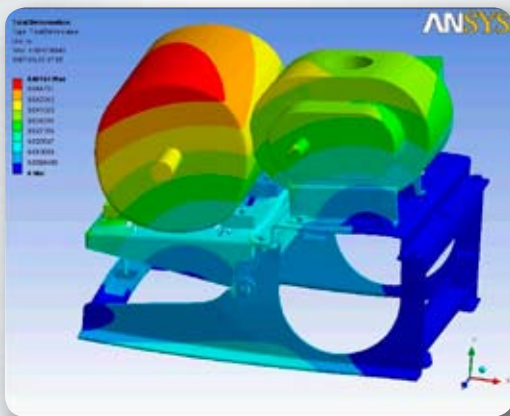


Figure 1 – Gardner Denver evaluated several designs using FEA structural analysis.

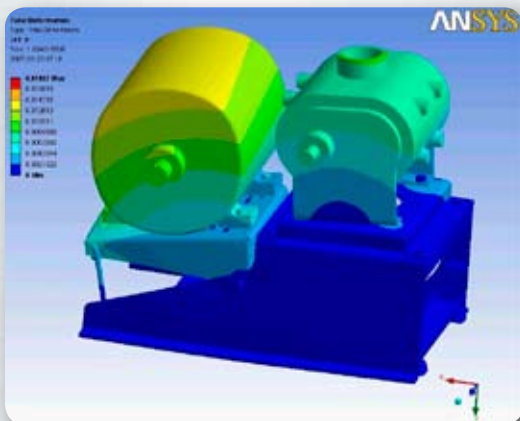


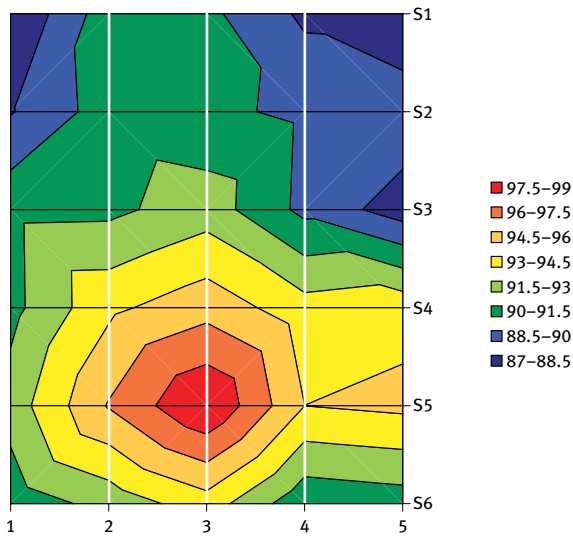
Figure 2 – With FEA structural analysis, Gardner Denver engineers created a more rigid and durable blower/silencer base to counter resonance, fatigue and belt wear. (Results = reduced deflection by 78%)

Results

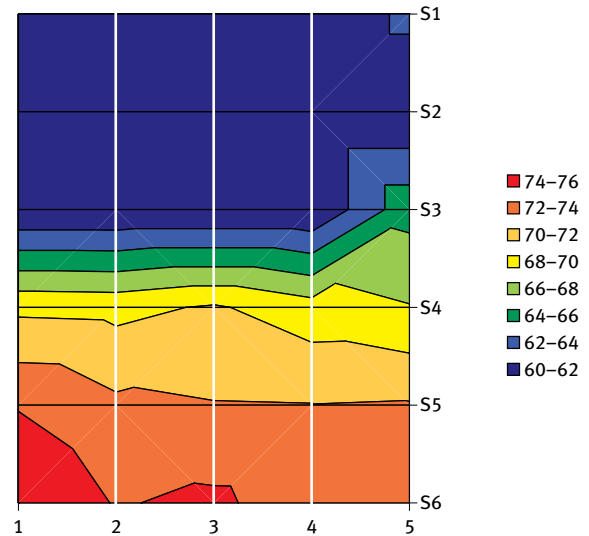
- Proven packaging synergies with Gardner Denver Variable Speed compressor line
- Advanced R&D and manufacturing capabilities to ensure superior form, fit, and function
- Intensely quiet sound levels as low as 60 dBA satisfy the sophisticated demands of the customer while meeting CAGI adopted standards
- Integral AirSmart Controller for digital monitoring on all enclosed packages
- Unmatched efficiency with available VFD and HeliFlow blower
- Utilizes the least amount of cubic feet when compared to similar sized competitive units
- Convenient service points and standard DSL blowers are maintenance-friendly
- Available features within the compact IQ package
 - Variable Frequency Drive or full-voltage starter
 - Sequencing
 - Remote monitoring
 - Oil level monitoring
 - Oil sump temperature monitoring
 - Unloaded start valve

Engineered for Results

Sound Intensity Mapping (SIM)



Column 1 – IQ package with panel removed
 Gardner Denver engineers utilize SIM to analyze and pinpoint areas of greatest noise emission



Column 2 – IQ package with enclosure
 Gardner Denver engineers utilize SIM to ensure the IQ enclosure attenuates sound levels to the target dBA

Innovative IQ Design

1. Quiet Sound Enclosure

- Intensely quiet sound pressure levels of 60–77 dBA
- Easy access to maintenance points through removable and hinged panels
- Powder coat finish provides enclosure durability

2. AirSmart Controller

- Intelligent monitoring standard

3. TEFC EPAct Motors

- NEMA standard efficiency motors are suitable for various industrial duty applications
- Top-mounted conduit box for compact design and easy access
- 2-year standard or 5-year extended warranty

4. Starter Configurations



- Less starter (standard)
- Integral full-voltage starter or integrated VFD (options)
- All starters fit within the compact IQ package, saving the expense for contract electricians

5. DSL Blowers Standard

- Pressure – HeliFlow, Sutorbilt Legend & DuroFlow
- Vacuum – HeliFlow & Sutorbilt Legend

6. Refined Blower/Silencer Base Design

- A more rigid and durable blower/silencer base was engineered to counter resonance, fatigue and belt wear

7. Removable Discharge Silencer

- Provides minimal pressure drop
- Reactive multi-chamber design significantly reduces sound and pulsation
- Allows for upgrade to ASME coded silencer

- Discharge silencer and enclosure base vibration isolators provide reduced resonance for increased durability



8. Pre-Mounted Valves

- Saves on installation costs
- Relief and check valves installed as standard
- Unloaded start valve available

9. Inlet and Discharge Connections

- Discharge pressure: 4" NPT
- Inlet vacuum connection: 4.5" ID hose (not depicted in pressure package below)

10. Discharge Cooling Fan

- Consistent electrical operation for effective ventilation of package regardless of blower operating speed

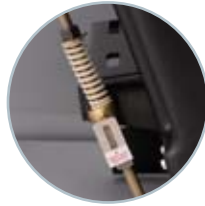


Features & Benefits

MAINTENANCE-FRIENDLY FEATURES

11. Automatic Belt Tensioner

- Maintains proper belt tension and prolongs belt, bearing and blower package life
- Belt status indicator advises when belt replacement is required



12. V-belt Drive with Guard

- Provides performance flexibility and proven dependability
- Lightweight removable polymer guard for ease of maintenance and operator protection

13. Inlet Filter Silencer

- Provides easy access for filter replacement

14. Lubricant Replacement

- Convenient funnel-type lubricant fills
- Drain valves and hoses allow for quick lubricant draining



15. Oil Level Monitoring Sensors

- Intelligent package protection



Orchestrating your IQ package



AirSmart™ Controller

Monitors all necessary temperature and pressure points within the blower package to safely operate the package and satisfy user air demand.

Service indicator and shut-down protection for the following:

- Excessive differential temperature
- Overpressure protection (pressure packages)
- High inlet filter differential (pressure packages)
- Excessive enclosure temperature
- Excessive discharge temperature

AirSmart available features include:

- Oil level monitoring using ultrasonic level sensors for improved reliability
- Oil sump temperature monitoring
- Remote monitoring
- Sequencing
- Controller for energy efficient VFD applications
- kW readout used for VFD applications

Simplicity

The AirSmart Controller is utilizing proven design and packaging synergies from the Gardner Denver Variable Speed compressor lines. It is designed to facilitate maintenance operations and improve system reliability. It is not necessary to be an IT guru or an expert on VFDs to operate the IQ blower package. The controller takes care of the details.

Communication & Sequencing

The available communication module allows the IQ blower package to talk to other Gardner Denver IQ blower packages to optimize system efficiency. The AirSmart recognizes the capabilities of other machines and orchestrates their operation to minimize energy consumption. The lead IQ blower package of the sequence will seamlessly start and stop other IQ packages in order to equalize machine run time and improve reliability. The lead package can give the lead to another blower package in the sequence.

The communication module also allows remote monitoring of the IQ blower package via modbus protocol over serial or ethernet.

Advanced Display

The controller has a four line display with menus and tactile buttons for easy navigation. Two lines display operating information such as pressure, temperature, operating hours, while the other two lines display advisory messages, shutdown messages, and service contact information.

Raising the Bar

IQ Blower Package Competitive Comparison

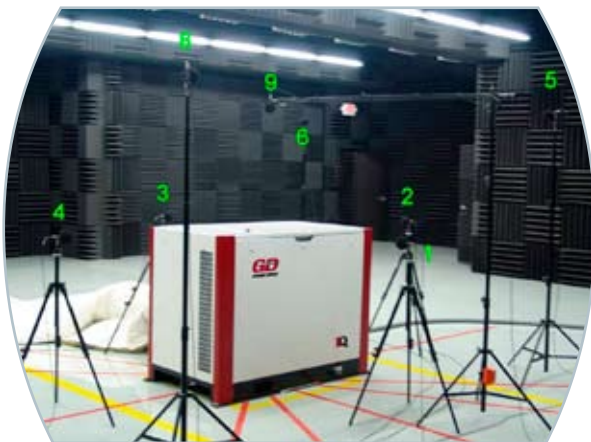
Product Design	IQ Blower Package	Competitor				
		A	B	C	D	E
Standard Package Warranty	24/30 months	12/18 months	12 months	12/18 months	Unknown	Unknown
Sound Levels (dBA)	60–77 ¹	22 dBA enclosure attenuation	67–75	< 76	69–80	70–77
VFD	Integrated option	—	—	Wall-mounted option	—	—
Digital Monitor	Standard & integrated	—	—	Wall-mounted option	Option	Integrated option
Full-Voltage Starter	Integrated option	—	—	Wall-mounted option	—	—
Sequencing	Integrated option	—	—	Wall-mounted option	—	—
Remote Monitoring	Integrated option	—	—	—	—	—
Removable Discharge Silencer	Standard	—	—	—	—	—
Helical Tri-lobe Blower	Standard ²	—	—	—	—	—

— Represents unavailable features based on published data.

¹98.5% of performance points are 75 dBA or below.

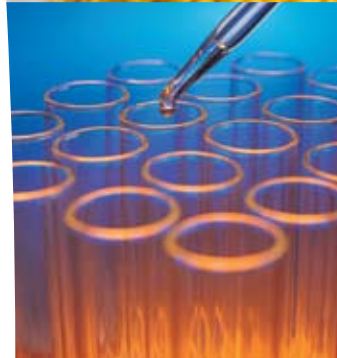
²Based on performance requirements.

New Product Development



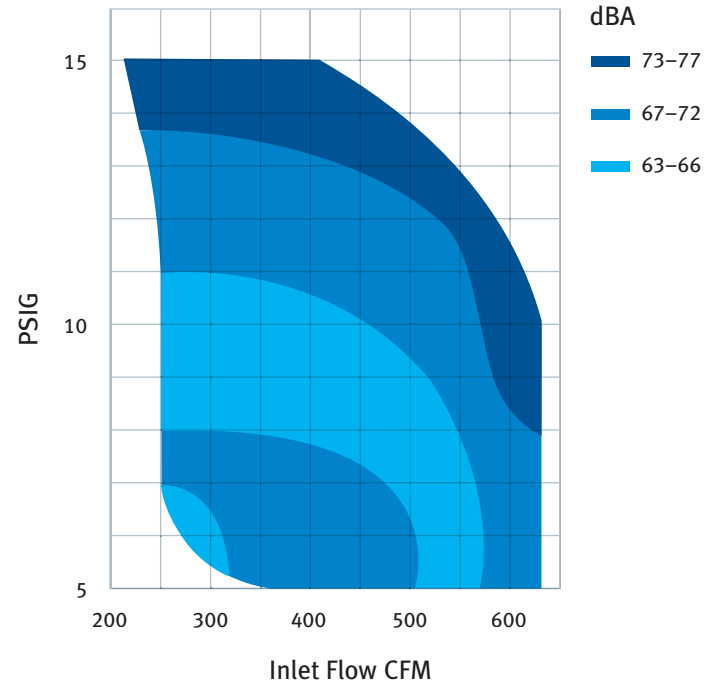
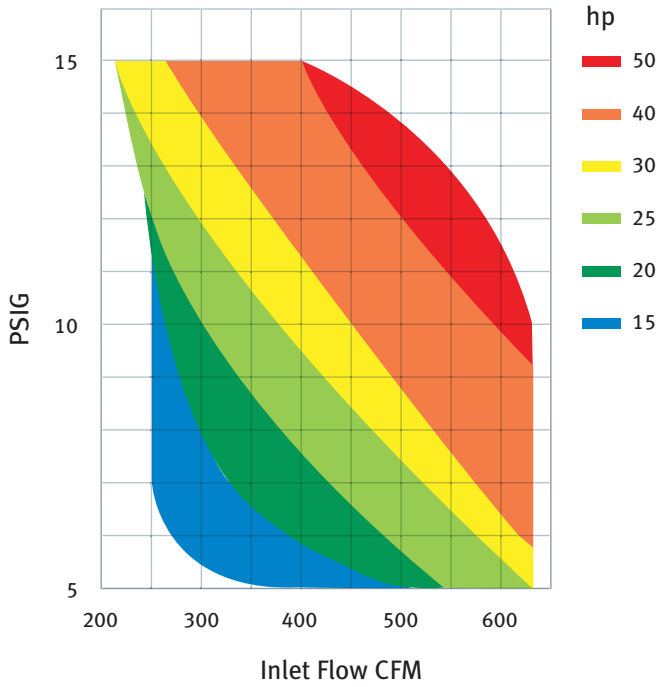
IQ tested to CAGI adopted ISO 2151 certified standards

With a commitment to R&D, 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 IQ blower package has passed extensive design reviews as well as performance, endurance and sound testing requirements.

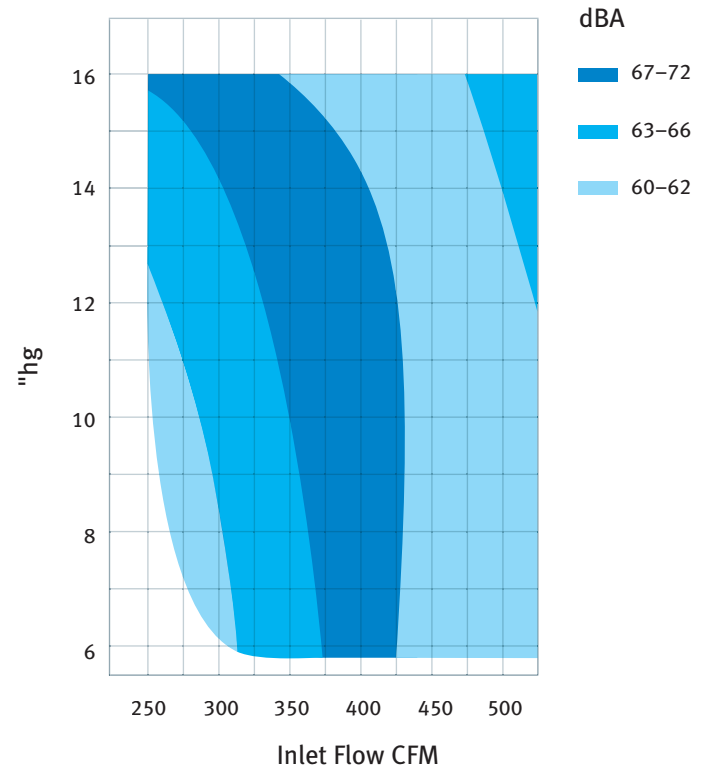
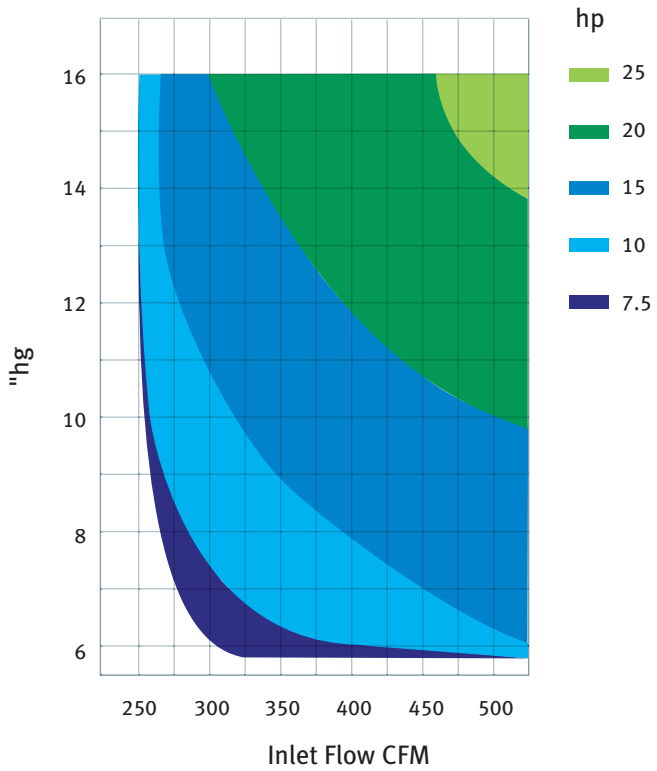


Performance & Sound Maps

IQ Pressure Package

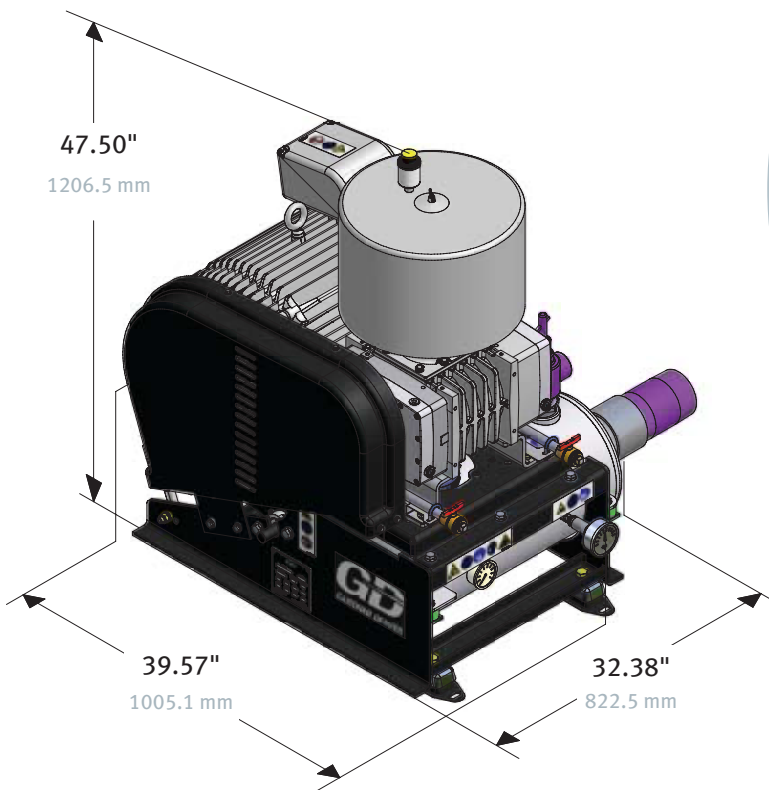
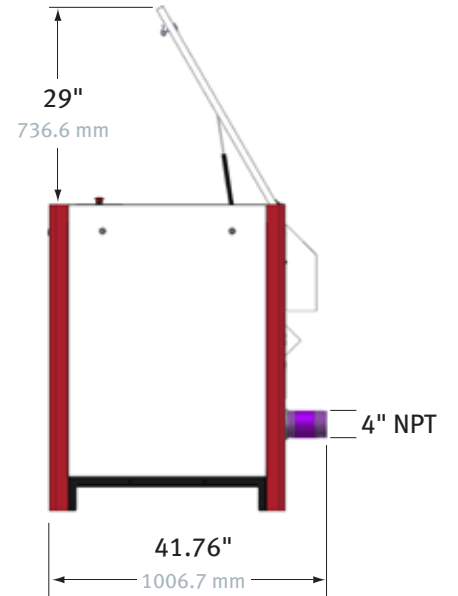


IQ Vacuum Package



Performance based on inlet air at standard temperature of 68°F, an ambient pressure of 14.7 psia and 36% relative humidity. For performance at non-standard conditions, contact your authorized Gardner Denver representative. Air and sound maps represent non-VFD IQ packages.

Compact Design



IQ Package Weight

Type	Max. Weight	
	lbs	kg
Enclosed package	2100	953
Unenclosed package	1300	590

Weights are approximate.

Genuine Gardner Denver Parts and Lubricants

- Maintain the Gardner Denver performance advantage and reliability with Genuine GD Replacement Parts available through authorized sales and service representatives
- All Gardner Denver IQ packages are initially shipped with AEON® PD, the only lubricant specially formulated for all blowers in any environment
 - Also available:
 - » AEON® PD-FG (Food Grade)
 - » AEON® PD-XD (eXtreme Duty)
Designed specifically for high ambient and high discharge temperature applications



Quality Promise

- Gardner Denver IQ blower packages are manufactured with precision to ensure superior form, fit and function
- Precision laser cutting equipment is utilized in the manufacture of many of the IQ components
- All IQ packages are thoroughly tested to meet the highest performance standards for unequaled service life under the most severe operating conditions



Gardner Denver®



Member



Please recycle after use.

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