Gardner Denver

ULTIMA U75–U160 | 100–200 HP

OIL-FREE TWO-STAGE VARIABLE SPEED ROTARY SCREW COMPRESSOR

Ultima

What makes the ULTIMATE oil-free compressor?

Is it highest efficiency?
Is it lowest noise level?
Is it smallest footprint, or
Is it lowest unloaded power?

The groundbreaking design of the Ultima gives you all of these and more!

Lowest Unloaded Power

Ultima uses only 8 kW when running unloaded as compared to >20 kW for conventional machines

13% Higher Efficiency

The Digital Gearbox drives each airend individually, significantly improving performance over the complete turndown range*

No Ducting

Installation is simplified with the closed loop cooling system requiring no external ductwork

No Inlet Valve

The unique dual-motor technology eliminates the pressure loss and maintenance associated with an inlet valve

Water-Cooled Airends

Water-cooled airends provide improved performance and increased longevity

ULT
10
OIL-

IMA

0%

FREE

>97% Motor Efficiency

Permanent magnet synchronous motors provide >97% efficiency and compact size

Ultra Quiet: 63 dBA

Fully enclosed water-cooled package offers industry leading noise performance as low as 63 dBA

37% Smaller Footprint

Allows 3 machines to fit in the same space as 2 competitive machines

98% Heat Recovery

Excess heat is recovered for use in other plant processes

Patented Technology

The Ultima incorporates three revolutionary patents in control, pulsation dampening, and enclosed cooling

*Uses up to 13% less energy than competitive dry screw compressors

Ultima: A Revolution in Dry Screw Compressor Technology

What makes the Ultima so unique?

- Most efficient two-stage dry screw compressor on the market
- Uses independent low and high pressure dry screw airends
- Each airend is individually driven by a variable-speed, permanent-magnet, water-cooled motor
- Each motor operates at **97% efficiency** (greater than IE4)
- Large turn down range up to 70%
- Lowest unloaded power consumption—only 8 kW
- Significantly smaller footprint (37%) while maintaining 63–69 dBA noise performance
- Water-cooled with innovative air-cooled alternative

Superior Heat Recovery

- All the major components in the Ultima are water-cooled providing more efficient performance
- Approximately 94% of the energy used in a compressor is converted into heat. The closed loop cooling system in the Ultima cools all of the major components, removing heat from the motors, inverters and airends
- Ultima cooling philosophy maximizes energy recovery from the complete compressor package
- Ultima recovers 98% of the heat generated (approximately 12% more than standard), which can be used for other processes, reducing the building HVAC load
- Outlet water temperatures up to 194°F
- Heat recovery connections are standard

High-Efficiency Water Cooling System allows for a Completely Sealed Enclosure

- Completely sealed package = lower noise level
- No customer ducting required = simple installation
- Up to 12% more heat available for heat recovery than competitive offering

Water-Cooled Components

- Intercooler
- Aftercooler
- Airends
- Main motors
- Inverters
- Thermal radiation from airends, coolers, etc.

Next-Generation Design

TRADITIONAL MOTOR DESIGN

ULTIMA MOTOR

- Traditional oil-free compressors are driven by a single motor. A gearbox drives both the low and high pressure airends.
- Gearboxes require oil and create friction which results in added energy loss.

- Ultima uses ultra-high efficiency motors to independently drive each airend, replacing the gearbox and the single motor.
- This allows the airends to turn at different speeds, maximizing efficiency under all conditions

ULTIMA DESIGN

Digital Gearbox

- As factory air demand changes, airends slow down or speed up to meet the demand.
- With each stage being individually driven, the intelligent, on-board controller individually controls the speed of each airend, perfectly matching the delivery ratio for optimum efficiency.
- This creates a variable speed oil-free compressor with the highest levels of efficiency across the full turndown range, up to 13% better than the nearest competitor.

Driving the airends at different speeds, dependant on the demand, maximizes the efficiency of the airend pair.

SECOND STAGE DIGITAL GEARBOX FIRST STAGE

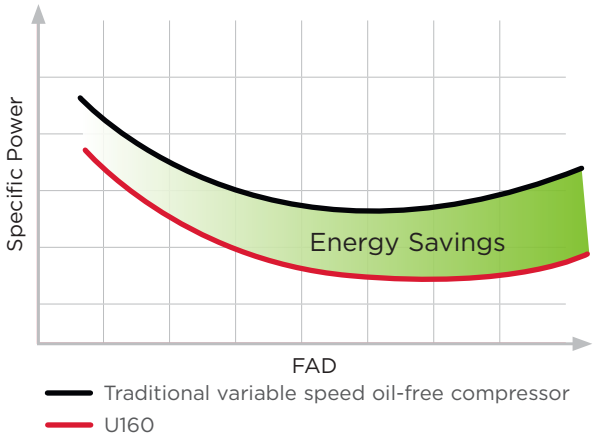
Unmatched Efficiency

With efficiency as much as 13% better than the closest competitor, Ultima delivers unrivaled value. From the 97% efficient motors to the direct drive no gearbox design, Ultima harnesses the highest efficiency of any dry screw compressor on the market.

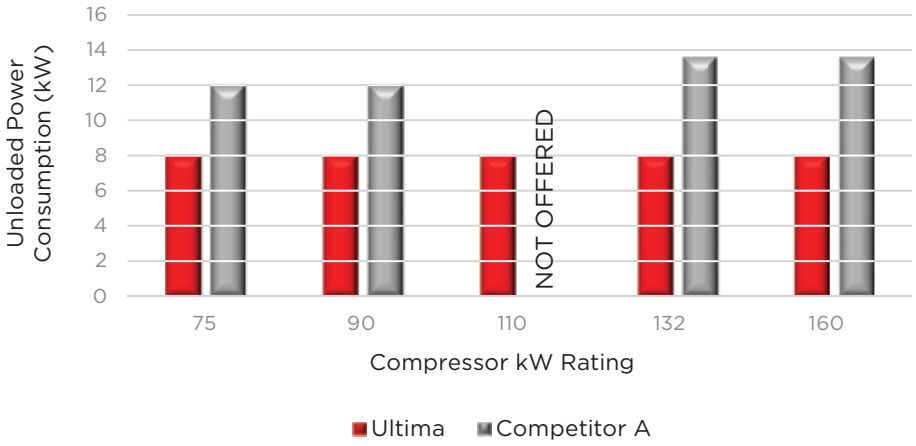
Lowest Unloaded Power Consumption

- Plant demand varies causing compressors to cycle from loaded to unloaded operation
- During unloaded operation, no compressed air is being used
- All of the energy consumed while running unloaded is wasted
- Lower unloaded power consumption means less wasted energy
- Ultima uses up to **68% less energy** when unloaded: only 8 kW!

EFFICIENCY 160 kW at 145 psi(g)



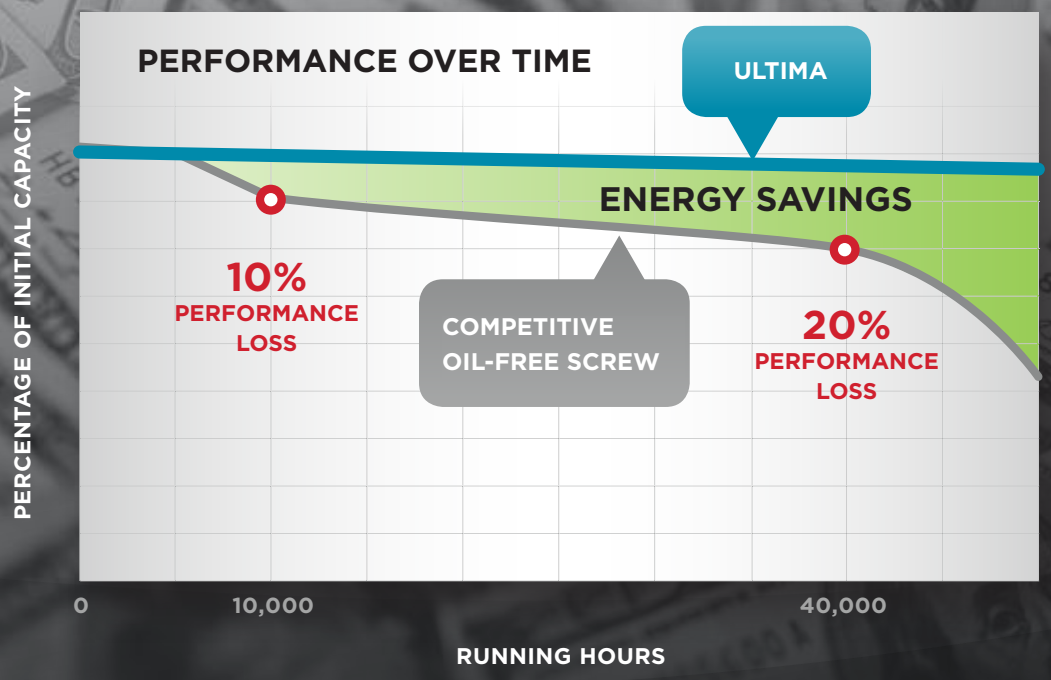
NO LOAD POWER CONSUMPTION



Superior Airend Coating

- 2 stage dry screw airend rotors are coated to:
  - Prevent corrosion
  - Maximize efficiency
  - Provide the best possible protection against rotor wear
- Not all coatings are the same! Gardner Denver uses a two layer hard coating process to ensure maximum efficiency and protection throughout the life of the compressor
- Other manufacturers use a two-part process with a soft second layer Teflon-Graphite coating which ensures good sealing on day one, but rapidly wears, reducing performance by as much as 10%
- Ultima: Guaranteed maximum efficiency throughout the compressor life

THE **HIGHEST** LEVELS OF **EFFICIENCY** THROUGHOUT THE LIFE OF THE COMPRESSOR



Eliminate the Risk:
Guaranteed 100% Oil-Free

The Ultima features an Oil-Free design. There is no oil used anywhere in the compression process, which eliminates the risk of product contamination due to oil carryover. The Ultima meets ISO 8573-1 Class 0, the most stringent class. It is also certified Silicone-Free which is critical for applications such as automotive and pharmaceutical.

Silicone-Free

Silicone contamination in compressed air systems cause problems across a wide range of industries such as electronics, pharmaceuticals and automotive. Costly product spoilage, re-work and production downtime can result from this contamination.

For example, a high quality paint finish is essential to the automotive industry. Blisters, cracks, craters and loss of adhesion are all symptoms of silicone contamination.

- 100% silicone-free, guaranteed
- Specifically designed for use in pure-air critical applications such as the automotive industry
- Avoids contamination and provides the highest air quality standards
- Independently tested and certified

CLASS	CONCENTRATION TOTAL OIL (AEROSOL, LIQUID, VAPOR) MG/M³
0	As specified by the equipment user or supplier and more stringent than class 1
1	≤ 0.01
2	≤ 0.1
3	≤ 1
4	≤ 5

Footprint Savings

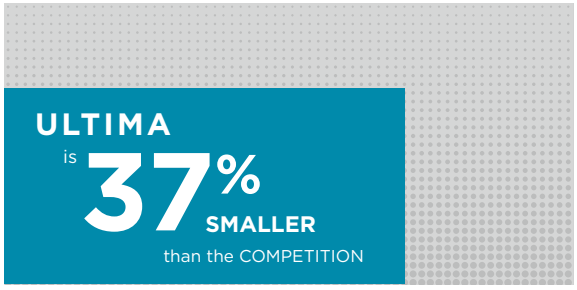
Compact Design

- The unique design of the Ultima results in an extremely small package
- Ultima's footprint is up to 37% smaller than the competition
- This allows easy installation in the smallest possible space

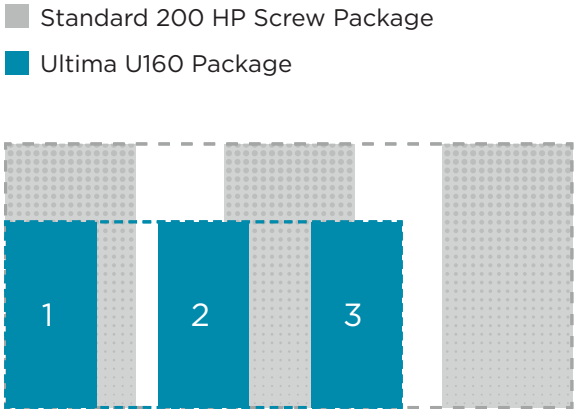
Simple Installation

The Ultima compressor is only a fraction of the weight and size of equivalent conventional dry screw compressors and therefore features a smaller footprint.

- Lower installation costs
- Increased flexibility when determining installation location
- In multiple machine installations this results in considerable building and real estate savings



FOOTPRINT COMPARISON



Without sacrificing serviceability, Ultima packages feature the **smallest footprint** in the industry.

THREE Ultima compressors fit in the space required for **TWO** conventional dry screw compressors

Peace-of-Mind Protection & Smarter Performance

Fitted with an updated GD Pilot XTC™ touch screen controller, Ultima provides the ability to monitor the installation's operational parameters, through a multilingual and user-friendly control system, which is essential for protecting your investment and lowering running costs.

iConn: Supporting Industry 4.0 Standards

The controller in turn allows connection to iConn—the real-time monitoring service providing in-depth, accurate and real-time knowledge about the system. This proactive, smart technology provides total peace-of-mind, ensuring that production planning is protected by precise statistics and insight generated by the controller. This data keeps users informed about performance and highlights any cause for concern before a problem arises.

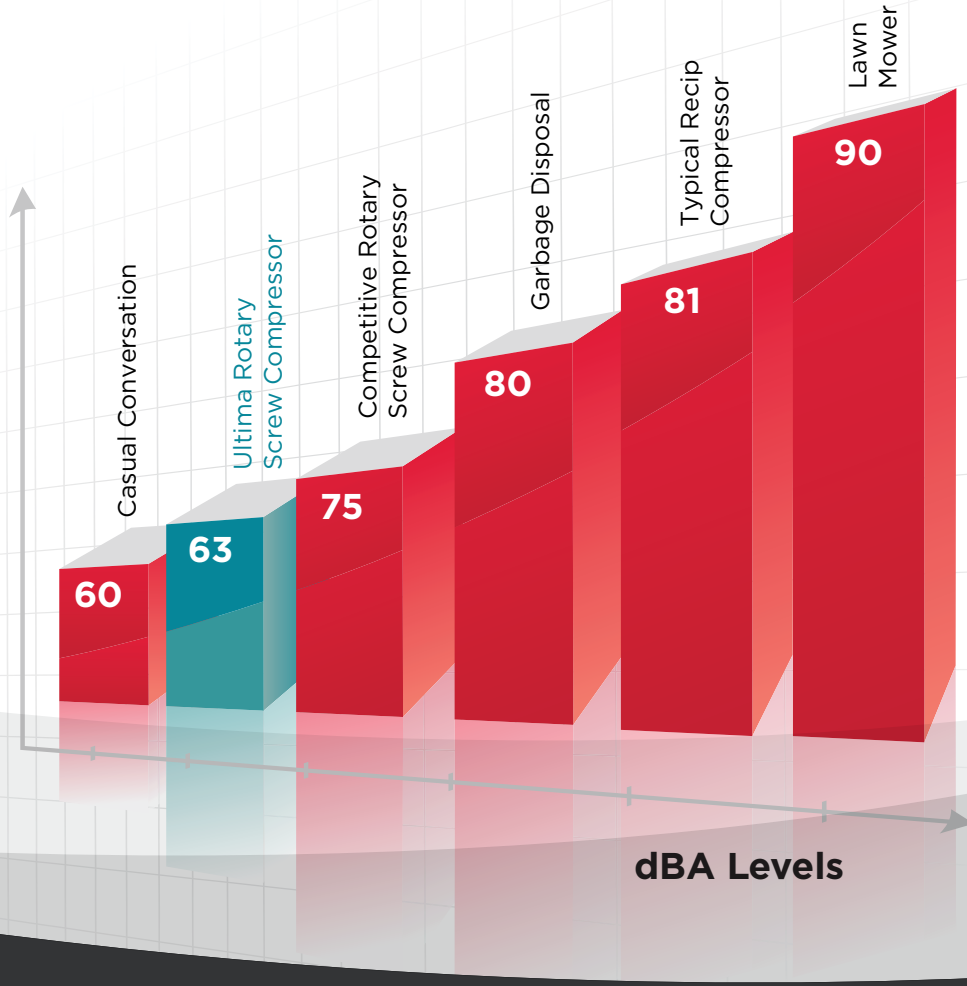
iConn
by Gardner Denver

Analytical → Predictive → Proactive

ULTIMA TAKES **QUIET** TO A WHOLE NEW LEVEL

Lowest Sound Levels

The Gardner Denver Ultima Series compressors utilize high-quality, sound-insulating enclosure panels and a completely sealed cabinet. These features reduce the sound levels and eliminate the need for a separate compressor room, saving money on installation costs and providing installation location flexibility.



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.

Best Warranty in the Industry

Experience Peace of Mind

The engineering philosophy of Gardner Denver ensures long-lasting, reliable equipment. Our simple, but bold warranty programs demonstrate our belief in the quality found in Gardner Denver compressors.

Our standard warranty ensures that you have peace of mind when it comes to your system's operation. For added protection, take advantage of our 5-year extended airend warranty program. Simply stated, it's the best in the industry.

To find a distributor visit:
www.gardnerdenver.com/gdproducts/

Ultima Technical Data

VARIABLE SPEED MACHINES, 50 & 60 HZ

MODEL	DRIVE MOTOR		NOMINAL PRESSURE		FAD*		NOISE LEVEL**	COOLING METHOD	WEIGHT		DIMENSIONS L × W × H
	HP	KW	PSIG	BAR	ACFM	M³/MIN	DB(A)		LBS	KG	IN. (MM)
U75	100	75	100	6.9	462	13.08	63	Water	5512	2500	80.5 × 54.9 × 78.4 (2044 × 1394 × 1992)
			125	8.6	403	12.03					
			145	10	348	11.16					
U90	125	90	100	6.9	568	16.08	64				
			125	8.6	505	14.44					
			145	10	449	13.37					
U110	150	110	100	6.9	697	19.74	64				
			125	8.6	633	17.58					
			145	10	574	16.28					
U132	180	132	100	6.9	817	23.13	66				
			125	8.6	762	20.87					
			145	10	701	19.60					
U160	215	160	100	6.9	847	23.98	69				
			125	8.6	842	23.08					
			145	10	834	22.51					

* Data measured and stated in accordance with ISO1217 4th Edition Annex C and E at the following conditions:
Air Intake Pressure: 1 bar a / 14.5 psi, Air Intake Temperature: 20°C / 68°F, Humidity: 0% (dry)

** Measured in free field conditions in accordance with the ISO 2151, tolerance ± 3 dB(A)

The leader in every market we serve

by continuously improving all business processes

with a focus on innovation and velocity

Gardner Denver®

Gardner Denver, Inc.

1800 Gardner Expressway
Quincy, IL 62305
866-440-6241
www.gardnerdenver.com/gdproducts

GS-ULTIMA-75-160 2nd Ed. 8/17

Please recycle after use.