Quincy COMPRESSOR

an EnPro Industries company

QGV

# Variable Speed Compressors

ROYAL BLUE WARRANTY 10 YEARS Quincy WORLD'S BEST!

## QUINCY QGV SERIES ROTARY SCREW AIR COMPRESSORS 50–200 HP

# QUINCY QGV 50-200

| Model | QGV-50 | QGV-75 | QGV-100 | QGV-150 | QGV-200 |
|---|---|---|---|---|---|
| Motor (hp) | 50 | 75 | 100 | 150 | 200 |
| **Air Delivery** (acfm) | | | | | |
| 100 psig | 240 | 383 | 475 | 772 | 1015 |
| 110 psig | 232 | 367 | 470 | 717 | 980 |
| 125 psig | 216 | 336 | 432 | 694 | 960 |
| **Sound** (dBA) | | | | | |
| Enclosed | 68 | 72 | 72 | 80 | 83 |
| Unenclosed | 79 | 79 | 79 | 84 | 87 |
| **Dimensions:** inches (mm) | | | | | |
| Length | 84 (2133) | 91 (2311) | 91 (2311) | 120 (3048) | 120 (3048) |
| Width | 45 (1143) | 54 (1372) | 54 (1372) | 61 (1549) | 61 (1549 |
| Height | 74 (1880) | 75 (1905) | 75 (1905) | 93 (2365) | 93 (2365) |
| Weight: lbs. (kg) | 3150 (1429) | 4150 (1882) | 4550 (2064) | 4950 (2245) | 5050 (2291) |

## FEATURES

- Direct Drive, 460 or 575 volt, 75-150 psig
- Axial flow inlet housing
- Heavy-duty intake filter
- QuinSyn-Plus synthetic fluid (food grade available at no additional charge)
- Two-stage air/fluid separation
- Quiet operation
- Flexible coupling
- Industry-leading 10-year Royal Blue Warranty

## OPTIONAL EQUIPMENT

- Line reactors
- Low sound canopy
- Auto restart option included
- Water-cooled
- Lifting bails
- Customized configurations
- Remote Pressure Transducer
- Remote Alarm Communication


Shown with optional low sound canopy

# THE QUINCY QGV SERIES INCLUDES 50-200 HP MODELS EACH WITH 75-150 PSIG CAPABILITY

## DELIVERS REAL ENERGY SAVINGS

- Maintains efficiency across the broadest range of demand
- Provides the most stable, efficient header pressure
- Low Demand Mode eliminates unloaded power losses

## LOWEST TURNDOWN AVAILABLE MAXIMIZES EFFICIENCY

From 100% to 15% of capacity, the Quincy QGV delivers the precise amount of air you need – matching any change in air demand to maintain constant pressure. The QGV is capable of continuous operation from 75 to 150 psig, without danger of overheating or excessive lubricant carry-over.

## DOWNSTREAM PRESSURE SIGNAL PROVIDES STABLE PRESSURE

System pressure has a major impact on energy consumption, so the QGV is designed to provide the most stable pressure available from a compressor. The downstream signal option allows the compressor to react immediately to changes in pressure close to the point of use, eliminating the lag created by air treatment equipment pressure drop.

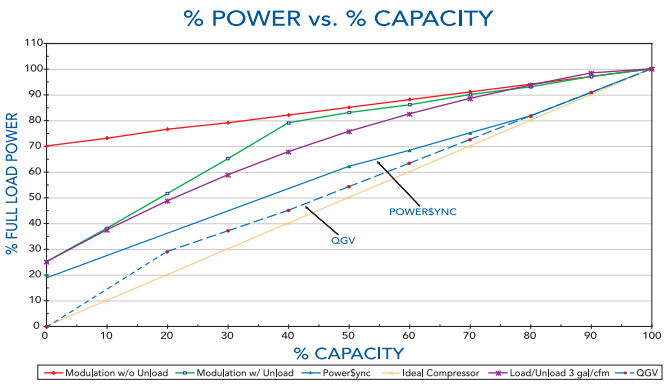
## LOW DEMAND MODE ELIMINATES UNLOADED POWER

The Quincy QGV Low Demand Mode allows the system pressure to rise above the setpoint prior to stopping the compressor when demand drops below its turndown capability. This prevents system pressure from dropping below acceptable levels, and the QGV never runs unloaded. Allowing the pressure to rise also allows other compressors in the network to be turned off when demand is low.


## LOWEST COST OF OWNERSHIP

When it comes to efficiency, you have to look at total operating costs – not just power costs, but repair and maintenance costs, too. That's why the QGV is built using the Quincy QSI airend – the lowest cost of ownership airend in the industry with a standard 10-year warranty program.

## THE QUINCY QGV SETS THE STANDARD FOR AIR SYSTEM EFFICIENCY



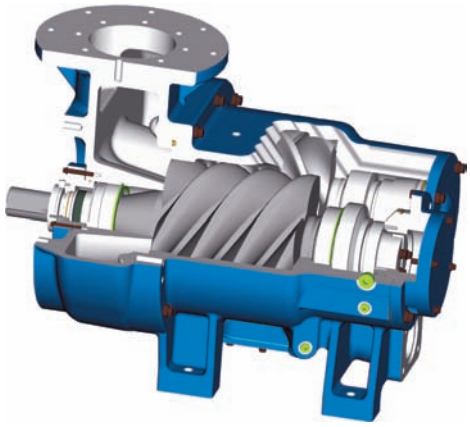

To compare various machines, use the specific power and performance of each.

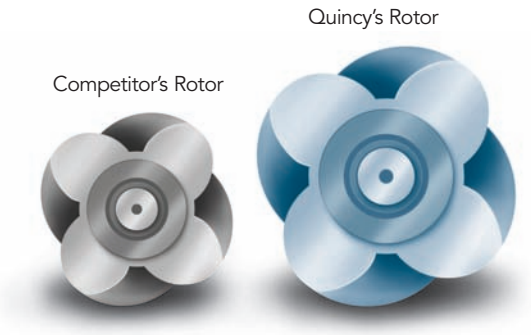
# QUINCY QGV 50-200

## ENGINEERED DURABILITY

Want to replace your compressor in 5 years? Buy a competitive compressor. Want a machine with superior performance that lasts over 100,000 hours and saves you money? Buy a Quincy QGV.

The QGV uses an oversized airend with oversized bearings. The airend rotors are over 50% larger than most competitive compressors and they turn half as fast! What does this mean? It means more air flow per horsepower so you save money on operating costs!





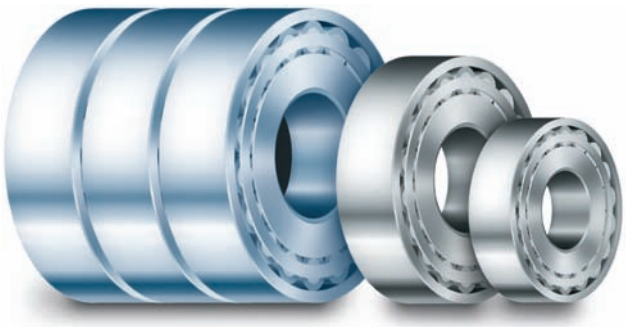

Quincy's rotors are over 62% larger.

### LARGE AIREND

- Tighter clearance than smaller airends means less leakage
- Over 100,000 hours of operation (standard competitor = 40,000 hrs)
- Produces more air
- Larger bearings means lower stress

### SLOW ROTATION

- Less friction
- Increased airend and bearing life
- Uses less power

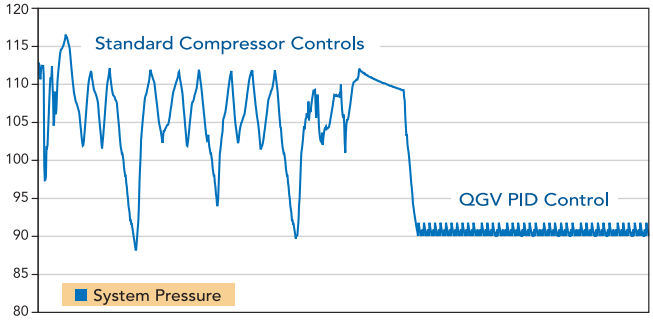


Quincy's bearings are over 56% larger than most competitors, delivering over 100,000 hours of operation.

## PRECISE CONTROL ENSURES OPERATIONAL FLEXIBILITY

- Remote pressure signal provides the most accurate system pressure control in the industry
- True PID loop maintains header pressure within 2 psi of setpoint
- As much as 85% turndown and Low Demand Mode maximize efficiency as air demand varies

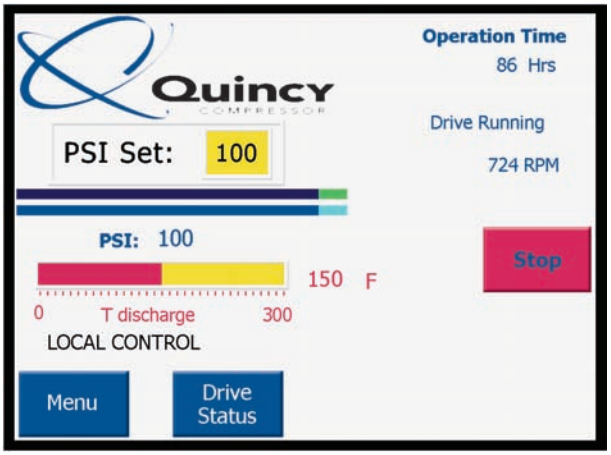
PRESSURE GRAPH – ACTUAL SYSTEM




The Quincy QGV delivers constant pressure within 2 psi at part load capacities as low as 15% – nearly 20% lower than the industry standard.

## QUINCY QGV OFFERS CONSISTENT AND RELIABLE RESULTS

The Quincy QGV Low Demand Mode maintains efficiency even when demand drops below its turndown capacity. It operates in start/stop mode to avoid unloaded power consumption. An adjustable pressure rise, prior to stopping the compressor, allows other compressors to be turned off when air demand is low.




The SuperiAir™ controller features a state-of-the-art touch screen display panel with interactive trending analysis.

## QGV SUPERiAIR™ CONTROLLER

The SuperiAir controller provides continuous monitoring and a graphic display of performance and efficiency. Built-in trending software tracks all critical operating parameters and transfers the data via standard communication protocol:

- Speed and Percent Capacity
- System Pressure
- Horsepower
- Touch screen display and interface
- Remote system signal connection
- True PID function control
- Low Demand Mode

## QUINCY'S INDUSTRY-LEADING 10-YEAR WARRANTY

Everyone says they have the best machine, but how do they support it? Quincy backs the QGV with the world's best Warranty! **World's Best Warranty = 10 Year Airend Warranty.** Five year warranty on major components. Other compressor manufacturers charge extra for similar plans, or an extended warranty. Why purchase an empty promise? The World's Best Warranty is FREE and it's standard on the QGV.

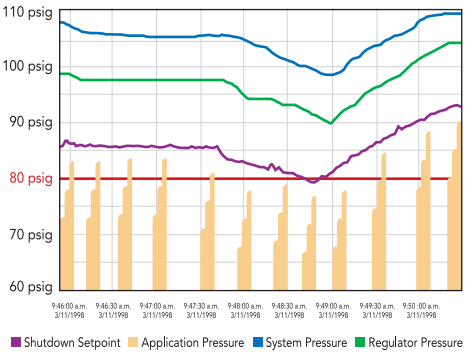
## CASE STUDY: BOTTLING / PACKAGING FACILITY REDUCES OPERATING COSTS BY MORE THAN $44,000 ANNUALLY AND ELIMINATES PRODUCTION SHUTDOWNS

A California bottling and packaging manufacturer believed its air system operating costs could be reduced. The compressed air supply system was composed of two 75 hp and one 40 hp rotary screw air compressors, a refrigerated dryer and a coalescing filter.

### 1) THE CHALLENGE: AIR SYSTEM PRESSURE WAS RAISED TO THE LIMITS IN AN EFFORT TO PREVENT FREQUENT PRODUCTION SHUTDOWNS

Elevating system pressure also elevates operating costs. In fact, system operating costs can increase 1% for every 2 psi of unnecessary header pressure.

EXISTING SYSTEM PRESSURES




### 2) THE APPLIED SCIENCE: QUINCY EQ™ RATING IDENTIFIES POTENTIAL FOR SYSTEM IMPROVEMENT

The 2 hour EQ Rating survey conducted by the Quincy distributor identified an opportunity to ***reduce operating costs by >25%*** – by resolving elevated system pressure, multiple part-loaded compressors and demand side waste.

| QUINCY EQ RATING | |
|---|---|
| Supply Side EQ Rating | 72% |
| Demand Side EQ Rating | 81% |
| **System EQ Rating** | **77%** |
| **Operating Cost Reduction >25%** | |

### 3) THE EQ ANALYSIS: OPERATING COSTS COULD BE REDUCED BY $44,000/YR AND SHUTDOWNS OF THE PNEUMATIC PACKAGING EQUIPMENT COULD BE ELIMINATED

Analysis

The EQ Analysis™ was conducted by a local EQ trained distributor and projected an ***annual operating cost reduction of $44,000.*** In addition, it was discovered that the unstable header pressure caused by the slow and inaccurate response of the compressor controls was causing shutdowns of the pneumatic packaging equipment.

The Quincy EQ Analysis evaluates the operating and financial performance of your compressed air system, regardless of the brand or type of compressor and dryer.

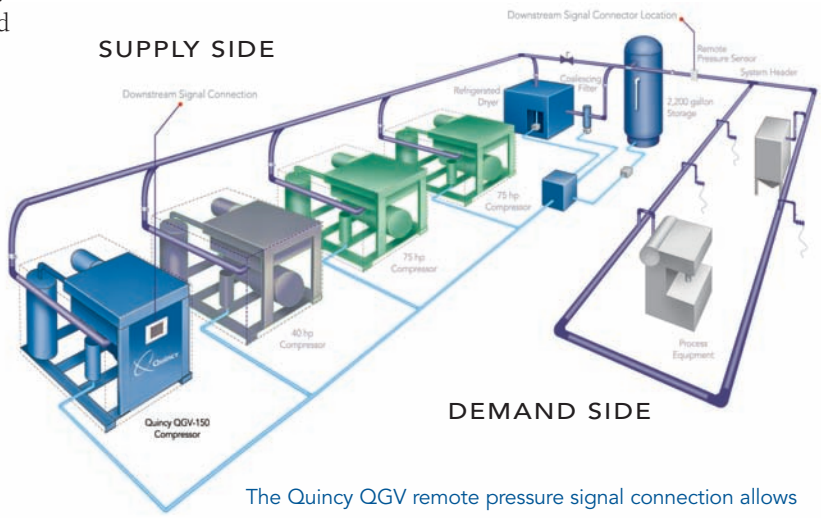
The EQ Analysis:

- Accurately calculates the air system's existing performance and operating costs.
- Provides graphs of total flow, power and pressure variation.
- Patent pending technology models the performance of a variety of air system modifications in order to determine the best system arrangement.
- Reports the recommended upgrades, highlighting reduced energy consumption and documents the Return On Investment.

## 4) THE SOLUTION: DELIVERING THE MOST PRECISE CONTROL OF SYSTEM PRESSURE AVAILABLE FROM A COMPRESSOR, THE QUINCY QGV-150 PROVED TO BE THE BEST ALTERNATIVE

The Quincy QGV Series was engineered exclusively to control system pressure accurately across a broad range of air demand.

- True PID functions in the Quincy QGV PLC mean that it is able to adjust the speed of its response to match the rate of change in air demand.
- Remote Pressure Signal Connection overcomes the pressure drop created by air treatment equipment, providing accuracy unavailable with any other compressor.
- Turndown capability as much as 85% ensures optimum efficiency, letting the QGV act as the trim compressor in all production conditions.




The Quincy QGV remote pressure signal connection allows the PID technology to provide precise system pressure control without sacrificing compressor control functions.

## 5) THE RESULTS: PRODUCTION SHUTDOWNS ELIMINATED AND OPERATING COSTS REDUCED BY MORE THAN $44,000/YR

The Quincy QGV-150 with the remote pressure signal now controls the header pressure within 2 psi of the 90 psig setpoint – compared to over a 20 psi variation prior to the system upgrade. This allowed the pressure setpoint to be lowered by 15 psi while eliminating the production shutdowns. The lower system pressure and the broad turndown range of the Quincy QGV compressor eliminated the need to operate any part-loaded, inefficient compressors.

***Total operating cost savings are $44,000 a year (>29% reduction)*** and were verified by the supplying utility. It is significant to note that the original EQ System Rating predicted >25% operating cost savings and an attractive ROI.

EQ Quincy EFFICIENCY QUOTIENT Analysis

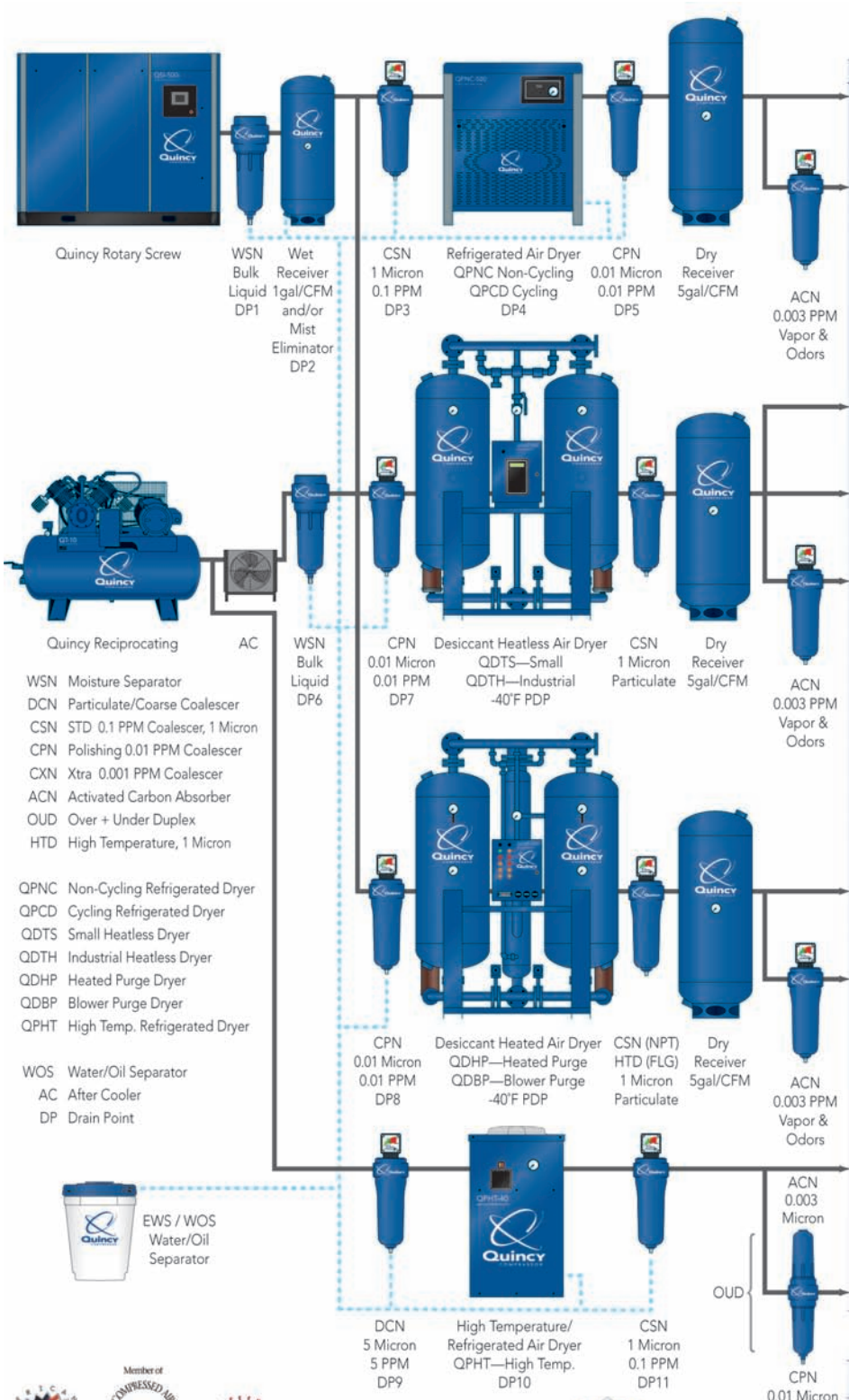
### FINANCIAL SUMMARY

| Constituent | Existing | Proposed | Variance |
|---|---|---|---|
| Electricity | $140,635 | $100,390 | $40,245 |
| Maintenance & Repairs | 8,200 | 4,000 | 4,200 |
| Cooling Water | 0 | 0 | 0 |
| Rental Compressors | 0 | 0 | 0 |
| Miscellaneous | 0 | 0 | 0 |
| **Totals** | $148,835 | $104,390 | $44,445 |

| | | |
|---|---|---|
| **Estimated Retrofit Costs** | $58, 800 | |
| **Projected Savings/Year** | $44,445 | |
| **Estimated Simple Payback** | 15.7 | (months) |

# COMPRESSED AIR SYSTEMS BEST PRACTICE

Quincy Compressor
an EnPro Industries company




WSN Moisture Separator
DCN Particulate/Coarse Coalescer
CSN STD 0.1 PPM Coalescer, 1 Micron
CPN Polishing 0.01 PPM Coalescer
CXN Xtra 0.001 PPM Coalescer
ACN Activated Carbon Absorber
OUD Over + Under Duplex
HTD High Temperature, 1 Micron

QPNC Non-Cycling Refrigerated Dryer
QPCD Cycling Refrigerated Dryer
QDTS Small Heatless Dryer
QDTH Industrial Heatless Dryer
QDHP Heated Purge Dryer
QDBP Blower Purge Dryer
QPHT High Temp. Refrigerated Dryer

WOS Water/Oil Separator
AC After Cooler
DP Drain Point

**Air Quality Classification ISO 8573.1**

| Solids | | Moisture | | Oil | | Wet System Avg. ΔP | |
|---|---|---|---|---|---|---|---|
| Micron | ISO | PDP | ISO | PPM | ISO | psi | Mbar |
| 0.01 | 1 | +38°F | 4 | 0.01 | 1 | 10.7 | 738 |
| 0.01 | 1 | +38°F | 4 | 0.003 | 1 | 11.8 | 814 |
| 0.01 | 1 | -100°F | 1 | 0.001 | 1 | 14.2 | 979 |
| | | NOTE: Requires CXN (.001 PPM) filter in series with standard CPN prefilter. | | | | | |
| 1 | 2 | -40°F | 2 | 0.01 | 1 | 9.2 | 634 |
| 0.01 | 1 | -40°F | 2 | 0.003 | 1 | 10.3 | 710 |
| 1 | 2 | -40°F | 2 | 0.01 | 1 | 9.2 | 634 |
| 0.01 | 1 | -40°F | 2 | 0.003 | 1 | 10.3 | 710 |
| 1 | 2 | +50°F | 6 | 0.01 | 2 | 7.8 | 538 |
| 0.01 | 1 | +50°F | 6 | 0.003 | 1 | 10.0 | 689 |

**Approximate Liquid Removal**
100 CFM, 100 psi, 80°F, 4000 hrs./yr., 2 PPM

| Drain Point | Gallons per Year | Drain Point | Gallons per Year | Drain Point | Gallons per Year |
|---|---|---|---|---|---|
| 1 | 3000 | 5 | 140 | 9 | 300 |
| 2 | 2000 | 6 | 3000 | 10 | 4320 |
| 3 | 305 | 7 | 310 | 11 | 120 |
| 4 | 1300 | 8 | 310 | | |

Member of CAGI Compressed Air & Gas Institute www.cagi.org
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Royal Blue Warranty 10 Years Quincy World's Best!



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