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**INFORMATION BULLETIN**

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**UPGRADE GUIDE  
TO  
FRICK<sup>®</sup> QUANTUM<sup>™</sup> HD UNITY CONTROLS**

# Introduction

**Quantum HD Unity** controls provide a unique approach to networking multiple controllers. It is the unique software by Frick controls that **Unifies** all networked controller HMIs to be viewed by any other networked controller. View any compressor controller from any other compressor controller or from the evaporator, condenser, vessel or engine room controller. View the evaporator operation from any networked compressor controller as well.

## **Frick Controls Evolution**

Frick Industrial Refrigeration has provided microprocessor based controllers for industrial refrigeration products for nearly 40 years.

Development of electronics moves quickly. Globally the pace of this development has exploded over the past twenty years, outpacing the development of the previous 50 years at an exponential level.

With the introduction of the Quantum family of controllers in 1997, Frick Industrial Refrigeration has somewhat reversed this trend within industrial refrigeration.

Over the past 20 years there have been only 3 major changes in both hardware and software within the Quantum family of controllers.

The average life span of the printed circuit boards used in the Quantum family of controllers over the past 21 years is indicative of our commitment to change only when it is necessary or to drive significant product improvement.

- Processor Boards (2000-2018) Q4 and Q5 processor boards, 9 year average production life
- Analog Boards (1997-2108) 3 versions, same physical footprint, 7 year average production life
- Digital Board (1997-2018) 1 version, 21 year production lifespan

The following is a guide on the most practical upgrade paths from these older controllers and components to a Quantum HD Unity controller for both compressors and systems alike.

Each style of micro from the earliest to the most previous generation will be covered.

*Note: The term "Obsolete Parts" as used on the following pages is defined as no longer available or no suitable replacement.*

# Quantum HD Field retrofit kit (compressors)

The **Quantum HD Unity field retrofit kit** provides a quick and easy way to upgrade most Quantum and Quantum LX controllers without removing the existing panel or disturbing any field wiring. The value proposition of the field retrofit kit to a full panel replacement is equal as the installation of the kit renews the 12/18 month warranty on the existing controller based on the new panel test report and sales order number.

**For more information view our videos on YouTube. Search Quantum HD field retrofit kit.**



# Compressor Controllers

RWB, RWBII, RWBII Plus, RDB Plus, RXB Plus, RXF Plus, and RXF-mini Controllers

1980 - 1987

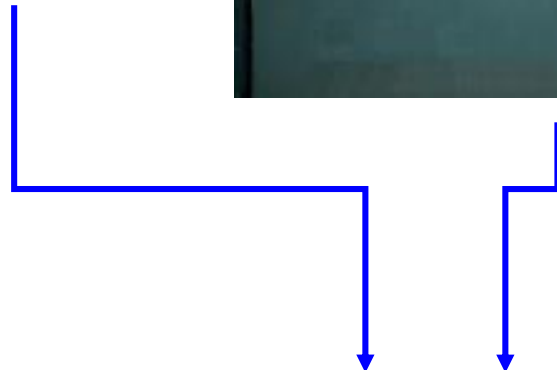


1986 - 2000



Obsolete Parts

- Processor
- Display
- Keypad



Quantum HD Unity  
Compressor Controller



# Compressor Controllers

## Quantum Controller (original)

Enclosure Size 28" x 18" x 10" (71cm x 46cm x 25.4cm)

Included an internal swingout door, used to mount the processor and power supply

1997 - 2004



### Obsolete Parts

- Processor
- Display
- Analog Board

Quantum HD Unity  
Compressor Controller



Quantum HD Unity  
Field Retrofit Kit



Quantum HD Unity  
Compressor Controller

# Compressor Controllers

## Quantum 4A Controller

Enclosure Size 22" x 18" x 10" (56cm x 46cm x 25.4cm)

2004-2010



### Obsolete Parts

- Processor
- Display
- Analog Board

Quantum HD Unity  
Compressor Controller  
12/18 month warranty



Quantum HD Unity  
Field Retrofit Kit



Quantum HD Unity  
Compressor Controller  
12/18 month warranty

# Compressor Controllers

## Quantum LX Controller

Enclosure Size 22" x 18" x 10" (56cm x 46cm x 25.4cm)

2004-2014



## Obsolete Parts

- Q4 Processor
- Outdoor Display
- Analog Board\*

Quantum HD Unity  
Compressor Controller  
12/18 month warranty



Quantum HD Unity  
Field Retrofit Kit



Quantum HD Unity  
Compressor Controller  
12/18 month warranty

QLX Q4 to Q5  
upgrade kit through  
parts center  
90 day warranty

\*Requires new operating software  
flashcard to use current analog  
board.



# Compressor Controllers

## Quantum Lite (RXF12-50 only)

2 Box Design

Boxes mounted back to back (controller in one box, analog and digital I/O in the other)

Enclosure Size 16" x 18" x 6" (40.6cm x 46cm x 5.25cm)

1999 - 2004



### Obsolete Parts

- Processor
- Display
- Analog Board

Quantum HD Unity  
Compressor Controller





# Compressor Controllers (other manufacturers)



Quantum HD Unity  
Compressor Controller

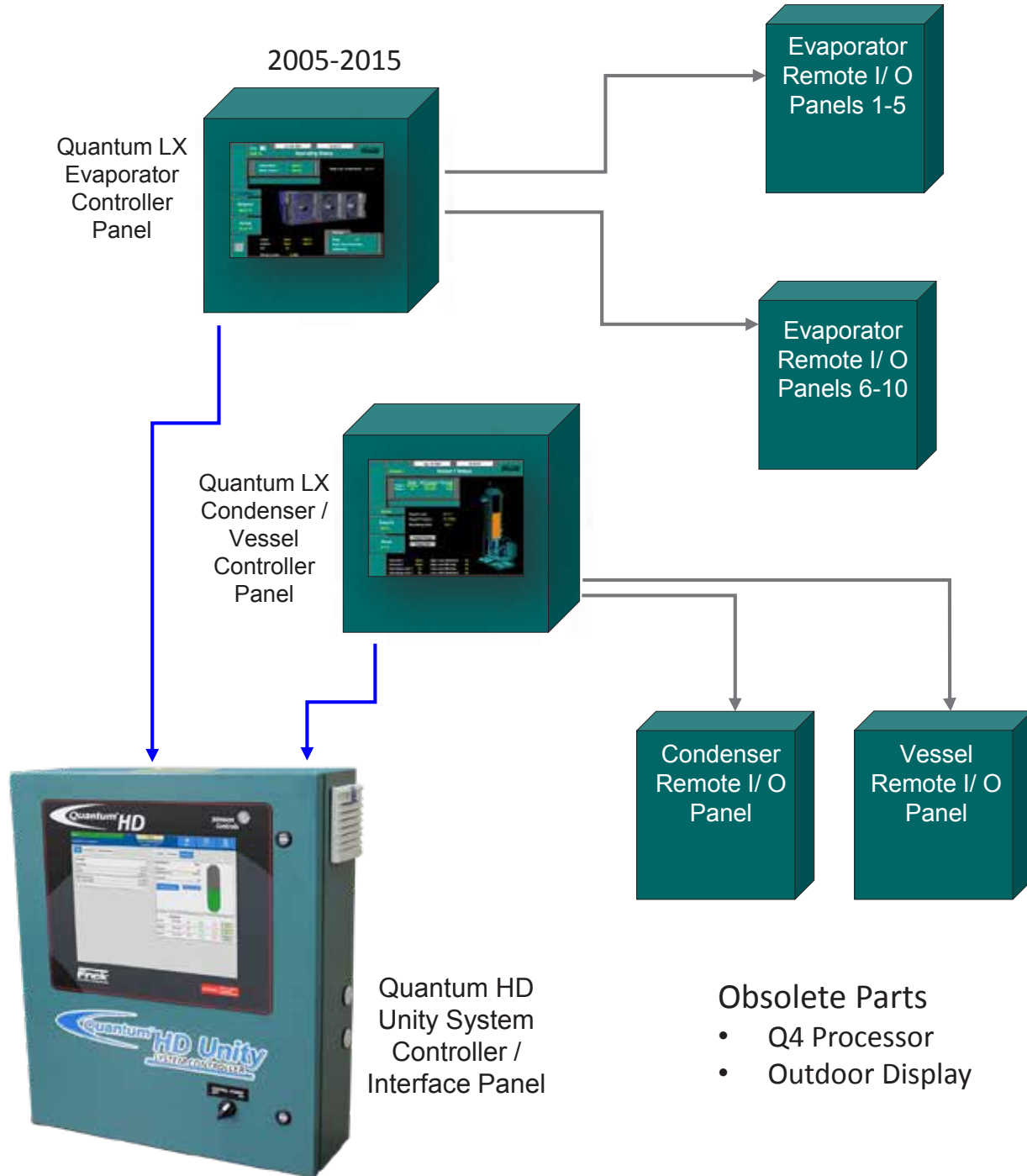


- Any Fixed Vi Twin Screw
- Sullair
- Mycom
- M&M
- Dunham Bush
- Etc...

# System Controllers (Condenser, Vessel and Evaporator)

## Quantum LX Q-net System Controls

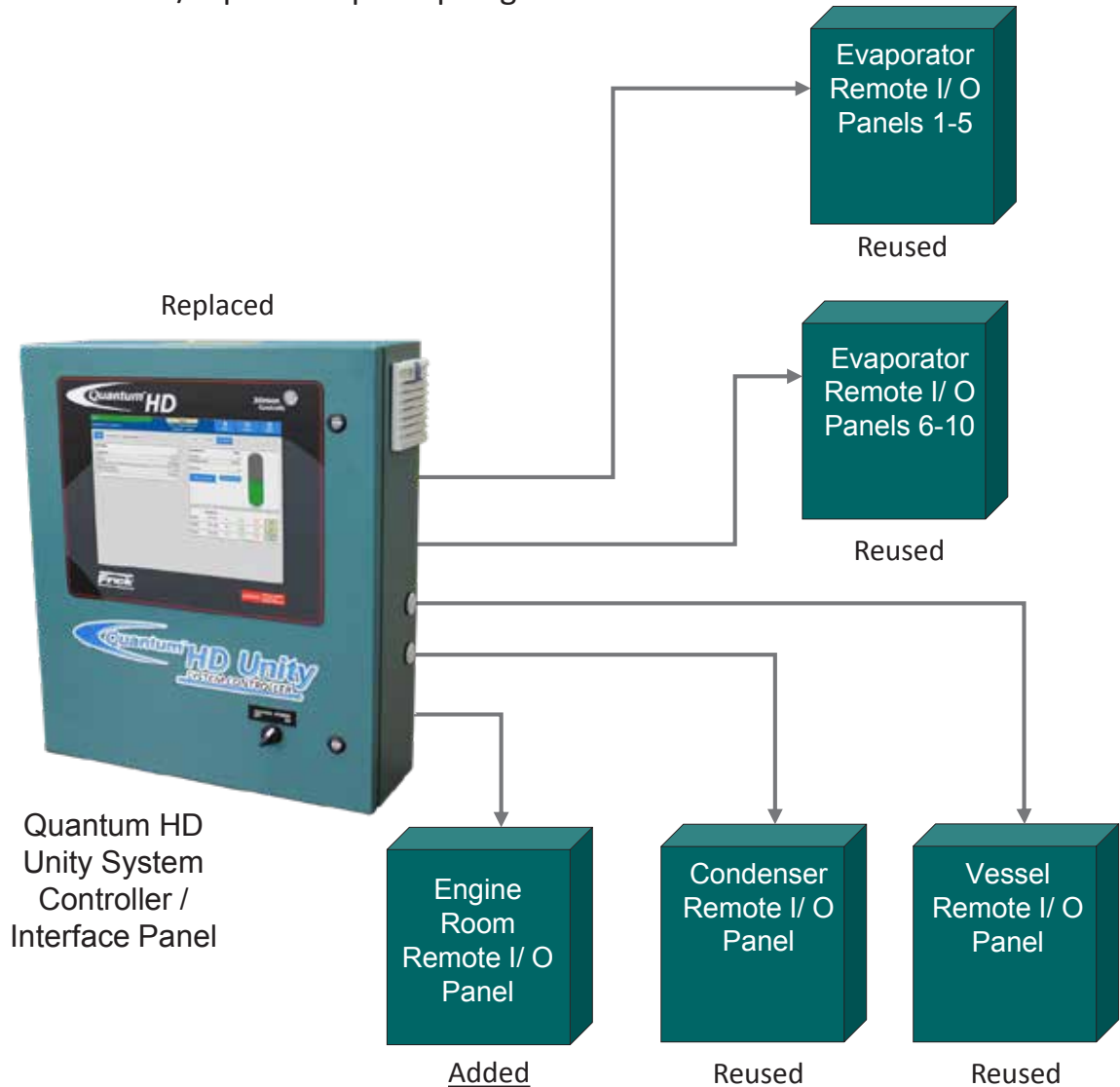
- Remote I/O panels utilized analog and digital boards. These panels are repurposed
- The Evaporator and Condenser/Vessel controllers are replaced by a new Quantum HD Unity System Controller/Interface Panel



# System Controllers (Condenser, Vessel and Evaporator)

## Quantum HD Unity System Control

- Replaced 2 Quantum LX Q-net Controller panels with a single Quantum HD Unity controller for Evaporator, Condenser/Vessel and Engine Room Control.
- Re-used existing remote I/O panels for the Evaporator, Condenser and Vessel control.
- Added a remote I/O panel to pick up Engine Room control.



### NOTICE

Original Quantum Q-net systems used a single GCU controller/analog-digital board in the remote I/O panels.

These remote panels cannot be re-purposed for use with Quantum HD Unity System controls.

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