
Operation Manual

MODEL
QCRV-4

COMMERCIAL ROOM VENTILATORS
WITH EXHAUST

FOR USE WITH BARD QTEC SERIES HEAT
PUMPS



Bard Manufacturing Company
Bryan, Ohio 43506

*Since 1914...Moving ahead, just as
planned.*

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DESCRIPTION

The QCRV ventilator is designed to be used with Bard QT_{EC} Series Heat Pumps. They are electromechanical ventilation systems designed to provide fresh air to meet indoor air quality standards with built in exhaust provisions.

BLADE ADJUSTMENT FOR DESIRED VENTILATOR AIR

The amount of ventilation air supplied by the commercial room ventilator is dependant on three factors.

1. Supply air duct static pressure drop
2. Indoor blower speed
3. Damper blade open position setting.

To determine the amount of fresh air that will be supplied to the structure, first determine the pressure drop of the supply air duct. For free blow applications with return air filter grille and supply grille, use the free blow column in the tables provided.

1. Determine the ventilation CFM required.
2. Choose the table following for your specific unit, mode of operation and static pressure.
3. Find the ventilation CFM required in the appropriate table. Read left to determine required blade position for the desired ventilation CFM.
4. Energize ventilator and adjust thumb wheel to open the blade to the position desired. Label on right side of QCRV indicates the A, B, C, D and E positions. Remove filter for better viewing.
5. Program thermostat, CS2000 or DDC control system to turn on ventilator during occupied periods only.

| QH241 VENTILATION MODE CFM | | | | |
|----------------------------|-----------|-----------------|-----|-----|
| Damper Position | Free Blow | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 125 | 120 | 100 | 75 |
| B | 135 | 130 | 115 | 100 |
| C | 165 | 160 | 160 | 140 |
| D | 255 | 255 | 235 | 195 |
| E | 375 | 320 | 290 | 265 |

| QH241 COOLING & HEATING MODE CFM | | | | |
|----------------------------------|-----------|-----------------|-----|-----|
| Damper Position | Free Blow | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 220 | 215 | 200 | 175 |
| B | 245 | 235 | 210 | 185 |
| C | 255 | 260 | 245 | 225 |
| D | 335 | 335 | 330 | 290 |
| E | 385 | 385 | 360 | 320 |

NOTE: Ventilation airflow will increase up to 50 CFM during backup or emergency heat operation due to increased total airflow.

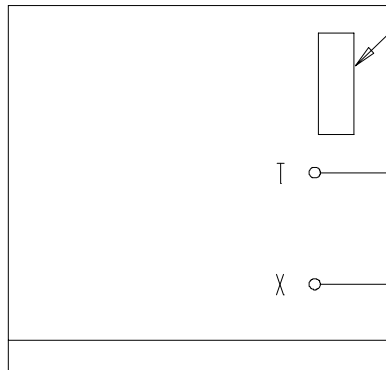
| QH301 VENTILATION MODE CFM QH361 VENTILATION MODE CFM QH421 VENTILATION MODE CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Free Blow | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 140 | 135 | 125 | 130 |
| B | 180 | 170 | 160 | 160 |
| C | 220 | 210 | 205 | 195 |
| D | 315 | 315 | 315 | 290 |
| E | 410 | 400 | 385 | 380 |

| QH301 COOLING & HEATING MODE CFM QH361 LOW SPEED COOLING & HEATING MODE CFM QH421 LOW SPEED COOLING & HEATING MODE CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Free Blow | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 235 | 220 | 225 | 230 |
| B | 265 | 250 | 245 | 240 |
| C | 325 | 315 | 300 | 290 |
| D | 400 | 400 | 390 | 380 |
| E | 465 | 460 | 445 | 430 |

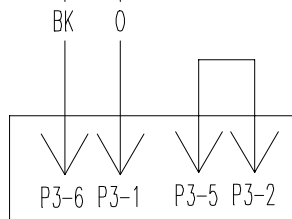
| QH361 HIGH SPEED COOLING & HEATING MODE CFM QH421 HIGH SPEED COOLING & HEATING MODE CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Free Blow | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 255 | 250 | 250 | 230 |
| B | 285 | 280 | 280 | 280 |
| C | 360 | 360 | 350 | 345 |
| D | 445 | 445 | 445 | 440 |
| E | 500 | 500 | 500 | 490 |

CLASSROOM VENTILATOR MOTOR

POSITION
ADJUSTMENT
THUMBWHEEL



ADJUST FULL OPEN
POSITION WITH THUMBWHEEL
ROTATE UP TO OPEN
DOWN TO CLOSE



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