



BOSCH

Invented for life

Bosch Water Source Heat Pump

QV Model

The water-to-air QV is the quietest heat pump in the Bosch line and an industry leader in noise reduction.



**NEW
2021**

Quiet, Efficient, and Compact

Bosch QV Model

The QV Model is an ideal choice for those seeking a quiet, unobtrusive heat pump for condos, offices, hotels, and other commercial applications. This single-stage product comes equipped with a compact cabinet designed to fit most commercial replacement projects and is available in the 2 to 5 ton size range. Featuring Bosch-patented compressor encapsulation and the latest in compressor, blower motor and heat transfer technologies, the QV meets or exceeds ASHRAE 90.1 efficiency standards and performs well in both water loop and geothermal applications.

Standard Features

- ▶ Bosch patented noise insulation technology
- ▶ Whisper Quiet operation
- ▶ Bosch-patented compressor encapsulation
- ▶ Constant Airflow ECM DEC Star® Blower
- ▶ Galvanized Steel Cabinet with separate service access panels
- ▶ Stainless Steel Drain Pan
- ▶ Floating Base Pan
- ▶ Copper Coaxial Heat Exchanger
- ▶ Unit Protection Module (UPM)

Optional Features

- ▶ 2" MERV-8 or MERV-13 Filters with 2" 4-sided Rack
- ▶ Cupro-nickel Coaxial Heat Exchanger
- ▶ Internally Mounted 2-way Motorized Water Valve
- ▶ DuoGuard™ Air Coil
- ▶ Hot Gas Bypass
- ▶ 100 VA Transformers
- ▶ DDC Controls
- ▶ Waterside Economizer
- ▶ Internal Auto-flow Regulator
- ▶ Phase Protection Module

Equipped
with innovative
Bosch Patented
Technology
for noise
reduction



**Before Everything,
There's Bosch.**

Simple. Reliable. Innovative.

Bosch QV Model Features

Whisper Quiet Operation

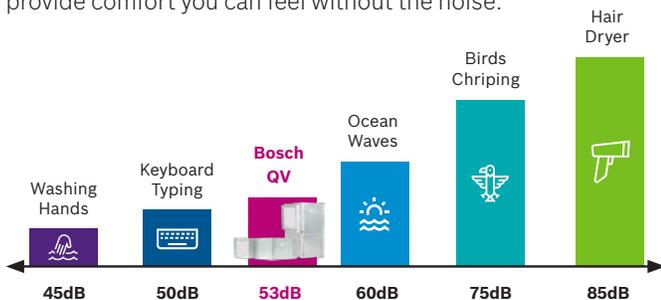
The QV comes equipped with Bosch-patented compressor encapsulation. The unit's unique sound package includes an insulated blower and cabinet insulation, which dampen unwanted noise. The product also includes an elevated base-plate, ensuring air-tight encapsulation around the compressor and optimal sound performance.

Each unit comes standard with a Constant Airflow ECM DEC Star® Blower. Highly efficient, the DEC Star® blower produces the same CFM as the QV but at a lower RPM, resulting in decreased power consumption, lower sound levels, and optimal sound performance. The DEC Star® blower's high efficiency and improved airflow also keeps maintenance costs to a minimum.



Comparison of Sound

Experience the difference between the Bosch QV decibel levels and these familiar sounds. Bosch leverages noise reduction technologies to make heat pumps that are quiet enough to provide comfort you can feel without the noise.



Cabinet Configuration Flexibility

The blower systems on the QV's horizontal cabinets are designed to be easily reconfigured on the job site. Installers can switch the blower discharge arrangement from end to straight through discharge in just a few minutes.

Heavy Duty Compressor Scroll (sizes 024-060)

Refrigerant to water heat exchangers are coaxial tube-in-tube copper/steel type, providing a robust construction and ensuring years of trouble-free operation. Optional Cupro-Nickel coils are available for applications where the water is of lower quality.

Evaporator coils employ lanced fin and rifled tubing for maximum heat transfer. Large face areas result in lower face velocity, reducing sound while ensuring high latent heat removal for maximum dehumidification in the cooling mode.

- A** Constant Airflow with high efficiency ECM DEC Star® blower driven by Axial Flux BLAC motor with ECM EON motor control technology.
- B** High density vinyl insulated sound blocker blower jacket
- C** Bosch patented compressor encapsulation uses high density mass loaded vinyl sound blocker and heavy gauge sheet metal, which provides whisper quiet operation
- D** Copper & Cupro-Nickel Coaxial Heat Exchangers Available
- E** High density mass loaded vinyl sound blocker insulated panels in condensing section minimizing compressor noise
- F** Corrosion-Resistant stainless steel drain pan
- G** Units come standard with a standard Throwaway 1" filter with a 2- sided filter rack. Optional 2" Filter rack with MERV level filter available
- H** Optional Duoguard™ Air Coil

Reduced Operating Costs

The QV's efficient blower technology helps to reduce power consumption, resulting in lower operating costs

Refrigerant Circuit

Circuit QV Model units are designed using the optimum combination of compressor, water, and air coils to provide peak performance.

(1) The lowest overall sound rating is 53 dBA for the Bosch WQ. Based on a weighted overall (dBA), according to ARI-260:2017 (63Hz-8kHz). Actual sound rating may vary depending on system setting, equipment maintenance, and other factors that may affect the sound rating.

Bosch Quality & Reliability

The Bosch Group has more than 40 years of experience in designing heat pumps for residential & commercial applications. We rigorously test products in our ISO 9001-2008 and ISO 14001-2004 certified facilities. We are committed to providing consistent quality in every unit we build.



Evaporator Coil

The QV comes standard with a copper tube aluminum fin evaporator coil (uncoated). For additional protection against corrosive elements, there is an option to add either tin electroplated copper tubing protection or the DuoGuard™ coil coating for maximum protection.

DEC Star® Blower

Each unit comes standard with a Constant Airflow ECM DEC Star® Blower. Highly efficient, the DEC Star® blower produces the same CFM as the QV but at a lower RPM, resulting in decreased power consumption, lower sound levels, and optimal sound performance. The DEC Star® blower's high efficiency and improved airflow also keeps maintenance costs to a minimum.

Unit Protection Module

Each QV includes a factory-provided Unit Protection Module (UPM) that controls unit operation and monitors the safety controls that protect the unit. The main purpose of the UPM is to protect the compressor by monitoring the different states of switches and sensors. It also provides time delays and protects the unit against freezing of the water coil and evaporator coil. The UPM interfaces with the thermostat.

Options Designed for any Application

Two-Way Motorized Water Valves

The two-position motorized water valve is a great energy savings option. The valve opens to allow 100% fluid flow through the coaxial heat exchanger only when there is a call for cooling or heating.

Flow Proofing Switch

This internally-mounted, factory-installed accessory protects the unit against water supply loss. It also allows the unit to restart itself without human intervention. In the event of a water supply fail, the differential pressure switch will prevent or stop compressor operation. This will prevent the unit from locking out on a safety requiring a manual reset to restart.

UPM Control Board Features

- ▶ Anti-Short Cycle Timer—5 minute delay
- ▶ High and low pressure protection
- ▶ Water and evaporator freeze protection
- ▶ Condensate overflow protection
- ▶ Brownout/Surge/Power Interruption Protection
- ▶ The controller has a set of contacts for fault indication
- ▶ With a Bosch Communicating Thermostat alerts can be conveniently displayed without having to go to the unit.

Safety Controls

- ▶ High pressure switch in the refrigerant discharge line
- ▶ Low pressure switch in the refrigerant suction line
- ▶ Standard low fluid temperature (freeze) protection sensor. The freeze protection sensor is designed to disable compressor operation when the unit is in the heating mode, should the refrigerant temperature fall below either 26°F (-3.3°C) or 15°F (-9.4°C)
- ▶ Condensate overflow protection sensor is standard and factory mounted in the drain pan of the unit
- ▶ Low air coil temperature (freeze) protection sensor disables the compressor when the refrigerant entering the air coil drops below 26°F (-3.3°C)

Two-Door Front Panel

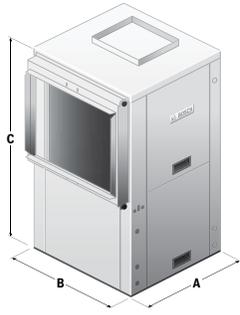
The QV includes two front panels, which allow technicians to troubleshoot the unit while it is operating.

DuoGuard™ Air Coil Protection

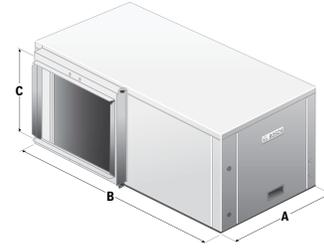
DuoGuard™ provides two layers of corrosion protection. All active copper heat transfer surface on the air coil is coated in a tin plating to resist all common forms of coil corrosion, including formicary, salt water, and galvanic corrosion. The QV's DuoGuard™ copper tube tin-plating and polyester-polymer-coated aluminum fins can pass 1,000 hours of ASTM B117 salt spray testing, offering the best protection against adverse return air.

Technical Specifications

Vertical



Horizontal



| Vertical Cabinet | | Cabinet Dimensional Data | | |
|------------------|----|--------------------------|-----------|------------|
| | | A (Width) | B (Depth) | C (Height) |
| 024 - 030 | in | 21.5 | 21.5 | 39.3 |
| | cm | 54.6 | 54.6 | 99.7 |
| 036 - 042 | in | 21.5 | 26 | 44.3 |
| | cm | 54.6 | 66 | 109.9 |
| 048 - 060 | in | 24 | 32.5 | 45.3 |
| | cm | 61 | 82.6 | 114.9 |

| Horizontal Cabinet | | Cabinet Dimensional Data | | |
|--------------------|----|--------------------------|-----------|------------|
| | | A (Width) | B (Depth) | C (Height) |
| 024 - 030 | in | 22 | 43 | 18 |
| | cm | 55.9 | 109.2 | 43.2 |
| 036 - 042 | in | 22 | 54.5 | 19 |
| | cm | 55.9 | 138.4 | 48.3 |
| 048 - 060 | in | 25 | 54.5 | 21 |
| | cm | 63.5 | 138.4 | 53.3 |

AHRI RATINGS (13256-1) - QV SERIES COPPER WATER COIL

| Models | Cabinet | Water Loop Heat Pump | | | | Ground Loop Heat Pump | | | | CFM | GPM |
|--------|---------|----------------------|--------------|-----------------|------|-----------------------|--------------|-----------------|------|------|-----|
| | | Cooling 86 °F | | Heating 68 °F | | Cooling 77 °F | | Heating 32 °F | | | |
| | | Capacity (Btuh) | EER (Btuh/W) | Capacity (Btuh) | COP | Capacity (Btuh) | EER (Btuh/W) | Capacity (Btuh) | COP | | |
| QV024 | VT | 24550 | 15.00 | 27150 | 4.85 | 25650 | 17.95 | 17750 | 3.40 | 800 | 6 |
| QV024 | HZ | 24200 | 14.75 | 26800 | 5.15 | 25300 | 17.65 | 17850 | 3.70 | 800 | 6 |
| QV030 | VT | 28650 | 14.50 | 32150 | 4.95 | 29950 | 17.00 | 21050 | 3.60 | 950 | 7 |
| QV030 | HZ | 28650 | 14.60 | 32150 | 4.95 | 29950 | 17.10 | 21050 | 3.60 | 950 | 7 |
| QV036 | VT | 36400 | 15.05 | 38400 | 4.85 | 37950 | 17.55 | 26700 | 3.70 | 1200 | 9 |
| QV036 | HZ | 36400 | 14.85 | 38450 | 4.80 | 38000 | 17.40 | 26750 | 3.65 | 1200 | 9 |
| QV042 | VT | 39950 | 14.70 | 42150 | 4.70 | 41800 | 17.20 | 29350 | 3.40 | 1400 | 10 |
| QV042 | HZ | 38350 | 13.95 | 42350 | 4.60 | 41100 | 16.80 | 29550 | 3.35 | 1400 | 10 |
| QV048 | VT | 46450 | 14.35 | 58200 | 4.65 | 48650 | 16.85 | 38900 | 3.50 | 1600 | 12 |
| QV048 | HZ | 46450 | 14.35 | 58300 | 4.75 | 48000 | 16.55 | 39000 | 3.45 | 1600 | 12 |
| QV060 | VT | 58500 | 14.20 | 77000 | 4.70 | 61250 | 16.50 | 52050 | 3.70 | 1850 | 15 |
| QV060 | HZ | 58900 | 14.20 | 66200 | 4.35 | 61000 | 16.25 | 46000 | 3.35 | 1850 | 15 |

AHRI RATINGS (13256-1) - QV SERIES CUPRO-NICKEL WATER COIL

| | | | | | | | | | | | |
|-------|----|-------|-------|-------|------|-------|-------|-------|------|------|----|
| QV024 | VT | 24550 | 15.00 | 27150 | 4.85 | 25650 | 17.95 | 17750 | 3.40 | 800 | 6 |
| QV024 | HZ | 24200 | 14.75 | 26800 | 5.15 | 25300 | 17.65 | 17850 | 3.70 | 800 | 6 |
| QV030 | VT | 28650 | 14.50 | 32150 | 4.95 | 29950 | 17.00 | 21050 | 3.60 | 950 | 7 |
| QV030 | HZ | 28650 | 14.60 | 32150 | 4.95 | 29950 | 17.10 | 21050 | 3.60 | 950 | 7 |
| QV036 | VT | 36400 | 15.05 | 38400 | 4.85 | 37950 | 17.55 | 26700 | 3.70 | 1200 | 9 |
| QV036 | HZ | 36400 | 14.85 | 38450 | 4.80 | 38000 | 17.40 | 26750 | 3.65 | 1200 | 9 |
| QV042 | VT | 39950 | 14.70 | 42150 | 4.70 | 41800 | 17.20 | 29350 | 3.40 | 1400 | 10 |
| QV042 | HZ | 38350 | 13.95 | 42350 | 4.60 | 41100 | 16.80 | 29550 | 3.35 | 1400 | 10 |
| QV048 | VT | 46450 | 14.35 | 58200 | 4.65 | 48650 | 16.85 | 38900 | 3.50 | 1600 | 12 |
| QV048 | HZ | 46450 | 14.35 | 58300 | 4.75 | 48000 | 16.55 | 39000 | 3.45 | 1600 | 12 |
| QV060 | VT | 58500 | 14.20 | 77000 | 4.70 | 61250 | 16.50 | 52050 | 3.70 | 1850 | 15 |
| QV060 | HZ | 58900 | 14.20 | 66200 | 4.35 | 61000 | 16.25 | 46000 | 3.35 | 1850 | 15 |

Notes: All dimensions within $\pm 0.125"$. All condensate drain connections are 3/4" FPT. Horizontal models can be field converted between end blow and straight through supply air configurations. Specifications subject to change without notice. 1" filter rack extends 1.23" beyond the side of the unit. GLHP ratings require an extended range option. Ratings based upon A HRI/ANSI 13256-1 with 1" disposable filter.

About Bosch

Bosch Group

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology. The company was founded in Stuttgart, Germany, in 1886 and presently has more than 440 subsidiaries and is represented in over 150 countries.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket solutions, industrial drives and control technology, power tools, security and communication systems, packaging technology, thermotechnology, household appliances and software solutions. The Bosch Group's products and services are designed to improving quality of life by providing innovative and beneficial solutions. In this way, the company offers technology worldwide that is "Invented for life." Additional information is available online at boschheatingandcooling.com and bosch.ca.

Bosch Thermotechnology in North America

Bosch Thermotechnology is a leading source of high quality water heating and comfort systems. The company offers gas tankless, electric whole house and point-of-use water heaters, Bosch and Buderus floor-standing and wall mounted boilers, Bosch and FHP geothermal, water-source and air-source systems as well as controls and accessories for all product lines. Bosch Thermotechnology is committed to being Simply Smart by offering products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner. For more information, visit boschheatingandcooling.com.



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