



QBE

FLUID CHILLERS
0.6 TO 7 TONS

The QBE Series is designed specifically to meet industrial and commercial process cooling requirements.

These units provide reliable control of the chilled fluid temperature while delivering exceptional energy savings.

The optional hot gas bypass valve provides highly accurate control for temperature-sensitive processes.

Units are designed for outdoor installation (standard on three-phase models, optional for single-phase models except QBE002).

The QBE Series consists of 14 models with cooling capacities from 0.6 to 7 tons.⁽¹⁾

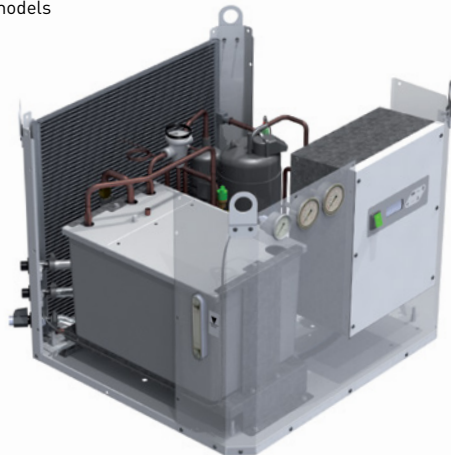
⁽¹⁾ Capacity varies with operating conditions. See technical data table for capacity at standard rating point or contact factory for alternate conditions.

STANDARD FEATURES, OPTIONS, AND ACCESSORIES

FEATURE	MODEL QBE:	002	003-007	009-025
Integral Circulation Pump*		S	S	S
Non-Ferrous Fluid Circuit		S	S	S
Insulated Plastic Unpressurized Tank		S	S	S
Threaded Fluid Connections		S	S	S
Fluid Level Gauge		S	S	S
Fluid Pressure Gauge		S	S	S
Environmentally Friendly R407C Refrigerant		S	S	S
High-Efficiency Refrigerant Compressor		S	S	S
Compressor Crankcase Heater		X	S	S
Refrigerant Pressure Gauges		X	0	S
Electro-Coated Condenser		S	S	S
Variable-Speed Condenser Fans		X	X	0
Washable Stainless Steel Condenser Filters		X	X	S
Adjustable Feet		S	S	X
Stainless Steel Brazed Plate Evaporator		X	0	S
Low Fluid Flow Protection		X	0	S
Alternate Pressure Pump		0	0	0
Duplex Pumps		X	X	0
Pressurized Tank (Stainless or Carbon Steel)		X	0	0
Suitable for Outdoor Installation		X	0	S
Adjustable Fluid Bypass		0	0	0
Version with Hot Gas Bypass Valve		X	0	0
Wheel Kit		0	0	0
RS-485 Interface		X	S	S

Key: S = Standard, 0 = Optional, X = Not available

*Refer to technical data table for applicable models



FLUID CIRCUIT

- Standard insulated plastic tank (unpressurized)
- Optional pressurized tank
- Tank includes fill port, drain valve, level gauge, and level sensor
- Insulated, non-ferrous centrifugal pump and fluid circuit
- Fluid bypass protects pump from damage if chiller inlet and outlet are closed
- Fluid differential pressure switch (QBE009-025) protects against low-flow condition
- Fluid pressure gauge (pump discharge)
- Ability to use glycol mixtures up to 50%

REFRIGERATION CIRCUIT

- Manufactured with high-quality materials following rigorous brazing procedures and conforming to international standards (PED 97/23/EC)
- Environmentally friendly R407C refrigerant
- Refrigerant sight glass with moisture indicator (QBE009-025) and filter-dryer
- Externally equalized thermostatic expansion valve (except QBE002)
- High and low pressure switches
- High and low pressure gauges (QBE009-025)
- High and low pressure access fittings for maintenance and troubleshooting
- Optional Hot Gas Bypass Valve (QBE003-025) for highly accurate control of outlet fluid temperature

COMPRESSOR

- Hermetic compressors (scroll, rotary, or reciprocating) chosen for reliability and efficiency
- Mounted on rubber isolators for noise reduction
- Scroll compressors are especially quiet and can handle liquid return without damage
- Three-phase models are protected against reverse rotation by an electronic phase monitor
- Crankcase heater prevents liquid slugging on start-up (QBE003-025)

EVAPORATOR

- Copper coaxial evaporators (QBE002-007) are especially reliable when dealing with contaminated fluids
- Stainless steel, brazed plate evaporators (QBE009-025) are compact and highly efficient
- Evaporators are protected against freezing by the microprocessor controller

CONDENSER

- Microchannel design is compact and highly efficient
- All-aluminum construction eliminates the risk of galvanic corrosion
- Epoxy-coated for corrosion resistance, even in aggressive environments
- Cleanable, stainless steel air filter (standard on QBE009-025, optional on QBE002-007)
- Condenser fan motor includes internal, self-resetting thermal protector

CHILLER TECHNICAL DATA	Model	QBE 002-E	QBE 003-E	QBE 004-E	QBE 005-E	QBE 006-E	QBE 007-E	QBE 005-R	QBE 006-R
Power Supply	[V/Ph/Hz]	230/1/60	230/1/60	230/1/60	230/1/60	230/1/60	230/1/60	460/3/60	460/3/60
Cooling Capacity ⁽¹⁾	[tons]	0.60	0.63	0.87	0.98	1.21	1.54	1.23	1.43
Fluid Flow Rate	[gal/min]	1.4	1.5	2.1	2.4	2.9	3.7	3.0	3.4
P3 Pump (Standard Pressure)	[psig]	---	53	52	53	52	50	52	51
P5 Pump (High Pressure)	[psig]	---	71	69	70	69	67	69	68
P2 Pump (Low Pressure)	[psig]	35	---	---	---	---	---	---	---
Refrigerant Type	---	R407C	R407C	R407C	R407C	R407C	R407C	R407C	R407C
Compressor Type	---	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	Reciprocating	Reciprocating
Number of Compressors	---	1	1	1	1	1	1	1	1
Number of Refrigerant Circuits	---	1	1	1	1	1	1	1	1
Evaporator Type	---	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial
Condenser Type	---	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel
Electrical Enclosure Rating ⁽²⁾	---	IP40	IP40	IP40	IP40	IP40	IP40	IP44	IP44
Sound Pressure Level ⁽³⁾	[dbA]	46	46	46	46	46	46	46	46
Tank Capacity	[gal]	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Fluid Connection Type	---	NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)
Fluid Connection Size	[inch]	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Width	[inch]	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
Depth	[inch]	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
Height	[inch]	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
Weight (with empty tank)	[lb]	181	187	194	203	209	220	203	209
Weight (with full tank)	[lb]	236	242	249	258	265	276	258	265

⁽¹⁾ Rating point: 95°F Ambient, 55°F Fluid inlet, 45°F Fluid outlet, 0% Glycol. Contact factory for capacity at alternate operating conditions.

⁽²⁾ IP40: Indoor, IP44: Outdoor

⁽³⁾ Measured at 10 m (33 ft) in free field

ELECTRICAL PANEL

- Manufactured in compliance with international standards (EN 60204) using UL-recognized components
- Electrical cabinet constructed of powder-coated galvanized steel
- Disconnect switch with door lock prevents access to panel when energized (QBE009-025)

MICROPROCESSOR CONTROLLER (QBE003-025)

- Optimizes unit performance and maintains fluid temperature
- Controls and displays the fluid temperature
- Turns the compressor on and off while protecting against short cycling
- Turns the pump and condenser fan on and off
- Protected by a watertight cover
- Displays key operating parameters and the following alarm conditions
 - High and low refrigerant pressure
 - Low fluid differential pressure (QBE009-025)
 - Low fluid level
 - Incorrect phase sequence (QBE009-025)
 - Compressor, pump, or fan motor protector tripped (QBE009-025)
 - Temperature probe failure
 - High fluid temperature
 - Evaporator anti-freeze

Note: QBE002 utilizes an electronic thermostat in place of the microprocessor controller

UNIT CONSTRUCTION AND MAINTENANCE

- Cabinet frame and panels are powder-coated and suitable for outdoor installation
- Panels are easily removed, providing convenient access for maintenance and repair
- All fasteners are stainless or zinc-plated steel for corrosion resistance
- Protection to IP44 standard on three-phase models
- For ease of installation all models include lifting eyes; QBE009-025 also have lifting holes in the base
- Wheel kits are available for all models
- Designed for ease of operation and maintenance

FACTORY TESTING OF EVERY QBE UNIT

- Pressurization and helium leak detection of refrigeration circuit
- Pressurization and leak testing of fluid circuit
- Chiller performance and power consumption at full load
- Proper operation of all controls, safety devices, and alarms
- Electrical tests according to international standards (EN 60204)

QBE 007-R	QBE 009-R	QBE 012-R	QBE 014-R	QBE 020-R	QBE 025-R
460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
1.65	1.85	2.52	3.23	3.88	4.78
4.0	4.4	6.0	7.7	9.3	11.5
49	48	45	47	46	61
66	64	60	66	65	94
---	33	33	30	29	43
R407C	R407C	R407C	R407C	R407C	R407C
Reciprocating	Rotary	Rotary	Scroll	Scroll	Scroll
1	1	1	1	1	1
1	1	1	1	1	1
Coaxial	Brazed Plate	Brazed Plate	Brazed Plate	Brazed Plate	Brazed Plate
Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel
IP44	IP44	IP44	IP44	IP44	IP44
46	48	48	49	49	49
6.6	23.8	23.8	23.8	23.8	23.8
NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)	NPT(F)
1/2	1	1	1	1	1
28.3	39.5	39.5	39.5	39.5	39.5
26.4	29.6	29.6	29.6	29.6	29.6
26.8	49.5	49.5	49.5	49.5	49.5
220	529	540	562	562	562
276	727	738	760	760	760



ADDITIONAL PRODUCTS AND SERVICES FROM CHASE COOLING SYSTEMS

CWT

FLUID CHILLERS
2 TO 35 TONS



CWE/HWE

FLUID CHILLERS AND HEAT PUMPS
3 TO 40 TONS



CWB

FLUID CHILLERS
28 TO 150 TONS



REMOTE MONITORING



DRY COOLERS



PUMPS & PUMP SKIDS



HEAT TRANSFER FLUIDS & CHEMICALS



FILTERS & STRAINERS



HEAT EXCHANGERS



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