NQ Series Portable Chillers

NQA10 with PLC Controller Option

The need for portable, self-contained, dependable industrial chilled water systems led to the development of our NQ Series chillers. Our 40 years of experience providing industrial cooling equipment combined with the best available component technologies results in a portable chiller that provides dependable performance for industrial applications. All NQ Series chillers are produced in our ISO 9001:2008 certified facility.

Easy to Install

Compact and easy to maneuver into position with a built-in process fluid reservoir and pump wired and piped ready for simple field connections our NQ Series chillers are easy to install.

Complete Chilled Water System

Built in a heavy-duty industrial machine cabinet with casters, our chiller includes a properly sized coolant reservoir and pump to eliminate the need to source and install multiple components.

Rugged, Compact Design

With our components neatly arranged in the cabinet we make good use of space while maintaining a balance between minimized floor space and easy access for maintenance and operation.

Electrical Components Mounted and Wired

All electrical components and sensors are mounted, wired, and fully tested at the factory to reduce installation time and ensure the chiller is up and running quickly.

Tools Free Cabinet Access

Multiple heavy-gauge machine access doors with industrial grade tools-free latches provide easy access to all components for quick start-up, operation, and maintenance.

Reliable

The use of the best available components and control software combined with our extensive experience in providing industrial cooling equipment ensures our chillers provide outstanding reliability.

Direct-Drive Scroll Compressors

Direct drive hermetic scroll compressors with their proven longevity in industrial cooling applications provide outstanding reliability, low-maintenance, and high-efficiency operation.

Stainless Steel Evaporators

Stainless steel plate copper brazed evaporators provide maximum performance, long life, and a level of corrosion protection not available in conventional steel shell and copper tube evaporators.

Stainless Steel Pump

All pumps are stainless steel and designed for peak performance while providing the utmost in corrosion protection and a long useful life under harsh industrial conditions.

Nonferrous Reservoir and Water Lines

All nonferrous water lines and a nonferrous insulated reservoir eliminate the potential for rust formation in the chiller and provide maximum protection from corrosion.

Evaporator Inlet Strainer

An evaporator inlet strainer provides a built-in filtration system to keep debris in the process fluid from causing costly downtime and repair due to a clogged chiller evaporator.

Powerful Controls

Our control system provides an excellent combination of proven hardware and a powerful software control system for outstanding performance that is reliable and easy to use.

Standard Control System Operator Interface

Compressor Protection Technology

Our compressor protection technology provides start-to-start anti-recycle compressor control logic which limits compressor cycling under low-loads to extend compressor life.

Compressor and Pump Run Hour Displays

The ability to store and recall total compressor and pump running hours provides a very useful tool for monitoring actual total run time to scheduling planned maintenance.

Power Monitor

The power monitor provides protection from improper power causing extensive damage to the compressor and pump due to main power phase reversal or loss of phase.

Temperature Deviation Warnings and Alarms

The deviation warning provides a visual alert of a potential problem before a fault occurs. If the condition gets worse the alarm sounds an alarm and stops the chiller to prevent equipment damage.

Adjustable Deviation Alarm Time Delays

Adjustable deviation alarms provides a way to program a start-up time delay to deactivate the alarms low enough for the process loop to stabilize without causing nuisance temperature alarms.

Reservoir Low Level Alarm

The reservoir low level alarm provides protection of the process pump and chiller from expensive damage that can be caused if the reservoir level is critically low and the chiller operates dry.

Master Reset

The master reset function provides a quick and easy way to reset the control system and restore the system to factory default settings should a control parameter be mistakenly changed.

Supply and Return Temperature Displays

The ability to toggle between supply and return temperatures provides a simple way to monitor the process conditions and quickly check the chiller operation.

Other Alarms

Loss of flow, freezestat, high and low refrigeration pressure, temperature sensor faults, and freezestat sensor fault alarms for additional system monitoring.

C-UL508A Control Panel

Built for heavy-duty industrial operation we use a NEMA-12 control panel, high quality components, and 24 VDC control circuit power to provide safe, consistent, and reliable operation.

Rotary Non-Fused Disconnect Switch

The rotary non-fused disconnect switch provides a useful way to safely disconnect main power for quick and easy movement of the chiller to another production area during maintenance.

High-Quality 24 VDC Power Supply

The 24 volt DC power supply provides dependable control circuit power and isolates the control circuit from static interference to ensure stable and precise operation.

Warranty

5 year parts warranty on microprocessor
18 months parts warranty on entire unit
1 year labor warranty
$175 lifetime controller exchange policy after initial 5 year no-cost warranty

Available Options

- Oversized pumps for increased process fluid flows and/or pressures
- High flow unit design for reduced internal pressure loss at higher processes fluid flows
- Low temperature condenser air operation for indoor chillers (0°F to 110°F)
- Outdoor unit design for integral air-cooled condenser chiller (-20°F and 110°F)
- Remote air-cooled condenser coil coating for installations near coastal regions
- Pump and tank deduct for applications that do not require the standard internal pump and tank
- Stainless steel cabinetry for special applications such as food processing plants
- Automatic electric water make-up valve for applications requiring automatic fluid make-up
- High pressure variable-speed fans for air-cooled condenser chillers for ducting of discharge air
- Modbus RTU, BACnet, LonWorks, or SPI communications ports
- 4 to 20 mA cooling supply temperature retransmit
- Emergency stop button to provide a quick means of stopping the chiller
- Hand-held remote controller with 50 foot wire to duplicate unit mounted controls
- Special color paint for applications requiring the chiller match the color of other equipment

Optional PLC Controller Color Touch-Screen HMI

- PLC with touch screen interface for enhanced diagnostic and operational display capabilities
- Refrigeration pressure transducers with fault alarms (requires PLC option)
- Process flow meter with digital flow display on the touch screen interface (requires PLC option)
- Set point ambient tracking or remote control for specialize process applications
- 3-way water temperature control valve for isolation heat exchangers (requires PLC option)

Air-Cooled Portable Chillers

Model	NQA04	NQA05	NQA08	NQA10	NQA13	NQA15	NQA20	NQA25	NQA30
Cooling Capacity (tons)[1]	4.5	5.3	8.0	11.2	12.5	15.0	20.5	25.4	30.0
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Refrigerant	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Condenser Air Flow (cfm)	4,000	4,000	8,000	8,000	8,000	10,450	18,000	20,000	24,000
Sound Pressure @ 1 meter (dBA)[2]	71	71	74	74	74	82	85	85	87
Minimum Unloaded Capacity (tons)	1.0	1.2	1.8	2.7	3.1	3.6	4.8	6.0	7.2
Pump Motor Size (hp)	1.5	1.5	1.5	1.5	1.5	3	3	5	5
Pump Flow (gpm)	11	12	19	27	30	36	48	60	72
Net Available Pump Pressure (psi)[3]	35	36	35	30	28	48	39	58	55
Unit MCA @ 460/3/60 (amps)[4]	15.6	18.1	26.1	30.9	36.5	44.3	55.5	70.0	83.1
Length (inches)	48	48	75	75	75	87	87	105	105
Width (inches)	35	35	35	35	35	41	41	41	41
Height w/standard fans (inches)	61	61	61	61	61	94	94	94	94
Height w/high pressure fans (inches)	n/a	n/a	63	63	63	96	96	96	96
Reservoir Holding Capacity (gal)	11	11	22	22	22	50	50	67	67
Process Connections (inches)	1.5	1.5	1.5	1.5	1.5	2	2	2	2
Shipping Weight (lbs)	720	720	1,195	1,195	1,215	3,200	3,300	3,800	4,150

[1]Cooling tons based on 12,000 BTU/Hr/ton with 50°F leaving coolant and 95°F ambient air.

[2]Sound power shown is for standard high-efficiency constant-speed AC motor fans. A high-pressure variable-speed EC motor fan option is available for NQA08 and larger units which changes the sound pressure at 1 meter (dBA) to: 75 for NQA08-10, 82 for NQA15, 84 for NQA20, 85 for NQA25, and 82 for NQA30.

[3]Net available pressure at outlet of chiller is pump discharge pressure less internal coolant circuit pressure loss.

[4]MCA is minimum circuit amps (for wire sizing), complies with NEC, Section 430-24.

Water-Cooled Portable Chillers

Model	NQW05	NQW08	NQW10	NQW15	NQW20	NQW25	NQW30	NQW35	NQW40
Cooling Capacity (tons)[1]	5.7	8.4	12.4	16.5	22.8	28.1	33.0	38.5	42.8
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Refrigerant	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Condenser Water Flow (gpm)	17	24	36	48	65	82	96	111	124
Sound Pressure @ 1 meter (dBA)	71	74	74	82	86	85	87	87	87
Minimum Unloaded Capacity (tons)	1.3	1.9	2.9	3.9	5.2	6.6	7.8	8.9	9.9
Pump Motor Size (hp)	1.5	1.5	1.5	3	3	5	5	5	5
Pump Flow (gpm)	13	20	29	39	54	67	79	92	102
Net Available Pump Pressure (psi)[2]	35	34	28	45	32	54	51	48	44
Unit MCA @ 460/3/60 (amps)[3]	16.4	22.6	27.4	39.7	46.3	60.8	69.3	73.7	77.2
Length (inches)	48	75	75	75	87	87	105	105	105
Width (inches)	35	35	35	35	41	41	41	41	41
Height (inches)	54	54	54	54	47	47	47	47	47
Reservoir Holding Capacity (gal)	11	22	22	22	50	50	67	67	67
Process Connections (inches)	1.5	1.5	1.5	1.5	2	2	2	2.5	2.5
Condenser Connections (inches)	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	3
Shipping Weight (lbs)	720	1,195	1,195	1,315	1,900	2,100	2,250	3,400	3,900

[1]Cooling tons based on 12,000 BTU/Hr/ton with 50°F leaving coolant and 85°F condenser water.

[2]Net available pressure at outlet of chiller is pump discharge pressure less internal coolant circuit pressure loss.

[3]MCA is minimum circuit amps (for wire sizing), complies with NEC, Section 430-24.

Remote Air-Cooled Condenser Chillers

Model	NQR05	NQR08	NQR10	NQR15	NQR20	NQR25	NQR30	NQR35	NQR40
Cooling Capacity (tons)[1]	5.6	8.0	11.7	15.7	21.4	26.6	31.3	35.7	40.0
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Refrigerant	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Sound Pressure @ 1 meter (dBA)[2]	71	74	74	82	86	85	87	87	87
Minimum Unloaded Capacity (tons)	1.2	1.8	2.7	3.6	4.8	6.0	7.2	8.4	9.6
Pump Motor Size (hp)	1.5	1.5	1.5	3	3	5	5	5	5
Pump Flow (gpm)	13	18	27	36	48	61	73	83	92
Net Available Pump Pressure (psi)[3]	35	36	30	48	39	57	54	53	50
Unit MCA @ 460/3/60 (amps)[4]	16.4	22.6	27.4	39.7	46.3	60.8	69.3	73.7	77.2
Length (inches)	48	75	75	75	87	87	105	105	105
Width (inches)	35	35	35	35	41	41	41	41	41
Height (inches)	54	54	54	54	47	47	47	47	47
Reservoir Holding Capacity (gal)	11	22	22	22	50	50	67	67	67
Process Connections (inches)	1.5	1.5	1.5	1.5	2	2	2	2.5	2.5
Refrigerant Liquid Line (inches)	0.625	0.625	0.875	0.875	0.875	1.125	1.125	1.375	1.375
Refrigerant Suction Line (inches)	0.625	0.625	0.875	0.875	0.875	1.125	1.125	1.375	1.375
Shipping Weight (lbs)	720	1,195	1,195	1,315	1,900	2,100	2,250	3,400	3,900

[1]Cooling tons based on 12,000 BTU/Hr/ton with 50°F leaving coolant and 95°F ambient air.
[2]Sound pressure is for chiller unit only, see Remote Air-Cooled Condenser table for remote condenser sound pressure ratings.
[3]Net available pressure at outlet of chiller is pump discharge pressure less internal coolant circuit pressure loss.
[4]MCA is minimum circuit amps (for wire sizing), complies with NEC, Section 430-24.

Remote Air-Cooled Condensers

Condenser Model	Chiller Used With	Dimensions (in)			Weights (Lbs)		Total Air Flow (cfm)	Sound Pressure (dBA)[1]	MCA @ 460/3/60 (amps)[2]	Refrigerant Connections (in)	
		L	W	H	Ship	Oper				Inlet	Outlet
KCM009	NQR05	53.625	43.625	48.125	245	Operating weight varies based on system charge and operating conditions	6,870	60	1.4	0.875	1.125
KCM011	NQR08	53.625	43.625	48.125	265		6,620	60	1.4	0.875	1.125
KCM014	NQR10	93.625	43.625	48.125	415		14,400	62	2.6	1.375	1.125
KCL023	NQR15	125.750	45.625	54.000	670		24,000	72	7.0	2.125	1.375
KCL030	NQR20	125.750	45.625	54.000	720		22,600	72	7.0	2.125	1.625
KCL037	NQR25	125.750	45.625	54.000	800		20,600	72	7.0	2.125	1.625
KCL045	NQR30	180.750	45.625	54.000	1,075		33,900	73	10.1	2.625	1.625
KCL054	NQR35	180.750	45.625	54.000	1,175		32,000	73	10.1	2.625	2.125
KCL056	NQR40	180.750	45.625	54.000	1,200		30,900	73	10.1	2.625	2.125

[1]Sound pressure at 3 meters.
[2]MCA is minimum circuit amps (for wire sizing) as provided by the remoter condenser manufacturer.

Notes