NAPPS Scroll Water Cooled Chillers

8 Models - 15 to 70 Tons

NWC Series – Water Cooled Chillers

- ***NAPPS MCS Digital Controller with BMS Control Interface***
- ***Dual independent refrigerant circuits on 40 through 70 ton models***
- ***Serviceable shell & tube condenser***
- ***Optional factory installed water regulating valve, full sound attenuation enclosure and/or sound blanks***

Superior by Design

State-of-the-Art

The *NAPPS NWC Series of Water Cooled Chillers* includes 8 models ranging in capacity from 15 to 70 tons to meet a wide range of load conditions. Each model is designed for quiet, reliable, high efficiency operation and built to withstand demanding continuous duty cycles.

At the heart of the *NAPPS NWC* product line are the highly efficient scroll compressor and brazed plate evaporator, the serviceable shell-and tube condenser and state-of-the-art electronic expansion valve for precise refrigerant distribution.

The integral *NAPPS MCS Digital Controller* continually optimizes unit operation, undertakes fault avoidance strategy during abnormal operating conditions, and displays operational and diagnostic information at the unit and at a remote location if needed.

Efficiency

NAPPS NWC products combine high efficiency Scroll Compressors and Brazed Plate evaporators to offer full and part load efficiencies that are unmatched when compared to products utilizing reciprocating compressors. Still higher efficiencies are realized at part load conditions.

Reliability

Since its introduction, Scroll Compressors have proven to be one of the most reliable compressors available. While high reliability is inherent with the scroll technology, digital control technology has proven to increase reliability and minimize downtime through sophisticated operational logic, fault avoidance strategy and the ability to stably control peripherals such as water regulating valves and cooling tower fan and pump VFDs.

The 40 through 70 ton models have ***dual independent refrigerant circuits*** to eliminate 100% capacity loss in the event of a component failure such as a compressor.

Construction

All NWC products are assembled on a rugged steel frame with integral lifting provisions and painted with a topcoat of durable urethane enamel.

Vessels

All NWC products have ***cleanable*** and ***serviceable*** shell-and-tube condensers with enhanced copper tubes for high efficiency. *This* makes the NWC products suitable for open loop systems and cooling tower applications.

Control

The powerful *NAPPS MCS Digital Controller* provides complete chiller control and standard interface to **BACnet IP** and **Modbus** BMS controls. **LonTalk, BACnet MS/TP** or **Johnson N2** interface is optional.

Control Panel

All NWC Control Panels are complete with fused control power transformer, safety and operational control components and digital controller boards. Digital controller display/input screen is located in the front door of control panel.

Warranty

All NWC products are backed by the *NAPPS Standard One Year Limited Warranty*. Optional 5-yr compressor warranty is available. Replacement compressors available nation-wide.

Options

Factory installed options for NWC products include non-fused disconnect, full sound attenuation enclosure and/or sound blanks, phase monitor, integral digitally controlled condenser water regulating valve, **LonTalk**, **BACnet MS/TP** or **Johnson N2** and ice building control. Ship loose options include flow switch and vibration isolation kit.

NAPPS Scroll Water Cooled Chillers

Dimensions and Specifications

Unit Size	Dimensions			Unit Weight	* Connection Sizes				Capacity Steps (%)	MCA @ 60 Hz, 3ϕ	
					Evap Water (VIC)		Cond Water (FPT)				
	L	W	H		In	Out	In	Out		208/230 Volt	460 Volt
15	65”	31¼”	56”	1100 lb.	2”	2”	2”	2”	100/50	67	34
20	65”	31¼”	56”	1160 lb.	2½”	2”	2”	2”	100/50	75	41
26	65”	31¼”	56”	1280 lb.	2½”	2”	3”	3”	100/50	116	52
30	65”	31¼”	56”	1320 lb.	2½”	2½”	3”	3”	100/50	126	61
40	73”	34½”	75”	2020 lb.	3”	3”	2”	2”	100/75/50/25	142	77
52	73”	34½”	75”	2200 lb.	3”	3”	3”	3”	100/75/50/25	218	99
60	73”	34½”	75”	2500 lb.	3”	3”	3”	3”	100/75/50/25	238	115
70	73”	34½”	75”	2840 lb.	3”	3”	3”	3”	100/71/43/21	279	123

* All water connections are as noted (VIC = Victaulic, FPT = Female pipe thread). The 40-70 ton models have 2 condensers, therefore doubling the number of condenser connections.

Full Load Performance

Unit Size	Evap LWT	Entering Condenser Water Temperature														
		75° F					85° F					95° F				
		Tons	kW	EER	Evap GPM	Cond GPM	Tons	kW	EER	Evap GPM	Cond GPM	Tons	kW	EER	Evap GPM	Cond GPM
15	42° F	16.1	10.4	18.1	38.7	48.3	15.2	11.6	15.3	36.5	45.6	14.3	13.0	12.9	34.3	42.9
	44° F	16.7	10.4	18.7	40.1	50.1	15.8	11.7	15.8	37.9	47.3	14.8	13.1	13.3	35.6	44.5
	46° F	17.3	10.4	19.4	41.6	52.0	16.4	11.7	16.4	39.2	49.0	15.4	13.1	13.8	36.9	46.1
20	42° F	21.8	14.0	18.4	52.2	62.2	20.7	15.4	15.9	49.5	60.6	19.4	17.2	13.4	46.5	58.8
	44° F	22.6	14.0	18.9	54.0	64.0	21.5	15.4	16.4	51.3	62.4	20.2	17.2	13.8	48.2	60.6
	46° F	23.3	14.1	19.5	55.8	65.8	22.2	15.5	16.9	53.1	64.2	20.9	17.3	14.3	50.0	62.4
26	42° F	27.0	18.2	17.5	64.5	77.5	25.6	20.2	15.0	61.1	75.5	24.0	22.4	12.7	57.4	73.5
	44° F	28.0	18.3	18.0	66.9	79.9	26.5	20.3	15.4	63.3	77.7	24.9	22.5	13.1	59.5	75.6
	46° F	29.0	18.4	18.6	69.3	82.5	27.4	20.4	15.9	65.6	80.2	25.8	22.6	13.5	61.7	77.9
30	42° F	31.2	21.7	17.0	74.7	90.1	29.7	23.9	14.7	70.9	88.0	27.9	26.4	12.6	66.8	85.7
	44° F	32.3	21.9	17.5	77.3	92.9	30.7	24.0	15.2	73.5	90.6	28.9	26.5	12.9	69.2	88.2
	46° F	33.5	22.1	17.9	80.0	95.7	31.8	24.2	15.6	76.1	93.4	30.0	26.7	13.3	71.7	90.8
40	42° F	43.8	27.9	18.6	104.6	124.6	41.6	30.7	16.1	99.4	121.4	39.0	34.3	13.5	93.3	117.9
	44° F	45.3	28.0	19.2	108.3	128.3	43.1	30.8	16.6	103.0	125.1	40.5	34.4	14.0	96.8	121.6
	46° F	46.9	28.1	19.8	112.1	132.2	44.7	30.9	17.2	106.8	129.0	42.0	34.5	14.5	100.6	125.4
52	42° F	53.9	36.4	17.7	128.9	154.8	51.1	40.3	15.1	122.1	150.9	48.1	44.8	12.8	115.0	147.1
	44° F	55.9	36.6	18.2	133.8	159.9	53.0	40.5	15.6	126.6	155.6	49.8	45.0	13.2	119.1	151.4
	46° F	58.1	36.9	18.8	138.9	165.1	55.0	40.8	16.1	131.6	160.7	51.7	45.2	13.6	123.6	156.0
60	42° F	62.5	43.4	17.2	149.5	180.4	59.4	47.7	14.8	141.9	176.1	55.9	52.7	12.7	133.7	171.5
	44° F	64.8	43.8	17.6	154.9	186.0	61.5	48.0	15.3	147.2	181.5	58.0	53.1	13.0	138.6	176.7
	46° F	67.1	44.2	18.1	160.5	191.9	63.8	48.4	15.7	152.6	187.2	60.1	53.4	13.4	143.8	182.1
70	42° F	72.6	49.5	17.5	173.7	209.0	68.5	54.4	15.0	163.8	202.7	64.1	60.0	12.8	153.2	196.2
	44° F	75.4	49.8	18.1	180.3	215.8	71.1	54.8	15.5	170.0	209.2	66.5	60.4	13.1	159.0	202.3
	46° F	78.2	50.1	18.6	187.1	222.7	73.8	55.1	16.0	176.5	215.9	69.0	60.8	13.6	165.2	208.7

Ratings are based on 60 Hz, R410A refrigerant, 10°F temperature drop through the evaporator and 10°F temperature rise through the condenser per ARI standard 550/590-2010

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