

Model #: 30XAB50064-03NC7
Serial #: 1610Q991409

500 Ton
2010



Product Data

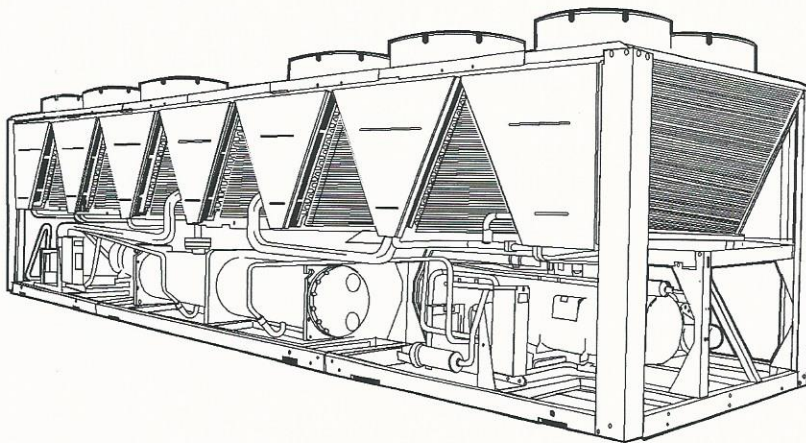
AQUAFORCE® 30XA080-500 Air-Cooled Liquid Chillers

80 to 500 Nominal Tons
(265 to 1615 Nominal kW)

AQUAFORCE®

L: 43' 1"
W: 7' 4"
H: 7' 7"

Operating Weight: 26.894



**ASHRAE
90.1
COMPLIANT**

Well exceeds ASHRAE 90.1 Standards.

AquaForce chillers were designed from the ground up to meet the efficiency demands of today and the future by providing premium air-cooled chiller packages for contractors, consulting engineers and building owners.

- Rotary screw compression
- R-134a HFC refrigerant
- Quiet AeroAcoustic™ fan system
- Novation® heat exchanger technology with microchannel coil
- Easy to use *ComfortLink* controls
- Optional integrated hydronic pump package, available with variable frequency drive (VFD)

Features/Benefits

AquaForce 30XA chillers provide best full load and part load performance in a single chassis from 80 to 500 tons

Premium performance

Aqua series chillers are Carrier's most efficient air-cooled models. The AquaForce chiller is one of the most affordable air-cooled chillers to operate and maintain. The AquaForce chiller offers full load EER (Energy Efficiency Ratio) up to 10.9 and IPLV (Integrated Part Load Value) up to 15.5 with Novation heat exchanger technology. High-efficiency rotary screw compressors with infinitely variable slide valves allow the chillers to exactly match actual load conditions, delivering exceptional part load performance. The AquaForce chillers deliver superior efficiency through the entire operating range to keep costs and demand charges down. This exceptional performance has a significant impact on energy savings and cost of ownership.

Model number nomenclature



30XA B500 6 4 - 0 3 N C 7

30XA – AquaForce® Air-Cooled Chiller

Design Series

Unit Sizes*

080	102	140	182	240	282	350
082	110	142	200	242	300	352
090	112	160	202	260	302	400
092	120	162	220	262	325	450
100	122	180	222	280	327	500

Voltage

1 – 575-3-60	6 – 460-3-60
2 – 380-3-60	7 – 200-3-60
4 – 230-3-60	

Condenser Coil/Ambient/Low Sound Options

- 0 – Aluminum Fin/Copper Tube, High Ambient Temperature
- 1 – Copper Fin/Copper Tube, High Ambient Temperature
- 2 – Aluminum Pre-Coat Fin/Copper Tube, High Ambient Temperature
- 3 – Aluminum E-Coat Fin/Copper Tube, High Ambient Temperature
- 4 – Copper E-Coat Fin/Copper Tube, High Ambient Temperature
- 4 – Novation® Heat Exchanger (MCHX), High Ambient Temperature**
- 5 – MCHX E-Coat, High Ambient Temperature
- 6 – Aluminum Fin/Copper Tube, High Ambient Temperature, Low Sound
- 7 – Copper Fin/Copper Tube, High Ambient Temperature, Low Sound
- 8 – Aluminum Pre-Coat Fin/Copper Tube, High Ambient Temperature, Low Sound
- 9 – Aluminum E-Coat Fin/Copper Tube, High Ambient Temperature, Low Sound
- B – Copper E-Coat Fin/Copper Tube, High Ambient Temperature, Low Sound
- C – MCHX, High Ambient Temperature, Low Sound
- D – MCHX E-Coat, High Ambient Temperature, Low Sound
- F – Aluminum Fin/Copper Tube, Standard Ambient Temperature, Low Sound
- G – Copper Fin/Copper Tube, Standard Ambient Temperature, Low Sound
- H – Aluminum Pre-Coat Fin/Copper Tube, Standard Ambient Temperature, Low Sound
- J – Aluminum E-Coat Fin/Copper Tube, Standard Ambient Temperature, Low Sound
- K – Copper E-Coat Fin/Copper Tube, Standard Ambient Temperature, Low Sound
- L – MCHX, Standard Ambient Temperature, Low Sound
- M – MCHX E-Coat, Standard Ambient Temperature, Low Sound
- N – Aluminum Fin/Copper Tube, Standard Ambient Temperature
- P – Copper Fin/Copper Tube, Standard Ambient Temperature
- Q – Aluminum Pre-Coat Fin/Copper Tube, Standard Ambient Temperature
- R – Aluminum E-Coat Fin/Copper Tube, Standard Ambient Temperature
- S – Copper E-Coat Fin/Copper Tube, Standard Ambient Temperature
- T – MCHX, Standard Ambient Temperature
- V – MCHX E-Coat, Standard Ambient Temperature

Hydronic Pump Package Options

- None
- 1 – Single Pump, 5 HP
- 2 – Single Pump, 7.5 HP
- 3 – Single Pump, 10 HP
- 4 – Single Pump, 15 HP
- 7 – Dual Pump, 5 HP
- 8 – Dual Pump, 7.5 HP
- B – Dual Pump, 10 HP
- C – Dual Pump, 15 HP
- G – Single Pump, 5 HP with VFD
- H – Single Pump, 7.5 HP with VFD
- J – Single Pump, 10 HP with VFD
- K – Single Pump, 15 HP with VFD
- N – Dual Pump, 5 HP with VFD
- P – Dual Pump, 7.5 HP with VFD
- Q – Dual Pump, 10 HP with VFD
- R – Dual Pump, 15 HP with VFD

Cooler/Brine Options

- Integral DX Cooler without Heater
- 0 – Integral Cooler with Heater†**
- 1 – Integral DX Cooler with Heater, Hydronic Package
- 3 – Integral Flooded Cooler with Heater, Minus One Pass
- 5 – Integral Flooded Cooler with Heater, Plus One Pass
- 6 – Integral DX Cooler without Heater, Hydronic Package
- 7 – Integral Cooler with Heater, Full End Screen, Coil Trim Panels, Grilles†
- 8 – Integral DX Cooler with Heater, Hydronic Package, Full End Screen, Coil Trim Panels, Grilles
- F – Integral DX Cooler without Heater, Hydronic Package, Full End Screen, Coil Trim Panels, Grilles
- G – Integral DX Cooler without Heater, Full End Screen, Coil Trim Panels, Grilles
- H – Integral Flooded Cooler with Heater, Plus One Pass, Brine
- K – Integral Flooded Cooler with Heater, Minus One Pass, Full End Screen, Coil Trim Panels, Grilles
- M – Integral Flooded Cooler with Heater, Plus One Pass, Full End Screen, Coil Trim Panels, Grilles
- V – Integral Flooded Cooler with Heater, Plus One Pass, Brine, Full End Screen, Coil Trim Panels, Grilles

Packaging/Security Options

- 0 – Coil Face Shipping Protection (CFSP), Skid
- 1 – CFSP, Skid, Top Crate, Bag
- 3 – CFSP, Coil Trim Panels
- 4 – CFSP, Skid, Coil Trim Panels
- 5 – CFSP, Skid, Top Crate, Bag, Coil Trim Panels
- 7 – CFSP, Coil Trim Panels, Upper and Lower Grilles**
- 8 – CFSP, Skid, Coil Trim Panels, Upper and Lower Grilles
- 9 – CFSP, Skid, Top Crate, Bag, Coil Trim Panels, Upper and Lower Grilles
- C – CFSP, Trim Panels, Upper and Lower Grilles, Upper Hail Guards
- D – CFSP, Skid, Coil Trim Panels, Upper and Lower Grilles, Upper Hail Guards
- F – CFSP, Skid, Top Crate, Bag, Trim Panels, Upper and Lower Grilles, Upper Hail Guards
- L – CFSP

Controls/Communication Options

- Navigator™ Display
- 0 – Navigator Display, EMM
- 1 – Navigator Display, Service Option
- 2 – Navigator Display, EMM, Service Option
- 3 – Touch Pilot™ Display
- 4 – Touch Pilot Display, EMM
- 5 – Touch Pilot Display, Service Option
- 6 – Touch Pilot Display, EMM, Service Option
- 7 – Navigator Display, BACnet Translator
- 8 – Navigator Display, BACnet Translator, EMM
- 9 – Navigator Display, BACnet Translator, Service Option
- B – Navigator Display, BACnet Translator, EMM, Service Option
- C – Touch Pilot Display, BACnet Translator**
- D – Touch Pilot Display, BACnet Translator, EMM
- F – Touch Pilot Display, BACnet Translator, Service Option
- G – Touch Pilot Display, BACnet Translator, EMM, Service Option
- H – Navigator Display, LON Translator
- J – Navigator Display, LON Translator, EMM
- K – Navigator Display, LON Translator, Service Option
- L – Navigator Display, LON Translator, EMM, Service Option
- M – Touch Pilot Display, LON Translator
- N – Touch Pilot Display, LON Translator, EMM
- P – Touch Pilot Display, LON Translator, Service Option
- Q – Touch Pilot Display, LON Translator, EMM, Service Option
- R – Navigator Display, BACnet Communication
- S – Navigator Display, BACnet Communication, EMM
- T – Navigator Display, BACnet Communication, Service Option
- V – Navigator Display, BACnet Communication, EMM, Service Option
- W – Touch Pilot Display, BACnet Communication
- X – Touch Pilot Display, BACnet Communication, EMM
- Y – Touch Pilot Display, BACnet Communication, Service Option
- Z – Touch Pilot Display, BACnet Communication, EMM, Service Option

Electrical Options

- Single Point Power, XL, Terminal Block, No Control Transformer
- 0 – Single Point Power, Wye-Delta, Terminal Block, No Control Transformer
- 3 – Dual Point Power, XL, Terminal Block, No Control Transformer
- 4 – Dual Point Power, Wye-Delta, Terminal Block, No Control Transformer
- 7 – Single Point Power, XL, Disconnect, No Control Transformer
- 8 – Single Point Power, Wye-Delta, Disconnect, No Control Transformer
- C – Dual Point Power, XL, Disconnect, No Control Transformer
- D – Dual Point Power, Wye-Delta, Disconnect, No Control Transformer
- H – Single Point Power, XL, Terminal Block, Control Transformer
- J – Single Point Power, Wye-Delta, Terminal Block, Control Transformer
- M – Dual Point Power, XL, Terminal Block, Control Transformer
- N – Dual Point Power, Wye-Delta, Terminal Block, Control Transformer**
- R – Single Point Power, XL, Disconnect, Control Transformer
- S – Single Point Power, Wye-Delta, Disconnect, Control Transformer
- W – Dual Point Power, XL, Disconnect, Control Transformer
- X – Dual Point Power, Wye-Delta, Disconnect, Control Transformer

Refrigeration Circuit Options

- None
- 0 – Suction Line Insulation
- 1 – Isolation Valves
- 2 – Low Ambient Head Pressure Control
- 3 – Suction Line Insulation, Isolation Valves**
- 4 – Suction Line Insulation, Low Ambient Head Pressure Control
- 5 – Isolation Valves, Low Ambient Head Pressure Control
- 6 – Suction Line Insulation, Isolation Valves, Head Pressure Control
- 7 – Minimum Load Control
- 8 – Suction Line Insulation, Minimum Load Control
- 9 – Isolation Valves, Minimum Load Control
- B – Low Ambient Head Pressure Control Operation, Minimum Load Control
- C – Suction Line Insulation, Isolation Valves, Minimum Load Control
- D – Suction Line Insulation, Head Pressure Control, Minimum Load Control
- F – Isolation Valves, Head Pressure Control, Minimum Load Control
- G – Suction Line Insulation, Isolation Valves, Head Pressure Control, Minimum Load Control

LEGEND

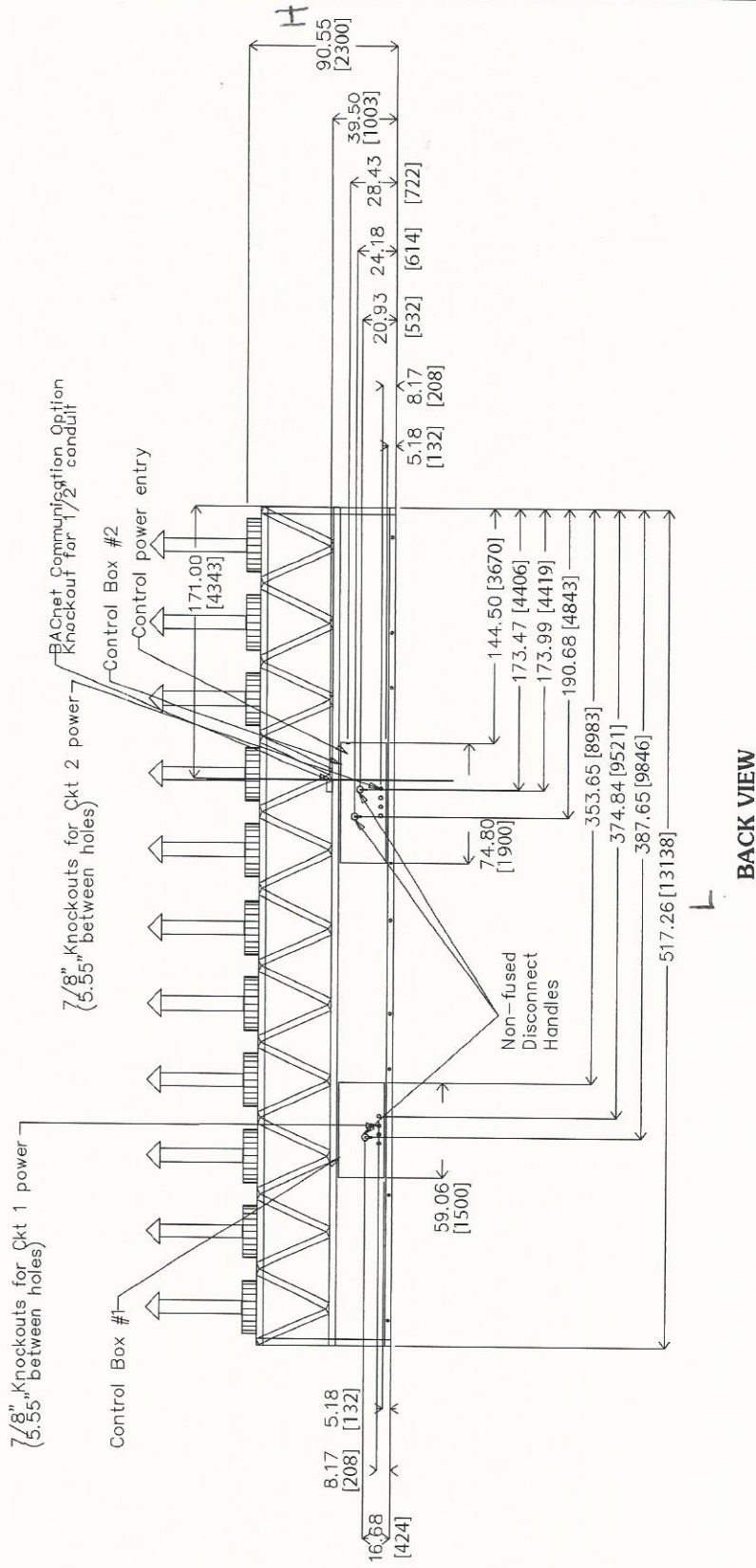
- CFSP – Coil Face Shipping Protection
- DX – Direct Expansion
- EMM – Energy Management Module
- LON – Local Operating Network
- VFD – Variable Frequency Drive
- XL – Across-the-Line Starter

* xx0 size units contain flooded style evaporators.
 xx2 and xx7 size units contain direct expansion (DX) style evaporators.
 †Both flooded and DX cooler.

Quality Assurance

Certified to ISO 9001

30XA450,500 DUAL POINT (cont)

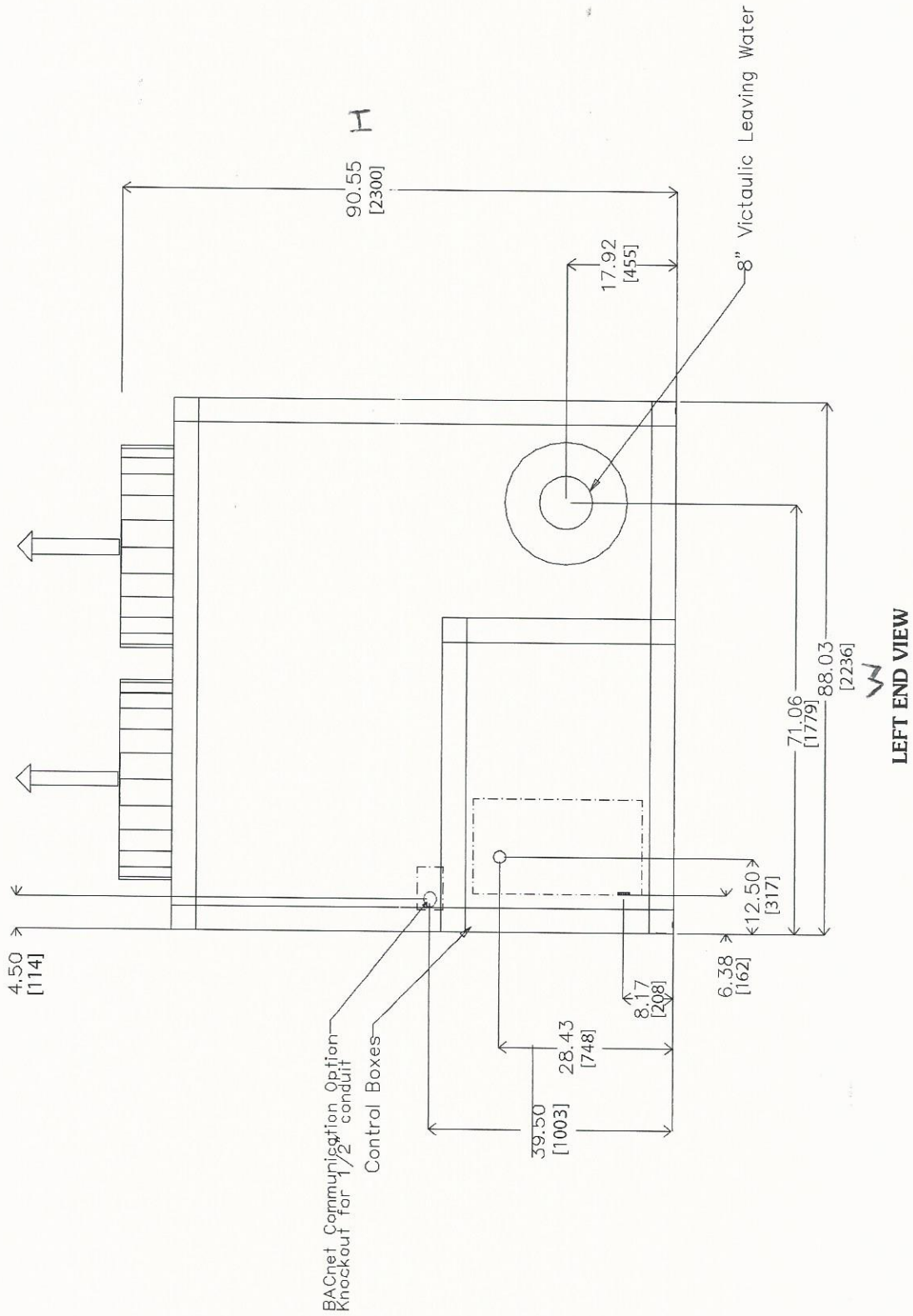


BACK VIEW

Dimensions (cont)



30XA450,500 DUAL POINT (cont)





30XA222-302 — ENGLISH

UNIT 30XA	222	240	242	260	262	280	282	300	302
OPERATING WEIGHT (lb)*									
Al-Cu Condenser Coils	15,071	14,887	15,231	16,853	17,055	17,022	17,224	17,362	17,834
Cu-Cu Condenser Coils	16,639	16,455	16,799	18,662	18,864	18,831	19,033	19,292	19,764
MCHX Condenser Coils	14,092	13,897	14,241	15,720	15,922	15,878	16,080	16,141	16,613
REFRIGERANT TYPE	R-134a, EXV Controlled System								
Refrigerant Charge (lb) Ckt A/Ckt B/Ckt C	246/198/—	270/270/—	246/246/—	375/220/—	330/206/—	375/270/—	330/256/—	415/270/—	386/261/—
Refrigerant Charge (lb) Ckt A/Ckt B/Ckt C (MCHX)	135/125/—	159.5/159/—	135/135/—	233.5/156/—	188/142/—	226.5/159.5/—	181/145/—	230/161/—	201/152/—
COMPRESSORS	Semi-Hermetic Twin Rotary Screws								
Quantity	2	2	2	2	2	2	2	2	2
Speed (rpm)					3500				
(Qty) Compressor Model Number Ckt A	(1) 06TT-356	(1) 06TT-356	(1) 06TT-356	(1) 06TU-483	(1) 06TU-483	(1) 06TU-483	(1) 06TU-483	(1) 06TU-554	(1) 06TU-554
(Qty) Compressor Model Number Ckt B	(1) 06TT-301	(1) 06TT-356	(1) 06TT-356	(1) 06TT-301	(1) 06TT-301	(1) 06TT-356	(1) 06TT-356	(1) 06TT-356	(1) 06TT-356
(Qty) Compressor Model Number Ckt C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oil Charge (gal), Ckt A/Ckt B/Ckt C	6.75/6.25/—	6.75/6.75/—	6.75/6.75/—	7.5/6.75/—	7.5/6.75/—	7.5/6.75/—	7.5/6.75/—	7.5/6.75/—	7.5/6.75/—
Minimum Capacity Step (%)									
Standard	14	15	15	11	11	13	13	12	12
Optional	10	10	10	8	8	9	9	7	7
COOLER	Direct Expansion Cooler	Flooded, Shell and Tube Type	Direct Expansion Cooler	Flooded, Shell and Tube Type	Direct Expansion Cooler	Flooded, Shell and Tube Type	Direct Expansion Cooler	Flooded, Shell and Tube Type	Direct Expansion Cooler
Net Fluid Volume (gal.)	71.0	39.0	71.0	42.0	82.8	44.0	82.8	48.5	108.0
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220
Maximum Water Side Pressure without Pumps (psig)	300	300	300	300	300	300	300	300	300
Maximum Water Side Pressure with Pumps (psig)	—	—	—	—	—	—	—	—	—
WATER CONNECTIONS									
Drain (NPT, in.)	3/4	3/8	3/4	3/8	3/4	3/8	3/4	3/8	3/4
Standard, Inlet and Outlet, Victaulic (in.)	6	2	6	2	6	2	6	2	6
Number of Passes	—	8	—	2	—	2	—	2	—
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	—	—	—	8	—	8	—	8	—
Number of Passes	—	1	—	1	—	1	—	1	—
Plus 1 Pass, Inlet and Outlet, Victaulic (in.)	—	6	—	8	—	8	—	8	—
Number of Passes	—	3	—	3	—	3	—	3	—
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge								
Fan Speed (rpm) Standard/High Ambient**	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140
No. Blades...Diameter (in.)	9...30	9...30	9...30	9...30	9...30	9...30	9...30	9...30	9...30
No. Fans (Ckt A/Ckt B/Ckt C)	7/6/—	7/6/—	7/6/—	9/6/—	9/6/—	9/7/—	9/7/—	10/6/—	10/6/—
Total Airflow (cfm) 850 rpm	120,900	120,900	120,900	139,500	139,500	148,800	148,800	148,800	148,800
Total Airflow (cfm) 1140 rpm	161,200	161,200	161,200	186,000	186,000	198,400	198,400	198,400	198,400
CONDENSER COILS									
No. Coils (Ckt A/Ckt B/Ckt C)	7/6/—	7/6/—	7/6/—	9/6/—	9/6/—	9/7/—	9/7/—	10/6/—	10/6/—
Total Face Area (sq ft)	305	305	305	352	352	375	375	375	375
HYDRONIC MODULE (Optional)	N/A								
CHASSIS DIMENSIONS (ft-in.)									
Length	27-6			31-5					
Width									
Height	7-4 3/4 7-6 7/16								

30XA325-500 — ENGLISH

UNIT 30XA	325	327	350	352	400	450	500
OPERATING WEIGHT (lb)*							
Al-Cu Condenser Coils	18,834	19,306	19,040	19,512	24,578	26,600	26,894
Cu-Cu Condenser Coils	21,005	21,477	21,211	21,683	26,990	29,254	29,547
MCHX Condenser Coils	17,467	17,939	17,659	18,131	23,038	24,901	25,167
REFRIGERANT TYPE	R-134a, EXV Controlled System						
Refrigerant Charge (lb) Ckt A/Ckt B/Ckt C	375/375/—	344/344/—	415/375/—	384/344/—	270/270/375	415/205/415	415/270/415
Refrigerant Charge (lb) Ckt A/Ckt B/Ckt C (MCHX)	226.5/226.5/—	195/195/—	231.5/226.5/—	200/195/—	161/161/203	224/161/215	231/168/215
COMPRESSORS	Semi-Hermetic Twin Rotary Screws						
Quantity	2	2	2	2	3	3	3
Speed (rpm)				3500			
(Qty) Compressor Model Number Ckt A	(1) 06TU-483	(1) 06TU-483	(1) 06TU-554	(1) 06TU-554	(1) 06TT-356	(1) 06TU-554	(1) 06TU-554
(Qty) Compressor Model Number Ckt B	(1) 06TU-483	(1) 06TU-483	(1) 06TU-483	(1) 06TU-483	(1) 06TT-356	(1) 06TT-266	(1) 06TT-356
(Qty) Compressor Model Number Ckt C	N/A	N/A	N/A	N/A	(1) 06TU-483	(1) 06TU-554	(1) 06TU-554
Oil Charge (gal), Ckt A/Ckt B/Ckt C	7.5/7.5/—	7.5/7.5/—	7.5/7.5/—	7.5/7.5/—	6.75/6.75/7.5	7.5/6.25/7.5	7.5/6.75/7.5
Minimum Capacity Step (%)							
Standard	15	15	15	15	9	6	7
Optional	10	10	10	10	6	4	5
COOLER	Flooded, Shell and Tube Type	Direct Expansion Cooler	Flooded, Shell and Tube Type	Direct Expansion Cooler	Flooded, Shell and Tube Type		
Net Fluid Volume (gal.)	50.5	108.0	53.4	108.0	68.0	75.0	83.0
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220
Maximum Water Side Pressure without Pumps (psig)	300	300	300	300	300	300	300
Maximum Water Side Pressure with Pumps (psig)	—	—	—	—	—	—	—
WATER CONNECTIONS							
Drain (NPT, in.)	3/8	3/4	3/8	3/4	3/8	3/8	3/8
Standard, Inlet and Outlet, Victaulic (in.)	2	6	2	6	8	8	8
Number of Passes	8	—	8	—	1	1	1
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	—	—	—	—	—	—	—
Number of Passes	1	—	1	—	—	—	—
Plus 1 Pass, Inlet and Outlet, Victaulic (in.)	—	—	—	—	—	—	—
Number of Passes	3	—	3	—	—	—	—
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge						
Fan Speed (rpm) Standard/High Ambient**	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140	850/1140
No. Blades...Diameter (in.)	9...30	9...30	9...30	9...30	9...30	9...30	9...30
No. Fans (Ckt A/Ckt B/Ckt C)	9/9/—	9/9/—	9/9/—	9/9/—	6/6/8	8/6/8	6/6/8
Total Airflow (cfm) 850 rpm	167,400	167,400	167,400	167,400	186,000	204,600	204,600
Total Airflow (cfm) 1140 rpm	223,200	223,200	223,200	223,200	248,000	272,800	272,800
CONDENSER COILS							
No. Coils (Ckt A/Ckt B/Ckt C)	9/9/—	9/9/—	9/9/—	9/9/—	6/6/8	8/6/8	8/6/8
Total Face Area (sq ft)	422	422	422	422	469	516	516
HYDRONIC MODULE (Optional)	N/A						
CHASSIS DIMENSIONS (ft-in.)							
Length	35-4			39-3			43-2
Width							
Height	7-4 3/4 7-6 7/16						

LEGEND

- Cu — Copper
- Al — Aluminum
- EXV — Electronic Expansion Valve
- MCHX — Microchannel Heat Exchanger
- N/A — Not Applicable

*Operating weight includes 2 pumps on models 30XA090-162. No pumps are available on 30XA080, 30XA082, or 30XA180-500. All weights include coil trim panels. See pages 10-24 for mounting weights for units without pumps and units with single pump packages.

**The high ambient temperature option is not available on 30XA080-122 units.