

**INITIAL START-UP CHECKLIST
FOR 19XR, XRV HERMETIC CENTRIFUGAL LIQUID CHILLER
(Remove and use for job file.)**

MACHINE INFORMATION:

NAME _____ JOB NO. _____
 ADDRESS _____ MODEL _____
 CITY _____ STATE _____ ZIP _____ S/N _____

DESIGN CONDITIONS:

	TONS	BRINE	FLOW RATE	TEMPERATURE IN	TEMPERATURE OUT	PRESSURE DROP	PASS	SUCTION TEMPERATURE	CONDENSER TEMPERATURE
COOLER									*****
CONDENSER								*****	

COMPRESSOR: Volts _____ RLA _____ OLTA _____
 STARTER: Mfg _____ Type _____ S/N _____
 OIL PUMP: Volts _____ RLA _____ OLTA _____

CONTROL/OIL HEATER: Volts 115 230

REFRIGERANT: Type: _____ Charge _____

CARRIER OBLIGATIONS: Assemble..... Yes No
 Leak Test Yes No
 Dehydrate Yes No
 Charging Yes No
 Operating Instructions _____ Hrs.

START-UP TO BE PERFORMED IN ACCORDANCE WITH APPROPRIATE MACHINE START-UP INSTRUCTIONS

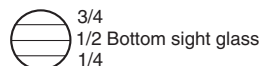
JOB DATA REQUIRED:

- Machine Installation Instructions Yes No
- Machine Assembly, Wiring and Piping Diagrams Yes No
- Starting Equipment Details and Wiring Diagrams Yes No
- Applicable Design Data (see above) Yes No
- Diagrams and Instructions for Special Controls Yes No

INITIAL MACHINE PRESSURE: _____

	YES	NO
Was Machine Tight?		
If Not, Were Leaks Corrected?		
Was Machine Dehydrated After Repairs?		

CHECK OIL LEVEL AND RECORD:



ADD OIL: Yes No

Amount: _____

RECORD PRESSURE DROPS: Cooler _____

Condenser _____

CHARGE REFRIGERANT: Initial Charge _____

Final Charge After Trim _____

INSPECT WIRING AND RECORD ELECTRICAL DATA:

RATINGS:

Motor Voltage _____ Motor(s) Amps _____ Oil Pump Voltage _____ Starter LRA Rating _____
Line Voltages: Motor _____ Oil Pump _____ Controls/Oil Heater _____

FIELD-INSTALLED STARTERS ONLY:

Check continuity T1 to T1, etc. (Motor to starter, disconnect motor leads T4, T5, T6.) Do not megger solid-state starters; disconnect leads to motor and megger the leads.

MEGGER MOTOR	"PHASE TO PHASE"			"PHASE TO GROUND"		
	T1-T2	T1-T3	T2-T3	T1-G	T2-G	T3-G
10-Second Readings:						
60-Second Readings:						
Polarization Ratio:						

STARTER: Electro-Mechanical Solid-State Manufacturer _____
Serial Number _____

Motor Load Current Transformer Ratio ____ : ____
Solid-State Overloads Yes No

CONTROLS: SAFETY, OPERATING, ETC.

Perform Controls Test (Yes/No) _____

PIC II CAUTION	
COMPRESSOR MOTOR AND CONTROL PANEL MUST BE PROPERLY AND INDIVIDUALLY CONNECTED BACK TO THE EARTH GROUND IN THE STARTER (IN ACCORDANCE WITH CERTIFIED DRAWINGS).	Yes _____

RUN MACHINE: Do these safeties shut down machine?

Condenser Water Flow	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Chilled Water Flow	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Pump Interlocks	Yes <input type="checkbox"/>	No <input type="checkbox"/>

INITIAL START:

Line Up All Valves in Accordance With Instruction Manual: _____

Start Water Pumps and Establish Water Flow _____

Oil Level OK and Oil Temperature OK _____ Check Oil Pump Rotation-Pressure _____

Check Compressor Motor Rotation (Motor End Sight Glass) and Record: Clockwise _____

Restart Compressor, Bring Up To Speed. Shut Down. Any Abnormal Coastdown Noise? Yes* No

*If yes, determine cause.

START MACHINE AND OPERATE. COMPLETE THE FOLLOWING:

- A: Trim charge and record under Charge Refrigerant Into Chiller section on page 63.
- B: Complete any remaining control calibration and record under Controls section (pages 10-45).
- C: For unit mounted VFD complete pages 58-61.
- D: Take at least two sets of operational log readings and record.
- E: After machine has been successfully run and set up, shut down and mark shutdown oil and refrigerant levels.
- F: Give operating instructions to owner's operating personnel. Hours Given: _____ Hours
- G: Call your Carrier factory representative to report chiller start-up.

SIGNATURES:

CARRIER TECHNICIAN _____

CUSTOMER REPRESENTATIVE _____

DATE _____

DATE _____



19XR, XRV PIC II TIME SCHEDULE CONFIGURATION SHEET OCCPC01S

	Day Flag								Occupied Time				Unoccupied Time			
	M	T	W	T	F	S	S	H								
Period 1:																
Period 2:																
Period 3:																
Period 4:																
Period 5:																
Period 6:																
Period 7:																
Period 8:																

NOTE: Default setting is OCCUPIED 24 hours/day.

ICE BUILD 19XR, XRV PIC II TIME SCHEDULE CONFIGURATION SHEET OCCPC02S

	Day Flag								Occupied Time				Unoccupied Time			
	M	T	W	T	F	S	S	H								
Period 1:																
Period 2:																
Period 3:																
Period 4:																
Period 5:																
Period 6:																
Period 7:																
Period 8:																

NOTE: Default setting is UNOCCUPIED 24 hours/day.

19XR, XRV PIC II TIME SCHEDULE CONFIGURATION SHEET OCCPC03S

	Day Flag								Occupied Time				Unoccupied Time			
	M	T	W	T	F	S	S	H								
Period 1:																
Period 2:																
Period 3:																
Period 4:																
Period 5:																
Period 6:																
Period 7:																
Period 8:																

NOTE: Default setting is OCCUPIED 24 hours/day.



19XR, XRV PIC II ISM_CONF TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Starter Type (0=Full, 1=Red, 2=SS/VFD)	0 to 2		1	
Motor Rated Line Voltage	200 to 13200	VOLTS	460	
Volt Transformer Ratio: 1	1 to 35		1	
Overvoltage Threshold	105 to 115	%	115	
Undervoltage Threshold	85 to 95	%	85	
Over/Under Volt Time	1 to 10	SEC	5	
Voltage% Imbalance	1 to 10	%	10	
Voltage Imbalance Time	1 to 10	SEC	5	
Motor Rated Load Amps	10 to 5000	AMPS	200	
Motor Locked Rotor Trip	100 to 60000	AMPS	1000	
Locked Rotor Start Delay	1 to 10	cycles	5	
Starter LRA Rating	100 to 60000	AMPS	2000	
Motor Current CT Ratio: 1	3 to 1000		100	
Current% Imbalance	5 to 40	%	15	
Current Imbalance Time	1 to 10	SEC	5	
Grnd Fault CT's?	0/1	NO/YES	YES	
Ground Fault CT Ratio: 1	150		150	
Ground Fault Current	1 to 25	AMPS	15	
Ground Fault Start Delay	1 to 20	cycles	10	
Ground Fault Persistence	1 to 10	cycles	5	
Single Cycle Dropout	0/1	DSABLE/ENABLE	DSABLE	
Frequency-60 Hz? (No=50)	0/1	NO/YES	YES	
Line Frequency Faulting	0/1	DSABLE/ENABLE	DSABLE	

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

19XR, XRV PIC II OPTIONS TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Auto Restart Option	0/1	DSABLE/ENABLE	DSABLE	
Remote Contacts Option	0/1	DSABLE/ENABLE	DSABLE	
Soft Stop Amps Threshold	40 to 100	%	100	
Surge/Hot Gas Bypass				
Surge Limit/HGBP Option Select: Surge=0, HGBP=1	0/1		0	
Min. Load Point (T1, P1)				
Surge/HGBP Delta T1	0.5 to 20	^F	1.5	
Surge/HGBP Delta P1	30 to 170	PSI	50	
Full Load Point (T2, P2)				
Surge/HGBP Delta T2	0.5 to 20	^F	10	
Surge/HGBP Delta P2	50 to 170	PSI	85	
Surge/HGBP Deadband	0.5 to 3	^F	1	
Surge Protection				
Surge Delta% Amps	5 to 20	%	10	
Surge Time Period	7 to 10	MIN	8	
Ice Build Control				
Ice Build Option	0/1	DSABLE/ENABLE	DSABLE	
Ice Build Termination 0=Temp, 1=Contacts, 2=Both	0 to 2		0	
Ice Build Recycle	0/1	DSABLE/ENABLE	DSABLE	
Refrigerant Leak Option				
Refrigerant Leak Alarm mA	4 to 20	mA	20	
Head Pressure Reference				
Delta P at 0% (4 mA)	20 to 60	psi	25	
Delta P at 100% (20 mA)	20 to 60	psi	35	
Minimum Output	0 to 100	%	0	



19XR, XRV PIC II SETUP1 TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Comp Motor Temp Override	150 to 200	DEG F	200	
Cond Press Override	90 to 165	PSI	125	
Comp Discharge Alert	125 to 200	DEG F	200	
Comp Thrust Brg Alert	165 to 185	DEG F	175	
Chilled Medium	0/1	WATER/BRINE	WATER	
Chilled Water Deadband	.5 to 2.0	^F	1.0	
Evap Refrig Trippoint	0.0 to 40.0	DEG F	33	
Refrig Override Delta T	2.0 to 5.0	^F	3	
Condenser Freeze Point	-20 to 35	DEG F	34	
Evap Flow Delta P Cutout	0.5 to 50.0	PSI	5.0	
Cond Flow Delta P Cutout	0.5 to 50.0	PSI	5.0	
Water Flow Verify Time	0.5 to 5	MIN	5	
Oil Press Verify Time	15 to 300	SEC	40	
Recycle Control				
Restart Delta T	2.0 to 10.0	DEG F	5	
Shutdown Delta T	0.5 to 4.0	DEG F	1	
SPARE ALERT/ALARM ENABLE Disable=0, Lo=1/3, Hi=2/4				
Spare Temp #1 Enable	0 to 4		0	
Spare Temp #1 Limit	-40 to 245	DEG F	245	
Spare Temp #2 Enable	0 to 4		0	
Spare Temp #2 Limit	-40 to 245	DEG F	245	

CUT ALONG DOTTED LINE

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19XR, XRV PIC II SETUP2 TABLE CONFIGURATION SHEET

DESCRIPTION	STATUS	UNITS	DEFAULT	VALUE
Capacity Control				
Proportional Inc Band	2 to 10		6.5	
Proportional DEC Band	2 to 10		6.0	
Proportional ECW Gain	1 to 3		2.0	
Guide Vane Travel Limit				
Guide Vane Travel Limit	30 to 100	%	80	
Diffuser Control				
Diffuser Option	0 to 1	DSABLE/ENABLE	DSABLE	
Guide Vane 25% Load Pt	0 to 78	%	25	
Diffuser 25% Load Point	0 to 100	%	0	
Guide Vane 50% Load Pt	0 to 78	%	50	
Diffuser 50% Load Point	0 to 100	%	0	
Guide Vane 75% Load Pt	0 to 78	%	50	
Diffuser 75% Load Point	0 to 100	%	0	
Diffuser Full Span mA	15 to 22	mA	18	
VFD Speed Control				
VFD Option	0/1	DSABLE/ENABLE	DSABLE	
VFD Gain	0.1 to 1.5		0.75	
VFD Increase Step	1 to 5	%	2	
VFD Minimum Speed	65 to 100	%	70	
VFD Maximum Speed	90 to 100	%	100	
VFD Current Limit	0 to 99999	Amp	250	



19XR, XRV PIC II LEADLAG TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Lead Lag Control				
LEAD/LAG: Configuration DSABLE=0, LEAD=1, LAG=2, STANDBY=3	0 to 3		0	
Load Balance Option	0/1	DSABLE/ENABLE	DSABLE	
Common Sensor Option	0/1	DSABLE/ENABLE	DSABLE	
LAG% Capacity	25 to 75	%	50	
LAG Address	1 to 236		92	
LAG START Timer	2 to 60	MIN	10	
LAG STOP Timer	2 to 60	MIN	10	
PRESTART FAULT Timer	2 to 30	MIN	5	
STANDBY Chiller Option	0/1	DSABLE/ENABLE	DSABLE	
STANDBY% Capacity	25 to 75	%	50	
STANDBY Address	1 to 236		93	

CUT ALONG DOTTED LINE

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19XR, XRV PIC II RAMP_DEM TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Pulldown Ramp Type: Select: Temp=0, Load=1	0/1		1	
Demand Limit + kW Ramp				
Demand Limit Source Select: Amps=0, kW=1	0/1		0	
Motor Load Ramp% Min	5 to 20		10	
Demand Limit Prop Band	3 to 15	%	10	
Demand Limit At 20 mA	40 to 100	%	40	
20 mA Demand Limit Opt	0/1	DSABLE/ENABLE	DSABLE	
Motor Rated Kilowatts	50 to 9999	kW	145	
Demand Watts Interval	5 to 60	MIN	15	

19XR, XRV PIC II TEMP_CTL TABLE CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Control Point				
ECW Control Option	0/1	DSABLE/ENABLE	DSABLE	
Temp Pulldown Deg/Min	2 to 10	^F	3	
Temperature Reset				
RESET TYPE 1				
Degrees Reset At 20 mA	-30 to 30	^F	10	
RESET TYPE 2				
Remote Temp -> No Reset	-40 to 245	DEG F	85	
Remote Temp -> Full Reset	-40 to 245	DEG F	65	
Degrees Reset	-30 to 30	^F	10	
RESET TYPE 3				
CHW Delta T -> No Reset	0 to 15	^F	10	
CHW Delta T -> Full Reset	0 to 15	^F	0	
Degrees Reset	-30 to 30	^F	5	
Select/Enable Reset Type	0 to 3		0	



BROADCAST (BRODEF) CONFIGURATION SHEET

DESCRIPTION	RANGE	UNITS	DEFAULT	VALUE
Time Broadcast Enable	DSABLE/ENABLE		DSABLE	
Daylight Savings				
Start Month	1 to 12		4	
Start Day of Week	1 to 7		7	
Start Week	1 to 5		3	
Start Time	00:00 to 24:00	HH:MM	02:00	
Start Advance	0 to 360	MIN	60	
Stop Month	1 to 12		10	
Stop Day of Week	1 to 7		7	
Stop Week	1 to 5		3	
Stop Time	00:00 to 24:00		02:00	
Stop Back	0 to 360	MIN	60	

CUT ALONG DOTTED LINE

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UNIT-MOUNTED VFD CONFIGURATION SHEET

DESCRIPTION	PARAMETER	RANGE	DEFAULT	COMMENTS
Maximum Speed	P.004	15 to H.022	*	Job Sheet; 60 for 60 Hz and 50 for 50 Hz
Speed Display Scaling	P.028	10 to 999	*	Job Sheet; 60 for 60 Hz and 50 for 50 Hz
Motor Voltage	H.000	100 to 690	*	Selected line voltage
Frequency	H.001	30 to 200	*	60 Hz = 60, 50 Hz = 50
Motor Amps	H.002	Power Module Dependent	*	Selected motor 100% amps
Line Voltage	H.021	300 to 565	*	Selected line voltage
Over Frequency Limit	H.022	30 to 210	*	60 Hz = 69, 50 Hz = 57

*Variable by job — refer to component nameplates and labels.



CVC/ICVC DISPLAY AND ALARM SHUTDOWN STATE RECORD SHEET

PRIMARY MESSAGE: _____

DATE: _____ TIME: _____

SECONDARY MESSAGE: _____

COMPRESSOR ONTIME: _____

CHW IN

CHW OUT

EVAP REF

CDW IN

CDW OUT

COND REF

OILPRESS

OIL TEMP

AMPS %

COMMUNICATION MESSAGE _____

CCN

LOCAL

RESET

MENU

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

CVC/ICVC DISPLAY AND ALARM SHUTDOWN STATE RECORD SHEET

PRIMARY MESSAGE: _____

DATE: _____ TIME: _____

SECONDARY MESSAGE: _____

COMPRESSOR ONTIME: _____

CHW IN

CHW OUT

EVAP REF

CDW IN

CDW OUT

COND REF

OILPRESS

OIL TEMP

AMPS %

COMMUNICATION MESSAGE _____

CCN

LOCAL

RESET

MENU

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE