CARRIER 23 XRV SCREW CHILLER
HEAD PRESSURE 2-WAY VALVE CONTROL WIRING

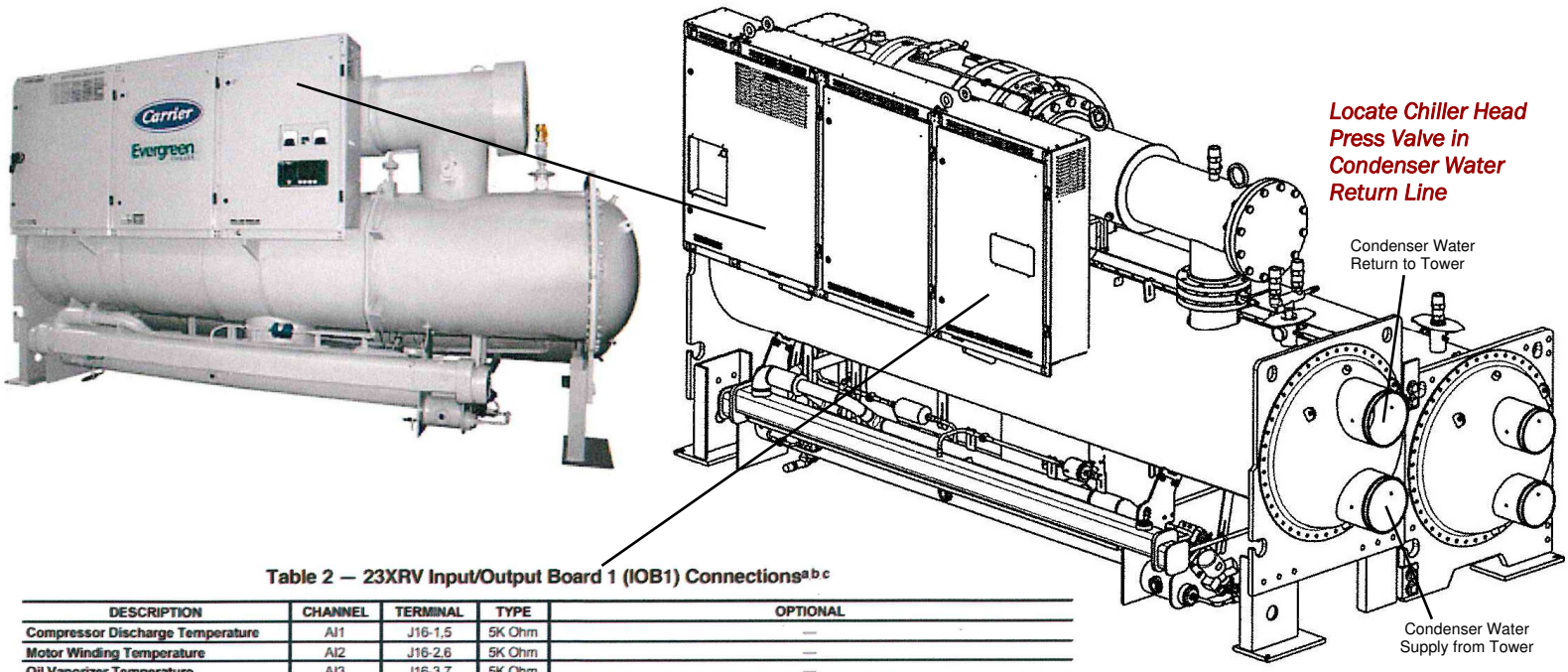
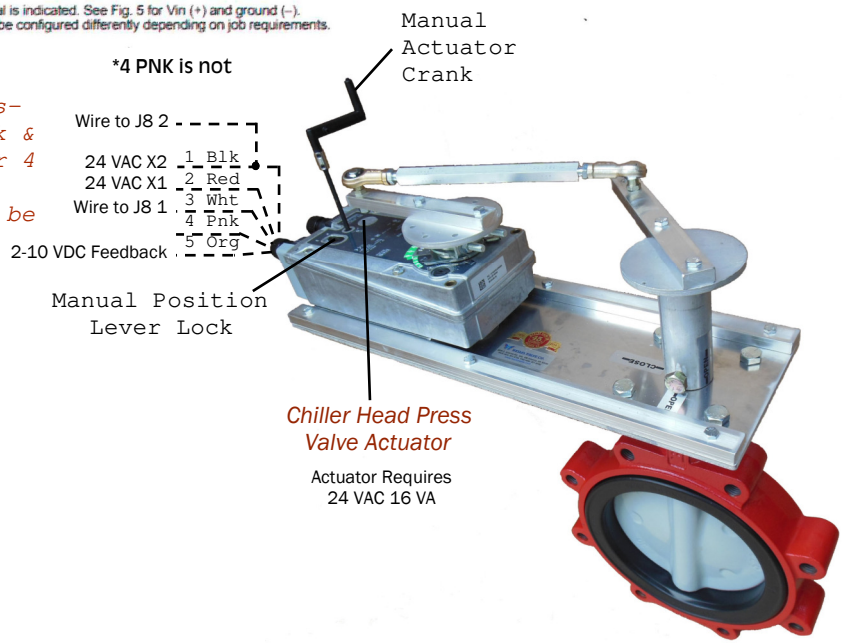


Table 2 — 23XRV Input/Output Board 1 (IOB1) Connections[a,b,c]

DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
Compressor Discharge Temperature	AI1	J16-1,5	5K Ohm	—
Motor Winding Temperature	AI2	J16-2,6	5K Ohm	—
Oil Vaporizer Temperature	AI3	J16-3,7	5K Ohm	—
Oil Sump Temperature	AI4	J16-4,8	5K Ohm	—
Remote Reset Sensor	AI5	J15-6,12	5K Ohm	Optional Field Connection 7TB-17, 18
Economizer Gas Temperature	AI6	J15-5,11	5K Ohm	—
Oil Pump Discharge Pressure	AI7	J15-4,10	5V	—
Oil Sump Pressure	AI8	J15-3,9	5V	—
Refrigerant Leak Sensor	AI9	J15-2,8	4-20mA	Optional Field Connection 7TB-19, 20 (Ensure channel 5 on SW2 dip switch is ON)
Auto Chilled Liquid Reset	AI10	J15-1,7	4-20mA	Optional Field Connection 7TB-21, 22 (Ensure channel 9 on SW2 dip switch is ON)
Head Pressure Output	AO3	J14-3,6	4-20mA	Optional Field Connection 7TB-34, 35
Remote Contact Input	DI1	J13-1,5	24 VAC	Optional Field Connection 7TB-9,10, Dry contact. Must be configured in "Configure Startup Options" in Chiller Start/Stop Menu.
Emergency Stop	DI2	J13-2,6	24 VAC	Optional Field Connection 7TB-11,12; Dry contact
Evaporator Flow Switch	DI3	J13-4,7	24 VAC	Optional Field Connection 7TB-13,14; Closed indicates flow
Condenser Flow Switch	DI4	J13-4,8	24 VAC	Optional Field Connection 7TB-15,16; Closed indicates flow
Chiller Alert	DO1	J12-6,7	24 VAC	Optional Field Connection 7TB-24V, 27
Chiller Alarm	DO2	J12-9,10	24 VAC	Optional Field Connection 7TB-24V, 29
Discrete Chiller Run Status Output (OFF=0V, ON=24VAC)	DO3	J12-1,2	24 VAC	Optional Field Connection 7TB-24V, 31
VFD Run Permissive	DO4	J12-4,5	24 VAC	—
Condenser Liquid Level Sensor	AI11	J10-1,7	0-5V	NOTE: For TP compressors only.

NOTE(S):
a. See Fig. 5 for IOB1 wiring diagram.
b. For pressure readings, only Vout (output) terminal is indicated. See Fig. 5 for Vin (+) and ground (–).
c. Defaults are shown. In some cases the IOB can be configured differently depending on job requirements.

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4 -20 mA Signal or the Resistor may be located at the Chiller Terminal Strip



ACTUATOR HAS 4 TO 1 LEVER

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING DISC REPOSITIONS

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CARRIER 23 XRV SCREW CHILLER
HEAD PRESSURE 2-WAY VALVE CONTROL WIRING

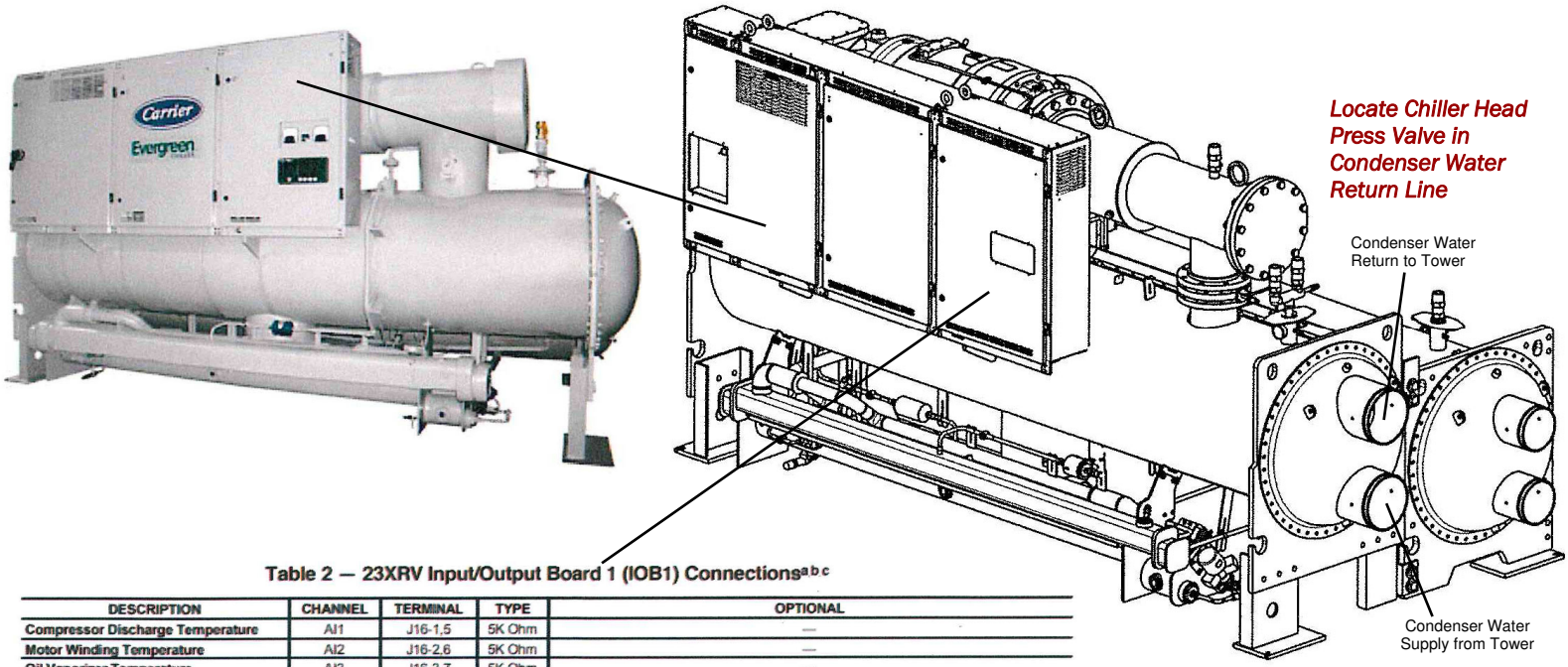


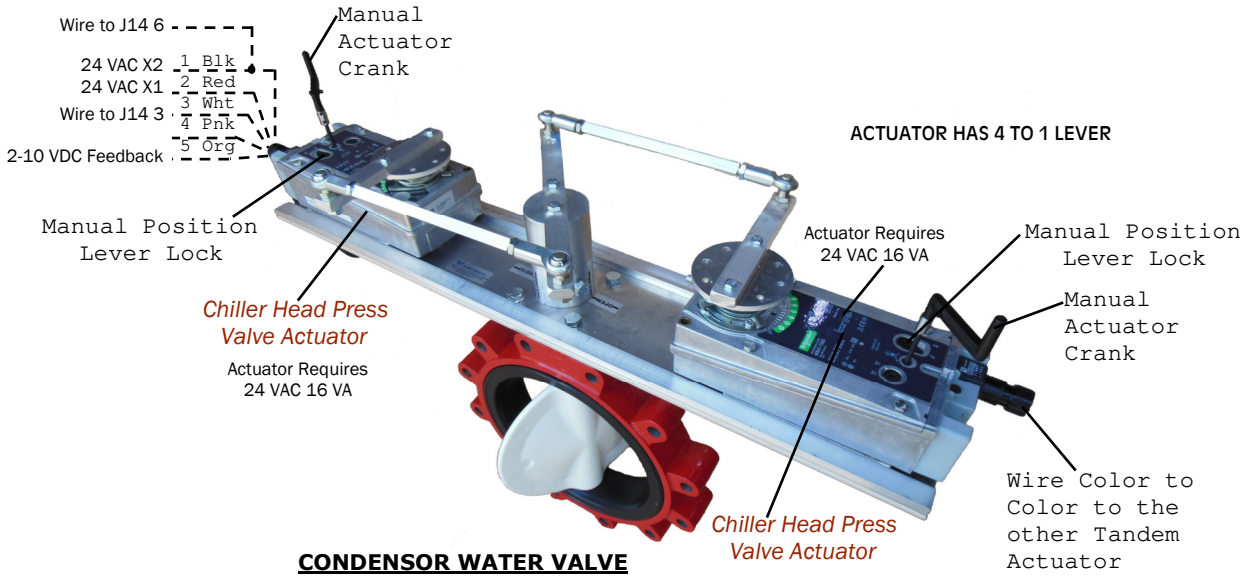
Table 2 — 23XRV Input/Output Board 1 (IOB1) Connections[a,b,c]

DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
Compressor Discharge Temperature	AI1	J16-1,5	5K Ohm	—
Motor Winding Temperature	AI2	J16-2,6	5K Ohm	—
Oil Vaporizer Temperature	AI3	J16-3,7	5K Ohm	—
Oil Sump Temperature	AI4	J16-4,8	5K Ohm	—
Remote Reset Sensor	AI5	J15-6,12	5K Ohm	Optional Field Connection 7TB-17, 18
Economizer Gas Temperature	AI6	J15-5,11	5K Ohm	—
Oil Pump Discharge Pressure	AI7	J15-4,10	5V	—
Oil Sump Pressure	AI8	J15-3,9	5V	—
Refrigerant Leak Sensor	AI9	J15-2,8	4-20mA	Optional Field Connection 7TB-19, 20 (Ensure channel 5 on SW2 dip switch is ON)
Auto Chilled Liquid Reset	AI10	J15-1,7	4-20mA	Optional Field Connection 7TB-21, 22 (Ensure channel 9 on SW2 dip switch is ON)
Head Pressure Output	AO3	J14-3,6	4-20mA	Optional Field Connection 7TB-34, 35
Remote Contact Input	DI1	J13-1,5	24 VAC	Optional Field Connection 7TB-9,10, Dry contact. Must be configured in "Configure Startup Options" in Chiller Start/Stop Menu.
Emergency Stop	DI2	J13-2,6	24 VAC	Optional Field Connection 7TB-11,12; Dry contact
Evaporator Flow Switch	DI3	J13-4,7	24 VAC	Optional Field Connection 7TB-13,14; Closed indicates flow
Condenser Flow Switch	DI4	J13-4,8	24 VAC	Optional Field Connection 7TB-15,16; Closed indicates flow
Chiller Alert	DO1	J12-6,7	24 VAC	Optional Field Connection 7TB-24V, 27
Chiller Alarm	DO2	J12-9,10	24 VAC	Optional Field Connection 7TB-24V, 29
Discrete Chiller Run Status Output (OFF=0V, ON=24VAC)	DO3	J12-1,2	24 VAC	Optional Field Connection 7TB-24V, 31
VFD Run Permissive	DO4	J12-4,5	24 VAC	—
Condenser Liquid Level Sensor	AI11	J10-1,7	0-5V	NOTE: For TP compressors only.

NOTE(S):
a. See Fig. 5 for IOB1 wiring diagram.
b. For pressure readings, only Vout (output) terminal is indicated. See Fig. 5 for Vin (+) and ground (–).
c. Defaults are shown. In some cases the IOB can be configured differently depending on job requirements.

*4 PNK is not used

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4-20 mA Signal or the Resistor may be located at the Chiller Terminal Strip



CONDENSOR WATER VALVE

Actuator Requires 24 VAC 16 VA

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File:TACHPCarrier23XRVWiringDual

CARRIER 23 XRV SCREW CHILLER
HEAD PRESSURE 3-WAY VALVE CONTROL WIRING



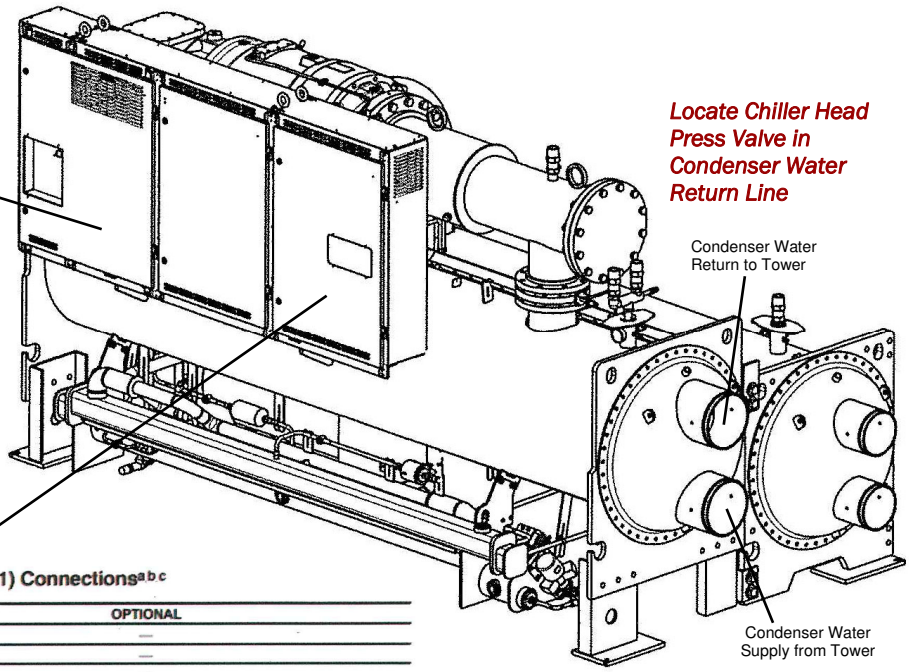
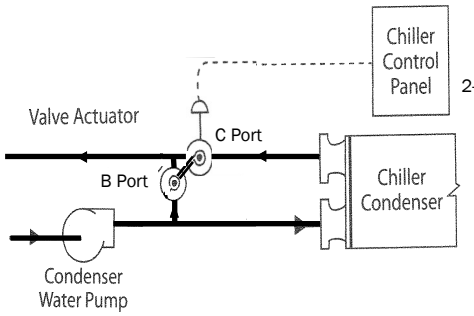


Table 2 — 23XRV Input/Output Board 1 (IOB1) Connections[a,b,c]

DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
Compressor Discharge Temperature	AI1	J16-1,5	5K Ohm	—
Motor Winding Temperature	AI2	J16-2,6	5K Ohm	—
Oil Vaporizer Temperature	AI3	J16-3,7	5K Ohm	—
Oil Sump Temperature	AI4	J16-4,8	5K Ohm	—
Remote Reset Sensor	AI5	J15-6,12	5K Ohm	Optional Field Connection 7TB-17, 18
Economizer Gas Temperature	AI6	J15-5,11	5K Ohm	—
Oil Pump Discharge Pressure	AI7	J15-4,10	5V	—
Oil Sump Pressure	AI8	J15-3,9	5V	—
Refrigerant Leak Sensor	AI9	J15-2,8	4-20mA	Optional Field Connection 7TB-19, 20 (Ensure channel 5 on SW2 dip switch is ON)
Auto Chilled Liquid Reset	AI10	J15-1,7	4-20mA	Optional Field Connection 7TB-21, 22 (Ensure channel 9 on SW2 dip switch is ON)
Head Pressure Output	AO3	J14-3,6	4-20mA	Optional Field Connection 7TB-34, 35
Remote Contact Input	DI1	J13-1,5	24 VAC	Optional Field Connection 7TB-9,10, Dry contact. Must be configured in "Configure Startup Options" in Chiller Start/Stop Menu.
Emergency Stop	DI2	J13-2,6	24 VAC	Optional Field Connection 7TB-11,12, Dry contact
Evaporator Flow Switch	DI3	J13-4,7	24 VAC	Optional Field Connection 7TB-13,14; Closed indicates flow
Condenser Flow Switch	DI4	J13-4,8	24 VAC	Optional Field Connection 7TB-15,16; Closed indicates flow
Chiller Alert	DO1	J12-6,7	24 VAC	Optional Field Connection 7TB-24V, 27
Chiller Alarm	DO2	J12-9,10	24 VAC	Optional Field Connection 7TB-24V, 29
Discrete Chiller Run Status Output (OFF=0V, ON=24VAC)	DO3	J12-1,2	24 VAC	Optional Field Connection 7TB-24V, 31
VFD Run Permissive	DO4	J12-4,5	24 VAC	—
Condenser Liquid Level Sensor	AI11	J10-1,7	0-5V	NOTE: For TP compressors only.

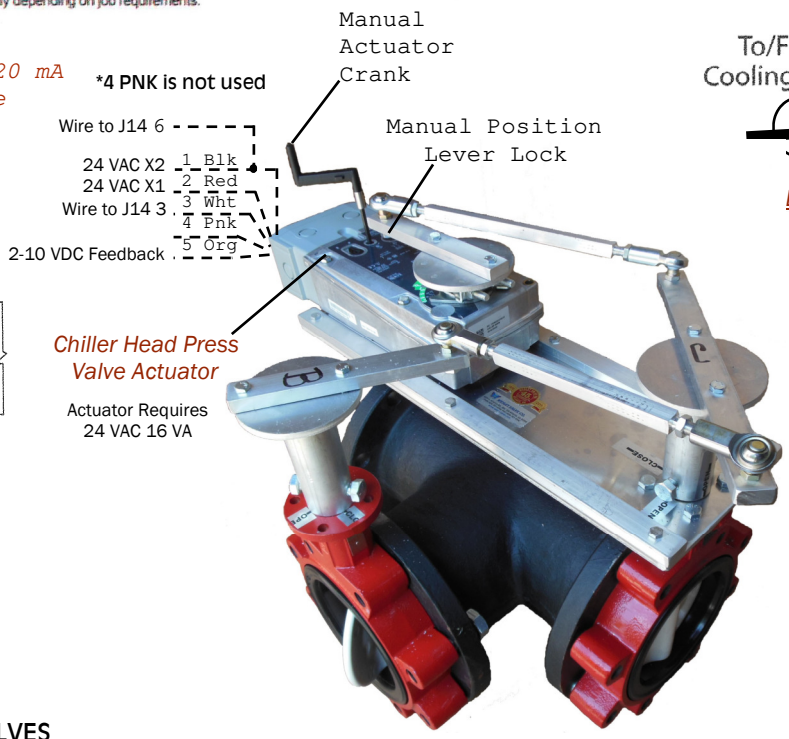
NOTE(S):
a. See Fig. 5 for IOB1 wiring diagram.
b. For pressure readings, only Vout (output) terminal is indicated. See Fig. 5 for Vin (+) and ground (–).
c. Defaults are shown. In some cases the IOB can be configured differently depending on job requirements.

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4-20 mA Signal or the Resistor may be located at the Chiller Panel Terminal Strip



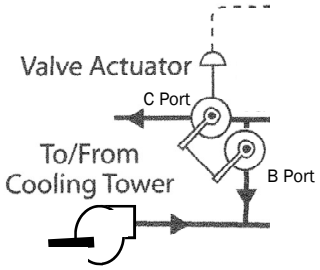
CORRECT 3-WAY VALVE PIPING

*4 PNK is not used



CONDENSOR WATER VALVE

During Pipe Installation, DO NOT Spin the Valve on it's B Port Axis so that it ends up as Shown



ECT 3-WAY VALVE PIPING

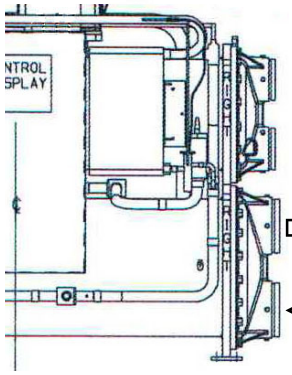
ACTUATOR HAS 4 TO 1 LEVER

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING DISC REPOSITIONS

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CARRIER 30 HXC SCREW CHILLER UNITS HEAD PRESSURE VALVE CONTROL WIRING

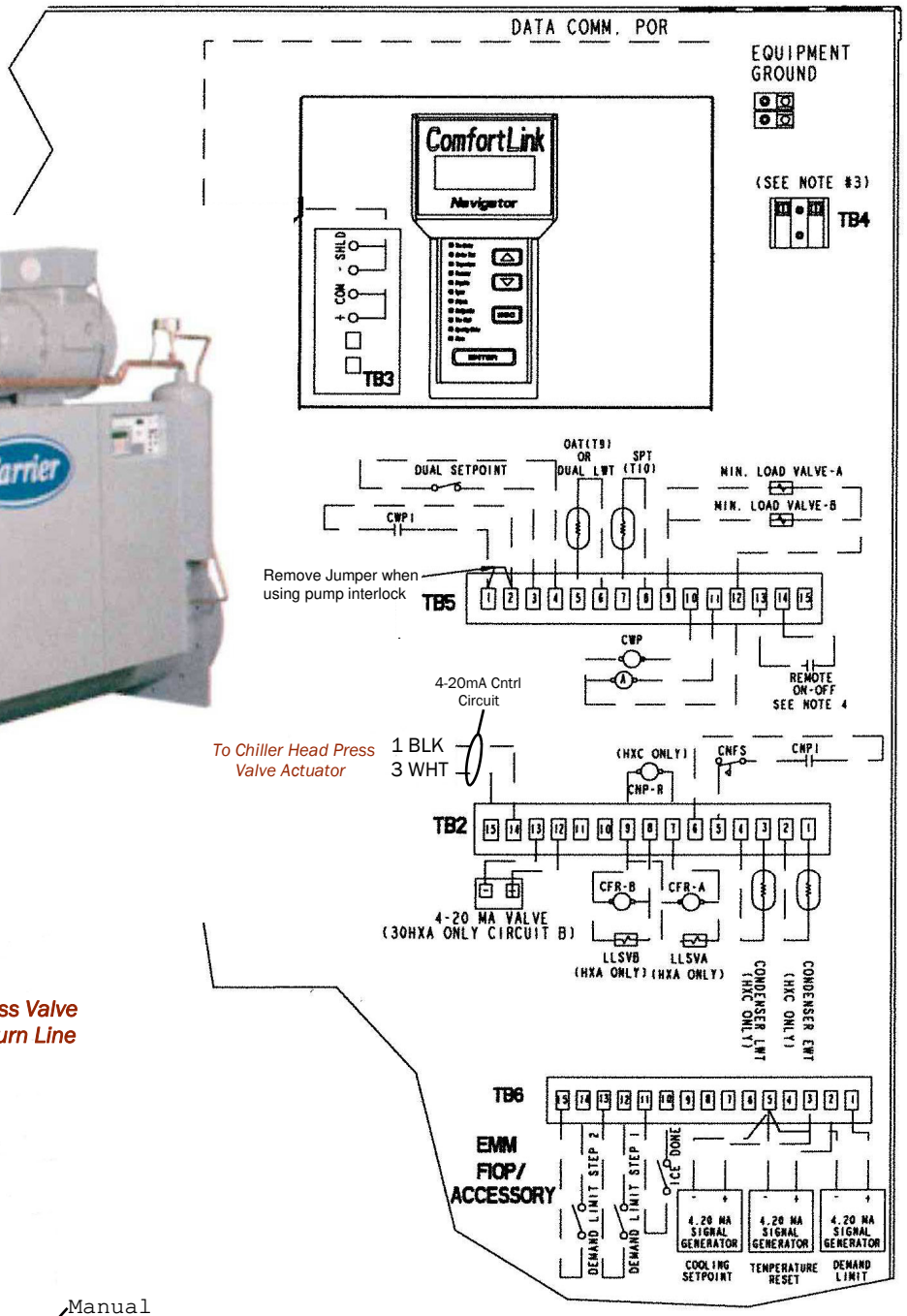




Locate Chiller Head Press Valve in Condenser Water Return Line

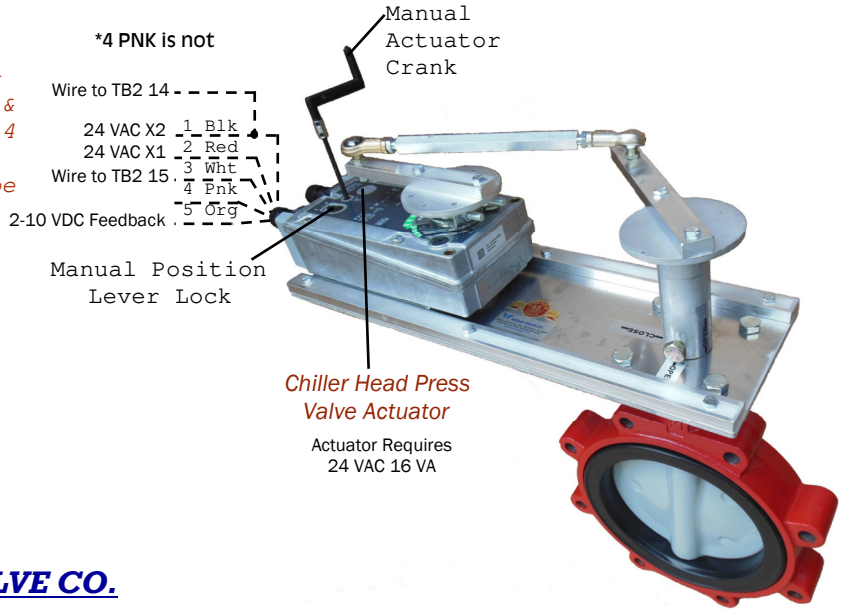
Condenser Water Return to Tower

Condenser Water Supply from Tower



Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4-20 mA Signal or the Resistor may be located at the Chiller Terminal Strip

*4 PNK is not



ACTUATOR HAS 4 TO 1 LEVER

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING DISC REPOSITIONS

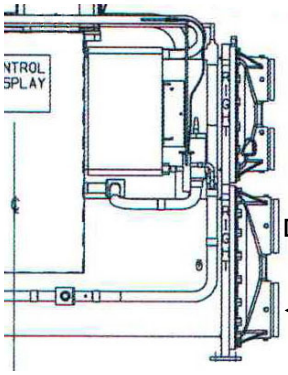
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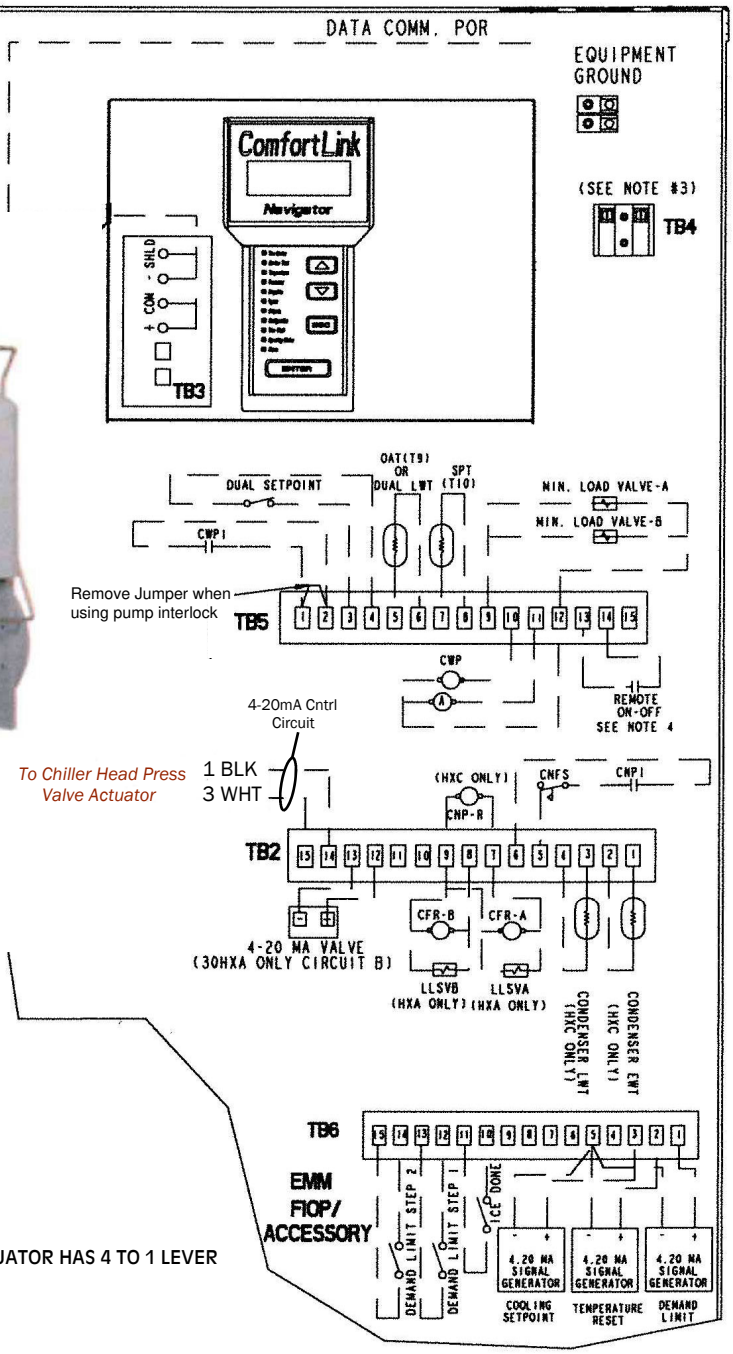




Locate Chiller Head Press Valve in Condenser Water Return Line

Condenser Water Return to Tower

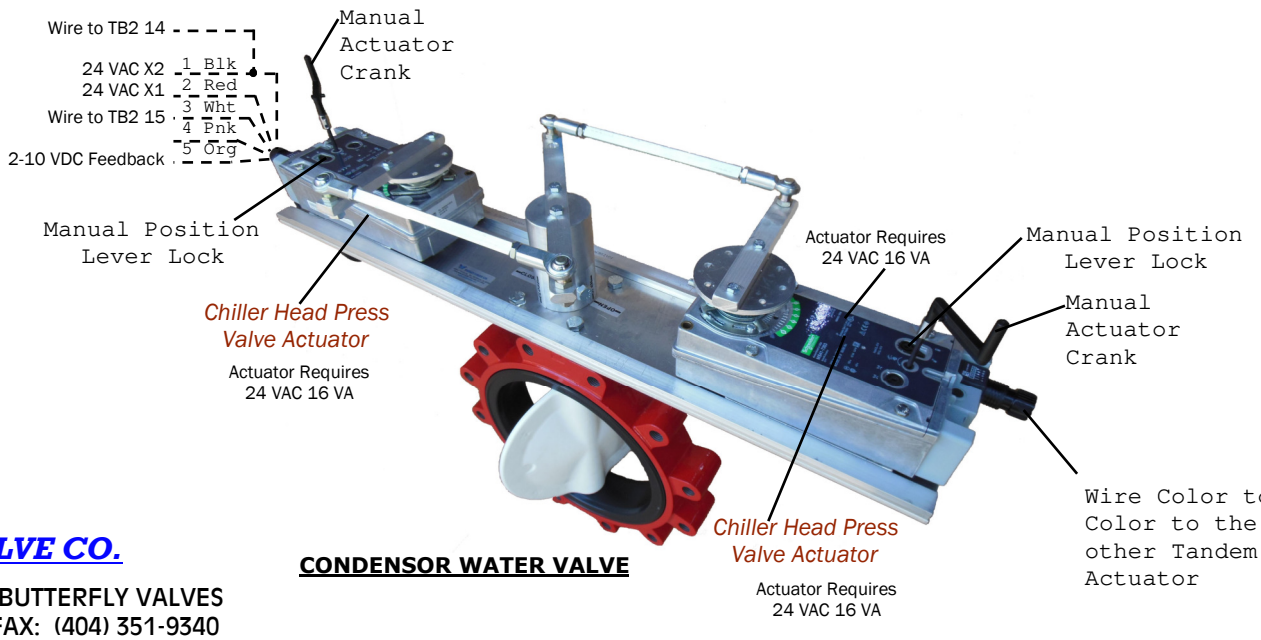
Condenser Water Supply from Tower



ACTUATOR HAS 4 TO 1 LEVER

*4 PNK is not used

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4 -20 mA Signal or the Resistor may be located at the Chiller Terminal Strip



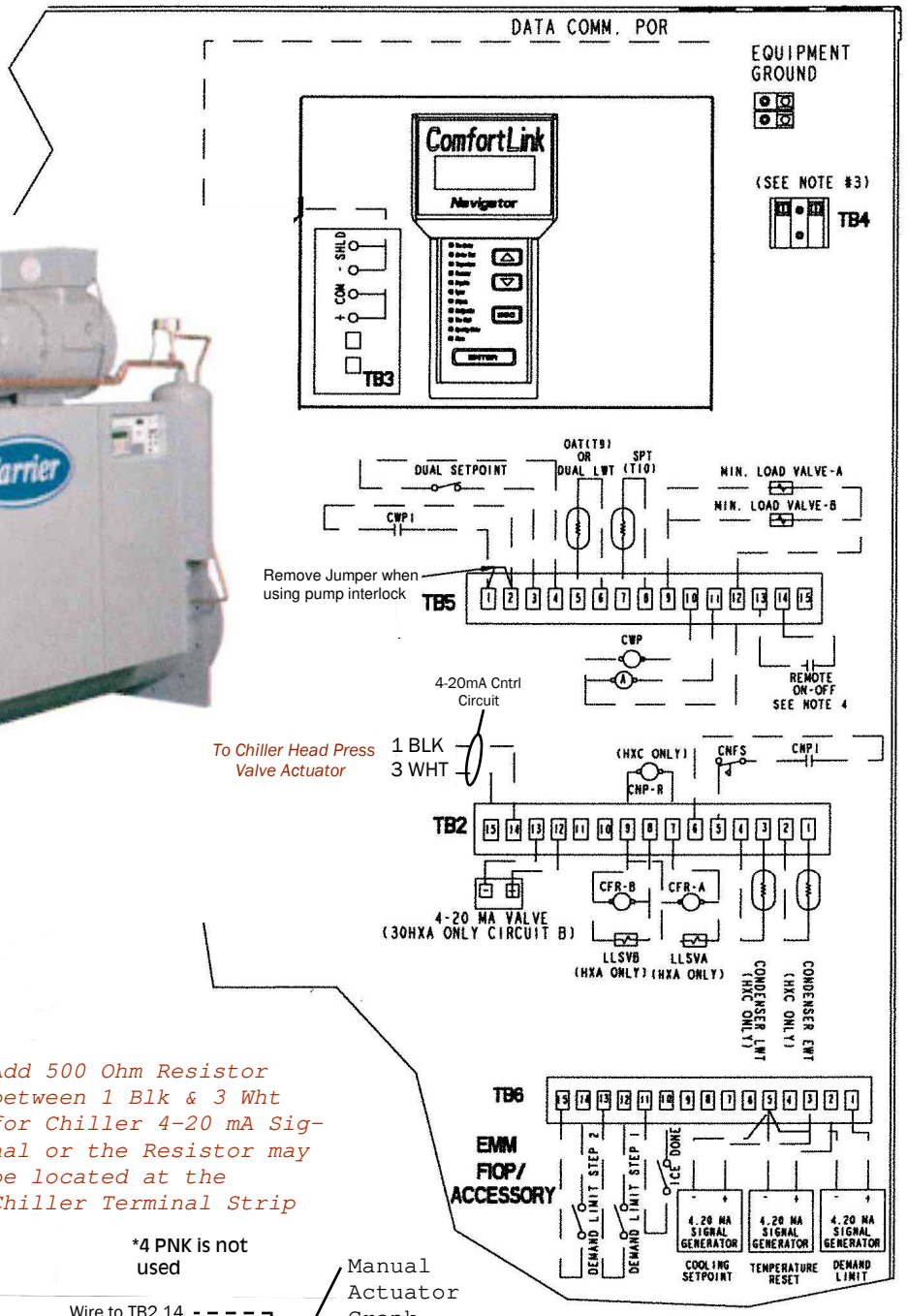
CONDENSOR WATER VALVE

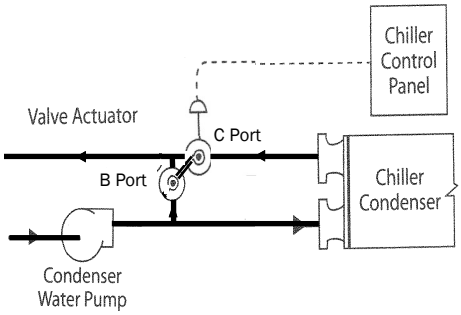
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CARRIER 30 HXC SCREW CHILLER UNITS HEAD PRESSURE VALVE CONTROL WIRING





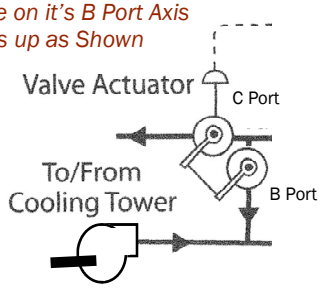


CORRECT 3-WAY VALVE PIPING

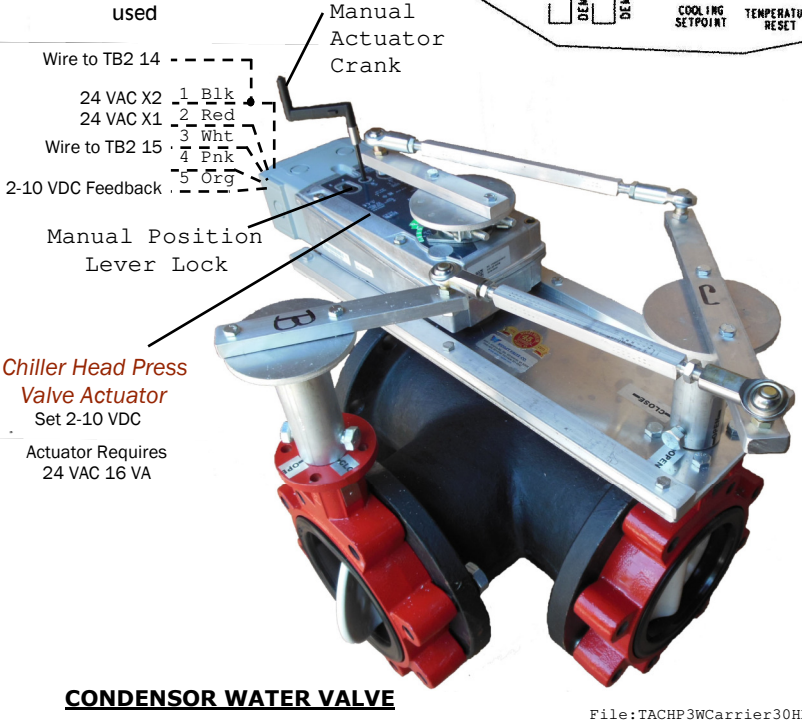
Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4-20 mA Signal or the Resistor may be located at the Chiller Terminal Strip

*4 PNK is not used

During Pipe Installation, DO NOT Spin the Valve on it's B Port Axis so that it ends up as Shown



INCORRECT 3-WAY VALVE PIPING



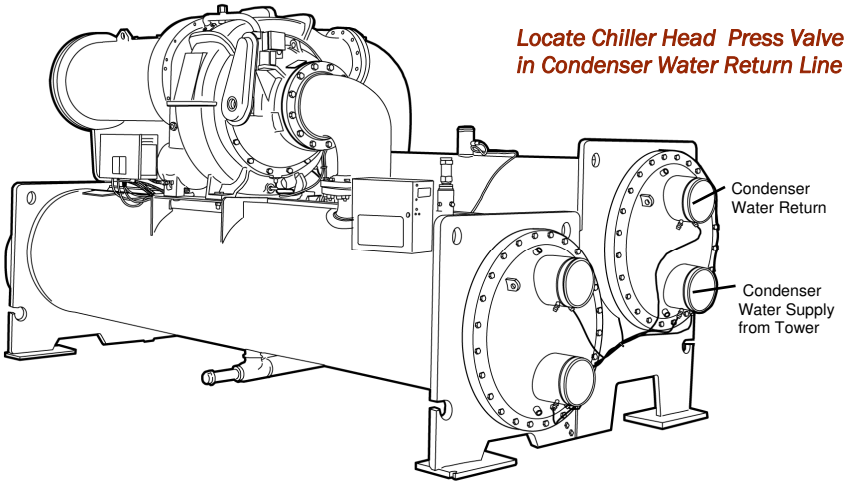
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File:TACHP3WCarrier30HXCWiring

CARRIER 19 XR CENTRIFUGAL CHILLER
HEAD PRESSURE 2-WAY VALVE CONTROL WIRING



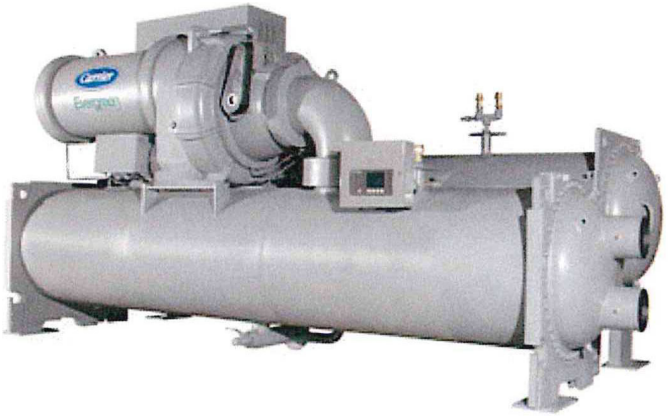


Table 4 — 19XR3-E IOB2 Connections [a,b,c]

DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
Motor Winding Temperature 1	AI1	J16-1,5	5 kΩ	—
Thrust Bearing Oil Temperature	AI2	J16-2,6	5 kΩ	—
Oil Sump Temperature	AI3	J16-3,7	5 kΩ	—
Oil Supply Temperature	AI4	J16-4, 8	5 kΩ	Yes
Guide Vane Actual Position	AI5	J15-6,12	4 to 20 mA	Yes, standard for 19XRC
Oil Supply Pressure	AI6	J15-5	5 VDC	—
Oil Sump Pressure	AI7	J15-4	5 VDC	—
EC (HGBP) Valve Feedback	AI8	J15-3,9	4 to 20 mA	Yes, standard for 19XRC
Motor Winding Temperature 2	AI9	J15-2,8	5 kΩ	Yes
Motor Winding Temperature 3	AI10	J15-7	5 kΩ	—
Diffuser Pressure	AI11	J10-8	5 VDC	—
Guide Vane 1 Output	AO1	J14-1,4	4 to 20 mA	—
Diffuser Output (Option Enabled)	AO2	J14-2,5	4 to 20 mA	Yes
Liquid Bypass Valve (Option Enabled)	A02	J14-2-5	4 to 20 mA	Yes
Head Pressure Output	AO3	J14-3 (2TB-3,4)	4 to 20 mA	Yes, NO (dry contact)
Evap Water Flow Switch	DI1	J13-5 (2TB-5,6)	24 VAC	Yes, NO (dry contact)
Cond Water Flow Switch	DI2	J13-6 (2TB-7,8)	24 VAC	Yes, NO (dry contact)
High Pressure Switch	DI3	J13-7,3	24 VAC	—
Ice Build Contact	DI4	J13-8,4 (2TB-11,12)	24 VAC	Yes, NO (dry contact)
Oil Heater Relay	DO1	J12-7	24 VAC	—
Oil Pump Relay	DO2	J12-10	24 VAC	—
EC (HGBP) Solenoid Valve / Open	DO3	J12-2	24 VAC	Yes
Vapor Source SV (19XRC Only)	DO4	J12-5	24 VAC	XRC Only

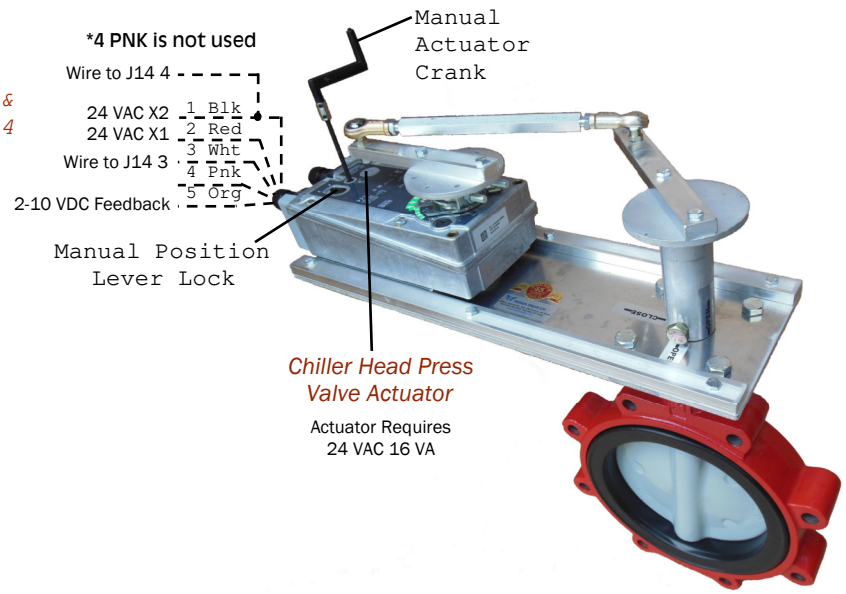
NOTE(S):

a. See Fig. 5 for IOB2 wiring diagram.
b. For pressure readings, only Vout (output) terminal is indicated. See Fig. 5 for Vin (+) and ground (–).
c. Defaults are shown. In some cases the IOB can be configured differently depending on job requirements.

LEGEND

IOB — Input/Output Board
NO — Normally Open

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4 -20 mA Signal or the Resistor may be located at the Chiller Terminal Strip



ACTUATOR HAS 4 TO 1 LEVER

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING DISC REPOSITIONS

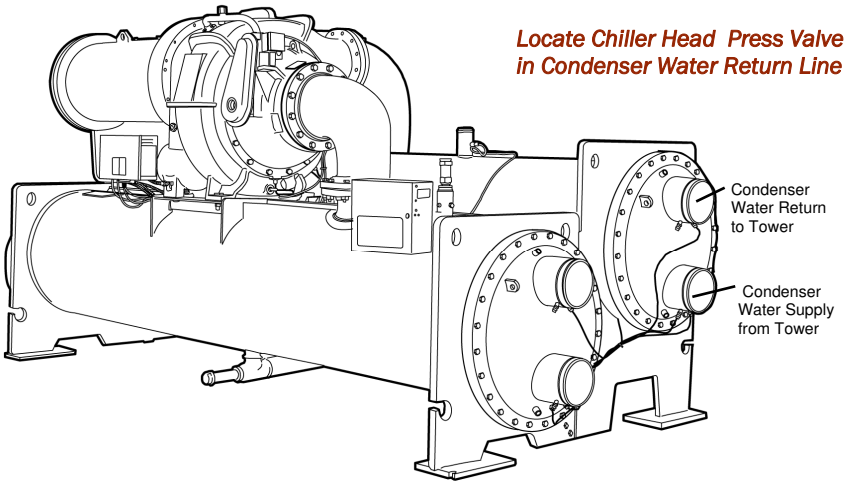
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CARRIER 19 XR CENTRIFUGAL CHILLER
HEAD PRESSURE 2-WAY VALVE CONTROL WIRING



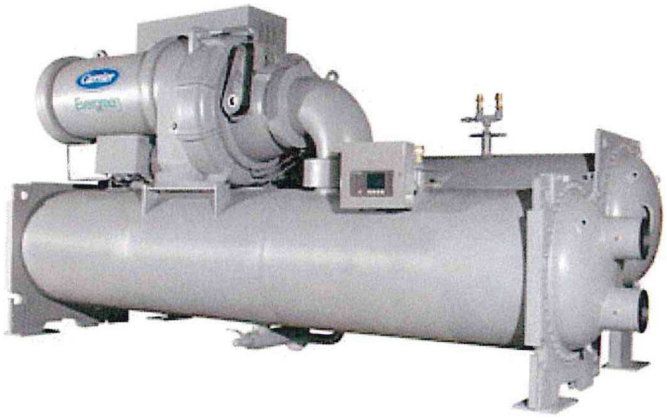


Table 4 — 19XR3-E IOB2 Connections [a,b,c]

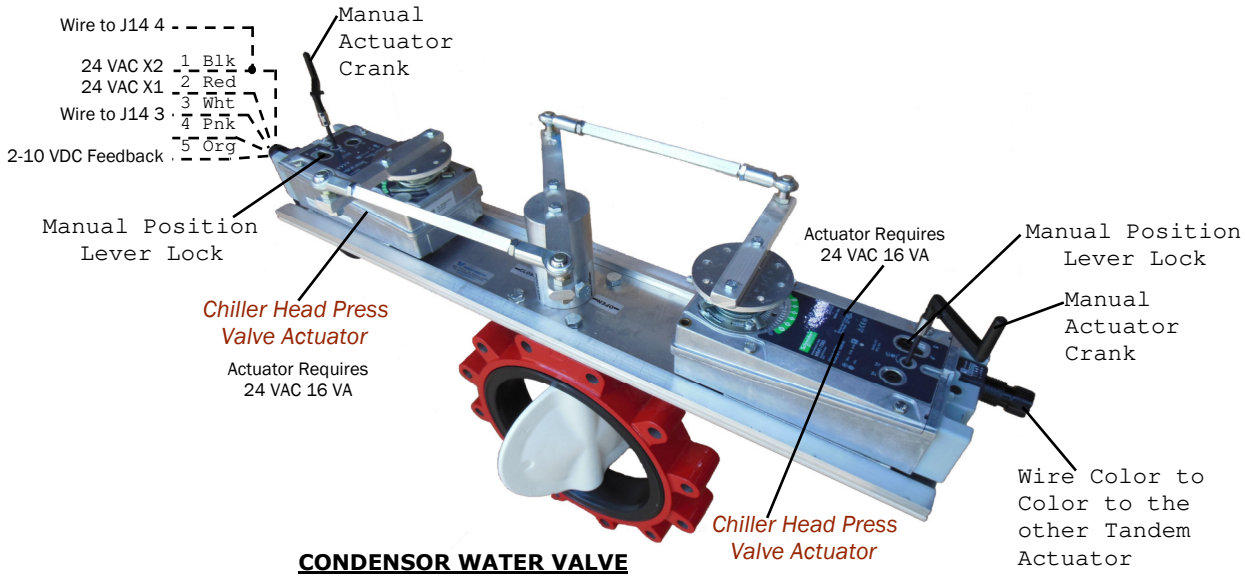
DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
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Thrust Bearing Oil Temperature	AI2	J16-2,6	5 kΩ	—
Oil Sump Temperature	AI3	J16-3,7	5 kΩ	—
Oil Supply Temperature	AI4	J16-4, 8	5 kΩ	Yes
Guide Vane Actual Position	AI5	J15-6,12	4 to 20 mA	Yes, standard for 19XRC
Oil Supply Pressure	AI6	J15-5	5 VDC	—
Oil Sump Pressure	AI7	J15-4	5 VDC	—
EC (HGBP) Valve Feedback	AI8	J15-3,9	4 to 20 mA	Yes, standard for 19XRC
Motor Winding Temperature 2	AI9	J15-2,8	5 kΩ	Yes
Motor Winding Temperature 3	AI10	J15-7	5 kΩ	—
Diffuser Pressure	AI11	J10-8	5 VDC	—
Guide Vane 1 Output	AO1	J14-1,4	4 to 20 mA	—
Diffuser Output (Option Enabled)	AO2	J14-2,5	4 to 20 mA	Yes
Liquid Bypass Valve (Option Enabled)	AO2	J14-2-5	4 to 20 mA	Yes
Head Pressure Output	AO3	J14-3 (2TB-3,4)	4 to 20 mA	Yes, NO (dry contact)
Evap Water Flow Switch	DI1	J13-5 (2TB-5,6)	24 VAC	Yes, NO (dry contact)
Cond Water Flow Switch	DI2	J13-6 (2TB-7,8)	24 VAC	Yes, NO (dry contact)
High Pressure Switch	DI3	J13-7,3	24 VAC	—
Ice Build Contact	DI4	J13-8,4 (2TB-11,12)	24 VAC	Yes, NO (dry contact)
Oil Heater Relay	DO1	J12-7	24 VAC	—
Oil Pump Relay	DO2	J12-10	24 VAC	—
EC (HGBP) Solenoid Valve / Open	DO3	J12-2	24 VAC	Yes
Vapor Source SV (19XRC Only)	DO4	J12-5	24 VAC	XRC Only

NOTE(S):
a. See Fig. 5 for IOB2 wiring diagram.
b. For pressure readings, only Vout (output) terminal is indicated. See Fig. 5 for Vin (+) and ground (–).
c. Defaults are shown. In some cases the IOB can be configured differently depending on job requirements.

LEGEND
IOB — Input/Output Board
NO — Normally Open

*4 PNK is not used

Add 500 Ohm Resistor between 1 Blk & 3 Wht for Chiller 4 -20 mA Signal or the Resistor may be located at the Chiller Terminal Strip



CONDENSOR WATER VALVE

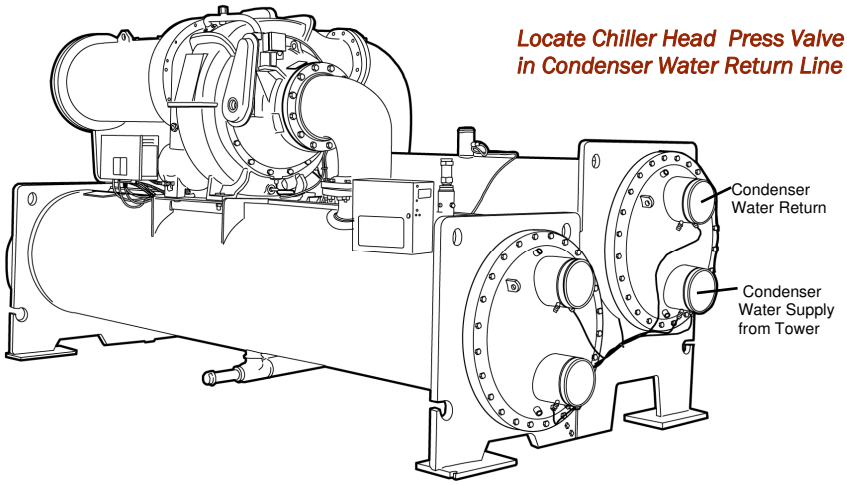
ACTUATOR HAS 4 TO 1 LEVER OR TORQUING ADVANTAGE

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING

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CARRIER 19 XR CENTRIFUGAL CHILLER
HEAD PRESSURE 3-WAY VALVE CONTROL WIRING



Locate Chiller Head Press Valve in Condenser Water Return Line

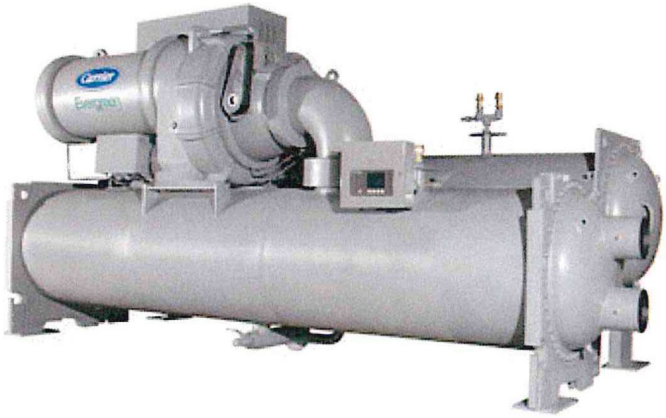


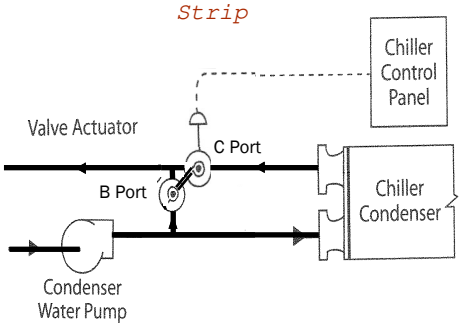
Table 4 — 19XR3-E IOB2 Connections [a,b,c]

DESCRIPTION	CHANNEL	TERMINAL	TYPE	OPTIONAL
Motor Winding Temperature 1	AI1	J16-1,5	5 kΩ	—
Thrust Bearing Oil Temperature	AI2	J16-2,6	5 kΩ	—
Oil Sump Temperature	AI3	J16-3,7	5 kΩ	—
Oil Supply Temperature	AI4	J16-4, 8	5 kΩ	Yes
Guide Vane Actual Position	AI5	J15-6,12	4 to 20 mA	Yes, standard for 19XRC
Oil Supply Pressure	AI6	J15-5	5 VDC	—
Oil Sump Pressure	AI7	J15-4	5 VDC	—
EC (HGBP) Valve Feedback	AI8	J15-3,9	4 to 20 mA	Yes, standard for 19XRC
Motor Winding Temperature 2	AI9	J15-2,8	5 kΩ	Yes
Motor Winding Temperature 3	AI10	J15-7	5 kΩ	—
Diffuser Pressure	AI11	J10-8	5 VDC	—
Guide Vane 1 Output	AO1	J14-1,4	4 to 20 mA	—
Diffuser Output (Option Enabled)	AO2	J14-2,5	4 to 20 mA	Yes
Liquid Bypass Valve (Option Enabled)	A02	J14-2-5	4 to 20 mA	Yes
Head Pressure Output	AO3	J14-3 (2TB-3.4)	4 to 20 mA	Yes, NO (dry contact)
Evap Water Flow Switch	DI1	J13-5 (2TB-5,6)	24 VAC	Yes, NO (dry contact)
Cond Water Flow Switch	DI2	J13-6 (2TB-7,8)	24 VAC	Yes, NO (dry contact)
High Pressure Switch	DI3	J13-7,3	24 VAC	—
Ice Build Contact	DI4	J13-8,4 (2TB-11,12)	24 VAC	Yes, NO (dry contact)
Oil Heater Relay	DO1	J12-7	24 VAC	—
Oil Pump Relay	DO2	J12-10	24 VAC	—
EC (HGBP) Solenoid Valve / Open	DO3	J12-2	24 VAC	Yes
Vapor Source SV (19XRC Only)	DO4	J12-5	24 VAC	XRC Only

NOTE(S):
a. See Fig. 5 for IOB2 wiring diagram.
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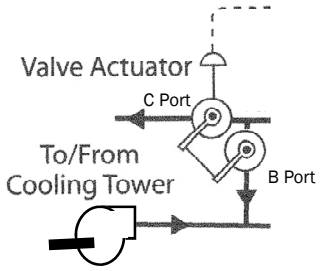
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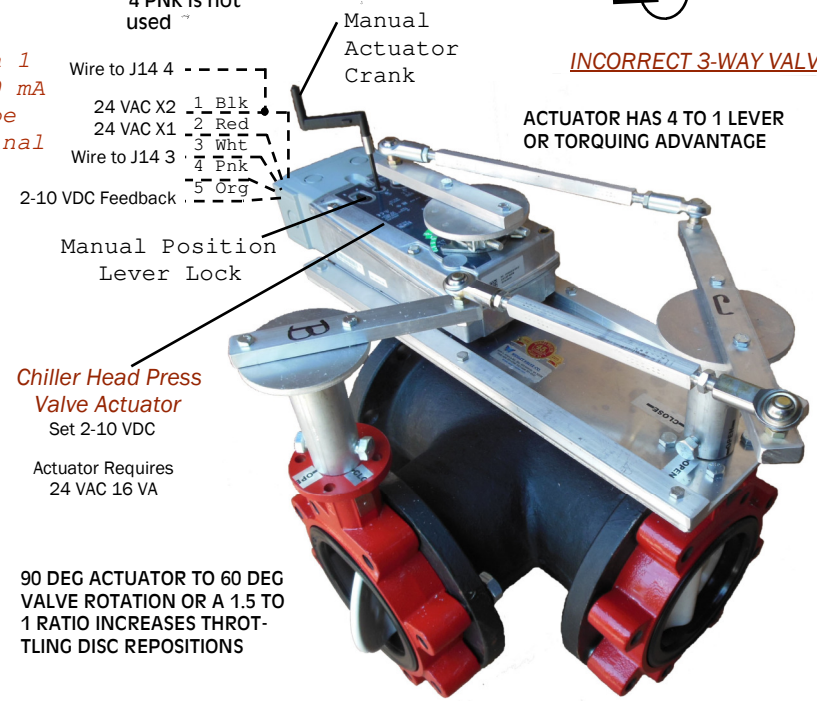
CORRECT 3-WAY VALVE PIPING

During Pipe Installation, DO NOT Spin the Valve on it's B Port Axis so that it ends up as Shown



INCORRECT 3-WAY VALVE PIPING

*4 PNK is not used



ACTUATOR HAS 4 TO 1 LEVER OR TORQUING ADVANTAGE

90 DEG ACTUATOR TO 60 DEG VALVE ROTATION OR A 1.5 TO 1 RATIO INCREASES THROTTLING DISC REPOSITIONS

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