Manitowoc
ICE MACHINES & REACH-INS

A-0100, A/C/E-0400, A/C/E/H-0200 COMPRESSOR REPLACEMENT

FOR THIS COMPRESSOR CHANGEOUT, YOU MUST CONVERT THE REFRIGERANT CHARGE FROM R-12 TO R-401A

FOR MODELS

AR-0100A	A/C/E/HR-0200A	A/C/ER-0400A	
AD-0102A	A/C/E/HD-0202A	A/C/ED-0402A	
AY-0104A	A/C/E/HY-0204A	A/C/EY-0404A	
AR-0101W	A/C/E/HR-0201W	A/C/ER-0401W	A/C/ER-0490N
AD-0103W	A/C/E/HD-0203W	A/C/ED-0403W	A/C/ED-0492N
AY-0105W	A/C/E/HY-0205W	A/C/EY-0405W	A/C/EY-0494N

WARNING!

Use only R-401A as retrofit refrigerant. R-12 or other replacement refrigerants may cause poor performance and/or component failure.

EQUIPMENT MODIFICATION REQUIREMENTS FOR R-401A CONVERSION

Component	Change Required
Expansion Valve (TXV)	A-0100: None Other Models: change TXV to P/N 8367553
High Pressure Cut-out	None
Low Pressure Cut-out (Remotes)	None
Fan Cycling Control (Air-cooled)	None
All Solenoid Valves	None
Water Regulating Valve (Water-cooled)	Reset discharge pressure to 135 psig (931 kPa gauge)
Heat Exchanger	None
Electrical Wiring	None
Branch Circuit Fuse Size	None
Air-cooled Condenser	None
Water-cooled Condenser	None
Evaporator	None
Refrigerant Charge	Change to R-401A
Drier	Current Manitowoc UK Drier

SYSTEM PERFORMANCE AFTER REFRIGERATION CONVERSION

- **Operating discharge (high) pressure:** air-cooled models will run 5-35 psig (34-241 kPa gauge) higher than R-12 pressures published in service manuals.
- **Operating suction (low) pressure:** will run 1-3 psig (7-21 kPa gauge) higher than R-12 pressure published in service manuals.
- **Daily ice production:** the daily ice production will remain the same as published in service manuals.

REFRIGERANT CONVERSION INSTRUCTIONS

1. Recover R-12 refrigerant from the ice machine in accordance with local and national governing laws.
2. Install new expansion valve, P/N 8367553. Failure to install new TXV will result in compressor failure. **NOTE: A-0100 does not require TXV change.**
3. Replace compressor.
4. Install new liquid line filter drier. **WARNING:** use only Manitowoc approved filter drier, which is compatible with POE oil.
5. Evacuate and then recharge the ice machine with R-401A refrigerant. **NOTE:** weigh in liquid charge into the high side of the ice machine.

   IMPORTANT: the R-401A charge is less than the R-12 nameplate charge (see table below for R-401A charge:

Nameplate R-12 Charge	New R-401A Charge	Kilograms
8 oz.	6 oz.	.1688
9 oz.	7 oz.	.1969
10 oz.	7 oz.	.1969
15 oz.	12 oz.	.3375
21 oz.	15 oz.	.4219
22 oz.	15 oz.	.4219
28 oz.	20 oz.	.5625
256 oz. (16 lb.)	192 oz. (12 lb.)	5.4430

6. Remove white R-12 labels from compressor and near service valves. *Do not remove model and serial number tags!*
7. Attach an R-401A conversion label, P/N 8135763, attached to back page of this procedure, at each of the following three locations:

   A. Next to the serial number plate.

   B. Next to the service valves.

   IMPORTANT: write service company name and conversion date on each label.
8. Water-cooled models: reset discharge pressure to 135 psig.

Restart ice machine and verify that it operates properly (refer to service manual, if necessary).