Installation Instructions Supplement

This book is a supplement to the 50TJ 60 Hz Installation, Start-Up and Service Instructions, and is to be used for 380-v 60 Hz 50TJ024 export units.

UNIT 50TJ	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		OFM		IFM		POWER EXHAUST		ELECTRIC HEAT*		POWER SUPPLY	
		Min	Max	RLA	LRA	RLA	LRA	Quantity	FLA (ea)	Hp	FLA	FLA	LRA	Nominal kW	FLA	MCA	MOCP†
024	380-3-60	342	418	21.5	93	21.5	93	2	3.9	7½	15.0	—	—	— 20.3 34.5	— 32 54	71 71 86	90 90 90
												2.3	6	— 20.3 34.5	— 32 54	71 71 86	90 90 90

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code (U.S.A.)
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

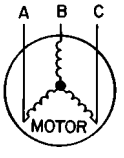
*Heater capacity (kW) is based on heater voltage of 380 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly.
†Fuse or HACR circuit breaker.

NOTES:
1. In compliance with NEC requirements (U.S.A. Standard) for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

   EXAMPLE: Supply voltage is 380-3-50.

   AB = 375 v
   BC = 382 v
   AC = 379 v

   $$\text{Average Voltage} = \frac{375 + 382 + 379}{3}$$

   $$= \frac{1136}{3}$$

   $$= 379$$

   Determine maximum deviation from average voltage:
   (AB) 379 – 375 = 4 v
   (BC) 382 – 379 = 3 v
   (AC) 379 – 379 = 0 v

   Maximum deviation is 4 v.

   Determine percent voltage imbalance.

   $$\text{\% Voltage imbalance} = 100 \times \frac{4}{379}$$

   $$= 1.1\%$$

   This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

   IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. MCA calculation for 50TJ024 units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA).