

## CAUTION: ALWAYS START CONVERTER BEFORE APPLYING LOAD

- Magnetic controls or single-phase loads (including electronics microprocessors, etc.) must always be energized by lines T1 and T2.
- Never connect a ground or neutral to line T3 (manufactured phase), which can easily be identified as the line with the highest voltage to ground with the converter running. Properly ground all electrical equipment.
- It is essential that careful consideration be given to your wiring length and size to prevent slow starting due to a voltage drop. Consult the National Electrical Code for proper wire sizing.
- Due to the high starting current (in-rush current) common to electric motors, a drop of starting torque may occur when using a converter that is too small. Because of this, it is NOT advised to size an application HP for HP. Most applications require sizing the converter 50% larger or more than the largest HP rated motor of your equipment.

MODEL		LARGEST MOTOR HP <small>See #A below</small>	MULTIPLE MOTORS LIGHTLY LOADED <small>See #B below</small>	ROTARY CONVERTER IDLE CURRENT AMPERAGE (Approximate)		DISCONNECT SWITCH TIME DELAY FUSE AMPERAGE		NEMA STARTER SIZE		MAGNETIC STARTER THERMALS OVERLOADS AMPERAGE		MINIMUM SINGLE-PHASE SUPPLY BREAKER AMPS <small>See #C below</small>		SHIPPING DIMENSIONS In inches
230V	460V	230V/460V	230V/460V	230V	460V	230V	460V	230V	460V	230V	460V	230V	460V	230V/460V
R-1	---	0.5	3 HP	1.5	---	10	---	00	---	4.8	---	15	---	16 x 11 x 12
R-2	---	1	6 HP	2	---	10	---	0	---	7.7	---	15	---	16 x 11 x 12
R-3	---	2	9 HP	2.5	---	15	---	0	---	10.4	---	20	---	19 x 14 x 14
R-5	RH-5	3	15 HP	3	1.5	30	15	1	1	15.9	8	30	15	19 x 14 x 14
R-7	---	5	22 HP	5	---	40	---	1	---	26	---	50	---	17 x 17 x 17
R-10	RH-10	6	30 HP	7	3.5	45	30	2	2	35	17.5	60	30	17 x 17 x 17
R-15	RH-15	10	45 HP	8	4	60	30	3	2	48	24	100	50	32 x 24 x 25
R-20	RH-20	12	60 HP	10	5	80	40	3	2	63	35	125	60	32 x 24 x 25
R-25	---	15	75 HP	11	---	100	---	3	---	80	---	160	---	32 x 24 x 25
R-30	RH-30	20	90 HP	12	6	125	60	3	3	94	48	200	100	32 x 24 x 25
R-40	RH-40	25	120 HP	13	8	150	80	4	3	117	63	250	125	32 x 26 x 25
R-50	RH-50	30	150 HP	15	9	200	100	5	3	145	78	300	150	32 x 26 x 25
R-75	RH-75	50	225 HP	29	15	300	150	5	4	235	115	375	200	42 x 30 x 35
R-100	RH-100	60	300 HP	48	24	400	200	5	4	300	150	600	300	42 x 30 x 35

**A. LARGEST MOTOR HP:** Almost all machines require sizing the converter 50% larger or more than the largest HP motor of your machine. See #4 above.

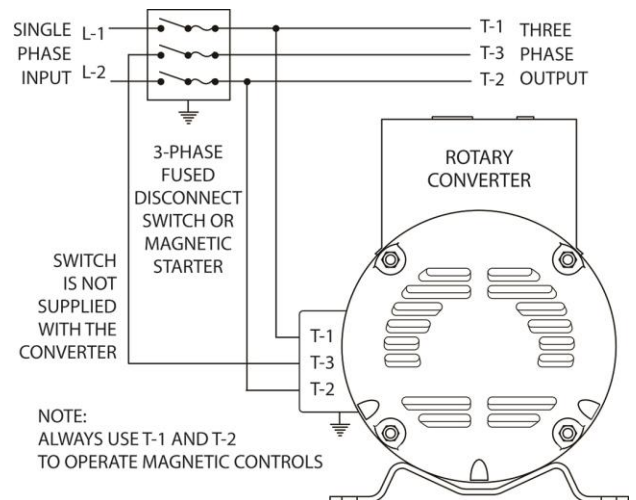
**B. MULTIPLE MOTORS LIGHTLY LOADED:** HP shown in chart reflects maximum HP allowable under specific conditions. Example: Multiple machinery, not started at the same time, and that is running lightly loaded. For larger sizes consult factory.

**C. MINIMUM SINGLE-PHASE SUPPLY:** Single-phase supply shown is for absolute maximum output of the Rotary Converter. Most of the time the converter is oversized to provide the high starting current for the motor. It is not always necessary to size the single-phase breakers this large. Contact Phase-A-Matic for smaller single-phase breaker qualifications.

**IMPORTANT: This chart is simplified and cannot reflect all possible applications. Contact Phase-A-Matic, Inc. at 1-800-962-6976 to verify your phase converter requirements.**

Larger horsepower phase converter systems may be obtained by connecting multiple Rotary Converters in parallel. This is necessary for models that are larger than 100 HP. Contact Phase-A-Matic, Inc. for wiring illustration for multiple units banked together. Or see it on our web site at: <http://www.phase-a-matic.com> on the Rotary Converter page and click on Installation.

- Table shows approximate idle current at 230V for 230V models, 460V for 460V models. Higher line voltage will cause idle current to increase. Excessive amperage could also be caused by incorrect installation.
- For converters with grease fittings, lubricate every 12 months for normal operation, or every 6 months for continuous (24-hour) operation. Use high-temp bearing grease: "Exxon POLYREX®EM" polyurea grease or equivalent, available from Phase-A-Matic, Inc.
- Voltage-sensitive equipment (CNC/PLC and three-phase powered electronics, etc.) may require a Phase-A-Matic™ Voltage Stabilizer designed to reduce phase voltage imbalance. Refer to Voltage Stabilizer brochure or call 1-800-962-6976.
- Converter should reach full speed within 2 to 3 seconds.
- Voltage is 230V single-phase in and 230V three-phase out on 230V models; 460V single-phase in and 460V three-phase out on 460V models.
- Outdoor Use: Install inside ventilated enclosure.
- Line T-3 amperage increases as load on motor increases and may measure lower than lines T-1 and T-2. This is normal when machine is not fully loaded, or when the machine is engineered with a motor that is amply sized, never fully loaded.

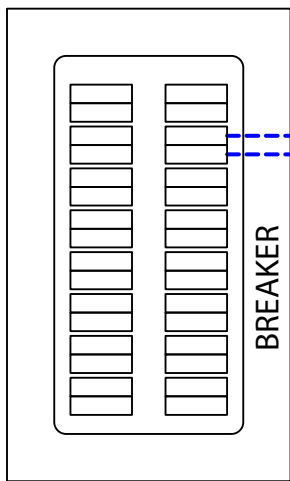


**CAUTION:** Converters are intended for use in clean, dry locations with access to an adequate supply of cooling air. In addition, there should be protection from, or avoidance of, flammable or combustible materials in the area of converters as they can eject flame and/or metal in the event of an insulation failure.

# ROTARY PHASE CONVERTER WIRING DIAGRAM

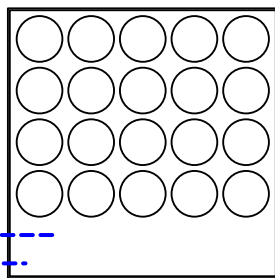
## PHASE-A-MATIC

WALL PANEL



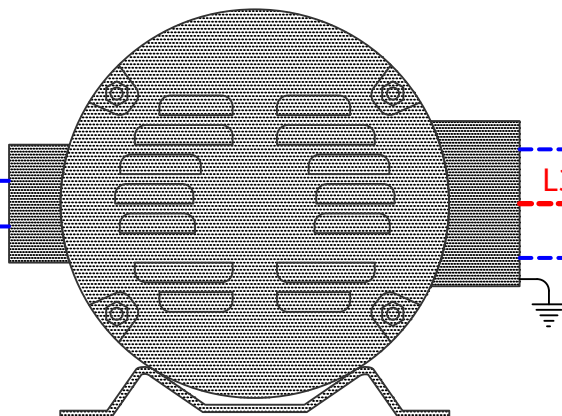
L1 →  
L2 →

CAPACITOR BANK

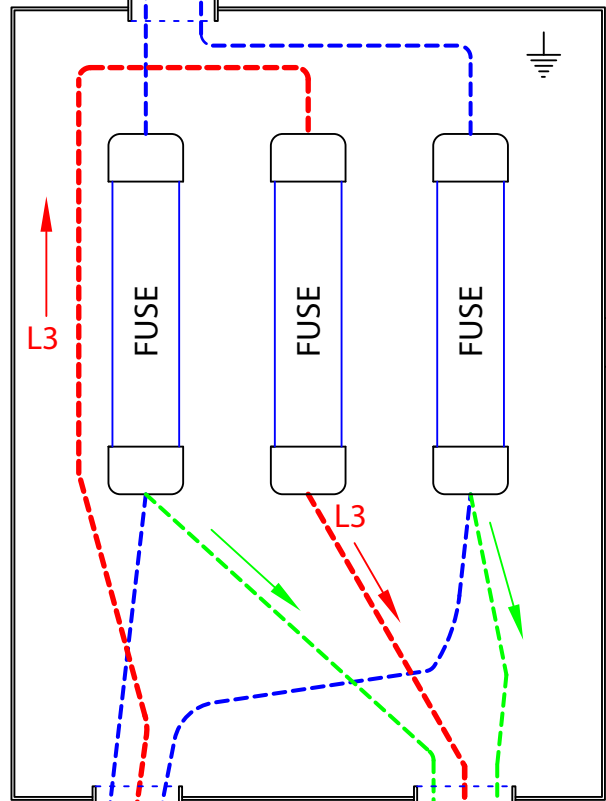


L5 →

ROTARY  
CONVERTER



3-PHASE SWITCH DISCONNECT, FUSED, 240V.



L3 ↑

L3 ↓

L2 ↓

L1 ↓

L3 →

L2 ↓

L1 ↓

EQUIPMENT

