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American Rotary :: > Rotary Phase Converters

Rotary Phase Converter... Run 3-Phase Equipment from 1-Phase Power

24/7 TECH SUPPORT
TOLL FREE 1-888-743-6832

GENTEC American Rotary manufactures and distributes the largest selection of rotary phase converters in the country. Our phase converters are the ideal solution anywhere utility 3-phase is not available. The GENTEC/Baldor proprietary design utilizes a custom-balanced soft start 3-phase generator with power factor correction to ensure an extremely smooth and balanced 3-phase output. This balanced 3-phase output with pure sine wave will operate 3-phase machinery with balanced power that is even better (and more economical) than standard utility 3-phase power. Proudly made in the USA.



(Rubber Isolation Mounts Sold Separately)

[Rotary Phase Converter: Pricing and Specifications >](#)
[Rotary Phase Converter: Sizing Information >](#)

Rotary Phase Converter Features:

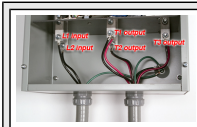
- Integrated Custom Soft Start
- GENTEC/Baldor Design Advantage
- PowerGuard™ Protection
- Precision balanced for CNC
- Heavy-Duty / Hard-Starting
- Flexible mounting options
- Built-in 3-wire latching motor starter
- Emergency stop
- Easy Installation
- Expandable / Energy Saver system
- Run Multiple Motors
- Made in the USA



Rubber Isolation Mounting Feet:

Protect your rotary phase converter investment for as little as \$19.95/set.

[Learn More](#)



Easy Installation:

View American Rotary's online easy step-by-step rotary phase converter installation pictorial.

[Learn More](#)



Basic Rotary Phase Converter Specifications:

Size (HP)	Size (kW)	1-Phase / 3-Phase Amps (Max)	Full Load Transformer	Idle Power	Weight (Lbs)	Buy It Now	Detailed Information
3	2.2	19 / 9.5	6 Kva	.31 kW	64	\$ 345	3HP Specifications
5	3.7	30 / 15	6 Kva	.48 kW	86	\$ 395	5HP Specifications
7.5	5.6	44 / 22	9 Kva	.70 kW	107	\$ 495	7.5HP Specifications
10	7.4	56 / 28	15 Kva	.89 kW	146	\$ 645	10HP Specifications
15	11.2	84 / 42	30 Kva	1.34 kW	210	\$ 895	15HP Specifications
20	14.9	108 / 54	30 Kva	1.72 kW	258	\$1045	20HP Specifications
25	18.6	136 / 68	30 Kva	2.16 kW	276	\$1295	25HP Specifications

30	22.4	160 / 80	45 Kva	2.55 kW	362	\$1595	30HP Specifications
40	29.8	208 / 104	45 Kva	3.31 kW	427	\$1995	40HP Specifications
50	37.3	260 / 130	75 Kva	4.14 kW	479	\$2375	50HP Specifications
60	44.7	300 / 150	75 Kva	5.03 kW	583	\$2695	60HP Specifications

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See also: [Transformers](#)> [Load Centers](#)> [Safety Switches](#)> [Electric Motors](#)> [Parts](#)> [Accessories](#)>

Rotary Phase Converter Detailed Features List:

Integrated Custom Soft Start:

GENTEC American Rotary phase converters utilize a proprietary motor-integrated solid state soft-start is built into the motor/generator housing and drastically reduces inrush (starting) current by softening the initial starting torque required to spin the generator. The engineering departments at GENTEC and Baldor worked together to design a custom motor/generator that reduced the inrush current upon start-up. The results were so drastic - an 83% reduction - that the GENTEC/Baldor motor/generator was granted a Soft-Start rating. The GENTEC/Baldor generator design is proprietary and is available only through American Rotary. [Back to top](#) >

PowerGuard Protection:

GENTEC American Rotary phase converters are equipped with PowerGuard™ technology protects your equipment in power failure and brownouts. After power is restored, the converter will remain in the default "OFF" position until the operator re-starts the unit. This mechanism protects any equipment down stream from the converter that may not already have built-in power protection. [Back to top](#) >

Precision Balanced for CNC:

Each rotary phase converter is balanced under load and no-load conditions to better than +/-5% which is essential for CNC applications. American Rotary's custom phase converter generator utilizes ISR (Inverter Spike Resistant) magnet wire, which virtually eliminates spikes common in CNC applications. Motors wound with ISR wire are 100 times more resistant to transient voltage spikes, high frequencies, and short rise time pulses commonly found in CNC equipment and inverters (VFD's). The use of ISR magnet wire dramatically extends the life of the motor/generator. [Back to top](#) >

Heavy-Duty / Hard-Starting:

GENTEC American Rotary phase converters are rated "Heavy-Duty" which make them ideal for instant motor reversing, tapping, and other heavily loaded and hard starting applications. [Back to top](#) >

Flexible Mounting Options:

Do you know....

GENTEC American Rotary takes pride in supporting domestic resources. While many motor manufactures have taken their production overseas, our custom phase converter generator is manufactured entirely in the United States.

Better Business Bureau:

Serving the industry since 1991, GENTEC American Rotary's dedicated team is committed to product excellence and complete customer satisfaction.

Sizing Assistance:

Our sizing technicians are available 24/7 to answer your questions and assist you in sizing our phase converters to your specific equipment and application. [Learn More](#) >

Have a Question?

TOLL FREE
24/7 TECH
SUPPORT
1-888-743-6832

The Ultimate in Phase Converter Technology!

GENTEC American Rotary phase converter panels are not mounted directly to the motor/generator which allows many mounting options. The motor generator can even be mounted in a separate room or structure away from the control panel, if desired. The control panel can also be conveniently mounted alongside existing service. [Back to top >](#)

Built-In 3-Wire Latching Motor Starter:

The rotary phase converter will start automatically at the touch of the "START" button and is conveniently pre-wired for remote start and time delay. [Back to top >](#)

Emergency Stop:

For operational safety, when the rotary converter is powered on and the LED is illuminated, the "STOP" button is raised for quick shut-off. [Back to top >](#)

Easy Installation:

Busbars are easily accessible and safely located in a roomy compartment just beneath the firewall. This simple design eliminates messy wiring and cluttered conduit boxes. GENTEC American Rotary is staffed to provide 24/7 toll free technical support to answer any questions you may have. Each rotary phase converter is shipped with a complete instruction manual for your reference. Please [click here](#) to view the installation pictorial online. [Back to top >](#)

Expandable / Energy Saver System:

GENTEC rotary phase converters can be run in series with one another as is sometimes necessary when a shop simply adds equipment and needs to increase the capability of the phase converter. Although less beneficial with the integration of our proprietary soft-start motor/generator, two or more converters can be run in series with each other to reduce energy consumption. Please contact our toll free technical support line for assistance with these options at 1-888-7GENTEC. [Back to top >](#)

Run Multiple Motors:

GENTEC phase converters are capable of running up to three times the rated horsepower of the rotary phase converter. Please contact our technical support line for assistance toll free at 1-888-7GENTEC. Because every GENTEC American Rotary phase converter is balanced from a no-load condition, there is no minimum as to the size of a motor that can safely be run with any of our rotary converters. For example, a 2HP mill can safely run on our 40HP phase converter and still maintain a properly balanced voltage. [Back to top >](#)

The GENTEC/Baldor Design Advantage

Two industry leaders: GENTEC - the leading OEM phase converter manufacturer, and Baldor Electric - one of the most respected and well-known motor manufacturers in the world, have come together to design the ultimate in rotary phase converters. Our custom Baldor phase converter generator with integrated soft start and power factor correction took more than a year to develop and was designed specifically for phase converter applications and use. [Back to top >](#)

American Rotary's digital solid state phase converter delivers 1% voltage balance under any load condition! This truly is the ultimate phase converter! [Learn More >](#)

UL Listed Phase Converter

American Rotary offers a full line of UL/CSA listed phase converters. [Learn More >](#)

Static Phase Converter

Our complete line of static phase converters are in stock and ready to ship! [Learn More >](#)

Why Are They So Quiet?

This informative article describes the different kinds of noise associated with rotary phase converters, and why American Rotary phase converters are so quiet! [Learn More >](#)

Better Business Bureau



GENTEC American Rotary is an active member of the Better Business Bureau and strictly adheres to Truth in Advertising, ethics, and privacy standards. [View Report >](#)

Have a Question?

TOLL FREE
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SUPPORT**
1-888-743-6832

Do you know?

GENTEC American Rotary manufactures and distributes the largest selection of phase converters online? [See Selection >](#)

How to Size a Rotary Phase Converter:

Sizing a rotary phase converter can be as simple or as complicated as the application it will run. The following sizing information can be used as a guideline to help you determine what size rotary phase converter your application will require. [Please call toll free 1-888-743-6832 for assistance.](#)

You must first determine the load type:

Easy Load - no flywheel, clutch, little resistance/inertia, 1-2 times full load current on start-up

Medium Load - machine inertia, medium resistance, 3-4 times full load current on start-up

Hard Load - flywheel, no clutch, Start against load, 5-6 times or locked rotor current on start-up

Very Hard Load - elevators, hydraulic pumps under continuous load etc.

Frequent Start - reversing, heavy running loads

CNC - turning centers, PLC's, EDM, CNC machining

Resistive Load - heater, transformer, welder, power supply etc.

Single Motor Loads (Non-CNC, Non-Resistive)

common examples: milling machines, blowers, band saws, lathes, pumps, etc.

1. Determine the load type - Easy, Medium, Hard, or Very Hard ([See: Common Starting Loads](#))

- Easy Load: Choose the converter HP that is one size larger than the load.
- Medium Load: Choose the converter size by multiplying HP by 1.5 and round up.
- Hard Load: Choose the converter size by multiplying HP by 2.0 and round up.
- Very Hard/ Frequent Start Load: Choose the converter size by multiplying HP by 2.5 and round up.

2. Make sure the total running current is no more than 75% of full load 3-phase current.

3. Go up one extra size for any motors that are foreign, high efficiency, or have locked rotor currents that are greater than 6 times full load current.

4. Increase converter size by the ratio of load RPM to 1800 (common for 2-speed motors).

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Single Motor Loads (CNC, Non-Resistive)

common examples: CNC machining, turning centers, PLC's, EDM, etc.

1. Choose the converter size by either:

- multiplying HP (of the spindle) by 2.0 for all standard axis equipment, or
- multiply the machine kW by 2.7, then round up to the nearest HP converter.

2. Increase size for non-standard equipment (forth axis, bar feeder, etc.)

2. Make sure the total running current is no more than 60% of full load 3-phase current.

3. Go up one extra size for any motors that are foreign, high efficiency, or have locked rotor currents that are greater than 6 times full load current.

4. Increase converter size by the ratio of load RPM to 1800 (common for 2-speed motors).

Note: Do not combine other loads with CNC applications unless they are small compared to the loads rating.

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Single Motor Loads (Resistive)

common examples: heaters, transformers, welders, power supply, etc.

1. Divide the current rating of the equipment (Use the 230 Volt amperage of the equipment) by 0.6
2. Round that number up to the nearest full load current of the converter. This maintains a 5% voltage balance.

Note: If only KW are know, estimate the current by multiplying the kW by 3.75.

kW x 3.75 = current (amps)

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Multiple Motor Loads

common examples: 2 milling machines, a dust collector and table saw, etc.

Note: Our phase converters are rated to run multiple machines up to 3X's the rated horsepower of the converter. If you are considering running multiple machines, please call 1-888-743-6832 for a sizing recommendation. Our engineers and computer simulation models will determine the correct converter for your application. Running multiple machines on a single converter is a common, yet situational scenario where specific conditions must be satisfied:

- All of the motor loads must be simple (no resistive, CNC, or hard starting loads).
- All of the motors must be light to medium loads. These lightly loaded 3-phase motors become a part of the phase converter system and assist in generation of the 3rd line.

1. Use the Single Motor Loads formulas to determine the largest converter needed for each piece of equipment. Your converter cannot be smaller than this. For multiple motor starting, size each piece and add the converter sizes together (this can usually be avoided).

2. The other equipment (totaling no more than 2 times the rated HP of the converter) may be started

and run, assuming the loads are not heavy.

Note: Combined motor loads and resistive loads must be sized by subtracting the resistive current

from the full load current rating of the converter. Combinations exceeding the hp rating of the converter should be wired using the multiple motor load wiring diagram.

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GENERAL ROTARY PHASE CONVERTER INFORMATION:

There are basically three types of phase converters – rotary, static, and digital. They can all be used to convert single-phase electricity to 3-phase power. Phase converters are commonly used to power 3-phase commercial and industrial grade equipment and electric motors. There are several key differences in the way rotary phase converters and static converters work and also in their reliability.

What is a Rotary Phase Converter?

A Rotary Phase Converter can be used to convert one-phase power to three-phase power for the purpose of running 3-phase equipment. Rotary phase converters are most commonly used in home or small commercial or industrial settings. Rotary phase converters convert single-phase power into three-phase power. This is a very cost-effective way to power three-phase electric motors and they come with a simple and easy to use installation manual. Phase converters are rated using the maximum horsepower that they can handle. A true rotary phase converter produces an electrical current in all three phases of operation of an electric motor. Due to the consistent energy flow, the electric motor will operate at or near its full horsepower capacity. You will want to verify that the rotary phase converter is rated for the specific kilowatts (kW) that your equipment or machine requires. Our technical support team is available 24 hours a day, seven days a week to answer any questions you might have and to help you properly size a phase converter for your specific application.

What is a Static Phase Converter?

A static phase converter is very simple to install, but serves only to start an electric motor. After the motor has started, it is left to run on single-phase power. The power is unbalanced and though it does work, the equipment will only be able to run at about 2/3 of the machinery's available horsepower. The unbalanced output and "single-phasing" of a 3-phase motor is hard on 3-phase equipment and may shorten the life of the motor itself. [Back to top >](#)

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