



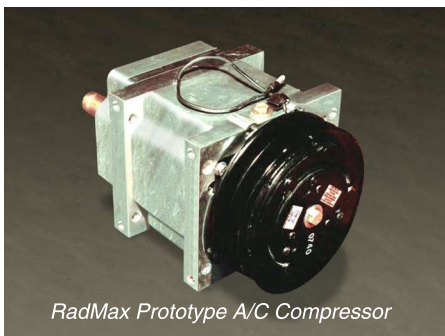
Efficiency  
Simplicity  
Power



## RadMax Compressor

Like a piston compressor, a RadMax compressor is a positive displacement device. Because the upper and lower faces of the rotor are 90-degrees out of phase, the RadMax compressor is always balanced and exhibits minimal vibration.

The RadMax compressor design is a combination of four distinct sections: two complete intake and exhaust compression cycles on each cam in the standard two-cam configuration. This unique design allows for each of these sections to potentially be configured with different compression ratios. Different porting options into and between the sections allow for the capability of multi-stage compression in one device, or for use in a combined-cycle device such as the RadMax turbine engine.



RadMax Prototype A/C Compressor

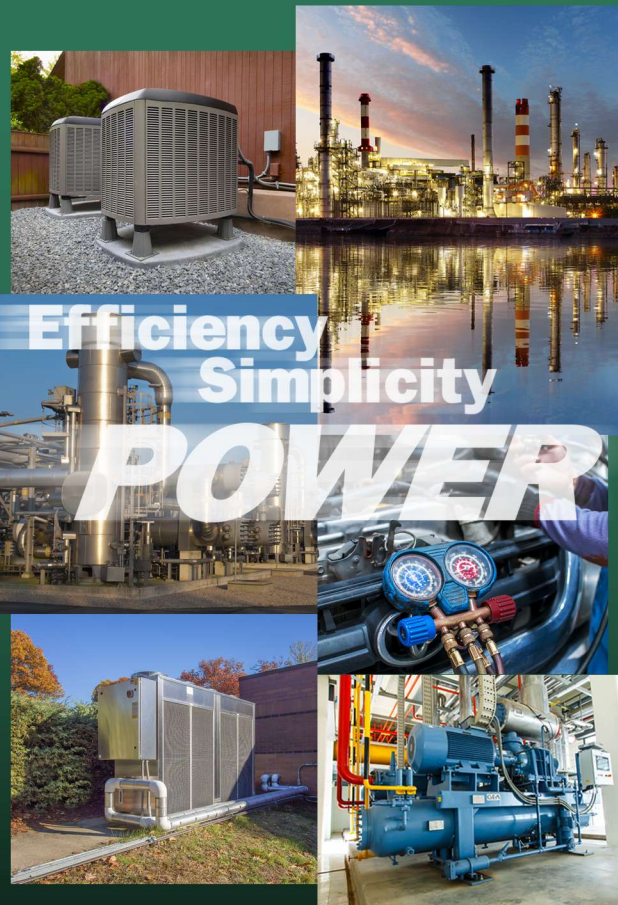
## Applications

The RadMax positive-displacement compressor is well suited for:

- Compressing both high and low density gases and refrigerants for industrial, commercial, residential and automotive air-conditioning systems
- Industrial gas compression
- Specialty compressors for the oil and gas industry
- RadMax turbine engine

## RadMax Technology Advantages

- Compact size & weight
- High power to weight ratio
- High volume output to size and weight ratios
- High internal compression, expansion and pump ratios possible (up to 20:1)
- Continual, smooth, low noise rotary motion
- Low part count and fewer moving parts); conducive to rapid change-out replacement, reduced maintenance costs and increased reliability
- Rotary motion input and output porting does not require complicated valving systems
- Easily scalable from small to very large
- Multiple devices in one compact unit are possible



Efficiency  
Simplicity  
POWER



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RadMax Technologies, Inc. is a wholly owned subsidiary of REGI US, Inc.

**Positive Displacement Compressors**



Efficiency  
Simplicity  
Power

## One Technology; Multiple Functions

By simply changing the cam profile and/or intake and exhaust porting locations, a RadMax device can be designed as an internal combustion engine, compressor, pump, gas expander, or a combination of the functions.

### Introducing RadMax

A truly revolutionary rotary concept, RadMax patented devices are designed for Efficiency, Simplicity and Power. If your application calls for highly efficient power, or pumping in a light and small footprint, RadMax has a solution for you!

**SIMPLICITY:** Only 2 unique moving parts, the vanes and rotor – does not use pistons or valves, reducing assembly and maintenance costs.

**POWER:** Compact size and high output results in up to 6 times size and weight savings over a piston engine of same horsepower.

**EFFICIENCY:** Delivers better than 1 hp per pound of engine weight, and more than 1.5 hp per cubic inch of engine displacement.

### RadMax Product Family

RadMax devices are a family of efficient, lightweight, and low noise internal combustion engines, compressors, gas expanders and pumps.

#### Internal Combustion Engines

Configurable as a compression ignition (diesel) or spark ignition using gasoline, natural gas, or other fuels.

- Compact size & weight
- High power to weight ratio
- Low part count and fewer moving parts

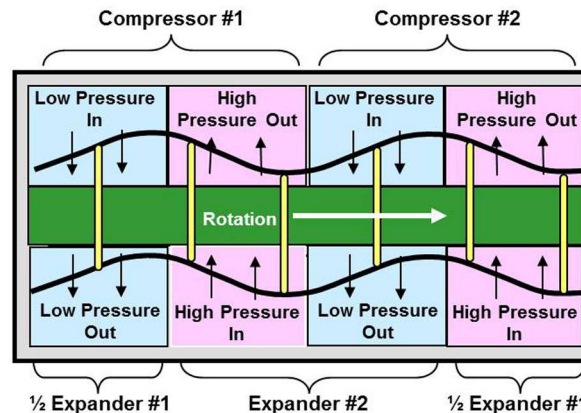
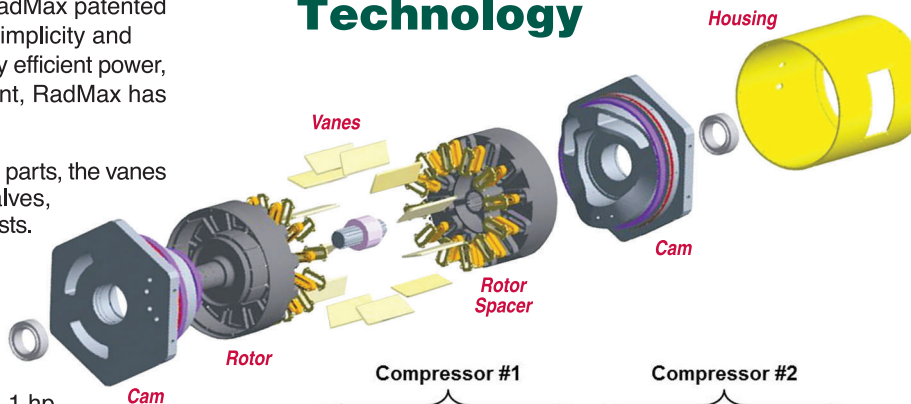
#### Compressors & Gas Expanders

- Incorporates the advantages of both positive displacement and centrifugal devices
- High internal compression ratios possible (20:1)
- High volume output to size ratio

#### Positive Displacement Pumps

- Positive displacement with the simplicity and efficiency of a centrifugal pump
- High output volume to size and weight ratios
- Self-priming & auto re-priming

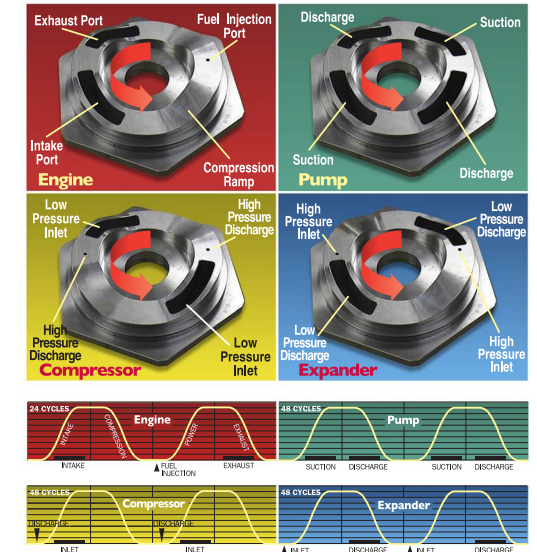
### RadMax Technology



#### RadMax Compressor Cycle

In a RadMax compressor, the vanes move axially driven by the rotor face. The pressure in each chamber changes when the adjacent vanes extend or retract. During rotor revolution, the ends of the vanes follow a path that approximates a sinusoidal wave. This path is uniquely designed so that during each revolution of the rotor, the chambers, volumes alternately expand and contract. This process is repeated in each of the compressor sections, in each chamber, and on each side of the rotor.

#### VERSATILE RADMAX CAM CONFIGURATION



### Key Advantages

- Smooth operation due to the rotor spinning continuously in one direction rather than violently changing directions as with pistons in a reciprocating device
- High internal compression ratios (up to 20:1) allows for efficient compression of both high and low density gases
- High volume output-to-size ratio
- Better handling of gas entrained liquids
- Ability to do multi-stage compression in one unit with no additional valving or porting
- Lower sensitivity to changes in inflow rates
- Lower likelihood of surging problems
- Easy configuration to custom gas compression applications
- Scalability from small to very large devices