



AUTOMOTIVE PRODUCTS
It's not science fiction, it's what we do.

www.niamareisser.com

CATALOG



SOCIAL MEDIA



ABOUT US

NIAMA-REISSER, LLC was founded on the belief and spirit that man can shape the future that he/she lives in. I believe, that we as a society have gradually forgotten the birthplace of innovation.

Each and every one of our fellow men has new and exciting innovative things going on in their lives on each and every day.

Children and adolescents have the greatest gift to see and envision new ideas and concepts, because their minds are blank slates without having been affected, to a great extent, by external influences. Then upon reaching adulthood most are forced in intellectual trenches, due to their studies and peers.

NIAMA-REISSER, LLC is founded on the idea to break through these trenches and instill a new sense of curiousness and innovative aptitude in a multitude of industries and products.

HEINZ-GUSTAV REISSER
CEO NIAMA-REISSER LLC

NR-1

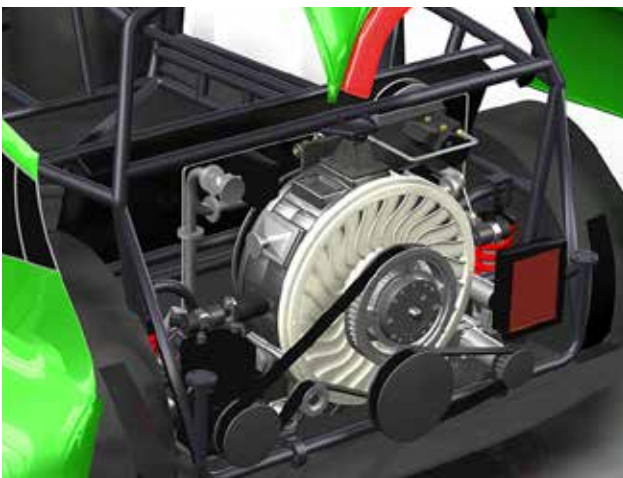
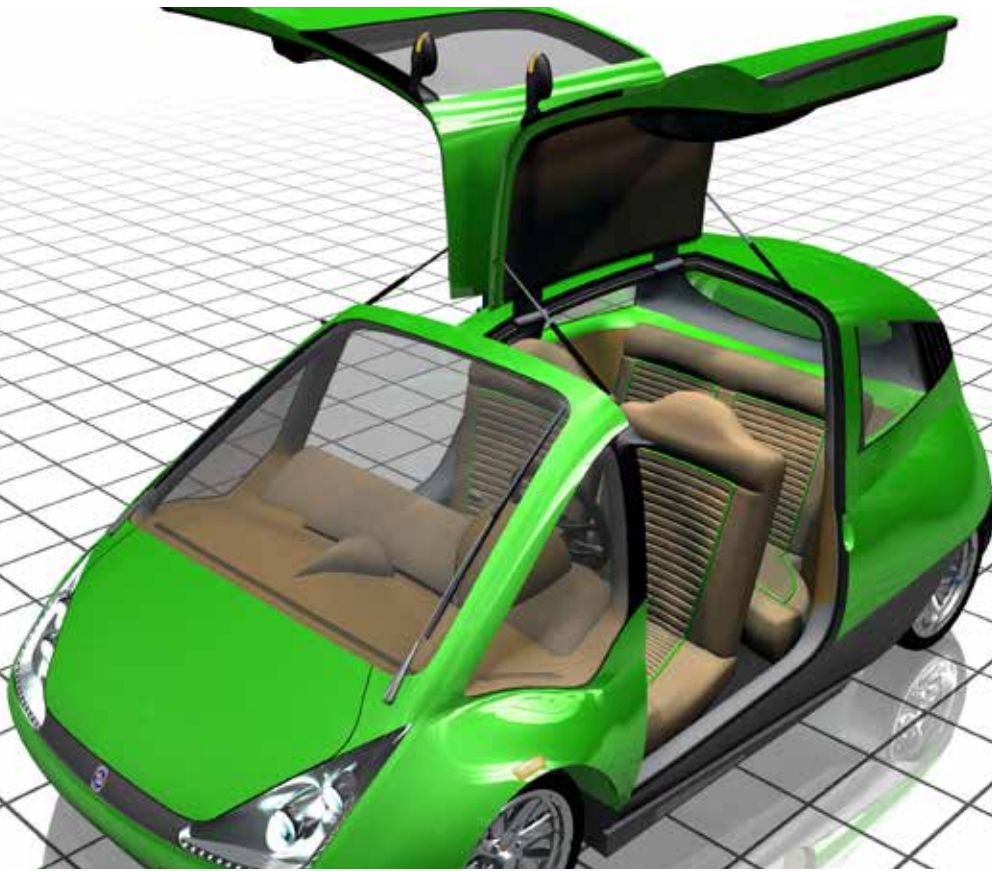
200 MPG CAR ▼

The NR-1 is from ground up innovative and revolutionary. It was designed for the CHB-EVO. A diesel direct injected engine achieving a 27% higher fuel efficiency than any other internal combustion engine.



NR-1 ▼
INTERIOR

Spacious enough to seat (4) occupants. The backseats can be accessed through the gullwing doors, making it easy for a six foot person to exit/enter both rows of seating.



With a front electric drive axle, the CHB-EVO power generator supplies on demand amperage to the motor. Our electric drive (not-hybrid), is proprietary & only requires a regular 12 Volt lead acid battery, as found in any other car today.

NR-1

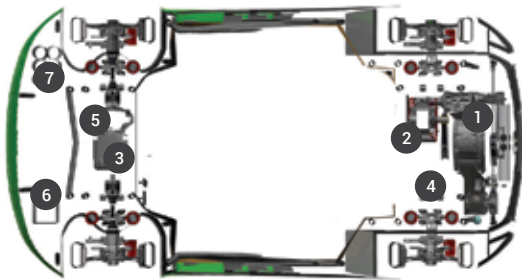
HIGH-TECH ▼

The drag-coefficient is so small that other manufacturers have a hard time to achieve the NR-1's level.

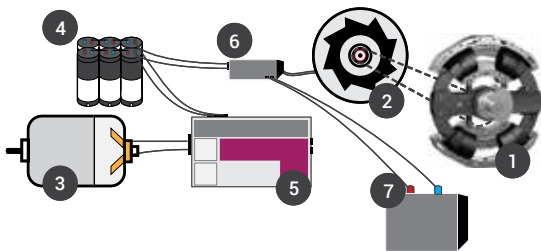


DRIVETRAIN

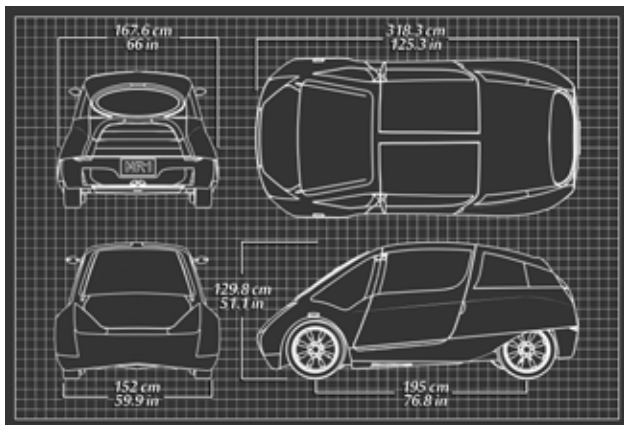
NR-1 POWERTRAIN DIAGRAM ▼



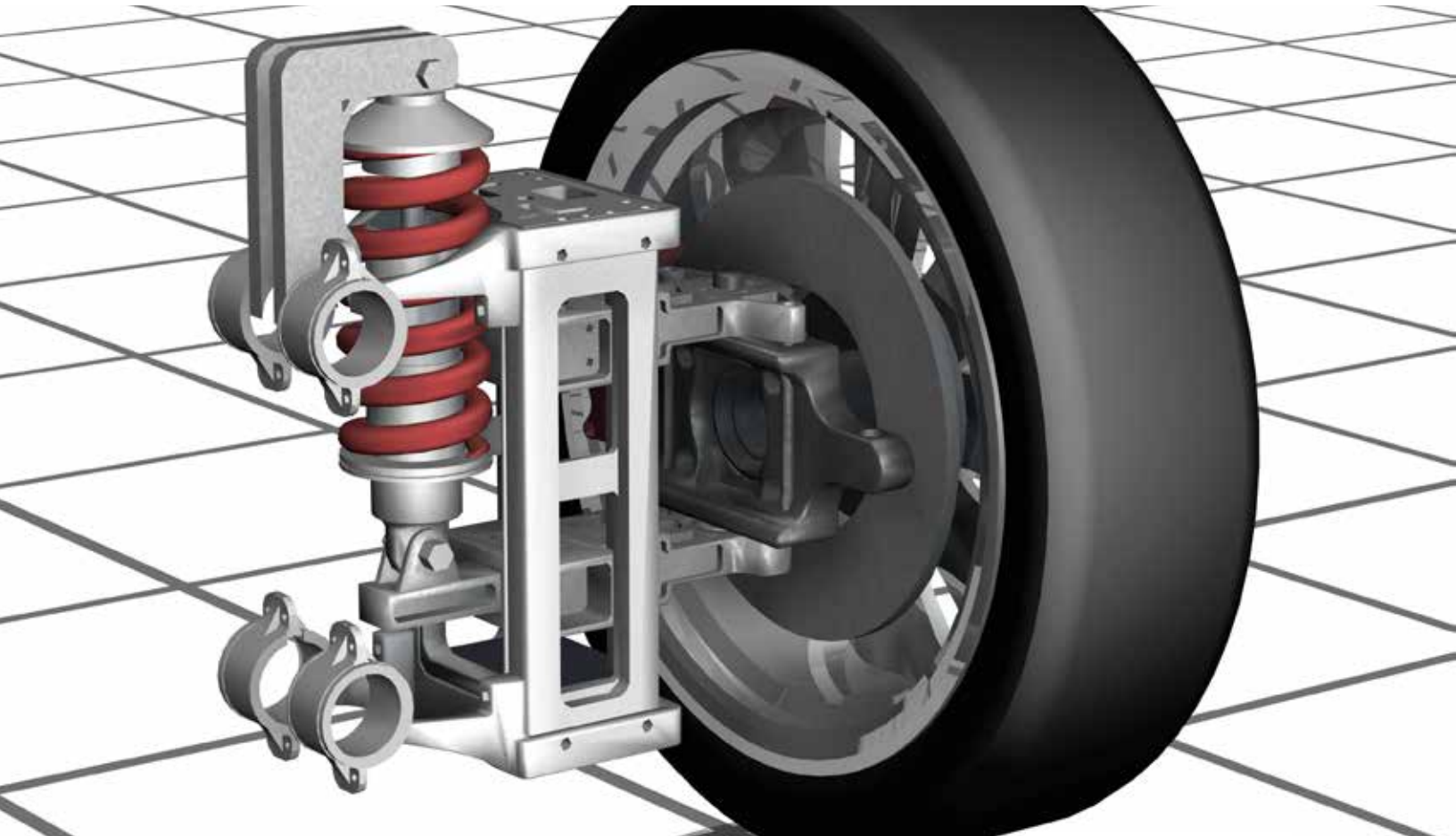
The powertrain consists of a proprietary drivetrain which fuses internal combustion with electric drives , like never before seen in the automotive world. The CHB engine, located in the rear of the vehicle, drives the generator which in turn supplies direct voltage by means of super caps and a control unit to the E-drive motor on the front axle. The acceleration and deceleration of the vehicle are not associated and linked to the CHB- engine rpm.



- 1 CHB-EVO ENGINE
- 2 ELECTRIC GENERATOR
- 3 ELECTRIC MOTOR
- 4 ULTRA CAPS
- 5 CONTROL UNIT
- 6 DC/AC CONVERTER
- 7 12V BATTERY

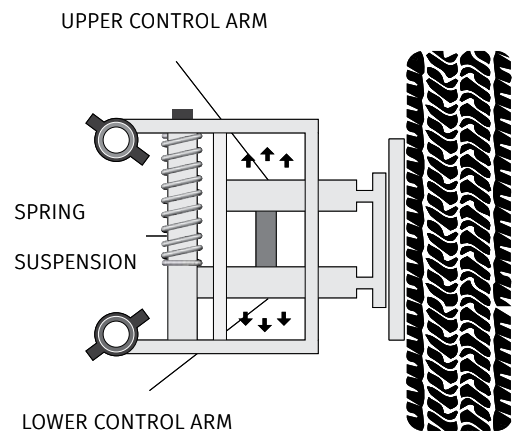


SUSPENSION

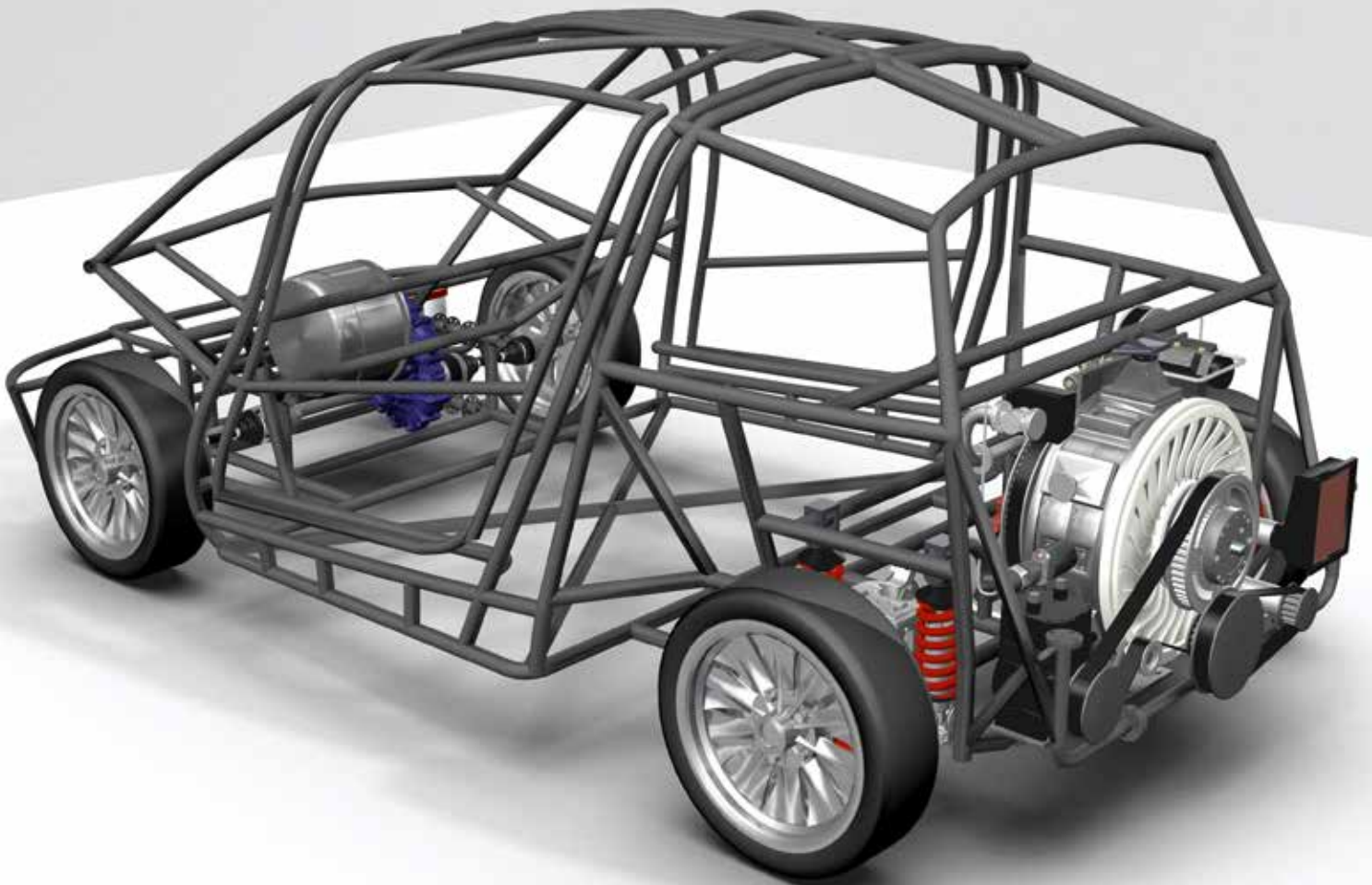


SUSPENSION ▼

A proprietary suspension enables the suspension geometry to remain constant during loaded and unloaded conditions. For example: the caster, camber and toe-in remain unchanged whether or not 1 or 4 people ride in the vehicle. The upper and lower control arms slide linearly rather than rotate for suspension travel.



TUBULAR CHASSIS



A tubular chassis offers the best ride stability and comfort. The engineers went a step further and incorporated crumple zones at the front and rear.

CHB-EVO

CHB-EVO ENGINE Vs 2 STROKE ENGINE▼

A comparison graphic between our diesel engine and the conventional 2-4 stroke diesel engine. The differences are outstanding.

2 STROKE DIESEL MOTOR	CHB-EVO DIESEL MOTOR
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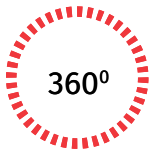
Fuel/Air /
Oil Mix



High Emis-
sions



1 Power Stroke



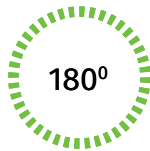
Fuel/Air
Mix



Reduced
Emissions



1 Power Stroke



The CHB-EVO combines the positive attributes of both 2 stroke and 4 stroke engines, whilst omitting the cons of the same.

CHB-EVO ENGINE Vs 4 STROKE ENGINE▼

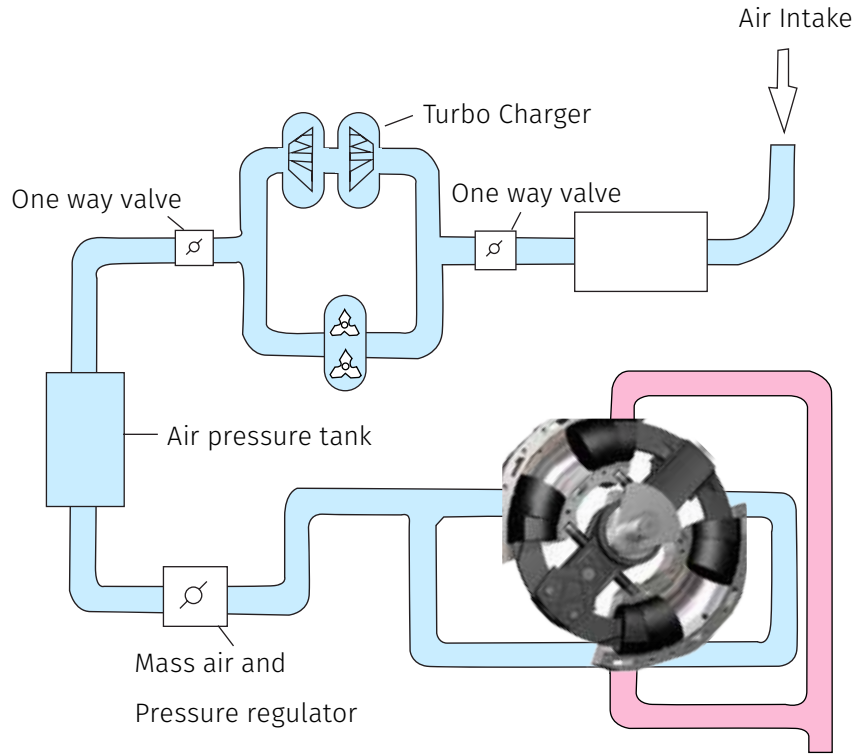
With a patented, newly developed kinematic mechanism, engineered from composite materials, the CHB-EVO engine showcases our innovative and technological capabilities in the automotive industry.



4 STROKE DIESEL MOTOR	CHB-EVO DIESEL MOTOR
Power to weight ratio	Power to weight ratio
↑↓	↑↓
Thermal efficiency	Thermal efficiency
40%	67%
Exhaust Flushing	Exhaust Scavenging
92%	97%
1 Power Stroke	1 Power Stroke
720°	180°

FLOW CHART

FORCED AIR CHB-EVO INDUCTION ▼

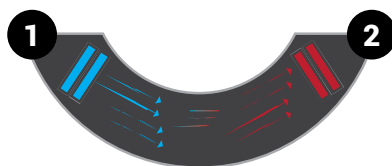


For the CHB-EVO to properly function, a specially designed charge air system was developed. It consists of a turbo charger, super charger and a charge air tank. This is because the combustion chambers are scavenged using a variable pressure volume of air, from the charge air tank, which in part evacuates the exhaust gases out of the combustion chambers. There is no crank core pressure-primary pressure- as is the case in other 2 stroke common engines. In part, no oil/air mixture is used to perform the aforementioned, but just clean air from our proprietary charge-air-system.

SANDWICH MODULAR DESIGN ▼

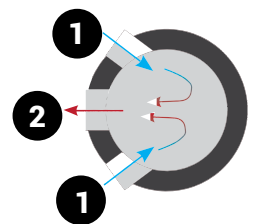


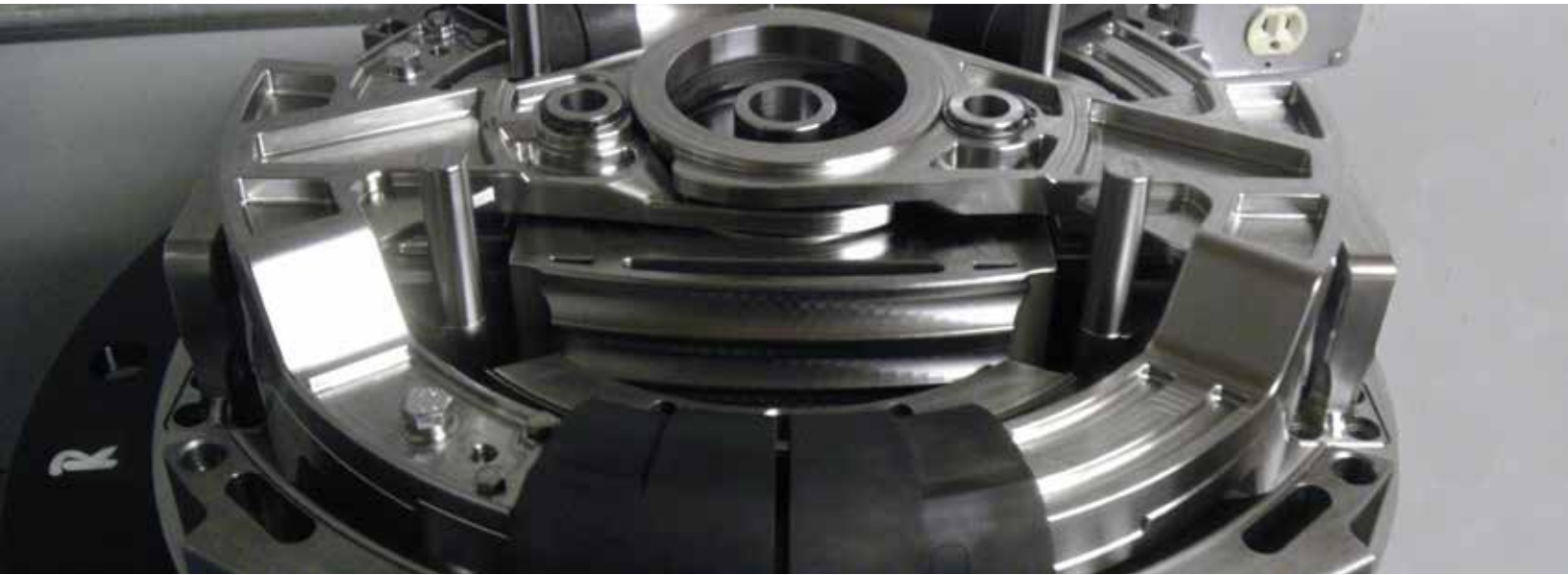
CHB-EVO UNI-FLOW SCAVENGING ▼



1. INLET
2. OUTLET

2 STROKE SCAVENGING ▼





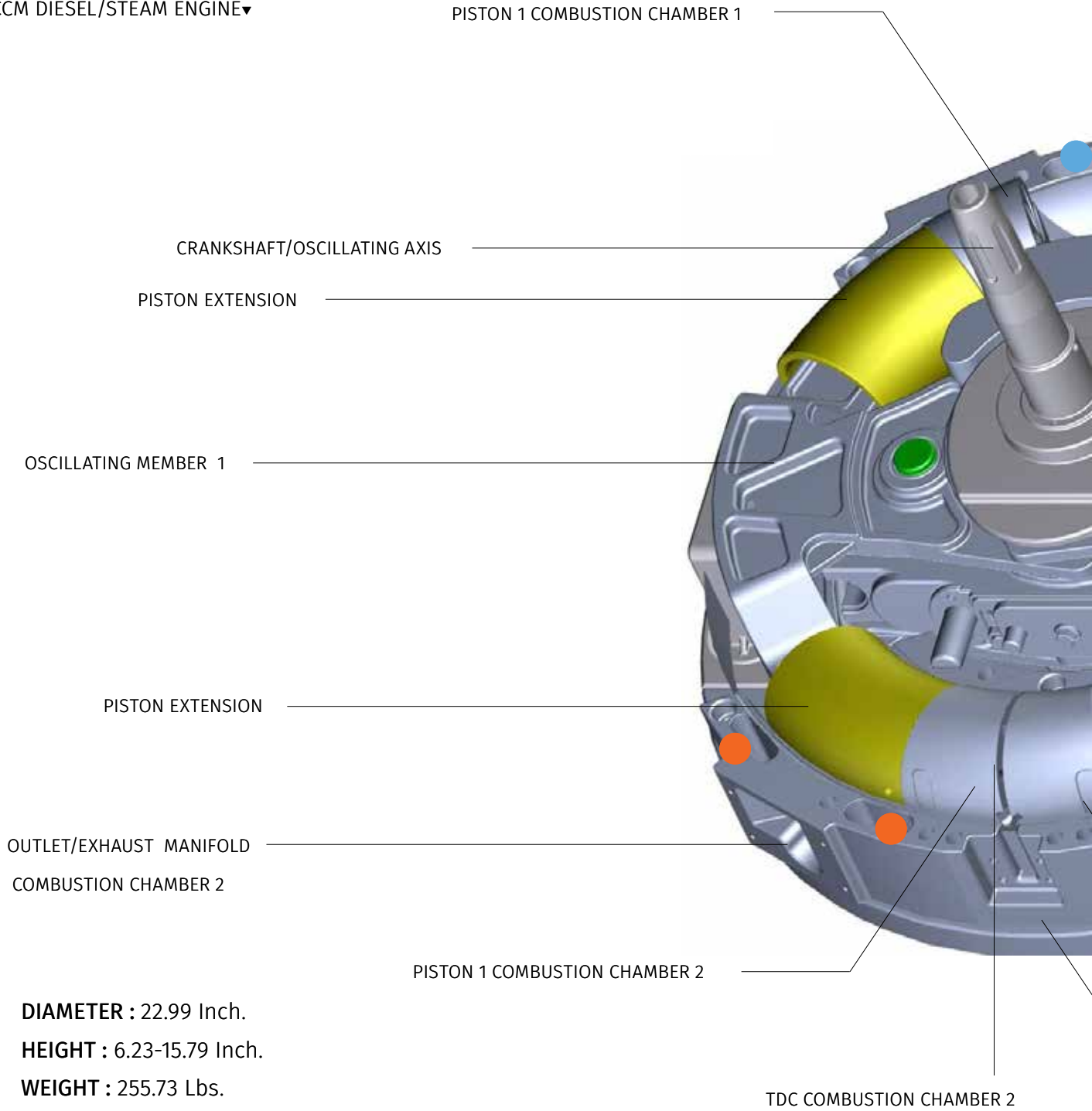
CHB-EVO ENGINE ▼
KINEMATIC MECHANISM

Everything oscillates around a single axis! The torus shaped pistons are guided along a circular path, and connected on the dorsal end of the oscillating members. This translates the radial reciprocating motion into rotational motion of the crank shaft.

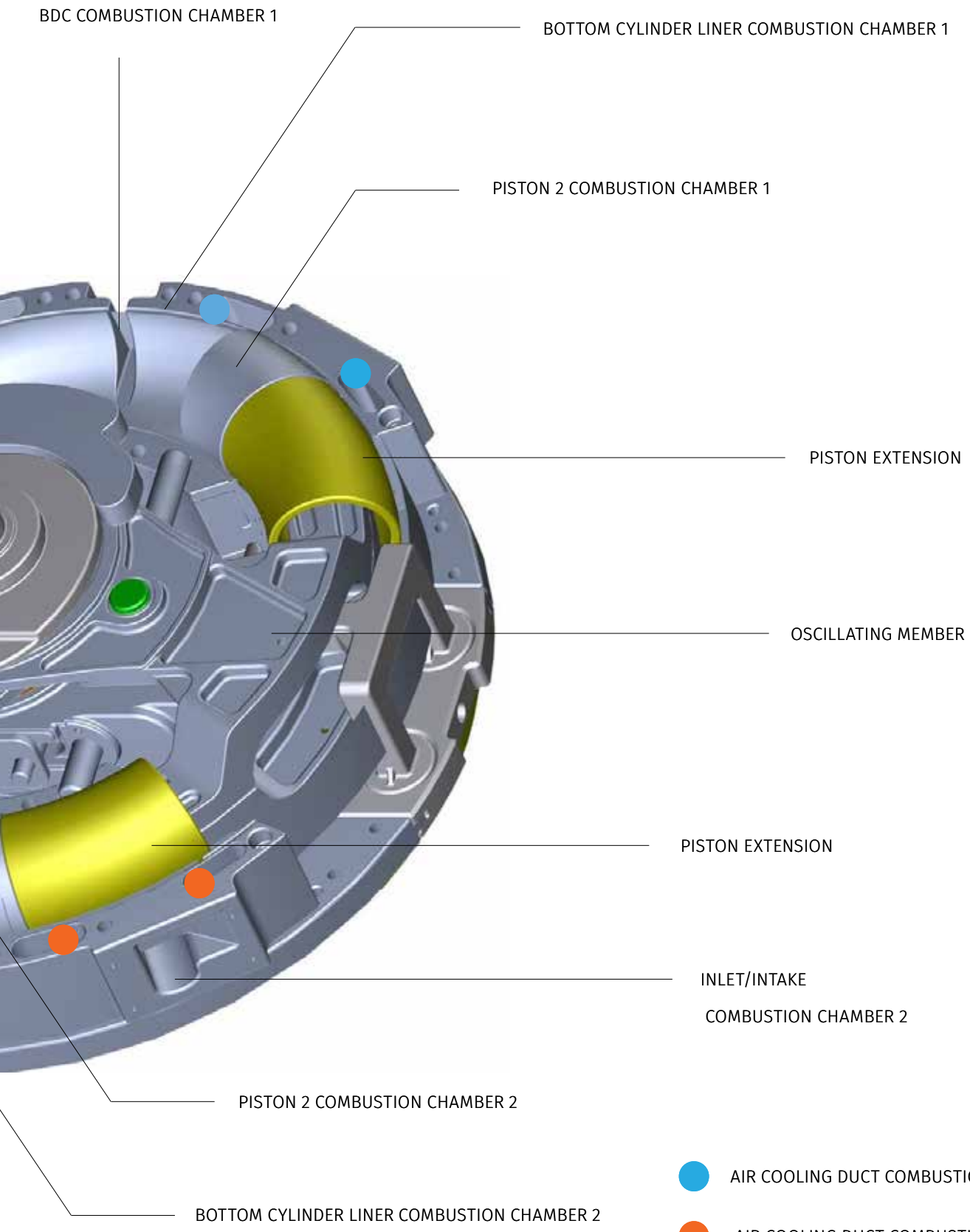


CHB-EVO ENGINE

1000CCM DIESEL/STEAM ENGINE▼



DIAMETER : 22.99 Inch.
HEIGHT : 6.23-15.79 Inch.
WEIGHT : 255.73 Lbs.

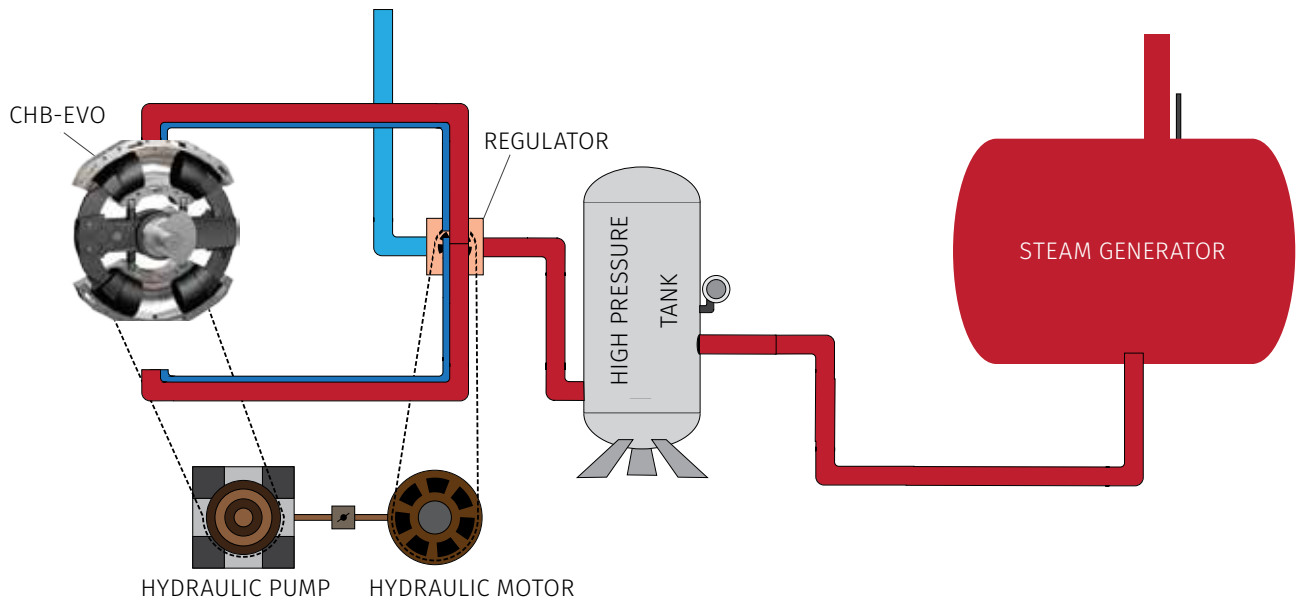


- AIR COOLING DUCT COMBUSTION CHAMBER 1
- AIR COOLING DUCT COMBUSTION CHAMBER 2

CHB STEAM APPLICATION

CHB-EVO STEAM▼

Not only can the CHB-EVO engine be used for internal combustion, but it can also be used for steam applications. The CHB-EVO-SE engine finds use in industrial and multi-family environments in which the heating systems are composed of radiant, high pressure steam. For such applications, the CHB-EVO SE can operate a generator creating energy to be used by all the other electrical components in the utility rooms of such venues.

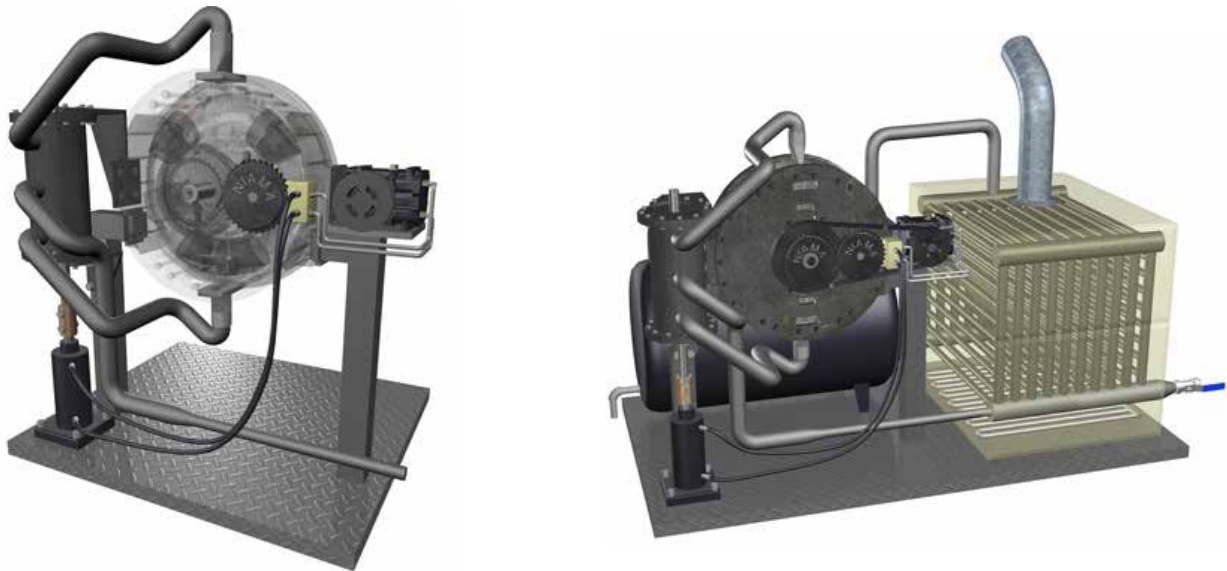


INDUSTRIAL APPLICATIONS▼

Furthermore, power plants and remote diesel generating stations profit from the CHB-EVO SE by using waste-heat normally given off to the environment by recouping it and generating steam which then operates the CHB-EVO SE, driving generator.

SE FUNCTIONALITY▼

The opposing pistons increase the surface area, enabling the high pressure steam to generate more power. Theoretically, at 12MPa of pressure, the mechanism would be capable to deliver 2000Nm of torque. The engine drive's a hydraulic pump which in turn drives a hydraulic motor, which runs synchronized with the CHB SE crank shaft.

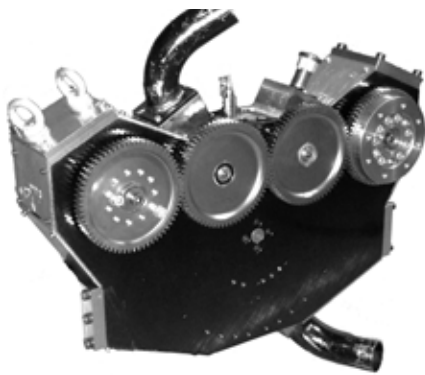


It's electronically controlled to also advance and retard the synchronization of the CHB-EVO SE engine to vary engine speeds. The control unit not only controls the hydraulic motor, but also the pressure regulator enabling the CHB-EVO SE power output to be variable.

CHB-EVO

MODULAR DESIGN ▼

The modular design allows for multiple 1000ccm CHB-EVO modules to be coupled together for greater output. Reducing manufacturing costs!!



There is no need for an oil/air/fuel mixture. We are clean and efficient. The air supplied by the charge-air-system is merely air! It's clean and efficient. The engine can theoretically output up-to 2000Nm of torque at constant operating pressure of 12MPa of steam.



PISTONS

CERAMIC PISTONS ▼

The patent pending NIAMA REISSER piston design reduces mass by an approximation of 15% and increases engine life by an approximate minimum of 3%. We can take any geometrical, dimensional piston currently and manufacture it from our proprietary materials. These retro-fit-kits, enable OEMs and consumers alike to replace their existing pistons with ours.



HIGHER RPMs ▼



METAL RINGLESS PISTONS

REDUCED PISTON MASS▼



The reduced piston mass allows internal combustion engines to reach higher RPMs dependent on the valve timing. The vibrations are drastically reduced, due to our extensive research and patent designs.



NIAMA-REISSER metal ringless ceramic pistons do not require compression rings to seal the combustion chamber. So, no un-burnt gases can collect in-between the pistons, compression rings and cylinder liners. We do require a proprietary polymer oil control ring.

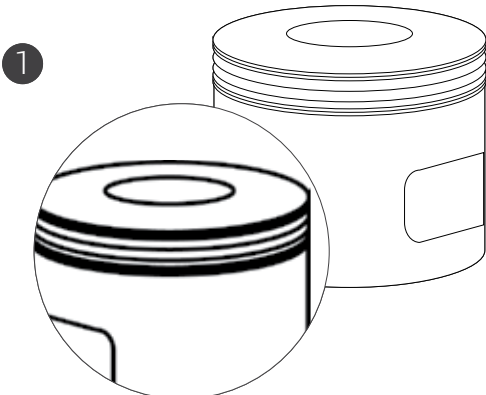
METAL RINGLESS PISTONS

Ceramic pistons are categorized in two groups:

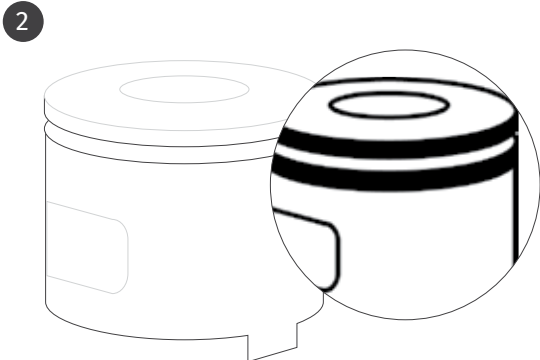
- 1. NR performance ceramic pistons.
- 2. NR non-metal ceramic ring-less pistons.

Category 1 makes use of the proprietary piston design incorporating standard piston rings and oil control rings for extreme operating conditions.

Customer specific and 2 stroke applications are optional for manufacturing custom prototype and series parts.



2x METAL COMPRESSION RING
1X METAL OIL CONTROL RING



2x POLYMER OIL CONTROL RING

RINGLESS PISTON BENEFITS▼

- REDUCED FUEL CONSUMPTION
- REDUCED FRICTION
- REDUCED EMISSIONS
- INCREASED PERFORMANCE
- INCREASED LONGEVITY

Category 2 consists of proprietary piston design enabling the pistons to operate without metal piston rings.

2-STROKE

To accommodate the smallest of engines, we design and manufacture ceramic cylinder liners. They are designed to withstand the harshest environments.

CERAMIC CYLINDER LINER ▼



The reduced friction and lower thermal conductivity, enables any engine to outperform stock components. The design has enabled us to achieve substantial performance gains for a variety of 2-stroke applications. However, the greatest advantages are reduced emissions and fuel consumption!

NIAMA-REISSER

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