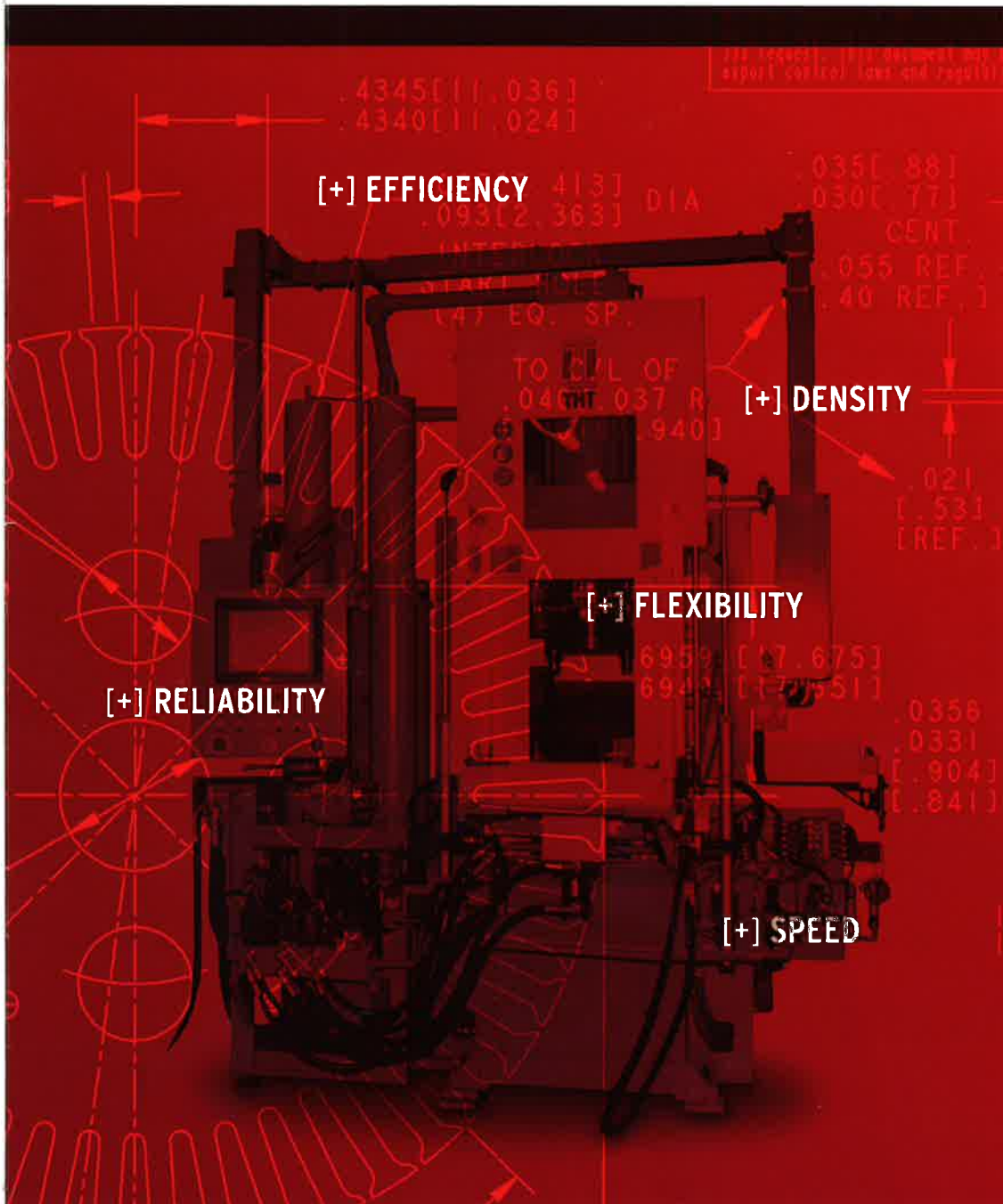




ADVANCED ROTOR TECHNOLOGY

# EFFICIENT MOTORS START WITH BETTER ROTORS



[+] EFFICIENCY

[+] DENSITY

[+] FLEXIBILITY

[+] RELIABILITY

[+] SPEED

.4345[11.036]  
.4340[11.024]

.413] DIA  
.093[2.363]  
INTER  
SHAFT HOLE  
(4) EQ. SP.

TO C/L OF  
.040[1.016] R  
.940]

.035[.88]  
.030[.77]  
CENT  
.055 REF.  
.40 REF.]

.021  
[.53]  
[REF.]

6959 [17.675]  
6944 [17.551]

.0356  
.0331  
[.904]  
[.841]

1.1280 [28.65]  
1.1200 [28.45]  
SEE NOTE#2

[29.420]  
REF.

# THT-A HISTORY OF INNOVATION

In 1977 a motor manufacturer challenged THT to find a better way to cast electric motor rotors. That challenge still drives us today as we continuously pursue The Perfect Cast.

The Perfect Cast is the expertise required to deliver advanced rotor technology to the world's leading electric motor companies. Our people develop, manufacture and implement the technology that delivers cost effective manufacturing of energy efficient induction rotors with reliability, flexibility and speed.

## ROTOR RESEARCH AND PRODUCT DEVELOPMENT

The Perfect Cast starts with understanding our customer's needs, which involves utilizing our Rotor Center of Excellence to prototype and evaluate rotor designs using our extensive in-house capabilities.

## DIE CASTING MACHINERY

Based on the results of our research and development, THT will customize one of our vertical rotor die casting machines for best cost manufacturing. Selection factors include rotor diameter, stack height, metal volume, and production volume requirements.

## TOOLING

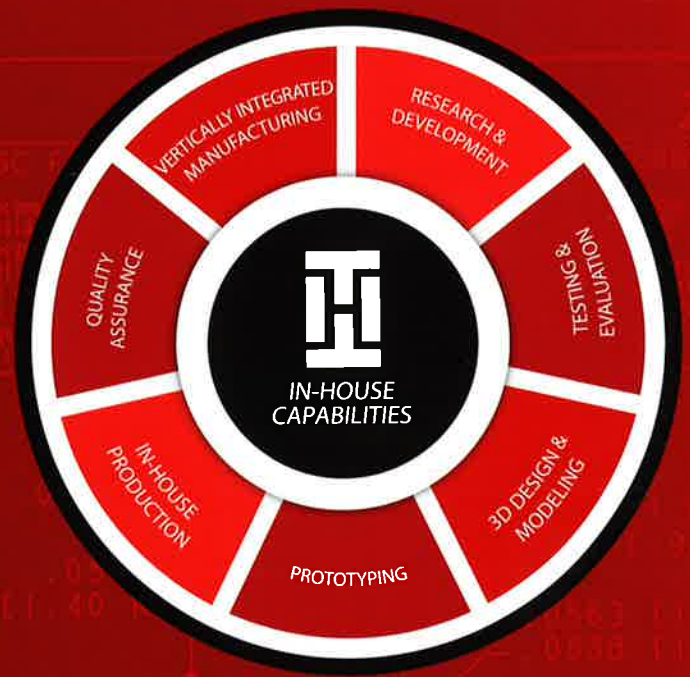
Given that tooling is as important as the machinery to achieving The Perfect Cast, THT designs and manufactures tooling completely in-house which increases quality and reduces lead-time.

## SERVICE & SUPPORT

While THT machinery and tooling are built for long life, THT maintains a service organization capable of solving issues and challenges that may arise. Our THT True service parts guarantee that your THT will perform to the original factory specifications.

## ROTOR MANUFACTURING

The purchase of a THT machine is not viable for all of our customers, so in special cases we will manufacture small volumes of very large, specialty rotors.



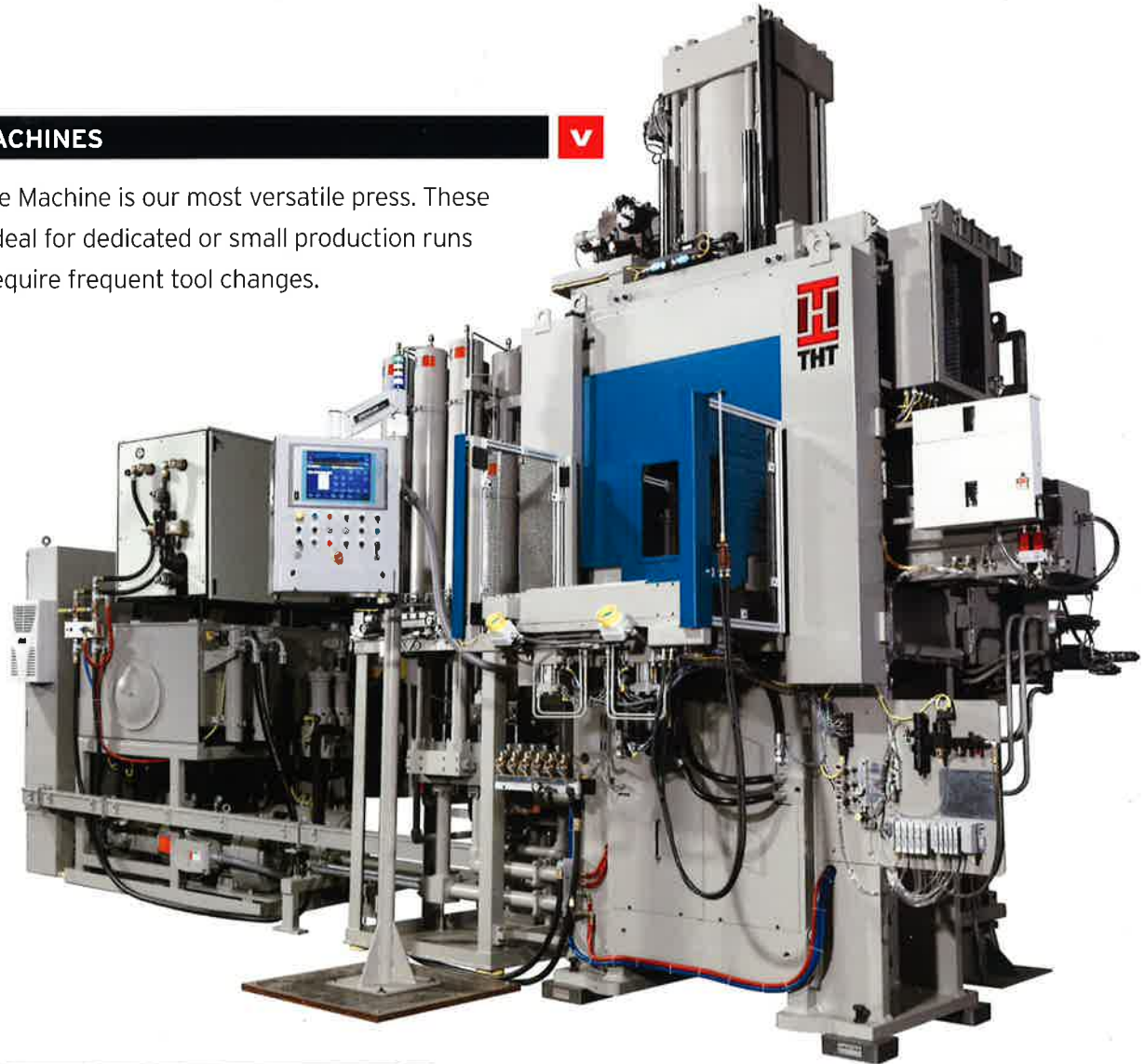
# THT-A WORLD LEADER IN VERTICAL ROTOR DIE CASTING

THT has two types of High Density (HD) vertical casting machines, Shuttle and Index, that range from 28 to 800 tons. Tooling and automation are customized to your specifications.

## SHUTTLE MACHINES



The THT Shuttle Machine is our most versatile press. These machines are ideal for dedicated or small production runs and jobs that require frequent tool changes.



## INDEX MACHINES

The THT Index Machine is designed and built for high volume, multi-cavity casting.

# THT-THE BENEFITS OF VERTICAL CASTING

The success of vertical rotor die casting in the electric motor market is attributable to a variety of benefits versus competing die casting processes.

## IMPROVED DENSITY

By injecting molten metal vertically, trapped gases and turbulence are eliminated, resulting in parts with lower porosity and higher density. Part uniformity is improved as the molten metal has a direct pathway to the die rather than having to traverse the multiple 90 degree bends common to the horizontal process. This benefit is extremely important for large rotors.

## ELIMINATION OF TRIMMING OPERATION

THT's unique, directly gated castings are near net shape and do not require a separate trimming operation, eliminating cost, time and the need for additional floor space.

## SMALLER MACHINE FOOTPRINT

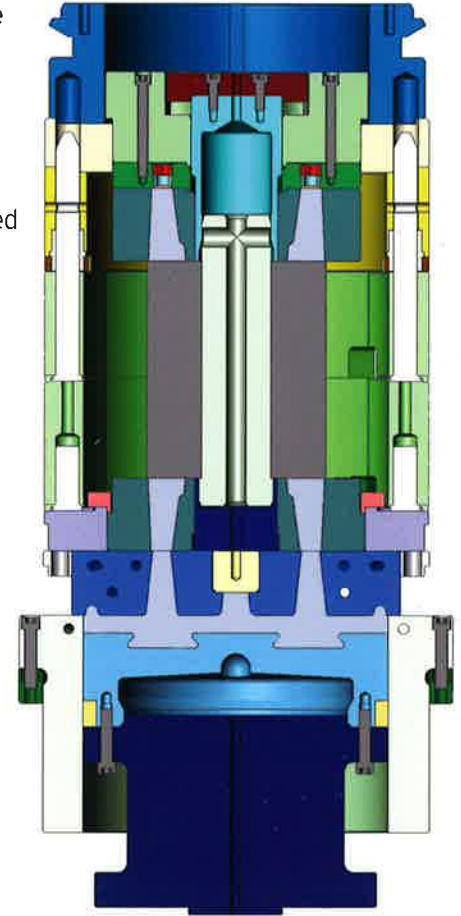
Vertical machines consume roughly half the floor space of horizontal machines.

## QUICKER MOLD CHANGES

THT's vertical orientation and quick change tooling allow molds to be changed nearly twice as fast as horizontal machines.

## REDUCED MACHINE TONNAGE

By eliminating the additional surface area required by runner/gate systems, THT casts parts using less clamp pressure.



## ABILITY TO SERVE THE ENTIRE MOTOR MARKET



From fractional to integral, residential to commercial to industrial and aluminum to copper, THT technology delivers the entire spectrum of electric motor rotors.



SMALL ROTORS



MEDIUM ROTORS



LARGE ROTORS



# THT-MORE THAN A MACHINERY COMPANY

THT's Rotor Center of Excellence allows us to solve our customer's challenges. Whether it's improving rotor efficiency to meet ever increasing efficiency standards, increasing cavity count to improve plant productivity or developing new surface treatments to extend tool life, THT has the required in-house resources and modern capabilities to be successful.

## 3D DESIGN AND MODELING

Our thinking starts in three dimensions, and using our advanced workstations and software we translate concepts into production ready designs.



## VERTICALLY INTEGRATED MANUFACTURING

Once we have an approved design, our skilled machinists manufacture the required tooling to your specifications. Parts that directly contact the aluminum receive additional processing using our in-house, proprietary heat treat and nitrocarburization processes.

## QUALITY ASSURANCE

Proof that the new design is ready for production comes from our quality assurance process, which utilizes state-of-the-art inspection equipment that includes a high power microscope and sophisticated X-Ray machine.



## IN-HOUSE PRODUCTION

With the industry's most extensive line-up of in-house production machinery, THT can run pilot production to insure that new designs are fully production qualified upon delivery.

# THE PERFECT CAST



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