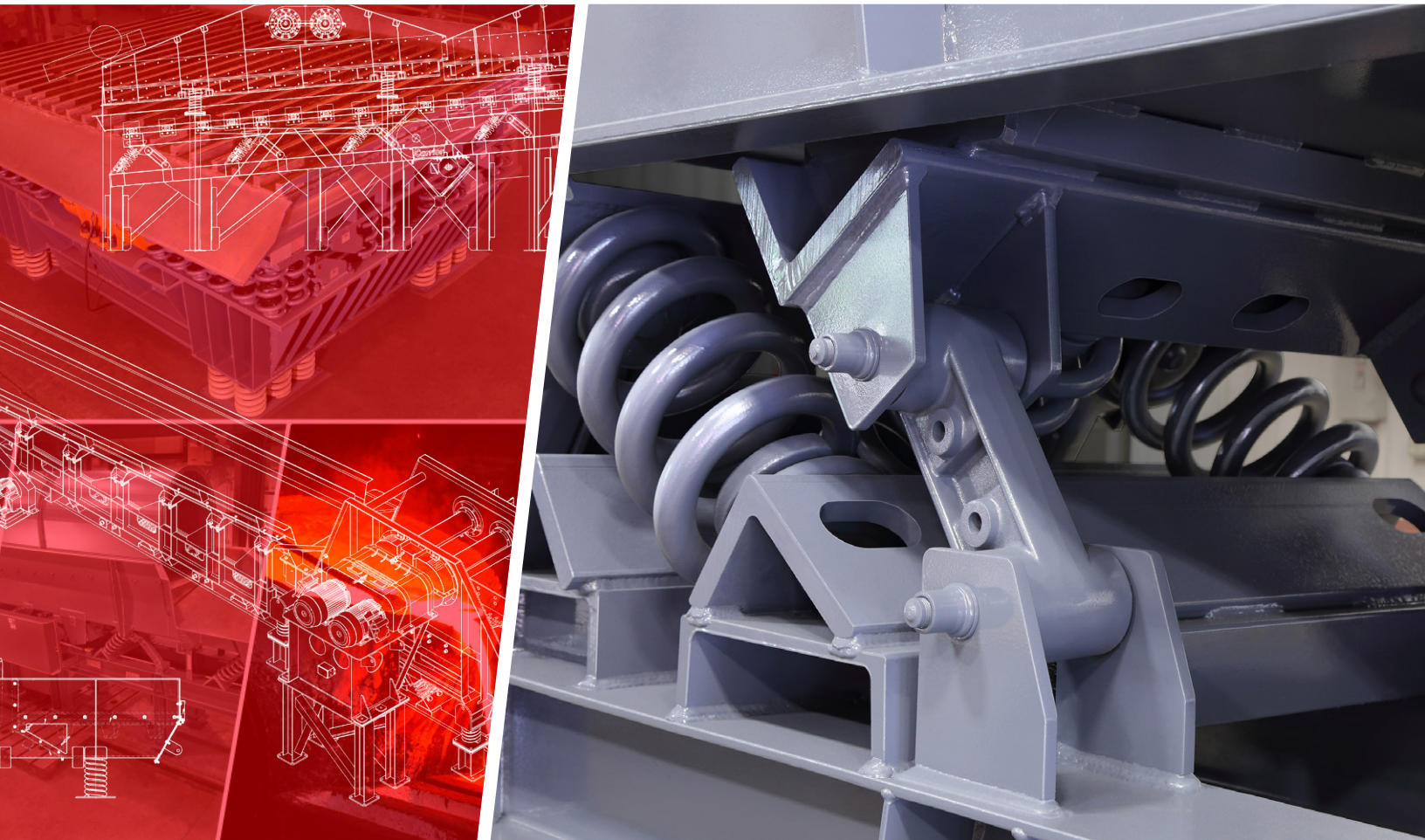


# Foundry Equipment *Solutions*

Carrier Vibrating Equipment has been designing and manufacturing foundry equipment since 1950 to help solve challenging foundry issues. Our unique expertise has served metalcasters around the world longer than any other full line vibrating equipment manufacturer.

We understand the unique issues facing the foundry industry, and our team of engineers are experienced in solving these issues. Our R&D department is dedicated to providing new and improved methods which increase your casting quality and throughput. Every step of the foundry operation, from castings to sand, can rely on our heavy-duty equipment for efficiency and reliability.



## **Heavy-Duty Foundry Equipment:**

- Conveyors
- Shakeouts
- Feeders & Screeners
- Barrel Horses
- Attrition Mills / Lump Breakers
- Furnace Charge Feeders
- Sand Coolers
- Spiral Elevators

**Carrier**<sup>®</sup>  
**Vibrating Equipment, Inc.**

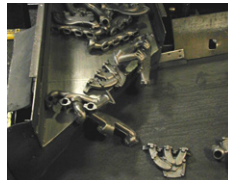
## Conveyors

Carrier's line of foundry conveyors are used for a variety of processes in the foundry. From mold dump, transfer conveying and casting cooling, to shakeout and sorting, our conveyors help foundry operators increase the quality of their castings.

Mold Dump | Sand & Castings Transfer  
Casting Cooling | Sorting & Desprue

### Mold Dump & Castings Transfer

- Heavy-duty mold dump conveyors transfer and initiate breakdown of molds
- Drive system compensates for load fluctuations and can be balanced to minimize reactions
- Thermal expansion decks protect drive system from high temperatures
- Receive, convey, and feed sand from multiple mold lines
- Inclined conveying
- Scalp sand from castings
- Heated trough to reduce sand sticking



Replaceable Pan



Heavy-Duty Hangers



Coil Spring Drive

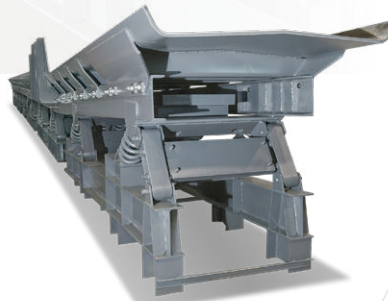


### Casting Cooling

- Cool castings efficiently
- Designed to provide precise retention time to cool castings to a desired temperature
- Carrier's design allows for thermal expansion, reducing damage and wear to equipment
- Hoods help the cooling process and provide dust and noise containment

### Sorting & Desprue

- Customize to have multiple sorting points for various castings
- Continuously separate castings and remove sprue
- Additional diverters and discharge points can be incorporated for multiple finishing lines
- Noise abatement liners for safety of employees



### Circular Sorting Designs

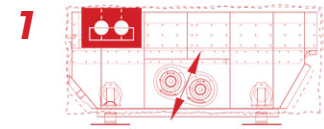
Custom designed circular sorting and picking conveyors are available.

## Shakeouts

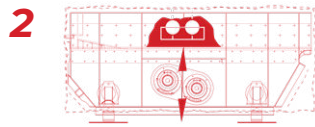
Carrier Shakeouts improve foundry profitability by reducing maintenance costs, eliminating or reducing casting damage, and maximizing sand removal. Shakeouts can be used for sand to metal ratios in excess of 60:1.

### Delta-Phase®

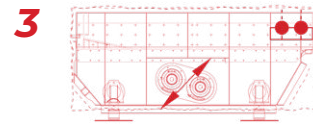
- Eliminates casting damage and maximizes sand removal to reduce downstream cost and time
- Design allows multiple castings to be loaded simultaneously to eliminate bottlenecks
- Soft isolation spring mount reduces reaction
- Direct drive eliminates overstroke associated with upset conditions



1 Casting is loaded onto shakeout with forward angle of vibration to convey.



2 Angle is changed to vertical to stop conveying and remove sand.

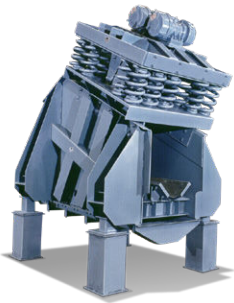
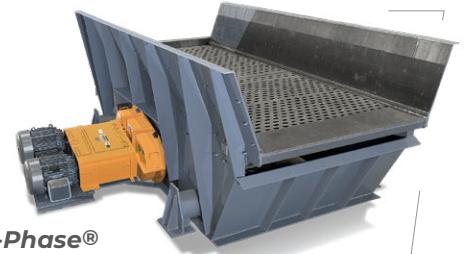


3 Upon sand removal, angle is changed to convey for casting to the next step.



### Patented Delta-Phase®

Allows angle of attack variations for precise control of retention time.

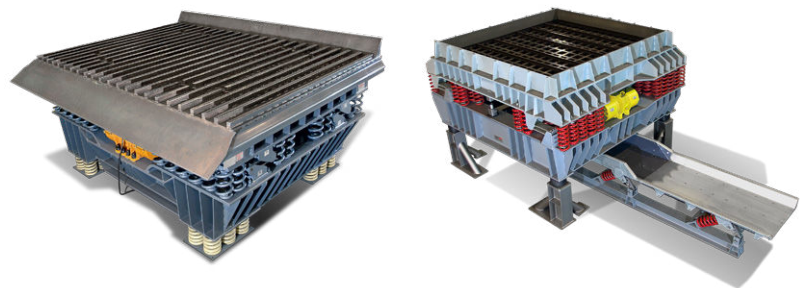


### Natural Frequency

- Wide range of deck designs available including V for engine blocks, back drafted slots to prevent casting damage, or grizzly for maximum separation
- Natural Frequency design maintains constant motion under heavy loads
- Energy efficient, low HP engineering and low maintenance
- Special liners and sand pans available for wet sand

### No-Bake

- Specially designed perforated deck design allows sand to pass through the unit
- Handles up to 100 tons of material
- Custom-built for workspaces as large as 14' x 14'
- Isolated design to minimize dynamic reaction



## One-Step Solution For Casting Damage & Sand Mix Issues



### Barrel Horses

- Creates a vibrating sand bed for castings to swim, gently and effectively cleaning them while providing efficient heat transfer for casting cooling and sand conditioning
- Sand blending action creates agitation and mixing of the sand, returning a homogeneous sand for reuse
- Move sluggish materials and clean sand from otherwise difficult castings
- Convey sand and castings up an incline

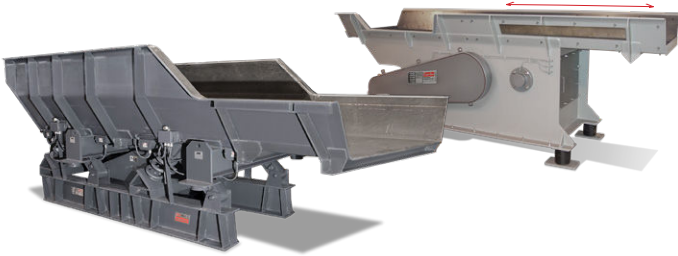
Delta-Phase® | Natural Frequency  
Direct-Drive | No-Bake



Feeding & Screening  
Sand Removal | Sand Cooling

## Feeders & Screeners

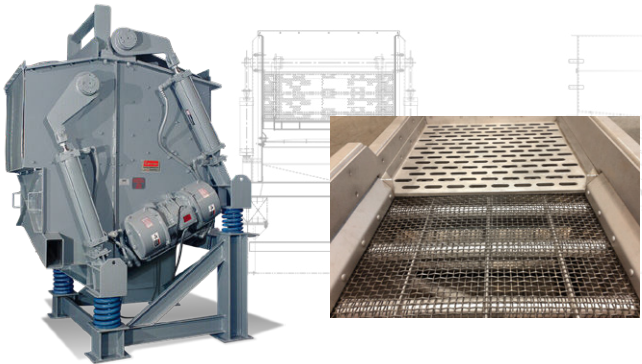
Heavy-duty Feeders by Carrier are expertly designed to maintain stroke under extreme loads, delivering an exact flow to ensure efficiency and safety. Carrier's Vibrating Screeners are designed to screen, scalp, dewater, or separate materials.



- Polished or coated trough minimizes sand sticking, allowing sand to continue to flow
- High temperature design keeps consistent stroke under heavy headloads
- Scalping and screening decks & removable dust tight cover options

## Furnace Feeders

- Convey while controlling the feed rate
- Trolley designed to index to one or multiple furnaces
- Weigh cells provide accurate changes
- Isolated design minimizes reactions



## Attrition Mills / Lump Breakers

- Reduces sand lumps down to grain size while removing tramp metal
- Automatic discharge gate releases metal to prevent overload without stopping the machine

## Sand Coolers

- Coolers specifically designed for green sand or no-bake
- Custom-built for any capacity
- Designed for maximum efficiencies
- Customized controls available
- Water-addition systems available



Fluid Bed



Bulk Material Heat Exchanger

## Carrier's Heavy-Duty Foundry Equipment



Conveyors



Shakeouts



Vibrating Drums



Feeders & Screeners



Dust Collection



Spiral Elevators



Furnace Feeders



Attrition Mills & Lump Breakers



Sand Coolers



### Complete Systems For Foundry Optimization, Quality Castings, Efficiency & The Best Bottom Line

- Heavy-duty & efficient
- Customized in construction & application
- Reliable, rugged, easy to operate & low maintenance



## Engineering & Manufacturing

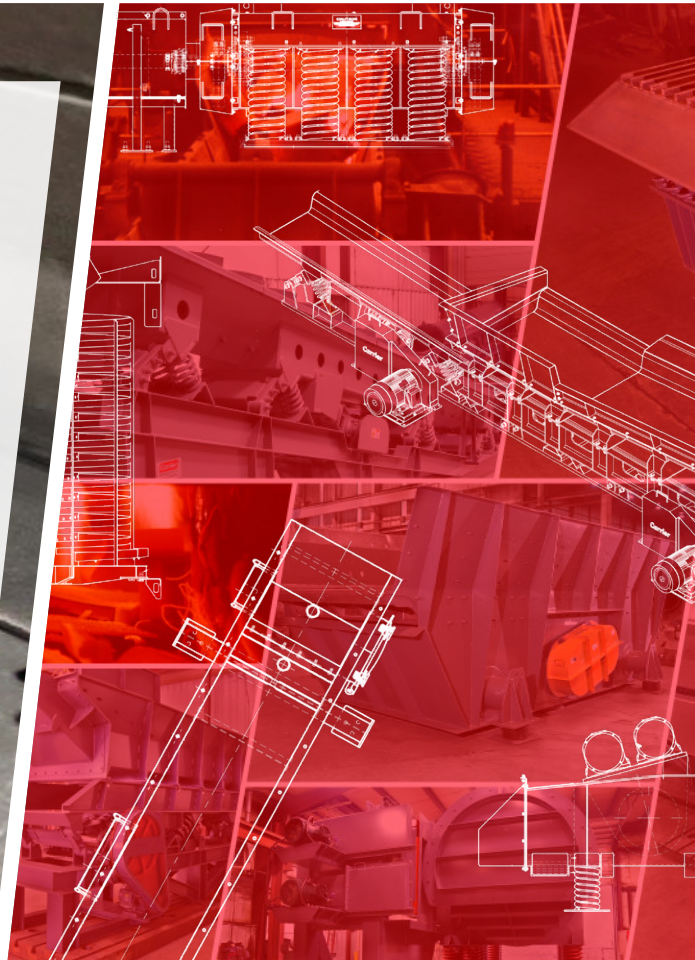
- Technology profile of over 150 patents
- Equipment designs are verified using Finite Element Analysis (FEA) to ensure trouble-free service and long life
- 3D equipment modeling
- State-of-the-art manufacturing facilities on 3 continents with robotic cutting and welding
- Manufacturing expertise working with mild steel, various grades of stainless steel, duplex steels and other exotic alloys for specialty applications
- Welders certified to ASME & AWS standards
- ISO 9001:2015 certified



## Aftermarket Sales & Service

Carrier offers a full line of aftermarket parts for its foundry equipment. Our Aftermarket Sales Team will assess your parts needs and recommend the best solution. And our engineers are available to assist in redesign or retrofit of your existing equipment for new applications.

Component parts for Carrier Vibrating Equipment are precision engineered to perform specific functions and tested for use with our equipment.



### AMERICAS

Carrier Vibrating Equipment, Inc.  
3400 Fern Valley Rd  
Louisville, KY 40213, United States  
Tel: +1-502-969-3171 | Fax: +1-502-969-3172  
carriervibrating.com | cve@carriervibrating.com

### EUROPE

Carrier Europe SA  
Rue Joseph Luns 52  
B-1401 Nivelles, Belgium  
Tel: +32 67 40 01 40  
carriereurope.be | ceur@carriereurope.be

### CHINA

Carrier Vibrating Equipment (Shanghai) Co., Ltd.  
#1 Bldg., #88 Shenzhou Road, Fengcheng Town  
Fengxian District | Shanghai, 201411 China  
Tel: +86 21-33925800  
cves@carriervibrating.com.cn

**Carrier**  
Vibrating Equipment, Inc.

A Division Of **CPEG** CARRIER  
VIBRATING  
EQUIPMENT  
GROUP INC.

**EMPLOYEE  
OWNED**