

# SOLUTIONS

*for the*

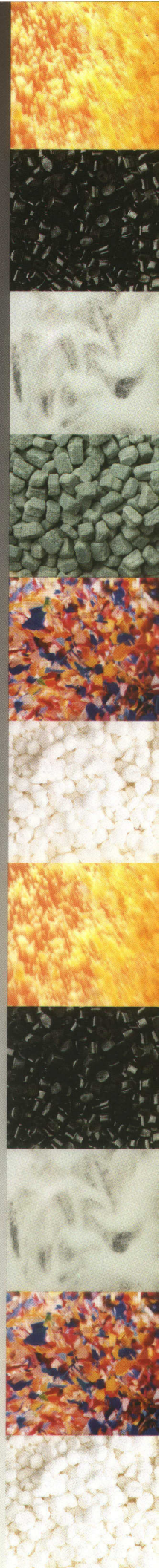
## **PLASTICS and RUBBER**

## **INDUSTRIES**

**We Make Your Work Flow**

**Carrier<sup>®</sup>**

*Vibrating Equipment, Inc.*





## WE MAKE YOUR WORK FLOW

**S**ince our origin in 1950, Carrier has been recognized as an industry leader in designing and supplying processing equipment. We continue to provide **SOLUTIONS** committed to the most efficient systems for processing a wide variety of products.

### ONE-STEP PROCESSING

Carrier's unique applied technology gives you the power to perform varieties of processing functions while conveying, feeding or elevating bulk materials.

### SOLUTIONS DESIGNED TO ORDER

Our engineers work with your team to tailor each piece of equipment for a precise fit into your processing operation. Research and development capabilities are available to set design parameters for new and unusual process requirements.

### PRODUCT/PROCESS TESTING PROGRAMS


Comprehensive product testing allows the exploration of various processing methods and new technologies for equipment evaluations before investment. Our engineers are available for consultation throughout the project. Recorded data obtained during testing verifies factors for the system design to suit a specific application and production quota.

Our lab is equipped to test sample products. If required, complete field test packages are available for testing in your plant.


## WE MAKE THE WORK FLOW FOR PLASTIC AND RUBBER PRODUCTS AROUND THE WORLD



American Synthetics  
Exxon Chemical  
ABS Plastics, Ltd.  
Shin-Etsu Chemical  
Ube Sicon  
Armstrong World  
E. I. Dupont  
Dow Chemical  
Hercules  
Interlake  
Kumho Tire  
Atlas Chemical  
B. F. Goodrich  
Hoechst-Celanese  
Day Products  
Texas Gulf Chemicals  
Shell Chemical  
Mobay Chemical  
Custom Vinyl  
Milliken  
Chevron  
Abbott Labs  
Ethyl  
National Poly Recycling  
Inter-Plast  
Packard Electric  
Formosa Plastics  
Mitsubishi  
Arkansas Eastman  
Standard Oil  
Tarkett  
Warner-Lambert  
Grand Pacific Petro  
Enichem



Fuji Film  
Tennessee Eastman  
Polymer  
Moore Plastics  
Aristech  
Ciba-Geigy  
Goodyear  
Polyscience  
Magnum Magnetics  
Thiokol Chemical  
Union Carbide  
Borg-Warner Chemical  
Rohm & Haas  
Sumitomo Engineering  
Kawasaki Organics  
Chiyoda  
Sun Arrow Chemical  
Nippon Zeon  
Thai Plastics  
Denki Chemical  
Ameripol/Synpol  
Baymag-Canada  
Cumberland Recycling  
Eastman Kodak  
Polysar  
Nypel Chemical  
Miles, Inc.  
Romchim IV  
Asahi Chemical  
Gulf Chemical  
Albis Canada  
Springfield Plastics  
Advanced Elastomers  
Waste Alternatives

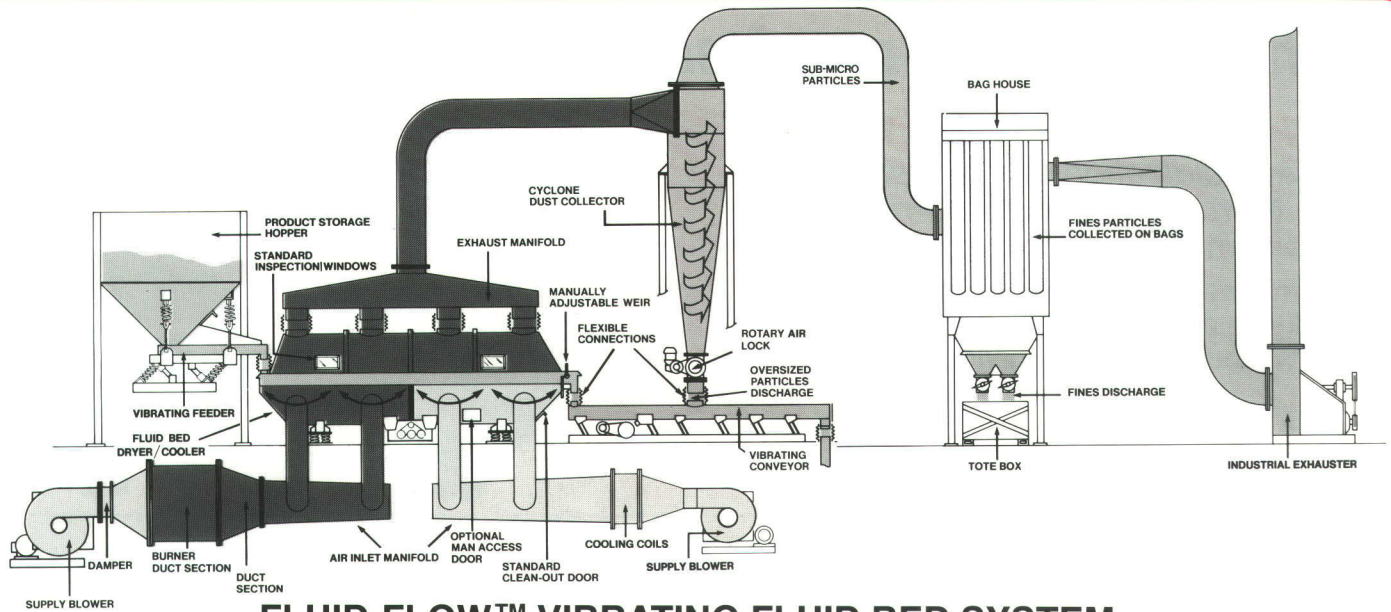


Copolymer Rubber & Chemical  
B.P. Polymers  
Cooper Tire  
Industrias-Negromex  
Celanese Plastics  
Shell, Netherlands  
Uniroyal  
Mitsui Petrochemical  
Lucky, Ltd.  
Hules Mexicanos  
American Cyanamid  
Colonial Rubber  
Amoco  
Phillips Petro  
Texaco  
General Electric  
Delta Petro  
Japan Syn. Rubber  
A. Schulman  
Occidental Chemical  
General Tire  
3-M  
Firestone  
Allied Chemical  
Coperbo  
Kureha Chemical  
Crown Central Petro.  
Kanaka Belgium  
WTE Corp.  
Canadian Polystyrene  
Envioplastics  
Zeon Chemicals  
Okonite



# FLUID BED PROCESSING

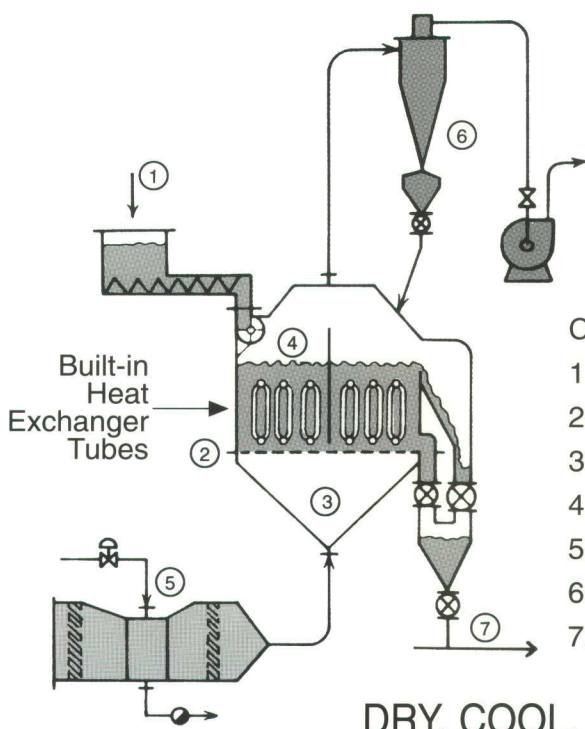
The efficient way to process Plastics and Rubber



## FLUID-FLOW™ VIBRATING FLUID BED SYSTEM

DRY, COOL, SCREEN, DEWATER, CLASSIFY, MIX AND COMBINE FUNCTIONS

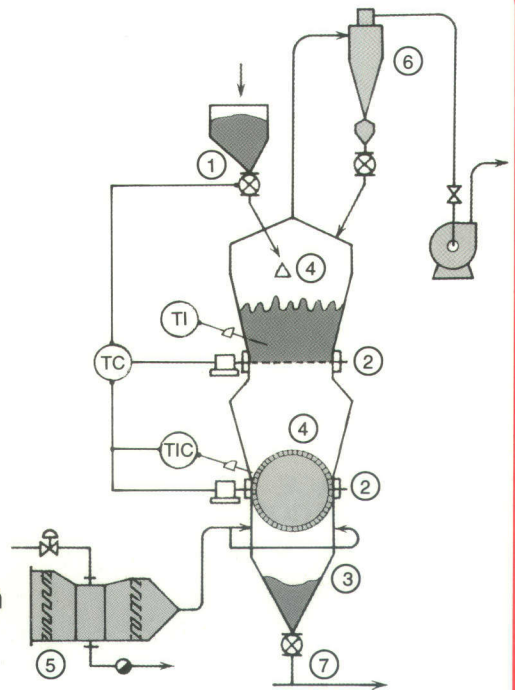
(Systems include: blowers, heating and/or cooling source, charging feeder, dust collection, duct work, air and temperature controls)



### COMPONENTS:

1. Feed System
2. Distributor Plate
3. Plenum Chamber
4. Drying Chamber
5. Hot Air System
6. Dust Collection System
7. Product Discharge

DRY, COOL, CALCINE, STERILIZE



## STATIONARY FLUIDIZED BED SYSTEM (Continuous Type)

Available with or without Heat Exchanger Tubes

## STATIONARY FLUIDIZED BED SYSTEM (Batch Type)

Multi-Stage Reverse Turning Bed



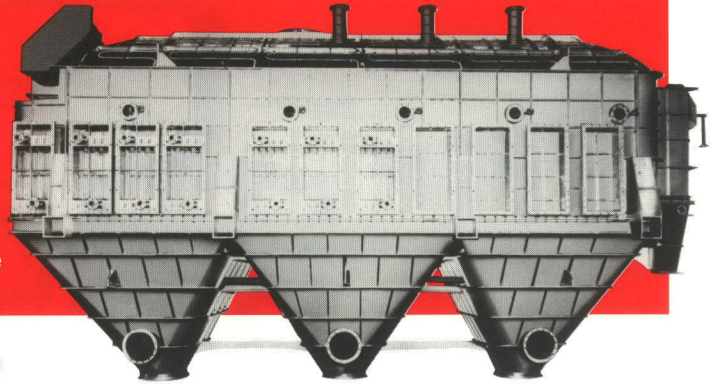
## FLUID BED DRYING/ Batch or Continuous — Stationary or Vibrating (for processing s

### STATIONARY FLUIDIZED BED DRYING

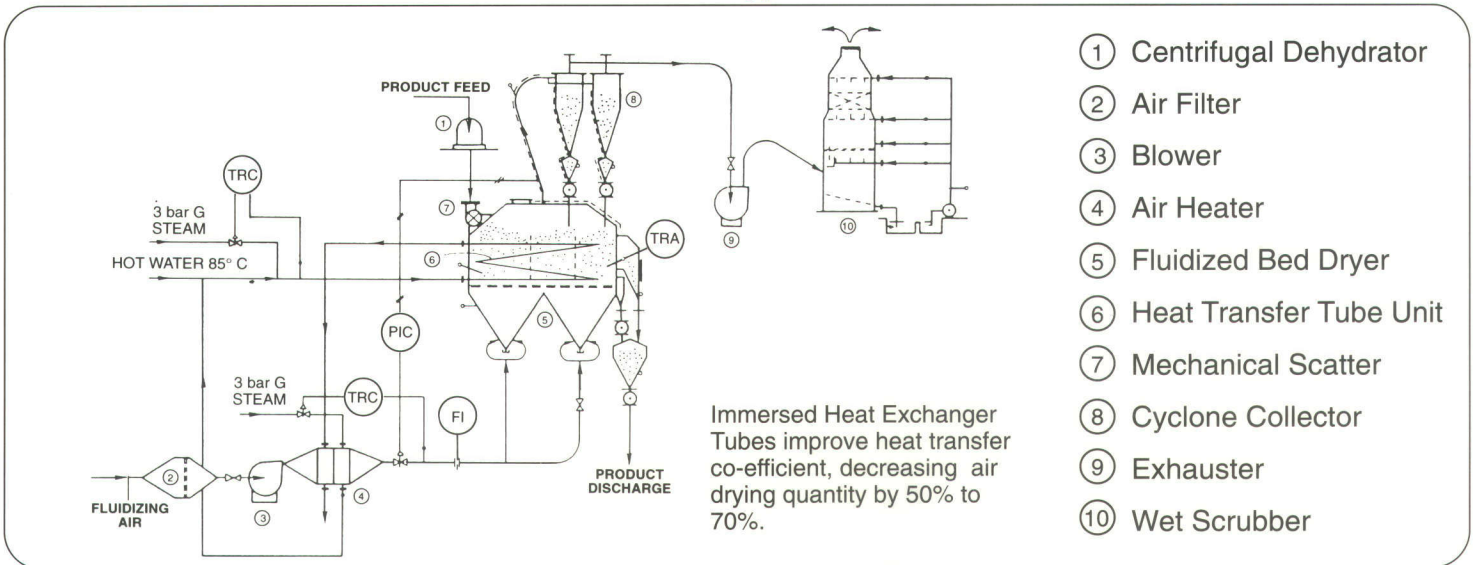
Advanced fluidization techniques for high thermal efficiencies. Proven successful in constant operation.

Ability to mix wet and dry feed provides uniform drying of highly moisturized products without preliminary drying.

MULTI-STAGE STATIONARY BED UNITS are available



### TYPICAL PVC DRYING SYSTEM - Continuous Type

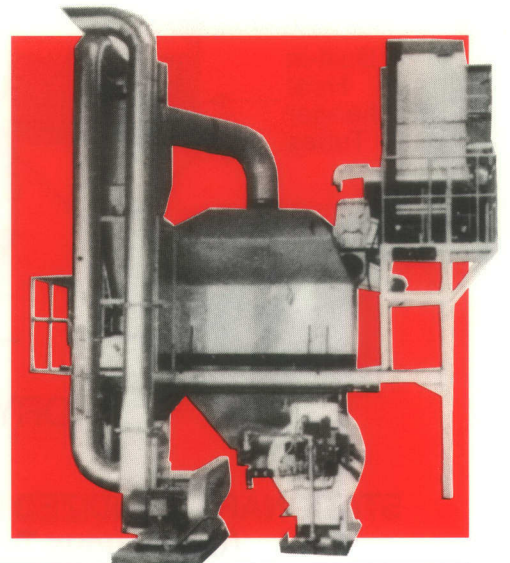
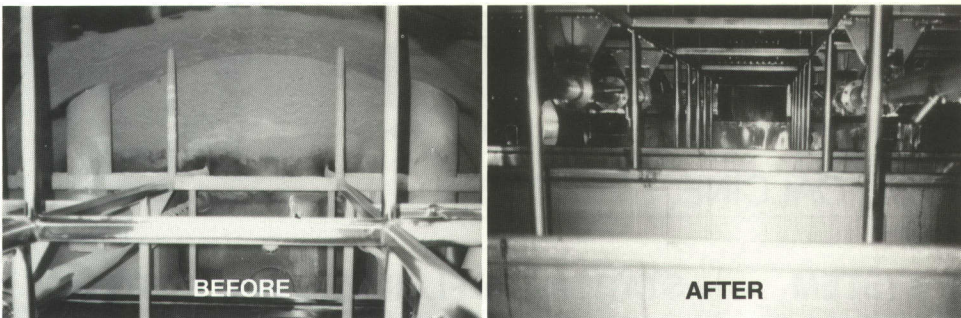


Solvent Recovery Available.

### DRYING SYSTEM - Batch Type

Simple operation of the Reverse Turning Bed is automatically controlled by timer and temperature signals.

### CLEAN-IN-PLACE SYSTEMS - OPTIONAL



Systems are Patented by NARA MACHINERY CO., LTD., Tokyo, Japan - Licensed to Carrier.

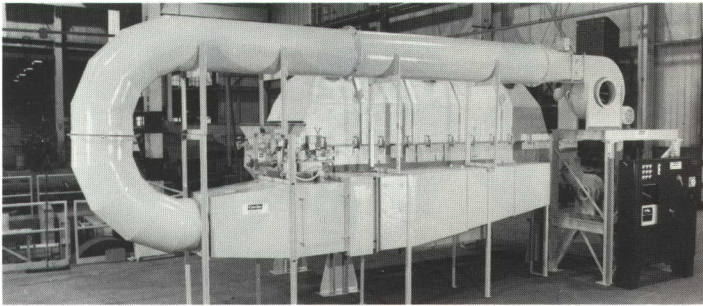


Systems sized to requirements.

## COOLING SYSTEMS

*Synthetic resins, such as ABS, HDPE, PET, POLYPROPYLENE, PBT, PVC, PS, and PC)*

**T**echnology and Experience come together for unique equipment SOLUTIONS in PLASTICS PROCESSING



### FLUID-FLOW™ TOTAL SYSTEM DESIGN

Patented drilled decks assure even air flow through product bed. Gentle vibration-aided fluidization provides:

- Maximum process efficiency
- Minimum energy consumption
- Quality finished product

PLASTICS PELLET DRY AND COOL feed from two lines. Special hood lift arrangement facilitates access to product bed.

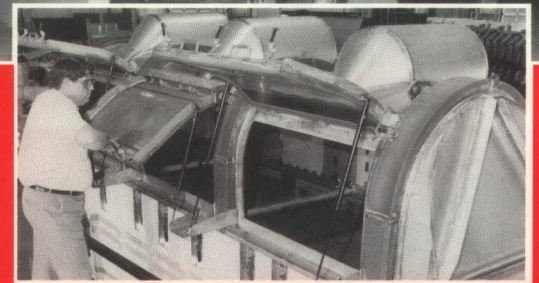
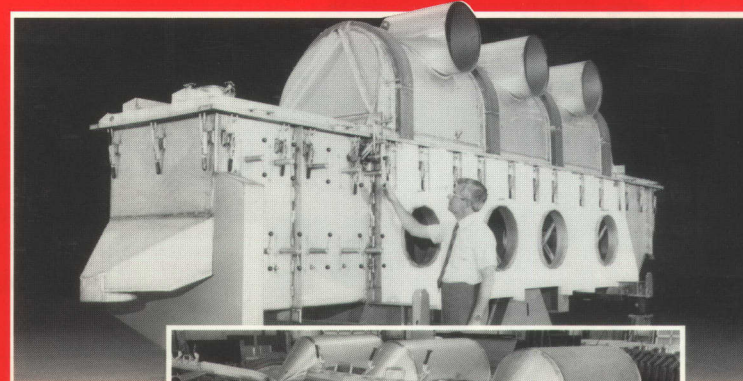


### CASE HISTORY: PRODUCTION OF TOP QUALITY PELLETS

**PROBLEM:** Inefficient drying, fines build-up, excessive maintenance and downtime in existing dryer.

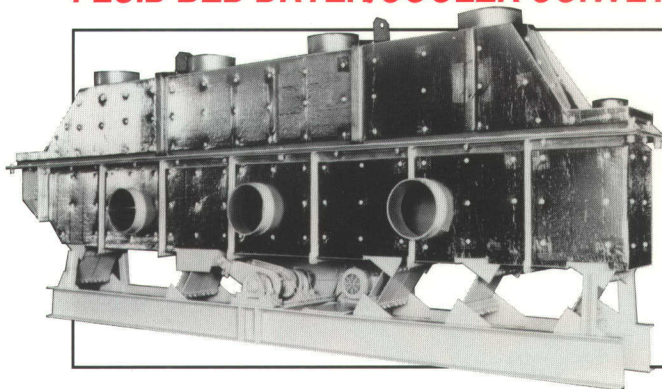
**SOLUTION:** Carrier's system . . .

- Dewater pellets from slurry
- Eliminates abrasive wear
- Dries to specified moisture level
- Provides easy cleaning access
- Cools to required temperature
- Fits into limited space
- Screens overs and fines



Inspection Doors provide easy access for inspection and clean-out of unit

### FLUID BED DRYER/COOLER CONVEYORS for Recycled Plastics



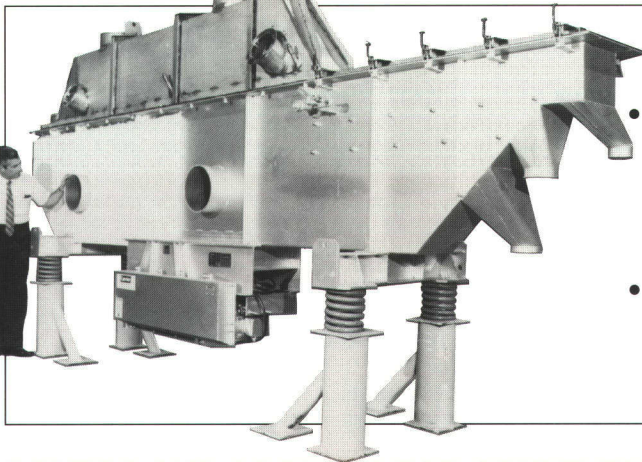
Cost-effective, prepackaged systems for PET, HDPE, LDPE and FILMS. PET DRYING AND CRYSTALLIZATION in a single unit.



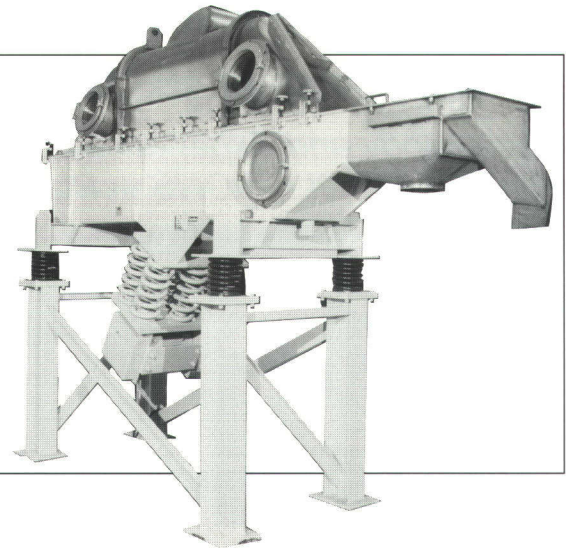


# SOLUTIONS in PLASTICS

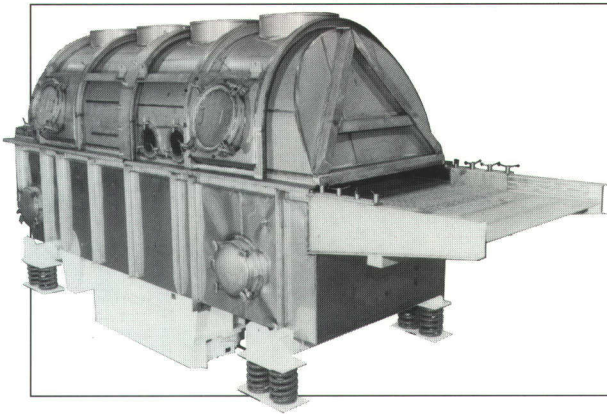
## ONE-STEP PLASTIC PELLET PROCESSING



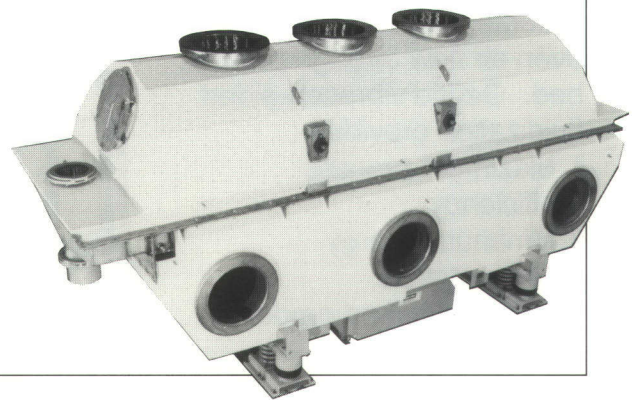
- Gates control the discharge of processed pellets to 3 points
- Plastic Pellets dewater, dry and screen



## DRYERS AND COOLERS FOR CRUMB RUBBER



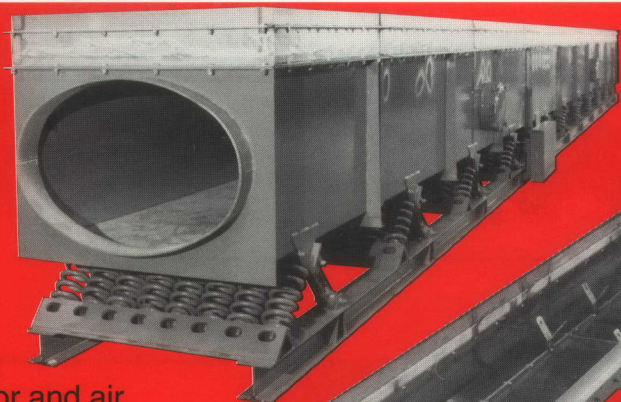
Long stroke, adjustable angle vibration eliminates bed matting. No need for lumpbreaker.



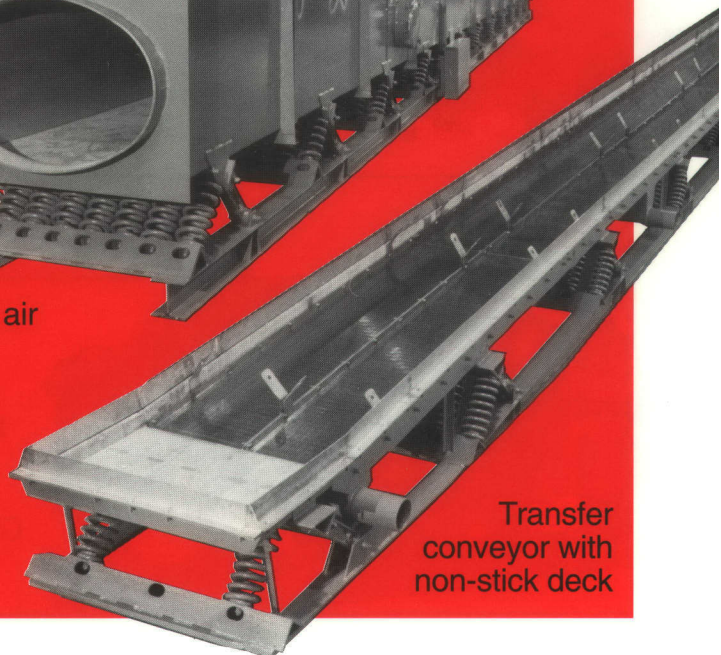
## QUENCHING, DEWATERING, COOLING SYSTEMS FOR RUBBER PELLETS

- High Capacities
- Cost-effective Solutions

Spray - Washing - Cooling conveyor with louvered decks and drains



Cooling conveyor and air auxiliaries for product temperatures exceeding 350° inlet - 90° or lower outlet

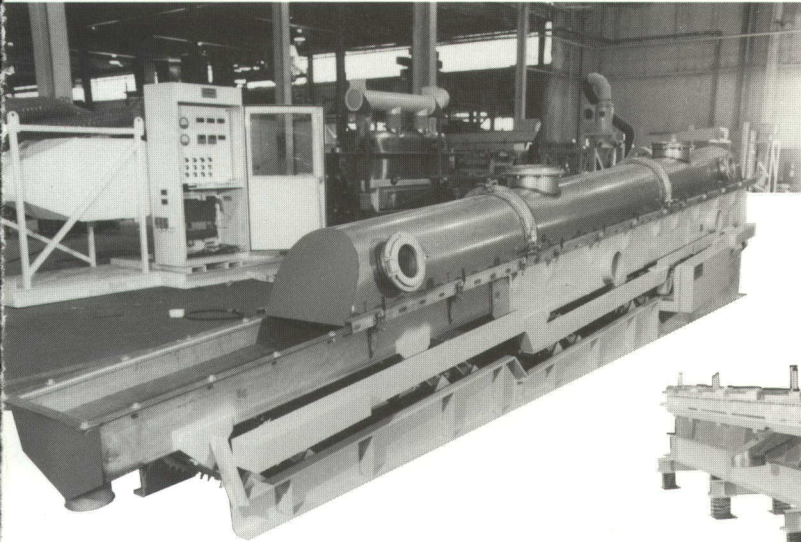


Transfer conveyor with non-stick deck

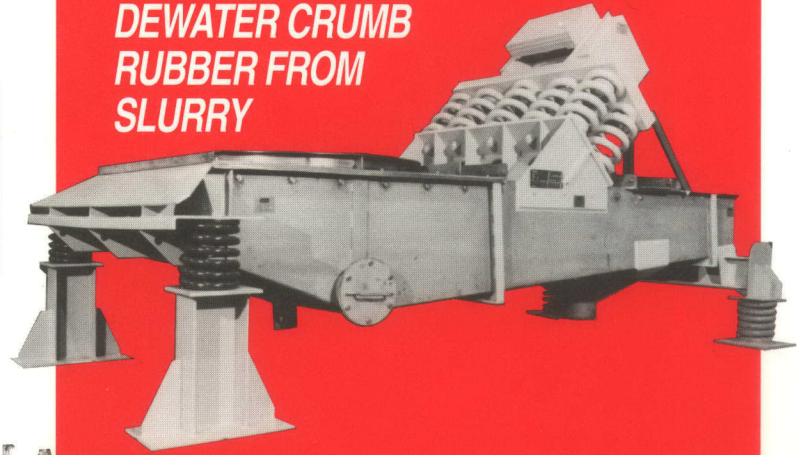
All product contact surfaces are stainless steel.



## CONVEYOR FOR RUBBER PELLETS DEWATERS, DRIES AND COOLS



## VIBRATING FEEDERS DEWATER CRUMB RUBBER FROM SLURRY



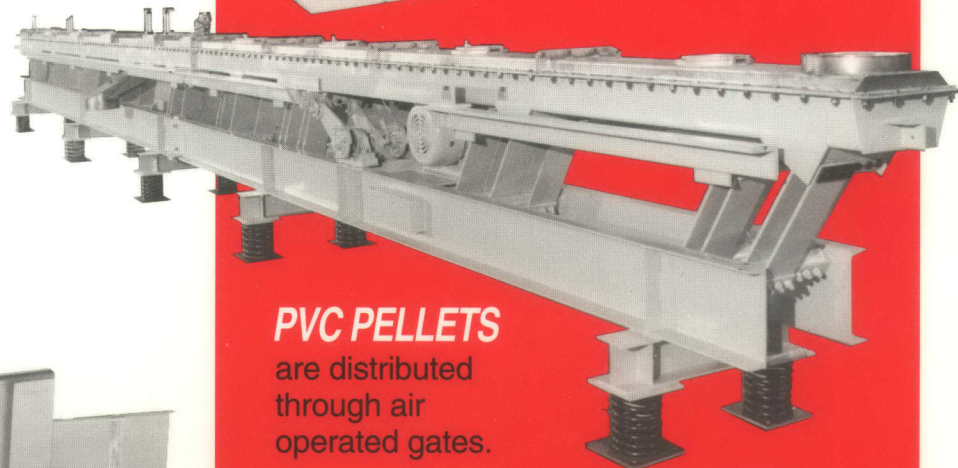
## BALER FEEDER

Carrier's Ampli-Flex Variable Amplitude Conveyor. Push button control for maximum — dribble-off.



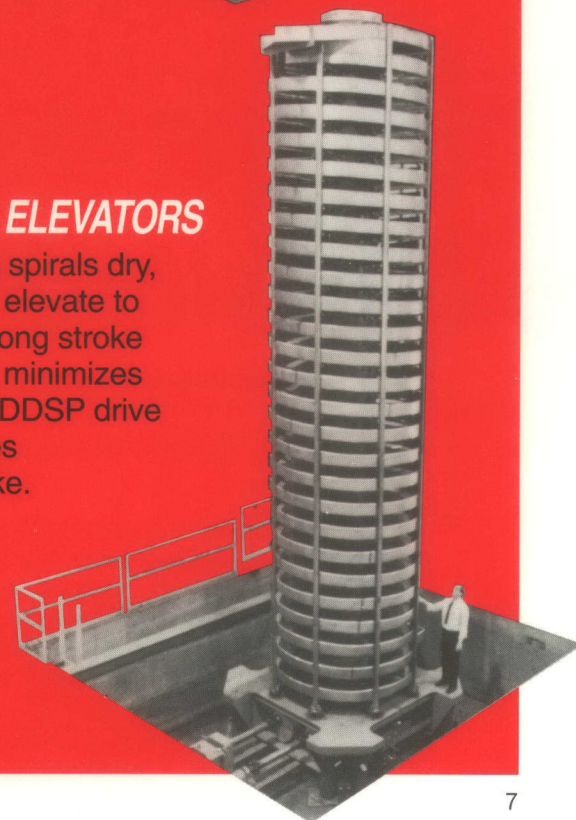
## PVC PELLETS

are distributed through air operated gates.



## SPIRAL ELEVATORS

Vibrating spirals dry, cool and elevate to balers. Long stroke vibration minimizes sticking. DDSP drive eliminates overstroke.



**Whether you need new equipment designs, process or methods, or improved efficiencies on existing lines - our engineering creativity combines with technology to MAKE YOUR WORK FLOW.**





***THE STANDARD OF EXCELLENCE IN BULK MATERIAL HANDLING AND PROCESSING EQUIPMENT***

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Fluid Bed Dryer/Cooler Systems, Conveyors, Spiral Elevators, Feeders, Shakeouts  
Screens, Bin Activators, Pile Dischargers

CARRIER VIBRATING EQUIPMENT, INC. and VIBRANETICS DIVISION of CARRIER  
3400 Fern Valley Road • P. O. Box 37070 • Louisville, Kentucky 40233 • (502) 969-3171 • FAX: (502) 969-3172

[www.carriervibrating.com](http://www.carriervibrating.com) • e-mail: [cve@carriervibrating.com](mailto:cve@carriervibrating.com)

CARRIER Vibrating Equipment (CANADA) Ltd. • Aurora, Ont. • (905) 727-3185 • FAX: (905) 727-3187

CARRIER Europe, SCA • Nivelles, Belgium • 32-67-883-753 • FAX: 32-67-883-688

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