

**BULLETIN
CO-600**

Conveyor Ovens

HEAVY DUTY CUSTOM DESIGNED CONVEYOR OVENS

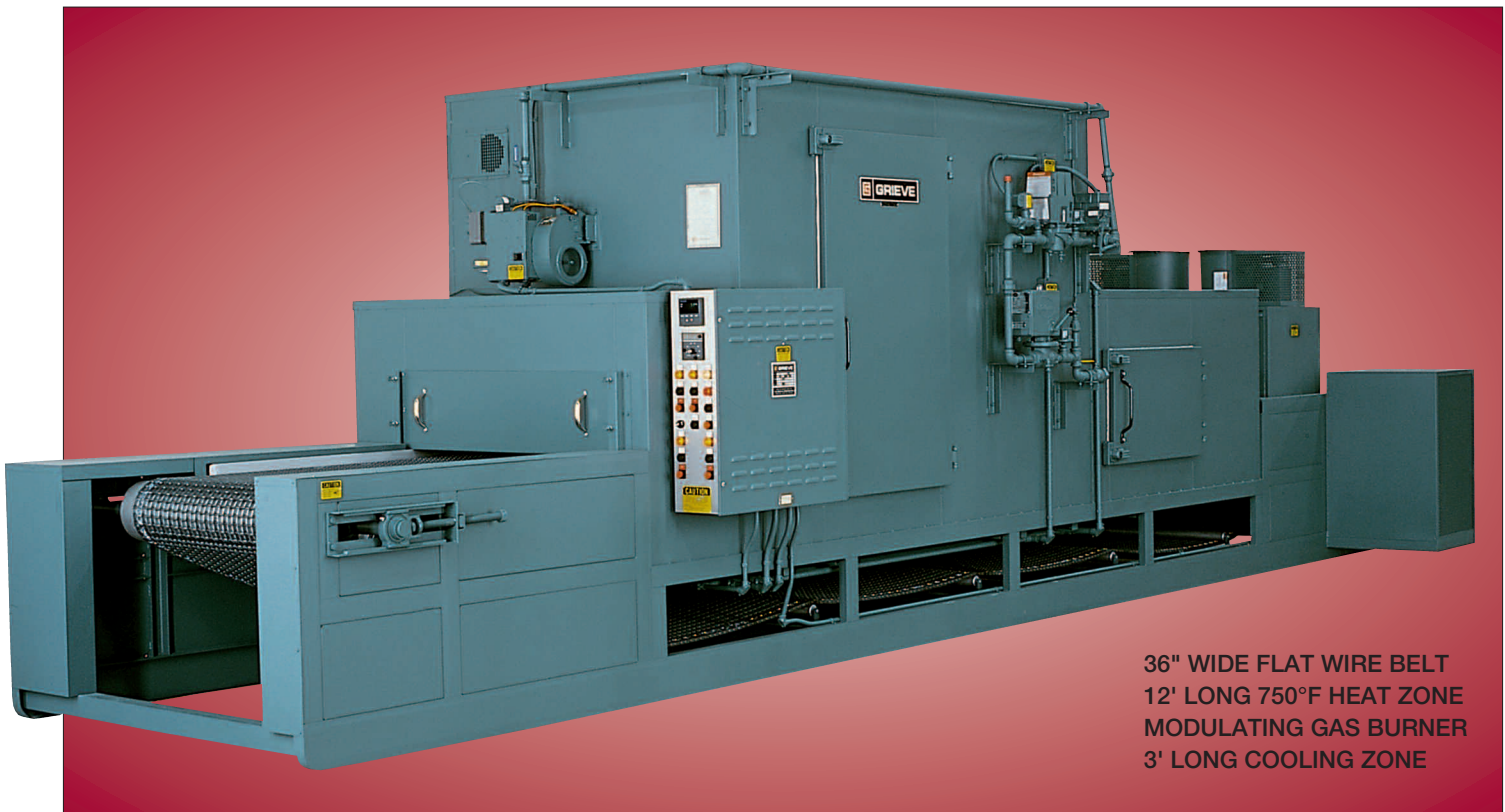
Since 1949 Grieve has been designing and manufacturing conveyor ovens. These years of experience have resulted in a wide range of units. Electric, gas and steam heated units with operating temperatures from 150°F to 1200°F, have been created for all fields of industry.

Conveyor Ovens from Grieve meet the requirements of National Fire Protection Association Standard 86, Industrial Risk Insurers, Factory Mutual and OSHA standards. For applications involving flammable solvents, the additional safety devices required by the above organizations are included.

Each unit is specifically designed for the customer's process and can include:

- multiple heat zones
- extended loading and unloading zones
- special belt construction or attachments
- cooling zone to reduce part temperature

Our experienced engineers will work closely with you to develop a conveyor oven to meet your particular requirements. Every unit is completely assembled and tested. You are invited to witness test and run sample parts at our factory prior to shipment.



36" WIDE FLAT WIRE BELT
12' LONG 750°F HEAT ZONE
MODULATING GAS BURNER
3' LONG COOLING ZONE

STANDARD FEATURES

- Aluminized or stainless steel interior depending on maximum temperature rating
- 16 gauge aluminized steel exterior with enamel finish
- Welded structural steel, channel base provides a rigid assembly easily moved at any time
- Heavy duty, all welded, structural steel slide bed is supported by cross angles welded to vertical structural members to transfer load to base
- Belt slide bed herringbone construction provides for even belt wear
- Side hinged doors provided along oven length for access to work space and heat chamber
- Heavy duty variable speed belt drive with torque limiting device
- Belt tracked and guided as necessary with rollers to prevent wandering and potential belt damage
- Adjustable dampers at each end of heat zone can be positioned near load to minimize heat loss from end of oven
- Adjustable opposed louvers on full coverage supply and return duct work
- Duct work removable for cleaning
- UL Listed Control Panel
- Brushed stainless steel control panel face
- 1 year limited warranty

SIZING OF CONVEYOR OVEN LENGTH

To determine if a belt conveyor oven is practical for your application, estimate the heated tunnel length. Belt conveyor equipment is sized to the application based on part dimensions, production rate and dwell time.

Belt width is selected to accommodate the desired loading pattern, such as in line, side by side or four abreast. The loading density, parts per lineal foot, and production rate determine the design belt speed. The design heat zone length is the product of belt speed and dwell time.

It is important to understand the relationship between belt width, production rate and heat zone length. Doubling the belt width will double the production rate, or allow the heat zone to be half as long.

To estimate the length of belt conveyor equipment required for your application, insert your process information in the relationships below. To the heat zone length calculated, the length of load zone and unload zone must be added. Approximately 2 additional feet of length will be required for belt guarding and drive.

Equipment width will be approximately 3 feet wider than belt width to accommodate insulation, duct work and control enclosure.

To receive a detailed quotation for your application. Complete the "Request for Quotation Data Sheet" found on the reverse side of our catalog index.

$$\frac{\text{(Production rate of ______ parts per hour)}}{\text{(Loading density of ______ parts per lineal foot)}} = \text{(Belt speed of ______ feet per hour)}$$

$$\text{(Belt speed of ______ feet per hour)} \times \text{(Dwell time of ______ hour)} = \text{(Heat zone length of ______ feet)}$$

STANDARD EQUIPMENT


CAUTION: OVENS PROCESSING COMBUSTIBLE MATERIAL ARE REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 86 TO HAVE A FIRE SUPPRESSION SYSTEM. IF FLAMMABLE SOLVENTS OR VAPORS ARE PRESENT IN AN OVEN, OSHA REQUIRES CONFORMANCE WITH NFPA 86 WHICH DEFINES OVENS FOR THESE APPLICATIONS AS CLASS A OVENS. A POWERED FORCED EXHAUSTER AND OTHER NON-STANDARD SAFETY EQUIPMENT MUST BE ADDED. SEE BULLETIN TC-940 AND CONSULT FACTORY.

● All Models

- 208 volts, 3-phase, 60 Hz
- 230 volts, 3-phase, 60 Hz
- 460 volts, 3-phase, 60 Hz
- Other electrical characteristics available

Vertical downward air flow between full coverage ductwork above and below conveyor belt. Other air flow patterns available. Trilite Green enamel painted aluminized steel exterior.

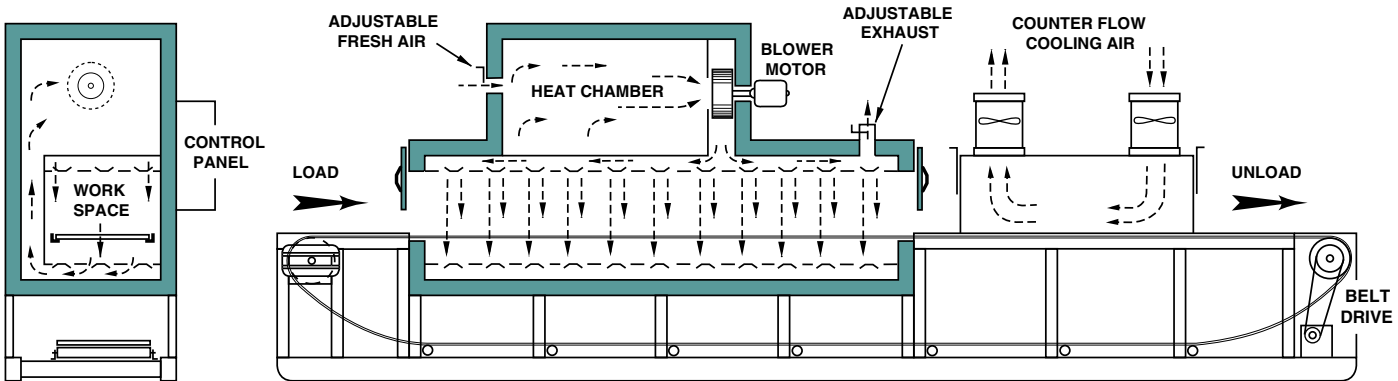
● Electric Models

Each features completely wired, side access  UL listed control panel enclosing terminals for incoming power, temperature controllers, push buttons and pilot lights. Motor starter and heating element contactors electrically interlocked to shut off heaters if power to blower is interrupted and to permit operation of blower without heat for cooling. Incoloy sheathed tubular heating elements.

● Gas Models

- 1,000 BTU natural gas at 6" water column pressure;
 - Other gas characteristics available
- Control panel as on electric models. Automatic pre-ignition purge period and push button electric ignition contributes to ease of operation. Modulating gas burner is protected with electronic flame safety relay.

Circulation Diagram



Full vertical air flow forces heated air down through parts loaded on belt.

ADDITIONAL EQUIPMENT AVAILABLE*

- **Exhaust Hood**, with or without tubeaxial fan, to exhaust heat and fumes escaping open ends of heat zone . . .**EXH**
- **Cooling Zone**, installed over extended unload conveyor, with forced convection cooling**CZ**

- **Multiple Heat Zones**, to provide temperature profile during processing, specify quantity and length of each zone**MHZ**

- **SCR Belt Speed Control**, in lieu of mechanical 1:2.5 ratio, provides 1:20 turn down ratio**SBS**
- **Belt Speed Indicator**, used with SCR variable speed belt control**BSI**



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*See Bulletin TC-960 for modifications and other optional equipment.