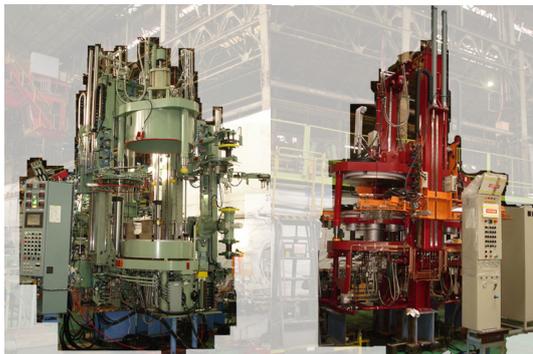


Pit-less Automobile Tire-curing Presses for Easy Installation and Small Footprint



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A tire-curing press inserts green tires (which are already in a shape close to the finished product) into molds and shapes them into commercially available finished tires by applying heat and pressure. Because the molds must press firmly to prevent them from being forced open by internal pressure, the machine is also called a tire-curing press.

1. MHI Tire-curing Press

In the past, Mitsubishi Heavy Industries, Ltd. (MHI) produced mechanical (motor-driven) curing presses, but due to the growing demand for high quality tires, the company now mostly produces hydraulically driven curing presses. In addition to curing, all processes from loading/unloading tires to changing the tire molds can be automatically controlled.

Hydraulically driven curing presses are roughly divided into the following two types.

Type	Description
Column type (Figures 1–3)	Rods located around the molds prevent the molds from being forced open by the internal pressure of the tires placed in the molds, and the column guides the molds vertically when they are opened or closed.
Frame type (Figure 4)	The gate-shaped frame prevents the molds from being forced open by the pressure applied to the inner side of the tire.



Figure 1 Column-type hydraulically driven curing press for passenger vehicle tires
Left and right molds operate simultaneously.



Figure 2 Column-type hydraulically driven curing press for passenger vehicle tires
Left and right molds operate independently.



Figure 3 Column-type hydraulically driven curing press for truck/bus tires
Left and right molds operate independently.

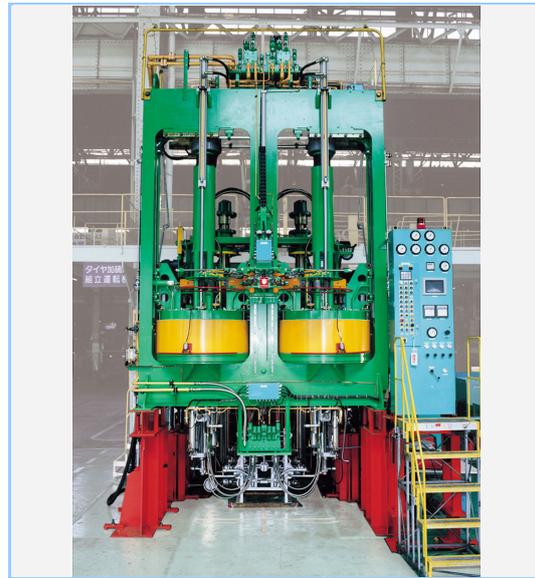


Figure 4 Frame-type hydraulically driven curing press for passenger vehicle tires
Left and right molds operate simultaneously.

2. Pit-less Tire-curing Press

2.1 Advantages of the pit-less tire-curing press

To reduce the initial installation cost and improve productivity, there is a growing demand among tire manufacturers for tire-curing presses that meet the following requirements:

- (1) No pit construction required.
- (2) Shorter on-site installation period.
- (3) Smaller footprint and higher area productivity (= output per unit area).

2.2 Structural characteristics

The following are the primary characteristics of the machine:

- (1) Because it is mountable on the floor, the pit foundation work required for existing machines can be omitted.
 - Reduced customer installation cost.
 - Shorter construction period (2 months less).
- (2) Parts disassembly at the time of shipment is minimized to shorten the on-site installation period.
 - Reduced lead time before the customer can start production.
- (3) Smaller machine width (more than 10% smaller than those of other manufacturers) results in higher area productivity.
 - Improved productivity.

MHI intends to provide customers in Japan and around the world with tire-curing presses that meet their requirements, including energy- and labor-saving features, as well as the points mentioned above.