

# ISOSTATIC LAMINATION PRESSES

## ILS-series



- Up to 40 stacks/substrates can be laminated simultaneously
- Wide selection range, from 4 x 4 up to 12 x 12 inch bar size
- Easy to operate, quick product turn-around time
- Low maintenance
- Rigid, compact design takes little floor space
- Stores up to 99 pressure programs
- Maximum temperature 85 °C
- Pressure up to 70 MPa or 10,000 PSI

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Affordable warm isostatic laminators

Isostatic lamination guarantees a completely uniform pressure all over the ceramic stack.

The ILS-series of isostatic laminators consist of a piston with cavity that's submerged in a vessel filled with (deionized/distilled) water, which is pressurized. Multiple heaters and a precise temperature regulator accurately keep the piston and the water at the set temperature during the pressing cycle. Green ceramic bars are vacuum sealed in plastic bags are placed in an easy to handle basket that's used to maximize the available space in the pressing cavity and to pre-load the ceramic bars to increase the productivity. The operator places the basket into the piston while standing in front of the machine. After closing the door (safety interlock), the operator can start the pressure cycle. Motors smoothly lower the piston containing the ceramic bars into the pressure vessel (water). The ceramic bars are pressurized following the lamination profile previously programmed (or saved). Several lamination modes are available to either reach the final lamination pressure in one step or in several steps. The machine requires little maintenance due to its sturdy, yet simple design. The long-term reliability of the pressure generator, (sealing) o-rings and hydraulic components have been proven over years and years of daily use in the field.

**Technical characteristics:**

Capacity: up to 40 stacks/substrates can be laminated simultaneously

Maximum bar size: depends of machine model, max. 12 inch

Cycle time: typically 12 cycles per hour

Pressure range: 5 - 70 MPa, 800 - 10000 PSI (depends of machine model)

| Bar size (inch) | Max. Pressure (MPa/PSI) | Pressure vessel size (mm/inch) | Machine dimensions (mm/inch) |         |         |             |
|-----------------|-------------------------|--------------------------------|------------------------------|---------|---------|-------------|
|                 |                         |                                | Length                       | Width   | Height  | Height max. |
| 4               | 42/6000 or 70/10000     | 60 x 180 x 133/2.5 x 7 x 5     | 1230/48                      | 880/35  | 1740/69 | 2390/94     |
| 6               | 42/6000 or 70/10000     | 100 x 250 x 224/4 x 10 x 9     | 1315/52                      | 970/38  | 1855/73 | 2535/100    |
|                 |                         | *100 x 460 x 224/4 x 18 x 9    | 1315/52                      | 1115/44 | 1980/78 | 2300/90     |
| 10              | 42/6000 or 70/10000     | 150 x 360 x 311/6 x 14 x 12    | 1500/59                      | 1275/50 | 2000/79 | 2320/91     |
| 12              | 42/6000                 | 200 x 450 x 398/8 x 18 x 16    | 2200/87                      | 1150/45 | 2315/91 | 2600/102    |

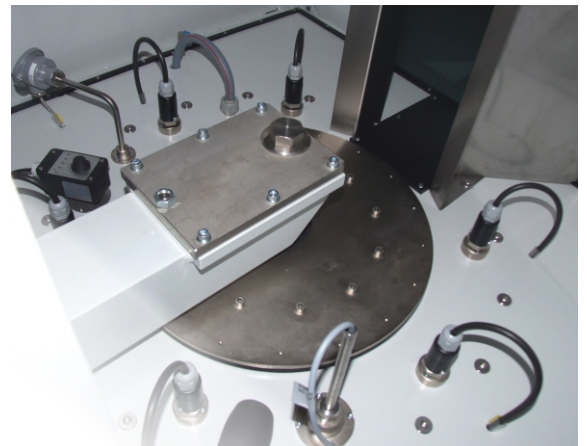
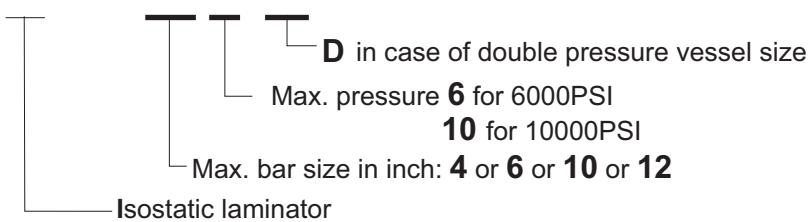
\* D double pressure vessel size

**Available options:**

Vacuum bag sealing machine

**How to order: \***

**ILS- X X X**



\* Options and other requirements have to be specified separately.



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