

Accessories

- Handling and installation lifting device.
- Motion module storage trolley.
- Tongs and jaws parking and disconnection fixture.
- Maintenance toolkit.
- Wrist joint disconnection tool.



Getinge La Calhène
1 rue du Comté de Donegal
F-41102 Vendôme cedex, France
Phone: +33 (0) 254 734 747
marketing-contact.glc@getinge.com
www.lacalhene.com

LaCalhene is an equipment manufacturer specialized in material to protect human beings in a hostile environment, protect a product against the surrounding environment, and protect the environment from hazardous products. Its customer base is half in the nuclear field and half in the pharmaceutical field.

In the nuclear sector LaCalhene supplies 4 product lines: remote manipulators, transfer systems (the DPTE® range, standard and special applications), glove box ports, and shielded casks for transfer / transport. LaCalhene supplies to 5 market segments: nuclear fuel manufacture, spent fuel recycling, radiopharmacy, laboratory / universities / units of research, and dismantling / decommissioning / sanitization.

On the basis of its long experience in the nuclear sector, Getinge La Calhène developed a set of solutions and equipment for the pharmaceutical industry, in particular for isolators and sterile transfer systems (DPTE® and DPTE-BetaBag®).

LaCalhene is an active member of:

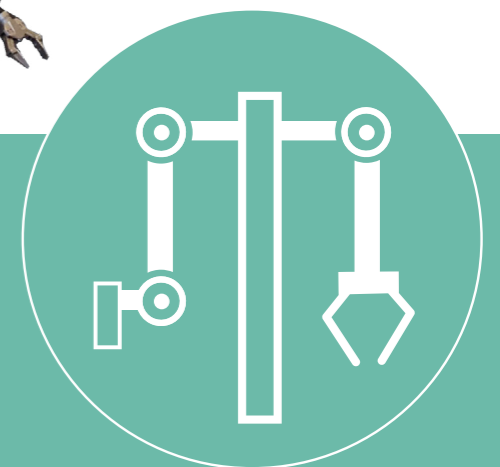


LACALHENE



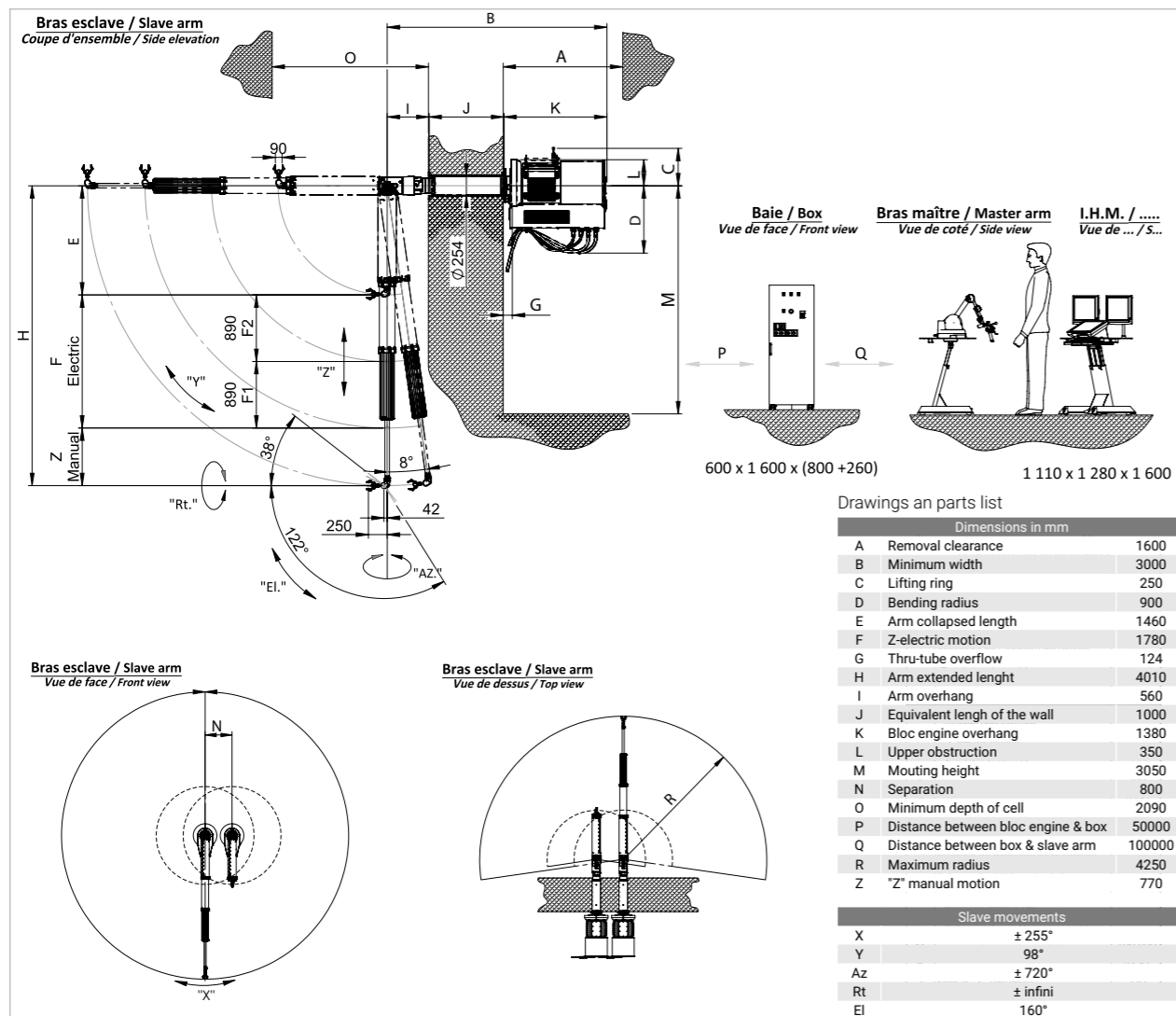
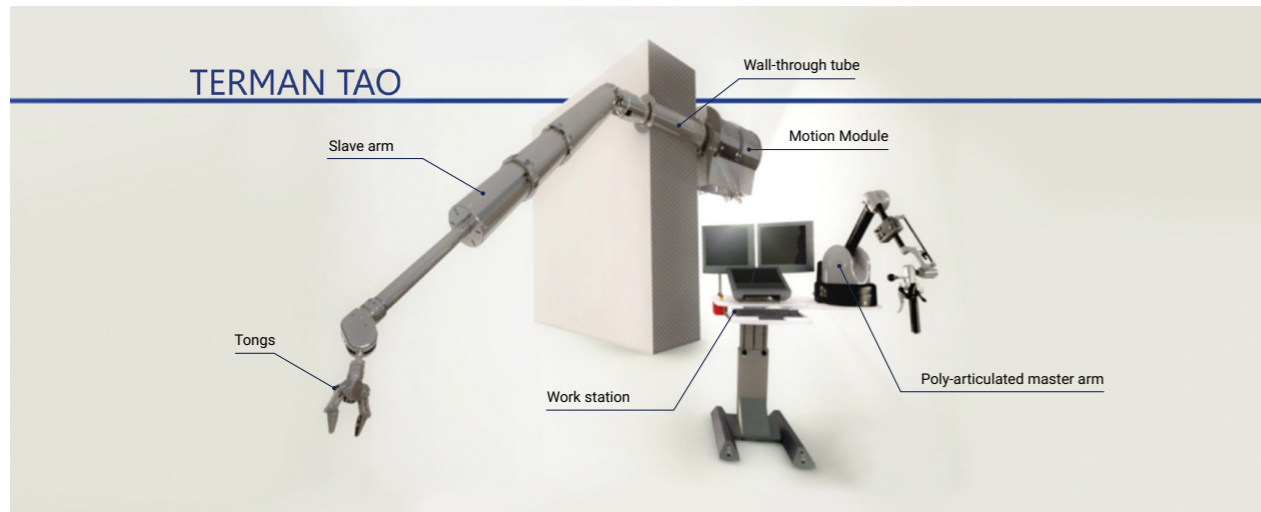
TERMAN TAO

A new generation
Remote Manipulator



Getinge La Calhène - TERMAN TAO - EN - FP 412 - 002 - Jan 2021 - © photos: Getinge La Calhène - Creation www.thinkadroom.com
Non contractuel/Document - Getinge La Calhène reserves the right to modify the products described in this document without notice.

A computer-assisted master-slave manipulator



A new generation manipulator arm

The Terman TAO combines the «cold» side of the MT 200 TAO with the Terman new generation slave arm. This combination provides all the advantages of the TAO computer-assisted systems (force feedback, electrical transmission, remote piloting), with the benefits of a rigid, long-lasting precise slave arm, and robotic mode throughout the working volume.

Motion Module

The Terman TAO motion module is the same as that of the MT 200 TAO, which is compatible with all generations of LaCalhene thru-tubes (MT 200 range).

An Ergonomic Work Station with Force Feedback

Operator effort is multiplied by master/slave ratios that are adjusted in the slave arm, which reduces the physical effort required to lift and move loads. Computer assistance aids operator precision. The poly-articulated master arm provides additional ease of use.

Remote Workstation

The operator can work in direct vision (via the hot cell window) or with camera vision anywhere within 200 m of the hot cell, thanks to the electrical link between the master and slave arms. Greater distance means reduced dosimetry.

Reduced Maintenance

Substantial economies can be made in the maintenance costs of this robust and durable system:

- The Terman TAO has a MTBF (Mean Time Between Failures) of 1000 hour, according to a mixed reference cycle (factor 4 compared to present systems).
- Considerable reduction in the volume of nuclear waste.
- Reduction in spare parts consumption.

The slave arm wrist joint and the tongs can be disconnected inside the hot cell.

Robotic Mode

Repetitive tasks not requiring force feedback can be done in playback in robotic mode, in any position, with precision. Repetitive processes can be robotized.

A New Generation Design

The Terman arm is cable-less, with only mechanical transmissions, based on a rotating bars transmission design for enhanced rigidity and much longer motion reach than any existing remote manipulator.

Exceptional Slave Arm Working Volume

The arm can reach the upper hemisphere of the work space thanks to the direct master/slave uncoupling. Hence the work zone is trebled compared to that of a standard master-slave manipulator:

- Telescopic slave arm, extending from 1460 mm to 4010 mm.
- Lateral motion (X) from -255° to +255°.
- Wrist joint rotation (Azimut) from -720° to +720°.
- Infinite rotation of the jaws (screw /unscrew mode), maximum jaw opening 90 mm .
- Maximum load capacity 20 daN(manufacturer's test value), in the entire work zone.
- Lifting capacity at hook is 80 daN in a work volume consisting of a 15° cone starting from the shoulder.

