

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®).

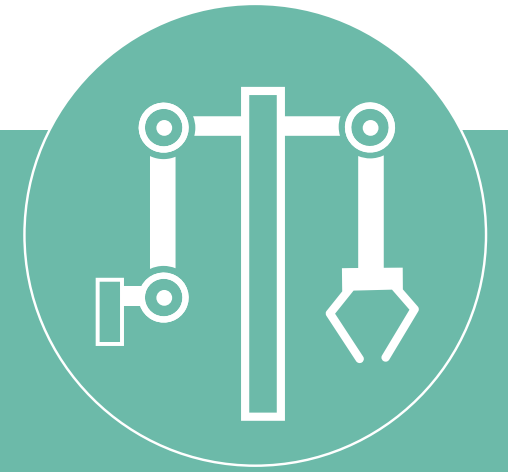
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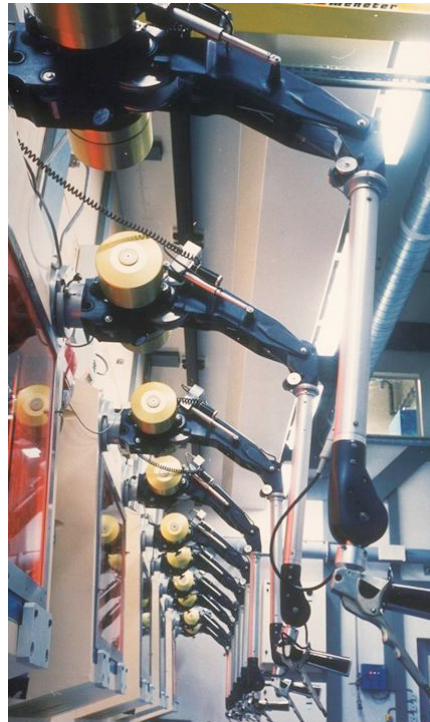
Getinge La Calhène - MA 11-80 - EN - FP 411 - 002 - Jan 2021 - © photos: Getinge La Calhène - Creation www.thinkadcom.com
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MA 11-80
 Remote Manipulator
 Articulated Design

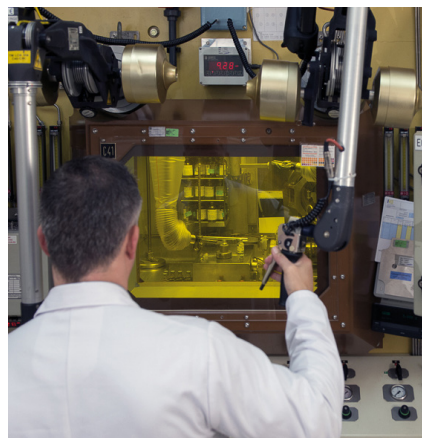


A featherlight manipulator, for small and medium size cells



The MA 11-80 is the first remote manipulator made by LaCalhene. It combines flexibility with a considerable average load (7 daN*). Over one thousand MA 11 have been delivered since it was launched.

Depending on requirements, the shape of the MA 11-80 manipulator means that it can adapt to working in hot cells and in glove boxes. Containment is provided by a leaktight booting with double booting as an option for cells with specific atmosphere.



The MA 11-80 is remarkably dexterous and easy to use, robust and reliable, with a respectable load capacity. Counterweights on the Y axis (control inserted in the handle) provide balancing throughout the working area.

The MA 11-80 can be equipped with various types of LaCalhene tongs, according to the application.

This remote manipulator is available in several versions: short, medium and long, to adapt to different sizes of cell.



* Manufacturer's test value

Motion

The MA 11-80 has seven degrees of freedom.

Large motions:

- lateral rotation (X) +/- 90°
- master shoulder, slave shoulder and master elbow motions +/- 60° (Y)
- slave elbow motion (Z) is -70° to +90°

Master/Slave Offset:

+/- 30° at nominal load

Small motions:

- azimuth +/- 175°
- elevation is 35° to -135°
- tongs rotation +/- 360°

Electrical Circuit

The MA 11-80 is fitted with an electromagnetic actuator 24 V CC. Power is supplied via a rectifier-transformer box, in 110/220 V AC, for a 100 Watt power supply. One box can supply two MA 11-80 manipulators.

Arm Ends Fittings

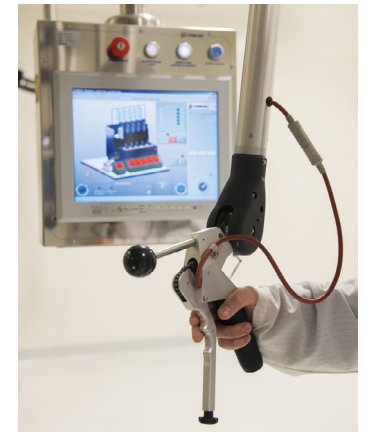
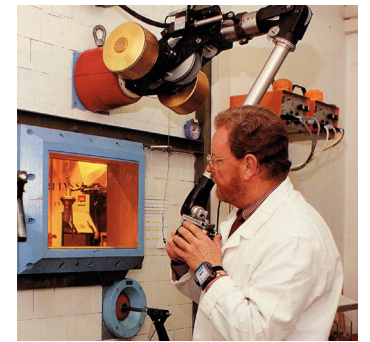
- The arm ends fittings consist of wrist joints to which the master actuator (handle) and slave tool (tongs) are connected.
- The master actuator is an ergonomic ambidextrous handle equipped with the offset controls for X motions and the tong gripping brake control.
- The standard slave tool is a parallel jaw gripper, fitted with jaws which are either disconnectable or not.

Wall thru-tube

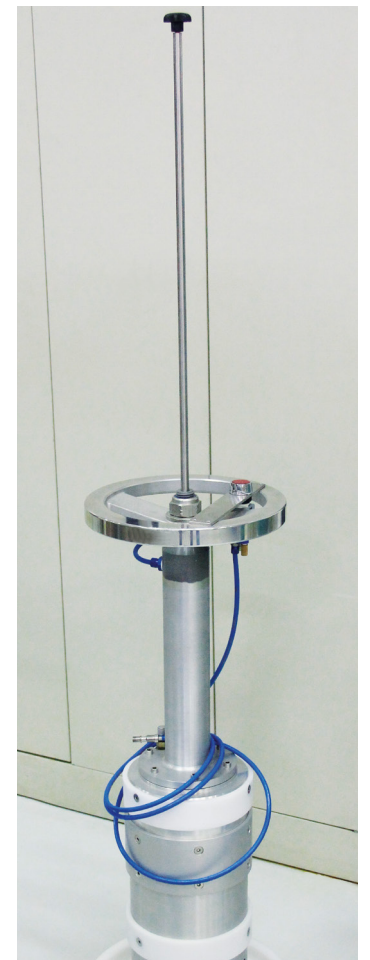
The MA 11-80 wall thru-tube is the non-sealed type, containment on the hot cell side being provided by a booting (which also protects the slave arm from contamination) on an ejectable ring system, type J2L 22 (BE 22). A double booting with double ring or a double sleeve with triple ring are available (option) for enhanced containment. The thru-tube and wall booting are adapted to the wall thickness. The thru-tube contains gamma shielding and additional neutron shielding (option).

Accessories

- Mobile storage trolley
- Disconnection/Parking fixture for tongs and jaws
- Pneumatic ejection device to replace sealing sleeve
- Maintenance toolbox



PPM97 Handle



Pneumatic Ejection Device