1. General

The height of the building is particularly important in the design of the Building Maintenance Unit.
For buildings up to 40 m, the cradle rests against the facade by means of two foam rollers. The horizontal pressure per roller is 25 daN.

2. Anchor brackets

For buildings over 40 m, high-rise buildings, the cradle should be guided up and down the facade.
The most economical solution is to fit systems to the facade at intervals to retain the two metal suspension wire ropes which limit their movement and thus that of the cradle. This system consists of a series of anchor brackets fitted permanently to the facade (Fig. 2). The design of these brackets depends on the type of facade.
The number and siting of the anchor brackets depend on the height of the building. The inserts for the lowest level should be no more than 40 m above ground level.
The vertical distance between the anchor brackets above 40 m should be no more than 20 m (Fig. 1).
The cradle is fitted with a series of catches which clip onto the anchor brackets. A nylon ring fits round the wire ropes and is linked to the catch by a belt (Fig. 2).
When the cradle reaches the first level, it stops automatically. Confirmation from the operator via the control panel then autorises it to continue lowering or lifting. This confirmation releases the catch.
There is no electrical control on the catch system. However, for special applications, it is possible to have a catch system with electrical locking which only authorises lowering or lifting if both special catches have been correctly connected.

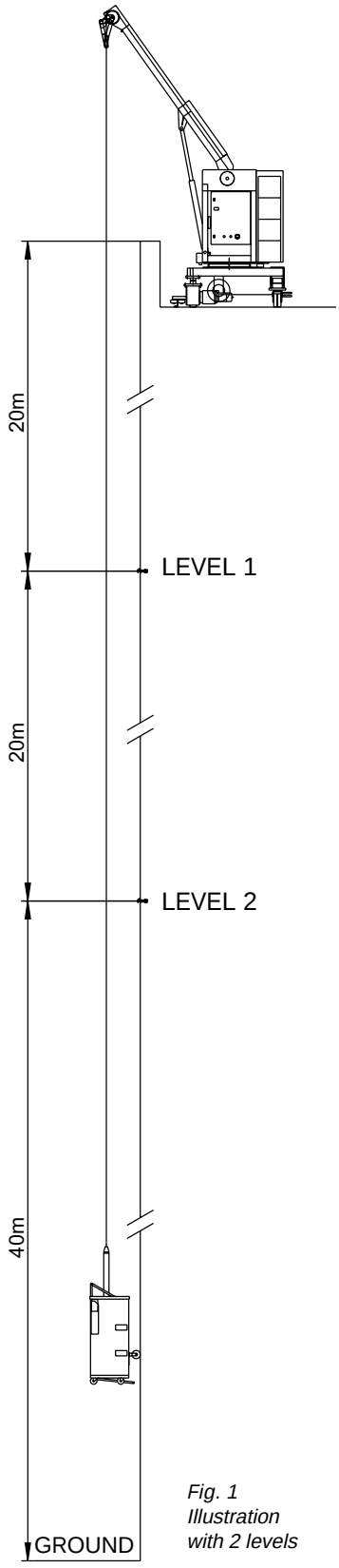

Fig. 1
Illustration with 2 levels

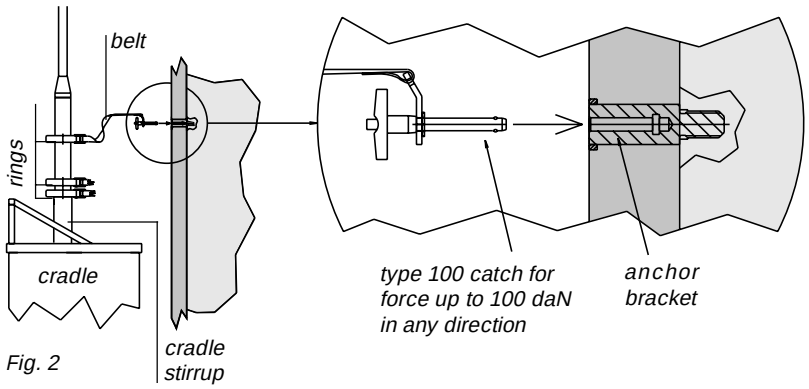

Fig. 2

3. Guide rails

A more costly system is to fit the building with a continuous guiding system.
Continuous guiding is by rollers fitted to the cradle which run in guide rails. These guide rails are generally made of an open extruded aluminium profile which is fixed to the facade (Fig. 3).
The guide rails must be able to withstand a horizontal force of 100 daN.
The distance between the guide rails is between 2 m and 3.5 m.

SECALT's design office will carry out a study to provide the most suitable solution for the building and for the safety of operators.

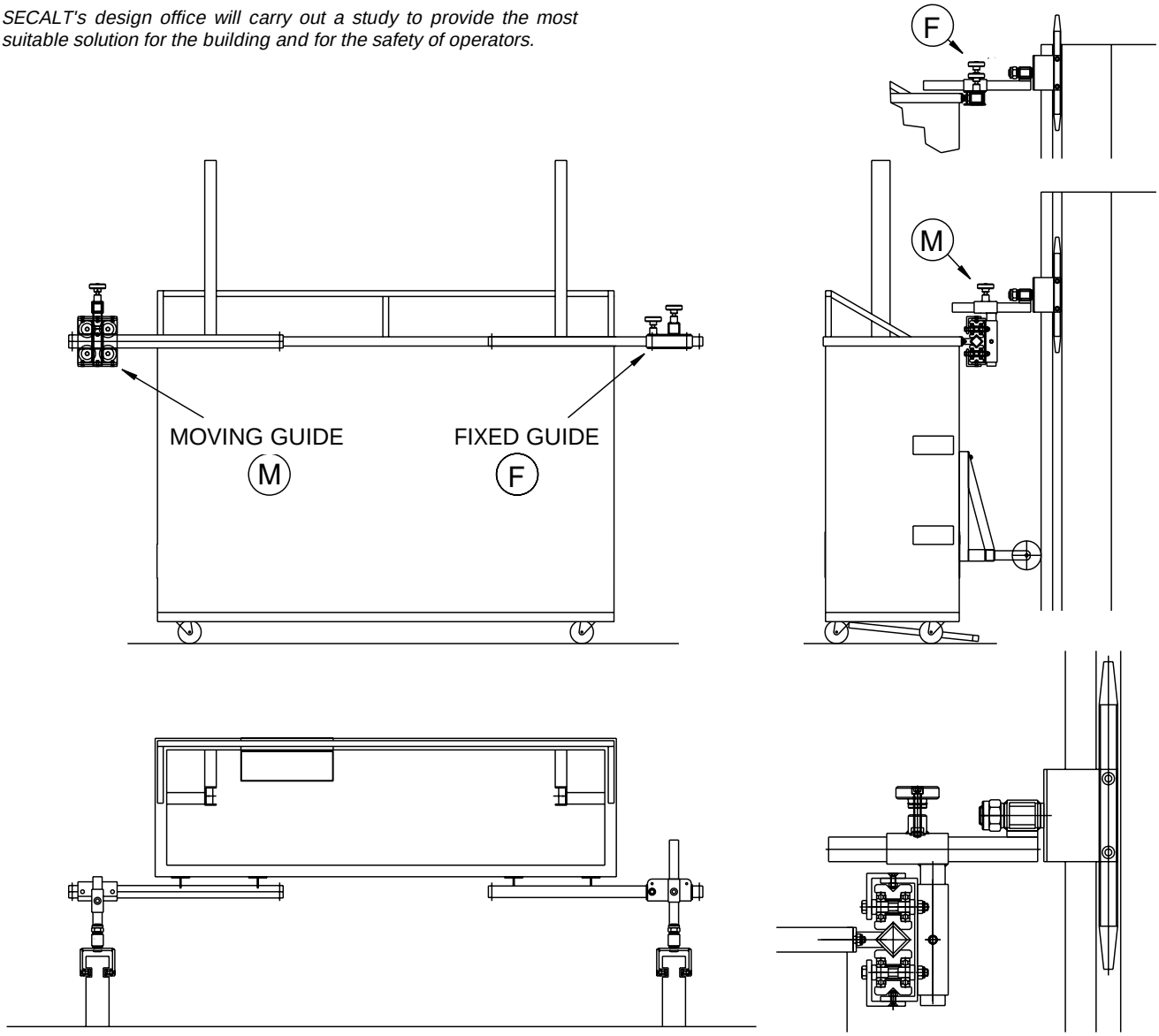

Fig. 3