

# TIPO MARINHEIRO

Aluminum access ladders.

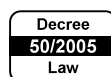
The vertical access ladders are an appropriate solution when buildings, plants or machines require a permanent access. The vertical ladders are robust, durable, efficient and allow ascent and descent safe, even at great heights. It has comfortable platforms allowing the user to rest and simplify the rise in the event of vertical displacement. The various accessories cover the versatile requirements that the ladder construction conditions may require. The Jormax optimized mounting system allows time savings up to 30% even in the case of multiple complex systems. A new fixation technique and high-strength rear important protection is the modern answer to the growing requirements for the production economy. We plan vertical ladders in close alignment with the requesting party, depending on the location and purpose of use. After all, good planning is half the solution. Depending on the conditions and purpose, different standards apply to the construction of vertical ladders. The vertical ladders Jormax meet these standards:

## DIN 18799-1: FIXED IN BUILDINGS VERTICAL LADDER

Application: In buildings for maintenance and cleaning work. Special regulations apply to chimneys. Please send us your request.

## EN ISO 14122: FIXED IN VERTICAL LADDER MACHINERY

Application: As access to machines and fixed/mobile machinery. This can also include a building as part of a piece of machinery.



# DIN 18799-1 APPLICATION IN BUILDINGS (MAINTENANCE)

Ladders up to 10,00 m - without displacement.

Ladders up to 10,00 m - with displacement.

## PLACE OF APPLICATION

In buildings for maintenance and cleaning. Special regulations apply to chimneys with regard to assembly and back protection. Please send us your request.

## PLANNING AND USE

The height of individual sections of the ladder, as well as the spacing of the rest platforms, is set according to a certain group of people (1 or 2) with regard to the experience in using vertical ladders.

- (1) People with experience in using vertical ladders (as antennas builders).
- (2) People with no experience in the use of vertical ladders (as private individuals).

The top step of the ladder should be at the exit level. From a height of 10,00 m, the ladder shall be mounted with displacement. The maximum length of a ladder section can not exceed 10,00 m.

## EXIT

If the clearance at the outlet is greater than 75 mm, in relation to the building, must be applied one step to compensate the clearance.

## EXIT STEP - FIXING

Standard fixation provides 210 mm clearance, from the center of the step to the wall. For different clearances, there are other mounting options.

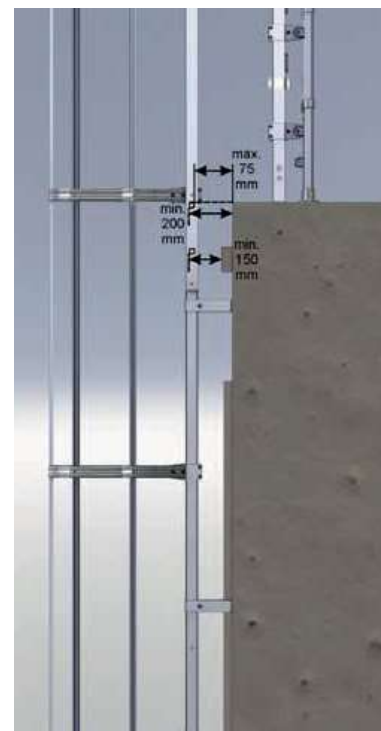
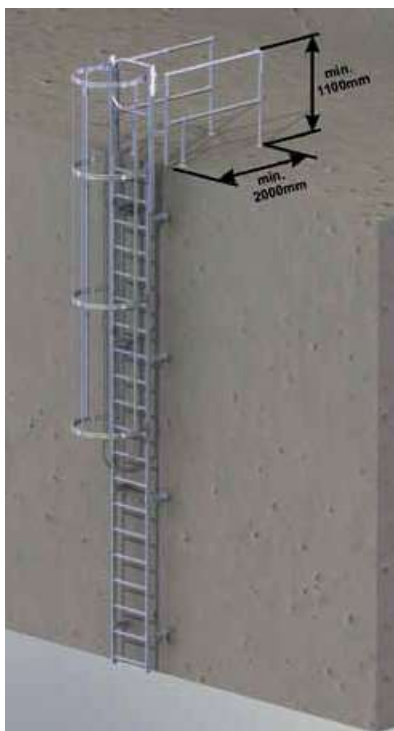
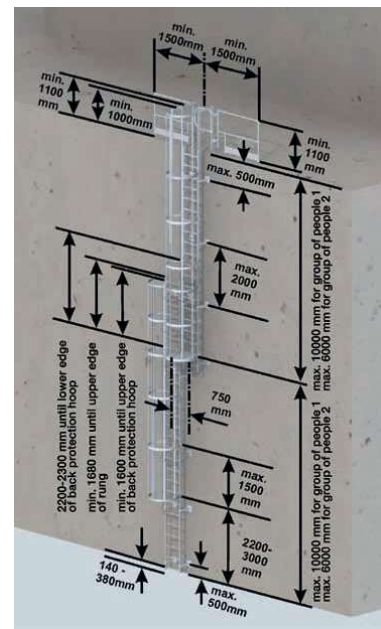
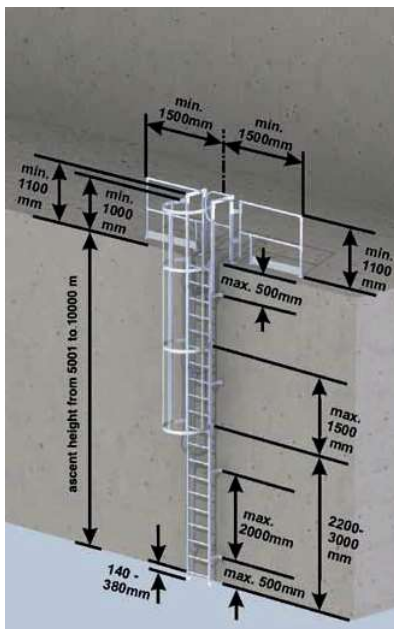
The distance between the fixings may not exceed 2,00 m and should be placed, preferably immediately below the steps.

## FIRST STEP

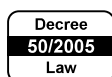
The first step must be compulsorily placed at a ground height of 140 mm (min.) and 380 mm (max.).

## DORSAL PROTECTION

Mandatory back protection for ladders with height  $\geq$  to 5,00 m. Placement of the back protection at a height between 2,20 to 3,00 m.



ACCESS LADDERS



| BUILDING HEIGHT  | Exit Ladder | NUMBER OF STEPS |    |    | FOLDING | FOLDING MODULE* | AMOUNT OF FIXERS | AMOUNT OF PROTECTION ARC |          | REF    | € |
|--|-------------|-----------------|----|----|---------|-----------------|------------------|--------------------------|----------|--------|---|
|  |             | m               | mm | mm |         |                 |                  | mm                       | Standard |        |   |
| A ladder up to a height of 5 m   |             |                 |    |    |         |                 |                  |                          |          |        |   |
| 2.90   | 1           | 1               |    |    | -       | -               | 4                | 2                        | 1        | 104000 |   |
| 3.74   | 1           |                 | 1  |    | -       | -               | 6                | 2                        | 1        | 104001 |   |
| 4.58   | 1           |                 |    | 1  | -       | -               | 6                | 3                        | 1        | 104002 |   |
| From a height of 5 m (includes protective guards starting 3 m from the ground) |             |                 |    |    |         |                 |                  |                          |          |        |   |
| 5.70   | 1           | 1               | 1  |    | -       | -               | 8                | 3                        | 1        | 104003 |   |
| 6.54   | 1           |                 | 2  |    | -       | -               | 8                | 4                        | 1        | 104004 |   |
| 7.38   | 1           |                 | 1  | 1  | -       | -               | 10               | 4                        | 1        | 104005 |   |
| 8.27   | 1           | 1               | 2  |    | -       | -               | 10               | 5                        | 1        | 104006 |   |
| 9.34   | 1           |                 | 3  |    | -       | -               | 12               | 6                        | 1        | 104007 |   |
| 9.96   | 1           |                 | 2  | 1  | -       | -               | 12               | 6                        | 1        | 104008 |   |
| From height of 10 m (includes protective guards starting 3 m from the ground)  |             |                 |    |    |         |                 |                  |                          |          |        |   |
| 10.96  | 1           | 2               | 1  |    | 5.44    | 1               | 10               | 4                        | 1        | 104009 |   |
| 12.64  | 1           |                 | 3  |    | 6.28    | 1               | 12               | 6                        | 1        | 104010 |   |
| 14.32  | 1           |                 | 1  | 2  | 7.12    | 1               | 14               | 7                        | 1        | 104011 |   |
| 16.56  | 1           | 2               | 3  |    | 8.24    | 1               | 18               | 9                        | 1        | 104012 |   |
| 18.24  | 1           |                 | 5  |    | 9.08    | 1               | 20               | 11                       | 1        | 104013 |   |
| 19.92  | 1           |                 | 3  | 2  | 9.92    | 1               | 22               | 12                       | 1        | 104014 |   |

\* The folding module is common to all access ladders for heights above 10 m. This module comprises:

- 2 ladders 2800 mm;
- 3 standard arcs;
- 1 double arc with junction;
- 8 extension bars with 2,20 m.

### COMPONENTS INCLUDED IN THE PROVISION OF THE PRODUCT

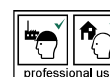
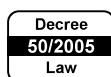
- Standard wall fasteners REF: 100154;
- Pair engagement rings for the ladder REF: 100134;
- A wide exit REF: 100136;
- Standard protection hoops REF: 100142;
- An output hoop REF: 100141;
- Vertical bars REF: 100148;
- Unions fixing vertical bars REF: 100159;
- Ladders.

### ATTENTION

The ladders are always provided for a certain range of measurement.

Example:

Ladder REF: 104004 - This ladder is able to measure the range from 5,71 to 6,54 m. The ladder you need not be cut if the measure is 6,54 m, but if the measure 6,00 m, must be cut 0,54 cm on the ladder close to the ground.



# NOMENCLATURE

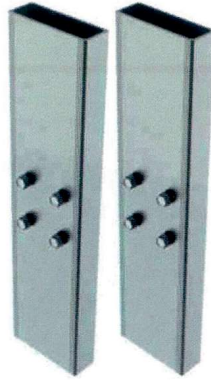
## LADDERS



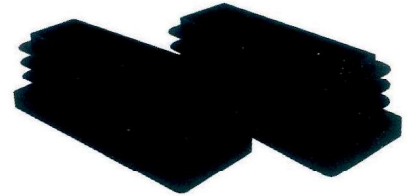
Stairwell 1.96 m  
REF: 100132



Stairwell 2.80 m  
REF: 100133



Coupling Union  
REF: 100134

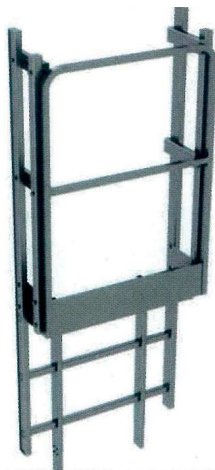


Ladder Tops  
REF: 100135

## EXITS



Wide right exit  
REF: 100136



Wide step exit  
REF: 100137



Output extension 695  
REF: 100138



Output extension 920  
REF: 100139



Output extension 1145  
REF: 100140

**PROTECTIONS**

ACCESS LADDERS



Wide arc for wide exit  
REF: 100141



Standard arc  
REF: 100142



3/4 arc for right exit  
REF: 100143



3/4 arc for left exit  
REF: 100144



Double arc with junction piece  
REF: 100145



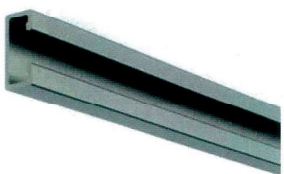
Support arc  
REF: 100157



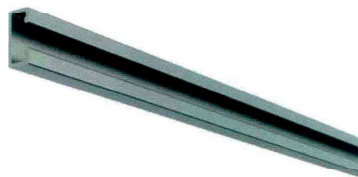
Fixed platform with aluminum corrugated sheet  
REF: 100146



Folding intermediate platform  
REF: 100147



Extension bar 2 m  
REF: 100148



Extension bar 3 m  
REF: 100149

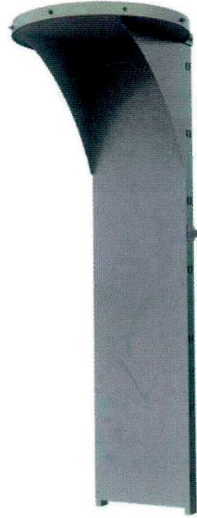


Union fixing bar  
REF: 100150

**ACCESS RESTRICTIONS**



Swivel cover  
REF: 100151



Restraint door with lid  
REF: 100152



Restraint door without lid  
REF: 100153

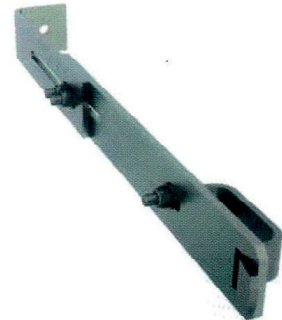
**FIXERS**



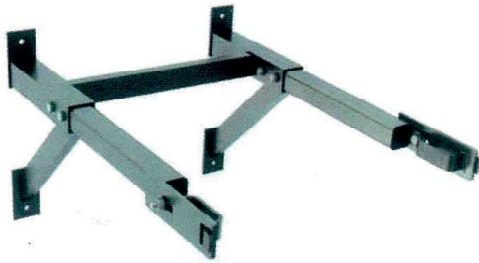
Standard fixer  
REF: 100154



Adjustable fixer 200 - 300  
REF: 100155



Adjustable fixer 300 - 400  
REF: 100156



Adjustable wall bracket 350 - 500 mm  
REF: 100158  
Adjustable wall bracket 500 - 650 mm  
REF: 100159  
Adjustable wall bracket 650 - 800 mm  
REF: 100160



Ground fixing corners  
REF: 100161

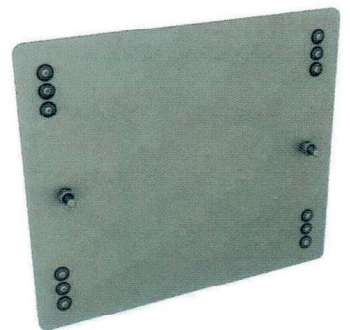


Plate adaptation coatings  
REF: 100162