



# WIŚNIEWSKI



MakroTherm XXL 60 mm  
Sectional Doors

### Overview

Sectional industrial doors are intended for use at public buildings and industrial facilities – also in the food processing sector (without direct contact with food). Each door essentially comprises vertical tracks and/or ceiling-mounted horizontal tracks and a door leaf made of steel panels filled with CFC-free PU foam. The structure is made of galvanized components. The door features seals along its entire circumference. A safe system of torsion springs counters the door leaf weight. The MakroTherm XXL door is opened in standard with an electric drive unit. Installation in aggressive environments that may result in accelerated corrosion attack (e.g. in drying rooms or chemical storage facilities) requires custom agreement. Due to the anti-corrosion protection the doors can be used as intended for in environments with Corrosivity Categories C1, C2 and C3 according to EN ISO 12944-2 and EN ISO 14713.

### Designations

**MakroTherm XXL** – Large-size sectional industrial door; the door leaf is made of 60 [mm] thick steel panels filled with CFC-free polyurethane foam. The door is intended to be operated with electrical drive units only. The door is installed with the torsion springs rated at 15 000 cycles to counter the door leaf weight.

### MakroTherm XXL door leaf

The door leaf consists of panels available with the following section heights: 500 and 625 [mm]. The panel height depends on the overall door height. The panels are made of galvanized steel sheet with the woodgrain low ribbed outer texture. The inner surface is woodgrain textured in RAL 9002. Each panel inner side features the Omega galvanized reinforcement profiles to stiffen the leaf. The panels are coated with polyester coatings or veneer boards and secured with galvanized steel hardware. The bottom section features a gasket with contact with the ground, while the top section features a gasket with contact to the headroom when the door leaf is closed. The panels feature formed anti-pinching protection and gaskets between each two segments. The heat-transfer coefficient of the door is  $U_k = 0.9$  [W/m<sup>2</sup>·K] (for door size 10000 x 5000 [mm]).

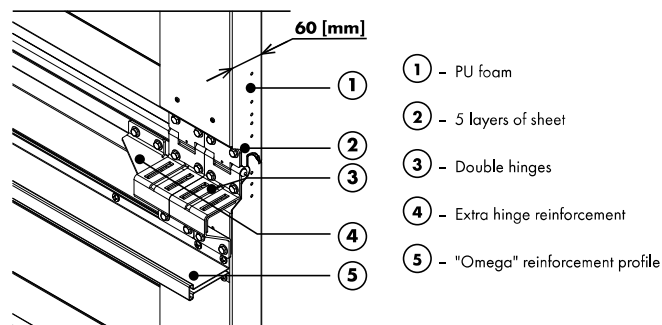


Fig. 1. MakroTherm XXL door panel.



**N** Low ribs

Fig. 2. The MakroTherm XXL door leaf with low ribs – outer view.



**The door panels are installed from bottom up and with the highest panel first (if, due to the overall door height, panels of varying height are required).**

### Balancing of the door leaf weight

The doors feature a system of torsion springs rated at 15 000 cycles to assist lifting and lowering of the door leaf. The door can feature 2 to 6 torsion springs, depending on the door dimensions and guide type. The springs are installed on the door winding shaft that is made of stainless steel. The torsion springs are installed

at the headroom. The torsion springs in the MakroTherm XXL doors are paint coated in standard. The MakroTherm XXL doors are intended to be operated with electrical drive units only.

### MakroTherm XXL door colours

The door leaf outer structure is made according to the table below. All doors are coated with the half-matt finish. The inside surface of the leaf is made in a colour approximate to RAL 9002.

Colour		Texture			
		Woodgrain	Smoothgrain	Sandgrain	Silkline
<b>RAL</b>	RAL 9016 (Traffic white)	●	—	—	—

Tab. 1. The textures and colours of panels with low ribs for the MakroTherm XXL door series.

● Available — Unavailable

### Framework / tracks

The parts are made of galvanized steel parts. The profiled track form prevents derailing of the rollers which move within. The horizontal tracks feature gaskets to which the door leaf is pressed when closed. The lengths of individual tracks depends on the guide type. See more in "Guide (installation) types and required installation parameters".

### Hardware / hinges

The panel end hardware is made of galvanized steel sheet. The middle and side hinges (between the segments) are made of galvanized steel and fastened by screws to the panels. The hinges hold double sliding bearing rollers which make the door leaf run in the tracks. The door comes with double side hinges with a reinforcement solution, a set of side brackets and a special system for the horizontal track suspension.

### Safety features

#### MakroTherm XXL

- The panels are specially formed at the joints to prevent pinching of fingers.
- Cable break safety device – all sectional industrial doors feature safety brakes which prevent the door leaf from falling when the suspension cables fail.
- Spring break safety device – safety brakes which prevent the door leaf from falling when the door leaf counterweight spring fails.
- Safety light barrier.
- Silent self-locking worm-gear transmission, speed reducer gear transmission with electromagnetic brake.

### Assembly dimensions

Installation requirements

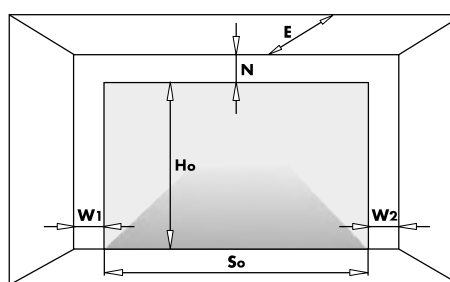


Fig. 3. The assembly dimensions and designations thereof required for correct selection and assembly of sectional industrial doors.

**$S_o$**  – opening width, ordering size,

$S_j$  – clear passage width with the door installed,

**$H_o$**  – opening height, ordering size,

$H_j$  – clear passage height with the door installed,

$N$  – minimum headroom required,

$W_1$  – minimum side clearance required,

$W_2$  – minimum side clearance required,

$E$  – minimum indoor depth with clearance under the ceiling.

**Drive unit**

The MakroTherm XXL door is in standard version equipped with the Automatik drive unit controlled by a frequency converter and rated at 3x400 [V] – see p. 80.

**50 000 cycle springs**

Contact the Sales Department for production availability.

**Special installation kit**

This kit allows installing the doors within steel structures or reinforced concrete head-rooms. The kit is always adapted to the door installation parameters and sold only with the specific ordered door.

**Reference drawing**

Reference drawings of the installed door in the outer view are available on customer request.

