

## LOWARA OFFICES

1984 – 1985 Montecchio Maggiore, Italy

Located almost in the open countryside, in the small town of Montecchio Maggiore near Vicenza, the Lowara electric pump factory is none other than one of the many anonymous industrial plants in prefabricated concrete panels with sawtooth roofs. The building designed by Renzo Piano's office, for administrative and commercial offices, abuts onto one of the fronts, tracing its length and height, and presents itself as the factory's new public façade.

The building is a large open and flexible space, 150 meters long and 15 wide, which extends beneath an acrobatic curved cover in corrugated metal, taut as a sail, rising from 2.40 meters up to 7.2 meters. The cover is a catenary: the particular hyperbolic flat curve made by a rope tied at two ends and subject only to its own weight. This special conformation means that the load is equally distributed over the whole surface, so minimizing the use of material. This cover is stretched between two sets of steel "trestles" inclined inwards. Along the north side these supports are 3 meters away; to the south they are modeled in a V at an interval of 6 meters from each other.

A longitudinal corridor separates and at the same time connects the open space to the establishment. A series of meeting rooms, featuring glass walls that open onto the corridor, have been set in the factory grounds. They provide an effective acoustic barrier separating the offices from the production spaces. The horizontal profile of the building and the glazed windows are design choices dictated by the surrounding landscape, in particular the aim of allowing the eye to range across the countryside, over distant villages with their bell towers and a nearby Palladian villa.

On the intrados, the cover shines with the light shimmering against it. The curve and the minute transversal undulations of the white painted sheet metal enhance the changing refractions of natural light. Even the corridor is flooded with natural light, reflected by a double curved screen, also in corrugated metal. To the south, where the roof reaches its highest elevation, a skylight extends above the whole length of the corridor, lighting and warming most of the interior. The inclination of the roof and the openable skylight favor the chimney effect and summer ventilation, triggered by the breeze from the north. Then, in summer, if the temperature rises above a certain point, water sprinklers are automatically activated and moisten the extrados of the roof, cooling the office spaces below.

The building, seemingly restricted to the immediate sign of its roof, is actually a carefully calibrated climatic machine.