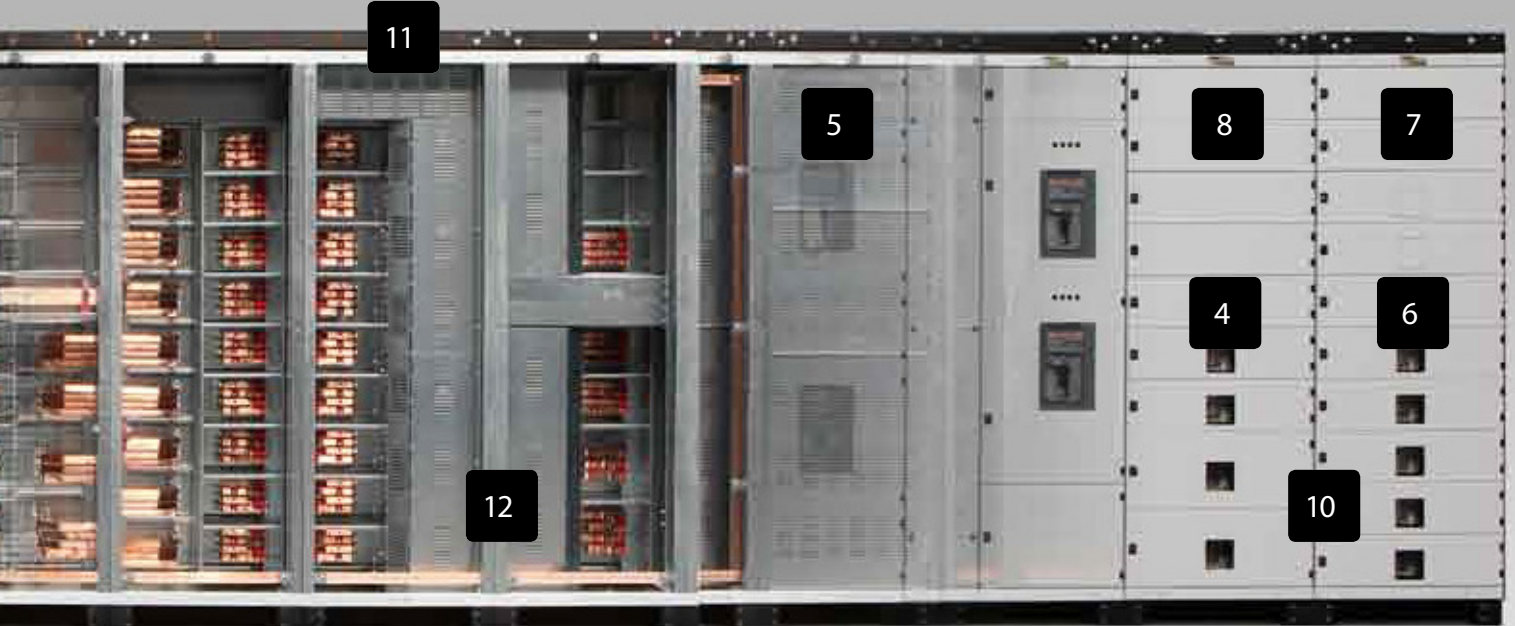


PW-TECH

Power evolution

INNOVATION





PWN-TECH

Power evolution



7

Cells that can be handled from the front, by a single operator.



8

Epoxy powder coating after phosphatising in shade Ral 7035 (other shades on request).



9

Fully modular systems that can be constantly expanded with the possibility of replacing the doors and the side panelling.



10

Patented (VI2000U00013) and certified (Test n. A0/017150) Earth connection system on doors and on all side panels.



11

Handling by rollers, bridge cranes, trolleys or jib crane.



12

Full range of internal finishing accessories for providing solutions for any requirement.



FAST-ONE

Step your work up a gear

FAST-ONE™ is the very first intuitive universal configurator for electrical cubicles, easy to use and free! It ensures an incredible reduction in design time, maximum flexibility and absolutely guarantees product quality standards.

Automatically eliminate 100 % of errors.

The FAST-ONE™ solution, changes your way of working because it is an intelligent configurator that lets you complete your work easily, rapidly and efficiently.

FAST-ONE™ accelerates the production phases, optimises controls, automatically eliminates errors, reduces costs and time, makes the design phase more fluid, simplifies manufacturing, assembly and installation of your projects.

Universal and modular,
maximum freedom without useless restrictions.

FAST-ONE™ has been studied and developed with you and for you, according to the requests, expectations and desires that Lafer has gathered in its working experience in designing and manufacturing enclosures for the electrotechnical industry.

By designing the new ME-CUB cabinet series it is possible to export the entire withdrawable unit in 2D, in order to design in advance the layout of the internal electrical devices.

FAST-ONE™ is a safe and flexible application
that adapts to your needs and to those of your customers.



simple ideas for great projects

VERSATILITY

TECHNICAL SPECIFICATIONS

FAST-ONE™ is a Windows environment package aimed at designers, electrical cubicle operators and installers, that allows them to make up electric panels, lists of materials and to calculate the respective costs.

FAST-ONE™ can interact with LAFER ensuring a bidirectional exchange of all necessary information for carrying out the project. Furthermore the Lafer designers can intervene on-line, via web, directly on the user's terminal to discuss and collaborate together on the same project.

All these operations are carried out rapidly thanks to the simple controls available directly on the menu.

- Drawing with front view and layout of the structure
- Replacement and/or replication of assembling elements
- Sizes and location of holes
- Possibility to fit appliances from all the leading manufacturers (ABB, SCHNEIDER, SIEMENS, etc.).
- Possibility of passing from one manufacturer to another within the same project.
- Determining the overtemperature inside the cubicle.
- Bus systems dimensioning with the attached support brackets according to the requested Icc.
- Automatic construction of the cascade coding of the components used in the drawing and possibility of sending them directly by e-mail to Lafer.
- Quotation and updated cost estimate.
- Design customising with the customer's logo or name.
- PDF and DXF export.
- Available in 3 languages: English, German and Italian.



PW-TECH

Characteristics

PRACTICALITY

Design aspects

Thanks to its experience developed throughout the years LAFER has created PW-TECH, the new structure for primary low voltage distribution. Thanks to a company policy that aims at meeting the customers' diversified requirements, with their versatility the PW-TECH cubicles provide an answer to all types of cabling.

Technical characteristics of the product

The modular PW-TECH cubicle is manufactured with a sheet metal load bearing structure with a thickness of 20/10 mm and can be easily assembled according to construction standards. Each internal component is subject to an industrial treatment with a galvanising process (sendzimir/aluzinc), while the external part is epoxypolyester powder coated in shade RAL 7035 (other shades upon request).

The structures are available with an IP30 or IP54 protection level according to the different requirements of the user. Higher protection levels are subject to an agreement between LAFER and the customer.

Standardization and flexibility

The standardization of structures, of functional units and of dimensions makes the cubicle a flexible tool that can be used for any plant layout.

Practicality and advantages

All PW-TECH cubicles have been studied to answer to 3 requirements:

- **Simplicity in creating the bus pathway.** The modular characteristics of all internal components allow the pathway to be created according to fixed points thus requiring extremely little time.
- **Bus pathway optimisation.** Taking the new market demands into consideration the PW-TECH cubicles allow for the creation of the bus system, of connectors and of connections with a considerable saving on copper.
- **Easy-to-fix internal components.** All internal components have been manufactured so that they can be assembled by a single operator with highly innovative fixing systems.

Cell ventilation

As well as maintaining the required protection level, the ventilation system of the PW-TECH cubicles allows the preservation of the electrical characteristics of the various appliances as indicated by the manufacturers. The system is based on natural air circulation.

Fire safety

The use of insulating materials that do not spread fire and the internal metal segregations make the structure safe against the spreading of fire.

Efficient insulation

The whole bus system is designed and manufactured with air insulation. The insulators that form the bus anchoring system are made from blocks of stratified polyester glass (a non-hygroscopic material with elevated mechanical characteristics).



PW-TECH

Characteristics

POWER

Buses and supports

The PW-TECH cubicles allow a wide range of supports to be fitted, creating the bus system according to 3 types of insulators:

- Linear insulators, from $I_n=630A$ to $I_n=5600 A$ with buses placed in parallel.
- Inclined insulators, from $I_n=250 A$ to $I_n=1250 A$ with inclined buses.
- Step insulators, from $I_n=2000 A$ to $I_n=4300 A$
with buses placed in parallel, but arranged on different levels.

All bus systems can be fixed horizontally or vertically with specific supports.

Segregations and segregation advice

The segregations of the PW-TECH cubicles are based on innovative fixing systems and on a particular design. Created using metal diaphragms they give access to the appliances in absolute safety for the operators, avoiding contacts, even accidental ones, with live parts. LAFER cubicles allow the customer to create all types of segregations (1,2a,2b,3a,3b,4a,4b) according to CEI EN 61439-2. Particular types of segregations are available upon request.

Necessary screws and tools

M6 self-tapping screws with hexagonal size 5 male spanner and/or a size 10 fixed spanner.

M6 flanged screw with size 10 spanner.

M8 flanged screw with size 13 spanner.

M12 screws hexagonal size 8 male spanners.

Transport

All PW-TECH cubicles can be handled according to the customer's requirements:

- Thanks to:
- Plinths with reinforced removable flanges.
 - Structure connection L bars.

- It is possible to:
- Palletize the cubicle.
 - Handle it by jib crane, bridge crane or rollers.

LAFER reminds you that in all handling operations it is advisable to check that the ropes and chains are in good conditions and that the correct centre of gravity of the structure to be handled has been correctly assessed.

RELIABILITY

Certifications

3B Energy and Lafer guarantee

All PW-TECH switchgear enclosures have been conceived and studied respecting the current national and international standards, CEI EN 61439-1, CEI EN 61439-2, CEI EN 60529

PW-TECH cabinets have been tested and certified according to the tests required by the norm procedures and their performance is guaranteed in the actual conditions of use.

All internal components and accessories required for manufacturing the switchgear meet the type testing.

The calculation methods followed for designing and manufacturing LAFER distribution systems also rigorously compel with CEI 17-52 and CEI EN 60865 standards. Furthermore LAFER declares that the complete design of its distribution systems is based on extrapolation from a series of type tests.

PW-TECH switchgear enclosures have been subjected to type testing according to the standard:

Short circuit verification

Connection efficiency verification between the equipment masses and the protection circuit

Protection circuit short circuit withstand verification

- Test no. 95/01163 short circuit withstand with $I_n=3200$ A and $I_{cc}=60$ kA for 1 s. PW-TECH cabinet
- Test no. 95/032664 short circuit withstand with $I_n=5000$ A and $I_{cc}=100$ kA for 1 s. PW-TECH cabinet
- Test no. A6018747 short circuit withstand with $I_n=6300$ A and $I_{cc}=150$ kA for 1 s. PW-TECH cabinet
- Test no. A6018748 short circuit withstand onto shunt bars PW-TECH cabinet

Overtemperature limits verification

- Test no. 98/010850 overtemperature limits check PW-TECH cabinet

These tests are certified by CESI and are available to all customers who wish to view them.

By virtue of these certifications all LAFER can bear the **CE** Mark



UNI EN ISO 9001

The complete product is manufactured exclusively by production units with a **Certified System pursuant to EN 29001 (ISO 9001)**.

PW-Tech

Technical specifications



Power Center cabinets for low voltage power distribution up to 6300 A

	Width (W) mm	Height (H) mm	Depth (D) mm
Cabinet	625 (24 modules)	1800 / 2000 / 2200 / 2400 (usable space = H - 200)	625 / 800 / 1000 / 1200 / 1400 / 1600
	700 (24 modules)		
	800 (34 modules)		
	900 (36 modules)		
	1000 (46 modules)		
Cable housing	300	1800 / 2000 / 2200 / 2400 (usable space = H - 200)	400 / 500 / 625
	400		
Cabinet with cable housing	625 + 300 (24 modules)	1800 / 2000 / 2200 / 2400 (usable space = H - 200)	625 / 800 / 1000 / 1200 / 1400 / 1600
	700 + 300 (24 modules)		
	800 + 300 (34 modules)		
	900 + 300 (36 modules)		
	625 + 400 (24 modules)		
	700 + 400 (24 modules)		
	800 + 400 (34 modules)		
	900 + 400 (36 modules)		
Back to back cabinet	On request		

Electrical data	Voltage ratings	Rated insulation voltage (U_i)	1000 V
		Rated operational voltage (U_e)	690 V
		Rated impulse withstand voltage (U_{imp})	6 / 8 / 12 kV
		Rated frequency (f_n)	50 / 60 Hz
	Current ratings	Rated current (I_n)	Up to 6300 A
		Rated short-time withstand current for 1 sec. (I_{cw})	150 kA

Mechanical characteristics	IP degree of protection	Internal	Up to IP2X	
		External enclosure	From IP30 to IP55	
	Covers height (h)	150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 600 / 700 / 800 / 900 / 1000		
	IK test (shock resistance)	IK09 glazed door		
		IK10 blind door		
	Access	From the front / Side / Rear		
	Execution	Form 1 / Form 2a / Form 2b / Form 3a / Form 3b / Form 4a / Form 4b		
	Materiel	Structure	Pickled plate, 15/10 - 20/10 mm thick	
		Accessories	Aluzinc® sheet steel, 15/10 - 20/10 - 25/10 mm thick	
	Powder coating	Standard	RAL 7035 B light grey (orange peel)	
		On request	Powder RAL colours and stainless steel	
	Plastic components	Halogen-free, flame retardants, self-extinguishing, CFC-free		
	Options	Busbar system	Silvering/ Tinning	