



ABNOOS

Manufacturer of Panelboards and PLCs



Quality never stops here





What we do?

We manufacture high quality of devices to let people feel relax.



Mission:

We help people to experience new feeling of safety and peace



Vision:

We will be the source of standard of all the products similar of ours in Iran



Values:

Friendship, Trust, support



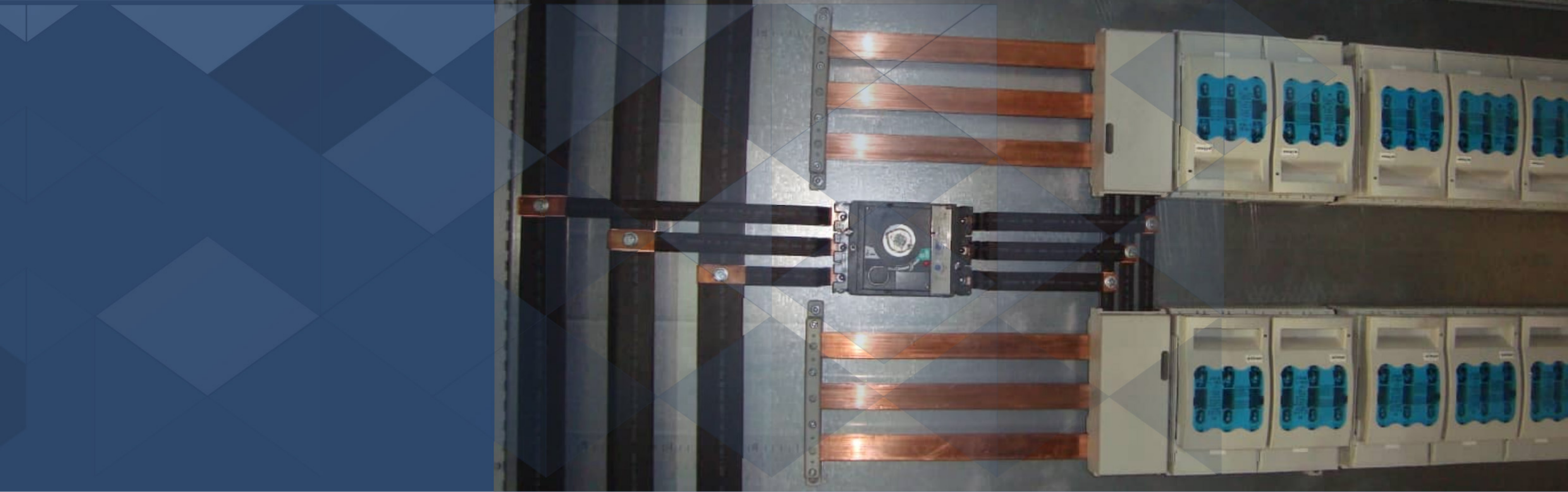
Principle:

R&D, Team working, Willingness to improve



Our focus:

Quality, Responsibility, Innovation



The Abnoos Company, Manufacturer of Panelboards and PLCs

The Abnoos Company is privileged for having experts and trained technicians; and relying on modern methods in the electrical industry, the Company has taken a big step in improving the quality of manufactured civil and industrial panelboards in Iran. The company has tried to use the most reliable brands in the world and design its products according to the world's standards.

The Panelboards Products of Abnoos Company			
(Panel Board) PB			
(Mechanical Panel Board) MPB			
(Lighting Panel) LP			
(Distribution Panel) DP			
(Lighting Distribution Panel) LDP			
(Air Handling Unit Panel) AHUP			
(Main Distribution Panel) MDP			
(Heat Ventilation Air Condition) HVAC			
(Motor Control Center) MCC			
(Capacitor Bank) CB , PFC			
(Automatic Transfer Switch)ATS			
Distribution Panel			
Lighting Distribution Panel (LDP)	Automatic Transfer Switch (ATS)	Distribution Panel (DP)	Main Distribution Panel (MDP)

Distribution Panel

Manufacturing Various Types of Distribution Panels

The entire Panelboards and PLCs are manufactured in the production line of Abnoos Group at the Panelboard Design and Manufacturing Unit. Along with supplying the panelboards for booster pump unit products, The Company is also capable to provide services to various industrial, commercial, and construction units.

The components of these panels often include air circuit breakers (ACB), Molded Case Circuit Breakers (MCCB), Miniature Circuit Breakers (MCB), fuses, and other power equipment that are responsible for disconnecting and connecting, and protecting the current.

Main Distribution Panel (MDP)



Lighting Distribution Panel (LDP)

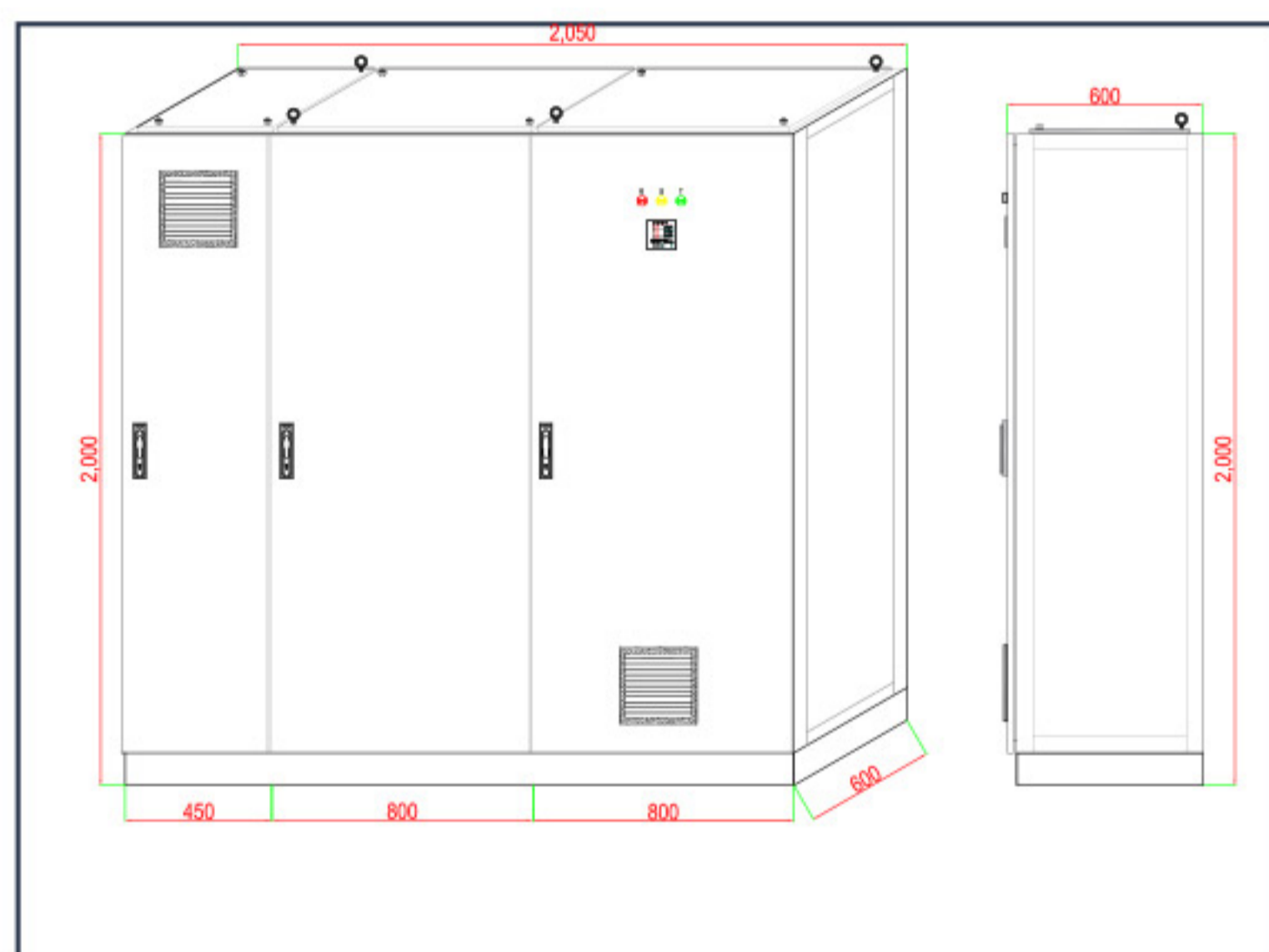


Technical Data of Distribution Panels

Applications	
Distribution	
Motor control	
Standard	IEC 61439-1, 61439-2
Electrical characteristics	
Rated voltage	
Rated operational voltage (U_e) (VAC)	400-690 (on request)
Rated insulation voltage (U_i) (VAC)	690 - 1000
Rated impulse withstand voltage (U_{imp})(KV)	8-12
Degree of pollution	3
Frequency (Hz)	50/60
Rated current	
Main busbars	Single
Rated horizontal busbar (A)	Up to 5000A
Rated vertical busbar (A)	Up to 3200A
Rated short-time withstand current (KA rms/1s)	Up to 100KA
Rated peak withstand current (KA)	Up to 220KA
Incoming / Outgoing	
Distribution Feeders	Up to 5000A
Motor Feeders	
Mechanical characteristics	
Total height (mm)	2000, 2100
Width (mm)	600,800,1000
Depth (mm)	600,800
Functional unit according to IEC 61439-2	
Forms according to IEC 61439-2	IP42-IP54
Degree of protection according to IEC 60529	
Surface protection	Epoxy powder polymerized at high temperature
Standard color	*RAL 7032 / 7035
Cable entry	Bottom or top
Access	Rear and Front

Other colors on request

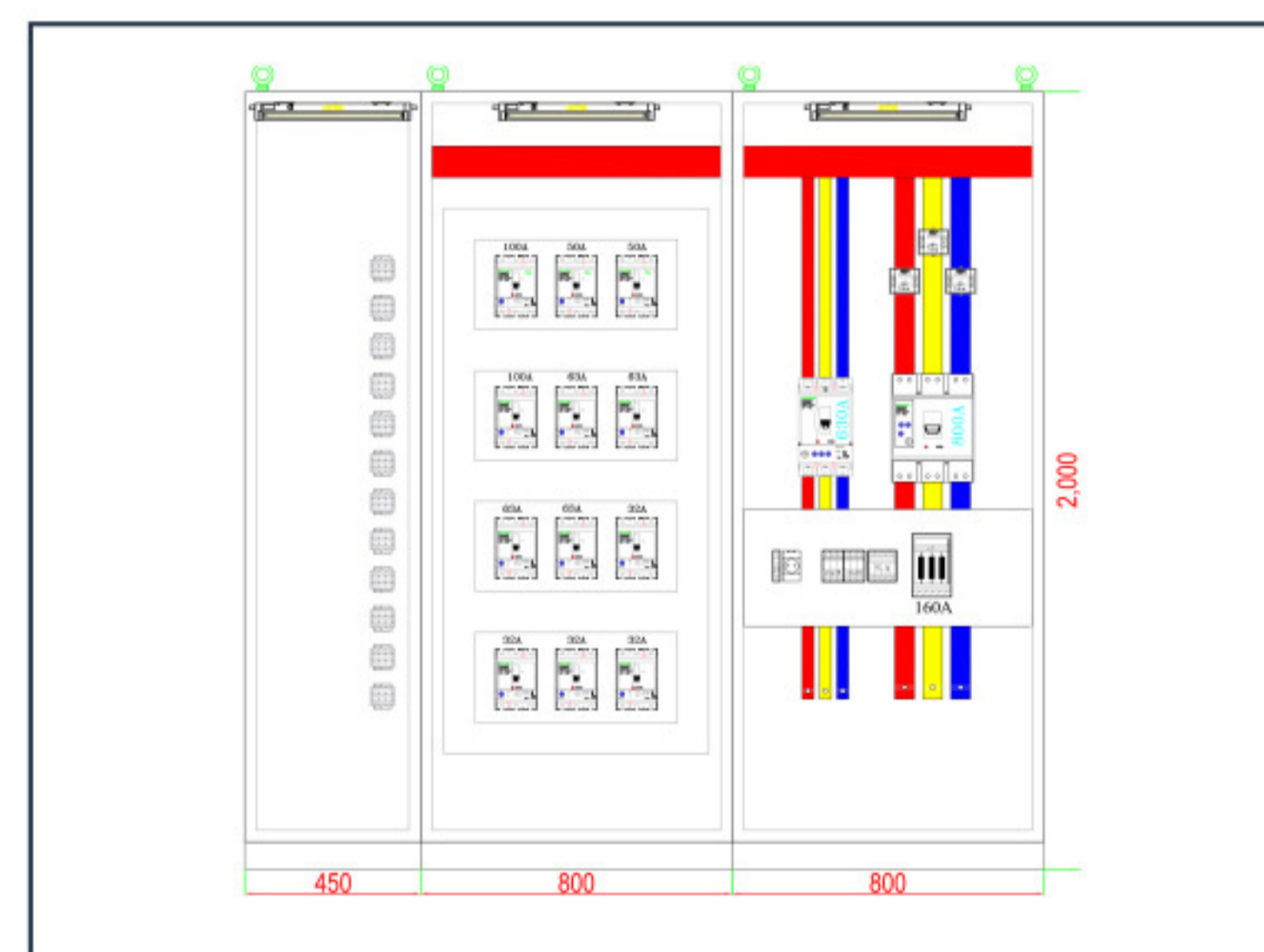
Design and Drawings



External View of Panelboard

- ✓ Number of cells
- ✓ Complete dimensions of the board: including (height, width and depth)
- ✓ View of the equipment on the doors
- ✓ Lock and hinge installation location (to see the opening direction of the doors)
- ✓ Back view of the panel: to see the type of locks, how to open and the direction of opening the doors behind the panel (if needed)

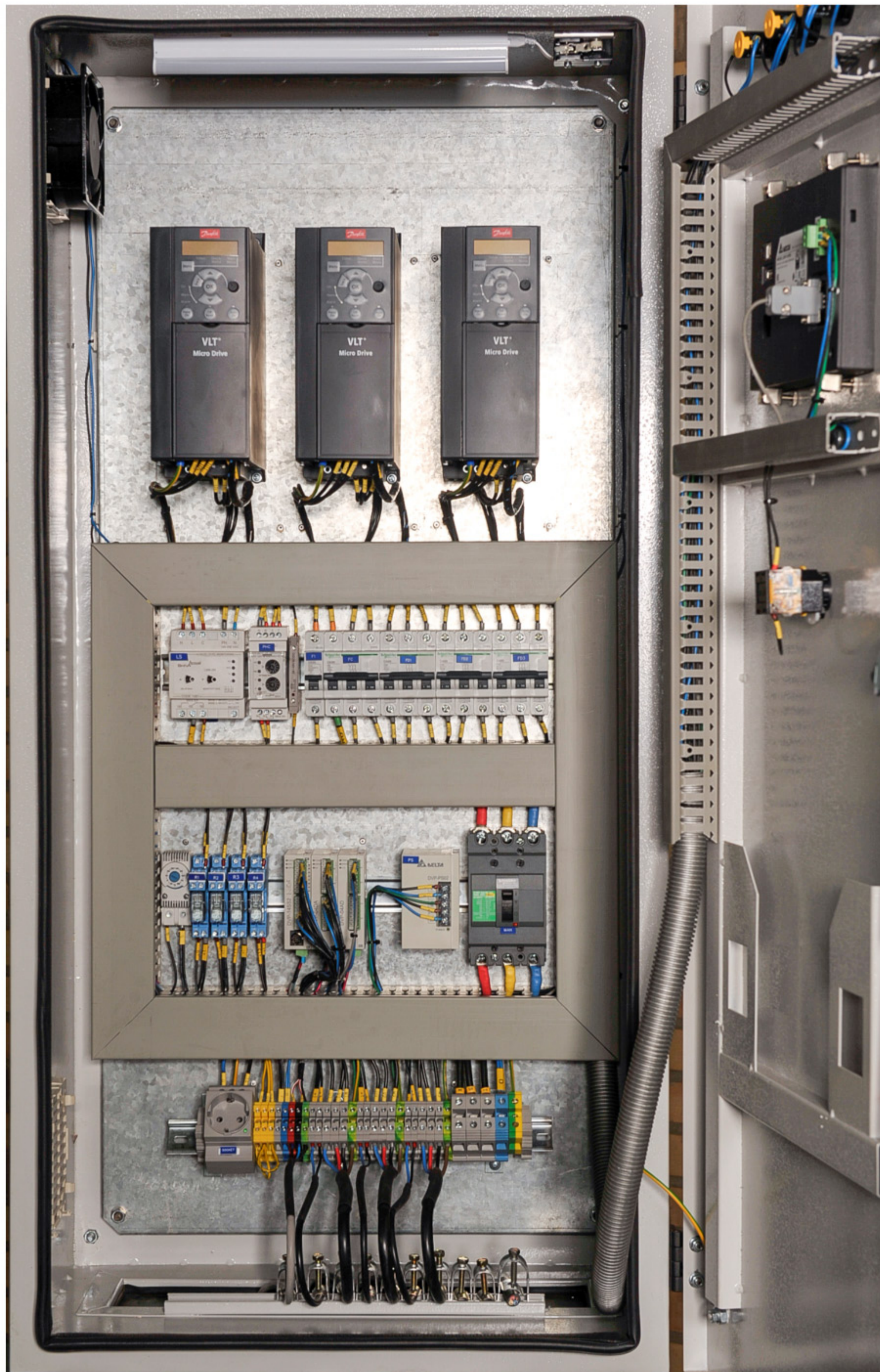
Side view of the board to see the depth of the board and its possible parts



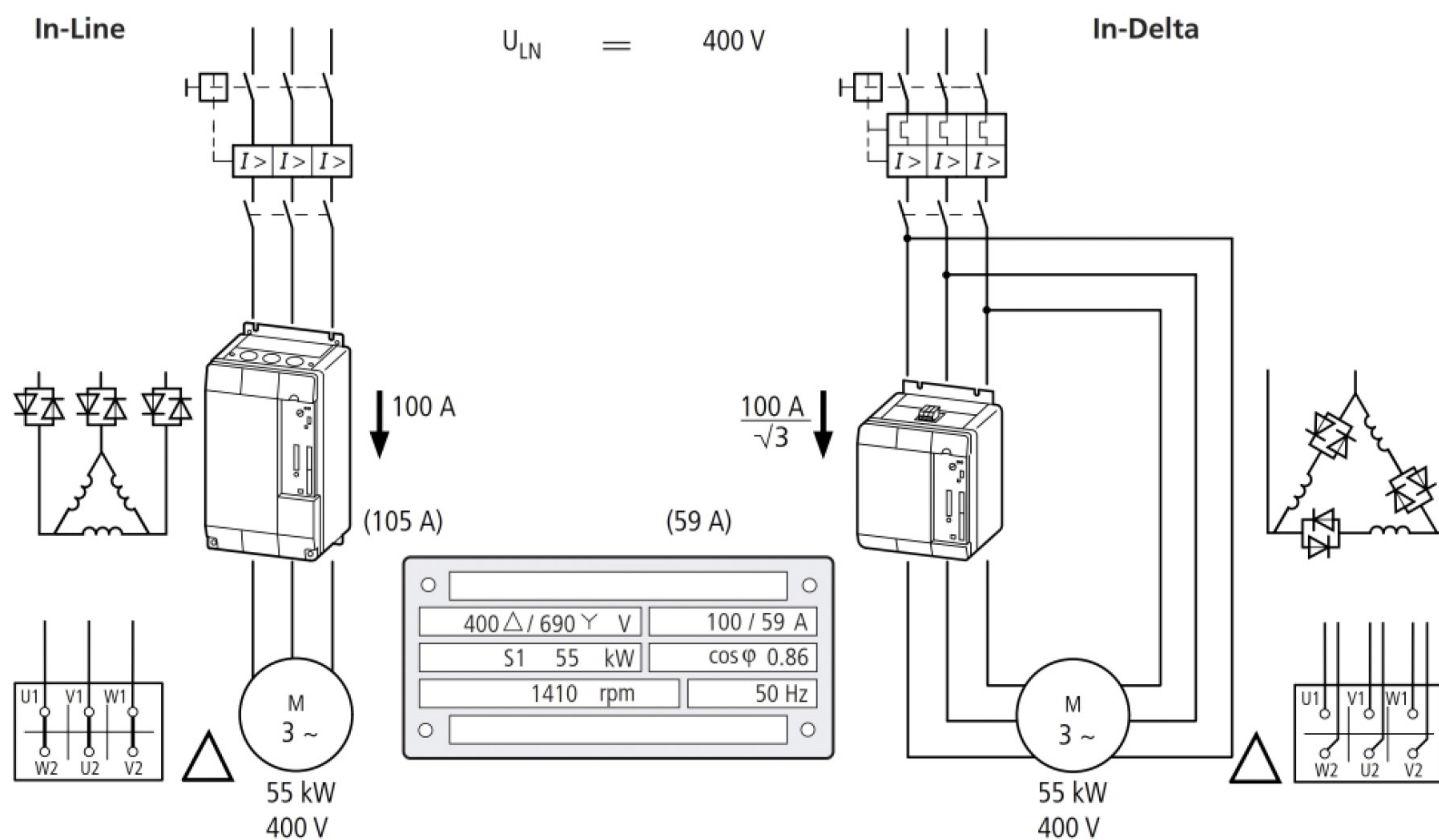
Internal View of Panelboard

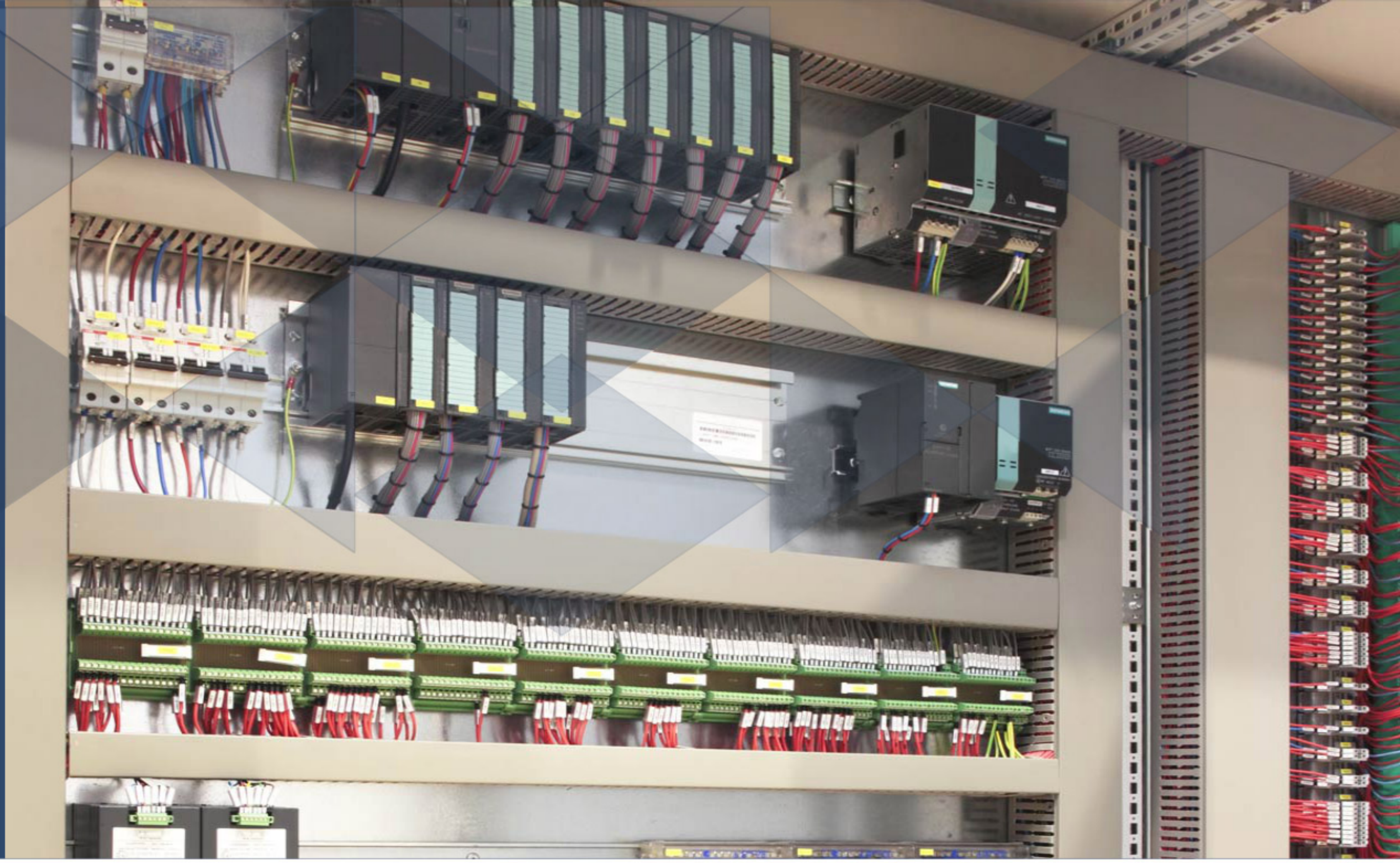
- ✓ Installation and mounting location of all electrical equipment
- ✓ View and passing of busbars
- ✓ Required dimensions (empty space to pass cables)
- ✓ Location and direction of entry and exit of cables
- ✓ Determining the type and range of keys and viewing the tag number
- ✓ Type of cable connection (terminal, busbars punch for cables, etc.)

Variable-Frequency Drive (VFD)



Starting an Electric Motor with a Soft Starter





Control Panels

Designing PLC control systems and HMI Monitoring Systems and the Motor Control Center (MCC).

The control unit is one of the main requirements in all industries.

The implementation of the control system, both in terms of hardware and software, is the responsibility of the panelboard.

Hence, Abnoos company tried to keep pace with the world's state-of-the-art industry and take important steps in the control, programming, and execution of electrical panels, industrial systems, and especially construction facilities industries. Some of the company's products in the panel manufacturing department, the following can be pointed out: The Building Management System (BMS), Circulator Pump Control Panel, and Sewage Pump Control Panel.

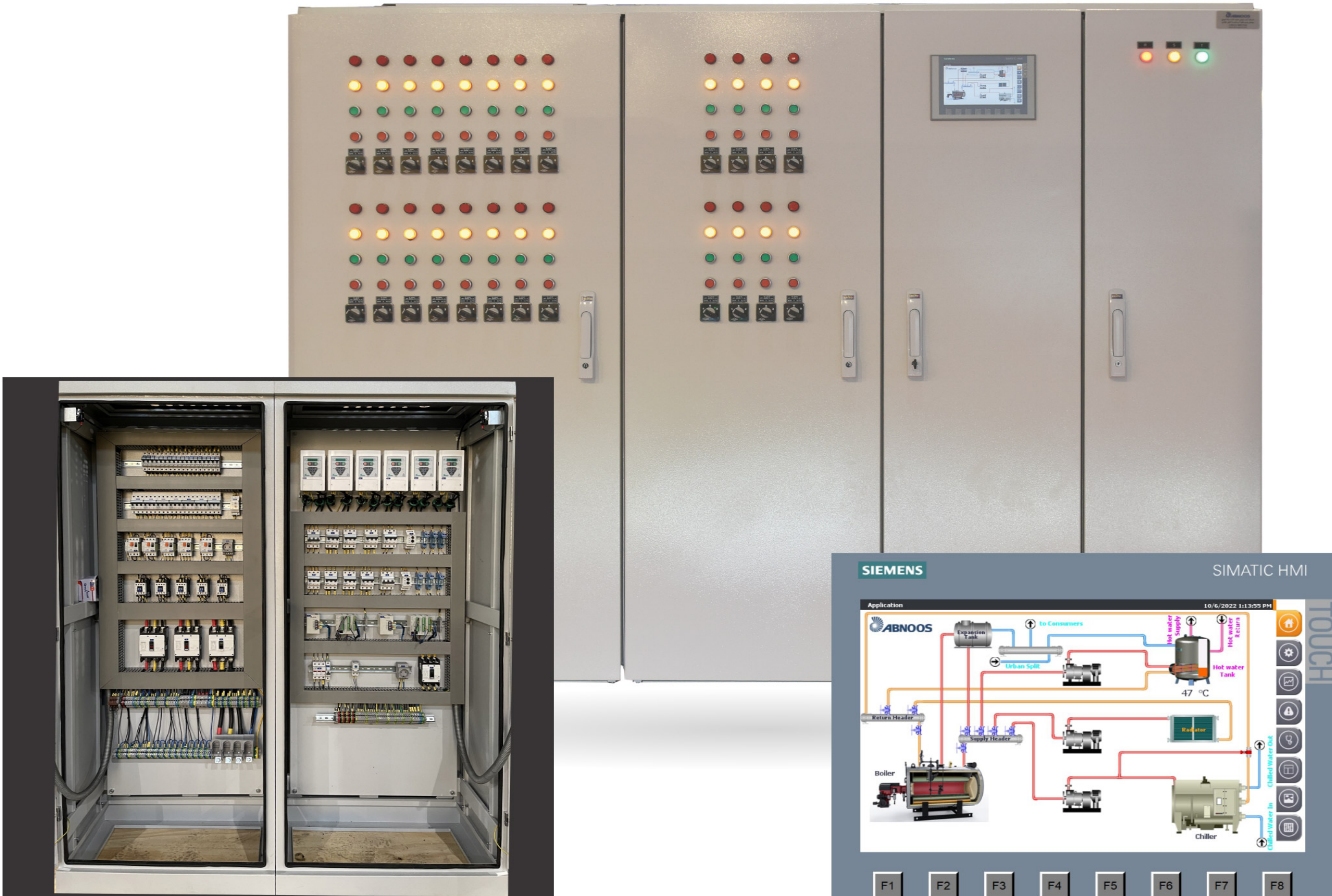
Building Management System (BMS)

Supplying water and air conditioning for residential and commercial buildings and even various industries is vital. Therefore, the utility industry is rapidly moving towards making smart solutions to perform this task perfectly, and at the same time, avoid wasting energy and time. Consequently, the control of the equipment and facilities of a central heating system is of great importance. Currently, the Abnoos company has succeeded in designing and implementing an integrated intelligent control and monitoring Building Management System (BMS).

Building Management System (BMS) is a system through which engine room equipment (such as water supply, air conditioning, refrigeration system, cooling, and heating systems) are controlled and programmed according to the requirements of the building so that this equipment can perform their duties in the best way. The detection of the need is done through the sensors inside and outside the building and according to the environmental conditions by the intelligent system, and in addition to reducing the energy consumption in the central heating system, this reduces the depreciation of the equipment. As a result, the system provides comfort for the residences of the building up to its standard level.

Control Panel Production Line

The automated control system is used in modern central heating systems today, and although it is an optional feature, it can be truly functional. In this case, the central heating system is not turned on and off or adjusted manually by the user, but a large number of sensors and operators are connected to a central processing system and based on the information that the sensors obtain from the environment and the program which is given to the central processing system, a decision is made to adjust the central heating system and it is announced to the central heating system through the operators. For example, a boiler can be an operator, in such a way that its burner is turned on or off through the command of the central processing system.





Booster Pump Control Panel

One of the most important and main products of Abnoos Company is Booster Pump. The company has specialized departments in the field of mechanical equipment and installations and it works in the field of manufacturing the Booster Pump Control Panel.

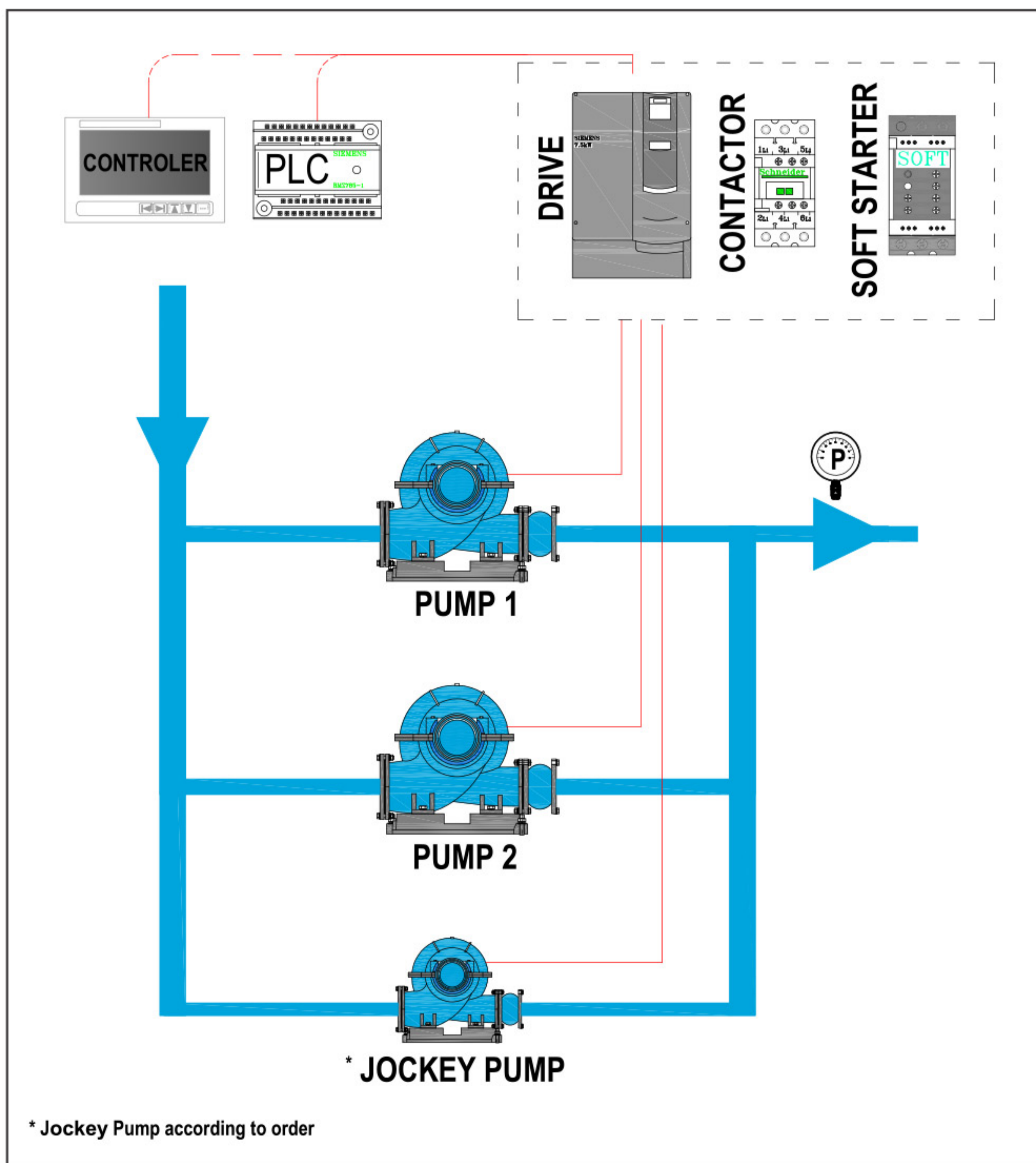
Technical Specifications of the Booster Control Panel

The main parts of the control panel such as the contactor, bimetal, Thermal Circuit Breaker, Miniature Circuit Breaker, Automatic Main Circuit Breaker with Schneider brand, ball bearing fan, terminal and rails, and body with a degree of protection IP54, sheet thickness 1.5 mm with electrostatic paint and including:

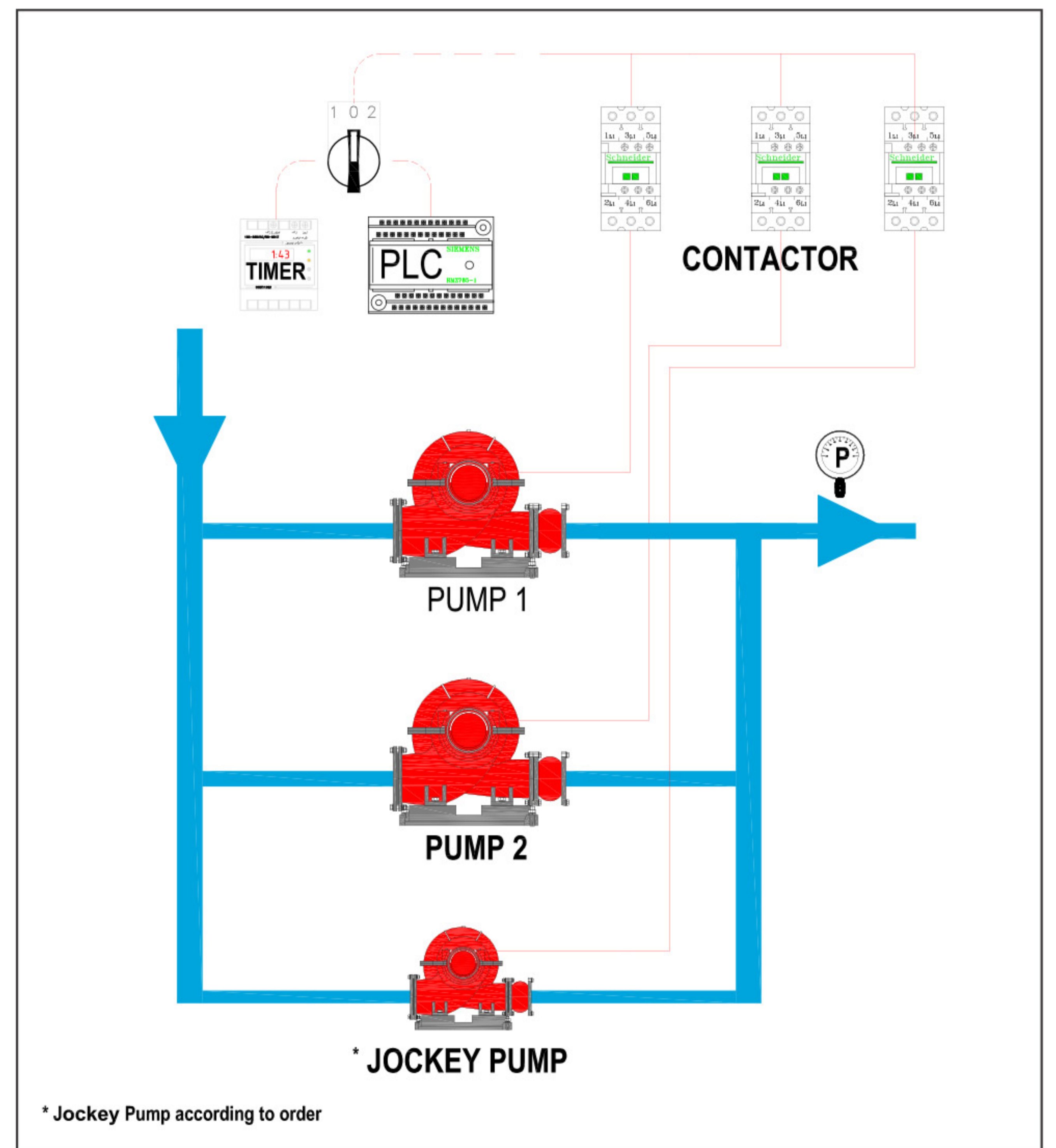
- ✓ Intelligent command system
- ✓ The main rotary switch next to the panel from Schneider / Tavan Rah Sanat brand
- ✓ switch/vertical lock, of MITO Brand, Borna /Shiva brand phase control, MITO / OSKAR brand fan valve
- ✓ Cable from Zarsim / Khorasan / Hamedan / Rey Afshan brand
- ✓ Speed control using Danfoss inverter (variable speed model)
- ✓ Panel equipped with PLC from Delta brand with analog input and output in models with variable speed along with monitoring system with HMI 7 INCH (with two years warranty)
- ✓ The gradual increase and decrease of the speed of each electropump according to the amount of consumption
- ✓ Removing impact from the system and prolong the life of moving components of the electropump (in the model with variable speed)
- ✓ Control with PID and the unique program of Grundfos company (Hyder and MPCF)
- ✓ Automatic and manual selection system to test and remove each pump from the circuit in case of technical failure
- ✓ Slip control system and starting frequency of pumps to prevent pressure fluctuations
- ✓ Self-service system in fire boosters
- ✓ Auto Change and Change Over systems (each pump works in equal amount) in on / off and time changing mode
- ✓ The signal to turn off the system when there is a lack of water in the circuit and automatic start-up after the water shortage is resolved
- ✓ Protection of electropumps against overload by connecting the PTC motor to the PLC and separate control of each alarm
- ✓ Protection of electropumps for the number and row of phases
- ✓ The use of the contactor and the main switch is 40% greater than the current drawn from the electric motor in the direct start-up.
- ✓ Control to stop the turning on and off of electropumps in case of pressure change and control of non-synchronism
- ✓ Equal division of the operation between all the main electric pumps so that the operation time is divided between the pumps.



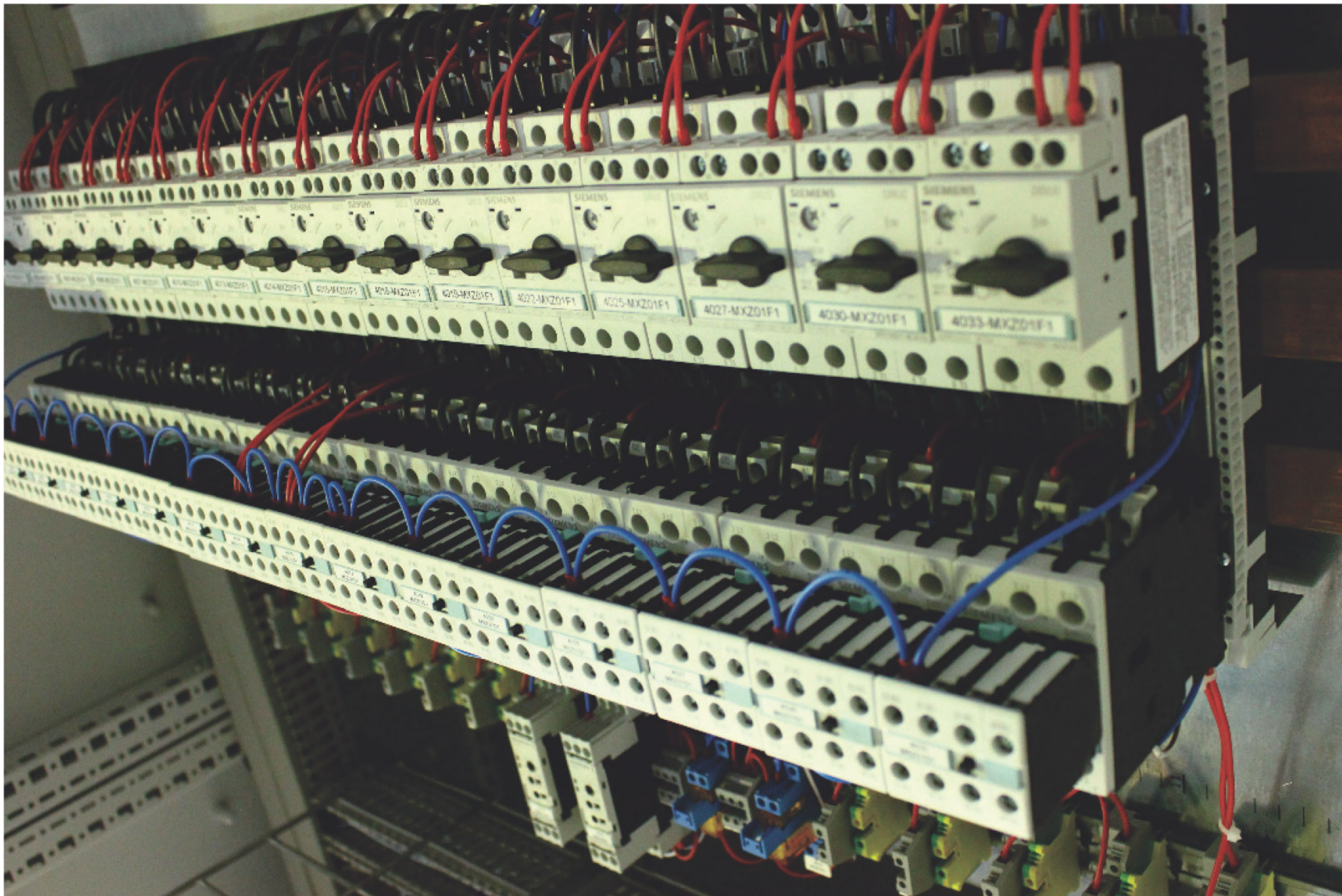
Booster Pump Technical Diagram



Fire Pump Booster

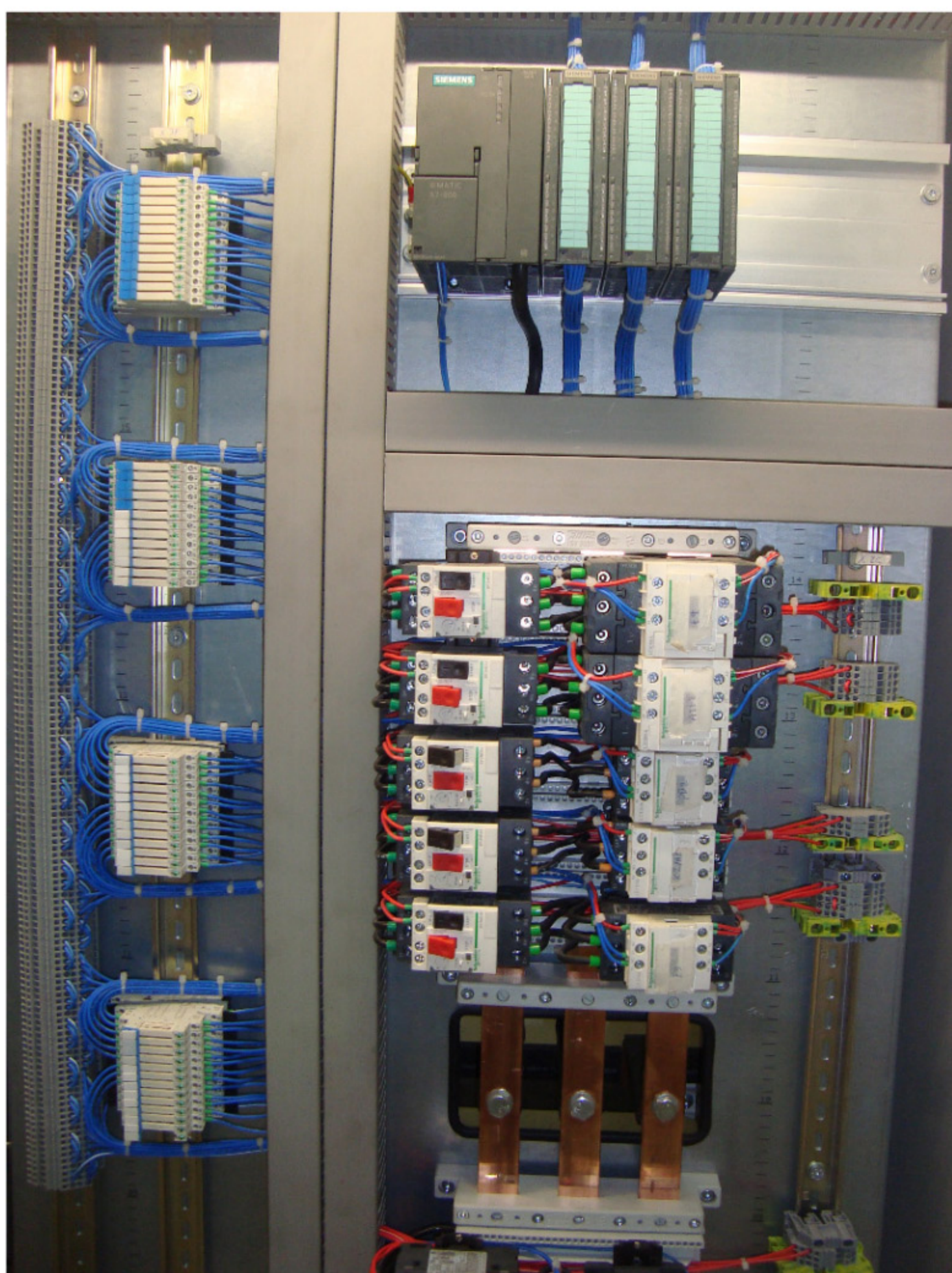


Water Supply Pump Booster



Busbar System

A Busbar system is a method for the assembly of electrical panels, in which special equipment and parts are used. In this way, all equipment such as circuit breakers, fuses, contactors, etc. are placed on special adapters, and the three-phase connection of each adapter with the bar is done with very strong spring clamps. In this way, there is no need for large and bulky wiring, drilling holes in the busbar, and connecting cables with bolts and nuts.



The Advantages of Assembling the Panel using the Busbar System Method:

- ✓ Occupying much less space in the panel than traditional assembly methods
- ✓ Very high speed for assembling electrical equipment
- ✓ Very simple and fast replacement, repair, and development of parts inside the panel
- ✓ Avoid drilling on the bar for branching
- ✓ Unique beauty

Metalworking Unit

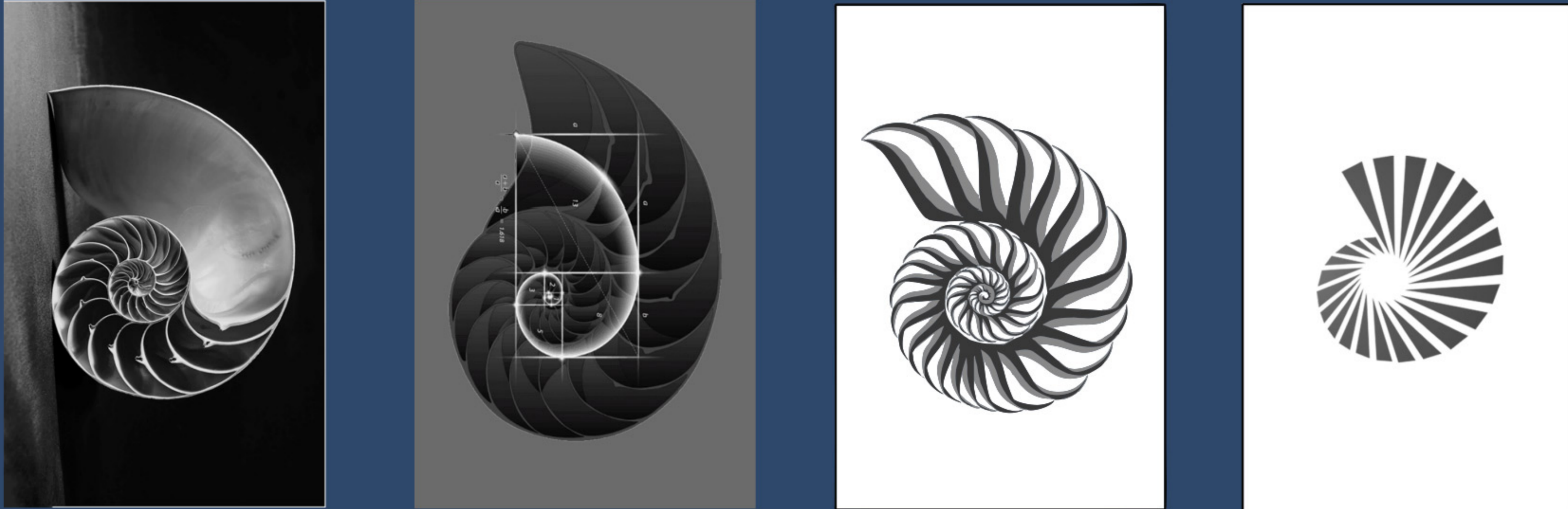
Production of panelboard frames, Rittal design cells, and metal boxes are other products of this Company.

Paint Unit

After welding and polishing, all the metal parts of the panels will enter this unit, they are washed with special degreasing materials and then they are placed in phosphate pools to prevent rusting.

Next, all the parts and body of the panel are covered with electrostatic powder paint with a thickness of 80 to 90 microns and finally, it is transferred to the paint baking oven so that the paint is fully baked and reaches the standard level with proper strength.





Our Logo inspired by Amonit

We have chosen the name Abnoos because in Persian means hard and precious ,

The logo is inspired by the beautiful image of the Ammonite gem with the spiral movement, which is a sign of engineering and precision in nature with golden proportions that is Fibonacci Sequence.

This movement and sequence is the secret of life in the universe. The dynamics and expansion of energy in the universe seen in every life.

We have chosen the Abnoos trademark pattern to remind us of the continuous flow of life and energy.

The ancients realized the route of the stars revolve around a central point every night, and today we know we live in a spiral galaxy. Therefore, the spiral can be a symbol of the world and our place and the cycle that goes on continuously in this world.

The cycles of the nature cause cycle of the life, and we have chosen to change the quality of people's life with our knowledge and technology positively and effectively Spirals are known as water symbols and this is the reason we have chosen this symbol to stay reliable and memorable in the water industry.





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