



APPLICATION

BK capacitor banks are intended for passive inductive and capacitive power compensation in low voltage networks. The main recipients are industrial plants and undertakings. High costs of electricity have forced recipients to implement solutions that ensure real savings.

The BK solutions offer an easy and non-invasive way to reduce consumption of power. A capacitor bank added to the system will compensate inductive passive power, e.g. motors.

Modern regulators are used to automatically control the performance of the capacitors in order to maintain the proper power factor ($\cos \varphi$).

EQUIPMENT

Enclosure

Thermosetting plastic

SMC enclosure with IP 44 or 54 rating. Built to Class II protection standard, with HB to V0 flammability rating, painted in RAL 7035, with the possibility of additional painting to ensure temporary resistance to environmental factors and UV radiation.

Aluminium OU-1(2) / Steel OU-1(2)

The enclosure made of aluminium and steel sheet (welded or riveted). Powder painted in any colour. The size matching the type and range of devices and individual needs of the Client. The enclosure is highly resistant to degradation, environmental factors and UV radiation. The enclosure is executed in the Class I and II appliance protection standard.

Class II appliance protection rating of the enclosure is achieved with an additional insulation layer permanently applied on the internal surfaces of the enclosure. The thickness of the layer ensures the required insulation.

Labyrinth ventilation allows continuous flow of air with simultaneous elimination of penetration of pollutants and accumulation of water and moisture.

The door with internal hinges with anti-burglary lock and multiple bolts, an espag lock with a padlock or a system cylinder.

Installation parts

- Installation profiles: steel, with openings, installed on the enclosure structure.
- Installation base: plastic or galvanised steel, installed on vertical

installation profiles made of galvanised sheet for current circuit switches.

- Cable clamps with the cable management bar.
- Masking panels: made of plastic or sheet metal, installed on the enclosure structure.

Accessories

- **Power capacitors:** dry, gas-filled, sizing consistent with the results from measurements or the technical documentation.
- **Capacitor protection:** fuse switches or breaker switches selected individually.
- **Breaker switch:** for disconnection of all the capacitors.
- **Passive power automatic regulator:** e.g. DCRK.
- **Control lamps:** presence of phases, on the enclosure door.
- **Cabling:** complete (DY, LgY).

Scope

We offer the full scope of support:

- Execution of measurements in order to determine compensation parameters.
- Analysis of settlements and costs resulting from passive energy.
- Presentation of the price and technical offer for the Client.
- Installation and startup of the capacitor bank in the facility.
- Drafting up the as-is documentation.
- Ensuring service operations and guarantee of compensation.

Current circuits

- The current circuits of the incoming and outgoing modules made of copper flat bars, screwed, or LgY cables with the cross section matching current load.

Accessories

- **Plinth:** solid or ventilated, any height.
- **Thermosetting foundation block:** matching the dimensions of the thermosetting enclosure.
- **FM aluminium foundation block:** matching the dimensions of the enclosure, fitted with removable front and back covers.
- **FB concrete foundation block** built of reinforced concrete slabs, screwed with the aluminium or thermosetting enclosure.
- Cable base.

BASIC TECHNICAL DATA

Rated voltage:	400 V
Insulation rated voltage:	690 V
Rated reactive power:	12,5 - 500 kVar
Rated size power:	2,5 - 80 kVar
Rated frequency:	50 Hz
Short-circuit capacity:	40 kA
IP protection level:	44 - 55
IK level of protection against mechanical impact:	10
Appliance class:	I / II
Dimensions of incoming / outgoing terminals:	2 x 4 x 240 mm ² / 4 x 240 mm ²
Network arrangements:	TN-S, TN-C
Height / width / depth:	without limitations for aluminium enclosures built to Class II protection standard

COMPLIANCE WITH STANDARDS

- **PN-EN 61439-1**
„Low-voltage switchgear and controlgear assemblies - Part 1: General rules.”;
- **PN-EN 60529**
„Degrees of protection provided by enclosures (IP Code)”;
- **PN-EN 61921**
„Power capacitors - Low-voltage power factor correction banks.”;
- **PN-EN 62208**
„Empty enclosures for low-voltage switchgear and controlgear assemblies - General requirements.”;
- **PN-EN 62262**
„Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) (IDT PN-EN 50102:2001)”;
- **PN-EN ISO 4628**
„Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 6: Assessment of degree of chalking by tape method.”;
- **PN-EN ISO 2409**
„Paints and varnishes - Cross-cut test.”.

