

SAN-EL MÜHENDİSLİK A.Ş.

Metal-enclosed fused capacitor bank suitable up to **12kV**



SAN-EL
MÜHENDİSLİK

General

The San-el metal-enclosed capacitor bank type HVCB is designed for individual power factor correction of induction motors and general reactive compensation of electrical networks.

The HVCB capacitor bank is a compact design and comprises:

- Three-phase capacitor units connected in parallel or
- Single-phase capacitor units connected in star/delta
- Inrush limiting reactors
- HRC line fuses

The capacitors, reactors and fuses are assembled within a modular zinc-sprayed steel enclosure with a pad-lockable front access door and top/bottom cable entry.

The HVCB capacitor banks enclosure has a maximum power rating of 3000kvar at 12kV. Higher ratings can be achieved by joining two or more enclosures.

Available options include:

- Outdoor enclosure
- Side-entry cable box
- Unbalance detection circuit
- Fuse failure indication
- Pressure switch
- Live line indication
- Keyed mechanical door interlock (including delay-timer, if requested)
- Door limit switch

Quality assurance and environment

SAN-EL is certified according to ISO 9001 (quality)

Standards

IEC 60871, AS 2897 or other standards on request.

Technical data

Power	Up to 3000kvar
Voltage range	Up to 12kV Special execution above 12kV
Frequency	50/60Hz
Current	Max. 250A
Insulation	28kVrms/75kVpk(BIL)
Temperature range	-40/+40° C
Location	Indoor
Altitude	δ 1000m above sea level

Enclosure data

Material	Zinc-sprayed mild steel
Thickness	2.0mm
Protection rating	IP52 (indoor)
Paint system	Powder coat
Colour	RAL7032
Finish	Stipple
Earthing	M12 earth stud
Electrical fixings	Stainless steel
Mechanical fixings	Brass or galvanised steel
Location	Indoor (outdoor optional)

Capacitor

Dielectric	Polypropylene film
Impregnant	Jarylec 101 (non-PCB)
Container	Stainless steel, 304 high-grade
Bushings	Brown or grey porcelain
Colour	Storm grey N42 (AS 2700)
Finish	Matt
Discharge resistors	Built-in
Losses	δ 0.15 W/kvar including resistors

Cable entry

Standard cable entry is from the top of the enclosure. Bottom cable entry is only available for executions, which include one or two three-phase capacitors.

An optional side-mounted cable entry box is available on request. The cable entry box facilitates top and bottom cable entry.

Cable size (max.)	240mm ² XLPE or PVC
185mm	2 PILC

Inrush reactors

Inrush reactors are incorporated within the HVCB capacitor bank to limit transient currents during energization. They are connected in series with the capacitors. The inrush reactors are a standard inclusion unless otherwise specified.

Protection

As standard, HRC line fuses provide short-circuit protection. The HRC line fuses are a standard inclusion unless otherwise specified.

Other forms of protection are available as options.

Pressure switches can be fitted to capacitor units to provide a simple but effective means of protection against excessive pressures within the container.

Internal fuses within the capacitor units are available for some capacitor unit ratings.

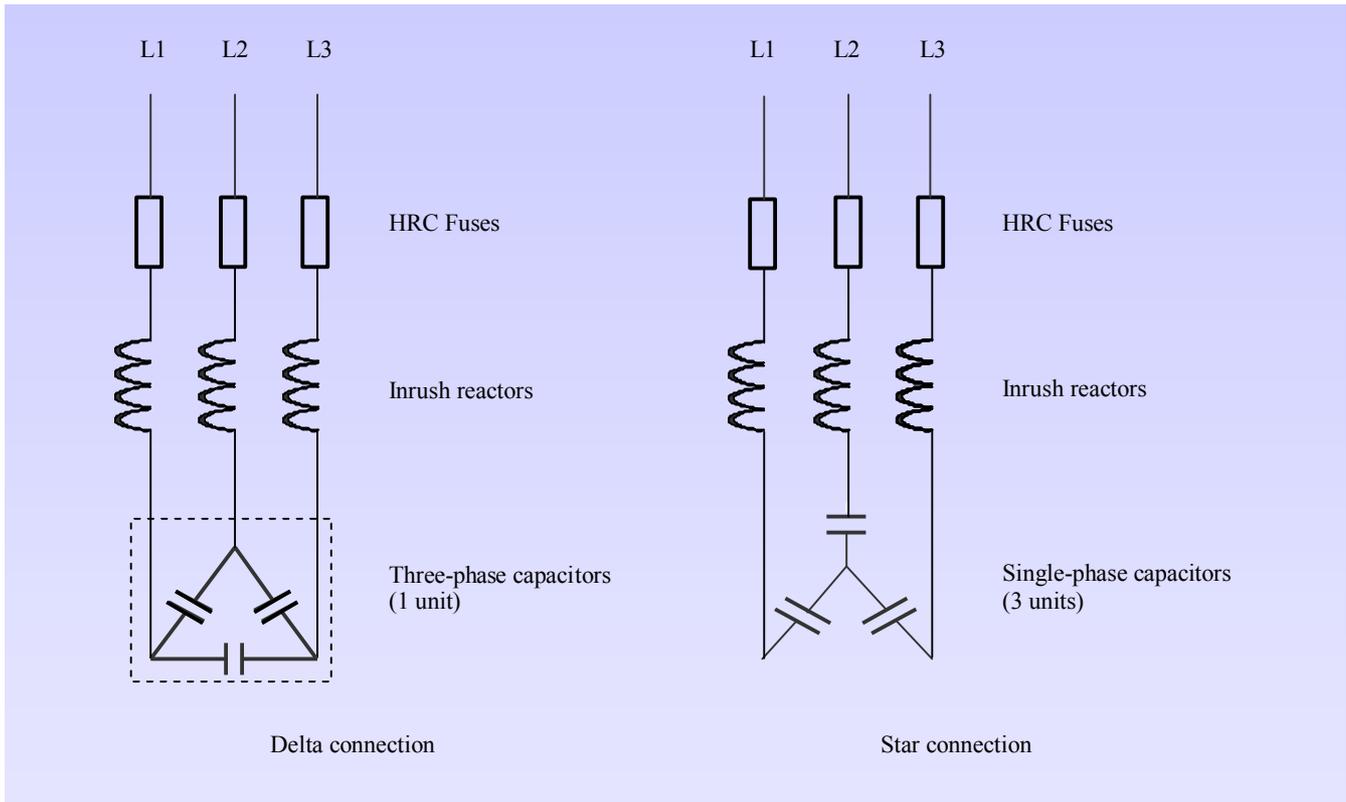
Extra protection is available through unbalance detection schemes.

Single-phase or split-phase capacitors can be arranged in a double star unbalance protection scheme with a current transformer (CT) connected between two neutrals. The CT secondary feeds a current sensitive relay scheme, which provides an alarm and/or trip signal. The CT is built into the enclosure. This arrangement requires two enclosures when single-phase capacitors are required.

In ungrounded networks, single-phase capacitors can be arranged in a single star with voltage transformer (VT) connected from neutral to earth. The VT feeds a voltage sensitive relay scheme, which provides an alarm and/or trip signal.

In grounded networks, single-phase capacitors can be arranged in a single star with CT connected from neutral to earth. The CT feeds a current sensitive relay scheme, which provides an alarm and/or trip signal.

Schematic arrangement (typical)

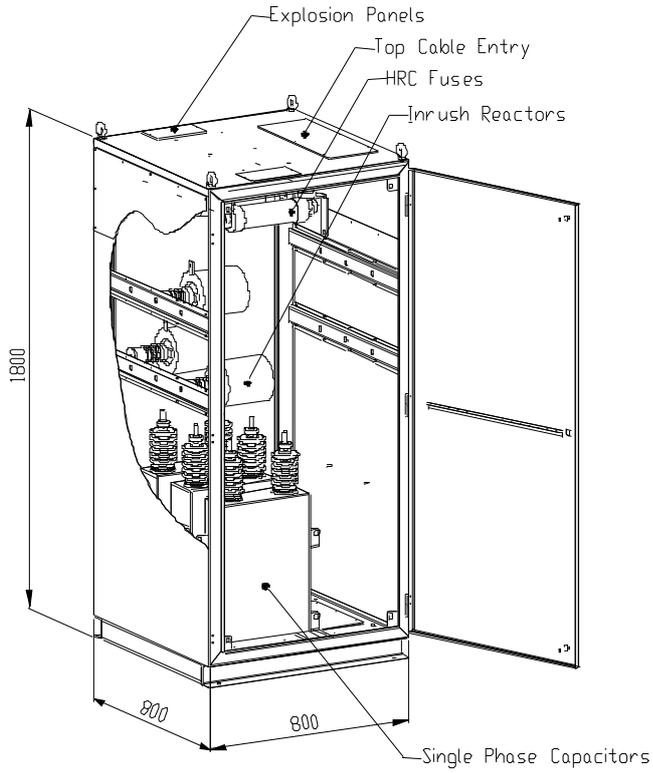


Standard ratings

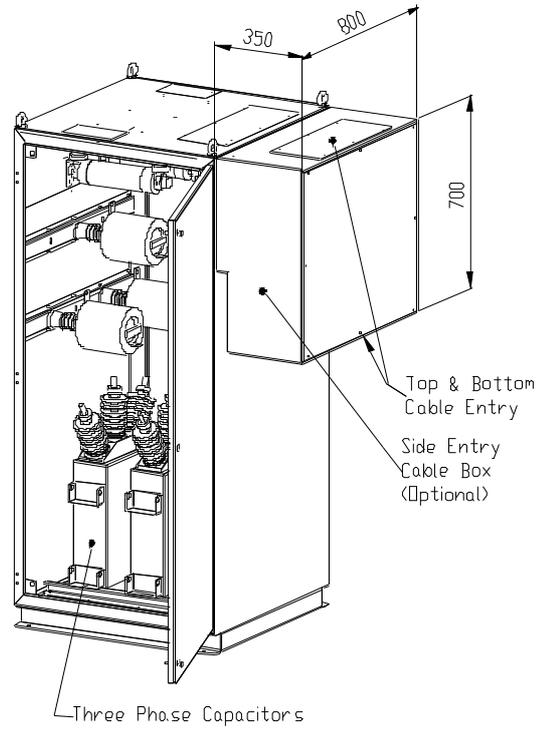
Electrical Network		Power (kvar)
3.6kV 50/60Hz 10/40kV BIL	7.2kV 50/60Hz 20/60kV BIL	100
		200
		300
		400
		500
12kV 50/60Hz 28/75kVBIL	800 900 1000	600
		700
		750

* Other ratings are available upon request

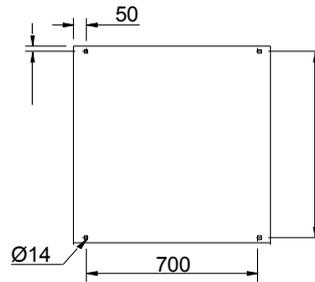
Dimension data



HVCB with single phase capacitors



HVCB with three phase capacitors & Optional side entry cable box



Mounting details

* Approximate weight: 450kg



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