

UniMix – WCB – WSB

Air insulated switchgear for secondary distribution

- LSC2B-PI type switchgear according to the IEC62271-200 Standard
- Withdrawable circuit-breaker with racking-in/out with door closed
- Standard and arc proof versions with IAC AFLR classification
- Earthing switch with full making capacity
- Possibility of wall mounting



Description

Medium voltage UniMix switchgear with WCB-WSB units complies with the IEC 62271-200 Standard and are suitable for secondary distribution applications where high performances are required, and guarantee:

1. Service continuity
2. Safety
3. High electrical characteristics

1. Why service continuity

The WCB - WSB units are LSC2B/PI classified:

- **LSC (Loss of Service Continuity)** describes the possibility of keeping other compartments and/or panels energized while a compartment in the main circuit is open.
- **PI (Partition made of Insulating material)** describes the characteristic of the partitions between the unit compartments
- In LSC2B classified switchgear it is possible to access the circuit-breaker compartment during ordinary maintenance without putting the following out of service:
 1. the busbars and adjacent functional units
 2. the cable compartment

UniMix – WCB - WSB

Air insulated switchgear for secondary distribution

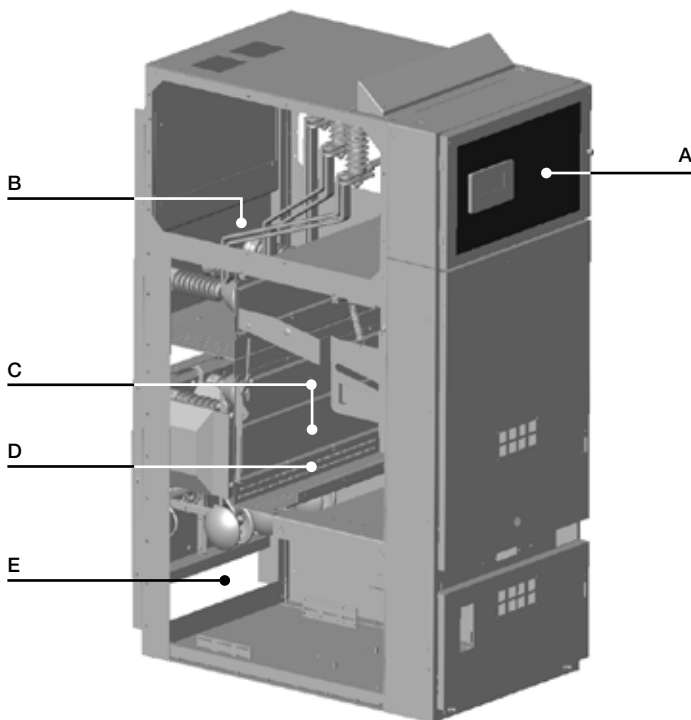
2. Why safety

- **IAC (Internal Arc Classified) AFLR 16 kA 1s.** UniMix switchgear in the arc proof version guarantee maximum personnel safety even in the event of an arc occurring inside the unit. The switchgear are built to resist the overpressures caused by the internal arc and special ducts convey the gases produced by the arc towards the outside of the switchgear.
- **Mechanical interlocks**
They are always present the following locks:
 - circuit-breaker racking in/out in the closed position;
 - circuit-breaker closing in the intermediate positions between racked-in/out;
 - compartment door opening if the circuit-breaker is not racked-out;
 - circuit-breaker racking in with the compartment door open;

- circuit-breaker racking in when the earthing switch is closed;
- earthing switch closing when the circuit-breaker is racked in;
- cable compartment opening with the earthing switch open;
- earthing switch opening with the cable compartment open.
- Mechanical push buttons for emergency opening and closing with the circuit-breaker compartment door closed (on request).

3. Why high electrical characteristics

- Rated current up to 1250 A
- Short circuit current up to 25 kA (1 sec) up to 24 kV
- Earthing switch making capacity up to 62.5 kAp.



- A Low voltage compartment**
- B Busbar compartment**
- C Insulating shutters**
- D Circuit-breaker compartment**
- E Cable compartment**

Busbar, feeder and apparatus compartment are physically and electrically segregated by insulated shutters.

Technical characteristics

Rated voltage	kV	24
Insulation levels	kV	24/50/125
Rated short-time withstand current	kA (3s)	...20
Rated short-time withstand current	kA (1s)	16-20-25
Peak current	kA	40, 50, 62,5
Internal arc withstand current	kA (1s)	16
Rated main busbar current	A	630/1250
Branch connection rated current	A	630/1250
Tested according to		IEC Standards
Overall dimensions of the basic unit	H mm	1950
	W mm	750
	D mm	1310



WCB Panel

The project includes the use of:

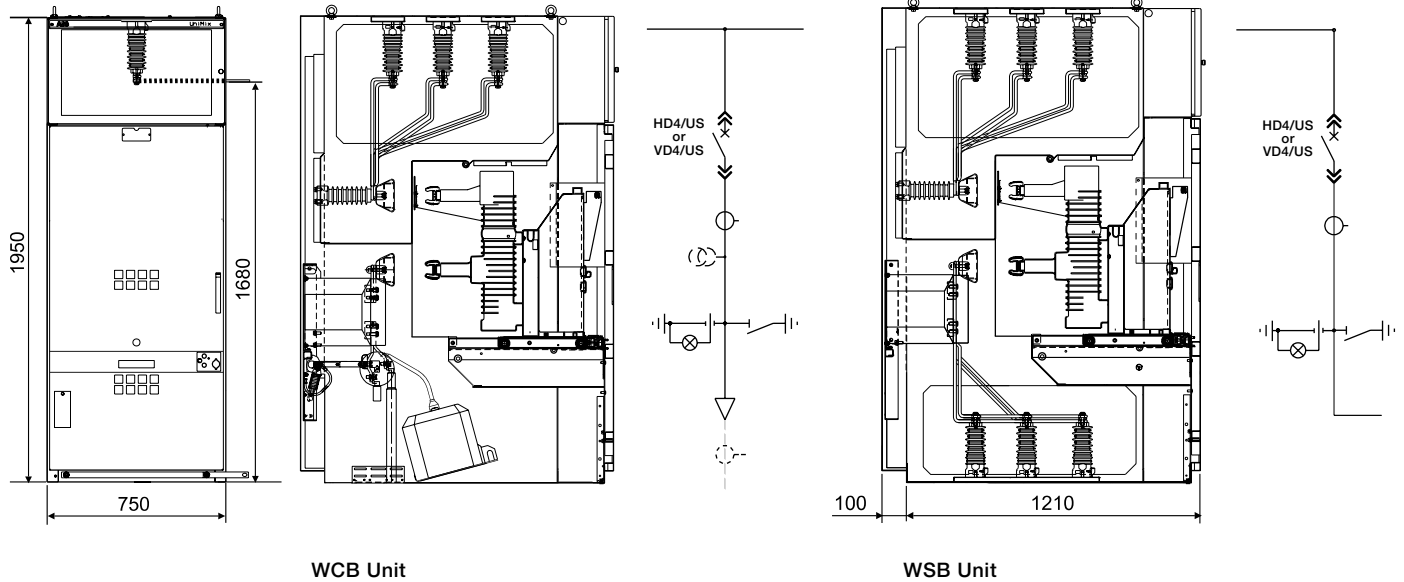
- Vacuum circuit-breakers
- Gas circuit-breakers
- Earthing switch
- Current transformers DIN / Toroidal type
- Voltage transformers DIN type
- Sensors DIN type

WSB Panel

The project includes the use of:

- Vacuum circuit-breakers
- Gas circuit-breakers
- Earthing switch
- Current transformer DIN type
- Voltage transformer DIN type
- Sensors DIN type

Typical cross-sections



WCB Unit

WSB Unit

VD4/US type vacuum circuit-breakers or HD4/US gas insulated circuit-breakers with front operating mechanism are used in the WCB and WSB units.

The withdrawable circuit-breaker, complete with relative truck, can be operated with the door closed by means of an operating mechanism outside the compartment.

With truck translation, segregation of the live fixed parts (bushing insulators) from the accessible part of the compartment is obtained automatically by activating a special insulating shutter.

Inside the compartment, the circuit-breaker can take up the following positions:

Racked-in

Main circuits and auxiliary circuits connected.

Test position

Main circuits disconnected and auxiliary circuits connected.

Racked-out

Main and auxiliary circuits disconnected.

In the isolated position, the circuit-breaker can be racked out of the compartment using an external truck.



VD4/US circuit-breakers.

HD4/US circuit-breakers.



For more information please contact:

ABB S.p.A.

Power Products Division

Unità Operativa Sace-MV

Via Friuli, 4

I-24044 Dalmine

Tel.: +39 035 6952 111

Fax: +39 035 6952 874

e-mail: sacetms.tipm@it.abb.com

ABB AG

Calor Emag Medium Voltage Products

Oberhausener Strasse 33 Petzower Strasse 8

D-40472 Ratingen D-14542 Glindow

Phone: +49(0)2102/12-1230, Fax: +49(0)2102/12-1916

E-mail: calor.info@de.abb.com

www.abb.com

The data and illustrations are not binding. We reserve the right to make changes without notice in the course of technical development of the product.

Copyright 2009 ABB.
All rights reserved.