



WI

MV Gas-insulated switchgear



WI is typically chosen for applications such as substations for heavy industry, track side station in containers, for mining, energy distribution in cities with high energy density and other industrial companies such as petrochemical or oil and gas.

Apart from the obvious needs, your choice may be influenced by the life cycle costs, the ecological features, the amount of space available, the need to minimize maintenance and maximize plant availability or the facilities to ensure safe and easy operation.

MAIN CHARACTERISTICS

WI is a fully gas-insulated switchgear equipment with ratings up to 52kV, 2500A and 40kA.

WI is available as a single busbar (WIA) or double busbar (WIB) unit both with the same small footprint.

For track side applications WI is specially used as 1-phase or 2-phase version up to 250kV BIL.

WI is a fixed design of switchgear incorporating a three-position switch in series with a circuit-breaker. The modular concept makes it possible to remove the circuit-breaker.

WI meets the requirements of IEC, EN and the national provisions of the above international standards.



Customer benefits

- Gas insulation system sealed-for-life
- All live parts hermetically enclosed
- Insensitive to environmental influences
- Long service life and low maintenance
- Space-saving modular design
- User-friendly operation
- Reliable indication and interlocking
- Robust design with a comprehensive range of features





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MODULAR DESIGN OF WIA AND WIB

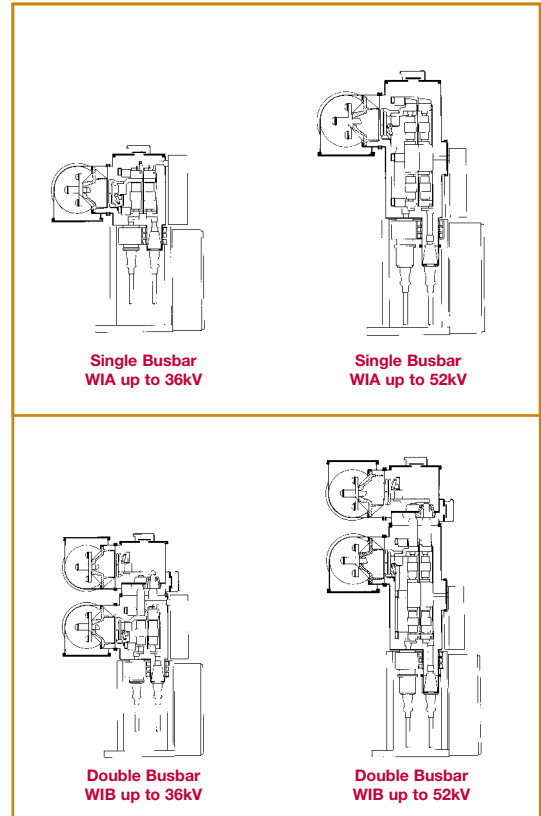
In addition to the benefits of small footprint and demountable circuit-breaker, the modular design gives you the opportunity to optimize your initial investment while equipping the switchboard with spare feeder. At any time in the future, these spare feeder can be quickly completed by adding base frame, circuit-breaker and low-voltage cabinet.

HIGH LEVEL OF RELIABILITY AND SAFETY

Independence from environmental influences. Continuous and robust mechanical interlocking systems ensure maximum operating reliability and operator safety. The gas-insulated switchgear WI has been designed as a sealed pressure system to IEC 60694. Thus, it will not be necessary to refill the compartment with gas during the operating life of the switchgear.

Operation of WI is simple and safe, with clear displays and reliable mechanisms:

- > Mimic diagram integrating mechanical position indicators and logical operating facilities
- > Interrogating interlocks for fool-proof protection against mal-operation
- > IVIS integrated voltage detection system for verification of safe isolation from supply and phase rotation.
- > Central monitoring of gas pressure with the IGIS digital, autonomous monitoring and sensor system.

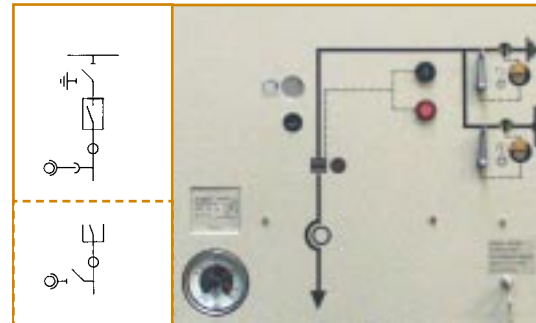


TRACK SIDE FEATURES AND REFERENCES

Due to its flexible and small design, WI is used for track side applications. WI can either be installed in a switchgear room or in a compact container.

Main reference projects are:

- > West Coast Main Line, United Kingdom, WIA, $\pm 27.5kV$
- > Madrid-Barcelona, Spain, WIA, $\pm 27.5kV$



Operation panel WIA



Main features

HIGH STAFF SAFETY

- > through complete metal enclosure of all high voltage live parts
- > Integrated Voltage Detection System IVIS

HIGH CONTROL SAFETY

- > through separate mechanical control and indication of isolating and earthing/grounding
- > through forced making and breaking of the circuit- breaker for earthing/grounding operation at circuit side.

MAXIMUM RELIABILITY

- > all active medium-voltage live parts are insensitive to environmental conditions and herewith in a maximum protected area against external influenced faults.

SIMPLE PLANING

- > of future extension at both ends of the switchboard
- > of integrating spare feeders
- > of using single or double busbar system

MINIMUM MAINTENANCE REQUIRED

- > high number of switching cycles through vacuum circuit-breakers and robust drive technology.

Due to the construction of WI, all parts which should be eventually accessible are easy reachable:

- > mechanical drive and motor drive
- > low-voltage equipment
- > current transformers
- > voltage transformers

THE OPTIMUM SOLUTION: VACUUM SWITCHING COMBINED WITH GAS INSULATION

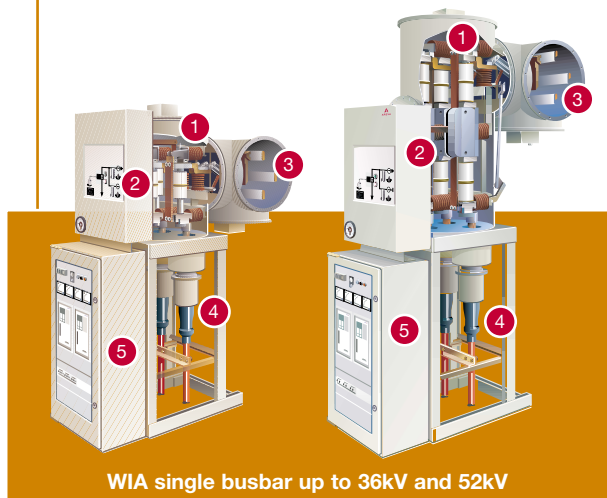
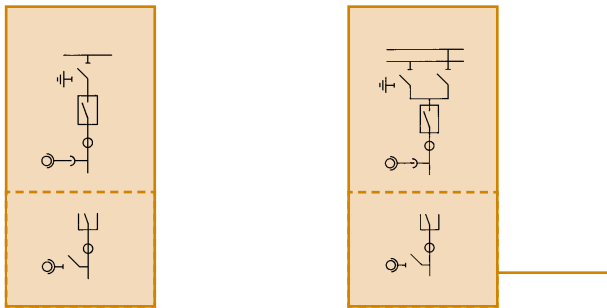
WI combines the advantages of gas insulation technology with those of vacuum interruption technology:

>> All active medium-voltage components, including the busbar system, are enclosed in a hermetically sealed, gas-insulated, metal compartment and are thus insensitive to humidity, corrosive atmosphere, dust, insects and small animals.

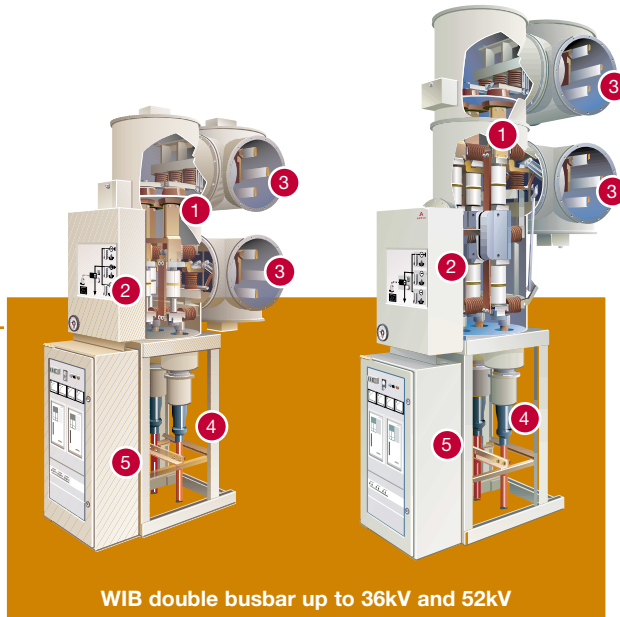
>> Vacuum interruption of the circuit-breaker provides reliable load and fault switching operation. Our latest range of interrupters combines improved contact design with proven manufacturing techniques to provide unrivalled performances with zero maintenance throughout their life.

The combination of these two technologies enables us to offer a cost-effective medium voltage switchgear solution giving maximum reliability and minimum maintenance to ensure maximum plant availability and minimum life-cycle cost.





WIA single busbar up to 36kV and 52kV



WIB double busbar up to 36kV and 52kV

- 1 Compartment with vacuum interrupters and three-position switch
- 2 Drive cabinet and control & indication panel including gas-manometer
- 3 Busbar compartment
- 4 Basic frame and cable-connection area
- 5 Low-voltage cabinet

RATINGS									
>> Rated voltage	kV	12	17.5	24	36	38	40.5	52	±27.5*
>> Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50
>> Rated power frequency withstand voltage	kV	28	38 (42)	50	70	80	80	95	95
>> Rated lightning impulse withstand voltage (BIL)	kV	75	95	125	170	200	200	250	250
>> Rated current: busbar up to	A	2500	2500	2500	2500	2500	2500	2500	2000
>> Rated current: feeder up to	A	2500	2500	2500	2500	2500	2500	2500	2000
>> Rated short-time withstand current (3s) up to	kA	40	40	40	40	31.5	40	31.5	25
>> Rated peak withstand current up to	kA	100	100	100	100	80	100	80	63
>> Internal arc tested to IEC60298, Appendix AA, Criteria 1-6 (1s) up to	kA	40	40	40	40	31.5	40	31.5	25
STANDARD DIMENSIONS									
>> Width	mm	600							
>> Height SBB, type WIA	mm	2100	2100	2100	2664	2664	2664	2664	2964
>> Height DBB, type WIB	mm	2750	2750	2750	3314	3314	3314	3314	-
>> Depth with low-voltage cabinet	mm	1692							

* 1-phase or 2-phase version

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