



CAPABILITY STATEMENT

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MVLV

POWER SOLUTIONS

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ABOUT US

MVLV Power Solutions is a privately owned, Western Australian-based company, specialising in the design and manufacture of electrical switchgear and switchrooms.

As a young company, our passion and satisfaction comes from understanding our clients' needs. We strive to design and deliver solutions that not only meet industry standards, but provide the very best in safety, functionality and value.

MVLV along with our partners, manufacture custom-built switchboards for the Australian and international markets with our switchboards meeting the latest international IEC and AS/NZS standards.

MVLV is a well-disciplined company that prides itself on honesty and professionalism. With our characteristic "never a job too hard" attitude, we carefully choose all our employees to ensure they can meet the highest standards with both their conduct and workmanship.

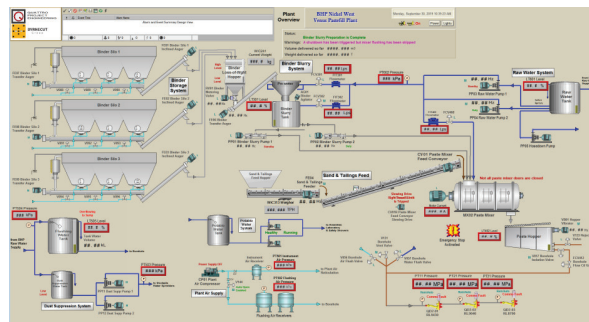


AUTOMATION SOLUTIONS

AUTOMATION SOLUTIONS

Our team of qualified engineers and tradesmen have proven capabilities in designing and implementing innovative solutions to all projects, from the conceptual design to the execution and completion, guiding our clients on relevant standards and industry practices.

Our engineers are involved in programming and system integration for a broad range of SCADA applications, from simple remote I/O to complex process control and automation for the resources industry.



ENGINEERING SERVICES

- ⊕ Medium & low voltage distribution systems
- ⊕ Medium voltage switchgear design
- ⊕ Low voltage switchgear design
- ⊕ Motor control centre design
- ⊕ Power factor correction
- ⊕ Emergency power and transfer systems
- ⊕ Uninterrupted power supply (UPS)
- ⊕ Surge suppression and lightning protection
- ⊕ Lighting design
- ⊕ Personnel safety protection systems

ENGINEERING SOFTWARE

- ⊕ PowerCad load flow analysis
- ⊕ PowerCad short circuit analysis
- ⊕ PowerCad CB discrimination
- ⊕ PowerCad cable selection
- ⊕ PowerCad protection settings
- ⊕ PowerCad arc flash assessment
- ⊕ Autodesk Inventor
- ⊕ AutoCAD electrical & 3D
- ⊕ Autodesk Advance Steel

These software applications enable our engineers to deliver complex, analytical models that increase productivity and reliability and support the design of safe and secure electrical systems.

SCADA PROGRAMMING

MVLV Power Solutions is involved in programming and systems integration for a broad range of SCADA applications, from simple remote I/O to complex process control and automation for all industries and resources.

PLC PROGRAMMING

Our specialised engineers and programmers write PLC programs using ladder logic, function block diagrams, structured text and instructional lists. They have adopted Australian and international standards for PLC programming, and have vast experience in PLC programming for leading manufacturers.

HMI DEVELOPMENT

MVLV has a broad range of HMI development experience and is qualified in the industry's leading HMI software applications, including Trihedral's VTScada, Schneider Electric's InduSoft Web Studio, Wonderware InTouch, GE's Proficy HMI/SCADA-iFIX, and Siemens' SIMATIC WinCC.

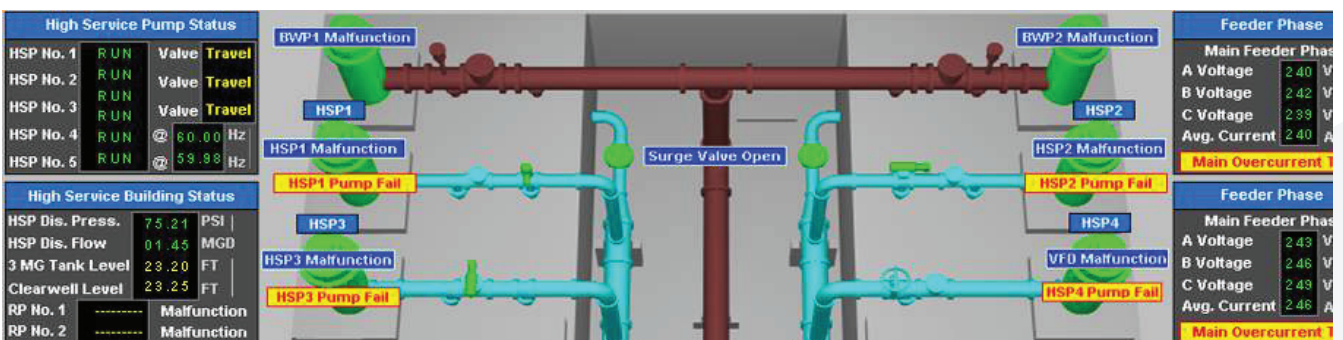
AUTOMATION / INSTRUMENTATION

Instrumentation engineering is a specialised engineering field which focuses on the integration and operation of measuring instruments used to design and configure automated systems.

At MVLV, our engineering team understands that automation and process control technology is becoming increasingly complex, requiring the integration of field instruments, programmable controllers, data transport systems and database management systems with facility operations.

It is therefore extremely vital that industrial and municipal facilities maintain an instrumentation architecture that supports these technologies, while ensuring process optimisation, system functionality, and cost control.

Our automation and instrumentation engineers collaborate to provide planning, design, application programming, implementation, commissioning, and training services for distributed control systems, supervisory control and data acquisition (SCADA) systems and computer-based monitoring and control systems. Our graphical user interfaces (GUI) are uniquely developed for each SCADA project and client. We actively integrate access to real-time data, automated reporting, smart phone and tablet-enabled functions, secure web access clients, and surveillance device notifications to provide a total HMI solution.





LOW VOLTAGE SWITCHGEAR

LOW VOLTAGE SWITCHGEAR

MVLV Power Solutions designs and manufactures low voltage switchboards and is proud to announce the arrival of the L Series motor control centre, which has been designed and type-tested to IEC 61439-2.

The switchgear and control gear assemblies have been designed to be multipurpose, with both feeders and DOL control gear modules being interchangeable and customisable to meet any need. Refer to the L Series brochure on our website for further information.



KEY FEATURES

- ⚡ Fully type-tested assembly to IEC 61439-2 at 100% continuous current
- ⚡ IEC type 2 coordination for motor starting assemblies to 65kA
- ⚡ Short circuit protection to 65kA on all outgoing feeder and starter units
- ⚡ Short circuit protection to 65kA sustained for one second on both horizontal and vertical bars
- ⚡ Short circuit protection to 65kA sustained for three seconds on the horizontal main bars
- ⚡ IP43 dust and water ingress protection rating
- ⚡ Form of segregation designed to Form 3B/4A IEC/TR 61641: Enclosed low-voltage switchgear and control gear assemblies – Guide for testing under conditions of arcing due to internal fault
- ⚡ Special arcing fault tests undertaken in addition to Annex ZD requirements on main bar and ACB load side terminals
- ⚡ Operational voltages of up to 690VAC

TYPE TEST

The L Series MCC has been type-tested and certified under the following conditions.

- ⚡ Type test undertaken at the Ausgrid Lane Cove testing facility in Sydney NSW
- ⚡ Type tests conducted in Australia and are NATA and ASTA certified.

FAULT RATINGS

The L Series MCC has been tested and certified for operation under the following fault capacities:

- ⚡ 65kA for three seconds on main horizontal bar system
- ⚡ 65kA for one second on horizontal and vertical bar systems
- ⚡ 65kA for one second on horizontal and vertical bar systems

OPERATIONAL VOLTAGES

The L Series MCC has been tested and certified for operation under the following operational voltages:

- ⚡ 380 / 400 volts AC 3 phase 50 Hz.
- ⚡ 415 / 440 volts AC 3 phase 50 Hz.
- ⚡ 690 volts AC 3 phase 50 Hz.

IMPULSE VOLTAGES

The L Series MCC has been tested and certified for operation under the following impulse voltages:

- ⚡ Main switchboard and feeders: 7.3kV Ui
- ⚡ DOL drive starters: 6kV Ui (limited by equipment)

FORM OF CONSTRUCTION

The L Series MCC has been tested and certified for production to Form 1 to 4A construction, applying IP2X criteria.

DEGREE OF PROTECTION

The L Series MCC has been tested and certified for production with these degrees of protection: external IP43 and internal IP2X.



LOCAL SALES AND SUPPORT

MVLV Power Solutions is able to provide expert after sales support and advice for the L Series switchboard and its associated equipment both throughout Australia and internationally.

The L Series motor control centre is constructed using a majority of readily available and locally supported low voltage switchgear and components, which are purchased locally for assembly. This is part of our commitment to help support local suppliers and ensure ease of ongoing maintenance and OEM support.

Further testing and certification reports can be made available upon request.





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MEDIUM VOLTAGE AMS SWITCHGEAR

MEDIUM VOLTAGE AMS SWITCHGEAR

The range of Leistung Energie switchgear is type-tested for the Australian market and is rated and designed for voltages of 3.6kV up to 40.5kV and up to 2500Amps.



Air-insulated metal-clad switchgear (AMS), designed in Germany, is fully metal-clad, air-insulated, arc-proof and of a proven compact and safe design.

The LV control chambers are designed to suit all brands of protection and control relay equipment and can be customised to clients' requirements.

Leistung Energie AMS has supporting type-test certificates which are available for viewing upon request. From this base, MVLV designs, engineers and provides after sales support to the full range of switchgear.

INTRODUCTION TO AMS

The AMS range can be used in power distribution systems for power plants, utilities and all industrial purposes with for transformers, motors and capacitor banks, etc.

- ⚡ AMS is a state-of-the-art switchgear jointly developed by German and Chinese experts
- ⚡ AMS is equipped with the next generation cassette-type withdrawable embedded pole vacuum circuit breaker (VEP)
- ⚡ It figures a high speed earthing switch with short circuit making capability
- ⚡ Built from ALUZINC sheet metal with double bending and riveting fixing technology, the AMS range possesses mechanical strength and anti-corrosion structural properties which meets the operating requirements in the most critical conditions, such as offshore oil platforms and nuclear power plants
- ⚡ Optimised electrical field and electrode screen technology are adopted to achieve high insulation reliability
- ⚡ AMS has a cable compartment with ample space and a cable connection height of up to 800mm
- ⚡ AMS is designed with an interlocking system which provides the highest level of safety for operating personnel and equipment
- ⚡ AMS features inspection windows for both circuit breaker and cable compartments through which the position of the withdrawable device, status of breaker and the condition of the cable connection can be easily observed
- ⚡ AMS can be equipped with traditional or integrated protection devices, as well as traditional CTs and VTs
- ⚡ AMS is a safe and reliable switchgear which has been widely accepted by various industrial sectors around the world



OVERVIEW

In addition to the cassette-type withdrawable VEP embedded pole vacuum circuit breaker, AMS can also be equipped with a SF6 gas-insulated circuit breaker, a fused-contactor, a load-breaking switch, an isolation truck, and a VT truck, in accordance with individual system designs. The complete structural frame of the AMS range is fabricated using high precision assembly jigs, therefore achieving high dimensional accuracy and mechanical quality.

METAL-CLAD ARC PROOF SWITCHGEAR

The enclosure of the AMS series is designed with an ingress protection degree of IP4X as per IEC 62271-200. The metallic and earthed enclosure protects personnel against contact with live parts and against contact with moving parts inside the switchgear panel. It also protects the switchgear against the penetration of foreign objects which could cause a severe short-circuit fault on the system. Manufacturers must strive to prevent, under all circumstances, faults in switchgear installations in which internal arcing may occur. However, such faults cannot be completely prevented in all cases. For this reason, in most countries around the world, the internal arcing test is compulsory for medium voltage metal-clad switchgear. As a result of its metal-clad design and its sturdy hinge and door-locking system, the AMS series has successfully passed the internal arcing fault test in all three high voltage compartments.

PRESSURE RELIEF FLAP

On the top of all three high voltage compartments, the AMS range is equipped with pressure relief flaps which will open automatically to the rear side of the switchgear in the event of over pressure loading due to an internal arcing fault in the corresponding compartment. The pressure relief flaps prevent the following risks which could endanger the operating personnel or extend the effect of the fault to the whole switchgear system:

- ⚡ Burn-through of barriers to adjacent compartments
- ⚡ Burn-through of partitions to adjacent panels

- ⚡ Parts of switchgear flying off
- ⚡ Securely closed doors and shutters being forced open

INTERLOCKING

The AMS range is equipped with a comprehensive system of preventative mechanical interlocks to protect the equipment, operation and service personnel from the dangers of maloperation. The interlocks are designed to prevent:

- ⚡ A closed-circuit breaker being inserted into or withdrawn from the service position
- ⚡ A circuit breaker being closed when not in the service or test position
- ⚡ A circuit breaker being racked into the service position if the secondary contacts plug has not been fitted
- ⚡ Insertion of the circuit breaker into the service position or withdrawal from the service position if the door of the circuit breaker compartment is opened
- ⚡ Closing of earthing switch when the circuit breaker is locked in the service position
- ⚡ Opening of the cable compartment door when the earthing switch is in the open position
- ⚡ Disengagement of the secondary plug from the socket when the circuit of the switchgear is equipped with shutters in front of the spout breaker

COMPACT WITHDRAWABLE VCB

The AMS series is designed for cassette-type withdrawable VCBs. Each cassette is designed to save space inside the switchgear and eliminate any negative impact to the movable electric couplings between the circuit breaker and switchgear panel caused by irregular installation of foundations. Therefore, reliability of the temperature rise on movable electric coupling points is maintained, which is a critical point for all withdrawable switchgear.

CONTROL CABLING

The control and metering cables inside the AMS series are installed in a separate and metal-screened channel, so that the electrical and magnetic interfaces between high voltage path and secondary cables are avoided completely. This construction also provides a barrier between the high voltage conductors and the digital protection equipment located in the metal-clad and earthed compartments.

UNIVERSAL APPLICATION PURPOSE

The AMS range is designed for universal applications in the field. 12kV AMS can be equipped with VEP-embedded pole VCB, load break switch, or fused contractor for different applications such as with distribution transformers, capacitor banks, station transformers, and motor starters. 36kV AMS can be equipped with VEP-embedded pole VCB, FEP SF₆ gas circuit breaker, load break switch or fuse link truck for station transformer applications.

FLEXIBLE ARRANGEMENTS

Both cable and copper bar can be connected into the switchgear from the top and bottom side. 12kV AMS can be installed against the wall of a switchroom, as all components inside the switchgear can be accessed from the front or top side. This means that all the commissioning and maintenance requirements can be carried out from the front or top side of the switchboard.

COMPREHENSIVE ARRANGEMENTS

Besides basic incomer and feeder panels, the AMS range has a comprehensive variation scheme to satisfy the various system configurations of any power distribution system. The main functional schemes are as follows:

- ⚡ Basic incomer and feeder panels equipped with VEP cassette-type withdrawable embedded pole vacuum circuit breaker. For 36kV AMS, SF₆ gas circuit breaker are also available.

- ⚡ Bus coupling panel equipped with VEP cassette-type withdrawable breaker. For 36kV AMS, SF₆ gas circuit breakers are also available
- ⚡ Bus riser panel with bus link truck for isolation of bus coupling panel
- ⚡ PT panel equipped with fixed or withdrawable installation potential transformers and fuses for bus bar voltage metering
- ⚡ Special metering panel equipped with withdrawable or fixed installation potential and current transformers with high accuracy, especially for kWh metering
- ⚡ Station transformer panel can be equipped with fused link truck or load break switch
- ⚡ 12kV AMS fuse-contactor for panel equipped with a withdrawable fuse-contactor combination, used as control and protection equipment for transformers, capacitor banks and for frequently switched motors. The 12kV AMS fuse-contactor panel is completely compatible with the AMS vacuum circuit breaker panel

ADDITIONAL INFORMATION

The AMS range has a number of high-quality components and additions to assist the end user, such as service trolleys, space heaters, and earth switches. The majority of the components are readily available to minimise downtime. Leistung Energie AMS components can replace any GELPAG switchgear.





MEDIUM VOLTAGE RING MAIN UNITS

MEDIUM VOLTAGE RING MAIN UNITS

The range of Leistung Energie Ring Main Units (RMU) is type-tested for the Australian market and is rated for voltages from 12kV up to 36kV with standard 630A busbar currents.

With the flexibility of different types of configurations, these units are perfect for compact kiosk substations. These units also come with SF₆ gas to help extinguish electrical arcs and to protect the operator and equipment.

Type Test certificates are available upon request.



KEY FEATURES

The DQS SF₆ gas-insulated switchgear is a completely sealed and insulated medium voltage ring main unit with a voltage range of up to 36kV.

TECHNICAL FEATURES

⚡ Flexible expansion

It can contain 4-6 modules in one SF₆ gas-insulated tank and each module has its own functional unit. For systems with more than 4-6 modules, the switchgear may be extended using external busbar connectors to connect every two modules or more to obtain the specified configuration.

⚡ Outer Operational Enclosure

The cabinet is made of 3mm steel plate, which is powder-coated for additional environmental protection.

⚡ Internal SF₆ gas tank

The gas tank is made of stainless steel plate, sealed and welded by laser cutting and automatic robotic welding. The protection class of the tank is IP67. Live parts are sealed within the SF₆ gas tank. The SF₆ gas tanks are processed through synchronous vacuum and helium leak tests to ensure that they meet the IEC Standards for SF₆ leakage over their 30-year life requirement. The gas tank comes with an explosion-proof vent at the bottom of the tank which is equipped with an explosion proof membrane. In the case of the gas pressure exceeding the pressure

FAULT RATINGS

Threshold then the membrane would vent and allow the excess pressure to be vented downwards, which ensures the integrity of the gas tank in the event of overpressure in the tank.

⚡ Single handle operation for load switch/earthing switch. The switch includes closing position, opening position and earthing position. Operation only requires one handle to control main switch and earthing switch. The mechanical interlocking between the main switch and earthing switch prevents inadvertent operation. The mechanical interlocking between the earthing switch and the front panel of the cable compartment ensures that access to the cable compartment is prevented unless the earthing switch is closed.

⚡ The mechanical interlocking between the operation of the vacuum circuit breaker and the three-position switch ensures that the vacuum circuit breaker is opened before the load switch can be operated.

Vacuum Circuit breaker

The vacuum circuit breaker is a spring-charged operating mechanism. Spring charging operation is by manual or electric operation. The circuit breaker can be operated separately to the load switch, or for testing purposes can be opened or closed manually or electrically.

Earth switch

The earth switch and the load switch are mechanically interlocked to ensure that earth switch operation is prevented when load switch is closed.

Fuse with encapsulated isolation

Fuses are installed on the fuse bracket and then inserted into the fuse canister. The three individual canisters are contained within the stainless steel gas tank. The fuse canister is completely isolated from any outside environmental contaminants and is interlocked with the load and earthing switch to ensure personnel safety when access for fuse replacement is required.

Busbar Connection

A screened, specialised connector is used for the connection between each set of CKFL switchgear. The busbar between functional units can be easily connected without any special handling. This connector is made up of silicon rubber plug-in units and with a special design and testing to ensure current carrying capacity and short circuit ratings are maintained. Optional connectors can be added for cable connection in lieu of extended busbar connectors.

Load break switch

The load switch is manufactured with an anti-reflex, spring-operated mechanism. The circuit breaker and the load break switch are mechanically interlocked to ensure full fault rating of load break switch.

Cable Connection

Bolt-on, insulated cable connections are used on the standard bushing within the cable compartment. The cable termination bushings comply with IEC 60137 and

international standards. Bolt-on cable terminations are made of silicon rubber and have a capped arrangement to ensure that they are completely sealed from moisture and environmental contaminants. An optional surge arrester can be installed using special adapters that are compliant with IEC 60502.

Rating

Rated voltage max voltage up to 36kV, rated current up to 630A 50Hz.









Protection class of gas tank: IP67

Application: Secondary distribution networks

Applicable Standards:

EC62271-1
IEC62271-100
IEC62271-200
IEC60265-1
IEC62271-102
GB/T11022
GB/T3804
GB/T1984
GB1985

AVAILABLE MODULE OPTIONS

-  / C---Load switch module
-  / F---Switch-fuse combination module
-  / V---Vacuum-circuit breaker module
-  / D---Direct incoming/outgoing cable module
-  / CL---Busbar sectionaliser module (load switch)
-  / CvKr---Busbar sectionaliser module (vacuum switch)
-  / PT-----Potential transformer module
-  / M-----Metering module

LEISTUNG

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TRANSPORTABLE SWITCHROOMS

TRANSPORTABLE SWITCHROOMS

MVLV delivers switchrooms for energy, control and power distribution applications in the mining, utilities and industrial sectors, integrated with the MVLV range of switchgear products.

MVLV's transportable switchrooms are custom designed to meet clients' requirements and site specifications, including structural demands, transport requirements, size restrictions, fire ratings, environmental conditions and special access needs.

MVLV's transportable switchrooms are manufactured, fitted-out, tested and commissioned at MVLV facilities in Perth before transportation to site, decreasing installation time and minimising site work.



STANDARD OPTIONS

- ⚡ Detailed design and fabrication drawings
- ⚡ Small light and power
- ⚡ Split and packaged air conditioning (HVAC)
- ⚡ Bolt-on landings, stairs, stumps and bracing
- ⚡ Fire indication panel and VESDA systems
- ⚡ Fire rated wall and roof panels
- ⚡ Lifting points and associated lifting study

ADDITIONAL OPTIONS

- ⚡ Two-hour fire-rated floors, walls, ceilings and doors
- ⚡ Fire deluge gas suppression system
- ⚡ Interconnecting cabling and cable ladder (main boards, distribution boards)
- ⚡ Battery and UPS systems
- ⚡ Pressurisation unit
- ⚡ Communication and data systems
- ⚡ LV and HV switchgear
- ⚡ Design, supply and testing of interconnecting power and control cabling for switchgear, including LV, HV and distribution switchgear, VSD, UPS and PLC systems

INSTALLATION

- ⚡ Switchroom civil works and yard lighting
- ⚡ Transportation of switchroom to site
- ⚡ Craning of switchroom on site
- ⚡ Site installation and commissioning of HVAC and re testing of the system.

DESIGN

The MVLV standard switchroom design is manufactured and certified to these requirements:

- ⚡ AS/NZS 1170.0 Structural design: General principles
- ⚡ AS/NZS 1170.1 Structural design: Permanent, imposed and other actions
- ⚡ AS/NZS 1170.2 Structural design: Wind actions
- ⚡ AS 1170.4 Minimum design loads on structure: Earthquake loads
- ⚡ AS 4100 Steel structures
- ⚡ AS 1657 Handrails & grating
- ⚡ AS 4600 Cold formed structures
- ⚡ Building Codes of Australia

BASE

The switchroom base frame is supported by its longitudinal PFC external members, with UB cross members and floor joists spaced and welded to exceed minimum engineering standards and prevent flexing. The base is supported by UB columns and bracing at specified heights and painted to client specifications. Our rooms are designed for both fully bolted arrangement (fully galvanized) or fully welded and painted.

FLOORING

The standard switchroom building floor is 18mm CFC panel with a surface finish of 2mm heavy duty vinyl tile. A two-hour fire-rated floor is available as an option.

INTERNAL WALLS AND CEILING

MVLV utilises a non-combustible wall panel that offers excellent thermal insulation. Wall and ceiling panels are standard white. A two-hour fire rating on floor, wall and ceiling panels is available as an option.

DOORS

Doors are heavy duty and feature stainless steel hinges, latches, heavy duty locks, emergency panic bars and closers. The standard single door size is 820mm x 2040mm and the double door size is 1440mm x 2400mm. A removable access panel and a two-hour fire-rated door are available as additional options.

LIGHTING AND POWER

- ⚡ Switchroom light and power sub-circuits are installed in accordance with AS/NZS 3000-2007
- ⚡ GPOs and light switches are labelled with IPA studs
- ⚡ Cables are sized in accordance with AS/NZS 3008.1-2009
- ⚡ Earthing is in accordance with AS/NZS 3000-2007

INTERNAL AND EXTERNAL LIGHTING

- ⚡ Internal fluorescent lighting is installed in accordance with AS/NZS 1680.0-2009
- ⚡ Internal emergency lighting with battery backup is installed to comply with relevant Australian Standards.
- ⚡ Exit lighting installed in compliance with AS 2293.1-2005.
- ⚡ External lighting and control are available as an option

GLAND PLATES

To allow suitable entry for power and control cabling into the switchroom and switchgear, gland plate and drop box entry systems are utilised. Gland plate systems also provide dust and water ingress protection. Bolted coupler bulkheads are available to support mining and heavy industry plug and cable systems. A fire-rated cable entry system can also be supplied.

FIRE PROTECTION

Fire detection and protection systems are designed to suit individual requirements.

AIR CONDITIONING (HVAC)

Heat load calculations are designed to site-specific requirements. Switchrooms that require cooling calculations are available as an option.

SIGNAGE

The following signage is included, in accordance with AS/NZS 3000-2007:

- ⚡ Resuscitation chart
- ⚡ High voltage warning signage at each entrance
- ⚡ Fire extinguisher signage as per Australian Standards

TESTING AND COMMISSIONING

Operations and maintenance manuals are supplied with every switchroom, which include the following documents:

- ⚡ As-built drawings of the switchroom layout
- ⚡ Structural certification documents
- ⚡ All inspection and test sheets
- ⚡ Electrical certification documents to Australian Standards





KIOSK SUBSTATION

KIOSK SUBSTATION

MVLV delivers engineered solutions for energy, control and power distribution applications in the mining, utilities and industrial sectors, all integrated with MVLV's range of products.

The MVLV modular kiosk substation accommodates a variety of MV and LV equipment in an outdoor, weatherproof enclosure. MVLV manufactures all kiosk substations in the factory and undertakes extensive testing before deployment to site, reducing on-site disruption and costs.

The construction of the MVLV modular kiosk substation allows for flexibility in sizing, layout, application, inspection and maintenance. All MVLV kiosks are certified to AS1170 Region D.



STANDARD FEATURES

The standard MVLV modular kiosk includes:

- ⚡ Detailed design and fabrication
- ⚡ MV switchgear
- ⚡ Distribution transformer
- ⚡ LV switchboards
- ⚡ All cabling
- ⚡ Commissioning and factory acceptance testing before factory dispatch

ADDITIONAL OPTIONS

- ⚡ Interconnecting cabling
- ⚡ Internal/external power and lighting
- ⚡ Transportation of kiosk to site
- ⚡ Site installation and commissioning

DESIGN

Features of the MVLV Modular Kiosks include:

- ⚡ Modular construction, allowing flexibility in design and customisation
- ⚡ Removable wall and roof panels, providing easy access for maintenance
- ⚡ An internal structural framework and easy cladding attachment
- ⚡ Transformer oil containment bund, which removes the need for additional site works.

EXTERNAL WALLS AND ROOF

The internal structural frame is manufactured from 2mm sheet steel. Walls, roof and doors are manufactured from 2mm sheet steel. Marine-grade aluminium or stainless steel can be made available as an option.

DOORS

Doors are designed and sized to allow easy passage and installation of electrical equipment. Stainless steel hinges, latches and locks are available as options.

PROTECTIVE TREATMENT

MVLV's kiosks are epoxy polyester powder-coated to a minimum DFT of 70 microns. Coatings are applied in accordance with the manufacturer's instructions. Base treatment (galvanising) is available as an option.

LIGHTING AND POWER

Kiosk lighting, power sub-circuits and earthing comply with Standard AS/NZS 3000. Cable installations comply with AS/NZS 3008.

SIGNAGE

The following signages are included:

- ⚡ Resuscitation chart
- ⚡ High voltage warning sign at each entrance



KIOSK RATING

- ⚡ Upto 33kV / 2.5MVA

HV END OF KIOSK

- ⚡ RMU SF6 gas circuit breaker
- ⚡ RMU vacuum circuit breaker
- ⚡ RMU load break switch
- ⚡ RMU circuit breaker
- ⚡ RMU load break switch fuse
- ⚡ RMU motorised closer (remote operation)
- ⚡ Vacuum circuit breaker
- ⚡ Load break switch fuse
- ⚡ Transformer terminal box enclosure
- ⚡ Protection relay
- ⚡ Form 2 to Form 4a
- ⚡ VSD or soft starter
- ⚡ Metering where specified
- ⚡ DYN 11 (customised on request)

TRANSFORMER

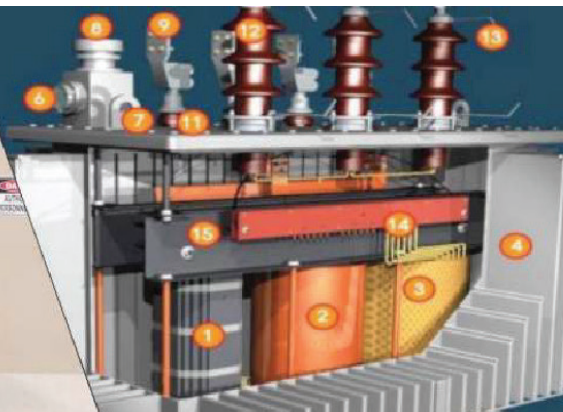
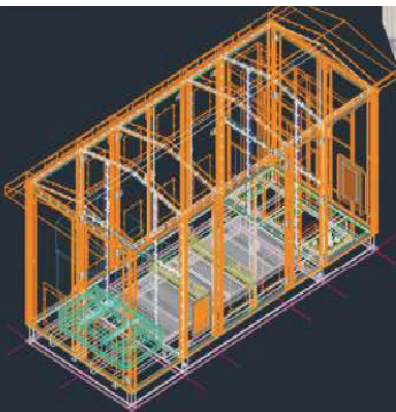
- ⚡ Oil transformer
- ⚡ Dry type transformer
- ⚡ Tap changer off load
- ⚡ Oil level indicator
- ⚡ Temperature RTDs
- ⚡ Buchholz relay
- ⚡ Pressure transducer
- ⚡ External cooling radiators
- ⚡ Cooling fans
- ⚡ Custom specifications

LV END OF KIOSK

- ⚡ Busbar in enclosure
- ⚡ Air circuit breaker / moulded case circuit breakers
- ⚡ Generator ATS
- ⚡ LV switchgear (standard type-tested)
- ⚡ Form 2 to Form 4a (single or double-sided switchboard configuration)
- ⚡ VSD or soft starter
- ⚡ Metering where specified

ENCLOSURE

- ⚡ IP 4X up to IP 55
- ⚡ Mild steel (powder-coated)
- ⚡ 3 CR 12
- ⚡ Galvanised base
- ⚡ Lockable handles



TURNKEY PROJECTS

Our focus is on the delivery of turnkey project services to our clients. Our services and industry partnerships cover supply, site installation and project management as well as professional engineering across a range of sectors.

MVLV Power Solutions takes pride in delivering projects on time and under budget, with the highest quality and safety to our valued customers.

OUR SERVICES

We provide complete electrical solutions covering every step of the process, including design, project management, installation and commissioning through to maintenance and after sales support. We combine the expertise from all our divisions within the group and deliver results as a total force with streamlined communication and controls. Our quality management systems and policies ensure that you receive the best possible workmanship, every time.

- ⚡ Substation earthing and lightning protection systems
- ⚡ HV and LV power systems
- ⚡ HV substation and switchboard installation
- ⚡ Transportable switchroom and substation installation
- ⚡ Fixed generation and standby diesel generation systems
- ⚡ Process and control systems
- ⚡ Labour and shutdown solutions
- ⚡ Hazardous area inspections
- ⚡ MV/LV circuit breaker maintenance and repairs
- ⚡ Radio telemetry
- ⚡ Fibre optic cable joints and repairs



SERVICE, REPAIRS AND MAINTENANCE SUPPORT

MVLV offers expertise in repairs, maintenance, upgrades and servicing of electrical equipment for our products and for third party electrical equipment in order to prolong their life and increase operator and plant safety.

With a division dedicated to the repairs and maintenance of electrical switchgear, our team is trained to deliver the highest quality.

We service all makes and models, and in several cases, service equipment where spare parts are no longer readily available by retrofitting or through custom manufacturing.

- ⚡ AC and DC contactors and breakers
- ⚡ Certification of new and old equipment
- ⚡ Transfer switches
- ⚡ Locomotive controllers
- ⚡ Reactors
- ⚡ Air dryers
- ⚡ Fibre optic cable joints and repairs
- ⚡ Injection testing
- ⚡ Hipot testing
- ⚡ Induction (up to 5000A) testing
- ⚡ Wave calibration (to manufacturers' specifications)

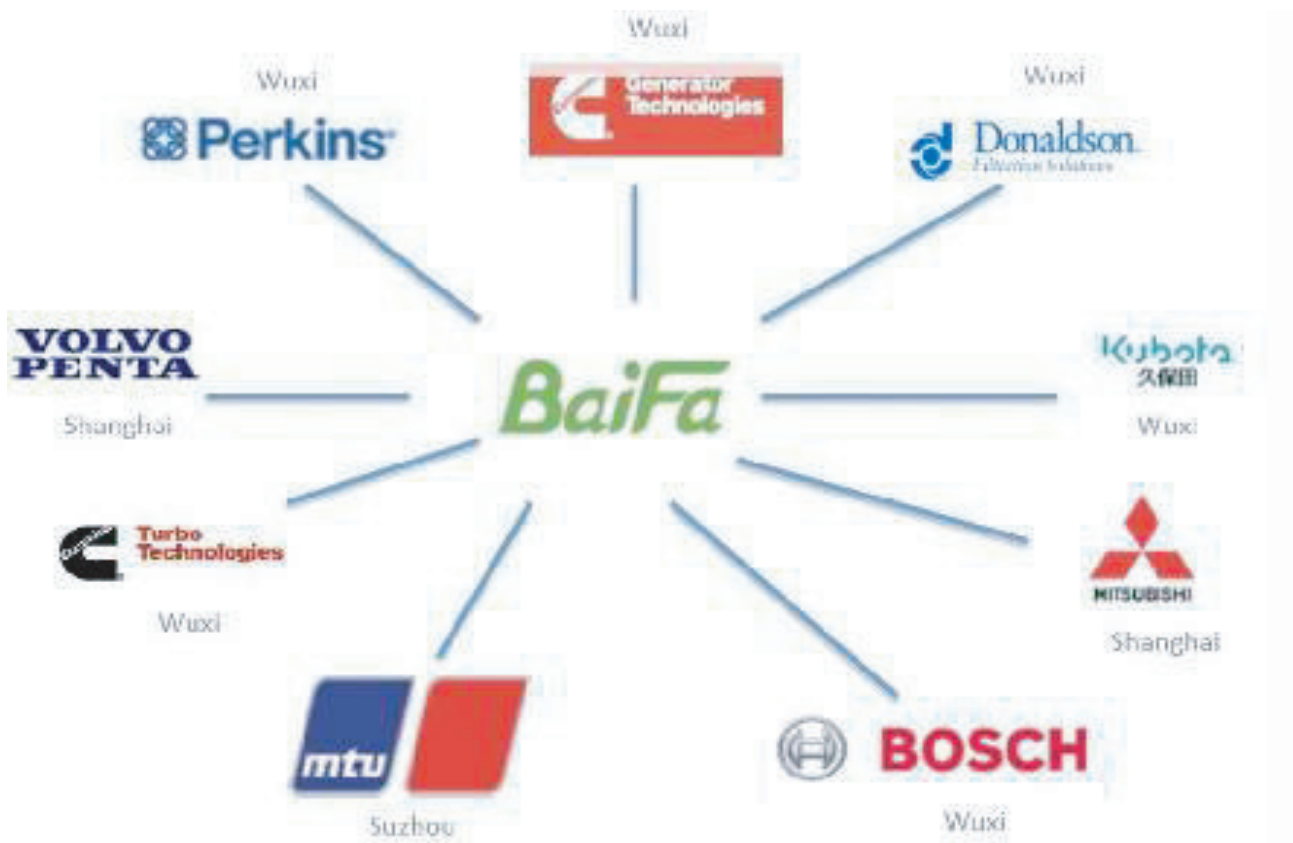


POWER GENERATION

MVLV Power Solutions, along with our partners Leistung Energie and Baifa, offers various types of standard and customised power generator products and solutions.

Over the past two decades, Baifa has devoted itself to R&D and the production of generator sets ranging from 8kW to 2500KW.

Baifa offers a wide range of industrial diesel, natural gas and marine power generator products and supplies to over 80 countries.





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