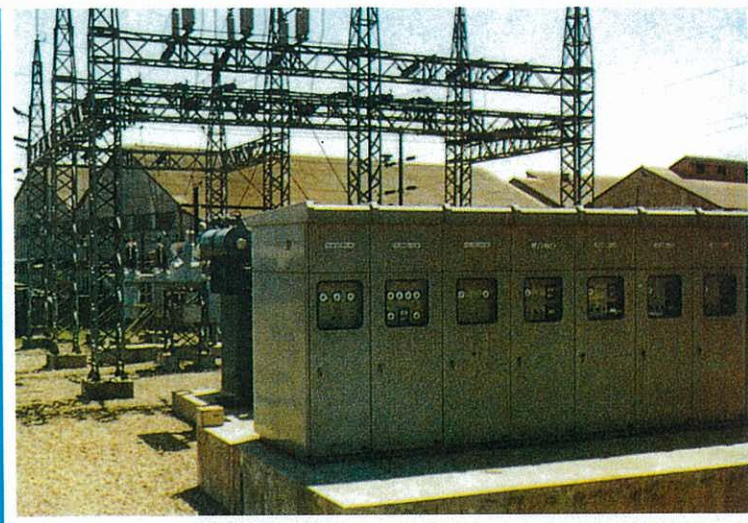
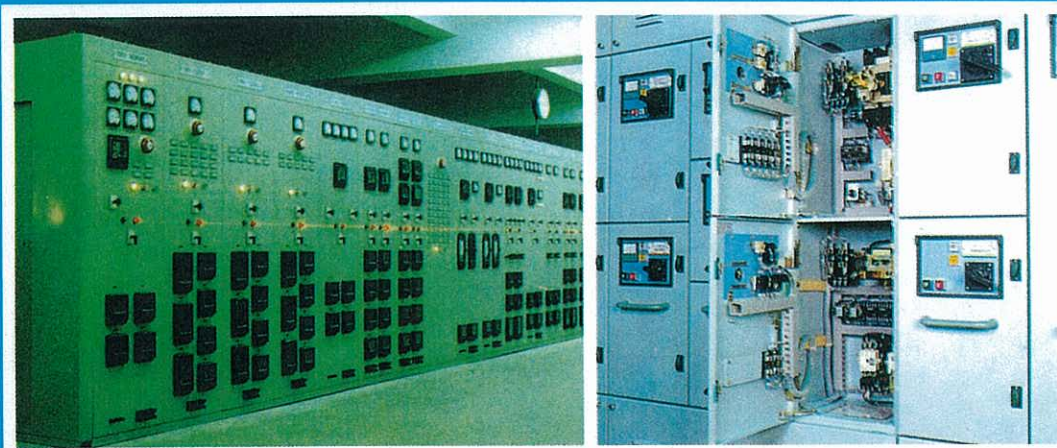


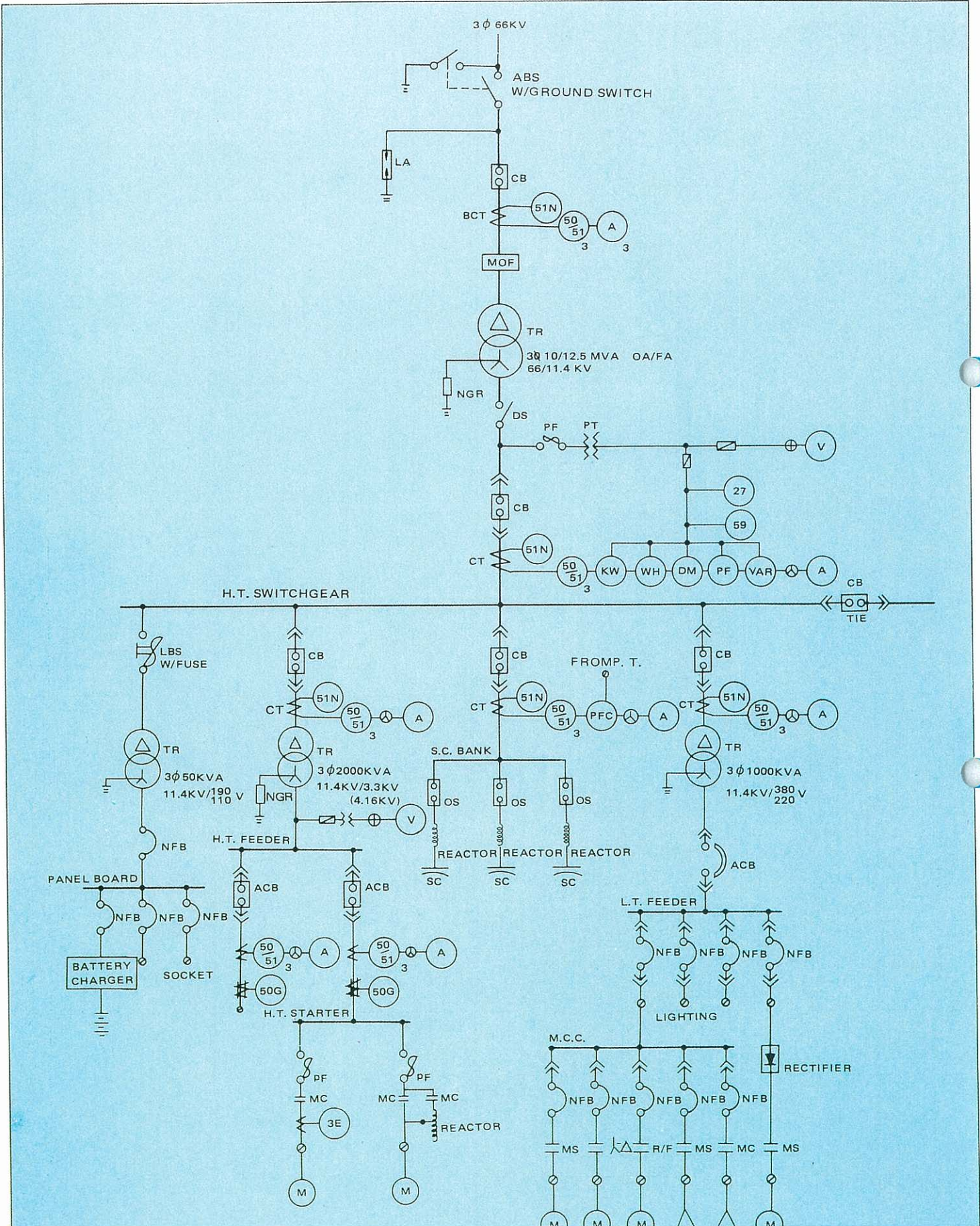
# ALLIS

METAL-ENCLOSED  
METAL-CLAD

# SWITCHGEAR



ALLIS ELECTRIC CO., LTD.





Due to the increasingly fast development and improvement of industrial technics, it is essential that switchboards for energy generation and distribution can adequately control, supervise and protect the system.

Speedy progress in the data processing field along with changing industrial requirements has led to switchboard manufacturing geared toward automation, job simplification and standardization. Furthermore, switchboard manufacturing is not just limited to energy receiving or distribution systems, but is also involved in building complete process control center systems.

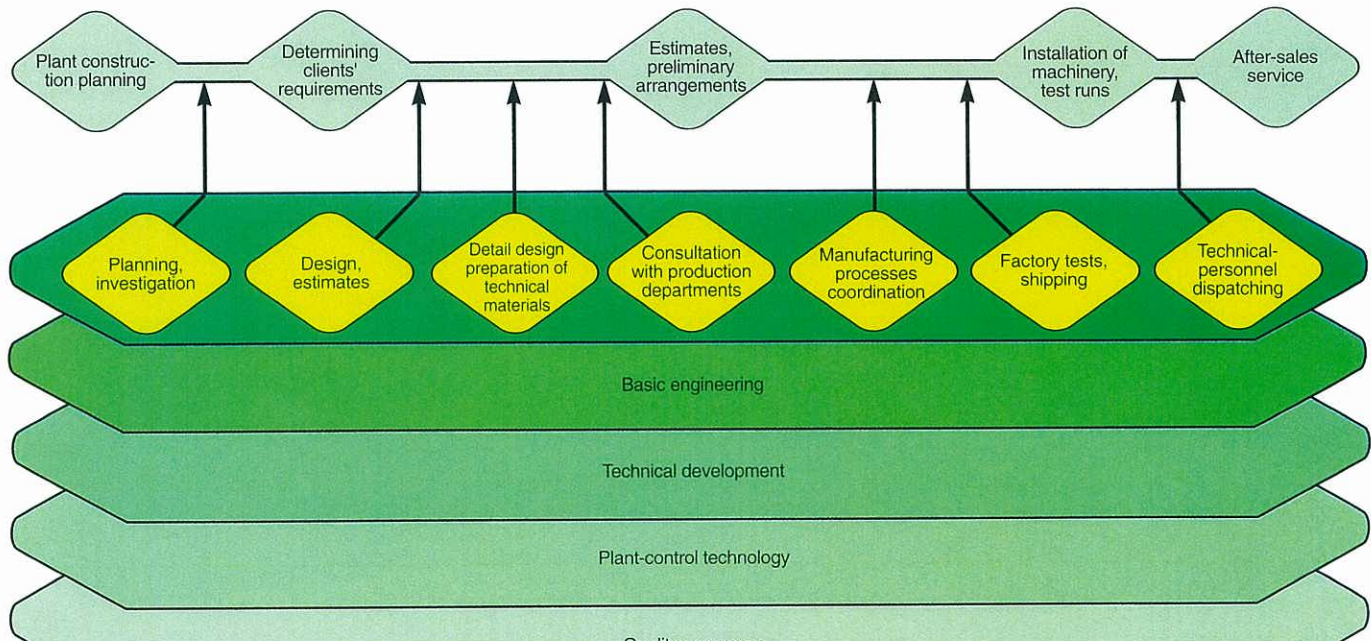
Allis metal enclosed switchboards are designed for general environments at altitudes lower than 1000 meters above sea level, maximum ambient temperature of 40°C, minimum indoor of -5°C, and minimum outdoor of -20°C. These specifications comply with the latest standards of CNS, ANSI, JEN BS, or IEC as specified by customers. Switchboards are fabricated in our integrated plant, moving from the steel casing shop to the chemical priming stage, to the enamel baring stage, then on to the assembly line for installation and wiring. All switchboards must continually pass inspection, from production stages to the final quality assurance testing, packaging and shipping.

Our testing facilities include:

- material and parts checking manually and electrically
- construction checking
- performance testing
- sequence check
- voltage withstand test
- insulation testing
- relay setting and performance testing
- meter calibration

In some circumstances, temperature rise, momentary current test impulse withstand voltage tests are also available to insure quality production.

## THE CENTER'S FUNCTION AND ROLE





**ALLIS  
ELECTRIC  
COMPANY**

## HIGH VOLTAGE METAL- ENCLOSED SWITCHGEAR

### GENERAL

Allis metal-enclosed or metal-clad switchgear with vertical lift, horizontal draw-out circuit breakers provide centralized circuit control for medium voltage systems (from 3.3 through 24KV). A complete line of functional units is available for control and protection of motors, transformers, generators, distribution lines, rectifiers, M-G sets, and similar power equipment. Each standard self-contained unit utilizes basic world reliable manufacture components, including vacuum circuit breakers, magnetic blast breaker, instruments, relays, meters, instrument transformers, and control devices.

Typical installations are found in electric utility plants, chemical and petroleum installations, underground and strip mining areas, foundries and similar dusty and contaminated atmospheric areas.

#### Interrupting Capacity:

25 MVA Through 1000 MVA

#### Continuous Current Rating:

600 to 2000 Amperes

#### Voltage:

3.3KV Through 24 KV

#### BIL:

60KV Through 150KV

#### Service:

Indoor and Outdoor

#### Operating Reliability:

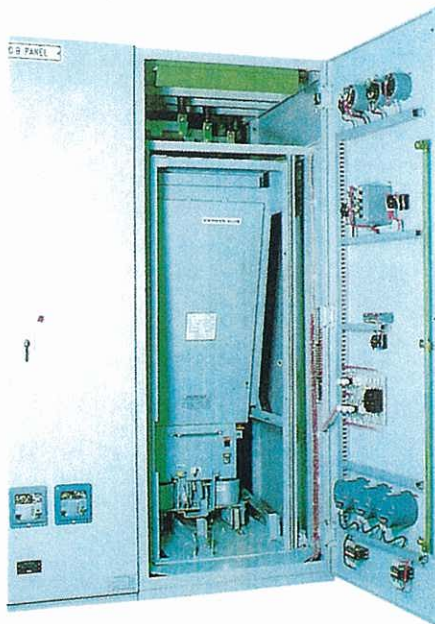
Production inspection and testing of each assembly before shipment insures proper functioning of all components and on-the-job reliability.

#### Inspection and Maintenance:

Convenient access to all components and use of vertical lift horizontal draw-out breakers make inspection and maintenance an easy job.

#### Personnel Safety:

High voltage equipment and connections are enclosed in grounded metal compartments. Steel barriers isolate control wiring and secondary connection compartments from high voltage circuits, permitting operator to enter these compartments while the unit is in service.



**12KV metal-enclosed  
switchgear**



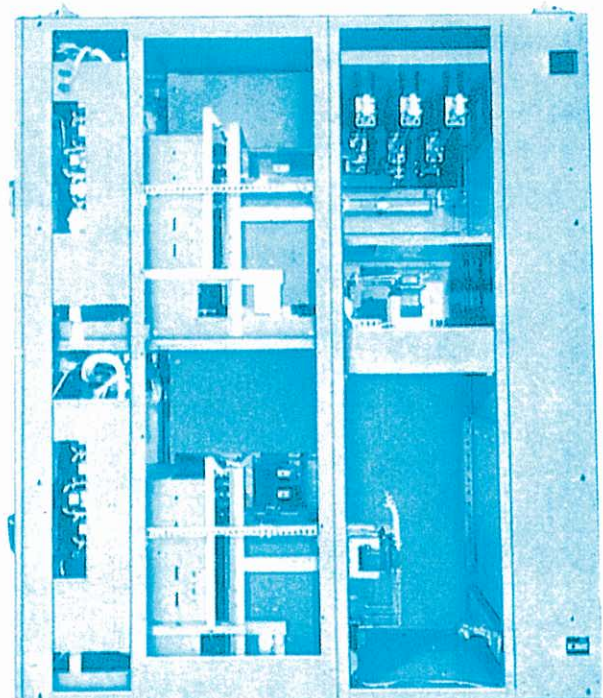
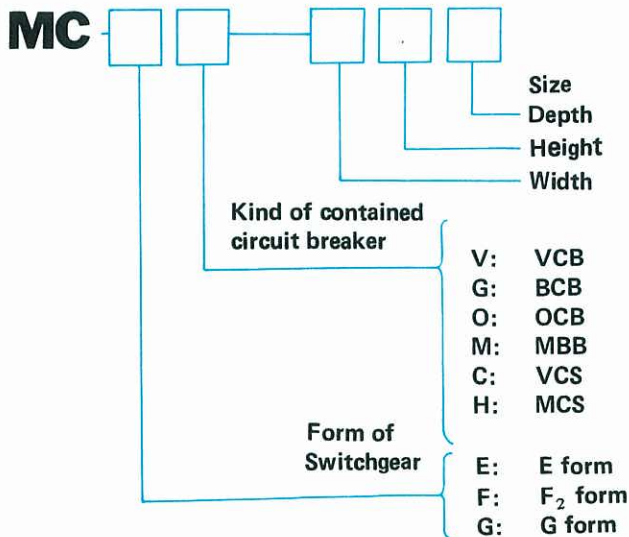
**High voltage metal-  
enclosed switchgear**





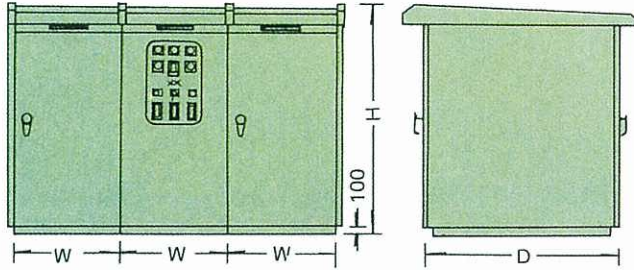
**TYPE OF METAL – CLAD SWITCHGEAR**

	<b>E FORM</b>	<b>F<sub>2</sub> FORM</b>	<b>G FORM</b>
Sectional Views			
Circuit Breaker	<ul style="list-style-type: none"> <li>• Primary circuit. . . automatically disconnecting</li> <li>• Control circuit. . . manually disconnecting</li> </ul>	<ul style="list-style-type: none"> <li>• Primary circuit. . . automatically disconnecting</li> <li>• Control circuit. . . manually disconnecting</li> </ul>	<ul style="list-style-type: none"> <li>• Primary circuit. . . automatically disconnecting</li> <li>• Control circuit. . . manually disconnecting</li> </ul>
Partition Wall	<ul style="list-style-type: none"> <li>• To provide partition wall between primary circuit and control circuit</li> </ul>	<ul style="list-style-type: none"> <li>• To provide partition wall between primary circuit and control circuit and between major parts of the primary circuit including bus bars</li> <li>• To provide automatic shutter covering the stationary live contacts in the breaker compartment</li> </ul>	<ul style="list-style-type: none"> <li>• To provide partition wall between primary circuit and control circuit and between major parts of the primary circuit including bus bars</li> <li>• To provide automatic shutter covering the stationary live contacts in the breaker compartment</li> </ul>
Insulation of conductor	<ul style="list-style-type: none"> <li>• Conductors of primary circuit. . . bare</li> </ul>	<ul style="list-style-type: none"> <li>• Conductors of primary circuit. . . bare</li> </ul>	<ul style="list-style-type: none"> <li>• Conductors of primary circuit. . . bare</li> </ul>

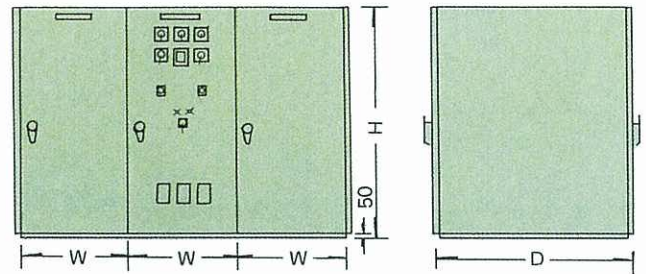




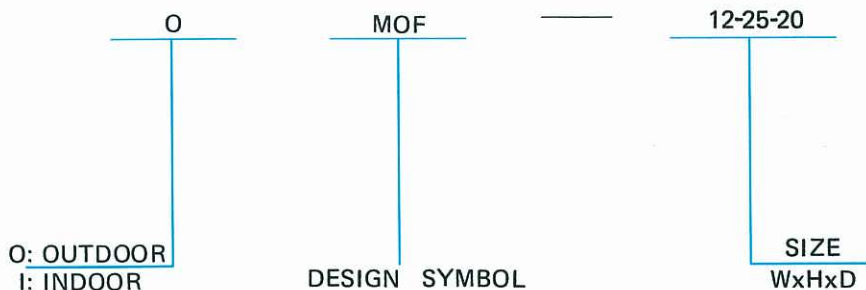
OUTDOOR TYPE



INDOOR TYPE



ITEM	DESIGN	TYPE	SIZE m/m W x H x D	MAIN COMPONENTS
1	HIGH VOLTAGE METERING OUT-FIT PANEL	OMOF-12-25-20	1200 x 2550 x 2000	PT, CT, KWH, KVAR
		IMOF-12-23-18	1200 x 2350 x 1800	
2	OUTDOOR HIGH VOLTAGE RECEIVING SWITCHGEAR	OHR-10-25-20	1000 x 2550 x 2000	METERS, RELAY, PF, PT, CT, VCB, COM BUS
3	OUTDOOR HIGH VOLTAGE DISTRIBUTION SWITCHGEAR	OHD-10-25-16	1000 x 2550 x 1600	METERS, RELAY CT, VCB
4	INDOOR HIGH VOLTAGE RECEIVING SWITCHGEAR	IHR-09-23-18	900 x 2350 x 1800	METERS, RELAY, PF, PT, CT, VCB, COM BUS
5	INDOOR HIGH VOLTAGE DISTRIBUTION SWITCHGEAR	IHD-09-23-14	900 x 2350 x 1400	METERS, RELAY CT, VCB





**GENERAL APPLICATION**

Allis standard Low voltage metal enclosed switchgear is designed for the control and protection of power circuits for fans, pumps, lighting and machines at 220, 240, 380, 480 or 600 volts a-c... especially adapted for power centers. such as for central stations auxiliary power circuits for fans, blowers, compressors, pumps, lighting circuits industrial plants power and lighting networks, power feeders, lighting feeders power generation and auxiliary power drives for machine tools and material-handling equipment.

The switch-gear is factory-assembled from standardized units, wired and tested to meet the specific requirements for any desired installation. It is widely used in industrial plants and electric utility stations. Breakers can be set for selective tripping to give maximum service continuity, or set in cascade to provide adequate interrupting ability at a minimum cost.

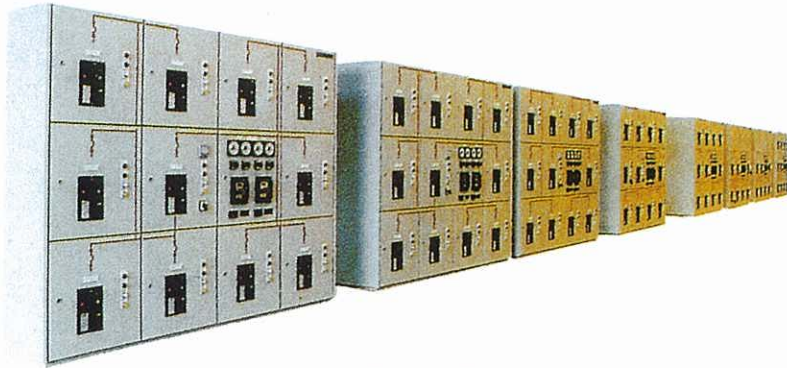
**ADVANTAGES**

Modern design and construction: Completely metal-enclosed, self-supporting metal structure.. modern in appearance and construction throughout... inherently dead-front... with drawout breaker design.

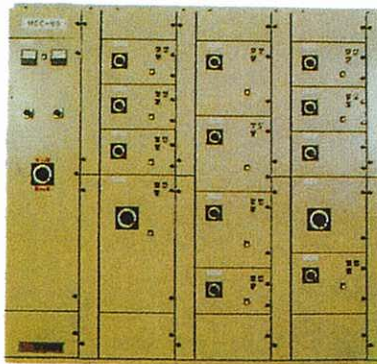
Maximum protection and continuity of service: The air circuit breakers provide superior power circuit protection, operating and maintenance features.

The Standardized design throughout eliminates special design and engineering costs... yet "custom-assembled" to meet all normal application requirements.

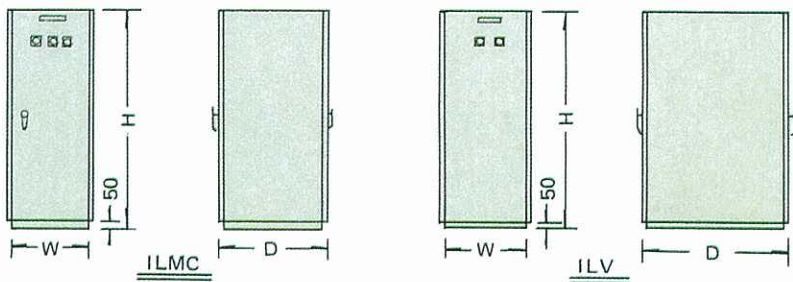
Standardized units are grouped in the size assembly best handled at the installation site... ready to be placed on the foundation and connected easily to the primary and secondary control circuits. Safe in operation and maintenance, Low-voltage metal-enclosed switchgear is inherently dead-front. All breakers may be closed or tripped without opening doors or otherwise exposing live parts. Each breaker is enclosed in an individual metal compartment. Bare buses, cable connections and instrument transformers are placed in full height rear compartments and separated from breaker compartments. Interlocks and positioning devices assure safe removal or replacement of brakers.



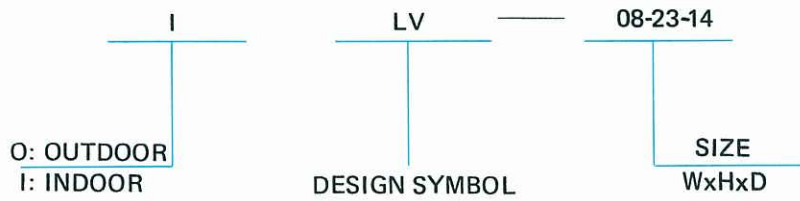
**Low voltage metal-enclosed switchgear**

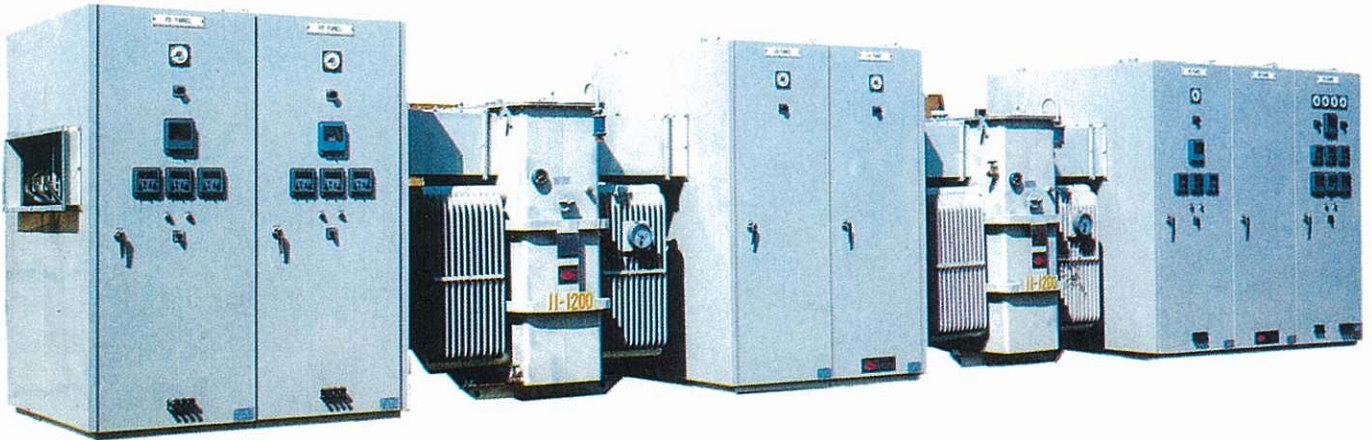


**Low voltage metal-enclosed switchgear**



Item	Design	Type	Size m/m W x H x D	Main Components
1	Indoor Low Voltage Switchgear	ILV-08-23-14 ILV-08-23-10 ILV-08-23-08	800 x 2350 x 1400 800 x 2350 x 1000 800 x 2350 x 800	Meters NFB ACB
2	Combination Low Voltage Control Panel	ILMC-08-18-04 ILMC-08-21-06	800 x 1800 x 450 800 x 2100 x 600	Meters NFB MS





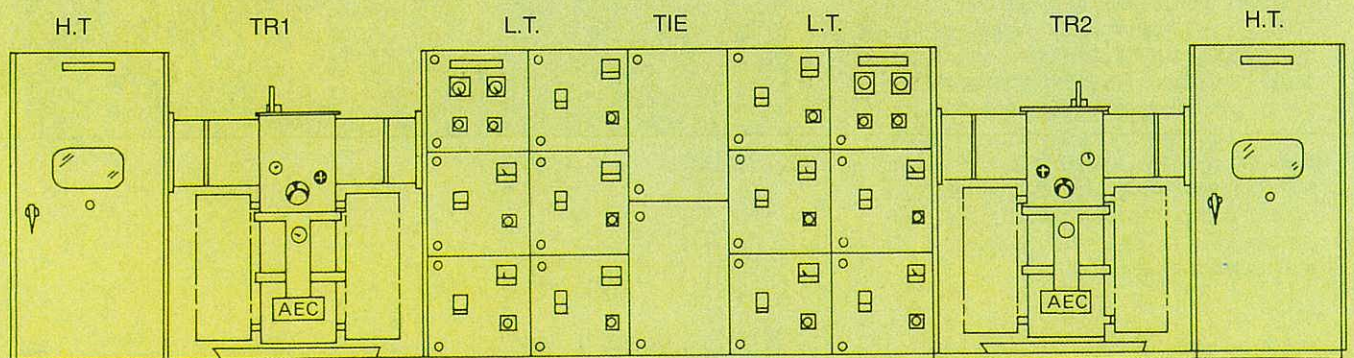
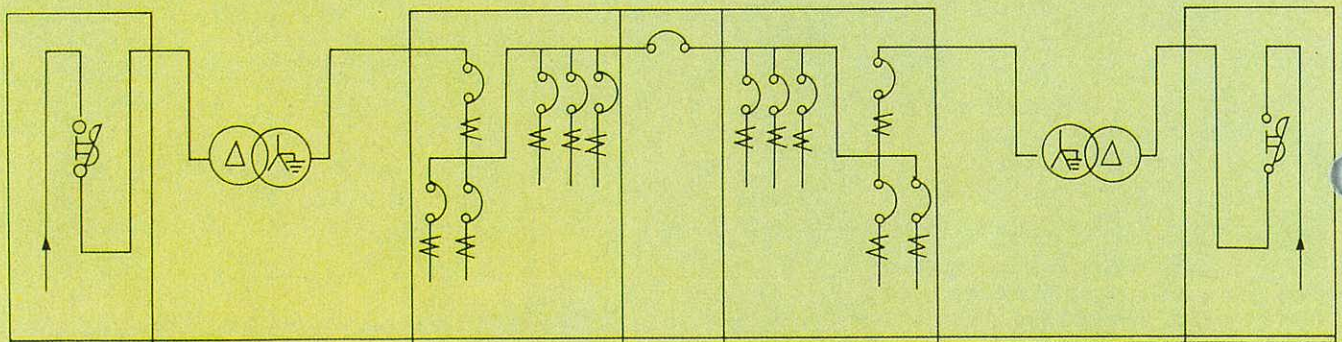
12 KV unit substation

The metal-enclosed unit substation is built with high tension receiving equipment, power transformers and low tension switch-gears in one line of a totally enclosed switchboard ; which forms a load center and is applicable to widely separated distribution systems and load variations.

Its advantages are:

1. Low installation cost
2. Less voltage regulation
3. Flexible to load variation
4. Easy to expand
5. Ring or tree system adaptable
6. Space saving

This unit an economical distribution system with simple and pleasant indoor or outdoor design, which can be widely applied to industrial and building equipment.

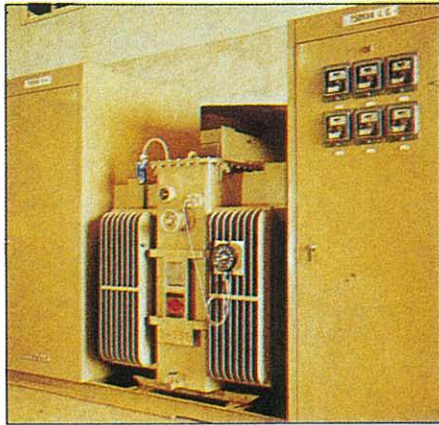


DOUBLE ENDED UNIT SUBSTATION

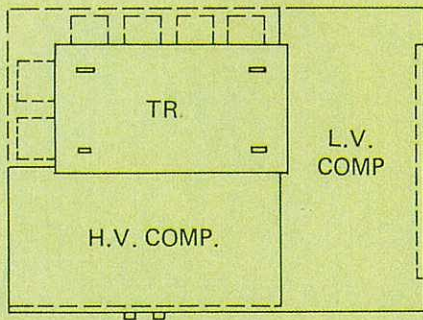
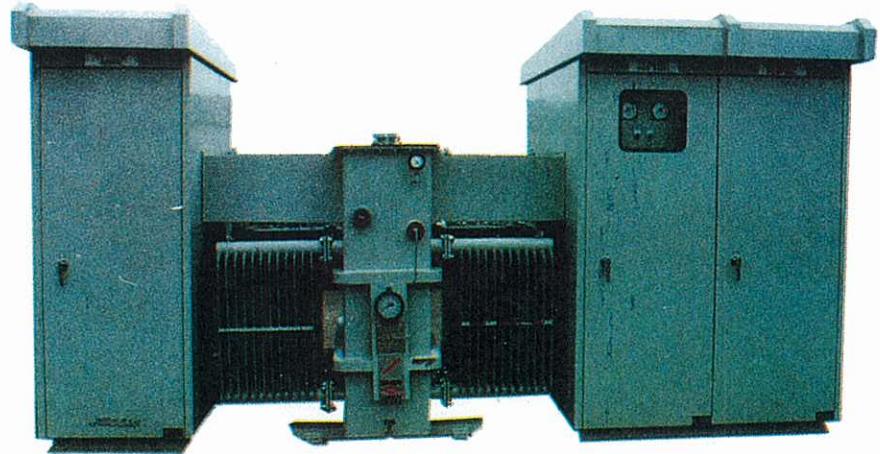




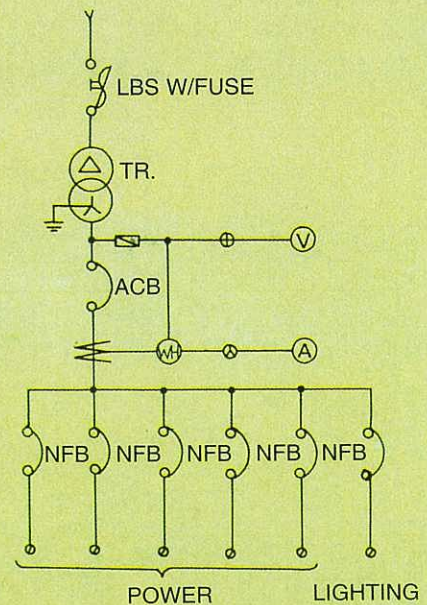
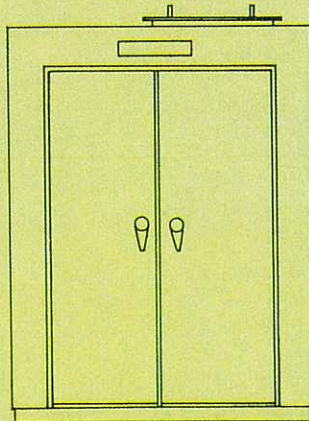
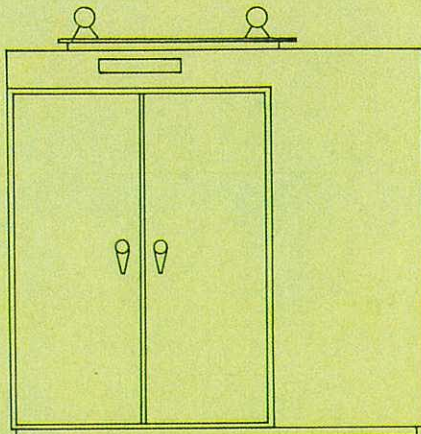
**INDOOR TYPE**



**OUTDOOR TYPE**



**Compact unit-substation (pad-mounted transformer)**  
**outline of compact type unit substation**  
HV: 3.3KV-24KV  
LV: 220V-480V  
Capacity: Up to 500 KVA

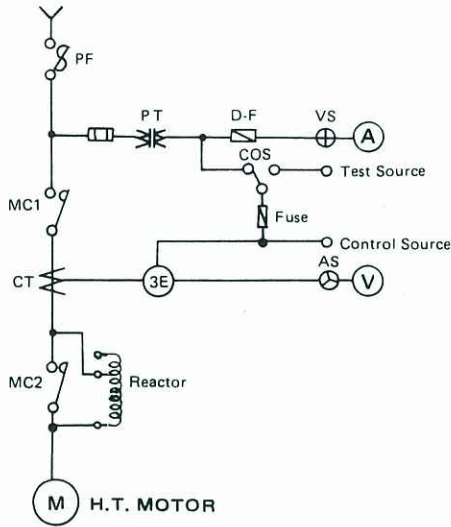




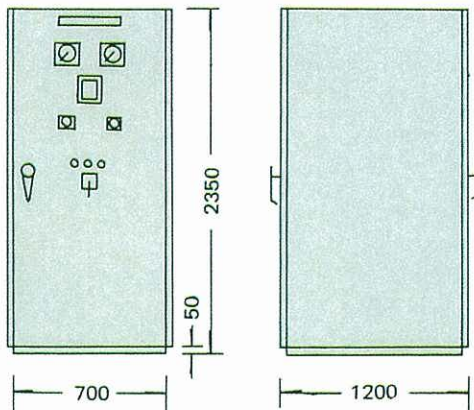
**Motor control center (Indoor type)**



**Motor control center  
(Outdoor type)**



**3.3KV motor  
Starting Panel**



**H.V. motor starting panel**