



輝域



**Excellence**  
**Excellence**  
 SERVICES & EXPERIENCE



# CONTENTS

---

Company Introduction	P1-2
Certificates	P3
Scope of Supply	P4-5
Low Voltage Switchboard	P6
• <i>Design and Arrangement</i>	
Low Voltage Switchboard	P7
• <i>Product Specification</i>	
MCB and MCCB Sub-Distribution Board	P8
• <i>Product Specification</i>	
Job Reference List	P9
Project Showcase	P10-11
Awards and Accolades	P12-13

# COMPANY INTRODUCTION

Fair-Rack Electrical Asia (HK) Ltd. (or called Fair-Rack) was established since 1996, while our sister company, Chung Fai Engineering Co. Ltd. (or called Chung Fai) was established in 1987. Chung Fai was recognized by HKSAR Government in 1998 to become the approved supplier of specialist contractor for public works, by supplying Fair-Rack Brand “Low Voltage Cubicle Switchboards”. Fair-Rack is the manufacturer in design, fabricate and assemble various type of Low Voltage Switchboard, Motor Control Centers, MCB & MCCB Sub-distribution Board and all kinds of control panels, targeting Hong Kong, Macau and mainland China market. All of our products are fully tested and comply with the latest international IEC standard and China CCC certification.



*Mr. K F Chan, CEO of Fair-Rack Electrical Asia (H.K.) Ltd. & Chung Fai Engineering Co., Ltd.*


Our head office is located in Hong Kong mainly handling sales, design, purchase, maintenance and service, while our manufacturing plant is located at Heshan, China. In addition, our service team provide round-the-clock emergency call (E-Call) maintenance service, catering for any electrical failure and minimizing down time due to power outage.

Our Vision: By providing technical service with excellence, we endeavor to create a safety environment and allow people living in Hong Kong to experience the safe electrical protection and rewards of comfort & safety throughout their daily life.



Our Slogan:

## Our Client, Our Priority



In order cope with rapid growth of business, our Company continue to invest resources at our Heshan Factory by adopting the latest technology and advance machineries; for 3D drawings production, sheet metal bending, cutting, punching and processing.

**For instance,**

- Latest Auto CAD 3D Computer Aid Design system
- Finland “FINN-POWER” (known as Prima Power) E-series equipment for advance processing
- Holland SAFAN E200-4100 CNC Hydraulic Press Brake
- Japan Amada (Tian Tian) CNC Rotary Press Machine
- CNC Hydraulic Cutting Machine
- German “Novo Press” for Busbar Bending and Cutting
- Italian “IMB” Hydraulic Press for Busbar Bending, Punching and Cutting
- Swiss “Stierli-Bieger AG” for Busbar Bending with CNC Angle Programming
- and Fully Automatic Electrostatic Epoxy Powder Coating System



# CERTIFICATES

ASTA Certification for LV Switchboard – IEC61439-2



ASTA Certification for MCB Board – IEC61439-3

ASTA Certification for MCCB Board – IEC61439-2

ASTA Certification for ARC Fault Test on LV Switchboard AS3439.1, Annex ZD

China

CCC Certification for LV Switchboard



ISO 9001:2008 Certification



# SCOPE OF SUPPLY

## Our Products

**“Fair-Rack” Low Voltage Switchboard and Motor Control Center** are reliable, compact and fully comply with the latest international standard:

- IEC60439-1:2004, IEC61439-2:2011
- Arc Fault Test comply to AS3439.1, IEC61641:2008
- And comply with CCC certification: GB7251-2005

The switchgear assembly are constructed together with Global Reputable Brand Power Distribution & Control Equipment; including but not limited to Air Circuit Breaker, Moulded Case Circuit Breaker, Disconnecter, Fuse Switches, Motor Starter, Metering and various Protective Devices.

**“Fair-Rack” Sub-distribution boards (MCB and MCCB Board)** is the first Hong Kong-branded power distribution board in compliance with international standard IEC 61439-2/3. This had reflected the company's effort put in quality control, R&D, raw material procurement, production, and other areas in order to fulfill stringent requirements of the international standard.

**“Fair-Rack” Capacitor Bank** provide the cost effective solution by correcting power lag problems and maintaining an acceptable & stable power factor.

**“Fair-Rack” Acoustic Enclosures** are used for controlling the noise level of various noise generating machines and generator sets. Fair-Rack design provide modular and noise shielding construction; while the panel are easily opened from any side for easy maintenance purpose.

**“Fair-Rack” Load Bank** are used to provide a contained and fully controllable load. The purpose is to simulate power sources for testing the reliability of electrical equipment (e.g. emergency generator sets). Fair-Rack offer two types: Portable Version (up to 400KW) and Fixed Mounted Installation (up to 2000KW)

Furthermore, our Heshan Factory are equipped with comprehensive testing facilities which provide various kind of testing; included temperature rise test, primary injection testing, etc. in order to fulfil the client's requirement.

## Our Service

In Hong Kong, Fair-Rack provide after sales support as to ensure the safety and reliability of our products. In addition, **“Fair-Rack” provides round-the-clock Emergency Call Service (E-Call)** to local building market by forming an E-Call Service Team. With the team's prompt service, the company minimizes down time due to power outage. In one case, for instance, the team successfully delivered and installed a new switchboard for the client in one week's time, comparing with the time required (at least one month) for the same task in the past. The service team enhances the company's responsiveness and thus the competitiveness in market.





## LV Switchboard

### FAIR-RACK FR Series

Low Voltage Switchboard & Motor Control Centre

Takes **POWER** Distribution to Next Level



## MCB MCCB Board

Perfectly fit with Global Reputable Brand  
Final Distribution Equipment

### FAIR-RACK MD & MB Series

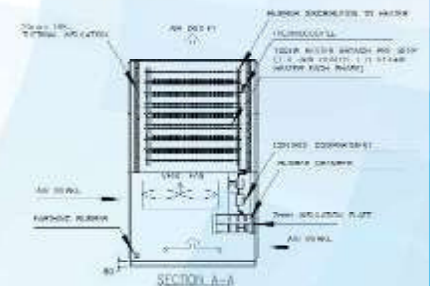
SPN / TPN MCB Board & TPN MCCB Board



## Loadbank

### Portable and Fixed Mounted Types

- Provides a contained and fully controllable load
- Simulates power source to test reliability of electrical equipment
- Portable: up to 400KW, Fixed Mounted: up to 2000KW



## Acoustic Enclosures

- Control noise level of various noise generating machines & generator sets
- Modular design and noise shielding construction
- Panel easily opened from any side for maintenance purpose
- Visual panel & lighting inside the Enclosure with hinge type door
- Doors fitted with Neoprene Gasket to block noise leakage from door gap

# LOW VOLTAGE SWITCHBOARD

## Design and Arrangement

### MODULAR DESIGN

The standard construction of "FAIR-RACK" cubicle is based on modular framework; which consists of frame column, cross beam, panels and doors. The design enable our Company to provide a wide range of cubicle sizes to accommodate various brand of switchgears.

### TYPICAL ARRANGEMENT

The panels and doors are made of electrogalvanized sheet steel finished with impact resistant epoxy powder coating in light grey color. Special color finishes can be provided upon request. All panels including back and side cover are equipped with ventilation louvre; which are fitted with perforated sheet ensuring IP4X protection. In addition, all panel covers and doors are fitted with neoprene sealing rubber gasket and concealed hinges as to achieve IP41 protection (standard scope). IP43/44/54/55 degree of protection shall be provided upon request.

### BUSBAR ARRANGEMENT

The copper busbar used are hard drawn, high conductivity and electro tin-plated in complied with BS1432 & BS1433. The standard main horizontal busbar size are two number of rated capacity running in parallel per phase and neutral which are for main and tee-off connections. Such busbar arrangement are sufficient to carry the rated continuous current under an ambient temperature up to 50 degree C without exceeding the temperature rise limits as specified in BSEN60439-1 and IEC61439-2.

The Busbar supports are made of fiber-glass reinforced polyester DMC and such material are arc resistant and non-flammable; providing an excellent mechanical strength and dielectric properties to withstand stress under normal operation and short circuit conditions.

### PATENTED FAIR-RACK "FRT" SYSTEM

"FRT" cable tee-off connections are specially designed to make connection of switchgear to and from the main busbar. Such design provides an easier way for maintenance and modification for outgoing circuit connection. "FRT" System are available with 160A, 250A and 630A tee off connection from main busbar to switchgear.



FRT System - Cable Wiring Compartment



FRT System - Outgoing Busbar supports



MCCB Compartment (Ind. Rotary Handle)



Emergency Panel



ACB Compartment



Fuse Switch Compartment (630A)



4P MCCB ATS c/w E&M Interlock Device



4P Contactor Switch



Power Company's Metering CT Chamber



Internal Busbar Connection



# LOW VOLTAGE SWITCHBOARD

## Product Specification

Designation	LVSB for LV Switchboard MCC for Motor Control Center LMCP for Local Motor Control Panel
International Standard	ASTA Verification Test to <b>IEC60439-2</b> and <b>IEC 61439-2</b> Arc Fault Test to <b>AS3439.1</b> , Appendix EE Internal Fault Test (Arcing) to <b>IEC 61641:2008 Edition 2</b> <b>Clause 6, 7</b> and <b>8 GB7251-2005 CCC</b>
Rated Insulation Voltage for Main Busbar Rated Operational Voltage Rated Impulse Withstand Voltage Rated Current Short Circuit Withstand Strength	690 V, 50 Hz 415V / 690 VAC, 50 Hz 8kV Main Busbar up to 6300A 50kA 3 Sec. for all rating 65kA 3 Sec and 80kA 1 Sec
Degree of Protection	IP41 (Standard Offer) IP43, IP44 (with Test Certificate) IP54, IP55 (upon request)
Enclosure Framework Coating Epoxy Powder Coating	2mm Electro-galvanized Sheet Steel Modular Structure Standard 50 Micron (additional thickness upon request)
Standard Color	RAL 7047 Light Grey (14E51 Light Green Color, mainly for DSD project or upon request) (18B21 Grey Color, for WSD Project)
Busbar Support	Polyester DMC with high arc resistance and non-flammable
Copper Busbar	Tinned Copper Busbar to BS1432
Segregation	Form 3 / 4, IP2X
Cable Entry	Rear Access, Top or Bottom Front Access (On request)
Services Conditions	Ambient Temperature up to 50°C Relative Humidity up to 100% Altitude up to 2000m Environment up to Pollution Degree 4, Material Group 1



# MCB AND MCCB SUB-DISTRIBUTION BOARD

## Product Specification

Designation	MCB SPN Board for Single Phase MCB Board or Consumer Unit MCB DPN & TPN Board for Two and Three Phase MCB Board MCCB TPN Board for Three Phase MCCB Board MCCB TPN Board with 4 Pole MCCB outgoing
International Standard	MCB Board - ASTA & KEMA Verification Test to <b>IEC 61439-3</b> MCCB Board - ASTA Verification Test to <b>IEC 61439-2</b>
Switchgears Brand	ABB / GE / Hager / Legrand / Schneider Electric / Siemens
Rated Insulation Voltage for Main Busbar	Up to 690V, 50 Hz
Rated Operational Voltage	MCB SPN Board - 240V AC MCB and MCCB TPN Board - 415V AC
Rated Impulse Withstand Voltage	MCB Board – 4kV MCCB Board – 6kV
Rated Current	MCB SPN Board - 100A / 125A MCB TPN Board - 125A / 200A / 250A MCCB TPN Board - 250A / 400A / 630A / 800A with 400A outgoing
No of outgoing way	MCB SPN Board - 4 to 17 way (incl. split bar type, e.g. 2+2, 8+6), EXCL. Main Switch MCB DPN & TPN Board - 4 to 18 way MCCB TPN Board - 4 to 18 way
Short Circuit Withstand Strength	<b>MCB SPN / TPN Board</b> All MCB boards are capable withstanding through faults of not less than the MCB rated fault breaking capacity Rated conditional short circuit withstand strength: 16kA / 24kA <b>MCCB TPN Board</b> Short circuit withstand strength: 50kA, 1Sec
Degree of Protection	IP41 up to IP44
Enclosure Framework	1.5mm Electro-galvanized Sheet Steel Modular Structure Surface Mounted
Coating Epoxy Powder Coating	Standard 50 Micron (additional thickness upon request)
Internal Plate Separation	All live parts shall be screened from the front
Standard Color	RAL 7047 Light Grey
Copper Busbar	Tinned Copper Busbar to BS1432
Cable Entry	Bottom (Standard) or Top (upon request)
Services Conditions	Ambient Temperature up to 50°C Relative Humidity up to 100% Altitude up to 2000m Environment up to Pollution Degree 3



# JOB REFERENCE LIST

Job Name	Description	Consultant	Client/ Engineering Co.
LVSWB for CMI China Mobile Data Centre	LVSWB	DSCO	JEC
Replace LVSB at HK Auxiliary Police Force HQ	LVSB	EMSD	Chung Fai
HK Museum of ART	MCC	ASD	Wing Hing
Genset switchboard for HK Data Centre DC2, TKO Town Gas Centre	LVSB	CAT	China Engineers
Synchronized Panel for Fisherman Wharf, Macau	LVSB	Hongway	Cooltech
Residential Development at TKO Lot 95	LVSB	JRP	Bespark
Replace LVSB at Tin Shui Wai Police Station	LVSB	EMSD	Chung Fai
Residential Development at San Hop Lane	LVSB	Pentac	Carry
Housing Development at Choi Hing Road and Choi Yuen Road	LVSB	HKHA	Majestic
Residential Development at Nga Tsin Long Road	LVSB	Pentac	Carry
Equix HK2-III Load Bank controller	Load Bank	PBA	Newtech
Tai Wai Water Works Department (WSD)	LVSB	WSD	ATAL
LVSB for Organic Waste Treatment Plant	LVSB	AECOM	ATAL
LVSB/MCC for Buddhist Hospital	LVSB/MCC	H.A	Yordland
LVSB for Kwun Tong Staff Quarter	LVSB	ASD	REC
LVSB replacement for St George Bldg, Central	LVSB	JRP	M-P
LVSB for Towngas Internet application centre	LVSB/MCC	Meinhardt	U-Tech
A&A work for LV. Switchboard for the Link Property, Shatin	LVSB	The Link	Standard
LVSB replacement for Tin Shui Wai Police Station	LVSB	EMSD	Direct
LVSB for Blood Transfusion Centre	LVSB	ASD	Fungs
LVSB for Tai Po Community Centre & Tsing Chung Koon Govt Quarter	LVSB	EMSD	Chun Cheong
LVSB replacement for H.K. Colliseum	LVSB	EMSD	Pacific Fine
LVSB for Sea Water Pump Station	LVSB	Hong Kong Land / JRP	JEC
Wan Chai By-Pass	LVSB / MCC	AECOM / Highway Dept	Leighton Asia
Upgrading of Sea Water Pump House, Central	LVSB	JRP / HK Land	JEC
Hong Kong Observation Wheel, Central	LVSB	Swiss AEX	URS
Composite Building at No. 40 Tung Yuen Street	LVSB	Thomas Anderson	Shun Cheong
Wholesale conversion at 72-75, Hung To Road	LVSB	Mott Macdonald	Four Sea
MCC for Govt Logistic Centre, Chai Wan	MCC	ASD	Fungs
Mei Foo Sun Tsuen A&A work	LVSB	Mei Foo Sun Tsuen	Answer
Studio City, Macau	LVSB / DB	Meinhardt	Majestic
Yuen Long Pok Oi Hospital A&A work	LVSB	ASD	Fungs
LVSB for Arsenal House, Police HQ East Wing	LVSB	ASD	Pacific Fine
M800 Data Centre, Kowloon Bay	LVSB	Lucky	Lucky
Enclosure for Genset	LVSB / Enclosure	PBA / Equinix	JEC
Load Bank for Equinix 3, Tsuen Wan	Load Bank	PBA / Equinix	Newtech
Chiller Starter Panel for MTRC contract 816A	MCC	MTRC	Johnson Control
Equinix 3, Tsuen Wan	LVSB	PBA / Equinix	Newtech
TKO IAC	LVSB	Comercial	Shun Cheong
LVSB/MCC for Mui Wo Sewage Pump Station	LVSB/MCC	DSD	Bi-Water
Industrial Building in Yuen Long	LVSB	Proconeer	Ching Hing
Commercial Development in Wong Chuk Hang	LVSB	Sun Hung Kai Eng	Bespark
Wong Tai Sin Hospital	LVSB	EMSD	Fungs
LVSB replacement for Kowloon East Govt Office	LVSB	EMSD	Direct Contract
Studio City Hotel and Casinos Resort at Cotai, Macau	Sub-distribution	Meinhardt	Majestic
iclub Fortress Hill Hotel at 18 Merlin Street, North Point, Hong Kong	Sub-distribution	Far East Consulting	Commercial
General Garment factory At 100-110 Kwai Cheong Road, K.C.T.L.134	Sub-distribution	Consolidated Consulting	Hsin Chong Aster
Grand Yoho Phase 3 Residential Building, Yuen Long YL507 CDA15	Sub-distribution	SHKP	SHKP
Macau International Airport, Macau	Sub-distribution	Harbour Engineering	Macau AA
MTR XRL, Express Rail Link, Contract 851 (Main Control System)	Sub-distribution	MTRC	MTRC
MTR Shatin Central Link Phase 1, Contract 1166 (Main Control System)	Sub-distribution	MTRC	MTRC
MTR Shatin Central Link Phase 1 Contract 1169 (Communication System)	Sub-distribution	MTRC	MTRC
Midfield Concourse J3345- Hong Kong International Airport Project	Sub-distribution	Mott Mac Donald and ARUP	Gammon
Kwun Chung Multiple Service Building	Sub-distribution	EMSD	EMSD
Kowloon Park Swimming Pool	Sub-distribution	EMSD	EMSD
Shatin Sewage Plant	Sub-distribution	EMSD	EMSD
APEX Printing Factory, 11-13 Dai Kwai Street, Tai Po	Sub-distribution	APEX Print	APEX Print
No. 50 Island Road, Hong Kong	Sub-distribution	JRP	Commercial
MTR713 ECS installation Kennedy Town Swimming Pool (Phase2)	Sub-distribution	MTRC	Paul Y
23-25 Queen's Road West, 30 Banham Stand West, Strand Hotel development (54 Rooms / 32 Storeys)	Sub-distribution	Richmond Consulting	AJI Ichiban Holdings
UBS Kowloon Branch, Peking Road No. 1, TST	Sub-distribution	PENTAC	UBS
Silver Mine Bay Camp at 30 Tung Wan Tau Road, Mui Wo	Sub-distribution	Far East Consulting	Commercial
Exchange Square 3 Power upgrade for Landlord Service	Sub-distribution	JRP	JEC
PCCW Tai Kok Tsui	Sub-distribution	PCCW	Wai Kwong
禮賢會教堂	Sub-distribution	禮賢會	Wai Kwong
Kennedy Town Swimming Pool Phase 2	Sub-distribution	MTRC	Paul Y

# PROJECT SHOWCASE

## Casino & Hotel Project

Studio City Macau

**Scope**

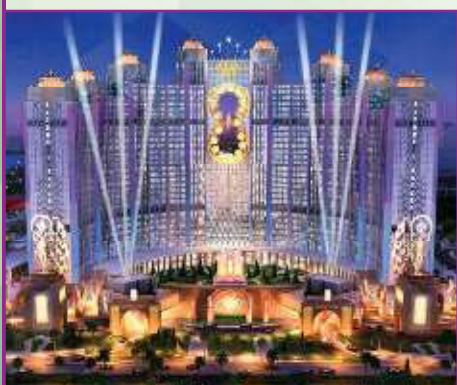
LVSB, MCB/MCCB Board

**Client / M&E Contractor**

MELCO / Majestic, China State

**Consultant**

Meindhardt



## Casino & Hotel Project

Broadway Macau

**Scope**

LVSB

**Client / M&E Contractor**

Galaxy / ATAL

**Consultant**

ARUP



## Infrastructure Project

Sha Tin Water Treatment Plant  
(Advance Phase)

**Scope**

LVSB, MCC

**Client / M&E Contractor**

Water Supplies Dept / ATAL, Chun Wo

**Consultant**

AECOM



## Residential Project

Yoho Midtown

**Scope**

LVSB

**Client / M&E Contractor**

SHKP / Everfield

**Consultant**

JRP



## Residential Project

Grand Yoho

**Scope**

MCB/MCCB Board

**Client / M&E Contractor**

SHKP / Everfield

**Consultant**

SHKE



## Commercial Project

International Commerce Centre

**Scope**

MCC, LMCP

**Client / M&E Contractor**

SHKP / Takasago

**Consultant**

JRP

## Infrastructure Project

Central Wanchai Bypass

**Scope**

LVSB, MCC, LMCP

**Client / M&E Contractor**

Highway Dept / Leighton

**Consultant**

AECOM



## Infrastructure Project

HK-Zhui Hai – Macau Bridge  
(Passenger Clearance Facilities)

**Scope**

LVSB

**Client / M&E Contractor**

Highway Dept / ATAL, China Harbour

**Consultant**

AECOM



## Infrastructure Project

Organic Waste Treatment Facilities

**Scope**

LVSB, MCC

**Client / M&E Contractor**

Environmental Protection Dept /  
SUEZ, ATAL, Ros Roca

**Consultant**

AECOM



## HK Housing Authority Public Housing Project

Development at  
Choi Hing Road

**Scope**

LVSB

**M&E Contractor**

Majestics

Choi Yuen Road Sites  
3 & 4, Sheung Shui

**Scope**

LVSB

**M&E Contractor**

Majestics

Sau Ming Road,  
Kwun Tong

**Scope**

LVSB

**M&E Contractor**

Pekko

North West Kowloon Reclamation  
Site 6 and Fat Tseung Street West

**Scope**

LVSB

**M&E Contractor**

REC

# AWARDS AND ACCOLADES

**YEAR 2015**

## Hong Kong Awards for Industries - "Productivity & Quality" Certificate of Merit

香港工商業獎 — 生產力及品質優異證書

Organized by HK Productivity Council, Trade and Industry Department of HKSAR Government



2015 香港工商業獎  
HONG KONG AWARDS FOR INDUSTRIES

生產力及品質優異證書  
PRODUCTIVITY AND QUALITY  
CERTIFICATE OF MERIT

**YEAR 2016**

## 2015-2016 Corporate Caring Commendation 2015-2016 關愛企業嘉許狀

Organized by Social Welfare Department (Tsuen Wan & Kwai Tsing District)

## Caring Company Logo (2015-2016) 「商界展關懷」標誌 (2015-2016)

Organized by The Hong Kong Council of Social Service

商界展關懷

caringcompany<sup>2015/16</sup>

Awarded by The Hong Kong Council of Social Service  
香港社會服務聯會頒發

**YEAR 2016**

## 2016 Partner Employer Award

2016 「友商有良」嘉許計劃 — 嘉許企業之標誌

Organized by The Hong Kong General Chamber of Small and Medium Business



## The 7th Corporate Citizenship Award - Corporate and Volunteer Team Category

第七屆香港傑出企業公民獎 — 中小型企業組別和義工隊組別嘉許標誌

Organized by HK Productivity Council and Committee on the Promotion of Civic Education



## YEAR 2016

2016-2018 Social Capital Builder

2016-2018 社會資本動力標誌獎

Organized by Community Investment and Inclusion Fund (CIIF)



## YEAR 2017

Happy Company 2017  
「開心企業」2017 標誌

Organized by HK Productivity Council and Promoting Happiness Index Foundation



## YEAR 2017

2016-2017 Corporate Caring Commendation  
2016-2017 關愛企業嘉許狀

Organized by Social Welfare Department (Tsuen Wan & Kwai Tsing District)

Caring Company Logo (2015-2017)  
「商界展關懷」標誌 (2015-2017)

Organized by The Hong Kong Council of Social Service

商界展關懷

caringcompany<sup>2015-17</sup>

Awarded by The Hong Kong Council of Social Service  
香港社會服務聯會頒發





Flat D, 1/F., Block B, Marvel Ind. Bldg., 17-23 Kwai Fung Crescent, Kwai Chung, N.T., Hong Kong.

Tel: (852) 2614 8133 Fax: (852) 2408 3867

Home Page: [www.fairrack.com](http://www.fairrack.com) E-mail: [fairrack@fairrack.com](mailto:fairrack@fairrack.com)