## **Typical Specification for Withdrawable MCC**

- 1. Withdrawable MCC shall be deployed for ECS ventilation systems or critical mechanical plant inside the MTR Stations, Railway Stations, Tunnels, Airport Facilities and Power Plants.
- 2. The withdrawable MCC shall be of similar construction as the fixed type MCC switchboard, except the busbar connections to be featured with plug and socket arrangement in order to increase the operational reliability and maintenance flexibility. Where necessary, withdrawable motor starters can be taken out for inspection, upgrading and maintenance without interruption of MCC's main power, nor affecting operations of other motor starters.
- 3. Motor starters shall be designed and constructed as withdrawable type such that the whole starter chassis comprising Fuse-switch\MCCB, contactors, overload relays, start/stop buttons, indication instrument, etc. can be isolated and drawn out from the MCC, and replaced by insertion of another starter chassis of same rating. The whole withdrawable motor starters shall be a type-test unit capable of withstanding the prospective short circuit current at the installation.
- 4. All withdrawable starter chassis shall be of rigid construction with sliding rails installed on the both sides to facilitate the alignment of the busbar pins and the connectors.
- 5. Each withdrawable starter chassis shall have located stops for locking the chassis unit in "CONNECTED", "TEST", AND "DISCONNECT" positions. When the MCCB or protective device inside the starter chassis in "On" position, the racking mechanism shall be blocked to prevent from racking in or out the starter chassis while the main circuit is at live.
- 6. When in "Test" position, the control circuits including status signals and auxiliary contacts interfacing with BMS or MCS system can be fully tested without energizing the main power circuit.
- 7. When in "Withdrawn" position, the starter chassis shall be again interlocked so as to prevent accidental removal.
- 8. For heavy rating starter (>150kW), the whole motor starters shall be installed in a withdrawable, floor-standing and self-support truck. For facilitation of the insertion and removal of the truck from the fixed compartment, the truck shall be provided with 4 nos. of leveling casters. The truck shall be designed to be moved on its own casters, the insertion and removal of it shall require no external hydraulic truck.
- 9. Withdrawable MCC shall be built by the manufacturer who shall have proven local job references for supplying withdrawable MCC for at least 5 years.