

TAKING CARE OF YOUR POWER

HOLEC **HH**

UNITOLE UP 3 - 17.5 kV

motor control centres
power centres



- AIR-INSULATED WITHDRAWABLE SWITCHGEAR WITH VACUUM CIRCUIT BREAKERS, SWITCHES AND CONTACTORS

CREATING SOLUTIONS

Holec Holland creates power-engineering solutions assuring safe and reliable supply of electrical energy. With manufacturing subsidiaries and sales organisations throughout Europe and Australia, Holec Holland focuses on electrical distribution and power supply in both low and medium voltage ranges. Holec is a member of Delta plc, a worldwide operating industrial group.

HOLEC MEDIUM VOLTAGE

The medium voltage activities of Holec Holland are directed towards switchgear installations and components for applications in distribution networks (main and substations, transformer stations) and for industrial power supply. The switchgear systems are air or epoxy-resin insulated and are in most cases equipped with circuit-breakers based on Holec vacuum interrupters. Holec Medium Voltage thus offers an extensive range of switchgear systems and switchgear components, ensuring a safe and reliable distribution of electrical energy.

Holec - Taking care of your power

INTRODUCTION

UNITOLE - TRIED AND TESTED TECHNOLOGY FROM HOLEC

- safe in operation
- safe for operators
- extremely reliable
- flexible
- easy to operate
- ISO 9001 certified (since 1989)





THE PRODUCT

UNITOLE UP SYSTEM

Holec's Unitole UP system is a universal switchgear system. It is specifically suitable for application as a motor control centre in process industry and in primary substations (main distribution stations). Unitole UP switchboards are made for 3 mm pressed steel plates and equipped with vacuum circuit-breakers or contactors. The panels are in metal clad design (according to IEC publication 60298)

Primary substations

Vacuum circuit-breakers (vcb's) are used as incoming and outgoing feeders in power centres in primary substations (main distribution stations). The vcb's are mounted on a truck for easy isolation of the vcb. The truck runs inside the panel on metal guides and rollers; outside the panel the truck is easy to move on its metalreinforced nylon wheels. In the inserted position the truck is automatically earthed via an earth strip in the base plate. The truck is driven into the service position and back by an externally operated spindle.

Motor control centres

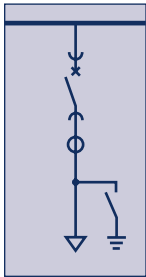
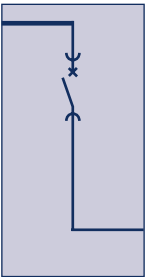
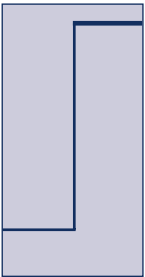
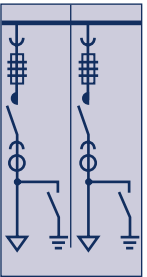
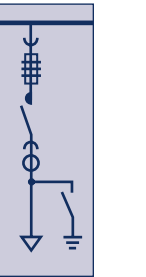
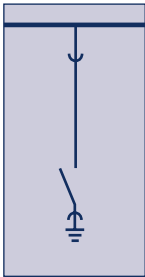
Contactors can be used in industrial applications, with motors and transformers being switched and protected with contactors, with short-circuit limiting fuses fitted in series. Contactor panels can be assembled in random configuration with feeder and other panels. Unitole UP has sufficient space for two 400 mm wide contactor trucks in one panel. If the short-circuit limiting fuses are very large or if a large amount of other secondary equipment needs to be assembled in the panel, 620 mm wide contactor panels are also available.

The contactor panels are fitted with state-of-the-art control and protection equipment (e.g. an integrated motor control system) with operation, protection and communication equipment based on computer technology.

Automation

Unitole UP can be equipped with state of the art protection relays and automation for link-up to SCADA or Distributed Control Systems.

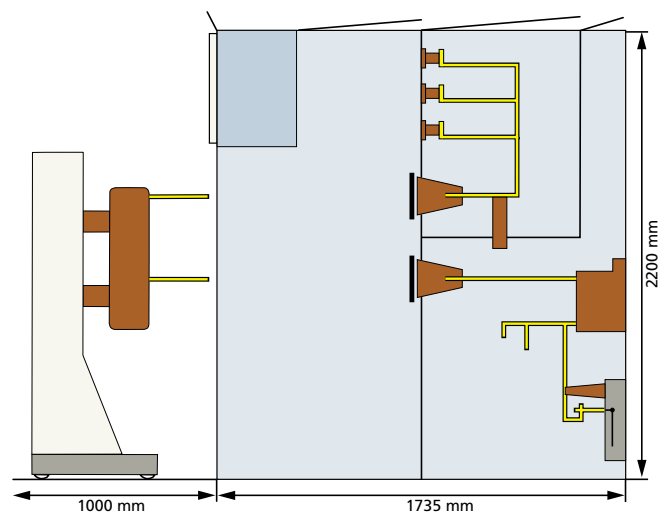
TECHNICAL DATA: PANELS

System		UP					
Type of panel:							
		feeder	sectionaliser		motor feeder	earthing	
							
width	(mm)	800/1300	800/1300	800	800	620	800
weight	(kg)	800/1000	1000/1200	750	625	625	750
rated voltage	(kV)	3 - 17.5	3 - 17.5		3 - 7.2	3 - 7.2	3 - 17.5
short-time current							
31.5 kA - 3s	(A)	1250-3150	1250-3150				x
40 kA - 1s	(A)						x
40 kA - 3s	(A)	1250-3150	1250-3150				
8 kA - 2s	(A)				2 x 400	400	
9 kA - 1s	(A)				2 x 400	400	

THE PRODUCT

TECHNICAL DATA: FIXED PART

System		UP
Voltage ranges		
rated voltage (kV)		3 - 17.5
impulse withstand voltage (kV)		30 - 95
mains frequency		
withstand voltage (kV/1 min.)		10 - 38
Main busbar system		
rated current (A)		1600 - 3150
short-time withstand current (kA/s)		40 (17.5 kV)
peak withstand current (kA)		100 (17.5 kV)
Panel		
degree of protection in acc. with IEC 60529		IP 3XD or 4X (door closed) IP 2X (door open)
arc resistance in acc. with IEC 298 appendix AA (kA-0.5 s)		31.5



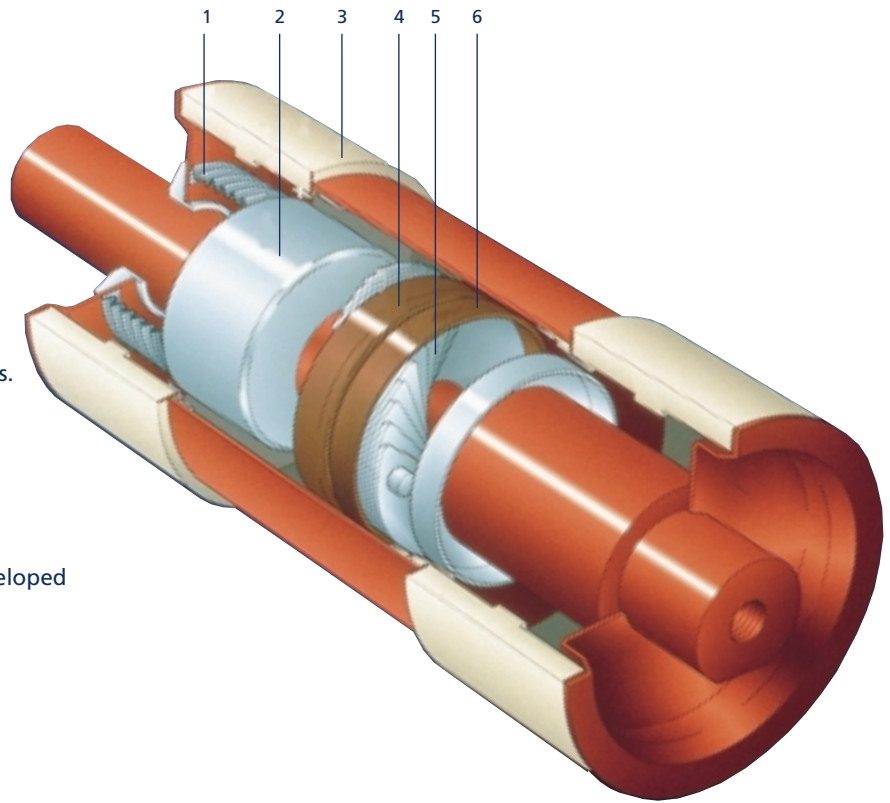
SWITCHING DEVICES

Unitole panels are suitable for a wide variety of switching devices and combinations. The vacuum interrupters developed by Holec are the very core of the Holec vacuum circuit breakers used in the Unitole UP system.

THE VACUUM CIRCUIT BREAKER

The vacuum circuit breaker was specially developed by Holec and has the following features:

- small dimensions, takes up little space
- explosion-free
- suitable for numerous operations
- no external switching phenomena
- rapid dielectric recovery ensures circuit interruption at the first current-zero
- low maintenance requirements
- long service life



Cross-section of a Holec vacuum interrupter.

- | | |
|-----------------------|-------------------------|
| 1. bellows | 4. movable contact |
| 2. bellows shield | 5. magnetic laminations |
| 3. ceramic insulators | 6. fixed contact |

THE PRODUCT

Contactors

For motor starters, transformers and capacitor banks, the Unitole system can be provided with contactor panels. Contactors for 3.6 or 7.2 kV can be mounted on a truck together with H.V. fuses, and voltage transformers if required.

These contactor trucks can then be used in all type Unitole panels of width 620 mm. Surge arresters can also be mounted at the cable terminals.

Two contactor panels in one

If a compact solution is required two 400 mm wide panels can be fitted in a single Unitole UP panel. Feeder panels, outgoing panels with circuit breakers and switch panels can easily be combined in a single switchboard with this double contactor panel. Insertion, withdrawal and mechanical operation can all take place with the door closed.

Earthing switch

For cable earthing, a fault-make earthing switch is mounted in each compartment as standard. This earthing switch is then made secure by means of an interlock when the truck has been inserted, to prevent the equipment from being switched on by mistake. For busbar earthing a separate panel with a withdrawable fault-make earthing switch on truck is provided.

TURNKEY INSTALLATIONS

If you wish the switchgear installation and the housing to form a single transportable unit, Unitole installations can be placed inside a container. The advantage here is that assembly and other work on site is restricted to a minimum. In such cases, the entire installation is assembled and inspected by Holec itself. The container also provides good housing conditions for the installation. On request, the container can be provided with lighting, air conditioning, and/or a separate control room.

HOLEC HOLLAND N.V.

- medium voltage switchgear systems and components
- low voltage switchgear systems and components
- general supplies

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Due to its policy of continuous research and development, Holec reserves the right to change the designs and specifications of its products without notice.