

# WITHDRAWABLE UNITS OF MV SWITCHGEARS WITH VACUUM CIRCUIT BREAKERS - RETROFIT

Rated voltage	12 kV
Continuous rated current	up to 2500 A
Breaking current	up to 40 kA

KI.06.2012



Certified acc. to  
ISO 9001:2000



**ISO 9001**  
Akredytacja PCA



## **APPLICATION**

Withdrawable units of MV switchgears with vacuum circuit breakers for rated voltage 12 kV and continuous rated currents up to 2500 A and breaking currents up to 40 kA have been designed and implemented to production by ELMOR S.A.

Users of old type switchgears for example of type RSW10, PREM 10, RD1, RD2, PRoPEL-1, ELMOBLOK III, and others ones, are able to make a complete modernization - retrofit and improvement of technical quality of circuit breaker cubicles through replacement of worn out withdrawable units with oil-poor circuit breakers by new ones. New units can be equipped with modern circuit breakers of such producers as: ABB, JM-Tronik, Schneider Electric, Siemens, Tavrida Electric.

## **ADVANTAGES**

Application of circuit breakers with much better technical-exploitation features than oil-poor circuit breakers features, especially as it concerns mechanical strength and switching capacity and equipped with spring drives charged by means of a motor gives following effects:

- ◆ oil, compressed air and plants connected with these mediums as well, can be eliminated from switchgears,
- ◆ safety of service is increased,
- ◆ operational reliability is increased
- ◆ range and frequency of surveys , services and maintenance is decreased

## **CONSTRUCTION**

Technical parameters and equipment of the withdrawable units with vacuum circuit breakers can be adapted to all used till now switchgears for example of type RSW10, PREM 10, RD1, RD2, PRoPEL-1, ELMOBLOK III, and other ones.

Depending on necessity the units can be equipped alternatively with one or two current transformers protected with fuse elements or with three overvoltage limiters. Adjusted fastenings of circuit breakers and of connector contacts between units and of a front plate as well, assure a possibility of precise matching a movable unit to each switchgear.

Low voltage circuits of the circuit breaker and of current transformers are led to a typical plug of a 30-pole contact junction installed in a fixed part. All functions connected with control, protection and signaling are maintained without a necessity of making any changes in low voltage equipment of the switchgear.

### **How to order:**

Order must include:

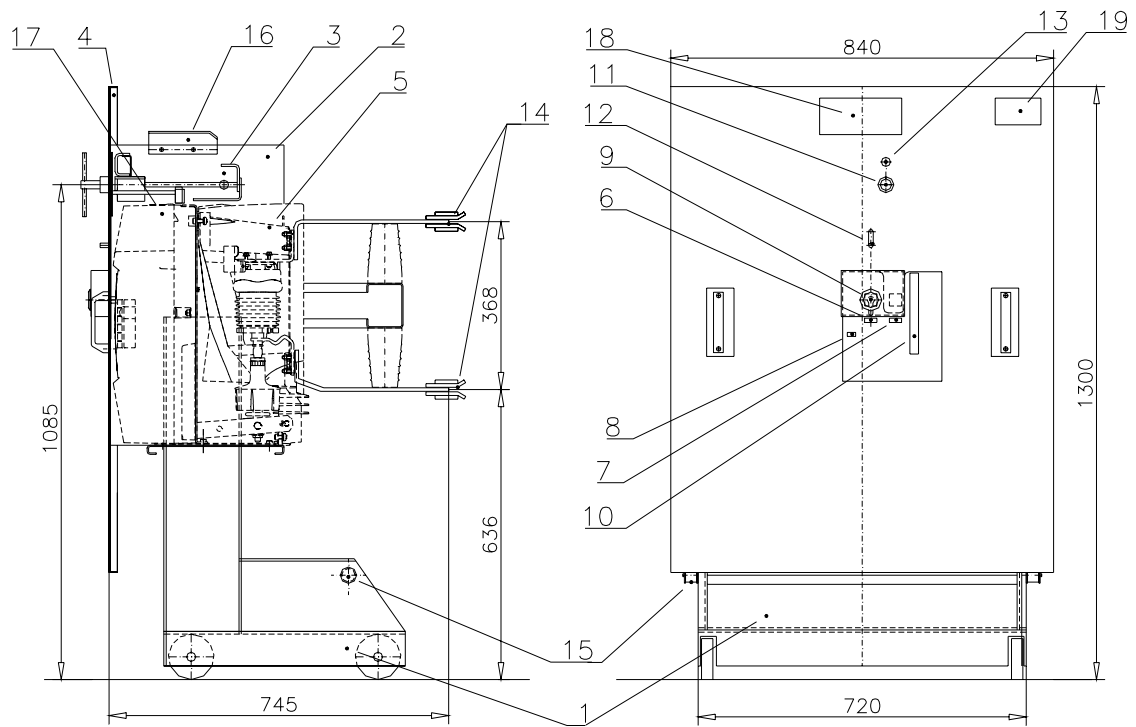
- ◆ rated voltage, rated continuous current and breaking current,
- ◆ parameters of a motor and of circuit breaker releases,
- ◆ information if the withdrawable unit has to be equipped with current transformers or overvoltage limiters and a counter of re-set cycles.

## **ACCORDANCE WITH NORMS**

Withdrawable units comply with following Norms:

- ◆ IEC 60694:2002
- ◆ IEC 62271-100:2007
- ◆ IEC 62271-200:2006

## DIMENSIONAL DRAWING OF THE WITHDRAWABLE UNIT WITH EVOLIS (SCHNEIDER) VACUUM CIRCUIT BREAKER



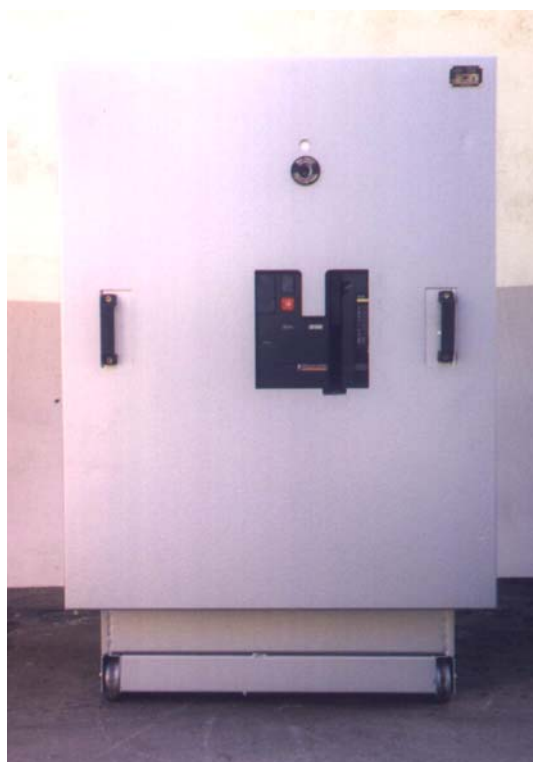
1. Truck
2. Support construction
3. Interlocking mechanism
4. Front plate
5. Circuit breaker
6. Circuit breaker position indicator
7. Making spring position indicator
8. Circuit breaker tripping mechanical counter
9. Cut-out push-button
10. Making spring charging lever
11. Socket for interlocking lever
12. Locking key mask
13. Truck interlock indicator
14. Moving contacts of a connector between units
15. Rollers for hoisting of moveable partitions
16. Limit switch cam
17. Low voltage joint plug
18. Service Manual
19. Withdrawable unit rating plate

## Assortment of the proposed withdrawable units\*

Rated voltage - kV -	Continuous rated current - A -	Rated breaking short circuit current				
		16 kA	20 kA	25 kA	31,5 kA	40 kA**
12	800	X	X	X	X	X
	1250	X	X	X	X	X
	1600		X	X	X	X
	2000		X	X	X	X
	2500		X	X	X	X

\* ) we realise individual requirements for withdrawable units

\*\* with HVX (SCHNEIDER) circuit breaker



Withdrawable unit - front view



Example solution with EVOLIS vacuum breaker produced by Schneider Electric

***We are building and modernizing Low and Medium voltage switchgears.  
Realization of driving, automation, control and protection system is also possible.  
We offer professional technical advising in the range of power industry.***

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