

# Outdoor load disconnectors for doubled power lines Fla 15/60 D Fla 15/97 D

**three-pole design  
rated voltage 25 kV  
rated current 400 and 630 A**



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ISO 9001  
ISO 14001  
BUREAU VERITAS  
Certification



## Outdoor load disconnectors for doubled power lines

The Fla 15/60 D and Fla 15/97 D load disconnectors are used on doubled power lines, with both insulated and bare conductors. In such a way they feature a complement to overhead lines projects with single-sided and double-sided profile, by providing this with a highly reliable switching element that makes it possible to preserve the configuration of the line along its whole length, i.e. also at the switching point. The load disconnectors are the deduction product of well and long-year proven Fla 15/60 and Fla 15/97 types. The switching device is designed as three single-pole units, mounted on a supporting structure and for fixture on a concrete pole or lattice mast. They also form a part of the IZVE project.

The load disconnectors are operated by one manual or electrically operated drive mechanism. These drives have proven their operation reliability during long periods of load disconnector handling.

Load disconnectors satisfy standards EN 62271-1, EN 62271-103. Used insulators satisfy the fourth grade of contamination area.

Simple load disconnectors of a sturdy structure proved themselves in an excellent way under very different climatic conditions.

The basic welded frame is made of open steel profiles that guarantee perfect surface protection from corrosion caused by heat zinc coating that can be controlled on all places. Heat zinc coating

The short-circuit resistance performance is met with a high margin. The well-proven design of the load disconnectors, the quality of material used and the elaborate production provides for low operation and maintenance costs.

**Under normal operating conditions it is not necessary for the load disconnectors to undergo a preventive maintenance during the period of twenty years for hand operated devices and ten years for motor operated devices (remote control).**

protects the shafts of the load disconnectors mounted in bronze bearings as well as all other steel components.

Fla 15/60 switching takes place in a tightly closed extinguishing chamber filled with SHELL transformer oil. The Fla 15/97 load disconnectors are equipped with vacuum quenching chambers.

**No combustion gases are released into the air. Therefore, the load disconnectors meet the most severe environmental requirements.**

All current-carrying parts of the load disconnectors are made of galvanically silver coated electrolytical copper. The cross-section of current-carrying parts is dimensioned in an adequate way. The favourable level of contact pressure of stainless steel springs is one of the prerequisites for a defect-free switching, even after many years of operation of the disconnector in the most severe operating conditions and also in ice-accretion conditions. The load disconnectors are supplied with insulators made of cyclo-aliphatic resin.

The load disconnectors can be provided with encased auxiliary switches (IP 44 protection) installed directly on the frame of the device ensuring thus reliable switching-on and switching-off signalling. Through this arrangement the high reliability of indication of making and breaking operations is guaranteed, giving the operator the possibility of remote control.

## Technical data

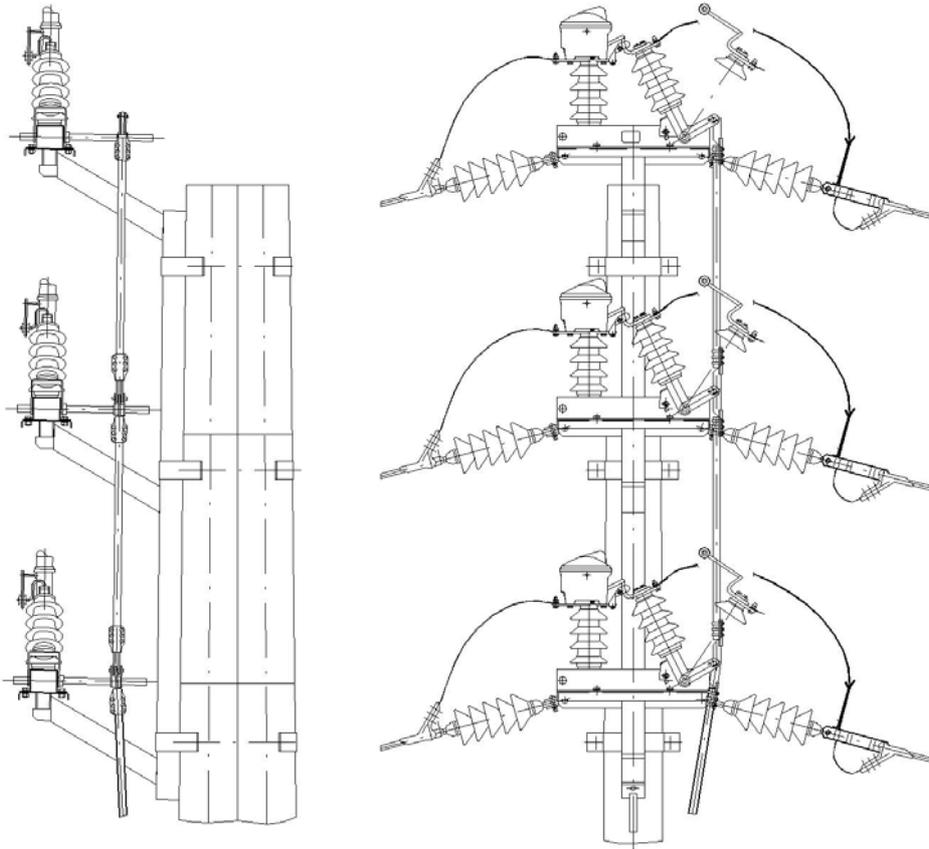
			Fla 15/60 D	Fla 15/97 D
rated voltage	$U_r$	kV	25	25
rated current	$I_r$	A	400 / 630	400 / 630
rated short-time current	$I_k$	kA	20	16
rated peak withstand current	$I_p$	kA	50	40
rated making current	$I_{ma}$	kA <sup>1)</sup>	18	25
rated breaking current – $\cos \phi$ 0,7	$I_{load}$	A	630	630
rated breaking current of closed loop	$I_{loop}$	A	400	630
rated breaking current of unloaded transformer	$I_{nltr}$	A	53	
rated breaking current of no-load cable and power line	$I_{cc}$	A	20	25
rated breaking current of the earth fault	$I_{ef1}$	A	56	200

<sup>1)</sup> At a sufficiently quick hand control.

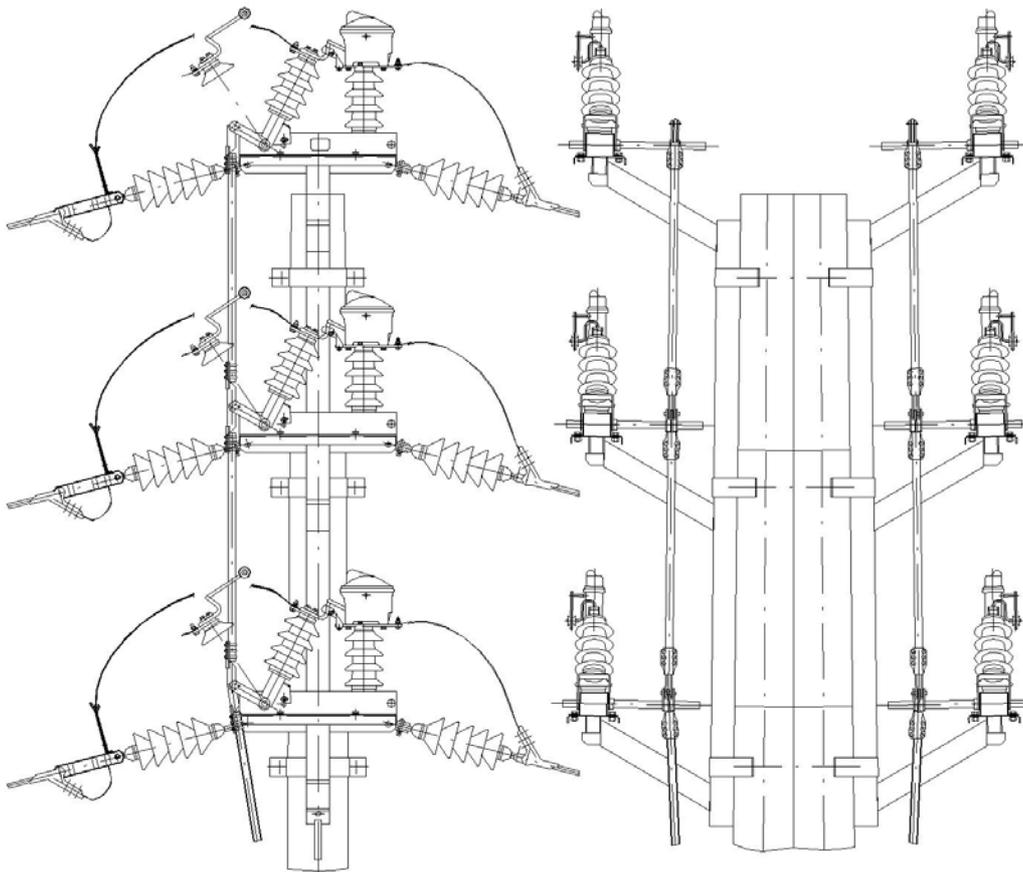
## Withstand voltages

<b>rated voltage</b>		kV	25
<b>rated short-time withstand power frequency voltage / 1min. to be applied in both dry and wet environmental conditions</b>			
against the earth, across the poles and between disconnected contacts		kV	50
across the isolating distance		kV	60
<b>rated lightning pulse withstand voltage</b>			
against the earth, across the poles and between disconnected contacts		kV	125
across the isolating distance		kV	145

## Single power lines on a doubled concrete pole



## Doubled power lines on a doubled concrete pole



## Applications on lattice masts

