

Short summary of differences between the new and the conventional switching devices



DRIBO, spol. s r.o.

Pražákova 36
619 00 Brno
Czech Republic

Tel.: +420 533 101 111, Fax: +420 543 216 619, E-mail: dribo@dribo.cz, Internet: <http://www.dribo.eu>

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Short summary of differences between the new DRIBO F1c GB and the conventional switching devices

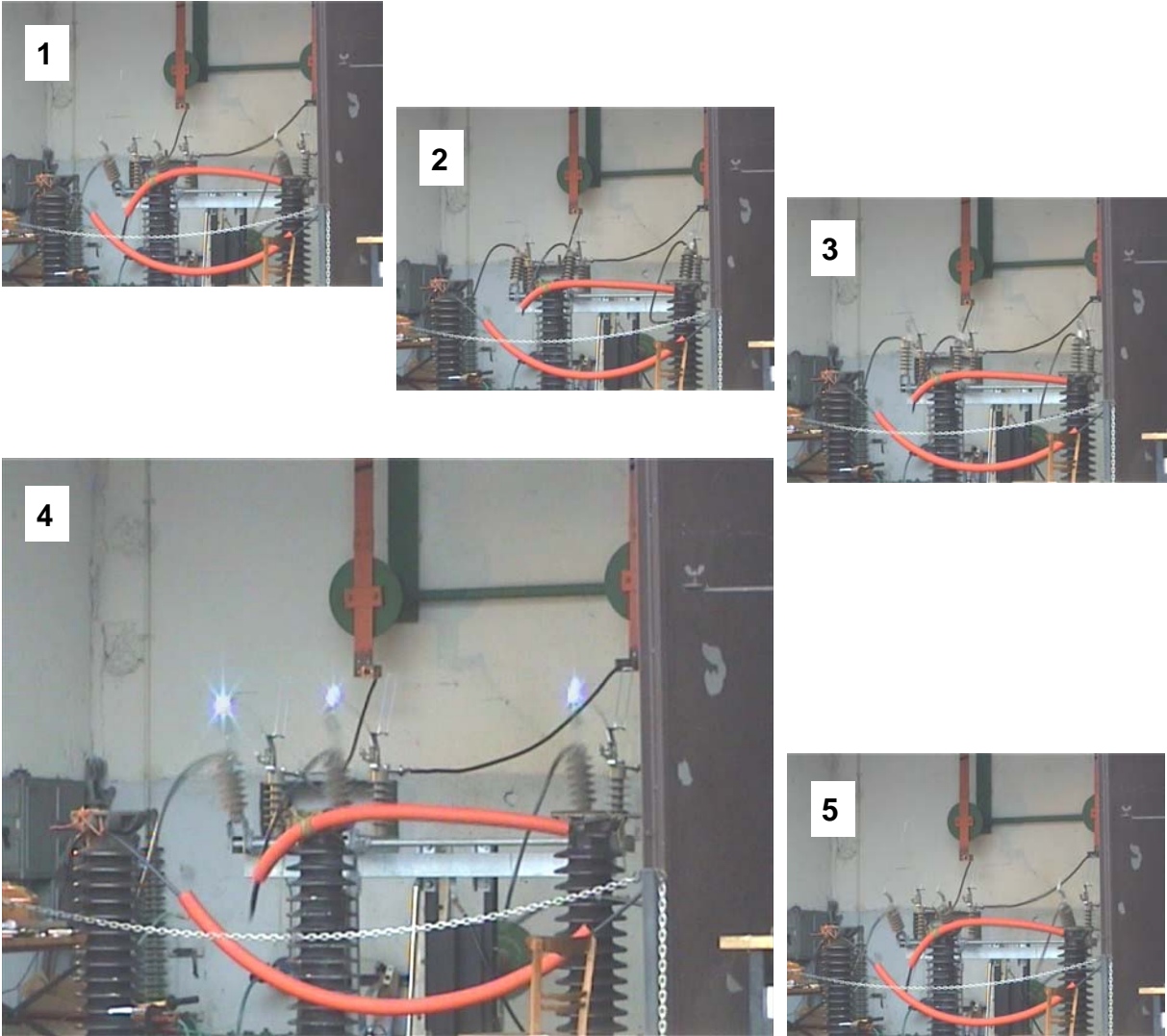
This summary is to be understood as a general information about the advantages of new types of switching devices, only. More detailed information can be obtained with the specialists. Any particulars such as the engineering data, properties and dimensions of the various product types are shown in the catalogue.

Thanks to its new and protected arc-quenching system the DRIBO F1c GB switching devices are capable of switching without generating electric arc but only with sparking. Therefore they can be installed below the power line without the danger of flashover and arc on the power line. Whereas the arc interruption period e.g. in a conventional horn-type switching system extends to up to 2.5 seconds, the DRIBO F1c system this time lasts about 40 milliseconds. Moreover, during the switching off no switching overvoltages are generated. These might be dangerous to the staff and the downstream connected devices. The switching devices mentioned can be used as switch disconnectors, and they feature outstanding capabilities in the switching of cables and power lines in case of earth fault. The design of the DRIBO F1c GB switch disconnectors meets already the requirements on the accommodation of overvoltage limiters.

The mode of installing the devices below the power line makes it possible to highlight the economy benefits of the devices as such.

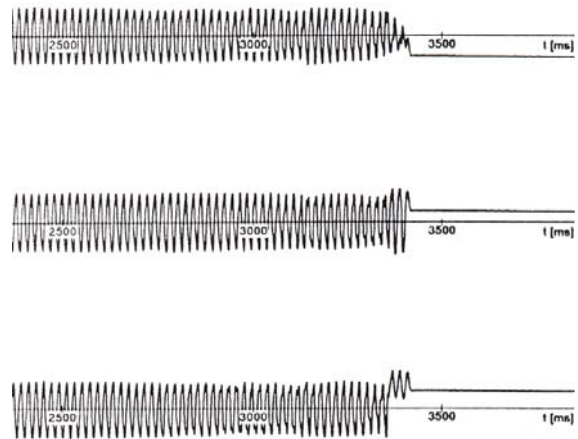
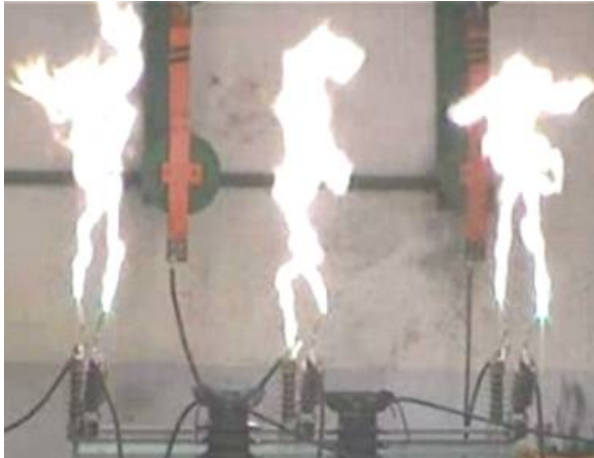
Example of switching the capacitive currents of 16 A during type tests

$U_r = 25 \text{ kV}$, $I_{4a} = 16 \text{ A}$

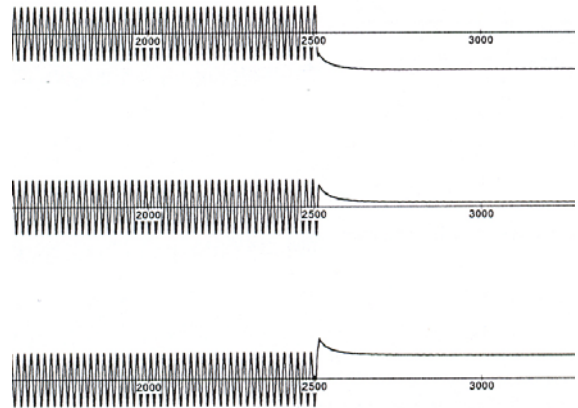
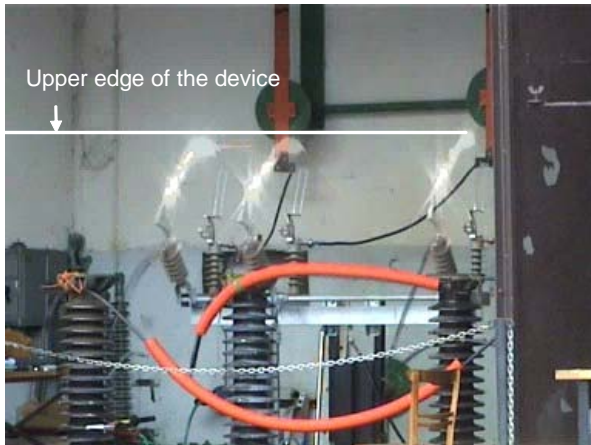


Comparison of switching the capacitive currents $I_{4a} = 16 \text{ A}$: load disconnecter with horns and the new DRIBO F1c load disconnecter

Switching the capacitive current $I_{4a} = 16 \text{ A}$: load disconnecter with horns



Switching the capacitive current $I_{4a} = 16 \text{ A}$: DRIBO F1c



Functional comparison for devices mounted in the power line and below the power line

As to its usage this design...	corresponds to...
DRIBO F1c GB	DRIBO F1b
DRIBO F1c GB K	6400 with horns
DRIBO F1c GB P	6410 with horns

The DRIBO F1c GB K and DRIBO F1c GB P switch disconnectors can be equipped with overvoltage limiters.

Comparison of the weight for devices mounted in the power line and below the power line

$U_r = 25 \text{ kV}$

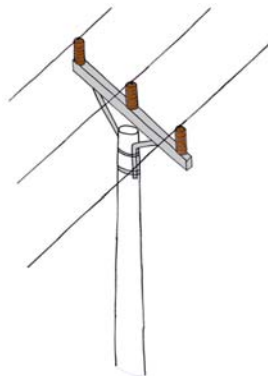
Switching device	Weight [kg]*	Switching device	Weight [kg]*
DRIBO F1c GB	63	DRIBO F1b	89
DRIBO F1c GB K	66	6400 with horns	76
DRIBO F1c GB P	85	6410 with horns	96

$U_r = 38.5 \text{ kV}$

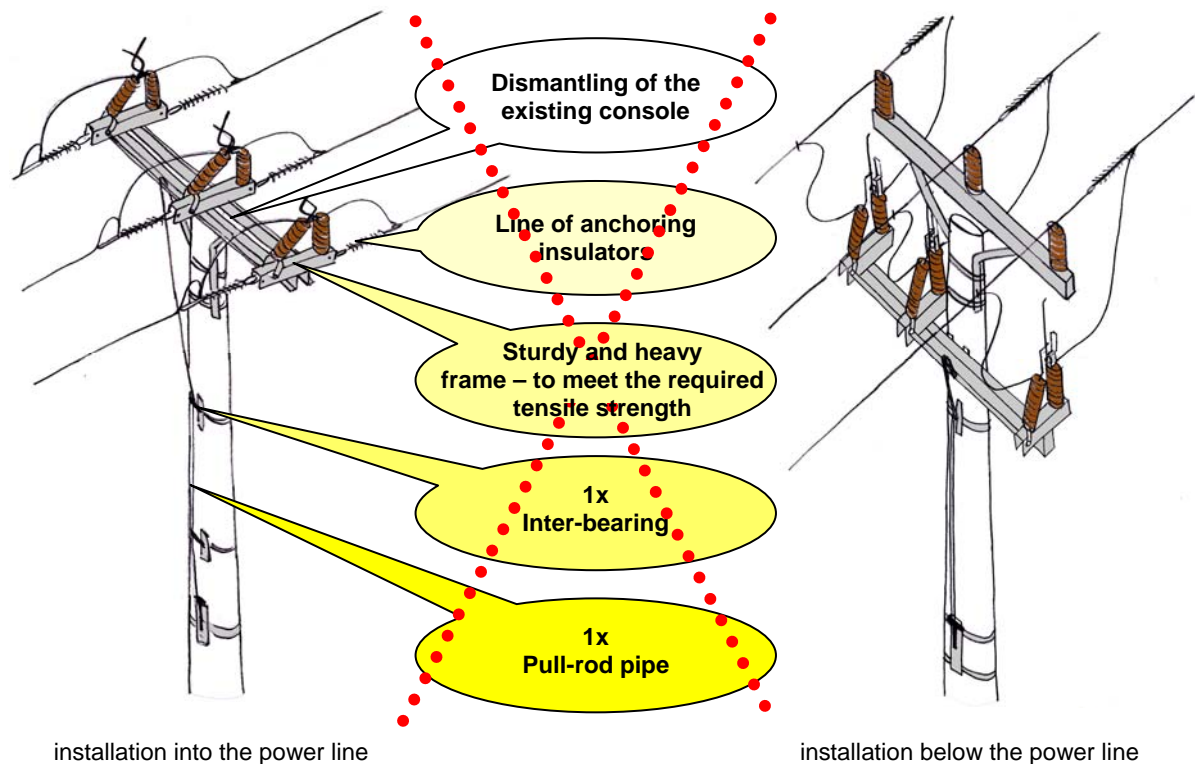
Switching device	Weight [kg]*	Switching device	Weight [kg]*
DRIBO Flc GB	79	DRIBO Flb	135
DRIBO Flc GB K	85	6400 with horns	115
DRIBO Flc GB P	107	6410 with horns	158

* Weight with plastic insulation supports

Advantages of suspended mounting of the devices onto the existing power line



Initial state: existing power line with a pole and console



installation into the power line

installation below the power line

Advantages

- Reduction of the number of structural components
- *Financial savings in case of purchase*

Easier installation

- No necessity to dismantle the existing console and to extend the conductors (insulator is inserted into the power line)
- Reduced time for assembly
- Lower weight = easy and safe handling
- *Financial and time savings during the assembly*

Similar advantages can be encountered also when replacing the existing switching devices with new ones.

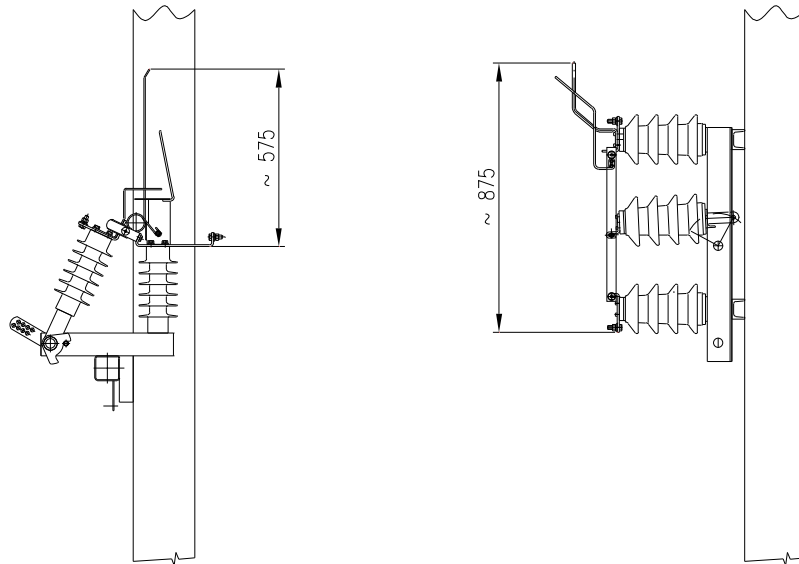
Comparison of material prices for devices mounted in the power line and below the power line

The financial comparison is the generalized result of specific data to apply for one power company.

- | | |
|--|-------|
| 1. New switching device installed in the existing power line | |
| a) installation in the power line | 100 % |
| b) installation below the power line – light console | 82 % |
| c) installation below the power line – heavy console | 67 % |
| 2. Replacement of switching device installed in the existing power line | |
| a) installation in the power line | 100 % |
| b) installation below the power line – light console | 67 % |
| c) installation below the power line – heavy console | 92 % |

The comparison does not include small items such as the connecting parts and pieces that, however, should not have any significant influence on the results.

Comparison of the disconnectors for the voltage of 25 kV: DRIBO Flc GB K and 6400 with horns



Comparison of the disconnectors for the voltage of 25 kV: DRIBO Flc GB K and 6400 with horns

