

Outdoor load disconnectors DRIBO F1c GB

three-pole design
rated voltage 25 and 38.5 kV
rated current 630 A



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>

ISO 9001
ISO 14001
BUREAU VERITAS
Certification



DRIBO F1c GB outdoor load disconnectors

The breaking operation at the DRIBO F1c GB load disconnectors uses the energy of spring-based arch quenching mechanism.

One of the advantages of this series of load disconnectors is the possibility of their mounting under voltage, the easy and quick assembly of the overvoltage limiters, the simplified mounting on the pole and easy handling of the switching device due to its reduced weight.

The DRIBO F1c GB load disconnectors have already been designed in view of the possibility of using the overvoltage limiters.

The load disconnectors comply with the requirements of the following standards: EN 62271-1 and EN 62271-103. The supporting insulators used satisfy to specification of pollution degree IV, as defined by the ČSN 33 0405 standard.

The welded base frame is made of steel profiles, protected against corrosion by hot galvanization. Hot galvanization is also used to protect the shafts of the load disconnector, seated in bronze bearings,

as well as all other steel parts including the accessories.

The cross-section of the conductors leading to the current-carrying parts is adequate to the loads the load disconnector has to withstand.

All current-carrying parts of the load disconnector are made of electroplated silver-coated copper, featuring a loop-less current-carrying path.

The insulating supports, delivered together with the load disconnector, are made of cycloaliphatic resin.

Local operation of the load disconnectors is provided by either the manually operated drives, or by motor operated drives used for remote control.

The load disconnectors can be equipped with encapsulated auxiliary switches (of IP44 protection degree), located straight up on the switch's frame. This arrangement provides for the required reliability level of making and breaking operations.

Short-circuit values are met with a big margin.

The construction of the load disconnectors, the quality level of material used and care exercised in the production process, which is governed by the principles of the ISO 9001:2000 standard, is a guarantee for low operation and maintenance costs in the future.

Under normal operating conditions it is not necessary for the load disconnectors to undergo a preventive maintenance during the period of twenty years.

Versions of the DRIBO F1c GB load disconnectors

Version	Load disconnector characterization	Rated voltage U _r (kV)	Pole height (m)	Ordering number *	Weight (kg)
DRIBO F1c GB	load disconnector for mounting on a concrete pole	25	10,5 12	02001005 02001205	63
DRIBO F1c GB K	load disconnector for mounting on a concrete pole and provided with a cable drop-in	25	10,5 12	06001005x 06001205x	66
DRIBO F1c GB P	load disconnector for mounting on a con. pole and provided with fuse holders and cable drop-in	25	10,5 12	06001015x 06001215x	85
DRIBO F1c GB R	load disconnector for mounting on a concrete pole, for dead ended line	25	10,5 12	02001005R 02001205R	70
DRIBO F1c GB	load disconnector for mounting on a concrete pole	38.5	10,5 12	04001005 04001205	79
DRIBO F1c GB K	load disconnector for mounting on a concrete pole and provided with a cable drop-in	38.5	10,5 12	08001005y 08001205y	85
DRIBO F1c GB P	load disconnector for mounting on a con. pole and provided with fuse holders and cable drop-in	38.5	10,5 12	08001015y 08001215y	107
DRIBO F1c GB R	load disconnector for mounting on a concrete pole, for dead ended line	38.5	10,5 12	04001005R 04001205R	88

* The last digit of the ordering number (symbol x or y) indicates overvoltage limiters, see below.

Overvoltage limiters

As an option, the switching devices may be equipped with overvoltage limiters. These devices have in their type description (version) also word *O*. For example *DRIBO Flc GB KO* – load disconnecter for mounting on a concrete pole and provided with a cable drop-in, equipped with overvoltage limiters. The limiters are mounted either at the manufacturer's plant or later on site. Generally, all kinds of overvoltage limiters can be used. There are, however, a few recommended types, as follows.

Rated voltage U_r in kV	Symbol x in ordering number	Symbol y in ordering number	Overvoltage limiters used
25	-	-	Device without overvoltage limiters
25	1	-	ABB, type POLIM D 24N
25	2	-	ABB, type MVK 25
25	3	-	RAYCHEM, type HDA-24NA
25	4	-	TRIDELTA, type SBK-I 31/5
25	5	-	TRIDELTA, type SBK-I 31/10
38.5	-	-	Device without overvoltage limiters
38.5	-	1	ABB, type MVK 39
38.5	-	2	RAYCHEM, type HDA-40N
38.5	-	3	TRIDELTA, type SBK-I 48/5
38.5	-	4	TRIDELTA, type SBK-I 48/10

Technical data

Rated voltage	U_r	kV	25	38.5
rated current	I_r	A	630	630
rated short-time withstand current	I_k	kA	20	20
rated peak withstand current	I_p	kA	50	50
rated short-circuit making current	I_{ma}	kA ¹⁾	10	10
rated breaking current - $I \cos\phi$ 0.7, ind.	I_{load}	A	35	18
rated breaking current of closed loop	I_{loop}	A	20	18
rated breaking current of no-load transformer	I_{nltr}	A	8	4
rated breaking current of no-load cable	I_{cc}	A	16	15
rated breaking current of no-load power line	I_{lc}	A	16	15
rated earth fault off-load breaking current	I_{ef1}	A	50	36
rated cable charging breaking current below earth fault conditions	I_{ef2}	A	21	18

Switching-off is not dependent on control speed.

¹⁾ Applies for adequately rapid manual control

Withstand voltages of Fla GB load disconnectors

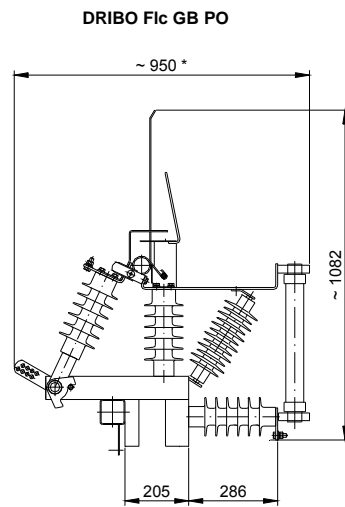
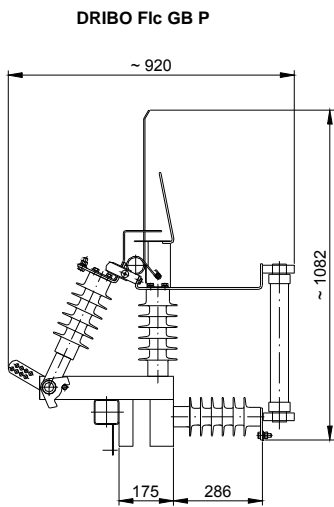
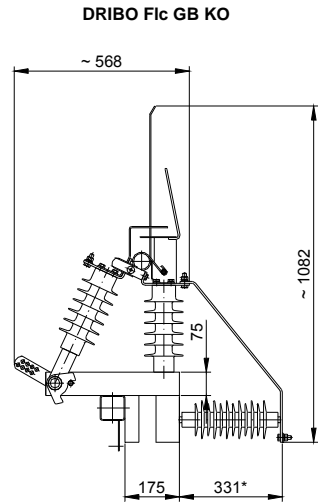
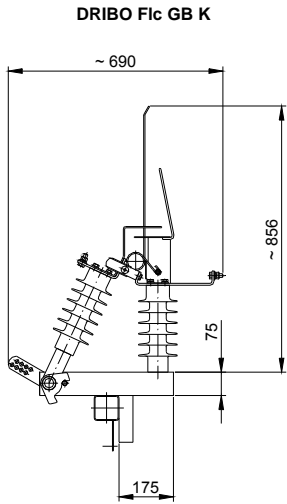
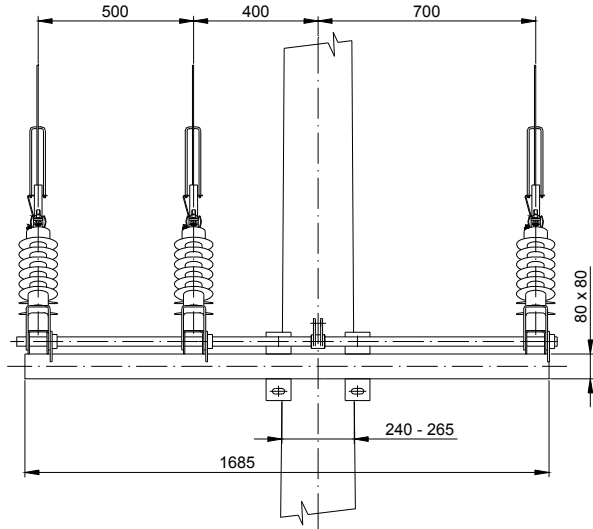
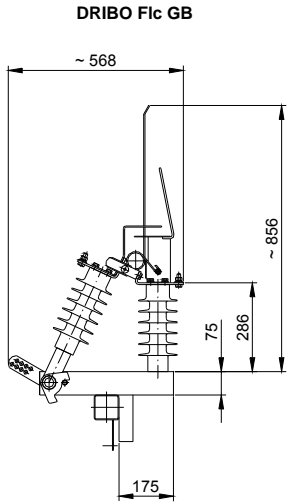
rated voltage	kV	25	38.5
rated short-time withstand power frequency voltage / 1min. to be applied in both dry and wet environmental conditions			
against the earth, across the poles and between disconnected contacts	kV	50	80
across the isolating distance	kV	60	90
rated lightning pulse withstand voltage			
against the earth, across the poles and between disconnected contacts	kV	125	180
across the isolating distance	kV	145	210

Climatic conditions

highest temperature	°C	+ 40
lowest temperature	°C	- 30
highest relative humidity	%	100
highest wind pressure	Pa (m/s)	700 (34)
typical altitude	m a. s.	up to 1000

Usages in higher altitudes please consult with producer.

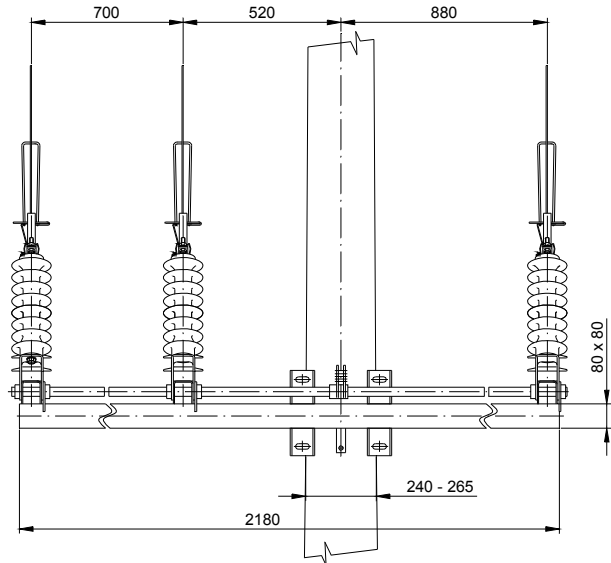
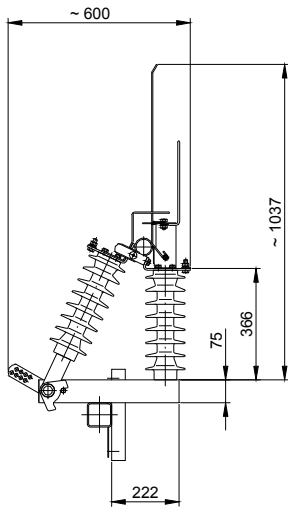
Three-pole outdoor load disconnectors DRIBO F1c GB for U_r of 25 kV



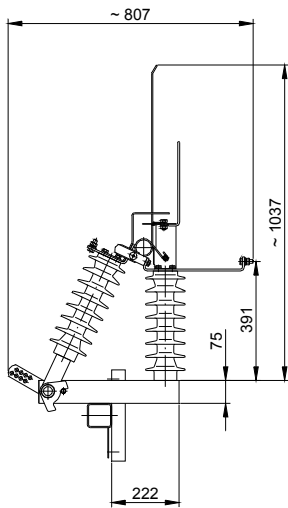
* Marked dimensions depend on overvoltage limiter used (here shown: RAYCHEM HDA24-NA)

Three-pole outdoor load disconnectors DRIBO F1c GB for U_r of 38.5 kV

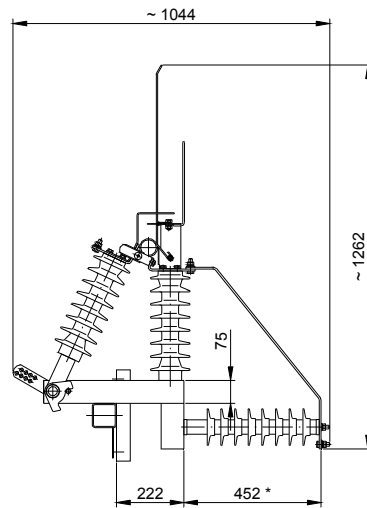
DRIBO F1c GB



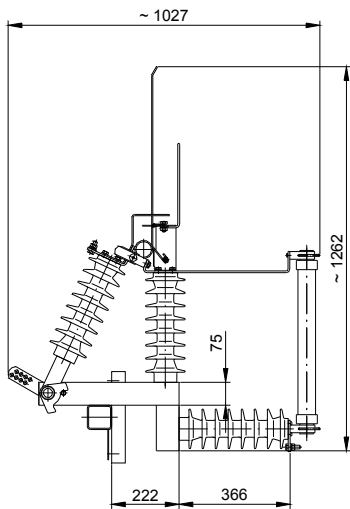
DRIBO F1c GB K



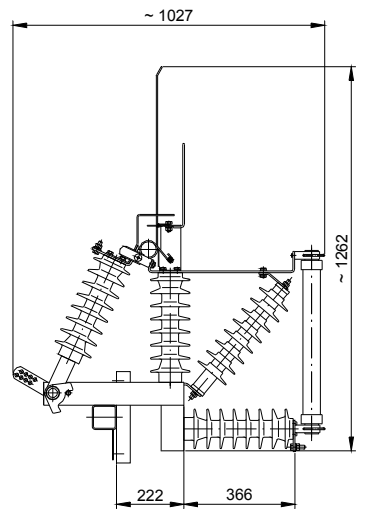
DRIBO F1c GB KO



DRIBO F1c GB P

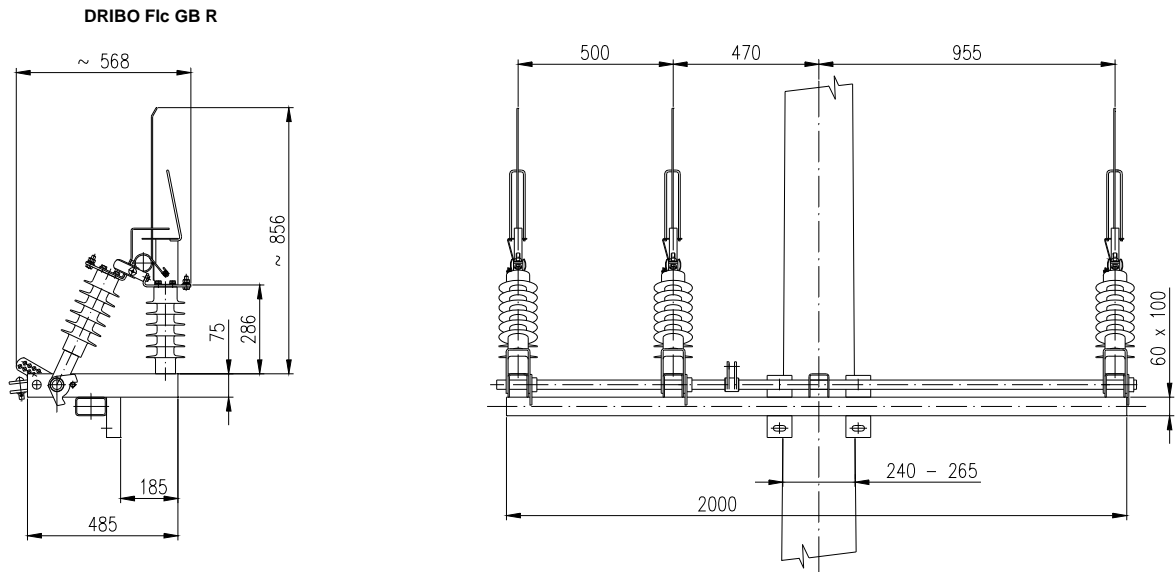


DRIBO F1c GB PO

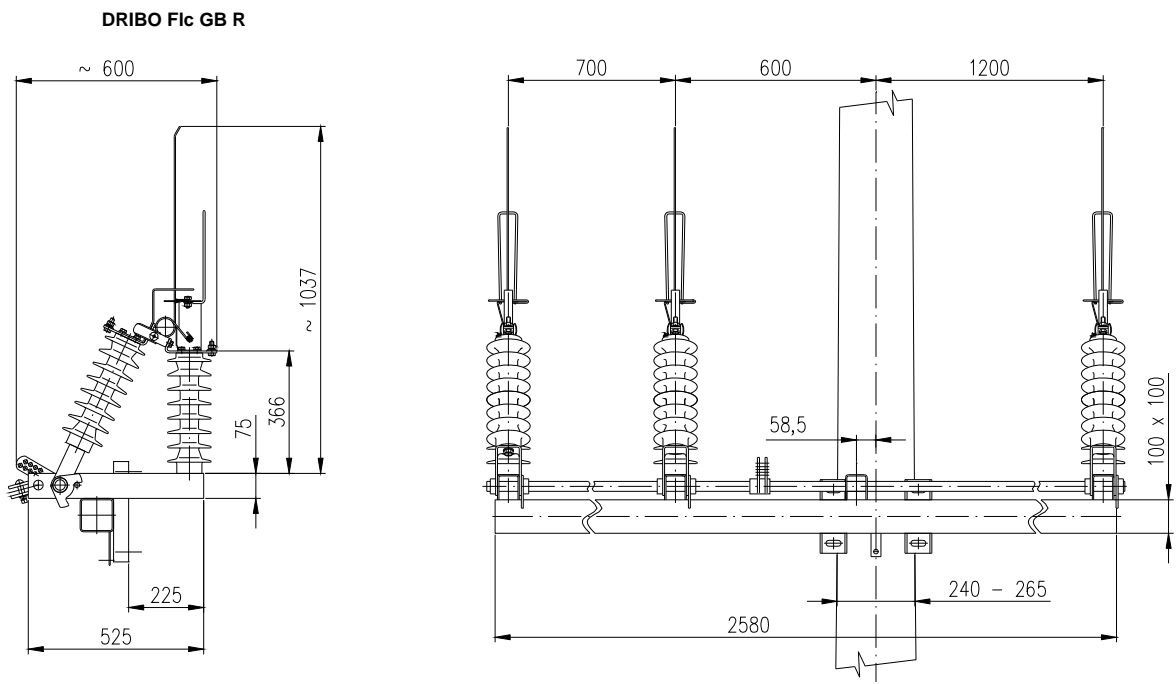


* Marked dimensions depend on overvoltage limiter used (here shown: Tridelta SBK-I 48/5 / Tridelta SBK-I 48/10)

Three-pole outdoor load disconnecter DRIBO F1c GB R for U_r of 25 kV



Three-pole outdoor load disconnecter DRIBO F1c GB R for U_r of 38.5 kV

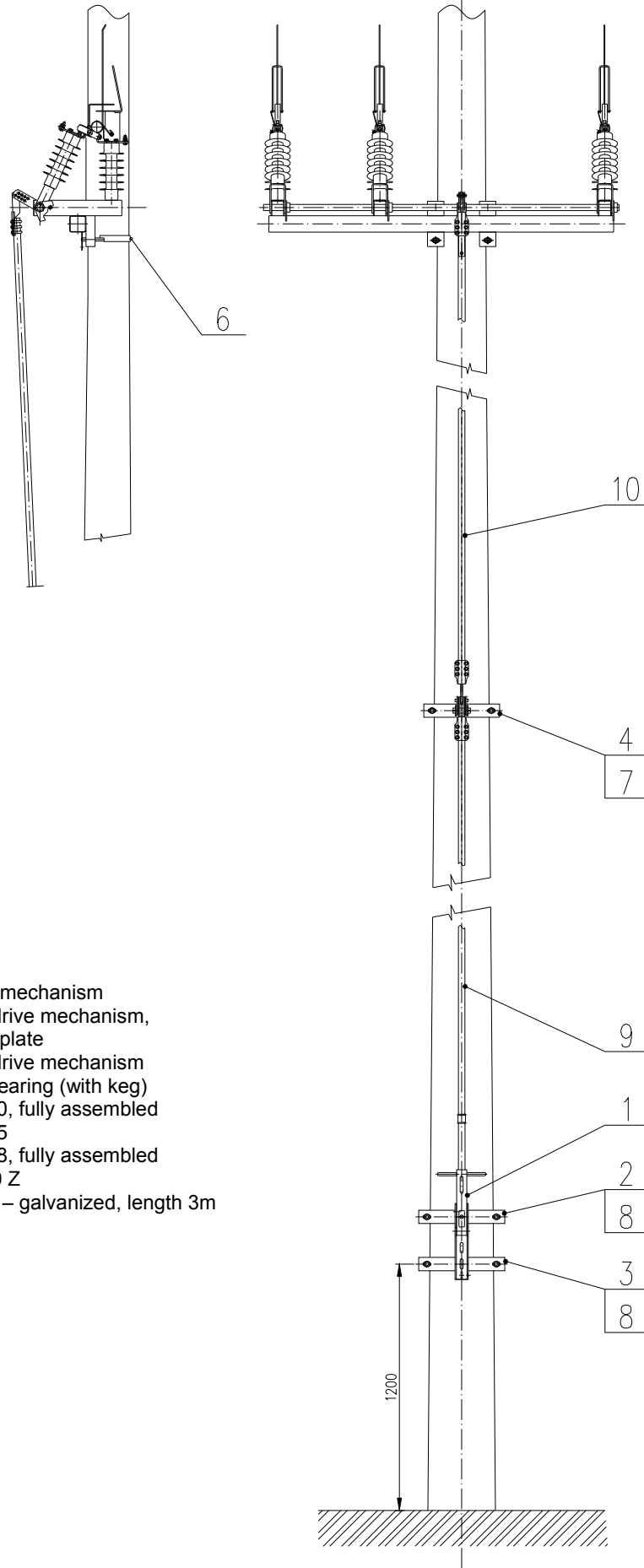


Permitted strain of line wires

Maximal permitted strain of line wires is by the DRIBO F1c GB R load disconnecter 5000 N on one line.

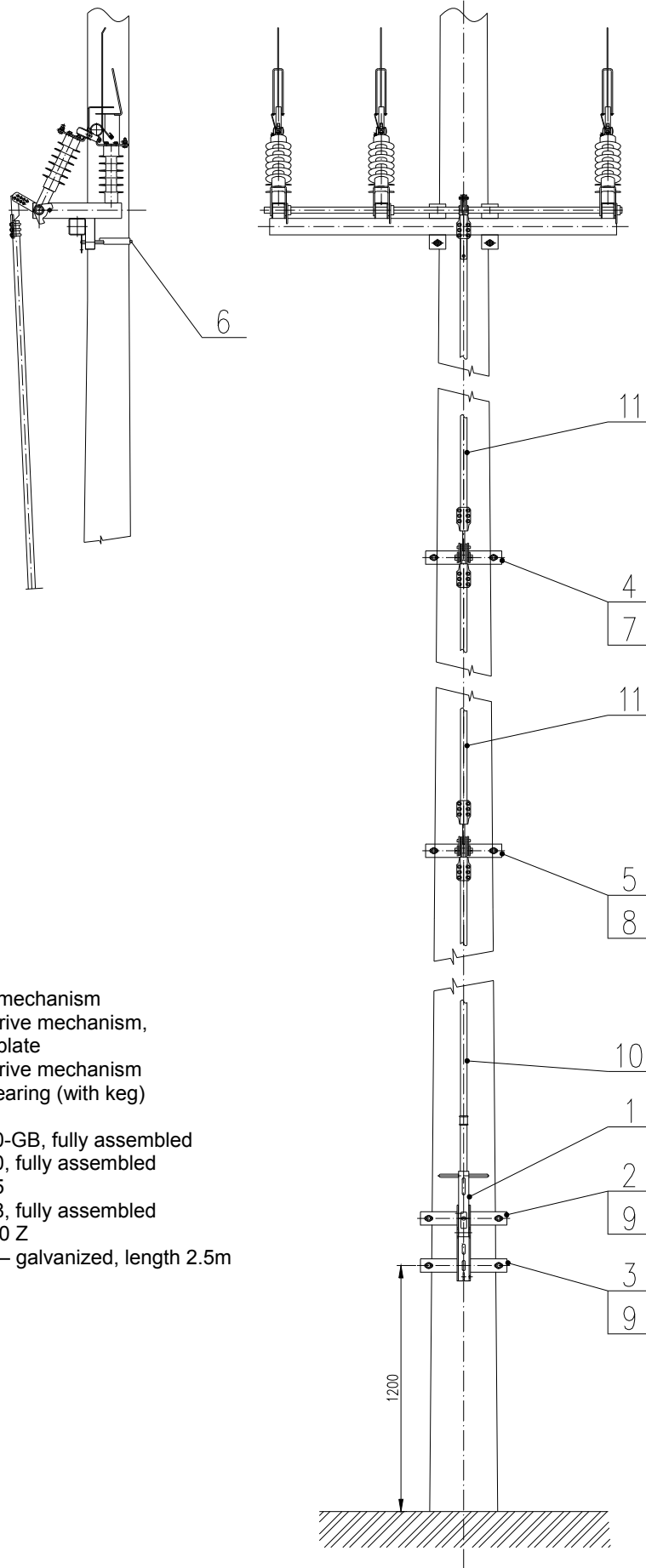
Drive mechanism installation for outdoor load disconnectors DRIBO Flc GB

mounted on a pole of 10.5 m height



- 1 – L type drive mechanism
- 2 – holder of L drive mechanism, with a nameplate
- 3 – holder of L drive mechanism
- 4 – upper interbearing (with keq)
- 6 – sleeve R 130, fully assembled
- 7 – sleeve R 155
- 8 – sleeve R 178, fully assembled
- 9 – pipe 1" 2500 Z
- 10 – pipe KR 1" – galvanized, length 3m

mounted on a pole of 12 m height



- 1 – L type drive mechanism
- 2 – holder of L drive mechanism, with a nameplate
- 3 – holder of L drive mechanism
- 4 – upper interbearing (with keg)
- 5 – interbearing
- 6 – sleeve R 130-GB, fully assembled
- 7 – sleeve R 130, fully assembled
- 8 – sleeve R 155
- 9 – sleeve R 178, fully assembled
- 10 – pipe 1" 2000 Z
- 11 – pipe KR 1" – galvanized, length 2.5m