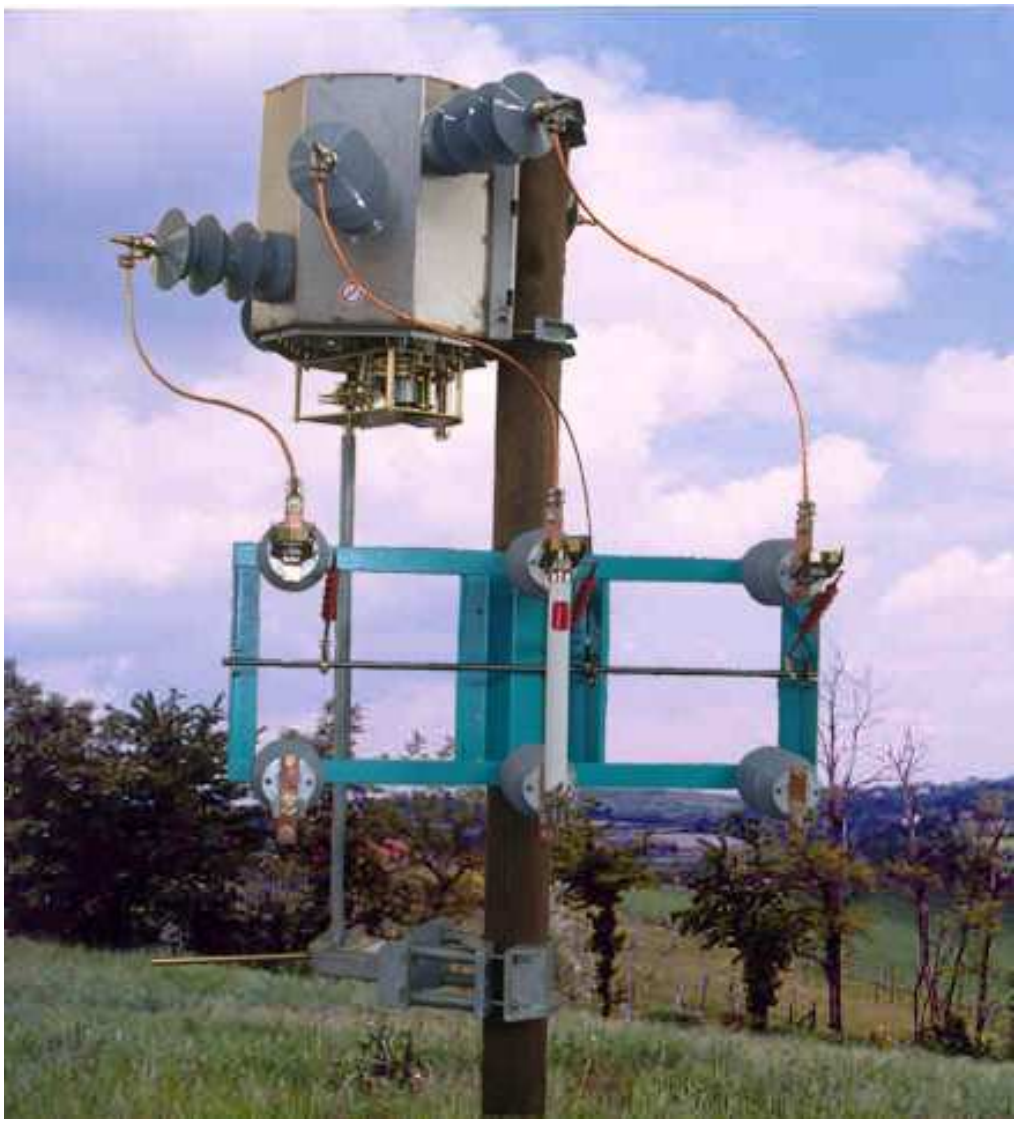

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GENERAL

ISG-E three phase SF6 Switch Disconnector, is designed to be employed in rural or suburban districts distribution networks up to 36 kV and they are used for disconnection of lines or transformation spots on outdoor pole. ISG-E is a SF6 gas insulated, having an enclosure made of stainless steel or painted steel hermetically sealed according to IEC 56 standards.

This means that no refill is required during operating life.
All electrical components are mounted inside the enclosure in order to prevent any environmental problem. ISG-E can be coupled with fuse holder suitable (PFS-E 501) for IEC 282-1/DIN 43625 fuses. The fuse intervention cause the opening of the ISG-E automatically.

MOUNTING

ISG-E three phase SF6 Switch Disconnector can be **mounted** on pole in vertical position.

They are suitable for metal, concrete or timber poles, through standard fixing devices or special on request.

CURRENT CARRYING SET

Moving and fixed contacts are made of Cu-ETP 99,90 copper having a feature, which ensure an optimal working.
Both are protected against corrosion from a tin-coated treatment.

Contacts pressure is controlled by steel springs during normal conditions and by the self-tightening action when high current flow thorough them in particular conditions.
All small components like bolts, pins made of steel are protected against corrosion by a zinc coated treatment according to UNI ISO 2081 / 4520 standars

BREAKING DEVICE

The arc extinguish happens inside the enclosure in a SF6 gas atmosphere, this allows the cooling and the deionization of the electric arc in a very short time.

INSULATORS

Insulating components used are composite in silicone rubber, they are in according to IEC 61952 standards.

Isolators have been subordinates to the accelerated ageing test in saline fog.

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OPERATING MECHANISM AND OPERATING DEVICES

Operating mechanism available are the following:

- **H type) Overcoming of dead center manual mechanism;** the opening/closing speed are carried out by a spring manually charged from the operator.
- **K type) Overcoming of dead center motorized mechanism** the opening/closing speed are carried out by a spring automatically charged from an electric motor or manually from the operator.
- **J type) Stored energy operating mechanism;** the opening/closing speed are carried out by two springs manually charged from the operator.

Opening can be carried out by means of:
-Manual device
-Shunt opening release

Operating devices used are the following:

- **Manual intermediate transmission device** consists on a lever manoeuvrable through an insulating rod. It is braced to the operating mechanism by means of one or more pipe.
- **Manual bottom transmission device** consists on an handle control suitable for wall or board mounting manoeuvrable directly. It is braced to the operating mechanism by means of one or more pipe.
- **Manual top direct device** consists on an operating arm manoeuvrable through an insulating rod.

transmission rods and transmitting rod joint are available. Optional padlock can be fitted.
All operating devices are made of welded structural and bent metal sheets, protected by a hot dip galvanized treatment.
Different operating devices are available on request.

MANUFACTURING, STANDARDS, QUALITY ASSURANCE

ISG-E three phase SF6 Switch Disconnector product of the Eleron experience can boast many years of duty.
The Eleron **manufactures** directly main parts of disconnector
Remaining parts come from chosen suppliers, finally Eleron carry out to assembling and test the product.
An internal standard **Quality Assurance** in compliance with governs all manufacturing process UNI EN ISO 9001 standard

Before shipment ISG-E three phase SF6 Switch Disconnectors, are subject to the following **routine tests**:

- Dielectric test
- Measurement of the resistance of the main circuit
- Mechanical operating test
- Gas leakage measurement

ISG-E comply with the following **standards**:

- International IEC 60265
- National CEI 17-9/1
- ENEL (Italian Electricity Board)

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TECHNICAL CHARACTERISTICS

Ambient temperature	[°C]	-25÷55	
Nr. of mechanical manoeuvre	/	1000	
ISG-E electrical characteristics			
Rated normal voltage	[kV]	24	36
Rated withstand voltage toward earth and between phases (50-60 Hz/1 min.)	[kV]	50	70
Impulse withstands voltage	[kV]	125	170
Rated normal frequency	[Hz]	50 / 60	
Rated normal thermal current	[A]	400/630	
Rated admissible short-time current (1 sec.)	[kA]	16/25	
Rated breaking capacity	[A]	400/630	
Rated breaking capacity for no-load line and cables	[A]	16	
Making capacity	[kA]	40/50	31,5/40
PFS-E 501 electrical characteristics			
Rated normal voltage	[kV]	12 / 36	
Rated withstand voltage toward earth and between phases (50-60 Hz/1 min.)	[kV]	50	70
Impulse withstands voltage	[kV]	125	170
Rated normal frequency	[Hz]	50 / 60	
Rated normal thermal current	[A]	200	

ISG-E DIMENSIONS

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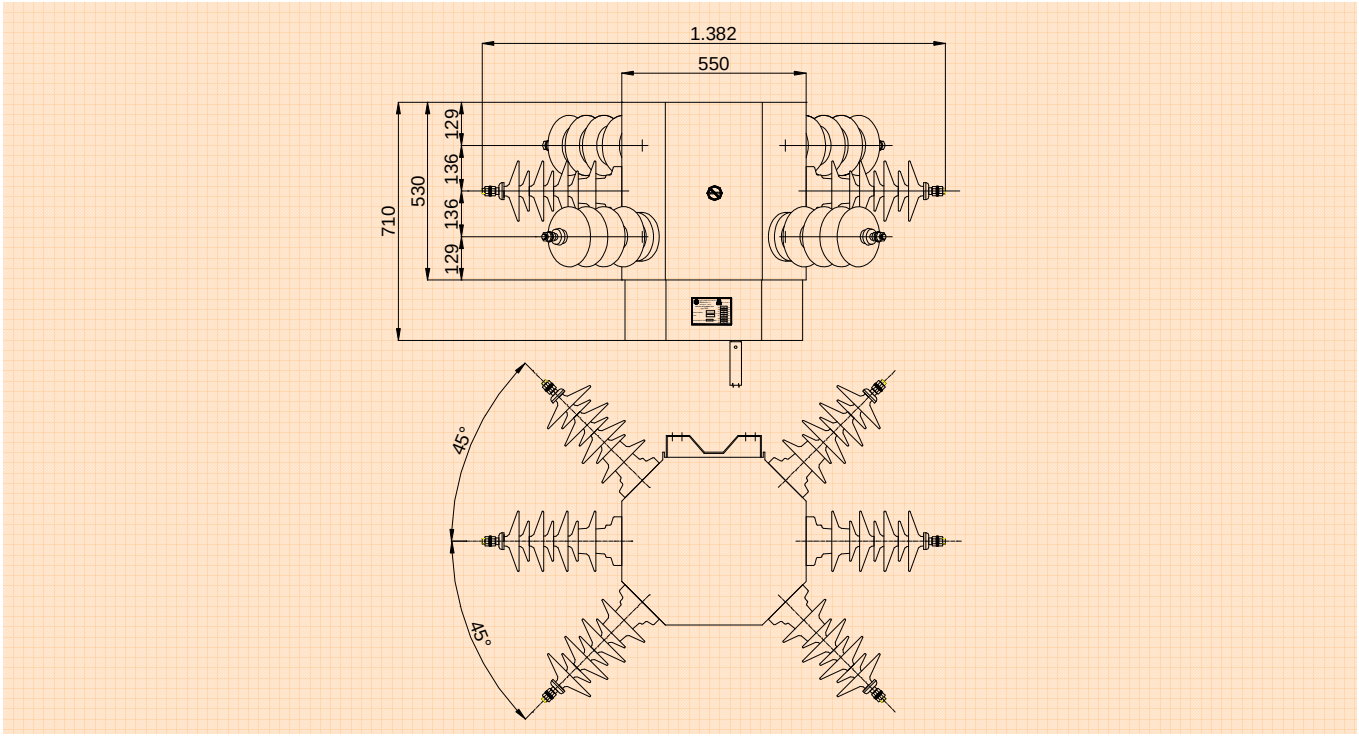


Fig.1.a

PFS-E 501 DIMENSIONS

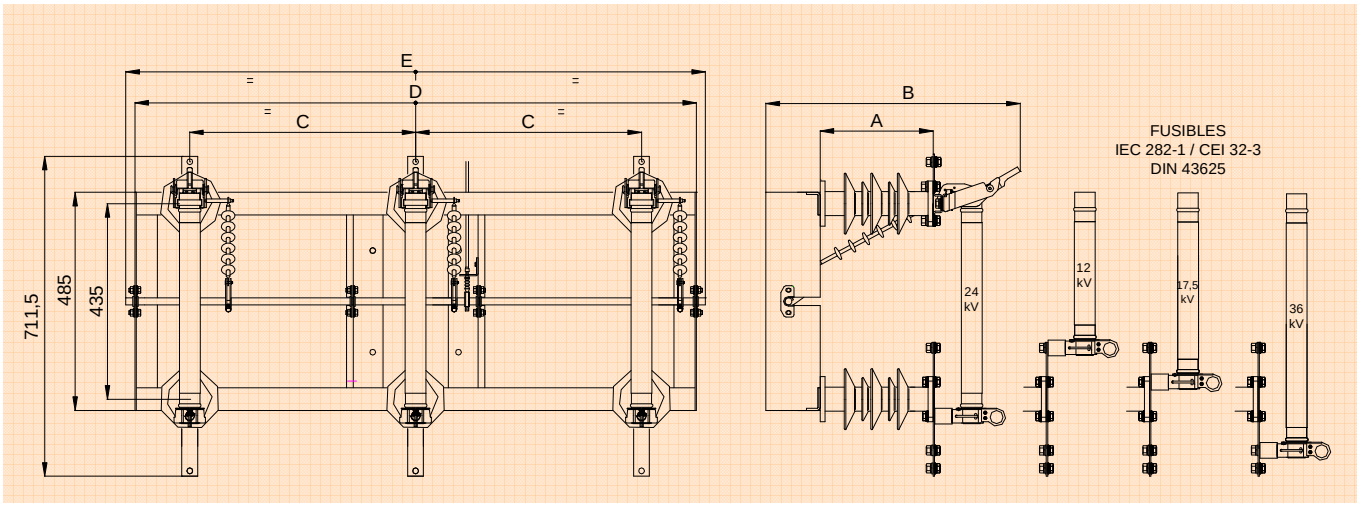
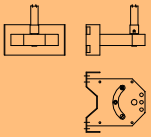


Fig.1.b

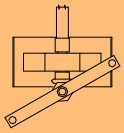
Overall dimensions (mm)		A	B	C	D*	E
kV	12 / 24	250	560	500	1240	1280
	36	370	680	600	1440	1480

* Different centre pole available

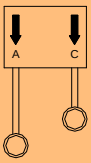
OPERATING DEVICES AND ACCESSORIES



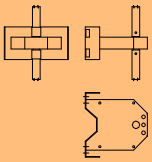
2.a Manual operating mechanism suitable for concrete, metal or timber poles. Band-it or stay bolt fixing



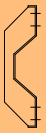
2.b Handle control suitable for concrete, metal or timber poles. Band-it or stay bolt fixing



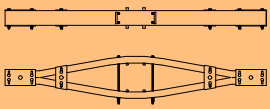
2.c Hook – stick operating mechanism for concrete, metal or timber poles. Band-it or stay bolt fixing



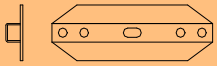
2.d Transmitting rod joint suitable for concrete, metal or timber poles. Band-it or stay bolt fixing



2.e Support for stay bolt fixing



2.f ENEL standard steel crossbar overhead lines, suitable for concrete, metal or timber poles having top diameter from 130 to 310 mm



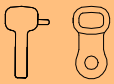
2.g ENEL standard pole top steel crossbar

2.h Transmitting rods

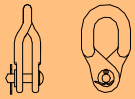
2.i Stay bolt

2.l Insulated rod

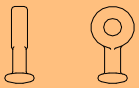
2.m Band-it size ¾” (19mm) for device fixing.



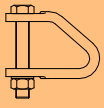
2.n Socket – eye



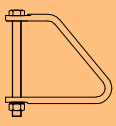
2.o 90° shackle



2.p Ball - eye



2.q Tower fitting light 70mm



2.r Tower fitting light 172mm

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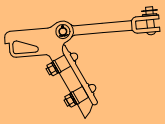
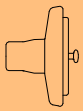


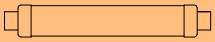
2.s

Tension clamp



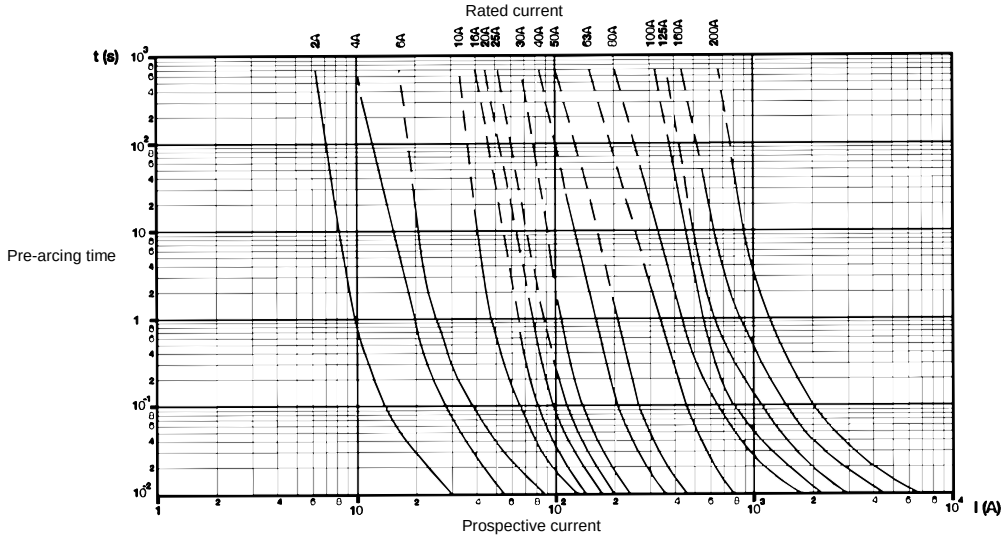
2.t

Glass or composite fibre glass and silicon rubber suspension insulator

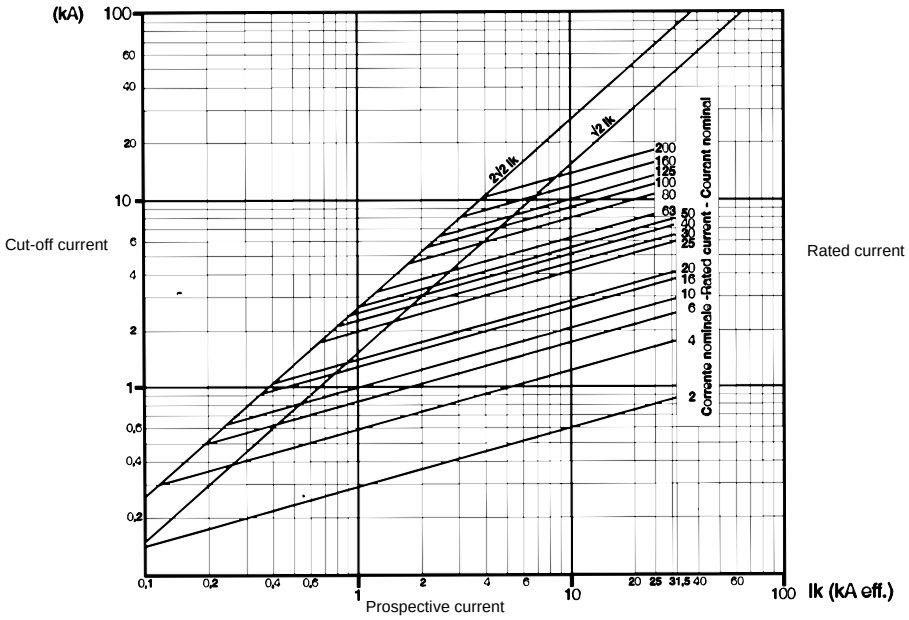


Fuse
IEC 282-1 / CEI 32-3
DIN 43625

Melting time characteristics



Cut-off characteristics



2.u

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TYPICAL INSTALLATION ON POLE

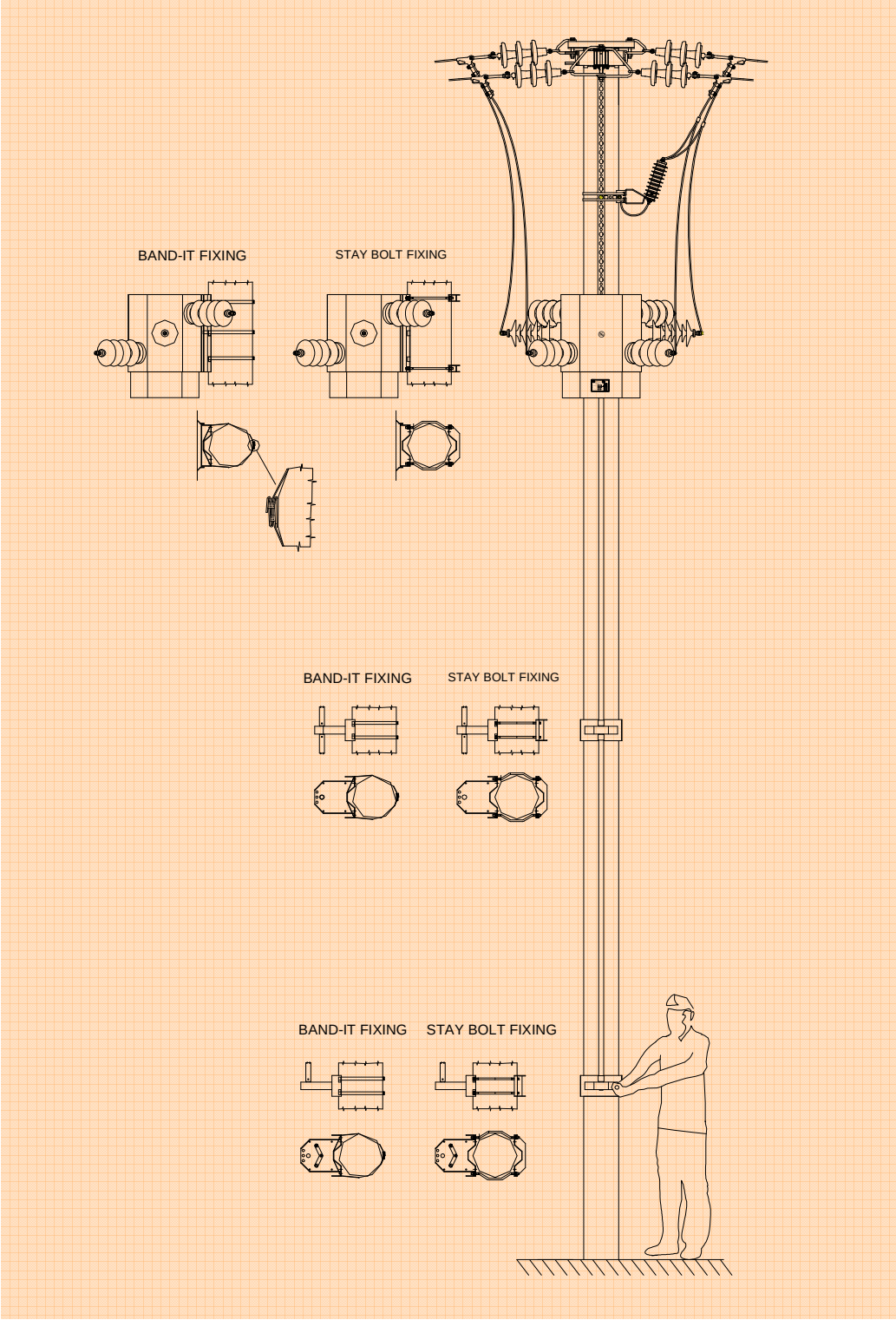

Fig.3.a – Manual bottom transmission device and systems of fixing to the pole

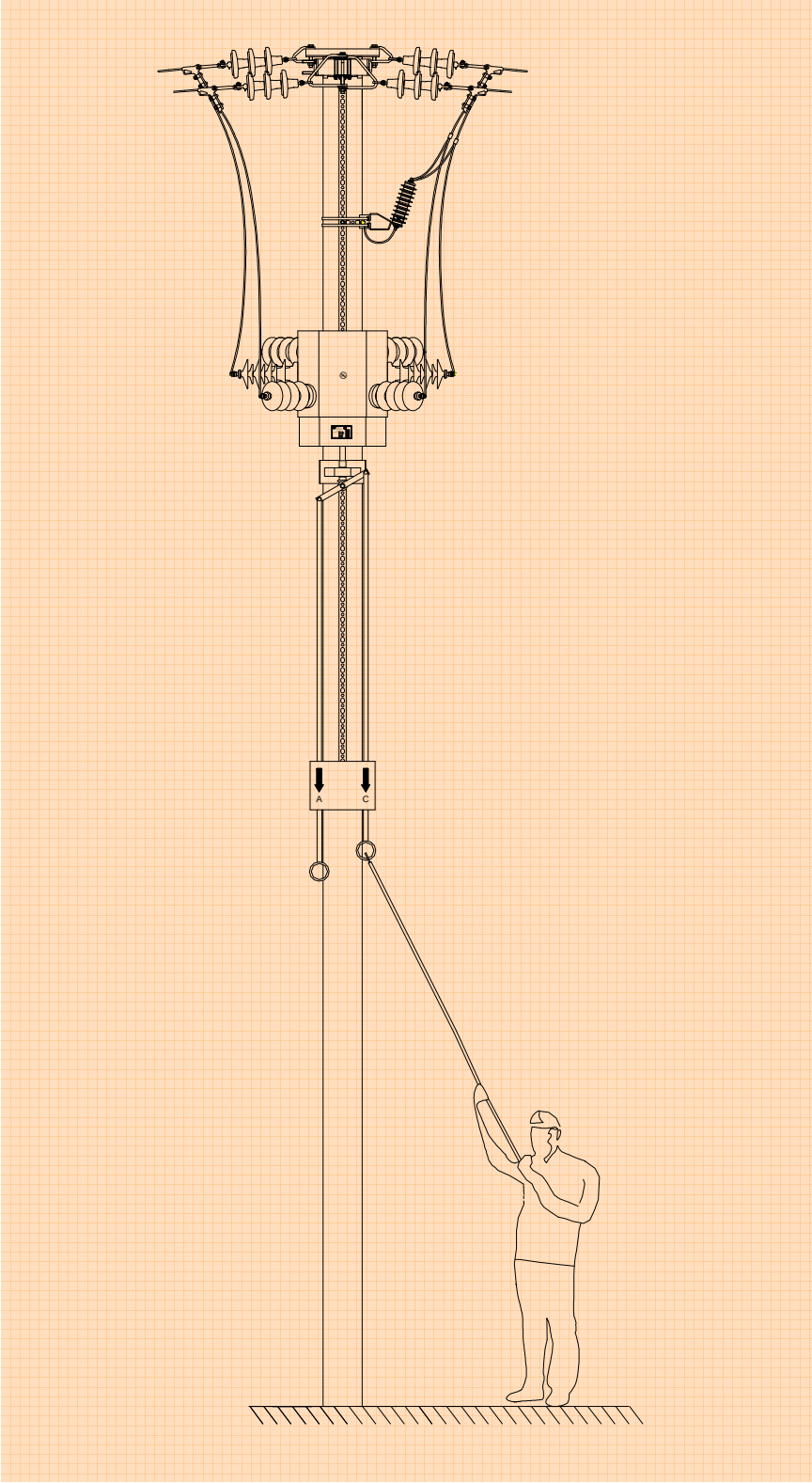

Fig.3.b – Manual intermediate transmission device

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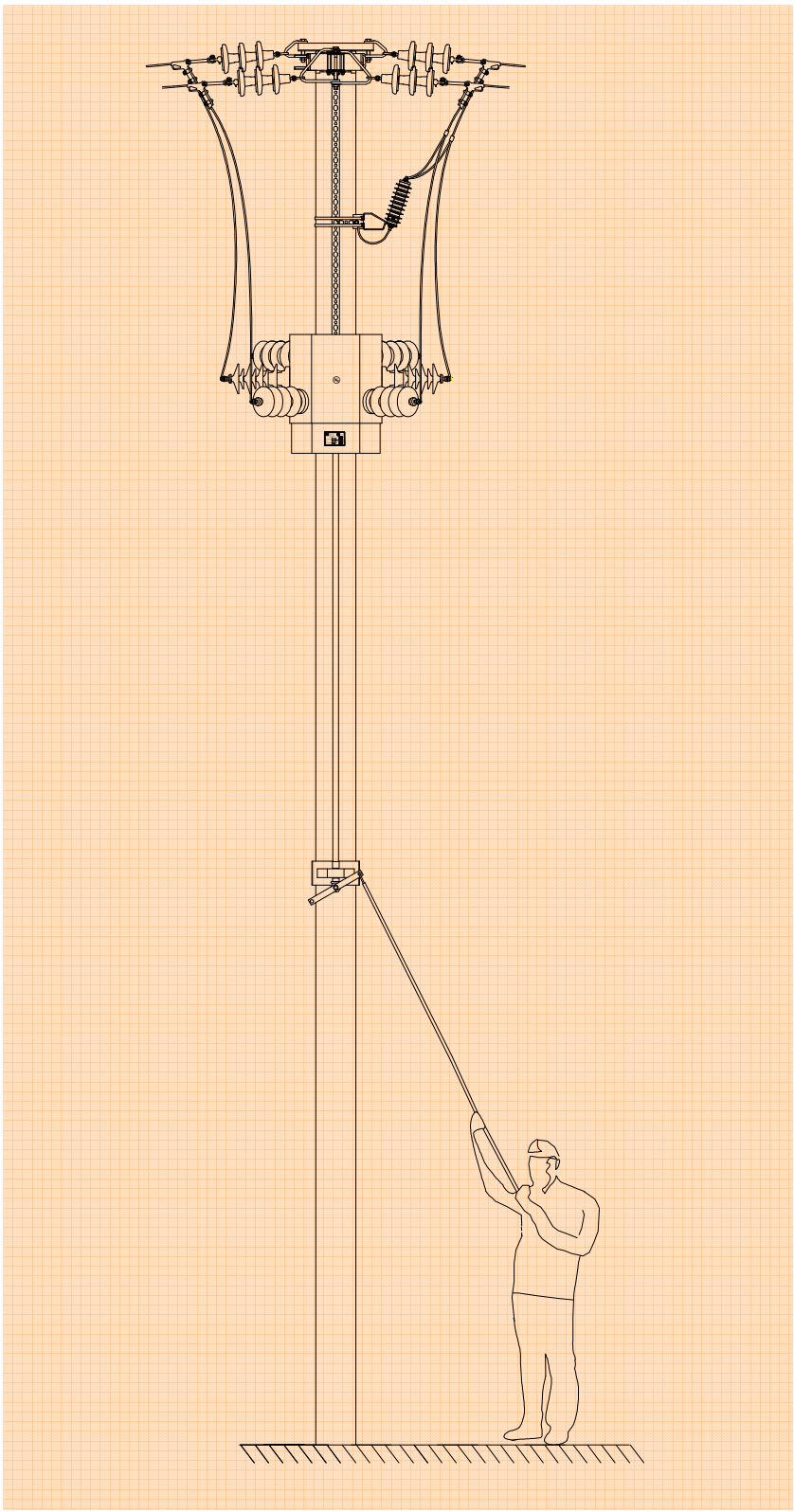

Fig.3.c – Manual intermediate transmission device

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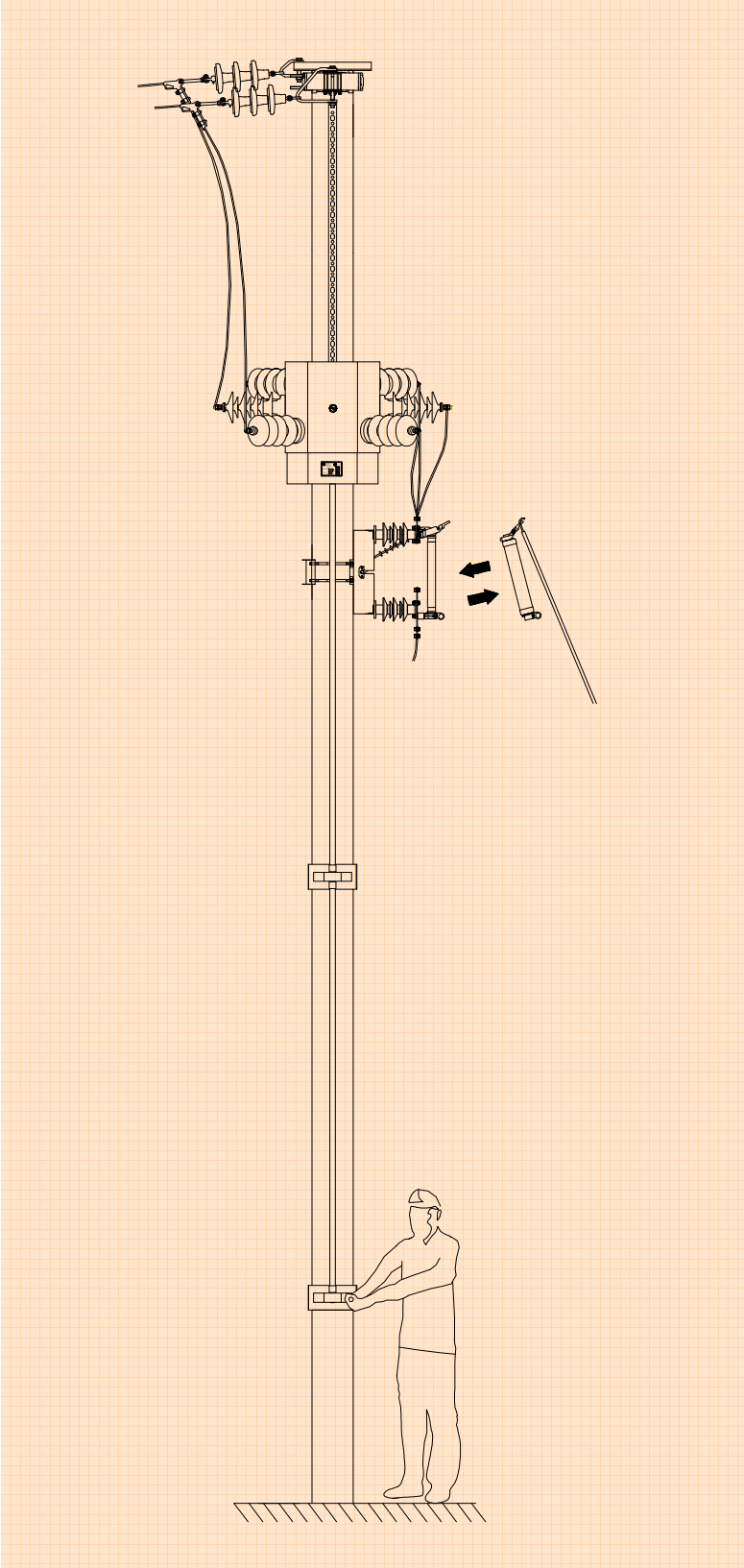

Fig.3.d – Coupled with fuse holder

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