

Section 8: Switchgear Connections (Straight & Elbows)

HEAT SHRINKABLE

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Inline and Right Angle Bushing Boots

RSRB

Insulating boots are moulded parts which are shrunk over the connection between the cable lug and bushing to insulate them. They are used in switchgear and transformers with compound filled boxes where the clearances are insufficient for operation in air or

to protect against flash over due to rodents or extreme humidity.

A full range of insulating boots are available up to 17.5 kV.

Straight Boots

Catalogue Reference	Application Range
	(mm ²)
RSRB-4022	10 - 35
RSRB-4024	50 - 95
RSRB-4026	120 - 300

Right Angle Boots - Long

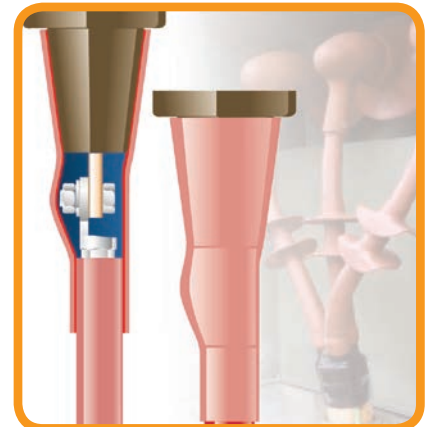
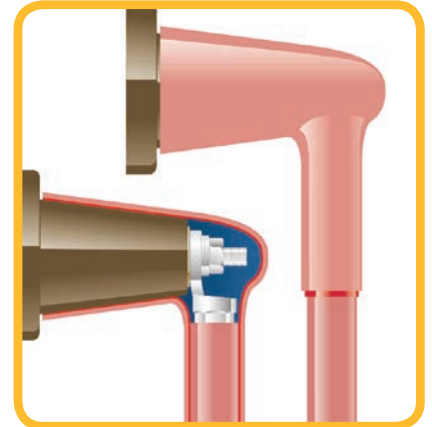
Catalogue Reference	Application Range
	(mm ²)
RSRB-4042	10 - 35
RSRB-4044	50 - 95
RSRB-4046	120 - 300

Right Angle Boots - Short

Catalogue Reference	Application Range
	(mm ²)
RSRB-4062	10 - 35
RSRB-4064	50 - 95
RSRB-4066	120 - 300

Note:

1. Long boots are 110 mm long over the bushing. The short boots are 90 mm long.
2. Insulating boot kits are also available for up to 36 kV applications. For such requirements please refer to your local sales representative.



Elastomeric Insulating Bushing Boot 17.5kV

RCAB-41

Raychem elastomeric insulating boots are moulded parts which fit over the connection between the cable lug and the inline or right-angled equipment bushing to improve phase-to-phase and phase-to-earth insulation. They are used in switchgear and transformer cable boxes where the air clearances are insufficient for normal operation, or to protect against flashover due to rodents or high humidity. The non-tracking elastomeric housing has excellent erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress. RCAB boots work in combination with all Raychem termination product lines including both elastomeric and traditional heat shrink technology. RCAB boots are quick and easy to install and do not require any taping of the bushing or the termination. The boot can easily be removed

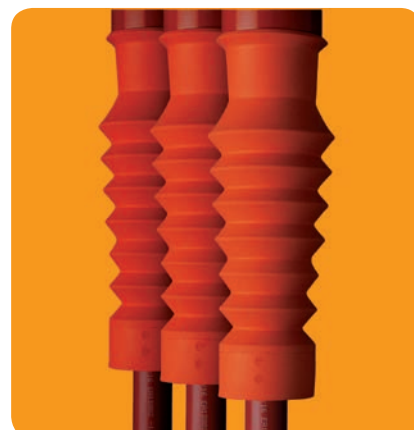
and reinstalled without the need for additional material or tooling, allowing access to the bushing connection for test purposes. The universal screw EXRM-1366 is available on request.

Features

- Tool free application
- High performance insulation material
- Excellent track and erosion resistance
- Removable and re-installable

Benefits

- Simple and easy installation
- Unlimited shelf life
- Connection can be energised immediately after installation
- One product for inline and right angle application



EXRM-1366

Catalogue Reference	Max System Voltage	Basic Impulse Level	Collar Size	Bushing Dia.	Bushing Type	Application Range
	(kV)	(kV)		(mm)	(A)	(mm ²)
RCAB-4110	17.5	95	No. 1	31 - 45	-	35 - 400
RCAB-4120	17.5	95	None	46 - 70	400/630	35 - 400

Elastomeric Insulating Bushing Boot 24kV

RCAB-51

Raychem elastomeric insulating boots are moulded parts that fit over the connection between the cable lug and the inline equipment bushing to provide phase-to-phase and phase-to-earth insulation. They are used in switchgear and transformer cable boxes where air clearances are insufficient for normal operation, and they also protect against flashover caused by rodents or high humidity. The non-tracking elastomeric housing has excellent erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress. RCAB boots can be used with all Raychem heat shrink terminations. RCAB boots are quick and easy to install and eliminate taping of the bushing or termination. The boot can be

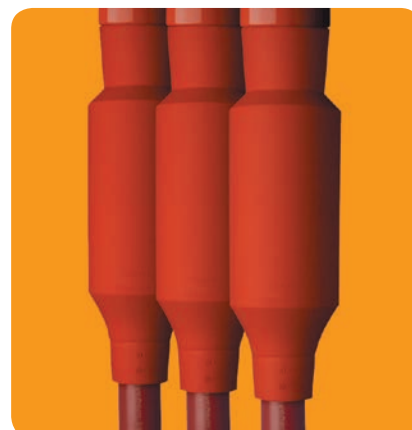
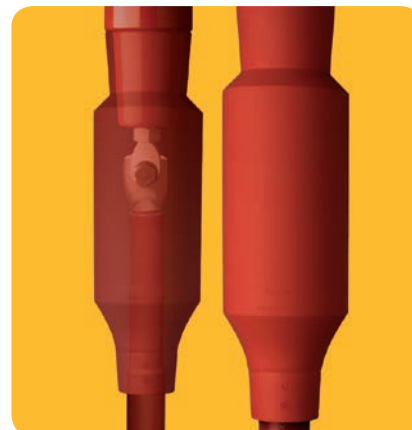
removed and reinstalled easily without the need for additional material or tooling for convenient access to the bushing connection for test purposes.

Features

- Tool free application
- High performance insulation material
- Excellent track and erosion resistance
- Removable and re-installable

Benefits

- Simple and easy installation
- Unlimited shelf life
- Connection can be energised immediately after installation



Catalogue Reference	Max System Voltage	Basic Impulse Level	Bushing Dia.	Bushing Type	Application Range
	(kV)	(kV)	(mm)	(A)	(mm ²)
RCAB-5120	24	125	46 - 61	400 / 630	35 - 300

Insulated T-Adapter for SF₆-Insulated Switchgear with Bushings 12kV

RICS-3

This insulated adapter provides perfect sealing, electrical insulation and an electrical connection between all Raychem terminations and SF₆-insulated switchgear up to 12 kV. It is designed to fit bushing profiles according to EN 50181 type C.

Design

Raychem elastomeric RICS adapters are moulded parts which fit over the connection between the cable lug and the right angled bushing of a gas insulated switchgear, where the air clearances are insufficient for normal operation. The non-tracking elastomeric housing has excellent erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress. RICS adapters are quick and easy to install and work in combination with all Raychem termination product lines. The adapter can easily be removed and reinstalled without the need for additional material or tooling, allowing access to the bushing

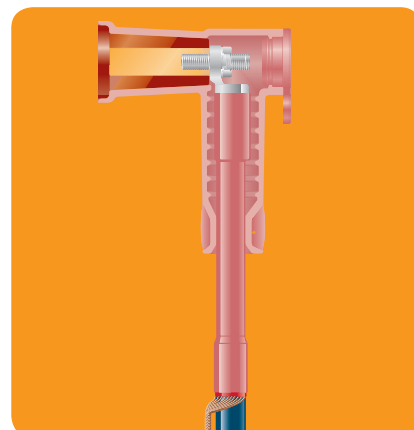
connection for test purposes.

Installation

The elastomeric body is simply pulled over a termination, even with bulky mechanical lugs, and covers a wide cross section range of 70-300 mm². A terminal stud with nut connects the cable lug of the termination with the bushing. The back end of the adapter is reliably sealed by a easy to remove, snap-in elastomeric cap.

Performance Tests

The RICS adapter is tested to CENELEC HD 629.1 S2:2006 and GOST requirements, including tests like AC, DC (60kV), BIL (95kV), long term loadcycling at AC voltage 16kV phase/earth (2.5*U₀). All voltage tests were performed in confined metallic enclosures to generate highest electrical stresses. To test for electrical and moisture sealing in worst possible condition, even load-cycling under water with a test voltage of 16 kV phase/earth (2.5*U₀) was successfully passed.



RICS Adapter Selection table with most common Raychem Terminations

Catalogue Reference	Application Range	Term. for Polymeric Cables incl. Mech. Lugs
	(mm ²)	
RICS-3133	70 - 150	IXSU-F3131-ML-2-17
RICS-3133	95 - 240	IXSU-F3131-ML-4-17
RICS-3133	120 - 300	IXSU-F3131-ML-5-17

Packaging

The insulating body, fixing bolts, terminal stud and cap are supplied in a 3-phase set complete with installation instruction.

Cable terminations with lugs for M16 studs have to be ordered separately.

Adapters for other types of bushing and for other cable are available on request.

If required, a separate test rod is available to apply test voltage directly onto the cable stud inside the RICS adapter. Ordering descriptions are RICS-5002-50-24 for a 290 mm version and RICS-5002-50-25 for the long 390 mm version

(2 normal, 1 long version needed for 3 phase testing).

Raychem Insulated Adapter Termination System RICS for SF₆-Insulated Switchgear up to 24 kV

RICS-5

Tests

The adapters conform to IEC 540, VDE 0278 and ANSI IEEE 386 specifications, as well as to the Raychem specification PPS 3013. The test requirements and results are summarized in Raychem Test Report PPR 1106, which is available on request. The insulated adapter termination system provides perfect sealing, electrical insulation and an electrical connection between Raychem terminations and SF₆-insulated switchgear up to 24 kV. Its lead-in insulator (630 A) conforms to DIN 47636 and ANSI IEEE 386. The cable box of the switchgear must be provided with suitable protection against electric shock. The insulating adapter is compatible with all Raychem terminations.

T-adapter with or without surge arrester

Design

Thick walled insulator made of high quality elastomer with sealing face over the termination, bushing cone and plug. The electrical connection is made with a terminal stud and the cable lug of the termination. Two cable connection is possible. A special plug which allows cable testing without disconnecting the adapter is also offered. The design

of the adapter for connecting the surge arrester is basically identical. The elastomer insulator has an additional lead-in duct for the surge arrester. Details of the surge arresters can be found in the brochure EPP-0533.

Scope of supply (for three phases) Insulator, plug, terminal stud, small accessories and installation instructions.

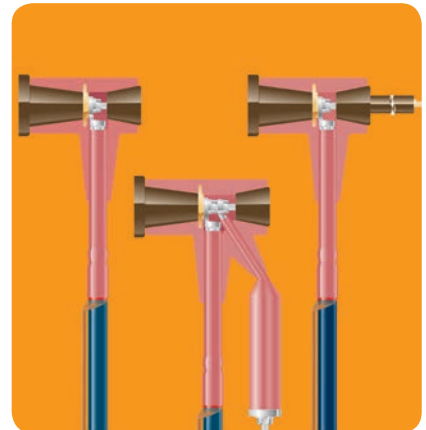
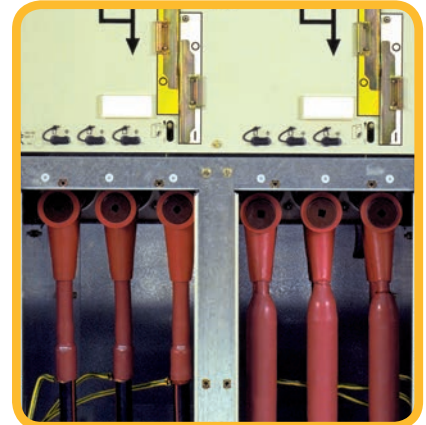
Straight adapter

Design

A thick walled, heat-shrinkable insulating sleeve provides a hermetic seal over the cone of the bushing and the termination. The adapter area is smoothed with a meltable filler strip.

Scope of supply (for three phases) Heat-shrinkable insulating sleeving, filler strip, small accessories and installation instructions. Terminal stud and lug must be enclosed.

For selection information, please contact TE Connectivity.



Plug in Termination System for Gas Insulated Switchgear 42kV

RPIT

Features

- Separable inline connection for high current, gas insulated switchgears up to 42 kV
- Termination mates interfaces in accordance to EN50180 and EN50181 for inner cone connections
- The contact parts are designed for stranded circular aluminium or copper conductors in accordance to IEC-60228

Technical Information

The increasing popularity of gas insulated switchgear called for the development of appropriate connection systems to standardised bushings in accordance to EN50181. TE has developed two systems, one is related to the outer cone and the other one to the inner cone system. Later is used in power switch gear and power transformers. TE has several decades of experience in the field of hermetically insulated

termination systems for medium voltage applications. Thus the bushings designed for gas insulated switchgear meet the standard EN50181 for connection type size 2 (800 A) and size 3 (1250 A) at operating voltage 12 kV up to 36 (42) kV.

The basic construction of the mating termination follows well known design principles and incorporates a lamellate contact system which ensures reliable current transmission via a cone clamp to the conductor. The interface between silicone body of the termination and the bushing is kept permanently sealed via the pressure of a spring between the insulator and the flange of the termination cover. The termination cover is sealed at the flange area with well known sealing methods and at the cable side with heat-shrinkable tubing against ingress of moisture.



Selection Table

Screened separable connection system 12 kV with mechanical lugs

Catalogue Reference	Size	Nominal Current	System Voltage	Cross Section	Dia over Conductor	Dia over Insulation
		(A)	(kV)	(mm ²)	(mm)	(mm)
RPIT-321x	2	800	12	95 - 300	11.0 - 21.6	19.3 - 30.4
RPIT-521x	2	800	24	50 - 300	7.7 - 21.6	20.2 - 34.6
RPIT-621x	2	630	36	50 - 185	7.7 - 16.8	25.2 - 35.1
RPIT-331x	3	1250	12	240 - 630	17.8 - 32.5	26.4 - 29.6
RPIT-531x	3	1250	24	150 - 630	13.9 - 32.5	26.5 - 45.6
RPIT-631x	3	1250	36 / 42	95 - 630	11.0 - 32.5	28.5 - 49.2

Screened Adaptor System 250 amp - 24kV

RSES-52
RSSS-52

Raychem separable screened adaptors are designed to connect single core polymeric cables to medium voltage equipment (transformers, switchgears, motors etc.) up to 24 kV. Made of crosslinked EPDM and protected with a minimum 3 mm moulded conductive shield connected to earth, Raychem deadbreak adaptors are suitable for both indoor and outdoor installations. Their wide application range allows a minimum number of bodies to cover several different cable cross sections without the need for additional cable adaptors. The cut back dimensions for all cable sizes are the same for RSSS and RSES.

Raychem screened adaptors are equipped with a capacitive test point to ensure that the circuit is not energised before disconnection. The capacitive test point is protected by a conductive cap. A range of high strength bimetallic compression connectors tested to VDE 0220 are offered to connect both aluminium and copper conductor cables. After cable preparation and lubrication,

the Raychem Screened Adaptors can simply be slid into place under virtually all conditions. A separable mounting system provides for an easy installation of the adaptor onto the bushing.

In addition, Rayvolve tubing or heat shrink phase marking sleeves are offered as an option, to provide a superior environmental seal.

Rayvolve Sealing

Cold applied technology. Rayvolve is used in conjunction with a pressure sensitive mastic and is simply rolled into place. Thus a reliable moisture seal is achieved. The use of Rayvolve is particularly recommended for applications where a torch is unavailable or cannot be used.

Heat Shrinkable Sealing

Moisture seal and phase marking. A reliable moisture can also be produced by using a mastic in conjunction with a heat shrinkable sleeve. This solution has the additional advantage of providing phase marking. A standard torch carried by most jointers is used.



Selection Tables

Screened Elbow Adaptors

Diameter Over Insulation	Cross Section (Al or Cu Conductor)						
	16 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²	95 mm ²	120 mm ²
13.5 - 17.4 mm	RSES-5201	RSES-5202	RSES-5203	RSES-5205	-	-	-
16.3 - 20.8 mm	RSES-5211	RSES-5212	RSES-5213	RSES-5215	RSES-5217	RSES-5219	-
19.6 - 24.1 mm	-	-	RSES-5223	RSES-5225	RSES-5227	RSES-5229	RSES-5224
23.1 - 27.7 mm	-	-	-	RSES-5235	RSES-5237	RSES-5239	RSES-5234
27.9 - 33.5 mm	-	-	-	-	-	RSES-5249	RSES-5244

Screened Elbow Adaptors

Diameter Over Insulation	Cross Section (Al or Cu Conductor)					
	16 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²	95 mm ²
13.5 - 17.4 mm	RSSS-5201	RSSS-5202	RSSS-5203	RSSS-5205	-	-
16.3 - 20.8 mm	RSSS-5211	RSSS-5212	RSSS-5213	RSSS-5215	RSSS-5217	RSSS-5219
19.6 - 24.1 mm	-	-	RSSS-5223	RSSS-5225	RSSS-5227	RSSS-5229
21.0 - 26.5 mm	-	-	-	RSSS-5255	RSSS-5257	RSSS-5259

Add mod. code -R to kit number for cold applied tubing Rayvolve.

Add mod. code -P to kit number for heat shrink tubing with phase marking.

Screened Separable Elbow Connection System 400 amp - 24kV

RSES-54

Raychem RSES screened, separable elbow connectors are designed to connect single and three core polymeric cables to medium voltage gas insulated switchgear and other equipment using CENELEC bushings specified for 400 A up to 24 kV.

Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, RSES elbow connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross sections from 25 to 240 mm². The overall and cut back dimensions are designed to take

up minimum space in the terminal box. RSES elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap.

After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions. A separable mounting system ensures easy installation of the connector onto the bushing. All kits include high performance multi-range mechanical or deep indent compression lugs matching the design of the RSES elbow connector.



Selection table

Screened separable elbow connection system with deep indent compression lugs

Catalogue Reference	Cross Section	12kV Dia. Core Insulation
	(mm ²)	(mm)
RSES-5460	25	12.7 - 25.0
RSES-5461	35	12.7 - 25.0
RSES-5462	50	12.7 - 25.0
RSES-5463	70	12.7 - 25.0
RSES-5464	95	12.7 - 25.0
RSES-5465	120	12.7 - 25.0
RSES-5476	150	21.2 - 34.6
RSES-5477	185	21.2 - 34.6
RSES-5478	240	21.2 - 34.6

Catalogue Reference	Cross Section	24kV Dia. Core Insulation
	(mm ²)	(mm)
RSES-5460	25	12.7 - 25.0
RSES-5461	35	12.7 - 25.0
RSES-5462	50	12.7 - 25.0
RSES-5463	70	12.7 - 25.0
RSES-5474	95	21.2 - 34.6
RSES-5475	120	21.2 - 34.6
RSES-5476	150	21.2 - 34.6
RSES-5477	185	21.2 - 34.6
RSES-5478	240	21.2 - 34.6

Screened Separable Elbow Connection System 400 amp - 36kV

RSES-64

Raychem RSES screened, separable elbow connectors are designed to connect single- and three-core polymeric cables to medium voltage gas insulated switchgear and other equipment using CENELEC bushings Type "B" specified for 400 A up to 36 kV.

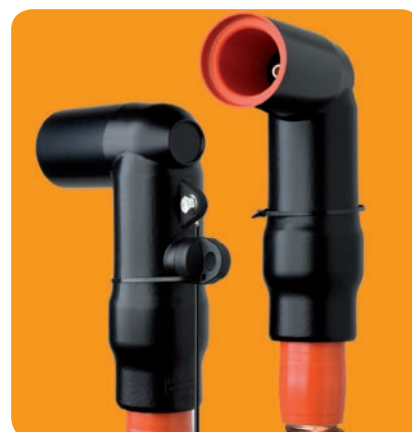
Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, RSES elbow connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross sections from 50 to 300 mm². The overall and cut-back dimensions are designed to take up minimum space in the terminal

box. RSES elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap.

After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions.

A separable mounting system ensures easy installation of the connector onto the bushing.

All kits include high performance multi-range mechanical lugs matching the design of the RSES elbow connector.



Selection Table

Screened separable elbow connection system with mechanical lugs and shear bolts

Catalogue Reference	Cross Section	24kV Dia. Core Insulation
	(mm ²)	(mm)
RSES-6451	70 - 95	22.4 - 35.5
RSES-6452	95 - 240	22.4 - 35.5
RSES-6454	185 - 300	22.4 - 35.5

Catalogue Reference	Cross Section	36kV Dia. Core Insulation
	(mm ²)	(mm)
RSES-6451	50 - 95	22.4 - 35.5
RSES-6452	95 - 150	22.4 - 35.5
RSES-6453	120 - 240	28.9 - 42.0
RSES-6455	185 - 300	28.9 - 42.0

Screened Separable Elbow Connection System 630 / 800 amp - 24kV

RSTI-58

Raychem RSTI-58 screened separable connectors are designed to connect single- and three-core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings type "C" specified for 630/1250 A up to 24 kV.

Made of a highly modified silicone rubber and protected by a thin-walled outer conductive screen connected to earth, RSTI-58 connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 25 to 400 mm². The overall and cut-back dimensions are designed to take up minimum space in the

terminal box. RSTI-58 connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap.

After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions.

A separable mounting system ensures easy installation of the connector onto the bushing.

All kits include high performance multi-range mechanical or DIN compression lugs matching the design of the RSTI-58 connector.



Selection table

Screened separable connection system with DIN compression lugs

Catalogue Reference AL	Catalogue Reference CU	Cross Section (mm ²)	12kV Dia. Core Insulation (mm)
RSTI-5810	RSTI-5830	25	12.7 - 25.0
RSTI-5811	RSTI-5831	35	12.7 - 25.0
RSTI-5812	RSTI-5832	50	12.7 - 25.0
RSTI-5813	RSTI-5833	70	12.7 - 25.0
RSTI-5814	RSTI-5834	95	12.7 - 25.0
RSTI-5815	RSTI-5835	120	12.7 - 25.0
RSTI-5826	RSTI-5846	150	21.3 - 34.6
RSTI-5827	RSTI-5847	185	21.3 - 34.6
RSTI-5828	RSTI-5848	240	21.3 - 34.6
RSTI-5829	RSTI-5849	300	21.3 - 34.6

Catalogue Reference AL	Catalogue Reference CU	Cross Section (mm ²)	24kV Dia. Core Insulation (mm)
RSTI-5810	RSTI-5830	25	12.7 - 25.0
RSTI-5811	RSTI-5831	35	12.7 - 25.0
RSTI-5812	RSTI-5832	50	12.7 - 25.0
RSTI-5813	RSTI-5833	70	12.7 - 25.0
RSTI-5824	RSTI-5844	95	21.3 - 34.6
RSTI-5825	RSTI-5845	120	21.3 - 34.6
RSTI-5826	RSTI-5846	150	21.3 - 34.6
RSTI-5827	RSTI-5847	185	21.3 - 34.6
RSTI-5828	RSTI-5848	240	21.3 - 34.6
RSTI-5829	RSTI-5849	300	21.3 - 34.6

Screened separable connection system with mechanical lugs and shear bolts

Catalogue Reference	Cross Section (mm ²)	12kV Dia. Core Insulation (mm)
RSTI-5851	35 - 95	12.7 - 25.0
RSTI-5852	95 - 120	12.7 - 25.0
RSTI-5853	95 - 240	17.0 - 32.6
RSTI-5854	150 - 240	21.3 - 34.6
RSTI-5855	185 - 300	21.3 - 34.6
RSTI-5856	240 - 400	21.3 - 34.6

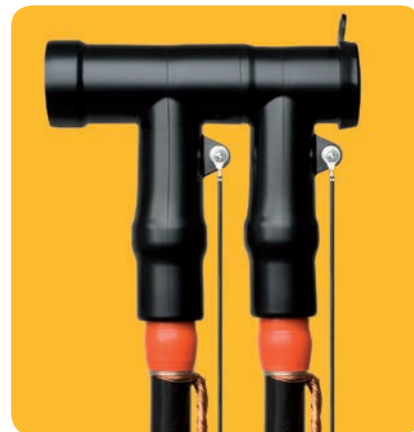
Catalogue Reference	Cross Section (mm ²)	24kV Dia. Core Insulation (mm)
RSTI-5851	35 - 70	12.7 - 25.0
RSTI-5853	95 - 185	17.0 - 32.6
RSTI-5854	95 - 240	21.3 - 34.6
RSTI-5855	185 - 300	21.3 - 34.6

Screened Separable Coupling System 630 / 800 amp - 24kV

RSTI-CC-58

Features

- The screened coupling connector is designed to mate with the rear end of the base screened connector system RSTI-58 designed for 24 kV.
- The insulation of the coupling connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and nonflammability.
- A thin walled screen is permanently bonded onto the insulation and protects the connection system against accidental contact.
- The screened coupling connector need not be removed for oversheath testing.
- The combination of screened connector and coupling connector exceeds CENELEC HD 629.1 S2 requirements, which include BS, VDE and other international specifications.
- The combination of screened connector and coupling connector fits 630/1250 A bushings type "C" as specified by EN50180 and EN50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross-sections from 25 to 400 mm².
- Conductor connection with mechanical or DIN lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test and earth connection.
- Complete kit including lugs for easier installation and storage.



Selection Table

Screened separable coupling connection system with mechanical lugs and shear bolts

Catalogue Reference	Cross Section	12kV Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-5851	35 - 95	12.7 - 25.0
RSTI-CC-5852	95 - 120	12.7 - 25.0
RSTI-CC-5853	95 - 240	17.0 - 32.6
RSTI-CC-5854	150 - 240	21.3 - 34.6
RSTI-CC-5855	185 - 300	21.3 - 34.6
RSTI-CC-5856	240 - 400	21.3 - 34.6

Catalogue Reference	Cross Section	24kV Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-5851	35 - 70	12.7 - 25.0
RSTI-CC-5853	95 - 185	17.0 - 32.6
RSTI-CC-5854	95 - 240	21.3 - 34.6
RSTI-CC-5855	185 - 300	21.3 - 34.6

Screened separable coupling connection system with DIN compression lugs

Catalogue Reference AL	Catalogue Reference CU	Cross Section	12kV Dia. Core Insulation
		(mm ²)	(mm)
RSTI-CC-5810	RSTI-CC-5830	25	12.7 - 25.0
RSTI-CC-5811	RSTI-CC-5831	35	12.7 - 25.0
RSTI-CC-5812	RSTI-CC-5832	50	12.7 - 25.0
RSTI-CC-5813	RSTI-CC-5833	70	12.7 - 25.0
RSTI-CC-5814	RSTI-CC-5834	95	12.7 - 25.0
RSTI-CC-5815	RSTI-CC-5835	120	12.7 - 25.0
RSTI-CC-5826	RSTI-CC-5846	150	21.3 - 34.6
RSTI-CC-5827	RSTI-CC-5847	185	21.3 - 34.6
RSTI-CC-5828	RSTI-CC-5848	240	21.3 - 34.6
RSTI-CC-5829	RSTI-CC-5849	300	21.3 - 34.6

Catalogue Reference AL	Catalogue Reference CU	Cross Section	24kV Dia. Core Insulation
		(mm ²)	(mm)
RSTI-CC-5810	RSTI-CC-5830	25	12.7 - 25.0
RSTI-CC-5811	RSTI-CC-5831	35	12.7 - 25.0
RSTI-CC-5812	RSTI-CC-5832	50	12.7 - 25.0
RSTI-CC-5813	RSTI-CC-5833	70	12.7 - 25.0
RSTI-CC-5824	RSTI-CC-5844	95	21.3 - 34.6
RSTI-CC-5825	RSTI-CC-5845	120	21.3 - 34.6
RSTI-CC-5826	RSTI-CC-5846	150	21.3 - 34.6
RSTI-CC-5827	RSTI-CC-5847	185	21.3 - 34.6
RSTI-CC-5828	RSTI-CC-5848	240	21.3 - 34.6
RSTI-CC-5829	RSTI-CC-5849	300	21.3 - 34.6

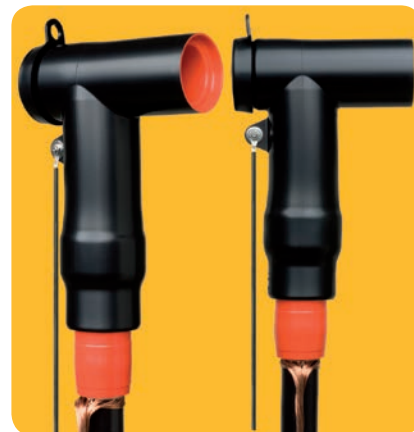
Screened Separable Connection System 630 / 800 amp - 42kV

RSTI-68

Raychem RSTI screened separable connectors are designed to connect single and three core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings Type C₁=630 A and C₂=1250 A, specified up to 42 kV.

Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, RSTI connectors are equally suited for indoor and outdoor installation.

Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 35 to 400 mm². The overall and cut back dimensions are designed to take up minimum space in the terminal box. RSTI connectors are equipped with a capacitive test point for determining whether the circuit is energised. A conductive cap protects this test point.



Selection Table

Screened separable connection system 36 kV and 42 kV with mechanical lugs and shear bolts

Catalogue Reference	Cross Section	24kV Dia. Core Insulation
	(mm ²)	(mm)
RSTI-6851	35 - 95	22.4 - 35.5
RSTI-6852	95 - 150	22.4 - 35.5
RSTI-6853	120 - 240	28.9 - 42.0
RSTI-6855	185 - 300	28.9 - 42.0
RSTI-6856	240 - 400	28.9 - 42.0

Screened separable connection system 36 kV and 42 kV with DIN compression lugs

Catalogue Reference AL	Catalogue Reference CU	Cross Section	12kV Dia. Core Insulation
		(mm ²)	(mm)
RSTI-6811	RSTI-6821	50	22.4 - 35.5
RSTI-6812	RSTI-6822	70	22.4 - 35.5
RSTI-6813	RSTI-6823	95	22.4 - 35.5
RSTI-6814	RSTI-6824	120	22.4 - 35.5
RSTI-6815	RSTI-6825	150	28.9 - 42.0
RSTI-6816	RSTI-6826	185	28.9 - 42.0
RSTI-6817	RSTI-6827	240	28.9 - 42.0
RSTI-6818	RSTI-6828	300	28.9 - 42.0

Screened Separable Coupling Connection System 630 / 800 amp - 42kV

RSTI-CC-68

Features

- The screened coupling connector is designed to mate with the rear end of the base screened connector system RSTI designed for 42 kV.
- The insulation of the coupling connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.
- A thin walled screen is permanently bonded onto the insulation and protects the connection system against accidental contact.
- The screened coupling connector need not be removed for oversheath testing.
- The combination of screened connector and coupling connector exceeds CENELEC HD 629.1 S1 requirements, which include BS, VDE and other international specifications.
- Design of combination fits 630 A and 1250 A bushings (Interface "C1" and "C2") as specified by EN 50180 and EN 50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross-sections from 35 to 400 mm².
- Conductor connection with mechanical or DIN lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test and earth connection.
- Complete kit including lugs for easier installation and storage



Selection Table

Screened separable coupling connection system 36 kV and 42 kV with mechanical lugs and shear bolts

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-6851	35 - 95	22.4 - 35.5
RSTI-CC-6852	95 - 120	22.4 - 35.5
RSTI-CC-6853	150 - 240	28.9 - 42.0
RSTI-CC-6855	300	28.9 - 42.0
RSTI-CC-6856	240 - 400	28.9 - 42.0

Screened separable coupling connection system 36 kV and 42 kV with DIN compression lugs

Catalogue Reference AL	Catalogue Reference CU	Cross Section	Dia. Core Insulation
		(mm ²)	(mm)
RSTI-CC-6811	RSTI-CC-6821	50	22.4 - 35.5
RSTI-CC-6812	RSTI-CC-6822	70	22.4 - 35.5
RSTI-CC-6813	RSTI-CC-6823	95	22.4 - 35.5
RSTI-CC-6814	RSTI-CC-6824	120	22.4 - 35.5
RSTI-CC-6815	RSTI-CC-6825	150	28.9 - 42.0
RSTI-CC-6816	RSTI-CC-6826	185	28.9 - 42.0
RSTI-CC-6817	RSTI-CC-6827	240	28.9 - 42.0
RSTI-CC-6818	RSTI-CC-6828	300	28.9 - 42.0

Screened Separable Connection System 1250 amp - 42kV

**RSTI-
39/59/69**

Raychem RSTI screened separable connectors are designed to connect single and three core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings Type C₁=630 A and C₂=1250 A, specified up to 42 kV.

Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, Raychem RSTI connectors are equally suited for indoor and outdoor application.

Supporting a wide application range, the design incorporates one body and three stress cone adapters to cover all cross-sections from 400 to 800 mm² and all voltage classes from 12 to 42 kV. The overall and cut back dimensions are designed to take up minimum space in the terminal box.

Raychem RSTI connectors are equipped with a capacitive test point for determining whether the circuit is energised. A conductive cap protects this test point.



Selection Table

Screened separable connection system 12 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-3951	400	28.9 - 36.4
RSTI-3952	500	28.9 - 36.4
RSTI-3953	630	34.0 - 45.4
RSTI-3954	800	34.0 - 45.4

Screened separable connection system 24 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-5951	400	34.0 - 45.4
RSTI-5952	500	34.0 - 45.4
RSTI-5953	630	39.1 - 59.0
RSTI-5954	800	39.1 - 59.0

Screened separable connection system 36 & 42 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-6951	400	34.0 - 45.4
RSTI-6952	500 - 630	39.1 - 59.0
RSTI-6953	800	39.1 - 59.0

Screened Separable Coupling Connection System for Large Cross Sections 1250 amp - 42kV

RSTI-CC-39/59/69

Features

- The screened coupling connector is designed to mate with the rear end of the base screened connector system RSTI designed for 42 kV.
- The insulation of the coupling connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.
- A thin walled screen is permanently bonded onto the insulation and protects the connection system against accidental contact.
- The screened coupling connector need not be removed for oversheath testing.
- The combination of screened connector and coupling connector exceeds CENELEC HD 629.1 S1 requirements, which include BS, VDE and other international specifications.
- Design of combination fits 630 A and 1250 A bushings (Interface "C1" and "C2") as specified by EN 50180 and EN 50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross-sections from 400 to 800 mm².
- Conductor connection with mechanical lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test and earth connection.
- Complete kit including lugs for easier installation and storage.



Selection Table

Screened separable connection system 12 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-3951	400	28.9 - 36.4
RSTI-CC-3952	500	28.9 - 36.4
RSTI-CC-3953	630	34.0 - 45.4
RSTI-CC-3954	800	34.0 - 45.4

Screened separable connection system 24 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-5951	400	34.0 - 45.4
RSTI-CC-5952	500	34.0 - 45.4
RSTI-CC-5953	630	39.1 - 59
RSTI-CC-5954	800	39.1 - 59

Screened separable connection system 36 & 42 kV with mechanical lugs

Catalogue Reference	Cross Section	Dia. Core Insulation
	(mm ²)	(mm)
RSTI-CC-6951	400	34.0 - 45.4
RSTI-CC-6952	500 - 630	39.1 - 59
RSTI-CC-6953	800	39.1 - 59

Screened Separable Surge Arrester - 5kA

RSTI-SA-05

The screened gapless surge arrester is a “T”-shaped product. It is designed for direct connection onto outer cone bushings in accordance to EN50180 or EN50181 with interface type “C” or for parallel connection mating to the rear entry of the base screened connector system RSTI-58 designed for system voltage up to 24 kV.

The insulation of the screened surge arrester is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.

A thin walled screen is permanently bonded onto the insulation and protects the connection system against unintentional contact.

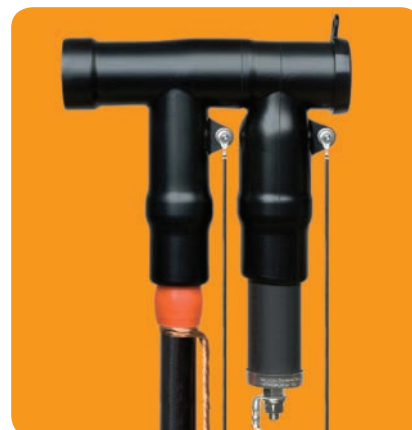
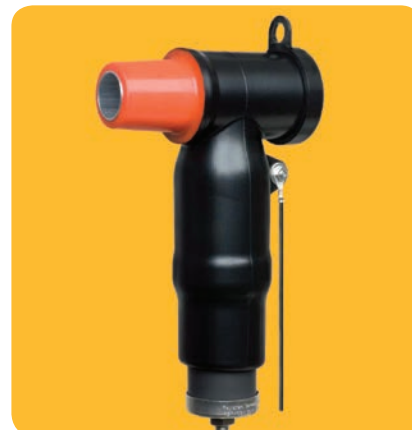
The active part is a metal oxide arrester which meets the requirements of IEC-60099-4 for separable and dead front arresters.

The combination of screened connector and surge arrester exceeds CENELEC HD 629.1 S1 requirements, which includes BS, VDE and other international specifications.

Easily accessible rear plug with capacitive test point.

Few accessories required for system test and earth connection.

Complete kit including screened surge arrester, threaded pin and earth lead for three phases facilitates installation and storage.



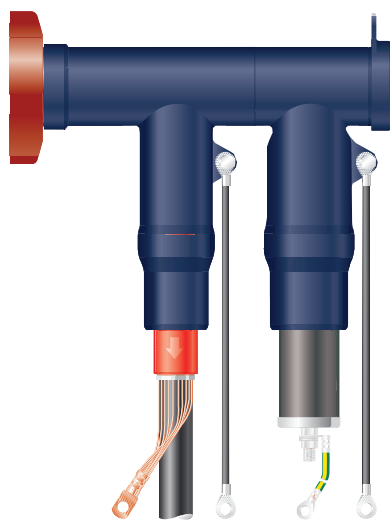
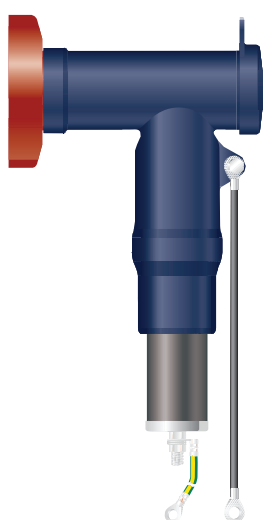
Standalone Arrester

Catalogue Reference	Voltage Class	Length
	(kV)	(mm)
RSTI-58SA1205	12	285
RSTI-58SA2405	24	400

Piggy Back Arrester*

Catalogue Reference	Voltage Class	Length
	(kV)	(mm)
RSTI-CC-58SA1205	12	285
RSTI-CC-58SA2405	24	400

*Can be used with RSTI-58 Elbows



Screened Separable Surge Arrester - 10kA

RSTI-SA-10

The screened gapless surge arrester is a “T”-shaped product. It is designed for direct connection onto outer cone bushings in accordance to EN50180 or EN50181 with interface type “C” or for parallel connection mating to the rear entry of the base screened connector system RSTI designed for system voltage up to 41 kV.

The insulation of the screened surge arrester is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.

A thin walled screen is permanently bonded onto the insulation and protects the connection system against unintentional contact.

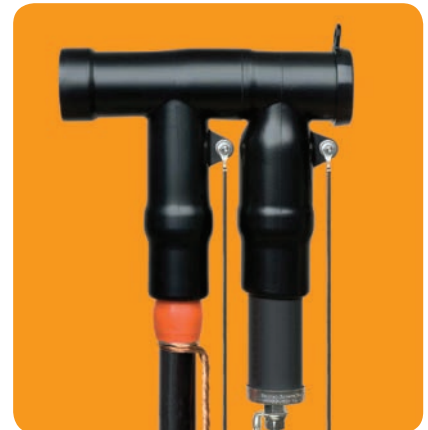
The active part is a metal oxide arrester which meets the requirements of IEC-60099-4 for separable and dead-front arresters.

The combination of screened connector and surge arrester exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.

Easily accessible rear plug with capacitive test point.

Few accessories required for system test and earth connection.

Complete kit including screened surge arrester, threaded pin and earth lead for three phases facilitates installation and storage.

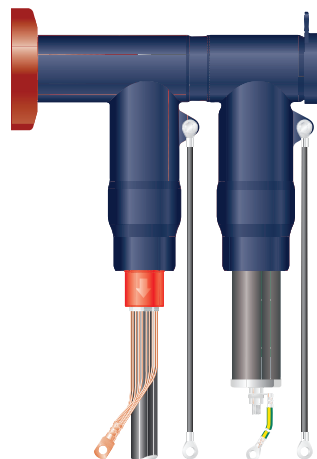
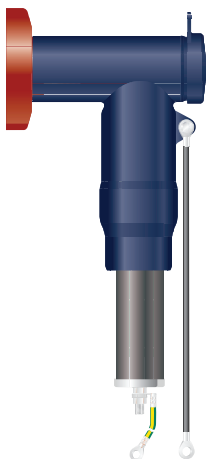


Standalone Arrester

Catalogue Reference	Voltage Class	Length
	(kV)	(mm)
RSTI-68SA1210	12	285
RSTI-68SA2410	24	400
RSTI-68SA3310	33	520

Piggy Back Arrester

Catalogue Reference	Voltage Class	Notes
	(kV)	
RSTI-CC-68SA1210	12	1, 2, 3
RSTI-CC-68SA2410	24	1, 2, 4
RSTI-CC-68SA3310	33	5



Notes

- 1) Can be used as a piggy back on RSTI-58 type elbows
- 2) Can be used as a piggy back on RSTI-CC-58 type elbows
- 3) Can be used as a piggy back on RSTI-39 type elbows with the addition of support pin RSTI-SA-PIN
- 4) Can be used as a piggy back on RSTI-59 type elbows with the addition of support pin RSTI-SA-PIN
- 5) Can be used as a piggy back on RSTI-69 type elbows with the addition of support pin RSTI-SA-PIN