

PATTON & COOKE CO.

15 kV

CABLE COUPLERS

500 Amp 3 Power + 1 Ground + 1 Pilot

For higher voltage applications Patton & Cooke Co offers the 15 kV, 500 Amp series trailing cable coupler. A rugged and dependable performer, the 15 kV coupler can be configured for interchangeability with other North American couplers. Using our conversion kits, update your threaded body couplers to Patton & Cooke quick flip style in just a few minutes. With its compact and front-end removable contact design, the 15 kV coupler can easily be rebuilt for longer life and long term cost savings.

#### DESIGN:

**Body:** Aluminum  
**Insulator Characteristics:** Individual Tubes  
**Voltage:** 15 kV  
**Current Rating:** 500 Amp  
**Cable Range:** 0.82"-3.54" (21 mm - 90 mm)  
**IP Rating:** 67

#### OPTIONS:

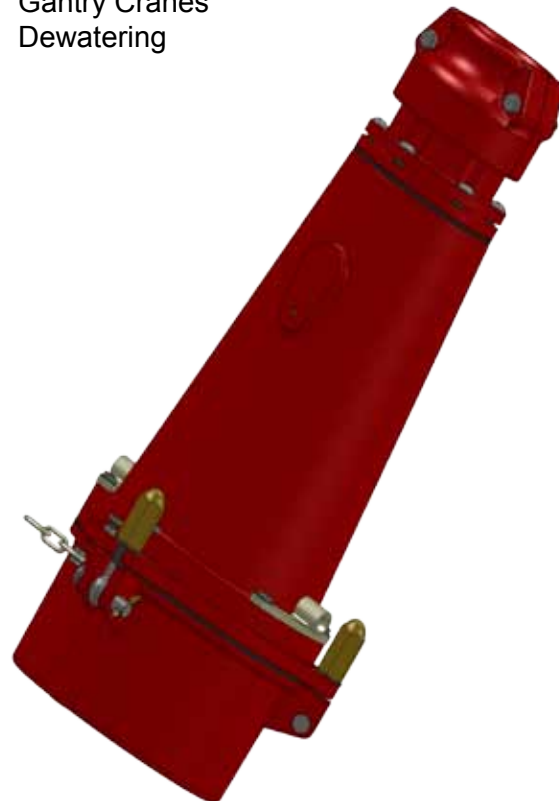
- Powder Coating
- Junction Box
- Closing Tool
- Optical Fiber/Lan Data Channel Support
- Custom Contact Arrangements
- Mounting Brackets
- Light Rings
- Live End Covers
- Shorting Caps

#### APPLICABLE TEST STANDARD:

- M421
- IEEE 386

#### APPLICATIONS:

- Mining (Shovels, Draglines)
- Shore to Ship
- Tunneling
- Gantry Cranes
- Dewatering



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email: [info@pattonandcooke.com](mailto:info@pattonandcooke.com)

## PRODUCT FEATURES:



- Easy maintenance with front end removable contacts
- Fire retardant insulators
- Corrosion-resistant, cast aluminum or epoxy powder coated bodies
- Secure three bolt, quick flip connection
- Medially-located grounded surface running through mounting plate
- Accepts conductors to 500 MCM (250 mm<sup>2</sup>) and diameters up to 3.5" (90 mm)
- Silver-plated male and female phase contacts
- Weatherproof covers

## 500 AMP COUPLER & JUNCTION BOX

| Illustration (not to scale)       | Coupler Rating (A) | Catalogue Number   | Dimensions      |                 |                 |               |               | Weight              |
|-----------------------------------|--------------------|--|-----------------|-----------------|-----------------|---------------|---------------|---------------------|
|                                   |                    |  | A               | B               | C               | D             | E             |                     |
| <b>CABLE MOUNT MALE</b><br>       | 500                | <b>C150F1003</b><br><b>C150F1004</b><br><b>C150F1005</b><br><b>C150F1006</b> | 20 ¼"<br>514 mm | 10 ½"<br>267 mm | 24 ½"<br>622 mm |               |               | 38.0 lb<br>17.0 kg  |
| <b>EQUIPMENT MOUNT MALE</b><br>   | 500                | <b>C150F1007</b>   | 4 ¾"<br>121 mm  | 12 ¼"<br>311 mm | 9"<br>229 mm    | 11"<br>279 mm | 1 ½"<br>38 mm | 32.0 lb<br>14.5 kg  |
| <b>CABLE MOUNT FEMALE</b><br>     | 500                | <b>C150F2005</b><br><b>C150F2006</b><br><b>C150F2007</b><br><b>C150F2008</b> | 24"<br>610 mm   | 11 ½"<br>292 mm | 27"<br>686 mm   |               |               | 38.0 lb<br>17.0 kg  |
| <b>EQUIPMENT MOUNT FEMALE</b><br> | 500                | <b>C150F2009</b>   | 5 ¼"<br>133 mm  | 12 ¼"<br>311 mm | 8 ¼"<br>210 mm  | 11"<br>279 mm | 4"<br>102 mm  | 27.0 lb<br>12.3 kg  |
| <b>JUNCTION BOX</b><br>           | 500                | <b>C150F3002</b>   | 16 ¼"<br>413 mm | 14 ¼"<br>362 mm | 32"<br>813 mm   |               |               | 100.0 lb<br>45.0 kg |



## 15 kV TERMINATION KITS:

| Patton & Cooke Catalogue Number | Approximate Conductor Range for 15kV SHD-GC Cables | Insulation O.D. |
|---------------------------------|--|-----------------|
| 11Y08/15-A                      | #4 - 3/0 AWG                                       | 15-25 mm        |
|                                 |  | 0.591-0.984"    |
| 11Y08/15-B                      | 1/0 - 350 MCM                                      | 20-32 mm        |
|                                 |  | 0.787-1.259"    |
| 11Y08/15-C                      | 350 - 500 MCM                                      | 27-42 mm        |
|                                 |  | 1.063-1.654"    |



## 15 kV POTTING COMPOUND:



### GUROFLEX POTTING COMPOUND KITS

OS-J990-MV5 = 304 Sq. Inch Volume

### COMPOUND REQUIRED FOR COUPLER

C150F Series = 417 Sq. Inch Volume = 1.5 OS-J990-MV5

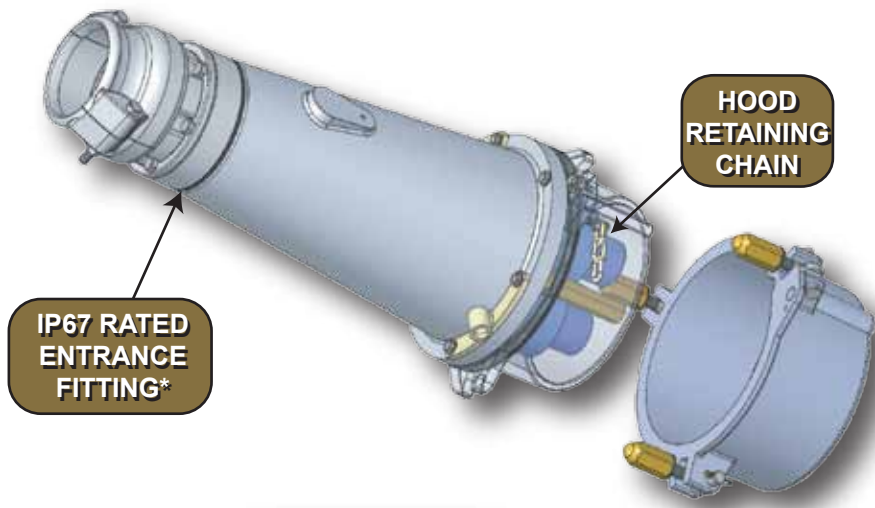
## 15 kV ENTRANCE FITTING GASKET KITS:

| Outside Cable Diameter |           | Catalogue Number | Outside Cable Diameter |           | Catalogue Number |
|------------------------|-----------|------------------|------------------------|-----------|------------------|
| (mm)                   | (in)      |                  | (mm)                   | (in)      |                  |
| 20.8-22.1              | 0.82-0.87 | C150F3004        | 51.1-53.8              | 2.01-2.12 | C150F3016        |
| 22.4-23.9              | 0.88-0.94 | C150F3005        | 54.1-57.2              | 2.13-2.25 | C150F3017        |
| 24.1-25.7              | 0.95-1.01 | C150F3006        | 57.4-60.2              | 2.26-2.37 | C150F3018        |
| 25.9-26.9              | 1.02-1.06 | C150F3007        | 60.5-63.5              | 2.38-2.50 | C150F3019        |
| 27.2-28.4              | 1.07-1.12 | C150F3008        | 63.8-66.5              | 2.51-2.62 | C150F3020        |
| 28.7-31.8              | 1.13-1.25 | C150F3009        | 66.8-69.9              | 2.63-2.75 | C150F3021        |
| 32.0-34.8              | 1.26-1.37 | C150F3010        | 70.1-72.9              | 2.76-2.87 | C150F3022        |
| 35.0-38.1              | 1.38-1.50 | C150F3011        | 73.2-76.2              | 2.88-3.00 | C150F3023        |
| 38.4-41.1              | 1.51-1.62 | C150F3012        | 76.5-79.2              | 3.01-3.12 | C150F3024        |
| 41.4-44.5              | 1.63-1.75 | C150F3013        | 79.5-82.6              | 3.13-3.25 | C150F3025        |
| 44.7-47.5              | 1.76-1.87 | C150F3014        | 82.8-85.6              | 3.26-3.37 | C150F3026        |
| 47.8-50.8              | 1.88-2.00 | C150F3015        | 85.9-88.9              | 3.38-3.50 | C150F3027        |

### SELECTION REMINDERS:

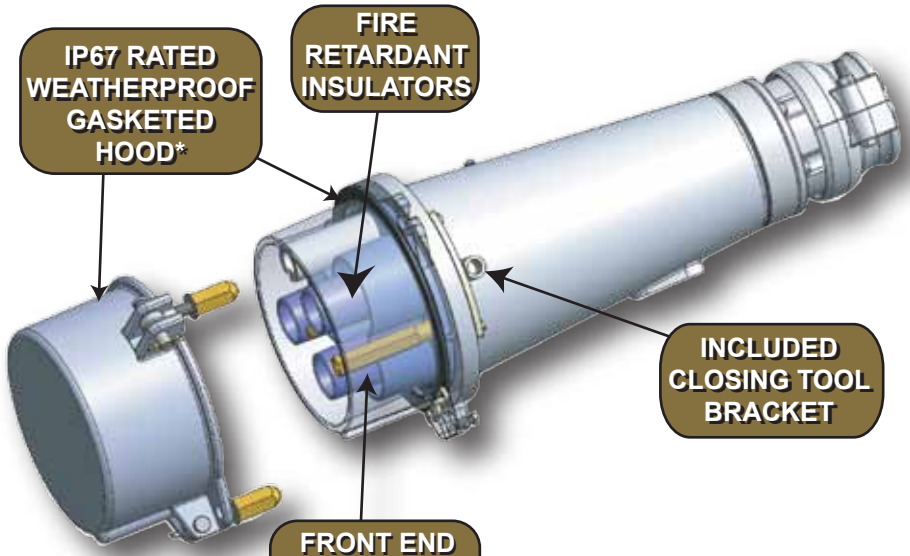
1. Each kit consists of 2 clamp inserts and 1 cable gasket.
2. Choose the kit to fit the outside diameter of the cable.
3. Make sure that the O/D of the kit chosen falls within the outside cable diameter range of the selected cable mounted coupler.





IP67 RATED ENTRANCE FITTING\*

HOOD RETAINING CHAIN

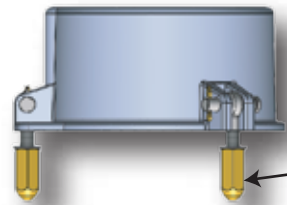


IP67 RATED WEATHERPROOF GASKETED HOOD\*

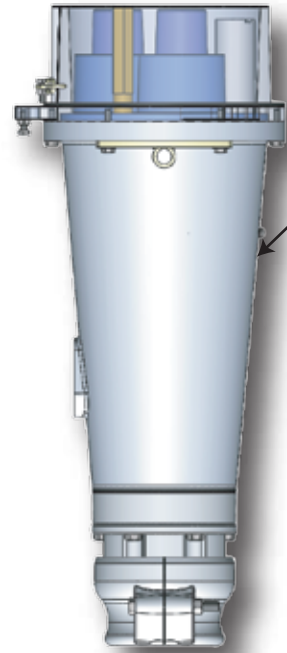
FIRE RETARDANT INSULATORS

FRONT END SERVICEABLE CONTACTS

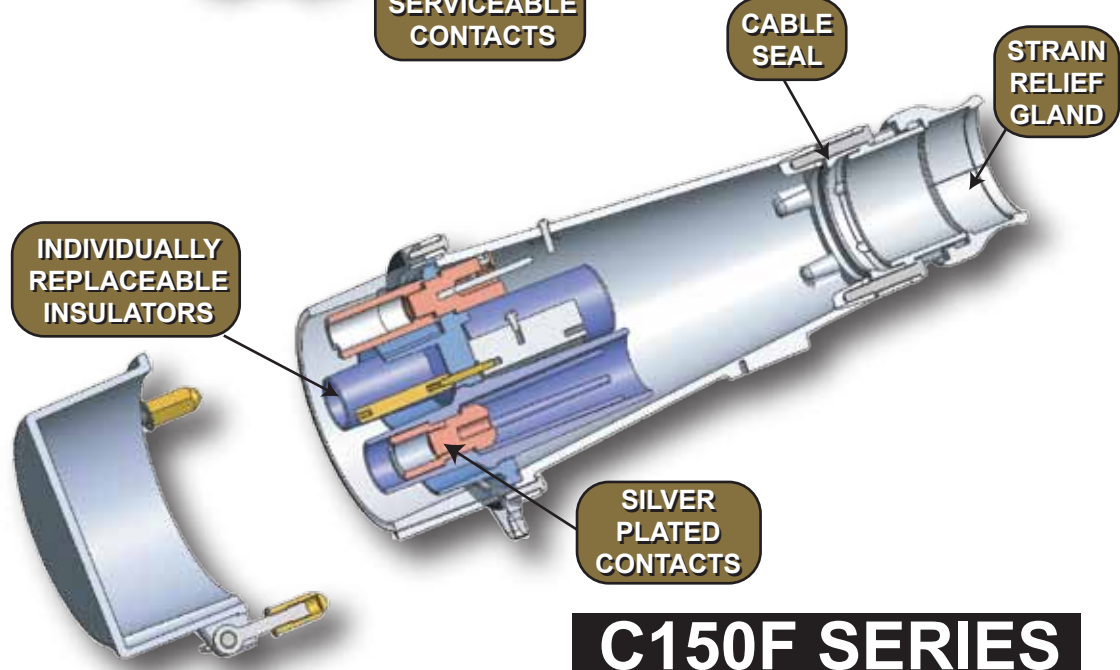
INCLUDED CLOSING TOOL BRACKET



QUICK FLIP RETAINING BOLTS



HIGH STRENGTH ALUMINUM HOUSING



CABLE SEAL

STRAIN RELIEF GLAND

INDIVIDUALLY REPLACEABLE INSULATORS

SILVER PLATED CONTACTS

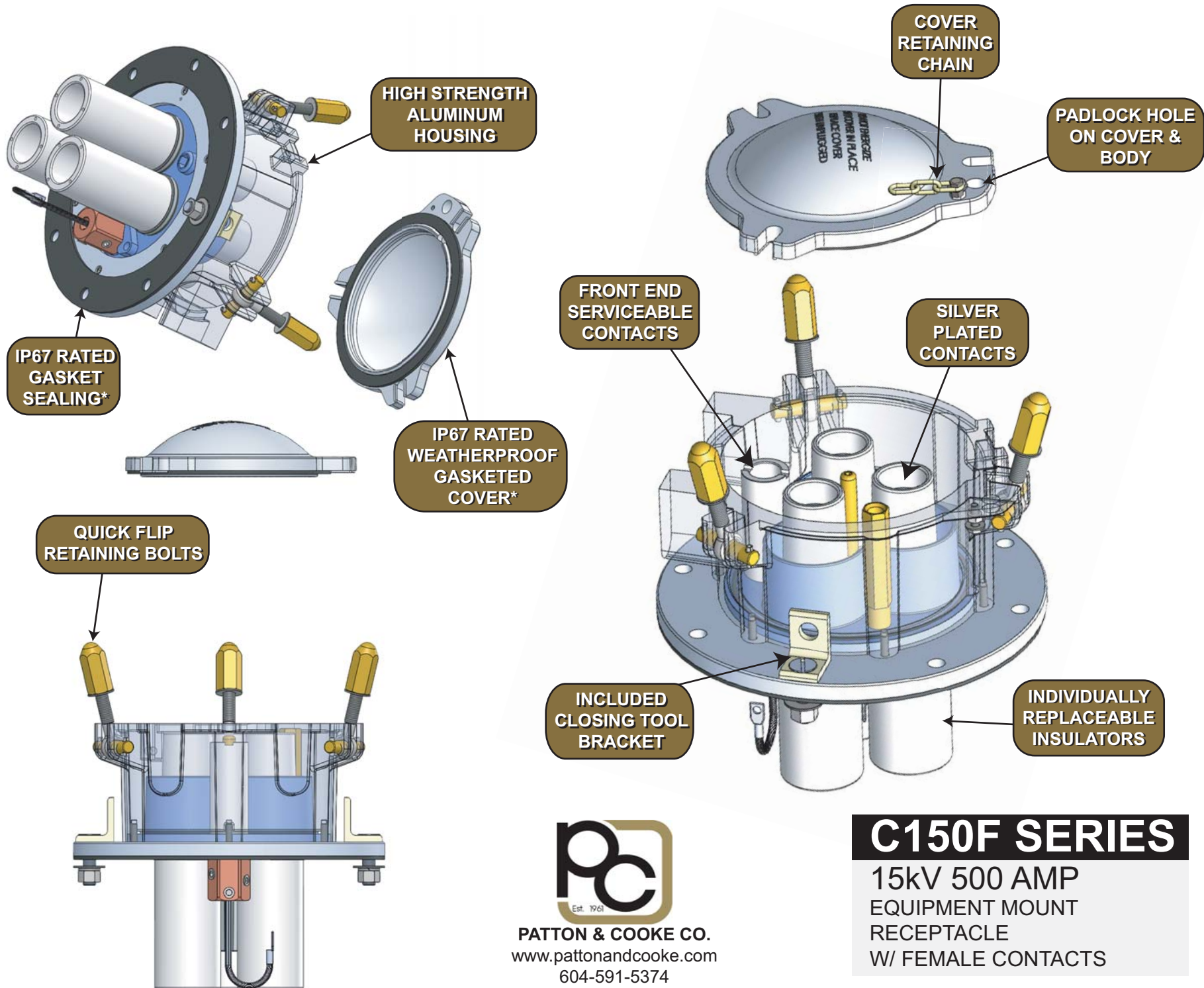


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# C150F SERIES

15kV 500 AMP  
 CABLE MOUNT PLUG  
 W/ MALE CONTACTS

\*IP67 rating achievable only with proper installation of sealing components. Contact factory for further details on proper installation.



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# 15 kV COUPLERS C150 SERIES

**C150F - 500 AMP MALE & FEMALE COUPLERS  
C150F - 500 AMP JUNCTION BOX**

## INDEX

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**15 kV COUPLERS  
 C150 SERIES**

**500 AMP COUPLER CATALOGUE NUMBERS  
 Contact Structure: 3 Power + 1 Ground + 1 Pilot**

| Coupler Rating (A) | Male/Female | Mounting Options | Outside Cable Diameter |           | Catalogue Number   |
|--------------------|-------------|------------------|------------------------|-----------|--------------------|
|                    |             |                  | (mm)                   | (in)      |                    |
| 500                | M           | Cable Mount      | 20.8-47.5              | 0.82-1.87 | C150F1003 <u>x</u> |
|                    |             |                  | 47.8-60.2              | 1.88-2.37 | C150F1004 <u>x</u> |
|                    |             |                  | 60.5-69.9              | 2.38-2.75 | C150F1005 <u>x</u> |
|                    |             |                  | 70.1-88.9              | 2.76-3.50 | C150F1006 <u>x</u> |
|                    | F           |                  | 20.8-47.5              | 0.82-1.87 | C150F2005 <u>x</u> |
|                    |             |                  | 47.8-60.2              | 1.88-2.37 | C150F2006 <u>x</u> |
|                    |             |                  | 60.5-69.9              | 2.38-2.75 | C150F2007 <u>x</u> |
|                    |             |                  | 70.1-88.9              | 2.76-3.50 | C150F2008 <u>x</u> |
|                    | M           | Equipment Mount  | N/A                    |           | C150F1007 <u>x</u> |
| F                  | N/A         |                  | C150F2009 <u>x</u>     |           |                    |

**ORDERING PROCEDURE:**

- Determine the following:
  - Male (Plug) or Female (Receptacle) contacts.
  - Cable or equipment mounting
- For equipment mounting, select catalogue number of coupler.
- For cable mounting, determine outside cable diameter and select catalogue number of coupler. Clamp inserts and cable gasket must be purchased separately as a kit for the entrance fitting, see Table B on page 2.
- Determine conductor size and substitute appropriate code from Table A on page 2 for “x” in the catalogue number.

Example: Male Plug, Cable Mount, #2 Cable, Outside Cable Diameter 2.54”

**Catalogue Number:** C150C1005F

**Entrance Fitting Gasket Kit:** C150F3020

**TABLE A: 500 AMP COUPLER CATALOGUE SUFFIX - x**

| Max. Cable Size SHD-GC 5 or 8 kV |       | x - Cat. No. Suffix | Max. Cable Size SHD-GC 5 or 8 kV |         | x - Cat. No. Suffix |
|----------------------------------|-------|---------------------|----------------------------------|---------|---------------------|
| (mm <sup>2</sup> )               | (AWG) |                     | (mm <sup>2</sup> )               | (AWG)   |                     |
| 34                               | #2    | F                   | 127                              | 250 MCM | M                   |
| 42                               | #1    | G                   | 152                              | 300 MCM | N                   |
| 54                               | 1/0   | H                   | 178                              | 350 MCM | O                   |
| 67                               | 2/0   | J                   | 203                              | 400 MCM | P                   |
| 85                               | 3/0   | K                   | 228                              | 450 MCM | Q                   |
| 107                              | 4/0   | L                   | 254                              | 500 MCM | R                   |

Available options refer to Table B on page 3. Available accessories refer to page 5.

All couplers and junction boxes are supplied with cover, attachment chain and provision for padlocking two mated couplers and/or covers. Termination kits and potting compound can be purchased separately, refer to page 5. Potting compound is also available as an option. Refer to Table C on page 3. Standard terminations for phase, pilot and ground conductors are designed for soldering. Potting compound is recommended for 15 kV couplers and junction boxes.



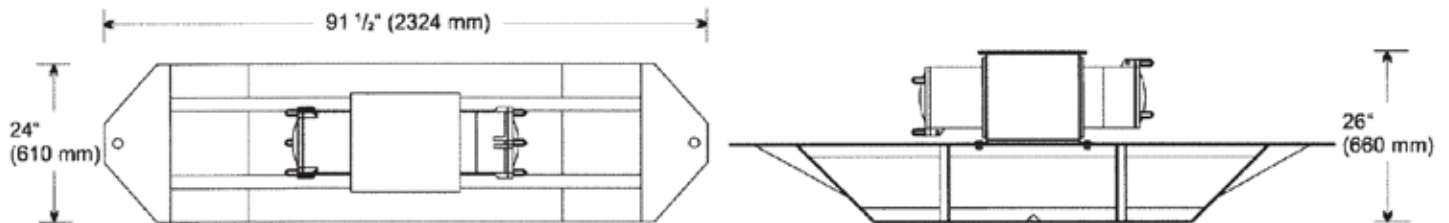
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**15 kV COUPLERS  
 C150 SERIES**

**500 AMP JUNCTION BOX CATALOGUE NUMBERS**

| Coupler Rating (A) | Description  | Mounting Options        | Catalogue Number                     |
|--------------------|--|-------------------------|--------------------------------------|
| 500                | Two female receptacles with phase transposing compartment. To join cables equipped with male plugs on both ends. | Less Skid<br>Skid Mount | <b>C150F3002</b><br><b>C150F3003</b> |



Available options refer to Table B page 3. Available accessories refer to page 5.

All couplers and junction boxes are supplied with cover, attachment chain and provision for padlocking two mated couplers and/or covers. Termination kits and potting compound can be purchased separately, refer to page 5. Potting compound is also available as an option. Refer to table C on page 3.

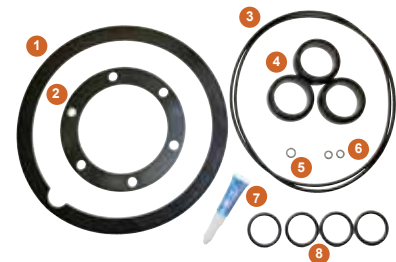
Standard terminations for phase, pilot and grounds conductors are designed for soldering.

Potting compound is recommended for 15 kV couplers and junction boxes.

**C150/C80 - 500 Amp Series**

Each Patton & Cooke GA-V195 Gasket Kit includes all the gaskets and seals required for any one C150 or C80F coupler series.

| C150F - 500 Amp Series & C80F - 500 Amp Series |   |
|--|---|
| 1. (1) Cover/Hood Gasket                       | 5. (1) Pilot Stem Gasket (Large Style)        |
| 2. (1) Entrance Fitting Gasket                 | 6. (2) Body Ground & Pilot Stem (Small Style) |
| 3. (2) Phase Insulator Plate Gasket            | 7. (1) Adhesive                               |
| 4. (3) Insulator Tube Seals                    | 8. (4) Phase & Ground Stem Gasket             |







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# 15 kV COUPLERS C150 SERIES

**TABLE C: 500 AMP COUPLER & JUNCTION BOX OPTIONS**

This table lists options that may be requested with this product class.

Use of this table is not required for standard configurations.

| Description   |                    |                        |
|---|--------------------|------------------------|
| <b>1. Corrosion Resistant Option</b><br>Includes: Hypalon Gaskets and Seals, all Stainless Steel Hardware and Extra Heavy Epoxy Coating.<br>Add to price of Epoxy Coating Option. |                    |                        |
| <b>2. Elbow Adaptor. Change right angle equipment to 45°.</b>   |                    |                        |
| <b>3. Entrance Fitting, Conduit Coupling.</b><br>Specify Size and Type.   |                    |                        |
| <b>4. Entrance Fitting, Steel Wire Armour Clamp.</b><br>Specify Size and Type.  |                    |                        |
| <b>5. Entrance Fitting, Teck Cable.</b><br>Specify Size and Type.   |                    |                        |
| <b>6. Electrostatic Application of Epoxy Powder Coating.</b><br><br>Available on:<br>Cable Mount<br>Equipment Mount<br>Junction Boxes   | Color/Code         |                        |
|   | <b>Blue (EB)</b>   | <b>Grey (EGR)</b>      |
|   | <b>Orange (EO)</b> | <b>Brown (EBR)</b>     |
|   | <b>White (EW)</b>  | <b>Black (EBK)</b>     |
|   | <b>Yellow (EY)</b> | <b>Violet (EV)</b>     |
|   | <b>Green (EG)</b>  | <b>Blue Grey (EBG)</b> |
|   | <b>Red (ER)</b>    |                        |
| <b>7. Ground Contacts (0-3) Specify:</b><br>One Additional, Two Additional, No Pilot (See Note 1)   |                    |                        |
| <b>8. Ground Lug, External</b>  |                    |                        |
| <b>9. Interlocks, Mechanical provision for (does not include interlocks, e.g. Kirk type)</b>  |                    |                        |
| <b>10. Leg Mounting, Three mounting feet.</b>   |                    |                        |
| <b>11. Live End Cover, Equipped with End-of-Line Diode.</b>   |                    |                        |
| <b>12. Neutral Contact, One isolated. Max. one extra.</b>   |                    |                        |
| <b>13. Pilot Contact, None.</b>   |                    |                        |
| <b>14. Pilot Contacts (0-4) Specify: One Additional, Two Additional, Three Additional (See Note 1)</b>  |                    |                        |
| <b>15. Potting Compound</b>   |                    |                        |

**SELECTION REMINDERS:**

1. Standard Contact Structure: 3 Power + 1 Ground + 1 Pilot
2. Additional ground contacts and/or additional pilot contacts may be selected as an option.

**ORDERING PROCEDURE (WITH OPTIONS):**

**Example:** 15 kV, male plug, cable mount, 2/0 cable, outside cable diameter 2.89", provision for mechanical interlock.

**Basic Catalogue Number:** C150F1006

**Gasket Kit Catalogue Number:** C150F3023

Provision for mechanical interlock

**Catalogue Number:** Will be assigned by Patton & Cooke at time of order entry. Contact factory if preassigned number is required. If other options are required which are not listed, please contact Patton & Cooke.

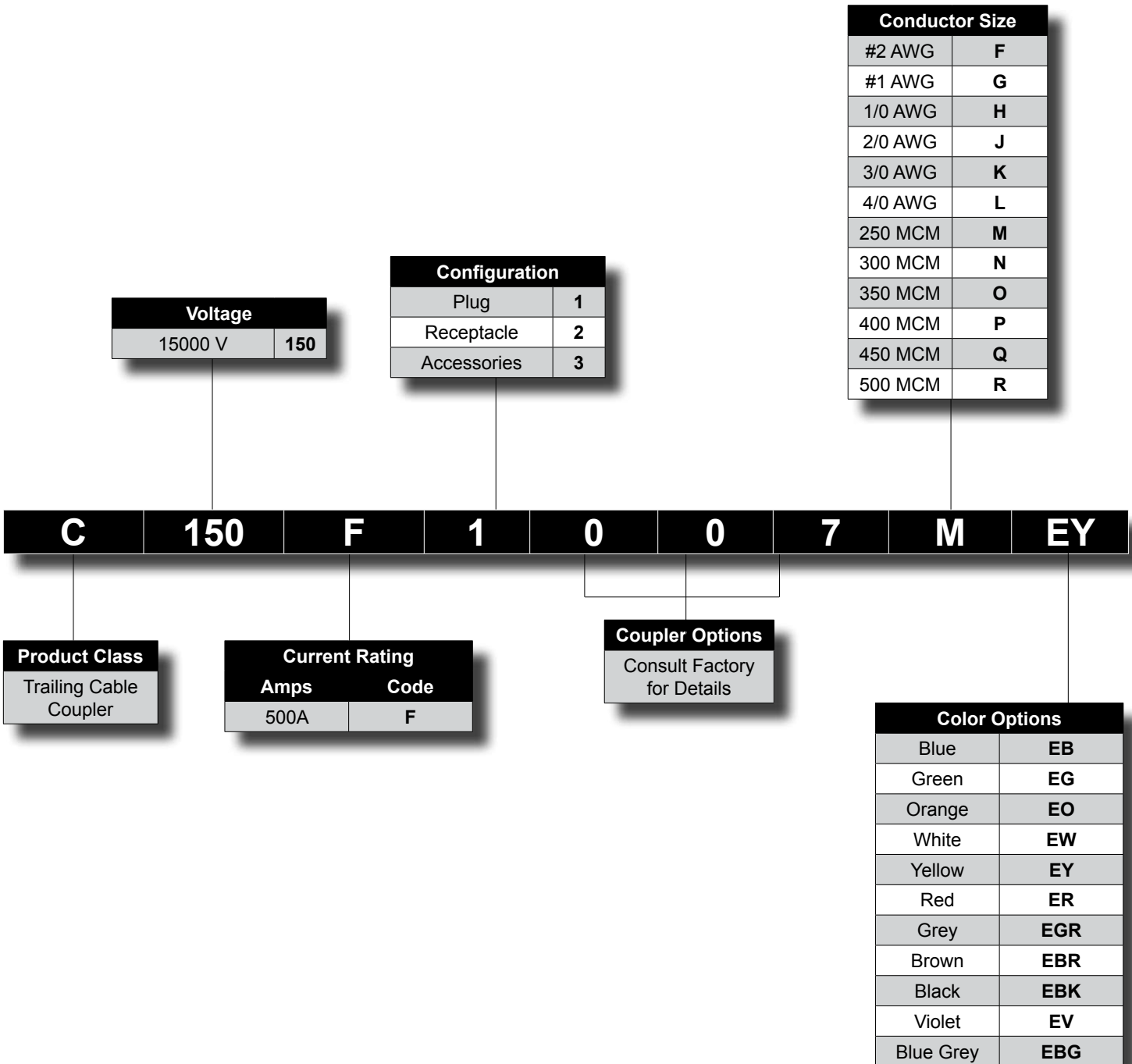


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# 15 kV COUPLERS C150 SERIES

## COUPLER CATALOGUE NUMBER COMBINATION GUIDE



| Voltage |     |
|---------|-----|
| 15000 V | 150 |

| Configuration |   |
|---------------|---|
| Plug          | 1 |
| Receptacle    | 2 |
| Accessories   | 3 |

| Conductor Size |   |
|----------------|---|
| #2 AWG         | F |
| #1 AWG         | G |
| 1/0 AWG        | H |
| 2/0 AWG        | J |
| 3/0 AWG        | K |
| 4/0 AWG        | L |
| 250 MCM        | M |
| 300 MCM        | N |
| 350 MCM        | O |
| 400 MCM        | P |
| 450 MCM        | Q |
| 500 MCM        | R |

**C 150 F 1 0 0 7 M EY**

| Product Class          |
|------------------------|
| Trailing Cable Coupler |

| Current Rating |      |
|----------------|------|
| Amps           | Code |
| 500A           | F    |

| Coupler Options             |
|-----------------------------|
| Consult Factory for Details |

| Color Options |     |
|---------------|-----|
| Blue          | EB  |
| Green         | EG  |
| Orange        | EO  |
| White         | EW  |
| Yellow        | EY  |
| Red           | ER  |
| Grey          | EGR |
| Brown         | EBR |
| Black         | EBK |
| Violet        | EV  |
| Blue Grey     | EBG |



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**15 kV COUPLERS  
 C150 SERIES**

**500 AMP COUPLER & JUNCTION BOX KITS & ACCESSORIES**

**CONVERSION KITS**

The kits listed below are designed to replace the threaded front body system of PLM, TJB, Ensign Hubble and Line Power 15 kV couplers with the Patton & Cooke 3 bolt, "quick flip" connection system. Both plug (male) and receptacle (female) must be converted to permit couplers to be joined. Each kit contains front body with 3 bolt, "quick flip" system, hood, chain and mounting hardware. These kits can be installed on PLM series 154, 155, 375, 415, 475, 515 and 575. PLM couplers fitted with these kits can be joined to Patton & Cooke C150 series couplers.

| Description                         | Catalogue Number |
|-------------------------------------|------------------|
| Kit for plug (male)                 | 11F-050          |
| Kit for receptacle (female)         | 11F-051          |
| Kit for one plug and one receptacle | 11F-050/051      |

**Note 1.** Conversion kits can be epoxy powder coated. Refer to Table B on page 3 for available colours.

**COUPLER/JUNCTION BOX SKID**

| Description           | Catalogue Number |
|-----------------------|------------------|
| Stone boat style skid | STA-015B         |

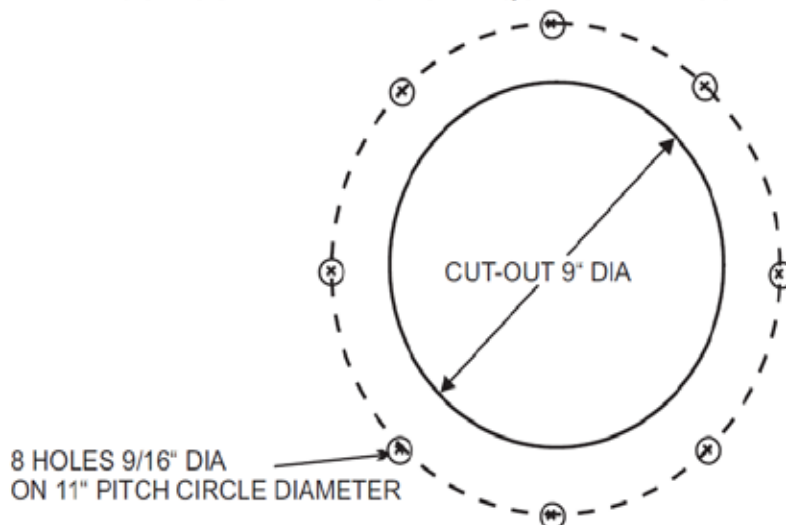
**POTTING COMPOUND**

| Description  | Catalogue Number |
|--|------------------|
| One (1) 3,330 gram kit is required for each cable mounted coupler. | OS-J990-MV5      |

**COUPLER TOOLS**

| Description   | Catalogue Number |
|---|------------------|
| Male contact installation tool  | 11F-028A         |
| Female contact installation tool  | 11F-028C         |
| Complete coupler assembly tool kit. Includes contact insertion tool, main phase nut installation tool, 7/16" A/F hex screwdriver, 3/16" A/F hex allen key and 10" adjustable wrench assembled complete in tool box. | C150F3001        |

**CUT-OUT DETAILS FOR EQUIPMENT MOUNT COUPLERS**



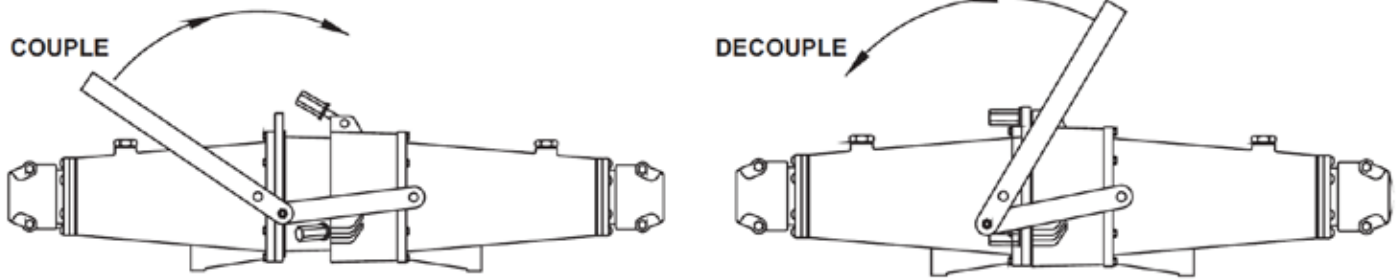


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**15 kV COUPLERS  
 C150 SERIES**

**CLOSING TOOL**



**CLOSING TOOL & HANDLE ASSEMBLY SHOWN IN USE ON 15 kV COUPLER**

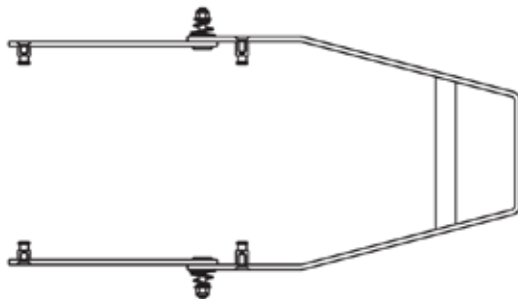
Assists in coupling and decoupling of 15 kV trailing cable couplers fitted with Patton & Cooke three bolt quick connection system.

By simply adding the bracket sets (C150F3049) to cable mounted plugs and receptacles, coupling and decoupling now becomes a simple, one person operation. No threads, no collars, no hassles.

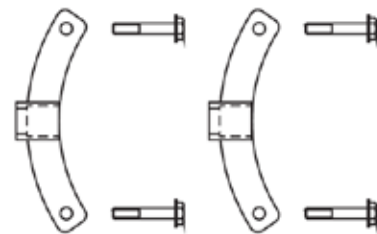
The closing tool has a positive locking pin and sleeve that can easily be unclipped for handle removal; freeing the handle for safe storage or for use on the rest of the power distribution system.

Manufactured from heavy duty steel with corrosion resistant hardware and pivot parts. Finished in durable, highly visible baked on epoxy powder coating.

Also, this closing tool can be mounted on competitors' couplers, which have been converted to the Patton & Cooke 3 bolt quick connect front end.



**HANDLE ASSEMBLY (C150F3050)**



**BRACKET ASSEMBLY (C150F3049)**

| Patton & Cooke Catalogue Number | Description   |
|---------------------------------|---|
| C150F3050                       | Handle Assembly for use with bracket kit, C150F3049.  |
| C150F3049                       | Bracket assembly consisting of two brackets and stainless steel mounting hardware for use on either cable mounted plug or receptacle. (Kit will adapt one cable end).     |
| C150F3066                       | Bracket assembly consisting of two brackets and stainless steel mounting hardware for use on either equipment mounted plug or receptacle. (Kit will adapt one cable end). |