

# Waterproof Circular Connectors Conforming to European Safety Standards

## CE05 Series



Conforming  
Standard

MIL-DTL-5015

Waterproof

IP 67

Lock Type

Threaded  
Coupling

Safety  
Standard

TÜV, UL



TÜVRheinland®



### ◆ OUTLINE

The industrial machinery including the machine tools which is exported to Europe has to conform with European safety standards since January, 1995. The CE05 series connectors, which offer full compatibility with MIL-C-5015, D/MS and CE02 series connectors, were developed to comply with this demand.

### ◆ FEATURES

#### ● European Safety Standard

CE05 series fully conforms with the connector standard of EN61984 (DIN VDE0627) which is in accordance with European standard of EN60204-1 for the safety of machinery and electrical equipment for machines. Our products have been approved by TÜV Rheinland.

#### ● UL

CE05 has been approved by UL (Underwriters Laboratories Inc.) in the USA who is an independent product safety certification organization

#### ● First Make –Last Break Ground Contact to Protect Circuit

Connectors have a premating ground contact having conductivity with the shell to protect a circuit.

The premating contact will mate with the mating half contact first on mating the connectors and will unmate last on unmating the connectors. The connectors provide a path for any stray voltage to be shunted to a safe ground avoiding harm to the operator and the voltage sensitive equipment.

#### ● Water/Oil/Dust Structure – Class IP67 Protection

Class IP67 protection in the mated condition. CE05-2A receptacle connectors are **IP67 rated in the unmated condition since these connectors have the pin contacts in the rubber inserts.**



### ◆ MATERIAL / FINISH

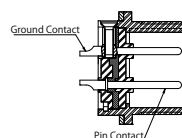


| Item                      | Material / Finish                                                 |
|---------------------------|-------------------------------------------------------------------|
| Contact                   | Copper Alloy / Silver Plating                                     |
| 2A Style Pin Front Insert | Synthetic Rubber / Black                                          |
| 2A Style Pin Rear Insert  | Synthetic Resin / Black                                           |
| 2A Style Socket Insert    | Synthetic Resin / Black                                           |
| 6A Style Socket Insert    | Synthetic Resin / Black                                           |
| 6A Style Pin Insert       | Synthetic Resin / Black                                           |
| Shell                     | Aluminum Alloy / Zinc Plating, Black Trivalent Chromium Treatment |
| Coupling Ring             | Aluminum Alloy / Zinc Plating, Black Trivalent Chromium Treatment |
| Retaining Ring            | Copper Alloy / Nickel Plating                                     |
| Earth Rag                 | Copper Alloy / Silver Plating                                     |
| Gasket                    | Synthetic Resin / Black                                           |

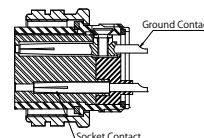
### ◆ SPECIFICATIONS

| Current Rating        | Contact Size                         | # 16 | # 12 | # 8 | # 4 |
|-----------------------|--------------------------------------|------|------|-----|-----|
|                       | Maximum Rating per Contact           | 13A  | 23A  | 46A | 80A |
| Rated Voltage         | 2000V ~ 3000V AC(r.m.s.) at 1 minute |      |      |     |     |
| Insulation Resistance | 5000M Ω (Min.) at 500V DC            |      |      |     |     |
| Operating Temperature | -55°C to 125°C                       |      |      |     |     |
| Waterproof Rating     | IP67                                 |      |      |     |     |

#### Receptacle Connector



#### Plug Connector



| Certification Organization | Safety Standard        | Certificate Number |
|----------------------------|------------------------|--------------------|
| TÜV                        | DIN VDE 0627 (EN61984) | Refer to page 3    |
| UL                         | UL 1977                | E72124             |

### ◆ APPLICABLE CABLE SIZE

| Contact |                            | Applicable Cable Size |                        |                        |
|---------|----------------------------|-----------------------|------------------------|------------------------|
| Size    | Minimum Bore of Solder Cup | AWG Size              | Nominal Sectional Area | Maximum Conductor Dia. |
| # 16    | φ 1.76                     | # 22 ~ # 16           | 1.25mm <sup>2</sup>    | 1.6mm                  |
| # 12    | φ 2.70                     | # 14 ~ # 12           | 3.50mm <sup>2</sup>    | 2.5mm                  |
| # 8     | φ 4.70                     | # 10 ~ # 8            | 8.00mm <sup>2</sup>    | 4.5mm                  |
| # 4     | φ 7.50                     | # 8 ~ # 6             | 22.00mm <sup>2</sup>   | 7.0mm                  |

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Your checking the latest specifications with our drawings would be highly appreciated.

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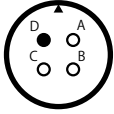
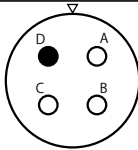
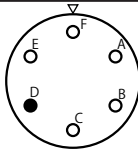
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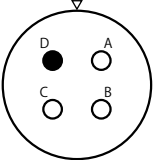
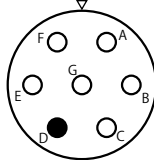
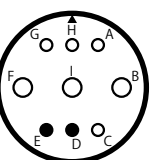
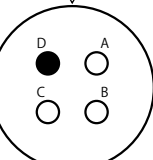
## ▶ CE05 Part Number

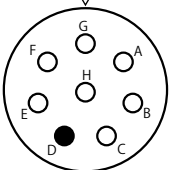
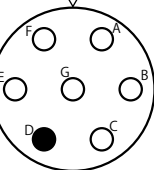
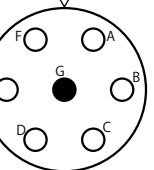
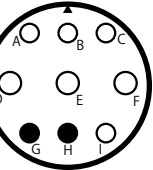
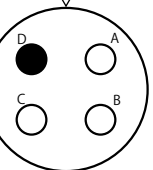
| Insert Arrangement | Part Number       |                       | Backshell Style    | Waterproof Cable Clamp or Conduit |
|--------------------|-------------------|-----------------------|--------------------|-----------------------------------|
|                    | Receptacle        | Plug                  |                    |                                   |
| 10SL-3             | CE05-2A10SL-3PC-D | CE05-6A10SL-3SC-D     | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A10SL-3SC-D-BSS | Straight Backshell | CE3057-4A-1-D                     |
|                    |                   | CE05-8A10SL-3SC-D-BAS | Angle Backshell    |                                   |
| 14S-2              | CE05-2A14S-2PD-D  | CE05-6A14S-2SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A14S-2SD-D-BSS  | Straight Backshell | CE3057-6A-1-D                     |
| 18-10              | CE05-2A18-10PD-D  | CE05-6A18-10SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A18-10SD-D-BSS  | Straight Backshell | CE3057-10A- □ -D                  |
|                    |                   | CE05-8A18-10SD-D-BAS  | Angle Backshell    |                                   |
|                    | CE05-2A18-10SD-D  | CE05-6A18-10PD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A18-10PD-D-BSS  | Straight Backshell | CE3057-10A- □ -D                  |
|                    |                   | CE05-8A18-10PD-D-BAS  | Angle Backshell    |                                   |
| 18-12              | CE05-2A18-12PD-D  | CE05-6A18-12SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A18-12SD-D-BSS  | Straight Backshell | CE3057-10A- □ -D                  |
|                    |                   | CE05-8A18-12SD-D-BAS  | Angle Backshell    |                                   |
| 20-4               | CE05-2A20-4PD-D   | CE05-6A20-4SD-D       | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A20-4SD-D-BSS   | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A20-4SD-D-BAS   | Angle Backshell    |                                   |
|                    | CE05-2A20-4SD-D   | CE05-6A20-4PD-D       | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A20-4PD-D-BSS   | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A20-4PD-D-BAS   | Angle Backshell    |                                   |
| 20-15              | CE05-2A20-15PD-D  | CE05-6A20-15SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A20-15SD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A20-15SD-D-BAS  | Angle Backshell    |                                   |
|                    | CE05-2A20-15SD-D  | CE05-6A20-15PD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A20-15PD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A20-15PD-D-BAS  | Angle Backshell    |                                   |
| 20-18              | CE05-2A20-18PDE-D | CE05-6A20-18SDE-D     | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A20-18SDE-D-BSS | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A20-18SDE-D-BAS | Angle Backshell    |                                   |
| 22-22              | CE05-2A22-22PD-D  | CE05-6A22-22SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A22-22SD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A22-22SD-D-BAS  | Angle Backshell    |                                   |
|                    | CE05-2A22-22SD-D  | CE05-6A22-22PD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A22-22PD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A22-22PD-D-BAS  | Angle Backshell    |                                   |
| 22-23              | CE05-2A22-23PD-D  | CE05-6A22-23SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A22-23SD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A22-23SD-D-BAS  | Angle Backshell    |                                   |
|                    | CE05-2A22-23SD-D  | CE05-6A22-23PD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A22-23PD-D-BSS  | Straight Backshell | CE3057-12A- □ -D                  |
|                    |                   | CE05-8A22-23PD-D-BAS  | Angle Backshell    |                                   |
| 24-10(D)           | CE05-2A24-10PD-D  | CE05-6A24-10SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A24-10SD-D-BSS  | Straight Backshell | CE3057-16A- □ -D                  |
|                    |                   | CE05-8A24-10SD-D-BAS  | Angle Backshell    |                                   |
| 24-10(G)           | CE05-2A24-10PG-D  | CE05-6A24-10SG-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A24-10SG-D-BSS  | Straight Backshell | CE3057-16A- □ -D                  |
|                    |                   | CE05-8A24-10SG-D-BAS  | Angle Backshell    |                                   |
| 24-11              | CE05-2A24-11PGH-D | CE05-6A24-11SGH-D     | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A24-11SGH-D-BSS | Straight Backshell | CE3057-16A- □ -D                  |
|                    |                   | CE05-8A24-11SGH-D-BAS | Angle Backshell    |                                   |
| 32-17              | CE05-2A32-17PD-D  | CE05-6A32-17SD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A32-17SD-D-BSS  | Straight Backshell | CE3057-20A- □ -D                  |
|                    |                   | CE05-8A32-17SD-D-BAS  | Angle Backshell    |                                   |
|                    | CE05-2A32-17SD-D  | CE05-6A32-17PD-D      | Without Backshell  | Conduit                           |
|                    |                   | CE05-6A32-17PD-D-BSS  | Straight Backshell | CE3057-20A- □ -D                  |
|                    |                   | CE05-8A32-17PD-D-BAS  | Angle Backshell    |                                   |

\*If you use the conduit, please ask conduit supplier.

## ▶ Insert Arrangement

| Number of Contact               | 3                                                                                 | 4                                                                                 | 4                                                                                 | 6                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Insert No.                      | 10SL-3                                                                            | 14S-2                                                                             | 18-10                                                                             | 18-12                                                                               |
| Insert Arrangement              |  |  |  |  |
| Reverse Contact                 | n/a                                                                               | n/a                                                                               | Available                                                                         | n/a                                                                                 |
| Contact Size                    | # 16                                                                              | # 16                                                                              | # 12                                                                              | # 16                                                                                |
| Ground Contact                  | C                                                                                 | D                                                                                 | D                                                                                 | D                                                                                   |
| Rated Voltage                   | AC200V (r.m.s.)                                                                   | AC200V (r.m.s.)                                                                   | AC250V (r.m.s.)                                                                   | AC250V (r.m.s.)                                                                     |
| Dielectric Withstanding Voltage | AC2,000V (r.m.s.)                                                                 | AC2,000V (r.m.s.)                                                                 | AC3,000V (r.m.s.)                                                                 | AC2,000V (r.m.s.)                                                                   |
| Current Capacity                | 13A (29.2A)                                                                       | 13A (35.3A)                                                                       | 23A (62.5A)                                                                       | 13A (73.6A)                                                                         |
| TÜV Certificate No.             | R50082122                                                                         | R50082122                                                                         | R50082065                                                                         | R50082122                                                                           |

| Number of Contact               | 4                                                                                 | 7                                                                                 | 3 / 6                                                                             | 4                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Insert No.                      | 20-4                                                                              | 20-15                                                                             | 20-18                                                                             | 22-22                                                                               |
| Insert Arrangement              |  |  |  |  |
| Reverse Contact                 | n/a                                                                               | Available                                                                         | n/a                                                                               | Available                                                                           |
| Contact Size                    | # 12                                                                              | # 12                                                                              | # 12 # 16                                                                         | # 8                                                                                 |
| Ground Contact                  | D                                                                                 | D                                                                                 | D, E                                                                              | D                                                                                   |
| Rated Voltage                   | AC250V (r.m.s.)                                                                   | AC250V (r.m.s.)                                                                   | AC250V (r.m.s.)                                                                   | AC250V (r.m.s.)                                                                     |
| Dielectric Withstanding Voltage | AC2,800V (r.m.s.)                                                                 | AC2,000V (r.m.s.)                                                                 | AC2,000V (r.m.s.)                                                                 | AC3,000V (r.m.s.)                                                                   |
| Current Capacity                | 23A (62.5A)                                                                       | 23A (83.7A)                                                                       | #12 : 23A<br>#16 : 13A(67.6A)                                                     | 46A (125.1A)                                                                        |
| TÜV Certificate No.             | R50082065                                                                         | R50082065                                                                         | R50082065                                                                         | R50082069                                                                           |

| Number of Contact               | 8                                                                                   | 7                                                                                   | 7                                                                                   | 3 / 6                                                                                 | 4                                                                                     |
|---------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Insert No.                      | 22-23                                                                               | 24-10 (D)                                                                           | 24-10 (G)                                                                           | 24-11                                                                                 | 32-17                                                                                 |
| Insert Arrangement              |  |  |  |  |  |
| Reverse Contact                 | Available                                                                           | n/a                                                                                 | n/a                                                                                 | n/a                                                                                   | Available                                                                             |
| Contact Size                    | # 12                                                                                | # 8                                                                                 | # 8                                                                                 | # 8 # 12                                                                              | # 4                                                                                   |
| Ground Contact                  | D                                                                                   | D                                                                                   | G                                                                                   | G, H                                                                                  | D                                                                                     |
| Rated Voltage                   | AC250V (r.m.s.)                                                                     | AC250V (r.m.s.)                                                                     | AC250V (r.m.s.)                                                                     | AC250V (r.m.s.)                                                                       | AC250V (r.m.s.)                                                                       |
| Dielectric Withstanding Voltage | AC2,000V (r.m.s.)                                                                   | AC2,000V (r.m.s.)                                                                   | AC2,000V (r.m.s.)                                                                   | AC2,000V (r.m.s.)                                                                     | AC2,800V (r.m.s.)                                                                     |
| Current Capacity                | 23A (90.1A)                                                                         | 46A (167.4A)                                                                        | 46A (167.4A)                                                                        | # 8 : 46A<br>#12 : 23A(126.4A)                                                        | 80A (217.6A)                                                                          |
| TÜV Certificate No.             | R50082065                                                                           | R50082069                                                                           | R50082069                                                                           | R50082069                                                                             | R50082124                                                                             |

\* Front view of pin contact and standard key position

\* The sign "●" stands for the ground contact.

\* Current capacity shows the maximum permitted current per contact.

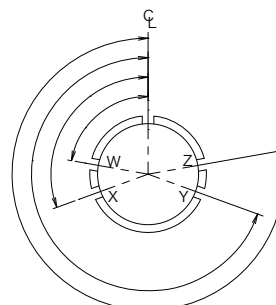
Values in parenthesis show the total current capacities in each one of respective connectors.

\* n/a stands for "not available".

## ▶ Alternate Insert Position

| Insert No. | Number of Contact | Alternate Insert Position |      |      |      |
|------------|-------------------|---------------------------|------|------|------|
|            |                   | W                         | X    | Y    | Z    |
| 10SL-3     | 3                 |                           |      |      |      |
| 14S-2      | 4                 |                           | 120° | 240° |      |
| 18-10      | 4                 |                           | 120° | 240° |      |
| 18-12      | 6                 | 80°                       |      |      | 280° |
| 20-4       | 4                 | 45°                       | 110° | 250° |      |
| 20-15      | 7                 | 80°                       |      |      | 280° |
| 20-18      | 9                 |                           |      |      |      |
| 22-22      | 4                 |                           | 110° | 250° |      |
| 22-23      | 8                 | 35°                       |      |      |      |
| 24-10      | 7                 | 80°                       |      |      | 280° |
| 24-11      | 9                 |                           |      |      |      |
| 32-17      | 4                 | 45°                       | 110° | 250° |      |

To avoid cross-mating problems in applications requiring the use of more than one connector of the same size and insert arrangement, alternate insert positions are available as indicated or as shown in the diagram below.



Front View of Pin Insert  
(Rear View of Socket Insert)

☆ The safety standard, VDE, is applied only to the equipment which uses more than 60V DC. It is not applied to the insert arrangements of 20-29 or 22-14 which are used for signal transmission.

In the case of using 20-29 and 22-14 CE02 series and D/MS series are available.

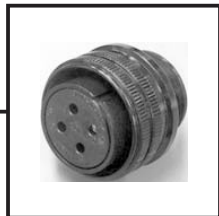
## ▶ Configuration



- Box Mount Receptacle  
CE05-2A Individual  
Waterproof



- Plug Type  
Waterproof on Mated



- Conduit

### Conduit Manufactures

- Nipolex <http://www.nipolex.co.jp/>
- DAIWA DENGYO <http://www.daiwadengyo.co.jp/index.html>
- NEOFLEX <http://www.neoflex.co.jp/>
- SANKEI <http://www.sankei-ss.co.jp/aisatu.html>

- Straight Plug Type  
CE05-6A-D-BSS  
Waterproof on Mated



- Angle Type  
CE05-8A-D-BAS  
Waterproof on Mated



- Waterproof Cable Clamp  
CE3057- □□ A



- Intermateable with D/MS series

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<http://www.ddknet.co.jp>

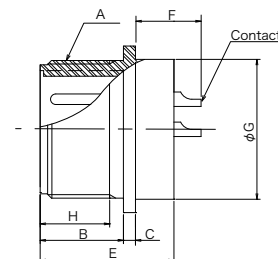
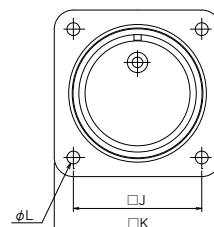
# ▶ Box Mount Receptacle Connector

P/N : CE05-2A18-10PDYS-D

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| ① Shell Style               | 2A : Box Mount Receptacle                       |
| ② Shell Size                | 10SL, 14S, 18, 20, 22, 24 and 32                |
| ③ Insert Arrangement        | Refer to page 3                                 |
| ④ Contact Style             | P : Pin Contact<br>S : Socket Contact           |
| ⑤ Ground Contact            | Refer to page 3                                 |
| ⑥ Alternate Insert Position | Omit : Standard<br>W, X, Y, Z : Refer to page 4 |
| ⑦ Gasket                    | Omit : Without Gasket<br>S : With Gasket        |
| ⑧ Finish                    | D : Black Trivalent Chromium Treatment          |

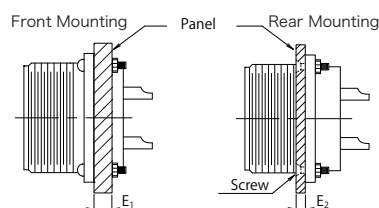
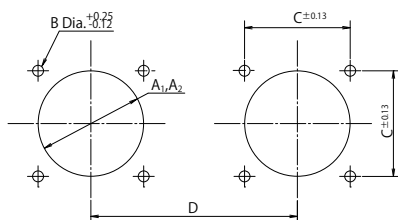


Note : Place a gasket on the rear of the flange. (Thickness: 1.6mm)

| Part Number       | A               | $\begin{smallmatrix} +0.97 \\ B -0.50 \end{smallmatrix}$ | C $\pm 0.35$ | E $\pm 0.5$ | F $\pm 1$ | G $\pm 0.5$ | H     | J $\pm 0.12$ | K $\pm 0.5$ | $\begin{smallmatrix} +0.25 \\ \phi L -0.12 \end{smallmatrix}$ |
|-------------------|-----------------|----------------------------------------------------------|--------------|-------------|-----------|-------------|-------|--------------|-------------|---------------------------------------------------------------|
| CE05-2A10SL-3PC-D | 5/8-24UNEF-2A   | 14.27                                                    | 2.15         | 23.5        | 12.4      | 16.0        | 9.53  | 18.26        | 25.4        | 3.05                                                          |
| CE05-2A14S-2PD-D  | 7/8-20UNEF-2A   | 14.27                                                    | 2.15         | 23.5        | 12.4      | 20.75       | 9.53  | 23.01        | 30.2        | 3.05                                                          |
| CE05-2A18-10PD-D  | 1 1/8-18UNEF-2A | 19.05                                                    | 2.75         | 30.5        | 14.2      | 27.0        | 15.88 | 26.97        | 34.9        | 3.05                                                          |
| CE05-2A18-10SD-D  |                 |                                                          |              |             | 18.6      |             |       |              |             |                                                               |
| CE05-2A18-12PD-D  |                 |                                                          |              |             | 13.3      |             |       |              |             |                                                               |
| CE05-2A20-4PD-D   | 1 1/4-18UNEF-2A | 19.05                                                    | 2.75         | 30.6        | 14.2      | 32.0        | 15.88 | 29.36        | 38.1        | 3.05                                                          |
| CE05-2A20-4SD-D   |                 |                                                          |              |             | 18.6      |             |       |              |             |                                                               |
| CE05-2A20-15PD-D  |                 |                                                          |              |             | 14.2      |             |       |              |             |                                                               |
| CE05-2A20-15SD-D  |                 |                                                          |              |             | 18.6      |             |       |              |             |                                                               |
| CE05-2A20-18PDE-D |                 |                                                          |              |             | 14.7      |             |       |              |             |                                                               |
| CE05-2A22-22PD-D  | 1 3/8-18UNEF-2A | 19.05                                                    | 2.75         | 31.5        | 17.2      | 33.0        | 15.88 | 31.75        | 41.3        | 3.05                                                          |
| CE05-2A22-22SD-D  |                 |                                                          |              |             | 22.0      |             |       |              |             |                                                               |
| CE05-2A22-23PD-D  |                 |                                                          |              |             | 14.3      |             |       |              |             |                                                               |
| CE05-2A22-23SD-D  |                 |                                                          |              |             | 18.6      |             |       |              |             |                                                               |
| CE05-2A24-10PD-D  | 1 1/2-18UNEF-2A | 20.63                                                    | 2.75         | 33.85       | 15.6      | 36.0        | 15.88 | 34.92        | 44.4        | 3.74                                                          |
| CE05-2A24-10PG-D  |                 |                                                          |              |             | 15.6      |             |       |              |             |                                                               |
| CE05-2A24-11PGH-D |                 |                                                          |              |             | 15.6      |             |       |              |             |                                                               |
| CE05-2A32-17PD-D  | 2-18UNS-2A      | 22.23                                                    | 3.35         | 38.15       | 20.2      | 48.0        | 15.88 | 44.45        | 56.9        | 4.30                                                          |
| CE05-2A32-17SD-D  |                 |                                                          |              |             | 20.62     |             |       |              |             |                                                               |

Note : CE05-2A □□ - □□ S □ -D has reverse style of the contacts which are the socket contacts.  
The mating half connectors should have the pin contacts.

## Panel Mounting Dimension



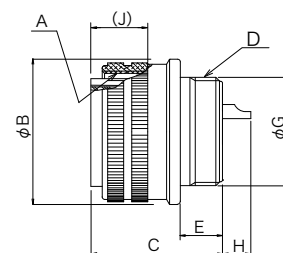
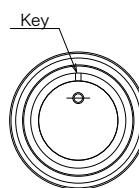
| Shell Size | Front Mounting | Rear Mounting | B    | C     | D  | E1<br>Max. | E2<br>Max. | Panel<br>Mounting<br>Screw(Ref) |
|------------|----------------|---------------|------|-------|----|------------|------------|---------------------------------|
|            | A1 (Min.)      | A2 (Min.)     |      |       |    |            |            |                                 |
| 10SL       | 16.8           | 16.6          | 3.05 | 18.26 | 47 | 10         | 3.0        | M3                              |
| 14S        | 20.0           | 23.0          | 3.05 | 23.01 | 53 | 10         | 3.0        | M3                              |
| 18         | 26.4           | 29.3          | 3.05 | 26.97 | 59 | 10         | 3.0        | M3                              |
| 20         | 29.5           | 32.5          | 3.05 | 29.36 | 62 | 10         | 3.0        | M3                              |
| 22         | 32.7           | 35.7          | 3.05 | 31.75 | 70 | 10         | 3.0        | M3                              |
| 24         | 35.9           | 38.8          | 3.75 | 34.92 | 73 | 10         | 3.0        | M3.5                            |
| 32         | 49.3           | 51.5          | 4.40 | 44.45 | 86 | 10         | 3.0        | M4                              |

# ▶ Plug Connector

P/N : CE05-6A18-10SDY-D-BSS  
                   ①  ②③      ④⑤⑥  ⑦      ⑧



|                             |                                                                               |
|-----------------------------|-------------------------------------------------------------------------------|
| ① Shell Style               | 6A : Straght Plug<br>8A : Angle Plug                                          |
| ② Shell Size                | 10SL, 14S, 18, 20, 22, 24 and 32                                              |
| ③ Insert Arrangement        | Refer to page 3                                                               |
| ④ Contact Style             | P : Pin Contact<br>S : Socket Contact                                         |
| ⑤ Ground Contact            | Refer to page 3                                                               |
| ⑥ Alternate Insert Position | Omit : Standard<br>W. X. Y. Z : Refer to page 4                               |
| ⑦ Finish                    | D : Black Trivalent Chromium Treatment                                        |
| ⑧ Backshell                 | Omit : Without Backshell<br>BSS : Straight Backshell<br>BAS : Angle Backshell |

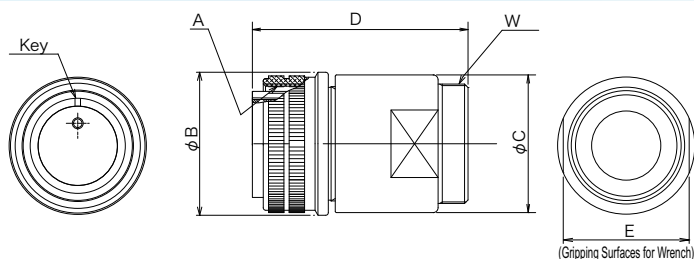


| Part Number       | A               | $\begin{smallmatrix} +0 \\ B-0.38 \end{smallmatrix}$ | C $\pm 1$ | D               | E $\pm 0.5$ | $\begin{smallmatrix} +0.25 \\ G-0.25 \end{smallmatrix}$ | H $\pm 0.1$ | (J)  |
|-------------------|-----------------|------------------------------------------------------|-----------|-----------------|-------------|---------------------------------------------------------|-------------|------|
| CE05-6A10SL-3SC-D | 5/8-24UNEF-2B   | 22.22                                                | 24.0      | 9/16-24UNEF-2A  | 7.50        | 12.5                                                    | 5.6         | 13.2 |
| CE05-6A14S-2SD-D  | 7/8-20UNEF-2B   | 28.57                                                | 24.0      | 3/4-20UNEF-2A   | 8.46        | 17.0                                                    | 5.6         | 13.2 |
| CE05-6A18-10SD-D  | 1 1/8-18UNEF-2B | 34.13                                                | 33.7      | 1-20UNEF-2A     | 11.74       | 23.5                                                    | 6.4         | 19.0 |
| CE05-6A18-10PD-D  |                 |                                                      |           |                 |             |                                                         | 1.7         |      |
| CE05-6A18-12SD-D  |                 |                                                      |           |                 |             |                                                         | 5.6         |      |
| CE05-6A20-4SD-D   | 1 1/4-18UNEF-2B | 37.28                                                | 34.1      | 1 1/8-18UNEF-2A | 12.16       | 26.8                                                    | 6.0         | 19.0 |
| CE05-6A20-4PD-D   |                 |                                                      |           |                 |             |                                                         | 1.7         |      |
| CE05-6A20-15SD-D  |                 |                                                      |           |                 |             |                                                         | 6.0         |      |
| CE05-6A20-15PD-D  |                 |                                                      |           |                 |             |                                                         | 1.7         |      |
| CE05-6A20-18SDE-D |                 |                                                      |           |                 |             |                                                         | 6.17        |      |
| CE05-6A22-22SD-D  | 1 3/8-18UNEF-2B | 40.48                                                | 34.1      | 1 1/4-18UNEF-2A | 14.65       | 29.9                                                    | 9.3         | 19.0 |
| CE05-6A22-22PD-D  |                 |                                                      |           |                 |             |                                                         | 4.2         |      |
| CE05-6A22-23SD-D  |                 |                                                      |           |                 |             |                                                         | 6.1         |      |
| CE05-6A22-23PD-D  |                 |                                                      |           |                 |             |                                                         | 1.3         |      |
| CE05-6A24-10SD-D  | 1 1/2-18UNEF-2B | 43.63                                                | 36.6      | 1 3/8-18UNEF-2A | 13.42       | 32.9                                                    | 6.8         | 19.4 |
| CE05-6A24-10SG-D  |                 |                                                      |           |                 |             |                                                         | 6.8         |      |
| CE05-6A24-11SGH-D |                 |                                                      |           |                 |             |                                                         | 6.8         |      |
| CE05-6A32-17SD-D  | 2-18UNS-2B      | 56.33                                                | 37.0      | 1 7/8-16UN-2A   | 13.14       | 45.3                                                    | 9.2         | 19.4 |
| CE05-6A32-17PD-D  |                 |                                                      |           |                 |             |                                                         | 8.7         |      |

Note 1 : CE05-6A □□ - □□ P □ -D has reverse style of the contacts which are the pin contacts.  
The mating half connectors should have the socket contacts.

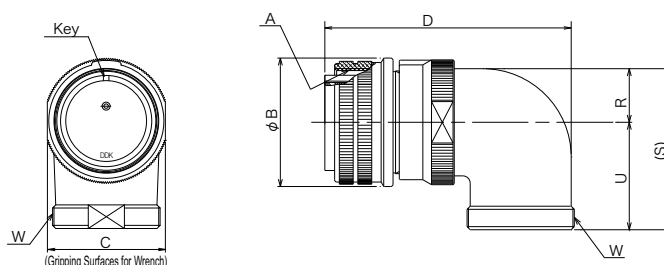
Note 2 : Contact conduit manufacturers when you use conduits since no conduit is available from our product line.

## ► Straight Plug



| Part Number           | A               | $B^{+0}_{-0.38}$ | $C \pm 0.8$ | D Max. | E    | W                |
|-----------------------|-----------------|------------------|-------------|--------|------|------------------|
| CE05-6A10SL-3SC-D-BSS | 5/8-24UNEF-2B   | 22.22            | 18.6        | 40     | 17.9 | 5/8-24UNEF-2A    |
| CE05-6A14S-2SD-D-BSS  | 7/8-20UNEF-2B   | 22.22            | 25.2        | 45     | 22.0 | 3/4-20UNEF-2A    |
| CE05-6A18-10SD-D-BSS  | 1 1/8-18UNEF-2B | 34.13            | 32.1        | 57     | 26.7 | 1-20UNEF-2A      |
| CE05-6A18-10PD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A18-12SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A20-4SD-D-BSS   | 1 1/4-18UNEF-2B | 37.28            | 35.2        | 61     | 31.6 | 1 3/16-18UNEF-2A |
| CE05-6A20-4PD-D-BSS   |                 |                  |             |        |      |                  |
| CE05-6A20-15SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A20-15PD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A20-18SDE-D-BSS | 1 3/8-18UNEF-2B | 40.48            | 38.3        | 61     | 32.4 | 1 3/16-18UNEF-2A |
| CE05-6A22-22SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A22-22PD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A22-23SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A22-23PD-D-BSS  | 1 1/2-18UNEF-2B | 43.63            | 42.0        | 68     | 36.6 | 1 7/16-18UNEF-2A |
| CE05-6A24-10SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A24-10SG-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A24-11SGH-D-BSS | 2-18UNS-2B      | 56.33            | 54.2        | 79     | 47.3 | 1 3/4-18UNS-2A   |
| CE05-6A32-17SD-D-BSS  |                 |                  |             |        |      |                  |
| CE05-6A32-17PD-D-BSS  |                 |                  |             |        |      |                  |

## ► Angle Plug



| Part Number           | A               | $B^{+0}_{-0.38}$ | D Max. | C    | W                | $R \pm 0.7$ | $U \pm 0.7$ | $(S) \pm 1$ |
|-----------------------|-----------------|------------------|--------|------|------------------|-------------|-------------|-------------|
| CE05-8A10SL-3SC-D-BAS | 5/8-24UNEF-2B   | 22.22            | 47.8   | 20.3 | 5/8-24UNEF-2A    | 7.9         | 21.0        | 28.9        |
| CE05-8A18-10SD-D-BAS  | 1 1/8-18UNEF-2B | 34.13            | 69.5   | 30.0 | 1-20UNEF-2A      | 13.2        | 30.2        | 43.4        |
| CE05-8A18-10PD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A18-12SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A20-4SD-D-BAS   | 1 1/4-18UNEF-2B | 37.28            | 75.5   | 33.6 | 1 3/16-18UNEF-2A | 15.0        | 33.3        | 48.3        |
| CE05-8A20-4PD-D-BAS   |                 |                  |        |      |                  |             |             |             |
| CE05-8A20-15SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A20-15PD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A20-18SDE-D-BAS | 1 3/8-18UNEF-2B | 40.48            | 75.5   | 36.2 | 1 3/16-18UNEF-2A | 16.3        | 33.3        | 49.6        |
| CE05-8A22-22SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A22-22PD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A22-23SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A22-23PD-D-BAS  | 1 1/2-18UNEF-2B | 43.63            | 86.3   | 40.0 | 1 7/16-18UNEF-2A | 18.2        | 36.5        | 54.7        |
| CE05-8A24-10SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A24-10SG-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A24-11SGH-D-BAS | 2-18UNS-2B      | 56.33            | 93.5   | 52.8 | 1 3/4-18UNS-2A   | 24.6        | 44.5        | 69.1        |
| CE05-8A32-17SD-D-BAS  |                 |                  |        |      |                  |             |             |             |
| CE05-8A32-17PD-D-BAS  |                 |                  |        |      |                  |             |             |             |

© Specifications and/or dimensions in this catalog are subject to change without notice.  
Your checking the latest specifications with our drawings would be highly appreciated.

<http://www.ddknet.co.jp>

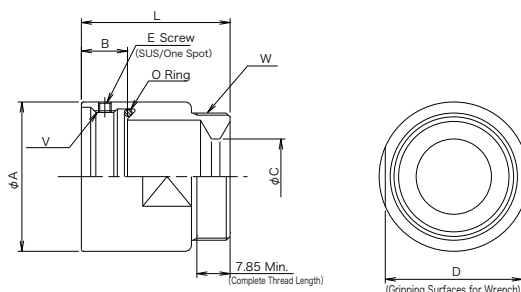
## ▶ Waterproof Straight Backshell

P/N : CE05-18BS-S-D

① ② ③ ④ ⑤



|              |                                        |
|--------------|----------------------------------------|
| ① Shell Size | 10SL, 14S, 18, 20, 22, 24 and 32       |
| ② Model      | B : Backshell                          |
| ③ Style      | S : Straight                           |
| ④ Waterproof | S : Waterproof                         |
| ⑤ Finish     | D : Black Trivalent Chromium Treatment |



### MATERIAL/FINISH

Aluminum Alloy / Black Trivalent Chromium Treatment

| Shell Size | Part Number     | L    | A    | B    | C    | D    | E  | V               | W                |
|------------|-----------------|------|------|------|------|------|----|-----------------|------------------|
| 10SL       | CE05-10SLBS-S-D | 20.0 | 18.6 | 6.5  | 6.6  | 17.9 | M2 | 9/16-24UNEF-2B  | 5/8-24UNEF-2A    |
| 14S        | CE05-14SBS-S-D  | 24.4 | 25.2 | 7.3  | 10.0 | 22.0 | M2 | 3/4-20UNEF-2B   | 3/4-20UNEF-2A    |
| 18         | CE05-18BS-S-D   | 31.0 | 32.1 | 10.5 | 16.3 | 26.7 | M3 | 1-20UNEF-2B     | 1-20UNEF-2A      |
| 20         | CE05-20BS-S-D   | 35.0 | 35.2 | 10.9 | 17.8 | 31.6 | M3 | 1 1/8-18UNEF-2B | 1 3/16-18UNEF-2A |
| 22         | CE05-22BS-S-D   | 35.0 | 38.2 | 10.9 | 17.8 | 32.4 | M3 | 1 1/4-18UNEF-2B | 1 3/16-18UNEF-2A |
| 24         | CE05-24BS-S-D   | 40.5 | 42.0 | 12.2 | 21.0 | 36.6 | M4 | 1 3/8-18UNEF-2B | 1 7/16-18UNEF-2A |
| 32         | CE05-32BS-S-D   | 46.0 | 54.2 | 11.7 | 25.8 | 47.3 | M4 | 1 7/8-16UN-2B   | 1 3/4-18UN-2A    |

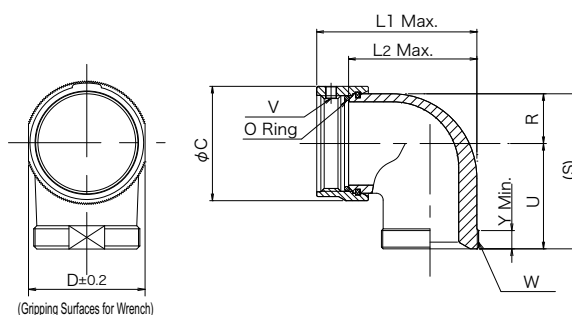
## ▶ Waterproof Angle Backshell

P/N : CE-18BA-S-D

① ② ③ ④ ⑤



|              |                                        |
|--------------|----------------------------------------|
| ① Shell Size | 10SL, 18, 20, 22, 24 and 32            |
| ② Model      | B : Backshell                          |
| ③ Style      | A : Angle                              |
| ④ Waterproof | S : Waterproof                         |
| ⑤ Finish     | D : Black Trivalent Chromium Treatment |



### MATERIAL/FINISH

Aluminum Alloy / Black Trivalent Chromium Treatment

| Shell Size | Part Number   | L1   | L2   | C    | D    | R    | U    | (S)    | V               | W                | Y   |
|------------|---------------|------|------|------|------|------|------|--------|-----------------|------------------|-----|
| 10SL       | CE-10SLBA-S-D | 30.6 | 22.5 | 21.7 | 20.3 | 7.9  | 21.0 | (28.9) | 9/16-24UNEF-2B  | 5/8-24UNEF-2A    | 7.5 |
| 18         | CE-18BA-S-D   | 44.6 | 34.0 | 32.4 | 30.0 | 13.2 | 30.2 | (43.4) | 1-20UNEF-2B     | 1-20UNEF-2A      | 7.5 |
| 20         | CE-20BA-S-D   | 50.5 | 39.6 | 36.0 | 33.6 | 15.0 | 33.3 | (48.3) | 1 1/8-18UNEF-2B | 1 3/16-18UNEF-2A | 7.5 |
| 22         | CE-22BA-S-D   | 50.5 | 39.6 | 38.6 | 36.2 | 16.3 | 33.3 | (49.6) | 1 1/4-18UNEF-2B | 1 3/16-18UNEF-2A | 7.5 |
| 24         | CE-24BA-S-D   | 60.1 | 47.9 | 42.4 | 40.0 | 18.2 | 36.5 | (54.7) | 1 3/8-18UNEF-2B | 1 7/16-18UNEF-2A | 7.5 |
| 28         | CE-28BA-S-D   | 60.9 | 47.9 | 49.5 | 46.4 | 21.3 | 36.5 | (57.8) | 1 5/8-18UNEF-2B | 1 7/16-18UNEF-2A | 7.5 |
| 32         | CE-32BA-S-D   | 69.1 | 55.1 | 55.3 | 52.8 | 24.6 | 44.5 | (69.1) | 1 7/8-16UN-2B   | 1 3/4-18UNEF-2A  | 8.5 |

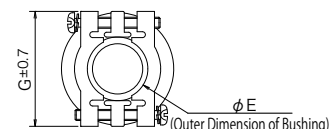
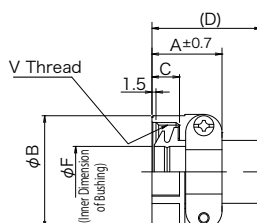
# Waterproof Cable Clamp

P/N : CE3057-10A-1-D

① ② ③



|                |                                                     |
|----------------|-----------------------------------------------------|
| ① Clamp Size   | 4A, 10A, 12A, 16A and 20A                           |
| ② Bushing Size | Rubber Bushing (Refer to the applicable cable size) |
| ③ Finish       | D : Black Trivalent Chromium Treatment              |



## MATERIAL/FINISH

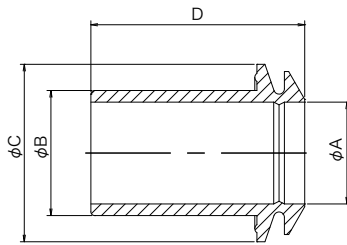
| MATERIAL                            | Material         | Finish                             |
|-------------------------------------|------------------|------------------------------------|
| Cable Clamp Body and Metal Fastener | Aluminum Alloy   | Black Trivalent Chromium Treatment |
| Bushing                             | Synthetic Rubber | Black                              |

CE3057-□□A-□-D is a waterproof cable clamp for use with a plug. The cable clamp has a waterproof rubber bushing. So make sure to use a cable meeting one of the applicable cable size ranges as shown below. The cable clamp should be used together with a waterproof backshell.

| Part Number    | Applicable Shell Size | A     | B    | C     | (D)    | E    | F    | G    | V                | Bushing P/N | Applicable Cable Size |
|----------------|-----------------------|-------|------|-------|--------|------|------|------|------------------|-------------|-----------------------|
| CE3057-4A-1-D  | 10SL, 12S             | 20.62 | 20.6 | 10.31 | (41.3) | 8.0  | 5.6  | 22.2 | 5/8-24UNEF-2B    | CE3420-4-1  | φ 3.6 ~ φ 5.6         |
| CE3057-6A-1-D  | 14S                   | 22.20 | 24.6 | 10.31 | (41.3) | 10.8 | 9.0  | 27.0 | 3/4-20UNEF-2B    | CE3420-6-1  | φ 7.0 ~ φ 9.0         |
| CE3057-10A-1-D | 18                    | 23.83 | 30.1 | 10.31 | (41.3) | 15.8 | 14.1 | 31.7 | 1-20UNEF-2B      | CE3420-10-1 | φ 10.5 ~ φ 14.1       |
| CE3057-10A-2-D |                       |       |      |       |        |      | 11   |      |                  | CE3420-10-2 | φ 8.5 ~ φ 11.0        |
| CE3057-10A-3-D |                       |       |      |       |        |      | 8.7  |      |                  | CE3420-10-3 | φ 6.5 ~ φ 8.7         |
| CE3057-12A-1-D | 20<br>22              | 23.83 | 35   | 10.31 | (41.3) | 19.0 | 16   | 37.3 | 1 3/16-18UNEF2B  | CE3420-12-1 | φ 12.5 ~ φ 16.0       |
| CE3057-12A-2-D |                       |       |      |       |        |      | 13   |      |                  | CE3420-12-2 | φ 9.5 ~ φ 13.0        |
| CE3057-12A-3-D |                       |       |      |       |        |      | 10   |      |                  | CE3420-12-3 | φ 6.8 ~ φ 10.0        |
| CE3057-12A-7-D |                       |       |      |       |        |      | 17   |      |                  | CE3420-12-7 | φ 14.5 ~ φ 17.0       |
| CE3057-16A-1-D | 24<br>28              | 26.19 | 42.1 | 10.31 | (41.3) | 23.8 | 19.1 | 42.9 | 1 7/16-18UNEF-2B | CE3420-16-1 | φ 15.0 ~ φ 19.1       |
| CE3057-16A-2-D |                       |       |      |       |        |      | 15.5 |      |                  | CE3420-16-2 | φ 13.0 ~ φ 15.5       |
| CE3057-16A-4-D |                       |       |      |       |        |      | 21.5 |      |                  | CZY005-GB-3 | φ 19.1 ~ φ 21.5       |
| CE3057-16A-6-D |                       |       |      |       |        |      | 20   |      |                  | CE3420-16-6 | φ 18.5 ~ φ 20.0       |
| CE3057-16A-7-D |                       |       |      |       |        |      | 13.5 |      |                  | CE3420-16-7 | φ 11.5 ~ φ 13.5       |
| CE3057-16A-8-D |                       |       |      |       |        |      | 12.5 |      |                  | CZY005-GB-5 | φ 10.5 ~ φ 12.5       |
| CE3057-20A-1-D | 32                    | 27.79 | 51.6 | 11.91 | (43.0) | 32.0 | 23.8 | 51.6 | 1 3/4-18UNS-2B   | CE3420-20-1 | φ 22.0 ~ φ 23.8       |
| CE3057-20A-2-D |                       |       |      |       |        |      | 26.6 |      |                  | CE3420-20-2 | φ 24.0 ~ φ 26.6       |
| CE3057-20A-3-D |                       |       |      |       |        |      | 22.5 |      |                  | CE3420-20-3 | φ 22.0 ~ φ 22.5       |

# Waterproof Rubber Bushing

CE3420-10-1  
① ②



|                    |                         |
|--------------------|-------------------------|
| ① Cable Clamp Size | 4, 6, 10, 12, 16 and 20 |
| ② Bushing Size     | Refer to table 1.       |

## MATERIAL

Synthetic Rubber(Black)

CE3420- □□ A- □ is a rubber bushing which combines with a cable clamp(CE3057- □□ A- □ ) to hold the cable for waterproof.

Table 1

| Part Number | φ A  | φ B  | φ C  | D    | Friction Washer |
|-------------|------|------|------|------|-----------------|
| CE3420-4-1  | 5.6  | 7.5  | 12.9 | 38.3 | MS3057-4W       |
| CE3420-6-1  | 9.0  | 10.9 | 15.7 | 36.4 | MS3057-6W       |
| CE3420-10-1 | 14.1 | 15.5 | 22.2 | 38.5 | MS3057-10W      |
| CE3420-10-2 | 11.0 |      |      |      |                 |
| CE3420-10-3 | 8.7  |      |      |      |                 |
| CE3420-12-1 | 16.0 | 18.6 | 26.9 | 39.3 | MS3057-12W      |
| CE3420-12-2 | 13.0 |      |      |      |                 |
| CE3420-12-3 | 10.0 |      |      |      |                 |
| CE3420-12-7 | 17.0 |      |      |      |                 |
| CE3420-16-1 | 19.1 | 23.4 | 33.2 | 40.0 | MS3057-16W      |
| CE3420-16-2 | 15.5 |      |      |      |                 |
| CE3420-16-6 | 20.0 |      |      |      |                 |
| CE3420-16-7 | 13.5 |      |      |      |                 |
| CE3420-20-1 | 23.8 | 31.4 | 40.5 | 41.0 | MS3057-20W      |
| CE3420-20-2 | 26.6 |      |      | 40.2 |                 |