

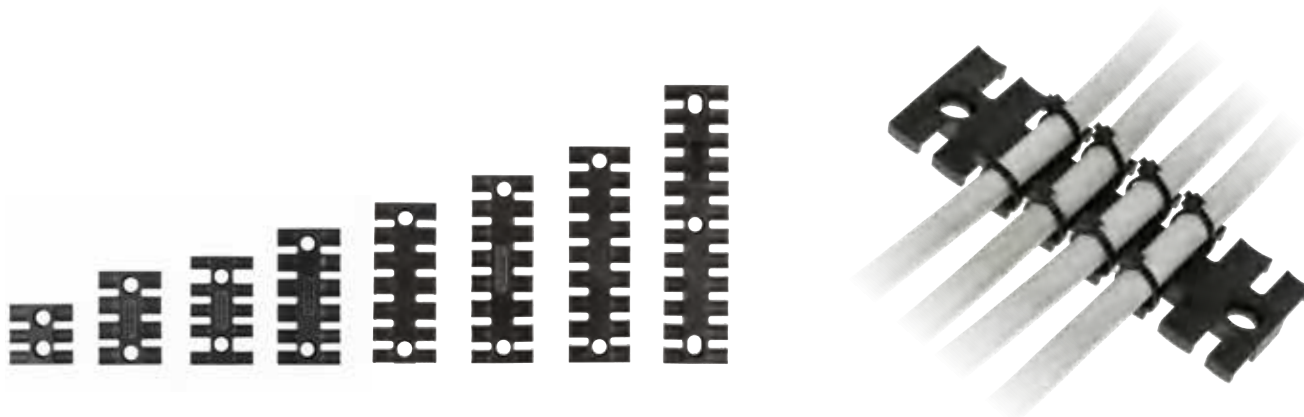


## GROUP 3

Strain relief modules



## Strain relief modules – screw fixing



### FEATURES

- Modules also available with aluminum or brass bushings
- Strain relief acc. to EN 62444
- Easy to install
- Cost efficient solution
- UL94-V0

The AP modules are used in electrical switchboards and equipment in order to keep the cables tidy whilst providing strain relief according to EN 62444.

The cables can be fixed with standard plastic ties or reusable velcro ties. Spacers are available for multi-tier applications.

**Material:** PA66, halogens and silicones free

**Flammability:** self-extinguishing acc. to UL94-V0

**Temperature:** -40°C... +140°C (static)

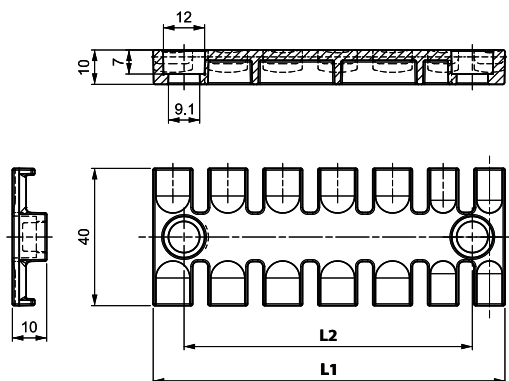
### RELATED PRODUCTS

- DZ spacers (page 99)
- FV cable ties (page 103)

### Modules without bushings

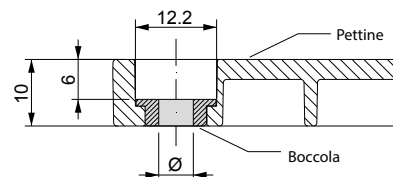
| Model  | Code       | Dimensions (mm) |       | Teeth | Pcs (/pack) |
|--------|------------|-----------------|-------|-------|-------------|
|        |            | L1              | L2    |       |             |
| AP 39  | 1733020003 | 38,5            | 19,5  | 3     | 10          |
| AP 60  | 1733020004 | 59,5            | 43,5  | 4     |             |
| AP 70  | 1733020005 | 69,1            | 43,5  | 5     |             |
| AP 87  | 1733020006 | 86,5            | 68    | 6     |             |
| AP 103 | 1733020007 | 102,5           | 84    | 7     |             |
| AP 121 | 1733020008 | 121             | 102,5 | 8     |             |
| AP 140 | 1733020009 | 139,5           | 121   | 9     |             |
| AP 180 | 1733020010 | 180             | 157   | 12    |             |

### Dimensions (mm)





## Strain relief modules – screw fixing



### Modules with aluminum bushings

### Modules with brass bushings

| Model      | Code       | Bushing | Model      | Code       | Bushing | Dimensions (mm) |       | Teeth | Pcs<br>(/pack) |
|------------|------------|---------|------------|------------|---------|-----------------|-------|-------|----------------|
|            |            |         |            |            |         | L1              | L2    |       |                |
| AP 39 BA4  | 1733021403 | Ø 4 mm  | AP 39 BR4  | 1733022403 | Ø 4 mm  | 38,5            | 19,5  | 3     | 10             |
| AP 60 BA4  | 1733021404 |         | AP 60 BR4  | 1733022404 |         | 59,5            | 43,5  | 4     |                |
| AP 70 BA4  | 1733021405 |         | AP 70 BR4  | 1733022405 |         | 69,1            | 43,5  | 5     |                |
| AP 87 BA4  | 1733021406 |         | AP 87 BR4  | 1733022406 |         | 86,5            | 68    | 6     |                |
| AP 103 BA4 | 1733021407 |         | AP 103 BR4 | 1733022407 |         | 102,5           | 84    | 7     |                |
| AP 121 BA4 | 1733021408 |         | AP 121 BR4 | 1733022408 |         | 121             | 102,5 | 8     |                |
| AP 140 BA4 | 1733021409 |         | AP 140 BR4 | 1733022409 |         | 139,5           | 121   | 9     |                |
| AP 180 BA4 | 1733021410 |         | AP 180 BR4 | 1733022410 |         | 180             | 157   | 12    |                |
| AP 39 BA5  | 1733021503 | Ø 5 mm  | AP 39 BR5  | 1733022503 | Ø 5 mm  | 38,5            | 19,5  | 3     |                |
| AP 60 BA5  | 1733021504 |         | AP 60 BR5  | 1733022504 |         | 59,5            | 43,5  | 4     |                |
| AP 70 BA5  | 1733021505 |         | AP 70 BR5  | 1733022505 |         | 69,1            | 43,5  | 5     |                |
| AP 87 BA5  | 1733021506 |         | AP 87 BR5  | 1733022506 |         | 86,5            | 68    | 6     |                |
| AP 103 BA5 | 1733021507 |         | AP 103 BR5 | 1733022507 |         | 102,5           | 84    | 7     |                |
| AP 121 BA5 | 1733021508 |         | AP 121 BR5 | 1733022508 |         | 121             | 102,5 | 8     |                |
| AP 140 BA5 | 1733021509 |         | AP 140 BR5 | 1733022509 |         | 139,5           | 121   | 9     |                |
| AP 180 BA5 | 1733021510 |         | AP 180 BR5 | 1733022510 |         | 180             | 157   | 12    |                |
| AP 39 BA6  | 1733021603 | Ø 6 mm  | AP 39 BR6  | 1733022603 | Ø 6 mm  | 38,5            | 19,5  | 3     |                |
| AP 60 BA6  | 1733021604 |         | AP 60 BR6  | 1733022604 |         | 59,5            | 43,5  | 4     |                |
| AP 70 BA6  | 1733021605 |         | AP 70 BR6  | 1733022605 |         | 69,1            | 43,5  | 5     |                |
| AP 87 BA6  | 1733021606 |         | AP 87 BR6  | 1733022606 |         | 86,5            | 68    | 6     |                |
| AP 103 BA6 | 1733021607 |         | AP 103 BR6 | 1733022607 |         | 102,5           | 84    | 7     |                |
| AP 121 BA6 | 1733021608 |         | AP 121 BR6 | 1733022608 |         | 121             | 102,5 | 8     |                |
| AP 140 BA6 | 1733021609 |         | AP 140 BR6 | 1733022609 |         | 139,5           | 121   | 9     |                |
| AP 180 BA6 | 1733021610 |         | AP 180 BR6 | 1733022610 |         | 180             | 157   | 12    |                |



## Strain relief modules for DIN and Omega rails

### FEATURES

- Strain relief according to EN 62444
- Easy to install
- Cost efficient solution
- UL94-V0

The APD modules are used in electrical cabinets to organise the cables whilst providing strain relief according to EN 62444.

The cables can be fixed with standard plastic ties or reusable velcro ties.

**Material:** TPE

**Flammability:** self-extinguishing  
acc. to UL94-V0

**Temperature:** -40°C... +140°C (static)

**Features:** halogens and silicones free

### RELATED PRODUCTS

- FV cable ties (page 103)



| Model   | Code       | Dimensions (mm) |       | Teeth | Pcs<br>(/pack) |
|---------|------------|-----------------|-------|-------|----------------|
|         |            | L1              | L2    |       |                |
| APD 39  | 1733000003 | 38,5            | 28,3  | 3     | 10             |
| APD 80  | 1733000006 | 79,5            | 68    | 4     |                |
| APD 140 | 1733000009 | 139,5           | 128,1 | 9     |                |
| APD 180 | 1733000012 | 180             | 157   | 12    |                |

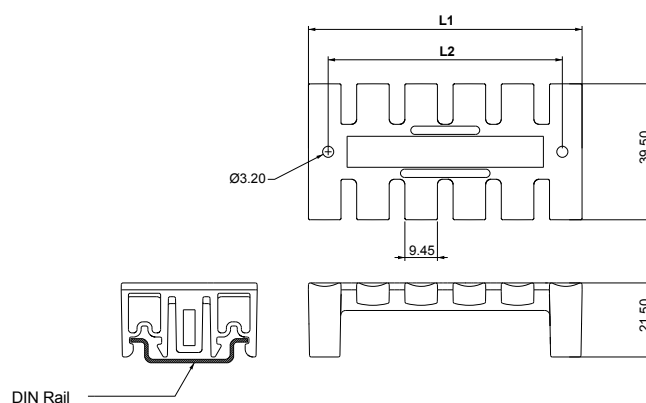


APD 39-80-140



APD 180

### Dimensions (mm)





# AP-DP

## Strain relief modules – double comb for screw fixing

### FEATURES

- Strain relief acc. to EN 62444
- Easy to install
- Cost efficient solution
- UL94-V0

The AP-DP modules are used in electrical switchboards and equipment keeping cables of various sizes tidy whilst providing strain relief according to EN 62444. The cables can be fixed with standard plastic ties or reusable Velcro ties. Spacers are available for multi-tier applications.

**Material:** PA66

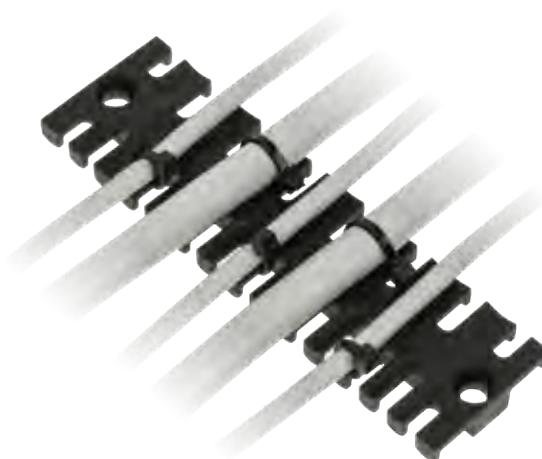
**Flammability:** self-extinguishing acc. to UL94-V0

**Temperature:** -40°C... +140°C (static)

**Features:** halogens and silicones free

### RELATED PRODUCTS

- DZ spacers (page 99)
- FV cable ties (page 103)



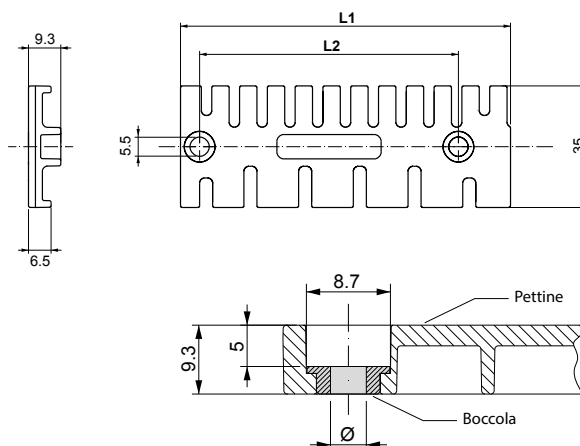
Aluminum bushing



Brass bushing

| Model         | Code       | Bushing                                                                                        | Dimensions (mm) |      | Teeth  | Pcs (/pack) |
|---------------|------------|------------------------------------------------------------------------------------------------|-----------------|------|--------|-------------|
|               |            |                                                                                                | L1              | L2   |        |             |
| AP-DP 63      | 1733010047 | -                                                                                              | 63,4            | 42   | 4 - 7  | 10          |
| AP-DP 95      | 1733010611 | -                                                                                              | 95              | 74,5 | 6 - 11 |             |
| AP-DP 119     | 1733010713 | -                                                                                              | 119             | 108  | 7 - 13 |             |
| AP-DP 63-BA   | 1733011447 | <br>Ø 4 mm | 63,4            | 42   | 4 - 7  |             |
| AP-DP 95-BA4  | 1733011411 |                                                                                                | 95              | 74,5 | 6 - 11 |             |
| AP-DP 119-BA4 | 1733011413 |                                                                                                | 119             | 108  | 7 - 13 |             |
| AP-DP 63-BR4  | 1733012447 | <br>Ø 4 mm | 63,4            | 42   | 4 - 7  |             |
| AP-DP 95-BR4  | 1733012411 |                                                                                                | 95              | 74,5 | 6 - 11 |             |
| AP-DP 119-BR4 | 1733012413 |                                                                                                | 119             | 108  | 7 - 13 |             |

### Dimensions (mm)



### FEATURES

- Increase in cable bundle density

The spacers are used to build a multi-tier system in the case of a large number of cables.

**Material:** Aluminium

### RELATED PRODUCTS

- AP strain relief modules
- AP-DP double-comb strain relief modules



| Model | Code       | Suitable for | Dimensions (mm) |    |     | Pcs (/pack) |
|-------|------------|--------------|-----------------|----|-----|-------------|
|       |            |              | H               | D1 | D2  |             |
| DZ 30 | 1733020011 | AP-DP        | 30              | 7  | 5,2 | 10          |
| DZ 32 | 1733020012 | AP           | 32              | 12 | 6,2 |             |



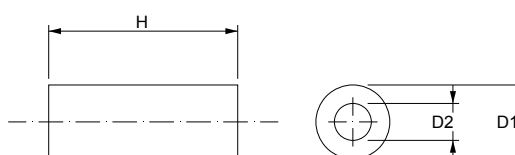
DZ 32



DZ 30



### Dimensions (mm)





# MFK - MFY

## Cable fixing clamps

### FEATURES

- For cable diameter from 13 to 95 mm
- Strain relief acc. to EN 61914
- Fixing screws not included

The MFK/MFY cable clamps are used to secure cables with diameters up to 95 mm diameter in safe and strain relief position. The MFK is used for single cable and the MFY is used up to three cables. They are normally used in electrical installation to keep the cables in the right position according to EN 61914 strain relief standard.

**Material:** PA, halogens and silicones free

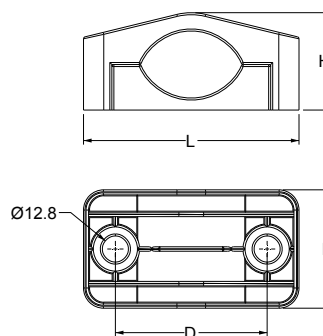
**Flammability:** self-extinguishing acc. to UL94-V0

**Temperature:** -40°C... +140°C (static)



| Model      | Code       | Nr. Cables | Ø Cable min/max (mm) | Dimensions (mm) |      |      |     | Pcs (/pack) |
|------------|------------|------------|----------------------|-----------------|------|------|-----|-------------|
|            |            |            |                      | L               | B    | H    | D   |             |
| MFK 13-25  | 1733030010 | 1          | 13/25                | 87,5            | 47   | 35   | 60  | 1           |
| MFK 20-36  | 1733030015 | 1          | 20/36                | 88              | 58   | 42   | 60  |             |
| MFKD 36-52 | 1733030021 | 1          | 36/52                | 106,5           | 59   | 49,5 | 75  |             |
| MFK 55-75  | 1733030025 | 1          | 55/75                | 113,5           | 59   | 52   | 83  |             |
| MFK 75-95  | 1733030030 | 1          | 75/95                | 128             | 59   | 64,5 | 95  |             |
| MFY 27-38  | 1733030040 | 3          | 27/38                | 175             | 70   | 73,5 | 125 |             |
| MFY 38-51  | 1733030050 | 3          | 38/51                | 189             | 76   | 94   | 144 |             |
| MFY 51-69  | 1733030060 | 3          | 51/69                | 214             | 80,5 | 121  | 168 |             |

### Dimensions (mm)



## Reusable cable ties for single or multiple wiring

### FEATURES

- For cables with diameter from 7 to 32 mm
- Strain relief according to EN 62444
- Fastening with adhesive and/or with screw (not included)
- Reusable
- Cost effective and practical solution

The CFP series cable clamps are used for single or multiple cables offering an available space ranging from 7 to 32mm. They are reusable and lock the cable or cables with excellent anti-snap traction and are installed in a very short time. Fixing is done with an adhesive base and/or with a central screw.

**Material:** PA66, halogens and silicones free

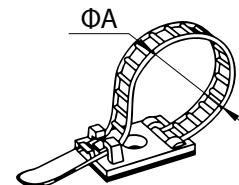
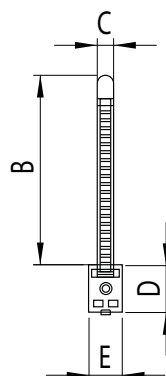
**Flammability:** self-extinguishing acc. to UL94-V2

**Temperature:** -20°C... +100°C (static)



| Model | Code       | Ø A<br>min/max (mm) | Dimensions (mm) |    |    |    | Pcs<br>(/pack) |
|-------|------------|---------------------|-----------------|----|----|----|----------------|
|       |            |                     | B               | C  | D  | E  |                |
| CFP 1 | 1733030110 | 7 - 24              | 91              | 8  | 25 | 18 | 100            |
| CFP 2 | 1733030120 | 10 - 24             | 90              | 12 | 30 | 21 |                |
| CFP 3 | 1733030130 | 10 - 32             | 110             | 12 | 30 | 21 |                |

### Dimensions (mm)





### FEATURES

- The Velcro® ties can be reusable many times
- Adaptable to the cable shape
- Suitable for high vibration scenarios
- Packed pre-cutted in reels
- Without glue, no chemical traces
- Standard color black, other colors on demand

The Velcro® cable ties allow a large number of cables to be budled together. They prevent damage during vibration events and can be reused several times. The OW series includes already pre-cutted ties conveniently packed in 100 pcs reel.

**Material:** PP + Nylon

**Flammability:** self-extinguishing  
acc. UL94-V2

**Temperature:** 0°C... +104°C (static)

### RELATED PRODUCTS

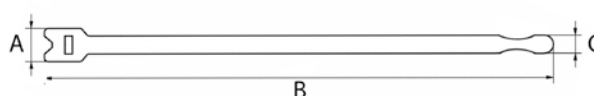
- AP strain relief modules
- AP-DP double-comb strain relief modules
- APD strain relief modules for DIN rails



| Model | Code       | Dimensions (mm) |     |    | Pcs (/pack) |
|-------|------------|-----------------|-----|----|-------------|
|       |            | A               | B   | C  |             |
| OW13  | 1733021012 | 13              | 200 | 7  | 100         |
| OW20  | 1733021013 | 20              | 230 | 13 |             |



### Dimensions (mm)



## Hook and loop cable ties

### FEATURES

- The hook and loop cable ties can be reused
- Adaptable to the shape of the cable bundles
- Particularly effective in the event of vibration
- Also available in reels

Hook and loop cable ties allow a large number of cables to be bundled together. They prevent damage in the event of vibration and can be reused many times. They are available in 3 different types or in 25 m reels.

**Material:** PE + Nylon

**Flammability:** self-extinguishing acc. UL94-V2

**Temperature:** 0°C... +104°C (static)

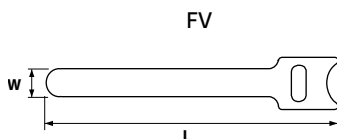
### RELATED PRODUCTS

- AP strain relief modules
- AP-DP double-comb strain relief modules
- APD strain relief modules for DIN rails



| Model     | Code       | Dimensions |    | Pcs (/pack) |
|-----------|------------|------------|----|-------------|
|           |            | B          | C  |             |
| FV1       | 1733020020 | 200 mm     | 10 | 100         |
| FV2       | 1733020025 | 200 mm     | 13 |             |
| FV3       | 1733020030 | 300 mm     | 17 |             |
| BOB 10X25 | 1733021010 | 25 m       | 10 | 1           |
| BOB 20X25 | 1733021020 | 25 m       | 20 |             |
| BOB 15X10 | 1733021006 | 10 m       | 15 |             |
| BOB 19X10 | 1733021008 | 10 m       | 19 |             |
| BOB 38X10 | 1733021009 | 10 m       | 38 |             |

### Dimensions (mm)





### FEATURES

- Especially designed for food and pharma industries
- Self-extinguishing UL94-V2
- 4 measures standard, others on request
- Useable in the HACCP process

The metal detectable cable ties are FDA compliant for Food & Pharma industries application. A particular production process add a metallic pigment which makes the cable ties detectable by x-rays and metal detectors.

They can be used in the HACCP process reducing the risk of food contamination. The blue color help the visual recognition.

**Material:** PA66

**Flammability:** self-extinguishing  
acc. UL94-V2

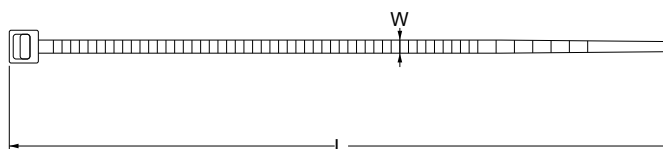
**Temperature:** -40°C... +85°C (static)

### RELATED PRODUCTS

- DES PDM 24 CLEAN
- FVM cable ties

| Model  | Code       | Dimensions (mm) |     | Pcs<br>(/pack) |
|--------|------------|-----------------|-----|----------------|
|        |            | L               | W   |                |
| FVM101 | 1733021101 | 100             | 2,5 | 100            |
| FVM150 | 1733021150 | 150             | 3,6 |                |
| FVM200 | 1733021200 | 200             | 4,8 |                |
| FVM300 | 1733021300 | 300             | 4,8 |                |

### Dimensions (mm)



## Fixing clips for metal detectable cable ties



### FEATURES

- Specific for the food and pharmaceutical industry
- UL94-HB
- Double fixing system: adhesive or screws
- Fixing on four sides
- Can be used in the HACCP process

The fixing clips for FVM cable ties are specially designed for the food and pharmaceutical industry. An exclusive manufacturing process includes a metallic pigment that makes them detectable by metal detectors or X-ray devices. The mounting supports allow the fixing of the clamps even in areas with high vibrations, thanks to the 4 direction fixing. Can be used in the HACCP process reducing the risk of food contamination. The blue colour facilitates visual recognition.

**Material:** PA66

**Flammability:** UL94-HB

**Temperature:** -40°C... +85°C (static)

### RELATED PRODUCTS

- DES PDM 24 clean
- FVM cable ties

| Model   | Code       | Dimensions (mm) |      |     |     | Cable tie width min/max (mm) | Pcs (/pack) |
|---------|------------|-----------------|------|-----|-----|------------------------------|-------------|
|         |            | L               | W    | H   | D   |                              |             |
| FVS-Q1  | 1733021305 | 12,8            | 12,8 | 3,4 | -   | 3,2                          | 100         |
| FVS-Q2  | 1733021310 | 19              | 19   | 4,2 | 3,5 | 4                            |             |
| FVS-Q3  | 1733021315 | 28,1            | 28,1 | 5,2 | 5,7 | 5,3                          |             |
| FVS-R8  | 1733021325 | 14,8            | 9,5  | 7,2 | 4,5 | 4,8                          | 100         |
| FVS-T10 | 1733021335 | 21,7            | 15,9 | 9,7 | 4,5 | 9                            | 100         |



FVS-T10

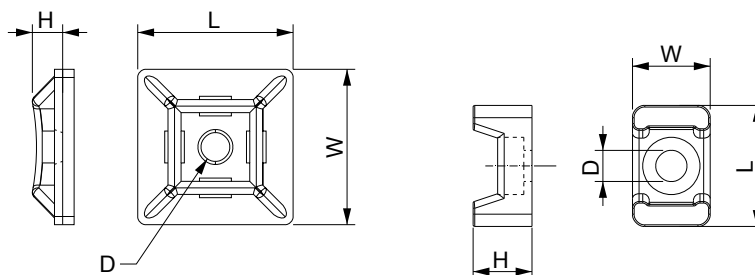


FVS-R8



FVS-Q

### Dimensions (mm)





# GROUP 4

EMC shielding



## Shield clamps without foot

### FEATURES

- Suitable for a wide range of cable diameters from 1,5 to 22 mm
- Ideal adherence to cable shielding
- **Increased wings length for easier cable insertion**
- Constant pressure on the cable sheath without having to run tests and checks
- High vibration resistance



The MSS2 shield clamps enable the cable shield to be grounded easily and effectively. The MSS2 shield clamps can be fixed with screws or rivets.

**Material:** spring steel, zinc plated

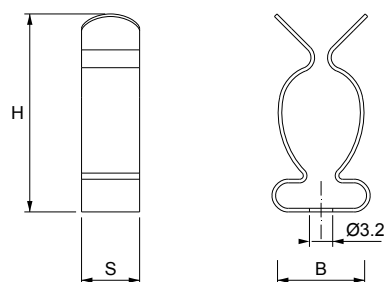
### RELATED PRODUCTS

- MB DIN rail bases (page 130)

| Model      | Code       | Clamping range (mm) | Dimensions (mm) |      |    | Pcs (/pack) |
|------------|------------|---------------------|-----------------|------|----|-------------|
|            |            |                     | B               | H    | S  |             |
| MSS2 1.5-3 | 1734010210 | 1,5 - 3             | 11              | 13,5 | 8  | 50          |
| MSS2 3-6   | 1734010220 | 3 - 6               | 11              | 16   | 8  | 50          |
| MSS2 7-9   | 1734010230 | 7 - 9               | 11              | 18,5 | 8  | 50          |
| MSS2 9-12  | 1734010240 | 9 - 12              | 12              | 22   | 8  | 50          |
| MSS2 11-17 | 1734010250 | 11 - 17             | 13,5            | 27   | 8  | 50          |
| MSS2 18-22 | 1734010260 | 18 - 22             | 22              | 36,5 | 8  | 50          |
| MSS2 22-30 | 1734010270 | 22 - 30             | 22              | 43   | 12 | 10          |



### Dimensions (mm)





### FEATURES

- Suitable for a wide range of cable diameters from 30 to 74 mm
- Ideal adherence to cable shielding
- Possibility to mount the springs easily, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks
- High vibration resistance, maintenance free

The MSS shield clamps enable the cable shield to be grounded easily and effectively. The MSS shield clamps can be fixed with screws or rivets.

**Material:** spring steel, zinc plated

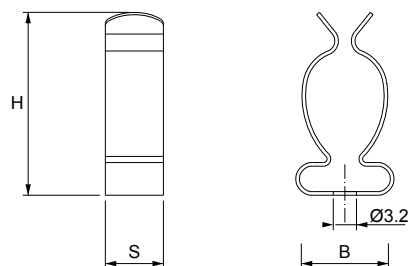
### RELATED PRODUCTS

- MB DIN rail bases (page 130)



| Model     | Code       | Clamping range (mm) | Dimensions (mm) |      |    | Pcs (/pack) |
|-----------|------------|---------------------|-----------------|------|----|-------------|
|           |            |                     | B               | H    | S  |             |
| MSS 30-37 | 1734010080 | 30 - 37             | 40              | 55   | 12 | 10          |
| MSS 38-48 | 1734010090 | 38 - 48             | 40              | 64   | 12 |             |
| MSS 50-60 | 1734010095 | 50 - 60             | 50              | 74,5 | 12 |             |
| MSS 62-74 | 1734010100 | 62 - 74             | 62              | 88   | 12 |             |

### Dimensions (mm)





## Shield clamps without base

### FEATURES

- Suitable for a wide range of cable diameters from 1,5 to 10 mm
- Side by side mounting possible
- Ideal contact to cable shielding
- Easy cable insertion
- Constant pressure on the cable sheath without having to run tests and checks
- High vibration resistance



The MSS3 shield clamps enable the cable shield to be grounded easily and effectively. Thanks to the particular design, they allow an easy cable insertion by leveraging on the longer side. They also guarantee maximum space saving and side-by-side mounting even with the cable inserted.

**Material:** spring steel, zinc plated

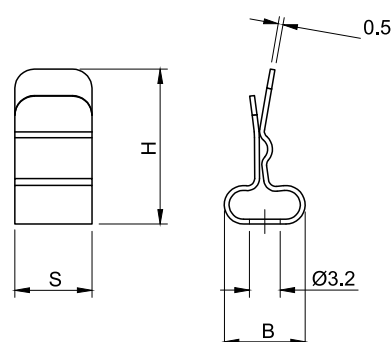
### RELATED PRODUCTS

- MB DIN rail bases (page 130)

|     | Model      | Code       | Clamping range (mm) | Dimensions (mm) |      |   | Pcs (/pack) |
|-----|------------|------------|---------------------|-----------------|------|---|-------------|
|     |            |            |                     | B               | H    | S |             |
| NEW | MSS3 1,5-3 | 1734010280 | 1,5 - 3             | 8,4             | 16,1 | 8 | 50          |
|     | MSS3 3-7   | 1734010281 | 3 - 7               | 8,4             | 21,9 | 8 | 50          |
|     | MSS3 6-10  | 1734010285 | 6 - 10              | 8,5             | 24,7 | 8 | 50          |



### Dimensions (mm)





### FEATURES

- Suitable for a wide range of cable diameters from 3 to 19 mm
- Snap-in assembly, no need to use tools
- Ideal adherence to cable shielding
- Constant pressure on the cable sheath without having to run tests and checks
- High vibration resistance, maintenance free

The MSL shield clamps enable the cable shield to be grounded easily and effectively. The MSL shield clamps can be fixed with screws or rivets.

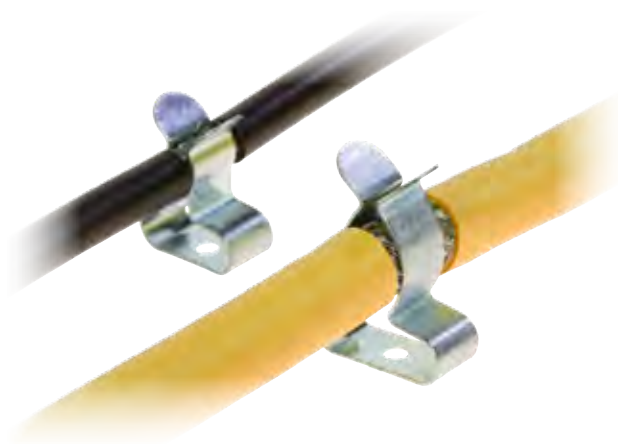
**Material:** spring steel, zinc plated

### RELATED PRODUCTS

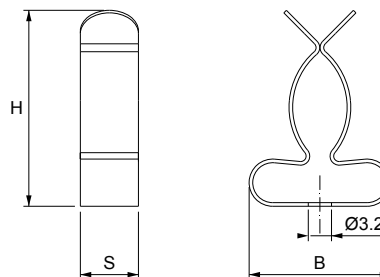
- MB DIN rail bases (page 130)



|     | Model     | Code       | Clamping range (mm) | Dimensions (mm) |      |   | Pcs (/pack) |
|-----|-----------|------------|---------------------|-----------------|------|---|-------------|
|     |           |            |                     | B               | H    | S |             |
|     | MSL 3-9   | 1734010310 | 3 - 9               | 16,5            | 20,6 | 8 | 50          |
| NEW | MSLB 3-12 | 1734010330 | 3 - 12              | 16              | 15,9 | 8 | 50          |
|     | MSL 10-19 | 1734010320 | 10 - 19             | 19,5            | 27   | 8 | 50          |



### Dimensions (mm)



## Screw fixing shield clamps

### FEATURES

- Suitable for a cable range from 1,5 to 12 mm diameter
- Useful in small places
- Screw fixing hole M4
- Constant pressure on the cable sheath

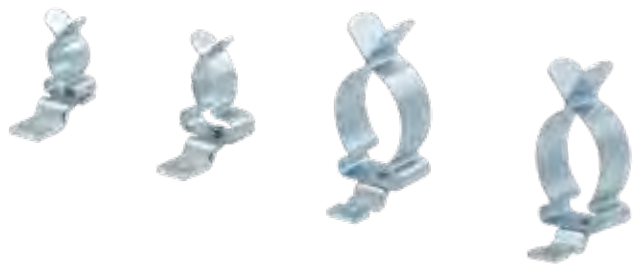
The MSM and MSML shield clamps enable the cable shield to be grounded easily and effectively.

The shield clamp can be fixed with a M4 screw or rivet.

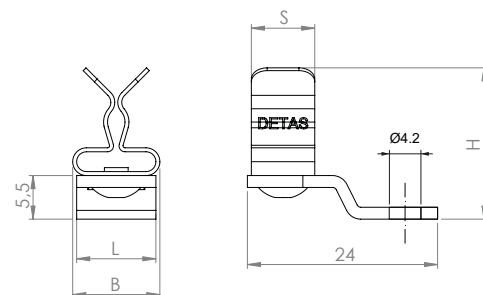
**Material:** spring steel, zinc plated



| Model            | Code       | Clamping range (mm) | Dimensions (mm) |      |      |    | Pcs (/pack) |
|------------------|------------|---------------------|-----------------|------|------|----|-------------|
|                  |            |                     | L               | B    | H    | S  |             |
| <b>MSM 1.5-3</b> | 1734030110 | 1,5 - 3             | 10              | 11   | 19   | 11 | 50          |
| <b>MSM 3-6</b>   | 1734030120 | 3 - 6               | 10              | 11   | 21,5 | 11 |             |
| <b>MSM 7-9</b>   | 1734030130 | 7 - 9               | 10              | 11   | 24   | 11 |             |
| <b>MSM 9-12</b>  | 1734030140 | 9 - 12              | 10              | 12   | 27,5 | 12 |             |
| <b>MSML 3-9</b>  | 1734030180 | 3 - 9               | 10              | 16,5 | 22   | 8  |             |



### Dimensions (mm)





## Shield clamps with screw fixing with double cable tie secure

### FEATURES

- Suitable for a range of cables from 1,5 to 30 mm
- Shield grounding and strain relief in the same device
- Double cable tie
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks
- Available with hole M5

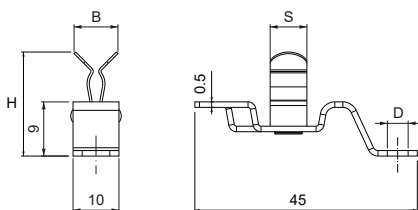


The MSA shield clamps enable the cable shield to be grounded easily and effectively. They secure the anti-tear function on the cable by fixing it with one or two cable ties. The shield clamp can be fixed with a M4 screw. The strain relief function complies with EN 62444 standards.

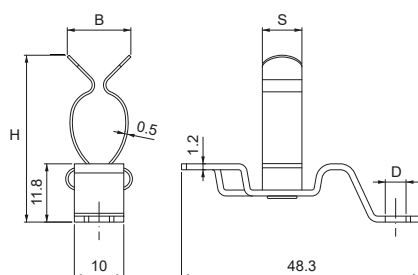
**Material:** spring steel, zinc plated

### Dimensions (mm)

Thickness 0.5 version



Thickness 1,2 version



| Model         | Code       | Clamping<br>range<br>(mm) | Hole | Thickness | Dimensions (mm) |      |    | Pcs<br>x<br>conf. |
|---------------|------------|---------------------------|------|-----------|-----------------|------|----|-------------------|
|               |            |                           |      |           | B               | H    | S  |                   |
| MSA<br>1.5-3  | 1734030010 | 1,5 - 3                   | M4   | 0,5       | 11              | 17   | 8  | 50                |
|               | 1734030011 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>3-6    | 1734030020 | 3 - 6                     | M4   | 0,5       | 11              | 20   | 8  |                   |
|               | 1734030021 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>7-9    | 1734030030 | 7 - 9                     | M4   | 1,2       | 11              | 25   | 8  |                   |
|               | 1734030031 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>9-12   | 1734030040 | 9 - 12                    | M4   | 1,2       | 13,5            | 34   | 8  |                   |
|               | 1734030041 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>11-17  | 1734030050 | 11 - 17                   | M4   | 0,5       | 12              | 31   | 8  |                   |
|               | 1734030052 |                           | M4   | 1,2       |                 |      |    |                   |
|               | 1734030051 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>18-22  | 1734030060 | 18 - 22                   | M4   | 1,2       | 22              | 43   | 8  |                   |
|               | 1734030061 |                           | M5   | 1,2       |                 |      |    |                   |
| MSA<br>22-30  | 1734030070 | 22 - 30                   | M4   | 1,2       | 22,5            | 50   | 12 |                   |
|               | 1734030071 |                           | M5   | 1,2       |                 |      |    |                   |
| MSAL<br>3-9   | 1734030080 | 3 - 9                     | M4   | 1,2       | 16,5            | 27   | 8  |                   |
|               | 1734030081 |                           | M5   | 1,2       |                 |      |    |                   |
| MSAL<br>10-19 | 1734030090 | 10 - 19                   | M4   | 1,2       | 19,5            | 30,5 | 8  |                   |
|               | 1734030091 |                           | M5   | 1,2       |                 |      |    |                   |



## Shield clamps with screw fixing with double cable tie secure

### FEATURES

- Suitable for a range of cables from 1,5 to 30 mm
- Possibility of obtaining shield grounding and anti-tear functions with a single device
- Double cable tie
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks



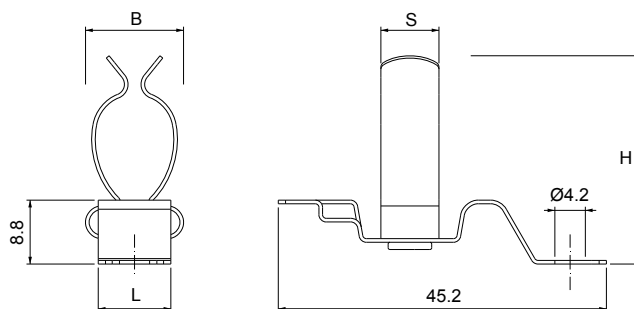
The MSE shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable by fixing it with one or two cable ties. The shield clamp can be fixed with a M4 screw.

They secure the strain relief function in compliance with EN 62444 by fixing the cable it with one or two cable ties.

**Material:** spring steel, zinc plated

| Model      | Code       | Clamping range (mm) | Dimensions (mm) |      |      |    | Pcs (/pack) |
|------------|------------|---------------------|-----------------|------|------|----|-------------|
|            |            |                     | L               | B    | H    | S  |             |
| MSE 1.5-3  | 1734050010 | 1,5 - 3             | 10              | 11   | 15,5 | 8  | 50          |
| MSE 3-6    | 1734050020 | 3 - 6               | 10              | 11   | 17,5 | 8  |             |
| MSE 7-9    | 1734050030 | 7 - 9               | 10              | 11   | 21   | 8  |             |
| MSE 9-12   | 1734050040 | 9 - 12              | 10              | 12   | 22,5 | 8  |             |
| MSE 11-17  | 1734050050 | 11 - 17             | 10              | 13,5 | 29   | 8  |             |
| MSE 18-22  | 1734050060 | 18-22               | 10              | 22   | 37   | 8  |             |
| MSE 22-30  | 1734050070 | 22-30               | 10              | 22,5 | 46,5 | 12 |             |
| MSEL 3-9   | 1734050080 | 3 - 9               | 10              | 16,5 | 24   | 8  |             |
| MSEL 10-19 | 1734050090 | 10 - 19             | 10              | 19,5 | 30,5 | 8  |             |

### Dimensions (mm)





# MSG

## Shield clamps for DIN TS15 Rail

### FEATURES

- Suitable for a cable range from 1,5 to 9 mm diameter
- Shield grounding and strain relief functions with a unique device
- Easy and fast installation without tools
- Constant pressure on the cable sheath without having to run tests and checks

The MSG shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable by fixing it with a tie.

The MSG shield clamps can be used on TS15 DIN rails.

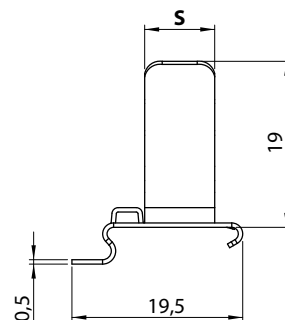
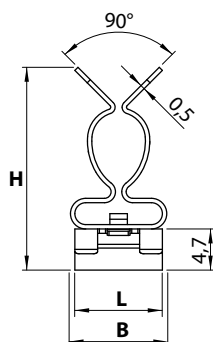
**Material:** spring steel, zinc plated



| Model     | Code       | Clamping range (mm) | Dimensions (mm)<br>H | Pcs (/pack) |
|-----------|------------|---------------------|----------------------|-------------|
| MSG 1.5-3 | 1734060110 | 1,5 - 3             | 18,3                 | 50          |
| MSG 3-6   | 1734060120 | 3 - 6               | 21                   |             |
| MSG 7-9   | 1734060130 | 7 - 9               | 23,2                 |             |



### Dimensions (mm)



## Shield clamps for DIN TS35 rails with double cable tie

### FEATURES

- Suitable for a wide range of cables from 1,5 to 22 mm
- Snap-in assembly, no need to use tools
- Double cable tie
- Possibility of obtaining shield grounding and strain relief functions with a single device
- Ideal adherence to cable shielding
- Constant pressure on the cable sheath without having to run tests and checks



The MSD2 shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable by fixing it with one or two cable ties. The strain relief function complies with EN 62444 standards.

The MSD 2 shield clamps can be used on TS35 DIN rails.

**Material:** spring steel, zinc plated

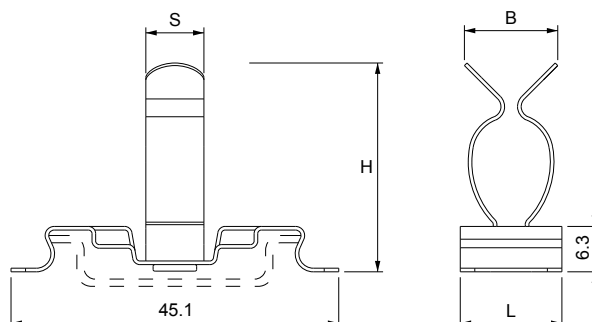


| Model       | Code       | Clamping range (mm) | Dimensions (mm) |      |      |   | Pcs (/pack) |
|-------------|------------|---------------------|-----------------|------|------|---|-------------|
|             |            |                     | L               | B    | H    | S |             |
| MSD2 1.5-3  | 1734021010 | 1,5 - 3             | 14              | 11   | 15   | 8 | 50          |
| MSD2 3-6    | 1734021020 | 3 - 6               | 14              | 11   | 17,5 | 8 |             |
| MSD2 7-9    | 1734021030 | 7 - 9               | 14              | 11   | 20   | 8 |             |
| MSD2 9-12   | 1734021040 | 9 - 12              | 14              | 12   | 23   | 8 |             |
| MSD2 11-17  | 1734021050 | 11 - 7              | 14              | 13,5 | 29   | 8 |             |
| MSD2 18-22  | 1734021060 | 18 - 22             | 14              | 22   | 38   | 8 |             |
| MSD2L 3-9   | 1734021080 | 3 - 9               | 14              | 16,5 | 22   | 8 |             |
| MSD2L 3-12  | 1734021081 | 3 - 12              | 14              | 16,5 | 22   | 8 |             |
| MSD2L 10-19 | 1734021090 | 10 - 19             | 14              | 19,5 | 28,5 | 8 |             |

NEW

4

### Dimensions (mm)





### FEATURES

- Suitable for a wide range of cables from 22 to 74 mm
- Snap-in assembly, no need to use tools
- Available with two bases: 14 and 22 mm
- High vibration resistance
- Shield grounding and strain relief function with the same device
- Ideal contact to cable shielding
- Constant pressure on the cable sheath without having to run tests and checks

The MSD shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable fixing a cable tie in compliance with EN62444.

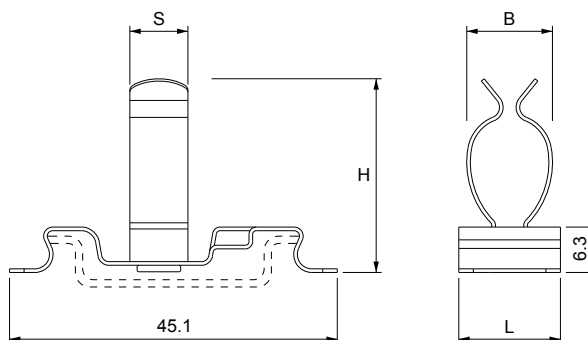
The MSD shield clamps are used on TS35 DIN rails.

**Material:** spring steel, zinc plated



| Model     | Code       | Clamping range (mm) | Dimensions (mm) |      |      |    | Pcs (/pack) |
|-----------|------------|---------------------|-----------------|------|------|----|-------------|
|           |            |                     | L               | B    | H    | S  |             |
| MSD 22-30 | 1734020070 | 22 - 30             | 22              | 22,5 | 45   | 12 | 50          |
| MSD 30-37 | 1734020080 | 30 - 37             | 22              | 31   | 58   | 12 |             |
| MSD 38-48 | 1734020090 | 38 - 48             | 22              | 40   | 68,5 | 12 |             |
| MSD 50-60 | 1734021095 | 50-60               | 22              | 50   | 75   | 12 |             |
| MSD 62-74 | 1734021098 | 62-74               | 22              | 62   | 89   | 12 |             |

### Dimensions (mm)



### FEATURES

- Suitable for a range of cables from 1,5 to 7 mm
- Snap-in assembly, no need to use tools
- Space savings compared to conventional models
- Shield grounding and strain relief function with the same device
- Ideal adherence to cable shielding
- Constant pressure on the cable sheath without having to run tests and checks

The MSP/MSPC shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable by fixing it with a cable tie.

The strain relief function complies with EN 62444 standards.

The special construction shape allows side-by-side mounting on the TS35 DIN rails with a significant space saving in the cabinet.

**Material:** spring steel, zinc plated



|     | Model          | Code       | Clamping range (mm) | Dimensions (mm) |    |      | Pcs (/pack) |
|-----|----------------|------------|---------------------|-----------------|----|------|-------------|
|     |                |            |                     | L               | B  | H    |             |
| NEW | MSP 1.5 - 3*   | 1734010410 | 1,5 - 3             | 52,4            | 20 | 15,5 | 50          |
|     | MSP 1.5 - 3 V2 | 1734010411 | 1,5 - 3             | 52,4            | 20 | 16,5 |             |
| NEW | MSP 3 - 6*     | 1734010420 | 3 - 6               | 52,4            | 20 | 18   |             |
|     | MSPC 3 - 7     | 1734010421 | 3 - 7               | 52,4            | 24 | 24   |             |
|     | MSPC 6 - 10    | 1734010425 | 6 - 10              | 52,4            | 24 | 32   |             |

\*Not available for the german market



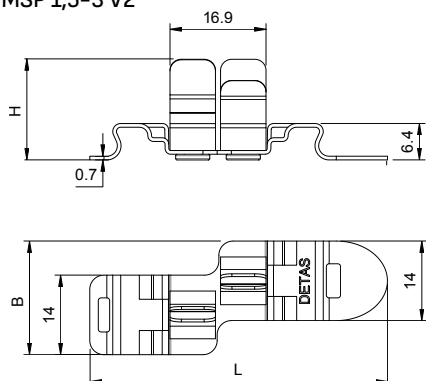
MSPC 3 - 7



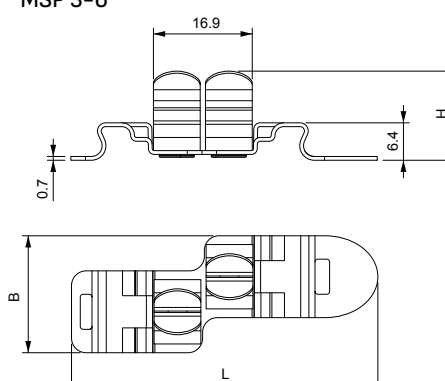
MSP 3 - 6

### Dimensions (mm)

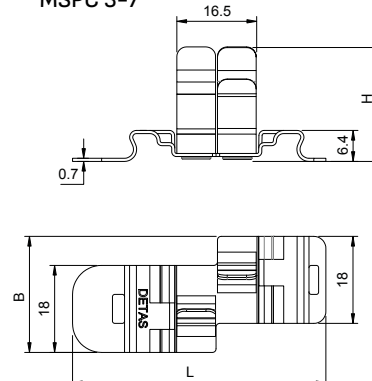
MSP 1,5-3 V2



MSP 3-6\*



MSPC 3-7



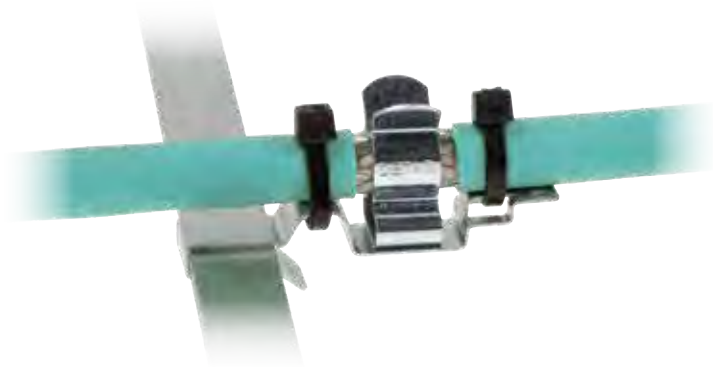


# MSB

## Shield clamps for 10 x 3 mm bar with double cable tie

### FEATURES

- Suitable for cable diameter ranges from 1,5 to 30 mm
- Shield grounding and strain relief function with the same device
- Double cable tie
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks



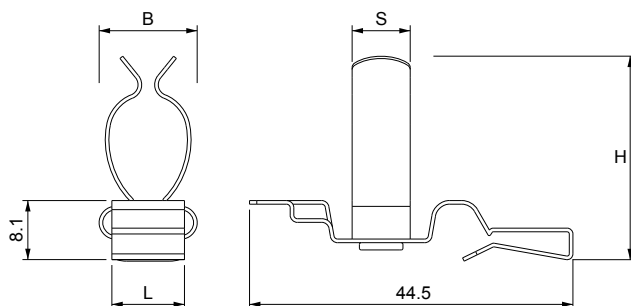
The MSB shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function with two cable ties. The MSB shield clamps can be used on 10x3 bars.

The strain relief function complies with EN 62444 standard.

**Material:** spring steel, zinc plated

| Model      | Code       | Clamping range (mm) | Dimensions (mm) |      |      |    | Pcs (/pack) |
|------------|------------|---------------------|-----------------|------|------|----|-------------|
|            |            |                     | L               | B    | H    | S  |             |
| MSB 1.5-3  | 1734040010 | 1,5 - 3             | 10              | 11   | 15   | 8  | 50          |
| MSB 3-6    | 1734040020 | 3 - 6               | 10              | 11   | 17   | 8  |             |
| MSB 7-9    | 1734040030 | 7 - 9               | 10              | 11   | 20   | 8  |             |
| MSB 9-12   | 1734040040 | 9 - 12              | 10              | 12   | 22   | 8  |             |
| MSB 11-17  | 1734040050 | 11 - 17             | 10              | 13,5 | 28   | 8  |             |
| MSB 18-22  | 1734040060 | 18 - 22             | 10              | 22   | 37   | 8  |             |
| MSB 22-30  | 1734040070 | 22 - 30             | 10              | 22,5 | 46,5 | 12 |             |
| MSBL 3-9   | 1734040080 | 3 - 9               | 10              | 16,5 | 23,5 | 8  |             |
| MSBL 10-19 | 1734040090 | 10 - 19             | 10              | 19,5 | 30   | 8  |             |

### Dimensions (mm)



## Shield clamps for 10 x 3 mm bar

### FEATURES

- Suitable for cable diameter ranges from 1,5 to 30 mm
- Shield grounding and strain relief function with the same device
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks



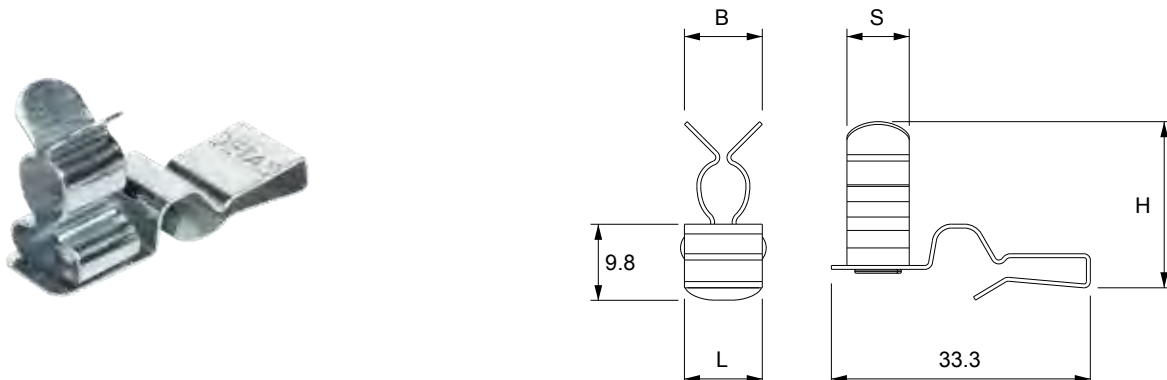
The MSR shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function on the cable by fixing it with a cable tie. The MSR shield clamps can be used on 10x3 bars. The strain relief function complies with EN 62444 standard.

**Material:** spring steel, zinc plated

| Model      | Code       | Clamping range (mm) | Dimensions (mm) |      |      |    | Pcs (/pack) |
|------------|------------|---------------------|-----------------|------|------|----|-------------|
|            |            |                     | L               | B    | H    | S  |             |
| MSR 1.5-3  | 1734040310 | 1,5 - 3             | 10              | 11   | 16,5 | 8  | 50          |
| MSR 3-6    | 1734040320 | 3 - 6               | 10              | 11   | 19   | 8  |             |
| MSR 7-9    | 1734040330 | 7 - 9               | 10              | 11   | 21,5 | 8  |             |
| MSR 9-12   | 1734040340 | 9 - 12              | 10              | 12   | 24,5 | 8  |             |
| MSR 11-17  | 1734040350 | 11 - 17             | 10              | 13,5 | 30   | 8  |             |
| MSR 18-22  | 1734040360 | 18 - 22             | 10              | 22   | 39,5 | 8  |             |
| MSR 22-30  | 1734040370 | 22 - 30             | 10              | 22,5 | 46,5 | 12 |             |
| MSRL 3-12  | 1734040381 | 3 - 12              | 10              | 12   | 19   | 8  |             |
| MSRL 10-19 | 1734040390 | 10 - 19             | 10              | 10   | 30   | 8  |             |

4

### Dimensions (mm)





## Shield clamps for 10 x 3 mm busbar

### FEATURES

- Suitable for cable diameter ranges from 1,5 to 9 mm
- Shield grounding and strain relief functions in a single device
- Snap-in assembly, no need to use tools
- Constant pressure of the clamp on the cable sheath without having to run tests and checks

The MSRP/MSRC shield clamps allow to easily and effectively earthing the cable shielding and guarantee the strain relief function with a cable tie.

The special construction shape allows side-by-side mounting on a 3x10 busbar, allowing significant space savings on the cabinet.

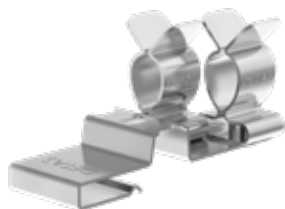
**Material:** spring steel, zinc plated



MSRP 1.5-3 V2

|     | Model         | Code       | Clamping range (mm) | Dimensions (mm)<br>H | Pcs<br>(/pack) |
|-----|---------------|------------|---------------------|----------------------|----------------|
| NEW | MSRP 1.5-3 V2 | 1734040111 | 1,5 - 3             | 16,5                 | 50             |
|     | MSRP 3-6*     | 1734040120 | 3 - 6               | 19,1                 |                |
|     | MSRP 7-9*     | 1734040130 | 7 - 9               | 21,4                 |                |
| NEW | MSRC 3-7      | 1734040121 | 3 - 7               | 27,2                 | 50             |
|     | MSRC 6-10     | 1734040131 | 6 - 10              | 30                   |                |

\*Not available for the german market



MSRP 3 - 6



MSRC 3 - 7

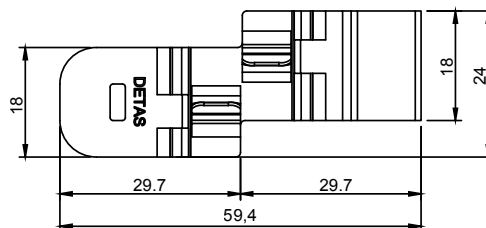
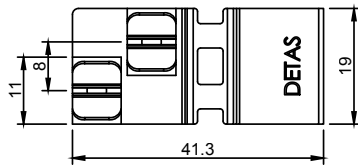
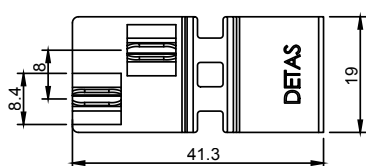
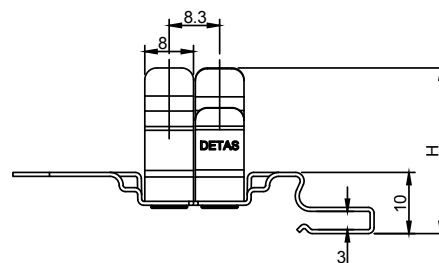
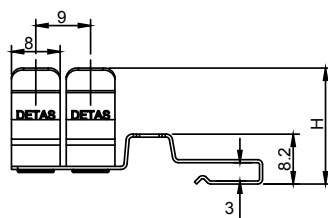
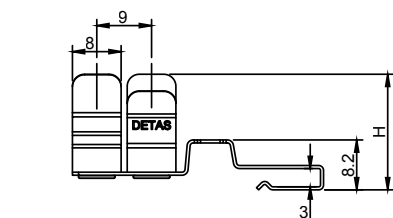


### Dimensions (mm)

MSRP 1.5-3 V2

MSRP 3 - 6 / MSRP 7 - 9

MSRC 3 - 7 / MSRC 6 - 10



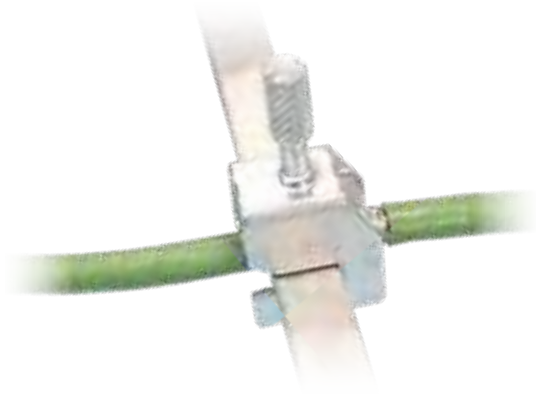
## Shield clamps for 10 x 3 mm bar

### FEATURES

- Cable ranges from 2 to 35 mm
- Installation on 3x10 busbar
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks

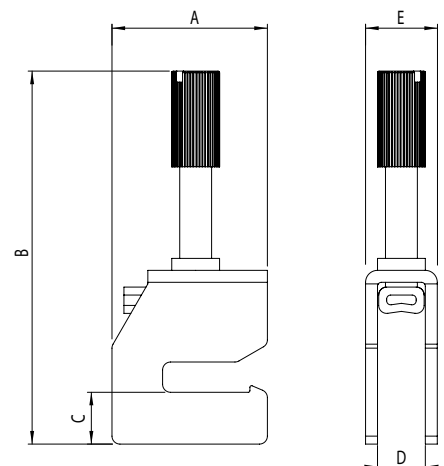
The MSH shield clamps enable the cable shield to be grounded easily and effectively. The MSH shield clamps are used on 10x3 bars and they are secured tightening the M4 or M5 screw which is also making strain relief function.

**Material:** spring steel, zinc plated



| Model     | Code       | Clamping range (mm) | Dimensions (mm) |       |     |     |      | Pcs (/pack) |
|-----------|------------|---------------------|-----------------|-------|-----|-----|------|-------------|
|           |            |                     | A               | B     | C   | D   | E    |             |
| MSH 2-5   | 1734040405 | 2 - 5               | 19,5            | 47,5  | 6,5 | 6,5 | 9,4  | 10          |
| MSH 3-8   | 1734040408 | 3 - 8               | 19,5            | 49,5  | 6,5 | 9   | 12,4 |             |
| MSH 3-14  | 1734040414 | 3 - 14              | 19,5            | 60,6  | 6,5 | 14  | 17,3 |             |
| MSH 3-20  | 1734040420 | 3 - 20              | 19,5            | 75    | 6,5 | 21  | 24   |             |
| MSH 20-35 | 1734040435 | 20 - 35             | 20              | 106,5 | 6,5 | 36  | 40   |             |

### Dimensions (mm)





# MST

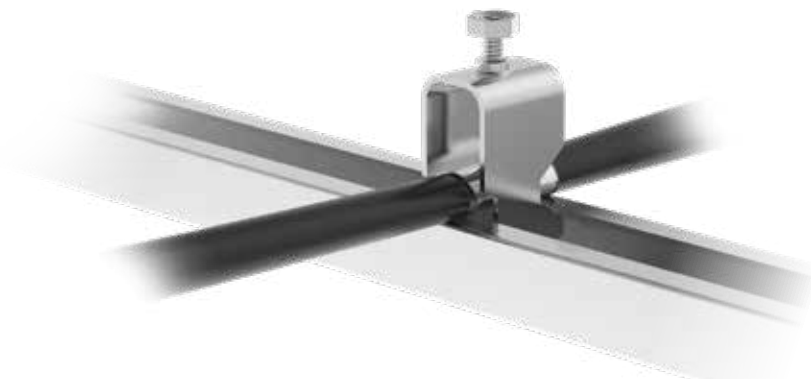
## Shield clamp for C 30mm rail

### FEATURES

- Cable ranges from 6 to 42 mm
- Installation on C rail 30 mm
- Snap-in assembly with tightening nut
- Cost effective

The MST shield clamps enable the cable shield to be grounded easily and effectively. The MST shield clamps are used on the C 30 mm rail and they are secured tightening the screw which also ensures the strain relief function.

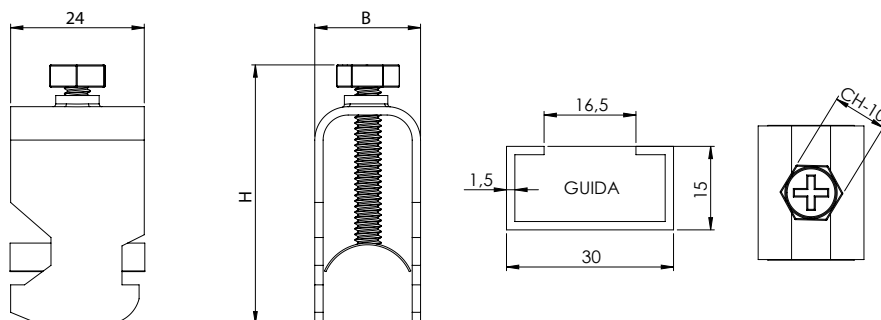
**Material:** spring steel, zinc plated



| Model     | Code       | Clamping range (mm) | Dimensions (mm) |    | Pcs (/pack) |
|-----------|------------|---------------------|-----------------|----|-------------|
|           |            |                     | B               | H  |             |
| MST 6-12  | 1734040512 | 6 - 12              | 21              | 70 | 10          |
| MST 12-18 | 1734040518 | 12 - 18             | 23              | 70 |             |
| MST 18-22 | 1734040522 | 18 - 22             | 27              | 70 |             |
| MST 22-30 | 1734040530 | 22 - 30             | 39              | 85 |             |
| MST 30-38 | 1734040538 | 30 - 38             | 45              | 90 |             |
| MST 38-42 | 1734040542 | 38 - 42             | 47              | 95 |             |



### Dimensions (mm)



## Multiple EMC shielding



### FEATURES

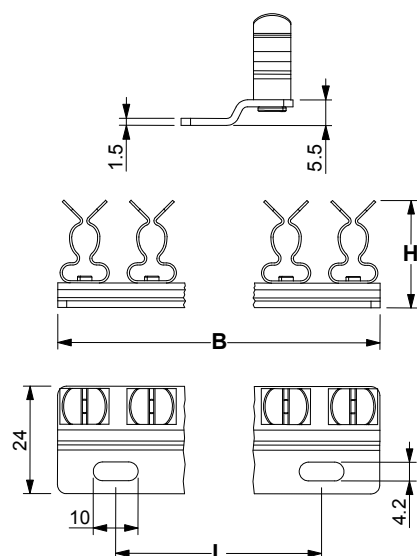
- Cable ranges from 1,5 to 12 mm
- Snap-in assembly, no need to use tools
- Constant pressure on the cable sheath without having to run tests and checks
- Saving installation time and money

The multiple EMC shielding clamps can shorten the mounting time and space of a multitude of single clips.

The base of the clips is fixed with two M4 screws. Custom solutions are welcome.

**Material:** SS304 stainless steel (base), spring steel, zinc plated (clips)

### Dimensions (mm)



| Model         | Code       | Nr. Cables | Clamping range (mm) | Dimensions (mm) |     |      | Pcs (/pack) |
|---------------|------------|------------|---------------------|-----------------|-----|------|-------------|
|               |            |            |                     | B               | L   | H    |             |
| MSU 3x 1,5-3  | 1734030310 | 3          | 1,5 - 3             | 46              | 30  | 19,1 | 1           |
| MSU 3x 3-6    | 1734030320 | 3          | 3 - 6               | 46              | 30  | 21,6 |             |
| MSU 3x 7-9    | 1734030330 | 3          | 7 - 9               | 46              | 30  | 24,0 |             |
| MSU 3x 9-12   | 1734030340 | 3          | 9 - 12              | 46              | 30  | 27,2 |             |
| MSU 4x 1,5-3  | 1734030410 | 4          | 1,5 - 3             | 61              | 30  | 19,1 |             |
| MSU 4x 3-6    | 1734030420 | 4          | 3 - 6               | 61              | 30  | 21,6 |             |
| MSU 4x 7-9    | 1734030430 | 4          | 7 - 9               | 61              | 30  | 24,0 |             |
| MSU 4x 9-12   | 1734030440 | 4          | 9 - 12              | 61              | 30  | 27,2 |             |
| MSU 5x 1,5-3  | 1734030510 | 5          | 1,5 - 3             | 72              | 46  | 19,1 |             |
| MSU 5x 3-6    | 1734030520 | 5          | 3 - 6               | 72              | 46  | 21,6 |             |
| MSU 5x 7-9    | 1734030530 | 5          | 7 - 9               | 72              | 46  | 24,0 |             |
| MSU 5x 9-12   | 1734030540 | 5          | 9 - 12              | 72              | 46  | 27,2 |             |
| MSU 6x 1,5-3  | 1734030610 | 6          | 1,5 - 3             | 88              | 62  | 19,1 |             |
| MSU 6x 3-6    | 1734030620 | 6          | 3 - 6               | 88              | 62  | 21,6 |             |
| MSU 6x 7-9    | 1734030630 | 6          | 7 - 9               | 88              | 62  | 24,0 |             |
| MSU 6x 9-12   | 1734030640 | 6          | 9 - 12              | 88              | 62  | 27,2 |             |
| MSU 7x 1,5-3  | 1734030710 | 7          | 1,5 - 3             | 104             | 78  | 19,1 |             |
| MSU 7x 3-6    | 1734030720 | 7          | 3 - 6               | 104             | 78  | 21,6 |             |
| MSU 7x 7-9    | 1734030730 | 7          | 7 - 9               | 104             | 78  | 24,0 |             |
| MSU 7x 9-12   | 1734030740 | 7          | 9 - 12              | 104             | 78  | 27,2 |             |
| MSU 8x 1,5-3  | 1734030810 | 8          | 1,5 - 3             | 120             | 94  | 19,1 |             |
| MSU 8x 3-6    | 1734030820 | 8          | 3 - 6               | 120             | 94  | 21,6 |             |
| MSU 8x 7-9    | 1734030830 | 8          | 7 - 9               | 120             | 94  | 24,0 |             |
| MSU 8x 9-12   | 1734030840 | 8          | 9 - 12              | 120             | 94  | 27,2 |             |
| MSU 9x 1,5-3  | 1734030910 | 9          | 1,5 - 3             | 140             | 116 | 19,1 |             |
| MSU 9x 3-6    | 1734030920 | 9          | 3 - 6               | 140             | 116 | 21,6 |             |
| MSU 9x 7-9    | 1734030930 | 9          | 7 - 9               | 140             | 116 | 24,0 |             |
| MSU 9x 9-12   | 1734030940 | 9          | 9 - 12              | 140             | 116 | 27,2 |             |
| MSU 10x 1,5-3 | 1734031010 | 10         | 1,5 - 3             | 150             | 126 | 19,1 |             |
| MSU 10x 3-6   | 1734031020 | 10         | 3 - 6               | 150             | 126 | 21,6 |             |
| MSU 10x 7-9   | 1734031030 | 10         | 7 - 9               | 150             | 126 | 24,0 |             |
| MSU 10x 9-12  | 1734031040 | 10         | 9 - 12              | 150             | 126 | 27,2 |             |
| MSU 11x 1,5-3 | 1734031110 | 11         | 1,5 - 3             | 166             | 140 | 19,1 |             |
| MSU 11x 3-6   | 1734031120 | 11         | 3 - 6               | 166             | 140 | 21,6 |             |
| MSU 11x 7-9   | 1734031130 | 11         | 7 - 9               | 166             | 140 | 24,0 |             |
| MSU 11x 9-12  | 1734031140 | 11         | 9 - 12              | 166             | 140 | 27,2 |             |
| MSU 12x 1,5-3 | 1734031210 | 12         | 1,5 - 3             | 172             | 156 | 19,1 |             |
| MSU 12x 3-6   | 1734031220 | 12         | 3 - 6               | 172             | 156 | 21,6 |             |
| MSU 12x 7-9   | 1734031230 | 12         | 7 - 9               | 172             | 156 | 24,0 |             |
| MSU 12x 9-12  | 1734031240 | 12         | 9 - 12              | 172             | 156 | 27,2 |             |



# MSF/MSFD

## Spring shield clamps

### FEATURES

- Cable ranges from 3 to 32 mm
- MSFD: version with base for TS35 DIN rail
- Constant pressure on the cable sheath without having to run tests and checks

The MSF/MSFD shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function thanks to the spring which maintains constant pressure on the cable braid.

**Material:** steel with electrolytic nickel plating



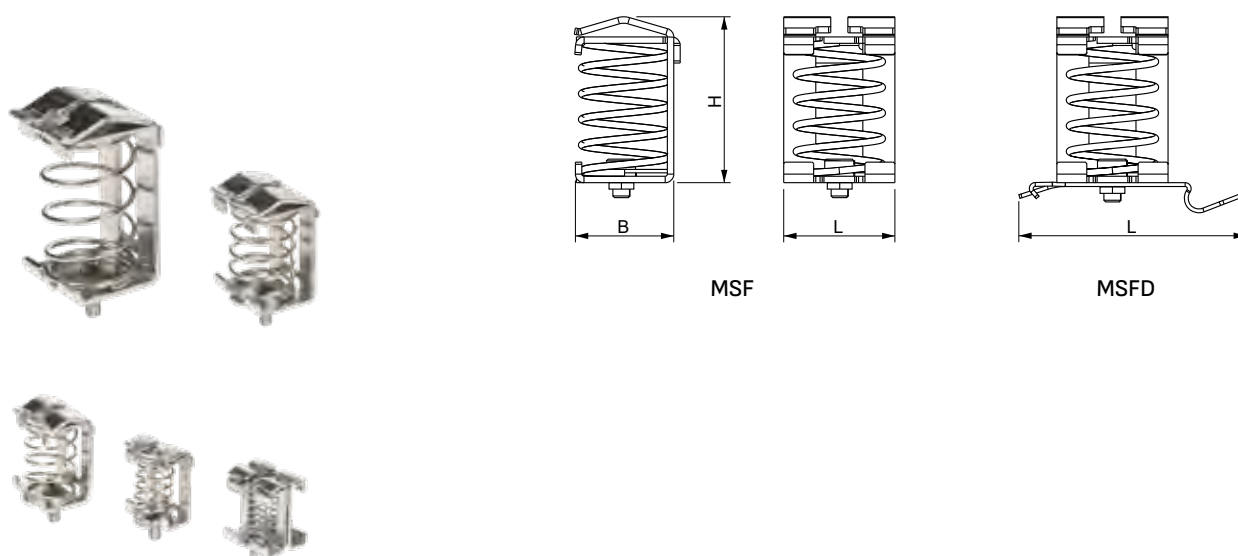
MSF



MSFD

| Model       | Code       | Clamping range (mm) | Dimensions (mm) |      |      | Pcs (/pack) |
|-------------|------------|---------------------|-----------------|------|------|-------------|
|             |            |                     | H               | L    | B    |             |
| MSF 2x2-6   | 1734020300 | 3-6                 | 23,1            | 18   | 16   | 10          |
| MSF 3-8     | 1734020305 | 3-8                 | 25,5            | 18,0 | 11,0 |             |
| MSFD 3-8    | 1734020310 | 3-8                 | 26,0            | 50,0 | 14,5 |             |
| MSF 4-13,5  | 1734020315 | 4-13,5              | 30,0            | 18,0 | 15,0 |             |
| MSFD 4-13,5 | 1734020320 | 4-13,5              | 30,0            | 50,5 | 20,5 |             |
| MSF 10-20   | 1734020325 | 10-20               | 40,0            | 26,0 | 25,0 |             |
| MSFD 10-20  | 1734020330 | 10-20               | 40,0            | 50,5 | 25,0 |             |
| MSF 15-32   | 1734020335 | 15-32               | 64,0            | 32,0 | 36,0 |             |
| MSFD 15-32  | 1734020340 | 15-32               | 64,0            | 50,5 | 34,5 |             |

### Dimensions (mm)



MSF

MSFD

## Spring shield clamps



MSFC



MSFE

### FEATURES

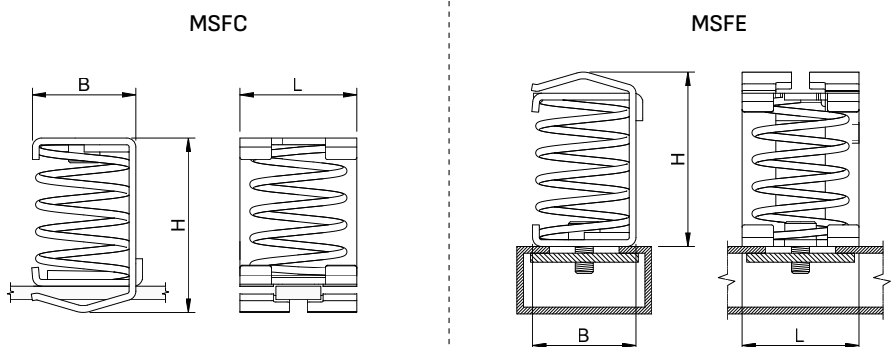
- Cable ranges from 2 to 32 mm
- MSFC: version with base for 3X10 rail
- MSFE: version with base for C 30 rail
- Constant pressure on the cable sheath without having to run tests and checks

The MSFC/MSFE shield clamps enable the cable shield to be grounded easily and effectively. They secure the strain relief function thanks to the spring which maintains constant pressure on the cable braid.

**Material:** steel with electrolytic nickel plating

| Model              | Code       | Clamping range (mm) | Dimensions (mm) |      |      | Pcs (/pack) |
|--------------------|------------|---------------------|-----------------|------|------|-------------|
|                    |            |                     | H               | L    | B    |             |
| <b>MSFC 2x2-6</b>  | 1734040705 | 2x2-6               | 24              | 15   | 18   | 10          |
| <b>MSFC 3-8</b>    | 1734040710 | 3-8                 | 26              | 13   | 18   |             |
| <b>MSFC 4-13,5</b> | 1734040715 | 4-13,5              | 31,5            | 20   | 20,5 |             |
| <b>MSFC 10-20</b>  | 1734040720 | 10-20               | 40              | 25   | 26   |             |
| <b>MSFC 15-32</b>  | 1734040725 | 15-32               | 63,9            | 36   | 32   |             |
| <b>MSFE 3-8</b>    | 1734040810 | 3-8                 | 26              | 10,3 | 18   | 10          |
| <b>MSFE 4-13,5</b> | 1734040815 | 4-13,5              | 31,1            | 18,1 | 20,2 |             |
| <b>MSFE 10-20</b>  | 1734040820 | 10-20               | 39,5            | 23,5 | 26,1 |             |
| <b>MSFE 15-32</b>  | 1734040825 | 15-32               | 62,5            | 36   | 32,1 |             |

### Dimensions (mm)





### FEATURES

- Cable ranges from 1,5 to 9 mm
- Direct mounting on PCB
- Constant pressure on the cable sheath without having to run tests and checks

The MSC shield clamps enable the cable shield to be grounded easily and effectively. The MSC shield clamps are fixed and soldered directly on the PCB.

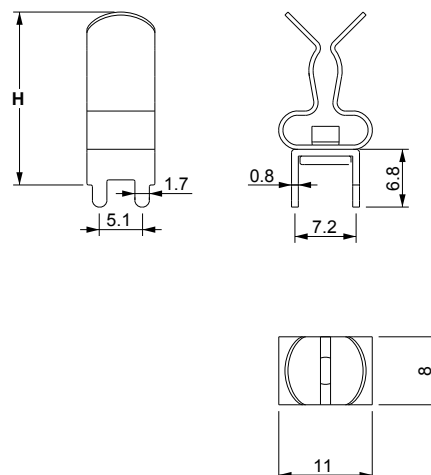
**Material:** spring steel, zinc plated, base in tinned brass



| Model     | Code       | Clamping range (mm) | Clamp dimensions H (mm) | Pz (x conf.) |
|-----------|------------|---------------------|-------------------------|--------------|
| MSC 1.5-3 | 1734060001 | 1,5 - 3             | 18                      | 50           |
| MSC 3-6   | 1734060003 | 3 - 6               | 20,5                    |              |
| MSC 7-9   | 1734060006 | 7 - 9               | 23                      |              |



### Dimensions (mm)



## Intumescent gaskets for DES family

### FEATURES

- Intumescent gaskets for fire barrier
- In compliance with EN1363-1 and EN45545-3
- **Direct installation on DES Frames**
- Cost effective and can be ordered separately from the frames

GKD series intumescent gaskets are used with DES, DES 24M frames for fire protection according to EN1363-1 and EN45545-3.

They consist of a flexible, intumescent material that expands under pressure with thermal influence. In the event of a fire, foam forms and a solid, pressure resistant wall is created.

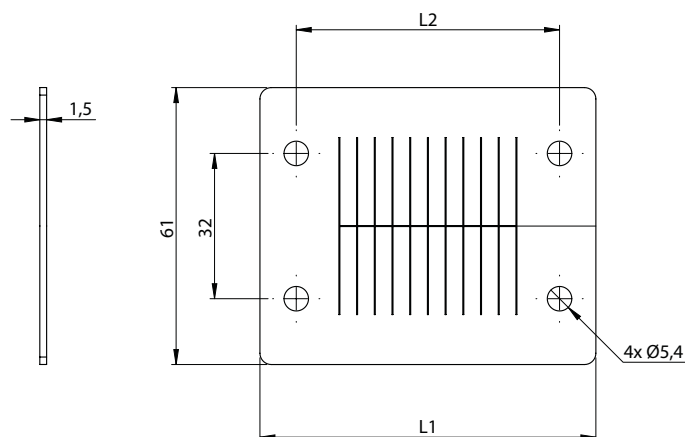
**Material:** graphite-based intumescent material



| Model         | Code       | Dimensions (mm) |     | Pcs (/pack) |
|---------------|------------|-----------------|-----|-------------|
|               |            | L1              | L2  |             |
| <b>GKD-24</b> | 1734080824 | 146             | 130 | 1           |
| <b>GKD-16</b> | 1734080816 | 120             | 103 |             |
| <b>GKD-10</b> | 1734080810 | 99              | 33  |             |
| <b>GKD-Q</b>  | 1734080808 | 74              | 58  |             |



### Dimensions (mm)





### FEATURES

- Direct installation on DES frames
- Effective grounding of the cable shield with integrated strain relief
- Quick installation
- Cost effective

The brackets of the EMCS series can be installed on the DES, DES M, DES CLiCK frames for shielding the cables using the MSB, MSR, MSRP or MSH clips.

**Material:** Stainless steel SS 304

### RELATED PRODUCTS

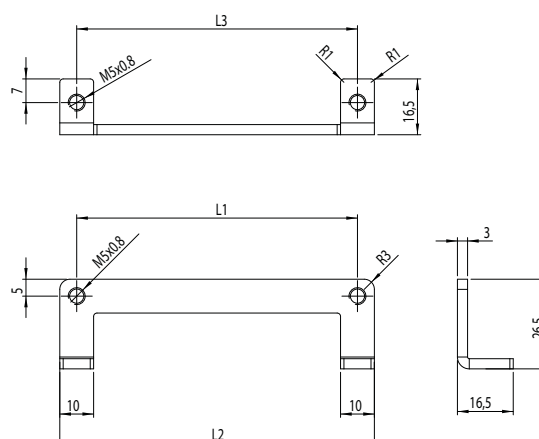
- DES Q
- DES 10
- DES 16
- DES 24
- DES 16M
- DES 24M
- DES L2
- DES L3
- DES Q CLICK
- DES 10 CLICK
- DES 16 CLICK
- DES 24 CLICK



| Model  | Code       | Dimensions (mm) |     |     | Pcs (/pack) |
|--------|------------|-----------------|-----|-----|-------------|
|        |            | L1              | L2  | L3  |             |
| EMCS24 | 1734090124 | 130             | 140 | 130 | 1           |
| EMCS16 | 1734090116 | 103             | 113 | 103 |             |
| EMCS10 | 1734090110 | 83              | 93  | 83  |             |
| EMCSQ  | 1734090108 | 58              | 68  | 58  |             |



### Dimensions (mm)





## EMC bracket with strain relief for OSF family

### FEATURES

- Stainless steel bracket for grounding the cable shield
- Quick installation on OSF/DESCCLICK/DESPRED divisible cable glands
- Cable strain relief with cable tie

The OSF EMC brackets allow grounding and strain relief of the shielded cables when installed in the OSF splittable cable glands family.

There are 4 models for the relevant metric openings M16, M20, M25 and M32 with two models of shield clips from 1,5 to 6 mm. Other diameters can be supplied upon request.

**Material:** Stainless steel SS304

### RELATED PRODUCTS

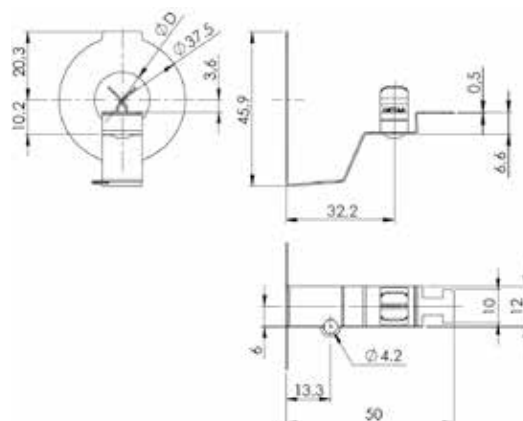
- OSF
- OSF 90
- DESCCLICK
- DESPRED



| Model                  | Code       | Dimensions ø (mm) | Pcs (/pack) |
|------------------------|------------|-------------------|-------------|
| <b>BROSF-16-1,5-3</b>  | 1734052316 | 16,5              | 10          |
| <b>BROSF-16-3-6</b>    | 1734052317 | 16,5              |             |
| <b>BROSF-20-1,5-3</b>  | 1734052320 | 20,5              |             |
| <b>BROSF-20-3-6</b>    | 1734052321 | 20,5              |             |
| <b>BROSF-25-1,5-3</b>  | 1734052325 | 25,5              |             |
| <b>BROSF-25-3-6</b>    | 1734052326 | 25,5              |             |
| <b>BROSF-32 -1,5-3</b> | 1734052332 | 32,5              |             |
| <b>BROSF-32 -3-6</b>   | 1734052333 | 32,5              |             |

Other models upon request

### Dimensions (mm)





# MB

## 35 mm DIN RAIL bases

### FEATURES

- Steel clips for installation of several devices on TS35 DIN rail
- Quick installation with rivets
- Strong and secure fixing

The MB DIN rail bases are used as quick and solid installation of any kind of device on the TS35 DIN rail. Any device can be fixed to the base with rivets.

**Material:** spring steel, zinc plated

### RELATED PRODUCTS

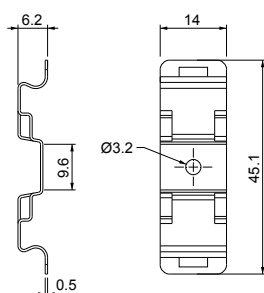
- MSS shield clamps
- MSS2 shield clamps
- MSL shield clamps
- MSS3 shield clamps



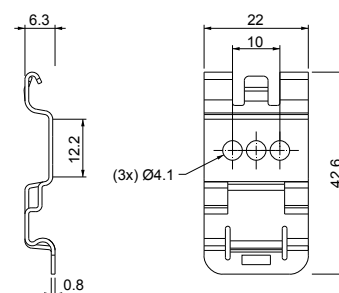
| Model      | Code       | Dimensions (mm) |      |     | Pcs<br>(/pack) |
|------------|------------|-----------------|------|-----|----------------|
|            |            | B               | H    | S   |                |
| MB14       | 1734000150 | 14              | 45,1 | 6,2 | 50             |
| NEW MB14V2 | 1734000151 | 14              | 52,4 | 6,2 |                |
| MB22       | 1734000100 | 22              | 42,6 | 6,3 |                |

### Dimensions (mm)

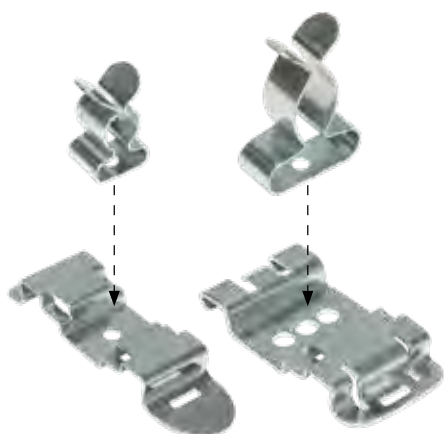
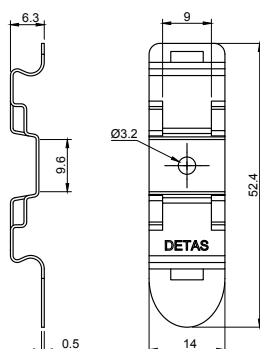
MB14



MB22



MB14V2



# ENGINEERING BOX EMC



Box with shield clamp samples

## FEATURES

- 163 shield clamps
- Wide choice of models with different fixings
- Price savings compared to separate purchase of each part

Practical box containing 163 shield clamps, various dimensions and fixing methods are available.

Thanks to the wide choice it is possible to select the most suitable model for the specific application.



| Model               | Code       | Dimensions (mm) | Pcs (/pack) |
|---------------------|------------|-----------------|-------------|
| ENGINEERING BOX EMC | 1734090100 | 370 x 300 x 90  | 1           |

## Box content

| Model     | Pcs | Model       | Pcs | Model      | Pcs |
|-----------|-----|-------------|-----|------------|-----|
| MB14      | 10  | MSS 38-48   | 4   | MSBL 3-9   | 10  |
| MB22      | 10  | MSD 22-30   | 3   | MSBL 10-19 | 10  |
| MSL 3-9   | 20  | MSD 30-37   | 3   | MSAL 3-9   | 10  |
| MSL 10-19 | 20  | MSD 38-48   | 3   | MSAL 10-19 | 10  |
| MSS 22-30 | 5   | MSD2L 3-9   | 10  | MSEL 3-9   | 10  |
| MSS 30-37 | 5   | MSD2L 10-19 | 10  | MSEL 10-19 | 10  |



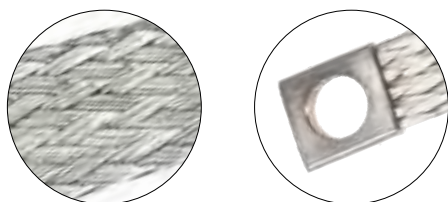
### FEATURES

- Sections from 6 to 25 mm<sup>2</sup>
- Custom solutions available
- Sections up to 95 mm<sup>2</sup> on request
- High conductivity

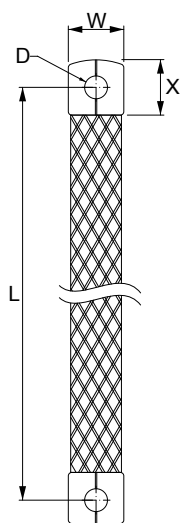
The CTX flexible earthing straps are made of tinned copper braided wires.

Pure Cu-ETP – ASTM C11000 copper enables an excellent ground connection.

**Material:** tinned copper >99,95%



### Dimensions (mm)



| Model          | Code       | Section (mm <sup>2</sup> ) | Dimensions (mm) |    |    |    |
|----------------|------------|----------------------------|-----------------|----|----|----|
|                |            |                            | L               | W  | X  | D  |
| CTX-6/200/M6   | 1734080010 | 6                          | 200             | 11 | 13 | 7  |
| CTX-6/250/M6   | 1734080015 | 6                          | 250             | 11 | 13 | 7  |
| CTX-6/300/M6   | 1734080020 | 6                          | 300             | 11 | 13 | 7  |
| CTX-6/400/M6   | 1734080025 | 6                          | 400             | 11 | 13 | 7  |
| CTX-6/500/M6   | 1734080030 | 6                          | 500             | 11 | 13 | 7  |
| CTX-10/100/M6  | 1734080035 | 10                         | 100             | 17 | 23 | 7  |
| CTX-10/100/M8  | 1734080040 | 10                         | 100             | 17 | 23 | 9  |
| CTX-10/150/M8  | 1734080045 | 10                         | 150             | 17 | 23 | 9  |
| CTX-10/200/M6  | 1734080050 | 10                         | 200             | 17 | 23 | 7  |
| CTX-10/200/M8  | 1734080055 | 10                         | 200             | 17 | 23 | 9  |
| CTX-10/250/M6  | 1734080060 | 10                         | 250             | 17 | 23 | 7  |
| CTX-10/300/M6  | 1734080065 | 10                         | 300             | 17 | 23 | 7  |
| CTX-10/300/M8  | 1734080070 | 10                         | 300             | 17 | 23 | 9  |
| CTX-10/400/M6  | 1734080075 | 10                         | 400             | 17 | 23 | 7  |
| CTX-10/400/M8  | 1734080080 | 10                         | 400             | 17 | 23 | 9  |
| CTX-10/500/M6  | 1734080085 | 10                         | 500             | 17 | 23 | 7  |
| CTX-16/100/M6  | 1734080090 | 16                         | 100             | 17 | 23 | 7  |
| CTX-16/100/M8  | 1734080095 | 16                         | 100             | 17 | 23 | 9  |
| CTX-16/150/M6  | 1734080100 | 16                         | 150             | 17 | 23 | 7  |
| CTX-16/150/M8  | 1734080105 | 16                         | 150             | 17 | 23 | 9  |
| CTX-16/200/M6  | 1734080110 | 16                         | 200             | 17 | 23 | 7  |
| CTX-16/200/M8  | 1734080115 | 16                         | 200             | 17 | 23 | 9  |
| CTX-16/250/M8  | 1734080120 | 16                         | 250             | 17 | 23 | 9  |
| CTX-16/300/M6  | 1734080125 | 16                         | 300             | 17 | 23 | 7  |
| CTX-16/300/M8  | 1734080130 | 16                         | 300             | 17 | 23 | 9  |
| CTX-16/350/M8  | 1734080135 | 16                         | 350             | 17 | 23 | 9  |
| CTX-16/400/M8  | 1734080140 | 16                         | 400             | 17 | 23 | 9  |
| CTX-16/500/M8  | 1734080145 | 16                         | 500             | 17 | 23 | 9  |
| CTX-16/600/M8  | 1734080150 | 16                         | 600             | 17 | 23 | 9  |
| CTX-25/100/M10 | 1734080155 | 25                         | 100             | 23 | 23 | 11 |
| CTX-25/150/M10 | 1734080160 | 25                         | 150             | 23 | 23 | 11 |
| CTX-25/200/M8  | 1734080165 | 25                         | 200             | 23 | 23 | 9  |
| CTX-25/200/M10 | 1734080170 | 25                         | 200             | 23 | 23 | 11 |
| CTX-25/250/M8  | 1734080175 | 25                         | 250             | 23 | 23 | 9  |
| CTX-25/300/M8  | 1734080180 | 25                         | 300             | 23 | 23 | 9  |
| CTX-25/300/M10 | 1734080185 | 25                         | 300             | 23 | 23 | 11 |
| CTX-25/350/M10 | 1734080190 | 25                         | 350             | 23 | 23 | 11 |
| CTX-25/400/M8  | 1734080195 | 25                         | 400             | 23 | 23 | 9  |
| CTX-25/500/M8  | 1734080200 | 25                         | 500             | 23 | 23 | 9  |
| CTX-25/600/M8  | 1734080205 | 25                         | 600             | 23 | 23 | 9  |



### FEATURES

- Multiple configurations with small and large grommets
- Large conductive area in contact with the cable (21 mm)
- Excellent cable grip thanks to the multi-range grommets
- Frame screws in AISI304 Stainless Steel
- Sturdy construction IK10
- High levels of EMI shielding
- Anti-static protection
- Threaded inserts version on request

The DES EMC splittable frames are used when is necessary to ground shielded cables in fast and efficient way. The frames are treated with a **special conductive copper** paint coated in silver while the grommets are produced with TPE with added conductive material. Thanks to the mechanical connection to the panel made by the fixing screws, the **cable sheat is efficiently grounded without generating further disturbances often created by the external metal brackets** that become antennas.

**Material:** PP+GF with Silver coated copper conductive coating, halogens and silicones free

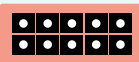
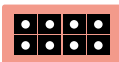
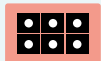
**Flammability:** self-extinguishing acc. UL94-V0

**Temperature:** -40°C... +100°C (static)

### RELATED PRODUCTS

- SPG EMC grommets (pag 134)
- SPP EMC grommets (pag 134)
- DES Cover (page 26)
- HY360 hydraulic punch driver (page 139)
- PF cable entry system plates (page 140)



| Model      | Code       | Dimensions (mm)                                                                               | Max. cut-out (mm) | Pcs (/pack) |
|------------|------------|-----------------------------------------------------------------------------------------------|-------------------|-------------|
| DES 24 EMC | 1734014024 |  146 x 61   | 112 x 39          | 10          |
| DES 16 EMC | 1734014016 |  120 x 61 | 86 x 39           |             |
| DES 10 EMC | 1734014010 |  99 x 61  | 63 x 39           |             |
| DES Q EMC  | 1734014008 |  74 x 61  | 40 x 39           |             |
| DES L2 EMC | 1734014002 |  74 x 41  | 40 x 18           |             |
| DES L3 EMC | 1734014003 |  99 x 41  | 63 x 18           |             |
| DES L4 EMC | 1734014004 |  120 x 41 | 86 x 18           |             |
| DES L5 EMC | 1734014005 |  146 x 41 | 112 x 18          |             |

up to  
**IP66**

NEMA  
**12**

  
**UL94-V0**

  
**ISO 4892-2A**

  
**RoHS COMPLIANT**

**IK10**



# SPP / SPG EMC

EMI/EMC small and large grommets



## FEATURES

- Conductive grommets for cables from 2 to 35 mm diameter
- Single hole, multi-range, double and quadruple
- "Blind" version available
- UL94-HB
- Black color

The EMC grommets allow several shielded cables from 2 to 35 mm diameter to be routed in the DES EMC splittable frame.

The contact between the cable sheath and the grommet is safe and wide thanks to the grommet thickness.

The multi-range grommets simplify the cable shielding application and conductive element adhesion.

**Material:** TPE with conductive element, halogens and silicones free

**Flammability:** self-extinguishing acc. UL94-HB

**Temperature:** -40°C... +100°C (static)

## RELATED PRODUCTS

- DES EMC

| Model | Code | Ø Cable (mm) | Pcs (/pack) |
|-------|------|--------------|-------------|
|-------|------|--------------|-------------|



|               |            |         |    |
|---------------|------------|---------|----|
| SPP 0 EMC     | 1734024100 | "Blind" | 10 |
| SPP 2 EMC     | 1734024102 | 2-3     |    |
| SPP 3-6 EMC   | 1734024140 | 3-6     |    |
| SPP 6-9 EMC   | 1734024142 | 26-92   |    |
| SPP 9-12 EMC  | 1734024144 | 9-12    |    |
| SPP 12-15 EMC | 1734024146 | 12-15   |    |
| SPP 16 EMC    | 1734024116 | 16-17   |    |



|             |            |       |    |
|-------------|------------|-------|----|
| SPP 2x2 EMC | 1734024304 | 2 x 2 | 10 |
| SPP 2x3 EMC | 1734024306 | 2 x 3 |    |
| SPP 2x4 EMC | 1734024308 | 2 x 4 |    |
| SPP 2x5 EMC | 1734024310 | 2 x 5 |    |
| SPP 2x6 EMC | 1734024312 | 2 x 6 |    |
| SPP 2x7 EMC | 1734024314 | 2 x 7 |    |
| SPP 2x8 EMC | 1734024316 | 2 x 8 |    |



|             |            |       |    |
|-------------|------------|-------|----|
| SPP 4x2 EMC | 1734024318 | 4 x 2 | 10 |
| SPP 4x3 EMC | 1734024320 | 4 x 3 |    |
| SPP 4x4 EMC | 1734024322 | 4 x 4 |    |
| SPP 4x5 EMC | 1734024324 | 4 x 5 |    |
| SPP 4x6 EMC | 1734024326 | 4 x 6 |    |

| Model | Code | Ø Cable (mm) | Pcs (/pack) |
|-------|------|--------------|-------------|
|-------|------|--------------|-------------|



|            |            |         |    |
|------------|------------|---------|----|
| SPG 0 EMC  | 1734024000 | "Blind" | 10 |
| SPG 17 EMC | 1734024117 | 17-18   |    |
| SPG 18 EMC | 1734024118 | 18-19   |    |
| SPG 19 EMC | 1734024119 | 19-20   |    |
| SPG 20 EMC | 1734024120 | 20-21   |    |
| SPG 21 EMC | 1734024121 | 21-22   |    |
| SPG 22 EMC | 1734024122 | 22-23   |    |
| SPG 23 EMC | 1734024123 | 23-24   |    |
| SPG 24 EMC | 1734024124 | 24-25   |    |
| SPG 25 EMC | 1734024125 | 25-26   |    |
| SPG 26 EMC | 1734024126 | 26-27   |    |
| SPG 27 EMC | 1734024127 | 27-28   |    |
| SPG 28 EMC | 1734024128 | 28-29   |    |
| SPG 29 EMC | 1734024129 | 29-30   |    |
| SPG 30 EMC | 1734024130 | 30-31   |    |
| SPG 31 EMC | 1734024131 | 31-32   |    |
| SPG 32 EMC | 1734024132 | 32-33   |    |
| SPG 33 EMC | 1734024133 | 33-34   |    |
| SPG 34 EMC | 1734024134 | 34-35   |    |

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UL94-HB

UV  
ISO 4892-2A

RoHS  
COMPLIANT