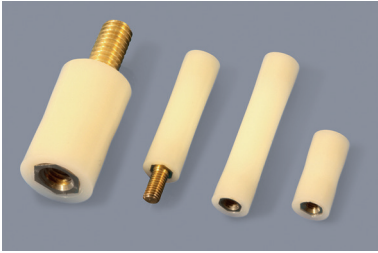
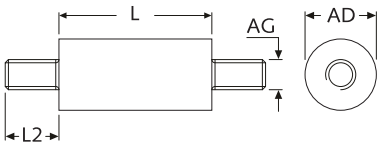


MM 99 R + MF 99 R + FF 99 R



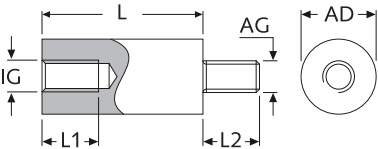
Nylon-Metall-Isolierbolzen, rund, mit Außen-/Außengewinde

Round nylon-brass standoff insulators with male/male thread



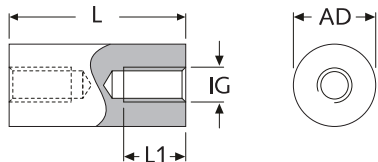
Nylon-Metall-Isolierbolzen, rund, mit Außen-/Innengewinde

Round nylon-brass standoff insulators with male/female thread



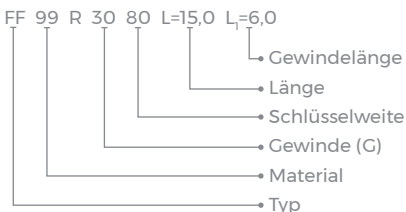
Nylon-Metall-Isolierbolzen, rund, mit Innen-/Innengewinde

Round nylon-brass standoff insulators with female/female thread



Artikel-Bez. für Nylon-/Metall-Distanzbolzen, rund (FF 99 R):

I/I - M3 - SW8 - L=15,0 mm - L₁=6,0 mm



Außen-/Außengewinde, rund (MM 99 R):

| Artikel-Bez. Typ | AG | AD ∅ | L2 | L | |
|----------------------|------|---------|------|------|-------|
| | | | | min | max |
| MM 99 R 2065 L=... | M2 | 6,5 | 6,0 | 10,0 | 105,0 |
| MM 99 R 2565 L=... | M2,5 | 6,5 | 6,0 | 10,0 | 105,0 |
| MM 99 R 3065 L=... | M3 | 6,5 | 6,0 | 10,0 | 105,0 |
| MM 99 R 3080 L=... | M3 | 8,0 | 6,0 | 10,0 | 105,0 |
| MM 99 R 3580 L=... | M3,5 | 8,0 | 6,0 | 13,0 | 105,0 |
| MM 99 R 4080 L=... | M4 | 8,0 | 6,0 | 13,0 | 105,0 |
| MM 99 R 5095 L=... | M5 | 9,5 | 10,0 | 19,0 | 105,0 |
| MM 99 R 60127 L=... | M6 | 12,7 | 12,7 | 22,0 | 105,0 |
| MM 99 R 80159 L=... | M8 | 15,9 | 14,0 | 25,0 | 105,0 |
| MM 99 R 100250 L=... | M10 | 25,0 | 20,0 | 38,0 | 105,0 |
| MM 99 R 120300 L=... | M12 | 30,0 | 25,0 | 45,0 | 105,0 |

Längenraster: 0,5 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x

Außen-/Innengewinde, rund (MF 99 R):

| Artikel-Bez. Typ | AG = IG | AD ∅ | L1 = L2 | L | |
|----------------------|---------|---------|---------|------|-------|
| | | | | min | max |
| MF 99 R 2065 L=... | M2 | 6,5 | 6,0 | 10,0 | 105,0 |
| MF 99 R 2565 L=... | M2,5 | 6,5 | 6,0 | 10,0 | 105,0 |
| MF 99 R 3065 L=... | M3 | 6,5 | 6,0 | 10,0 | 105,0 |
| MF 99 R 3080 L=... | M3 | 8,0 | 6,0 | 10,0 | 105,0 |
| MF 99 R 3580 L=... | M3,5 | 8,0 | 6,0 | 13,0 | 105,0 |
| MF 99 R 4080 L=... | M4 | 8,0 | 6,0 | 13,0 | 105,0 |
| MF 99 R 5095 L=... | M5 | 9,5 | 10,0 | 19,0 | 105,0 |
| MF 99 R 60127 L=... | M6 | 12,7 | 12,7 | 22,0 | 105,0 |
| MF 99 R 80159 L=... | M8 | 15,9 | 14,0 | 25,0 | 105,0 |
| MF 99 R 100250 L=... | M10 | 25,0 | 20,0 | 38,0 | 105,0 |
| MF 99 R 120300 L=... | M12 | 30,0 | 25,0 | 45,0 | 105,0 |

Längenraster: 0,5 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x

Innen-/Innengewinde, rund (FF 99 R):

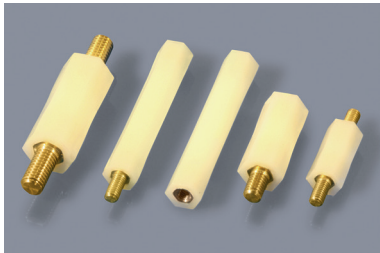
| Artikel-Bez. Typ | IG | AD ∅ | L1 | L | |
|----------------------|------|---------|-------|------|-------|
| | | | | min | max |
| FF 99 R 2065 L=... | M2 | 6,5 | 6,0 | 10,0 | 105,0 |
| FF 99 R 2565 L=... | M2,5 | 6,5 | 6,0 | 10,0 | 105,0 |
| FF 99 R 3065 L=... | M3 | 6,5 | 6,0 | 10,0 | 105,0 |
| FF 99 R 3080 L=... | M3 | 8,0 | 6,0 | 10,0 | 105,0 |
| FF 99 R 3580 L=... | M3,5 | 8,0 | 6,0 | 13,0 | 105,0 |
| FF 99 R 4080 L=... | M4 | 8,0 | 6,0 | 13,0 | 105,0 |
| FF 99 R 5095 L=... | M5 | 9,5 | 10,0 | 19,0 | 105,0 |
| FF 99 R 60127 L=... | M6 | 12,7 | 12,7 | 22,0 | 105,0 |
| FF 99 R 80159 L=... | M8 | 15,9 | 14,0* | 25,0 | 105,0 |
| FF 99 R 100250 L=... | M10 | 25,0 | 20,0 | 38,0 | 105,0 |
| FF 99 R 120300 L=... | M12 | 30,0 | 25,0 | 45,0 | 105,0 |

Längenraster: 0,5 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x

* bei L < 30,0 mm gilt L1 = 11,0 mm

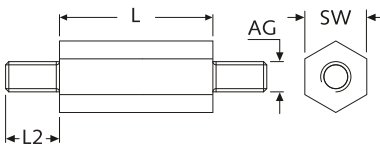
| Eigenschaften | MM/MF/FF 99 R |
|----------------------------|--|
| Material Kunststoff | PA66 - <input type="checkbox"/> natur |
| Material Gewinde | Messing |
| Einsatztemperatur | -30°C bis +85°C |
| Brandklasse | UL-94 HB (E53898) |
| Dichte | 1,14 g/cm ³ (trocken) |
| Spez. Durchgangswiderstand | >10 ¹⁵ Ω/cm (trocken) >10 ¹⁴ Ω/cm (luftfeucht) |
| Durchschlagsfestigkeit | >29 kV/mm (trocken) >27 kV/mm (luftfeucht) |
| Kriechstromfestigkeit | >600 V (luftfeucht) |

MM 96/99 H + MF 96/99 H + FF 96/99 H



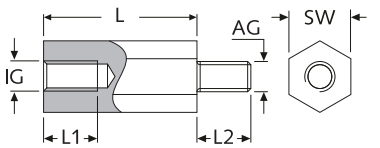
Nylon-Metall-Isolierbolzen, sechskant, mit Außen-/Außengewinde

Hexagonal nylon-brass standoff insulators with male/male thread



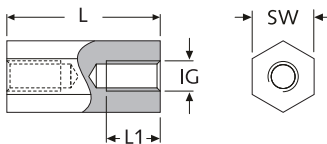
Nylon-Metall-Isolierbolzen, sechskant, mit Außen-/Innengewinde

Hexagonal nylon-brass standoff insulators with male/female thread



Nylon-Metall-Isolierbolzen, sechskant, mit Innen-/Innengewinde

Hexagonal nylon-brass standoff insulators with female/female thread



* Die Dreh- und Auszugsmomente können je nach Einsatzzweck und Umwelteinflüssen (z. B. Temperatur, Luftfeuchtigkeit, Alter, Lagerung, etc.) schwanken und sind deshalb nur Richtwerte. Es wird empfohlen, diese Angaben mit Hilfe von kostenlosen Mustern in Ihrer Anwendung zu testen. Der Anzug von Schrauben bzw. Muttern mit Hilfe von Drehmoment-schlüsseln ist empfehlenswert.

Außen-/Außengewinde, sechskant (MM 96 H / MM 99 H):

| Artikel-Bez. Typ | AG | SW | L2 | L | | Drehmoment (Nm)* | Auszugsmoment (N)* |
|-------------------------|------|------|------|------|-------|------------------|--------------------|
| | | | | min | max | | |
| MM 99 H 2064 L=... | M2 | 6,4 | 6,0 | 10,0 | 50,0 | k.A. | k.A. |
| MM 96 H 2560 L=... | M2,5 | 6,0 | 6,0 | 15,0 | 65,0 | 1,3 | 300 |
| MM 96 H 3060 L=... | M3 | 6,0 | 8,0 | 15,0 | 65,0 | 1,3 | 300 |
| NEW MM 99 H 3580 L=... | M3,5 | 8,0 | 6,0 | 15,0 | 75,0 | k.A. | k.A. |
| MM 96 H 4080 L=... | M4 | 8,0 | 8,0 | 15,0 | 65,0 | 3,0 | 600 |
| MM 96 H 50100 L=... | M5 | 10,0 | 10,0 | 15,0 | 70,0 | 4,5 | 800 |
| NEW MM 99 H 60127 L=... | M6 | 12,7 | 12,7 | 25,0 | 100,0 | k.A. | k.A. |
| MM 96 H 60130 L=... | M6 | 13,0 | 12,0 | 25,0 | 60,0 | 12,0 | 1.000 |
| MM 96 H 80150 L=... | M8 | 15,0 | 14,0 | 25,0 | 60,0 | 18,0 | 1.600 |

Längentraster: 1,0 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x
Sonderausführungen und weitere Längen a. A.

Innen-/Außengewinde, sechskant (MF 96 H / MF 99 H):

| Artikel-Bez. Typ | AG = IG | SW | L1 | L2 | L | | Drehmoment (Nm)* | Auszugsmoment (N)* |
|-------------------------|---------|------|------|------|------|-------|------------------|--------------------|
| | | | | | min | max | | |
| MF 99 H 2064 L=... | M2 | 6,4 | 6,0 | 6,0 | 10,0 | 50,0 | k.A. | k.A. |
| MF 96 H 2560 L=... | M2,5 | 6,0 | 6,0 | 6,0 | 15,0 | 65,0 | 1,3 | 300 |
| MF 96 H 3060 L=... | M3 | 6,0 | 6,0 | 8,0 | 15,0 | 65,0 | 1,3 | 300 |
| NEW MF 99 H 3580 L=... | M3,5 | 8,0 | 6,0 | 6,0 | 15,0 | 75,0 | k.A. | k.A. |
| MF 96 H 4080 L=... | M4 | 8,0 | 6,0 | 8,0 | 15,0 | 65,0 | 3,0 | 600 |
| MF 96 H 50100 L=... | M5 | 10,0 | 6,0 | 10,0 | 15,0 | 70,0 | 4,5 | 800 |
| NEW MF 99 H 60127 L=... | M6 | 12,7 | 12,7 | 12,7 | 25,0 | 100,0 | k.A. | k.A. |
| MF 96 H 60130 L=... | M6 | 13,0 | 10,0 | 12,0 | 25,0 | 60,0 | 12,0 | 1.000 |
| MF 96 H 80150 L=... | M8 | 15,0 | 11,0 | 14,0 | 25,0 | 60,0 | 18,0 | 1.600 |

Längentraster: 1,0 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x
Sonderausführungen und weitere Längen a. A.

Innen-/Innengewinde, sechskant (FF 96 H / FF 99 H):

| Artikel-Bez. Typ | IG | SW | L1 | L | | Drehmoment (Nm)* | Auszugsmoment (N)* |
|-------------------------|------|------|------|------|-------|------------------|--------------------|
| | | | | min | max | | |
| FF 99 H 2064 L=... | M2 | 6,4 | 6,0 | 10,0 | 50,0 | k.A. | k.A. |
| FF 96 H 2560 L=... | M2,5 | 6,0 | 6,0 | 15,0 | 65,0 | 1,3 | 300 |
| FF 96 H 3060 L=... | M3 | 6,0 | 6,0 | 15,0 | 65,0 | 1,3 | 300 |
| NEW FF 99 H 3580 L=... | M3,5 | 8,0 | 6,0 | 15,0 | 75,0 | k.A. | k.A. |
| FF 96 H 4080 L=... | M4 | 8,0 | 6,0 | 15,0 | 65,0 | 3,0 | 600 |
| FF 96 H 50100 L=... | M5 | 10,0 | 6,0 | 15,0 | 70,0 | 4,5 | 800 |
| NEW FF 99 H 60127 L=... | M6 | 12,7 | 12,7 | 25,0 | 100,0 | k.A. | k.A. |
| FF 96 H 60130 L=... | M6 | 13,0 | 10,0 | 25,0 | 60,0 | 12,0 | 1.000 |
| FF 96 H 80150 L=... | M8 | 15,0 | 11,0 | 25,0 | 60,0 | 18,0 | 1.600 |

Längentraster: 1,0 mm (Zwischenlängen a. A.) · Unit: mm · MOQ 100x
Sonderausführungen und weitere Längen a. A.

| Eigenschaften | MM/MF/FF 99 H M2,5 - M12 | MM/MF/FF 96 H M2,5 - M5 | MM/MF/FF 96 H M6 - M8 |
|----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Material Kunststoff | PA66 - □ natur | PA66 - □ natur / weiß | PA66 - □ natur |
| Material Gewinde | Messing | Messing | Messing |
| Einsatztemperatur | -30°C bis +85°C | -30°C bis +85°C | -30°C bis +110°C |
| Brandklasse | UL-94 HB (E53898) | UL-94 V-2 (E76261) | UL-94 V-2 |
| Dichte | 1,14 g/cm ³ (trocken) | 1,13 g/cm ³ (trocken) | 1,14 g/cm ³ (trocken) |
| Spez. Durchgangswiderstand | >10 ¹⁵ Ω/cm (trocken) | >10 ¹⁵ Ω/cm (trocken) | >10 ¹⁴ Ω/cm (trocken) |
| Durchschlagsfestigkeit | >10 ¹⁴ Ω/cm (luftfeucht) | >10 ¹² Ω/cm (luftfeucht) | >10 ¹² Ω/cm (luftfeucht) |
| Kriechstromfestigkeit | >29 kV/mm (trocken) | - | >28 kV/mm (trocken) |
| | >27 kV/mm (luftfeucht) | >80 kV/mm (luftfeucht) | >18 kV/mm (luftfeucht) |
| | >600 V (luftfeucht) | >600 V (luftfeucht) | >600 V (luftfeucht) |



Artikel-Bez. für Nylon-/Metall-

Distanzbolzen, sechskant (MF 96 H):

A/I - M3 - SW6,0 - L=30,0 mm - L₁=6,0 mm

