# Stoßdämpfer · Shock Absorbers

## Amortisseurs · Deceleratori · Amortiguadores

**D**

| | |
|---|---|
| **Helix-Prinzip** | Max. +50% Energie |
| | Max. -50% Kosten / Nm |
| **ProAdjust** | Geschützte Einstellung |
| **ProTec** | Massiver Körper ohne Sicherungsring |
| Lange Lebensdauer | Gehärtetes Führungslager |
| | Kolben: gehärtet, Titanaluminiumnitrid |
| | Spezialdichtungen + Öle |
| Integrierter Festanschlag | |
| Temperaturbereich | -20°C - +80°C |

**GB**

| | |
|---|---|
| **Helix Principle** | Max. +50% Energy |
| | Max. -50% Costs / Nm |
| **ProAdjust** | Protected Adjustment |
| **ProTec** | Solid body without retaining ring |
| Extended Life Time | Nitrated guidance system |
| | Piston: hardened, |
| | Titanium aluminium nitride |
| | Special seals + oils |
| Integrated End Stop | |
| Temperature | -20°C - +80°C |

**F**

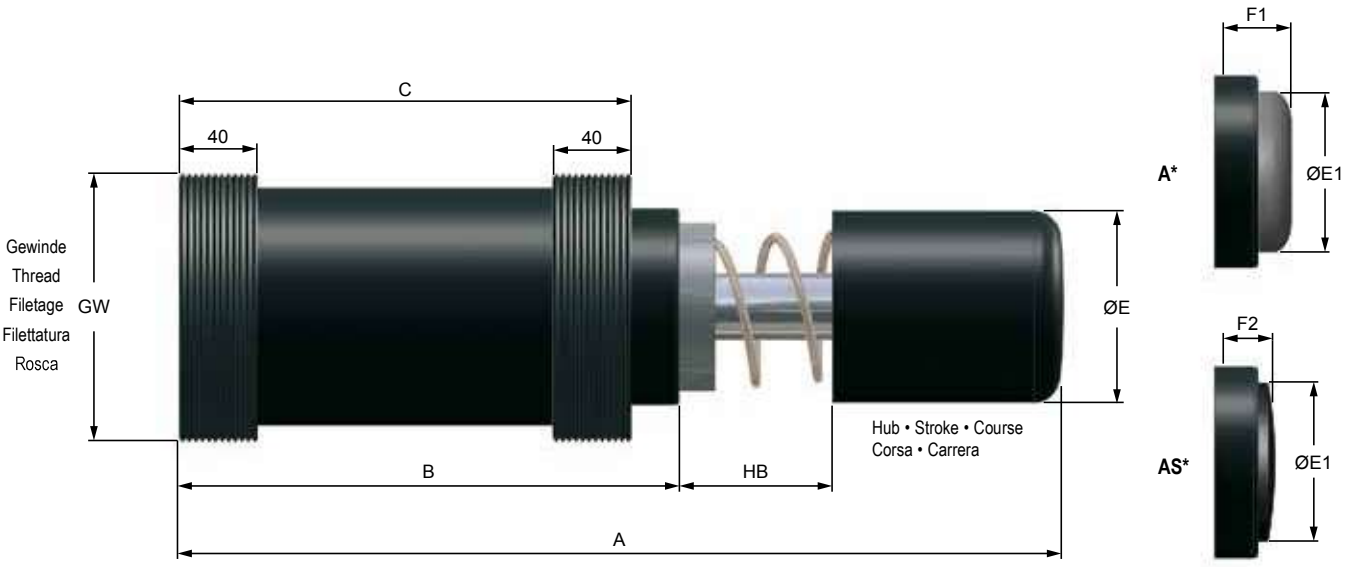
| | |
|---|---|
| **Principe Helix** | Max. +50% Energie |
| | Max. -50% Coût / Nm |
| **ProAdjust** | Règlage Protégé |
| **ProTec** | Corps robuste sans circlip |
| Longévité | Système de guidage nitruré |
| | Piston: trempé, |
| | Nitrure de titane aluminium |
| | Joints et huiles spécifiques |
| Butée de fin de course intégrée | |
| Températures | -20°C - +80°C |

**I**

| | |
|---|---|
| **Principio dell'Elica** | Max. +50% Energia |
| | Max. -50% Costi / Nm |
| **ProAdjust** | Regolazione Protetta |
| **ProTec** | Base solida senza anello di sicurezza |
| Lunga durata | Sistema di guida nitrato |
| | Pistone: temprato, |
| | Nitruro di titanio e alluminio |
| | Guarnizioni + olio speciale |
| Battuta integrata | |
| Temperatura | -20°C - +80°C |

**E**

| | |
|---|---|
| **Principio de Hélice** | Máx. +50% Energía |
| | Máx -50% costes / Nm |
| **ProAdjust** | Ajuste protegido |
| **ProTec** | Cuerpo sólido sin anillo de retención |
| Larga vida útil | Cojinete de guía templado |
| | Émbolo: templado, |
| | Nitruro de titanio aluminio |
| | Juntas + aceites especiales |
| Tope fijo integrado | |
| Temperaturas | -20°C - +80°C |




***A:** PU / **AS:** Stahl ▪ Steel ▪ Acier ▪ Acciaio ▪ Acero

*"A / AS" zur Artikelbezeichnung hinzufügen / Add "A / AS" after the part no. / À la commande, ajouter la lettre "A / AS" en fin de référence*
*Aggiungere la lettera "A / AS" alla fine del codice d'ordine / Añadir la letra „A / AS" al final de la referencia*

## ABMESSUNGEN ▪ DIMENSIONS ▪ DIMENSIONI ▪ DIMENSIONES

| | GW | A | B | C | ø E | ø E1 | F1 | F2 |
|---|---|---|---|---|---|---|---|---|
| | Standard | mm | mm | mm | mm | mm | mm | mm |
| WE-M 4,0 x 2 | M 115 x 2 | 319 | 225 | 205 | 80 | 66 | 25 | 15 |
| WS-M 4,0 x 2 | M 115 x 2 | 319 | 225 | 205 | 80 | 66 | 25 | 15 |
| WP-M 4,0 x 2 | M 115 x 2 | 319 | 225 | 205 | 80 | 66 | 25 | 15 |
| WE-M 4,0 x 4 | M 115 x 2 | 419 | 275 | 255 | 80 | 66 | 25 | 15 |
| WS-M 4,0 x 4 | M 115 x 2 | 419 | 275 | 255 | 80 | 66 | 25 | 15 |
| WP-M 4,0 x 4 | M 115 x 2 | 419 | 275 | 255 | 80 | 66 | 25 | 15 |
| WE-M 4,0 x 6 | M 115 x 2 | 569 | 325 | 305 | 80 | 66 | 25 | 15 |
| WS-M 4,0 x 6 | M 115 x 2 | 569 | 325 | 305 | 80 | 66 | 25 | 15 |
| WP-M 4,0 x 6 | M 115 x 2 | 569 | 325 | 305 | 80 | 66 | 25 | 15 |
| WE-M 4,0 x 8 | M 115 x 2 | 669 | 375 | 355 | 80 | 66 | 25 | 15 |
| WS-M 4,0 x 8 | M 115 x 2 | 669 | 375 | 355 | 80 | 66 | 25 | 15 |
| WP-M 4,0 x 8 | M 115 x 2 | 669 | 375 | 355 | 80 | 66 | 25 | 15 |
| WE-M 4,0 x 10 | M 115 x 2 | 769 | 425 | 405 | 80 | 66 | 25 | 15 |
| WS-M 4,0 x 10 | M 115 x 2 | 769 | 425 | 405 | 80 | 66 | 25 | 15 |
| WP-M 4,0 x 10 | M 115 x 2 | 769 | 425 | 405 | 80 | 66 | 25 | 15 |

## LEISTUNGEN ▪ PERFORMANCE ▪ CARATTERISTICHE TECNICHE ▪ CARACTERÍSTICAS TÉCNICAS

| | Hub - Stroke Course - Corsa Carrera | Energieaufnahme - Energy absorption - Energie d'absorption Assorbimento d'energia - Absorción de energía | | | Effektive Masse - Effective mass - Masse effective Massa effetiva - Masa efectiva | | | |
|---|---|---|---|---|---|---|---|---|
| | | Constant load* | | External tank** | -1 (soft) | -2 (medium) | -3 (hard) | -4 (very hard) |
| | mm | Nm/HB (max.) | Nm/h (max.) | Nm/h | min. - max.kg | min. - max.kg | min. - max.kg | min. - max.kg |
| WE-M 4,0 x 2 | 50 | 4000 | 1200000 | 1500000 | 280 - 89000 | - | - | - |
| WS-M 4,0 x 2 | 50 | 4000 | 1200000 | 1500000 | 695 - 2480 | 2000 - 6050 | 5550 - 15400 | 12500 - 40000 |
| WP-M 4,0 x 2 | 50 | 4000 | 1200000 | 1500000 | 165 - 500 | 400 - 3550 | 2800 - 22000 | - |
| WE-M 4,0 x 4 | 100 | 9000 | 1800000 | 2250000 | 600 - 112500 | - | - | - |
| WS-M 4,0 x 4 | 100 | 9000 | 1800000 | 2250000 | 1750 - 5550 | 4500 - 13600 | 12500 - 34700 | 28800 - 88000 |
| WP-M 4,0 x 4 | 100 | 9000 | 1800000 | 2250000 | 360 - 1125 | 890 - 8000 | 6300 - 50000 | - |
| WE-M 4,0 x 6 | 150 | 14000 | 2100000 | 2625000 | 925 - 175000 | - | - | - |
| WS-M 4,0 x 6 | 150 | 14000 | 2100000 | 2625000 | 3710 - 11700 | 7000 - 21200 | 19500 - 54000 | 44500 - 138200 |
| WP-M 4,0 x 6 | 150 | 14000 | 2100000 | 2625000 | 555 - 1750 | 1380 - 12400 | 9700 - 77700 | - |
| WE-M 4,0 x 8 | 200 | 19000 | 2660000 | 3325000 | 1250 - 237500 | - | - | - |
| WS-M 4,0 x 8 | 200 | 19000 | 2660000 | 3325000 | 2750 - 8640 | 7500 - 28700 | 26400 - 73300 | 59400 - 187600 |
| WP-M 4,0 x 8 | 200 | 19000 | 2660000 | 3325000 | 750 - 2375 | 1870 - 16800 | 13100 - 105000 | - |
| WE-M 4,0 x 10 | 250 | 24000 | 2880000 | 3600000 | 1580 - 300000 | - | - | - |
| WS-M 4,0 x 10 | 250 | 24000 | 2880000 | 3600000 | 4680 - 14800 | 12000 - 36200 | 33300 - 92600 | 75000 - 237300 |
| WP-M 4,0 x 10 | 250 | 24000 | 2880000 | 3600000 | 950 - 3000 | 2370 - 21300 | 16600 - 133300 | - |

*Dauerbelastung - Constant load - Charge permanente - Carico permanente - Carga continua / **Außentank - External tank - Réservoirs externes - Serbatoi esterni - Depósitos externos

## D TECHNISCHE DATEN

| | |
|---|---|
| **Gewicht** | **4,0 x 2** : 10 kg<br>**4,0 x 4** : 12 kg<br>**4,0 x 6** : 15 kg<br>**4,0 x 8** : 18 kg<br>**4,0 x 10** : 23 kg |
| **Aufprallgeschwindigkeit** | **WE-M** : 0,02 - 6,0 m/s<br>**WS-M** : 0,10 - 6,0 m/s<br>**WP-M** : 0,40 - 8,0 m/s |
| **Rückholfederkraft** | **4,0 x 2** : 120 N/min - 200 N/max<br>**4,0 x 4** : 120 N/min - 250 N/max<br>**4,0 x 6** : 170 N/min - 250 N/max<br>**4,0 x 8** : 170 N/min - 250 N/max<br>**4,0 x 10** : 170 N/min - 280 N/max |
| **Temperaturbereich** | -20°C - +80°C |
| **Gehäuse** | Brünierter Spezialstahl |
| **Kolbenstange** | Gehärteter rostfreier Stahl |
| **RoHS konform** | Richtlinie 2002/95/EG |

## GB SPECIFICATIONS

| | |
|---|---|
| **Weight** | **4,0 x 2** : 10 kg<br>**4,0 x 4** : 12 kg<br>**4,0 x 6** : 15 kg<br>**4,0 x 8** : 18 kg<br>**4,0 x 10** : 23 kg |
| **Impact Speed** | **WE-M** : 0,02 - 6,0 m/s<br>**WS-M** : 0,10 - 6,0 m/s<br>**WP-M** : 0,40 - 8,0 m/s |
| **Return spring force** | **4,0 x 2** : 120 N/min - 200 N/max<br>**4,0 x 4** : 120 N/min - 250 N/max<br>**4,0 x 6** : 170 N/min - 250 N/max<br>**4,0 x 8** : 170 N/min - 250 N/max<br>**4,0 x 10** : 170 N/min - 280 N/max |
| **Temperature** | -20°C - +80°C |
| **Housing** | Black finish |
| **Piston rod** | Hardened stainless steel |
| **RoHS compliant** | Directive 2002/95/EC |

## F DONNÉES TECHNIQUES

| | |
|---|---|
| **Poids** | **4,0 x 2** : 10 kg<br>**4,0 x 4** : 12 kg<br>**4,0 x 6** : 15 kg<br>**4,0 x 8** : 18 kg<br>**4,0 x 10** : 23 kg |
| **Vitesse d'impact** | **WE-M** : 0,02 - 6,0 m/s<br>**WS-M** : 0,10 - 6,0 m/s<br>**WP-M** : 0,40 - 8,0 m/s |
| **Force du ressort** | **4,0 x 2** : 120 N/min - 200 N/max<br>**4,0 x 4** : 120 N/min - 250 N/max<br>**4,0 x 6** : 170 N/min - 250 N/max<br>**4,0 x 8** : 170 N/min - 250 N/max<br>**4,0 x 10** : 170 N/min - 280 N/max |
| **Températures** | -20°C - +80°C |
| **Corps** | Acier bruni |
| **Tige de piston** | Acier trempé inoxydable |
| **RoHS compliantes** | Directive 2002/95/EC |

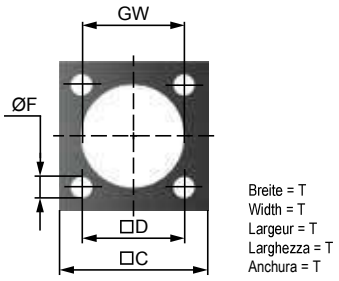
## I DATI TECNICI

| | |
|---|---|
| **Peso** | **4,0 x 2** : 10 kg<br>**4,0 x 4** : 12 kg<br>**4,0 x 6** : 15 kg<br>**4,0 x 8** : 18 kg<br>**4,0 x 10** : 23 kg |
| **Velocità d'impatto** | **WE-M** : 0,02 - 6,0 m/s<br>**WS-M** : 0,10 - 6,0 m/s<br>**WP-M** : 0,40 - 8,0 m/s |
| **Forza di ritorno** | **4,0 x 2** : 120 N/min - 200 N/max<br>**4,0 x 4** : 120 N/min - 250 N/max<br>**4,0 x 6** : 170 N/min - 250 N/max<br>**4,0 x 8** : 170 N/min - 250 N/max<br>**4,0 x 10** : 170 N/min - 280 N/max |
| **Temperatura** | -20°C - +80°C |
| **Corpo** | Acciaio brunito |
| **Stelo del pistone** | Acciaio temprato inossidabile |
| **RoHS compliante** | Direttiva 2002/95/EC |

## E DATOS TÉCNICOS

| | |
|---|---|
| **Peso** | **4,0 x 2** : 10 kg<br>**4,0 x 4** : 12 kg<br>**4,0 x 6** : 15 kg<br>**4,0 x 8** : 18 kg<br>**4,0 x 10** : 23 kg |
| **Velocidad de impacto** | **WE-M** : 0,02 - 6,0 m/s<br>**WS-M** : 0,10 - 6,0 m/s<br>**WP-M** : 0,40 - 8,0 m/s |
| **Fuerza del muelle recuperador** | **4,0 x 2** : 120 N/min - 200 N/max<br>**4,0 x 4** : 120 N/min - 250 N/max<br>**4,0 x 6** : 170 N/min - 250 N/max<br>**4,0 x 8** : 170 N/min - 250 N/max<br>**4,0 x 10** : 170 N/min - 280 N/max |
| **Temperaturas** | -20°C - +80°C |
| **Carcasa** | Acero especial pavonado |
| **Vástago del émbolo** | Acero inoxidable templado |
| **RoHS y que cumplan** | Directiva 2002/95/CE |

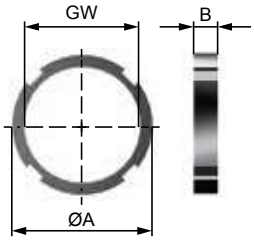
### QUADRATFLANSCH • SQUARE FLANGE • BRIDE CARRÉE FLANGIA QUADRATA • BRIDA CUADRADA




Art.-Nr. / Code: S27014

| GW | C | D | ø F | T |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| M 115 x 2 | 140 | 111 | 17 | 25 |

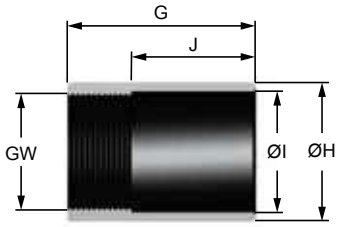
## KONTERMUTTER • LOCK NUT • CONTRE-ÉCROU CONTRODADO • CONTRATUERCA




| GW | ø A (mm) | B (mm) |
|---|---|---|
| M 115 x 2 | 127 | 15 |

Art.-Nr. / Code: S27012

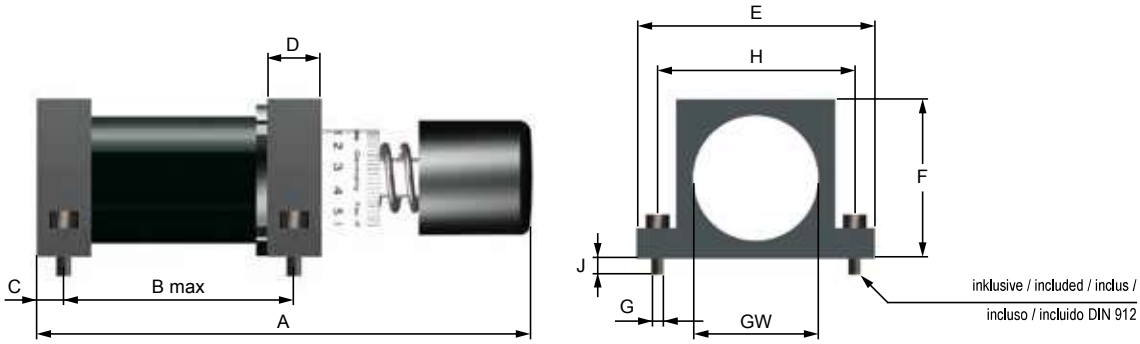
## ANSCHLAGMUTTER • STOP LIMIT NUT • BAGUE DE BUTÉE GHIERA DI ARRESTO • TUERCA DE TOPE




Anschlagmutter
Stop limit nut
Bague de butée
Ghiera di arresto
Tuerca de tope

| | Art.-Nr. / Code | GW | G (mm) | ø H (mm) | ø I (mm) | J (mm) |
|---|---|---|---|---|---|---|
| 4,0x2 - 4,0x4 | S27018 | M115x2 | 106 | 130 | 110 | 66 |
| 4,0x2A - 4,0x4A | S27018A | M115x2 | 131 | 130 | 110 | 91 |
| 4,0x6 - 4,0x10 | S27218 | M115x2 | 156 | 130 | 110 | 116 |
| 4,0x6A - 4,0x10A | S27218A | M115x2 | 181 | 130 | 110 | 141 |

## FUSSBEFESTIGUNG • FOOT MOUNTING • FIXATION SUR PIEDS • ATTACCO A PIEDINI • FIJACIÓN CON PEDESTAL




Art.-Nr. / Code: S27015

| | GW | A | B max | C | D | E | F | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| 4,0 x 2 | M 115 x 2 | 319 | 180 | 12,5 | 25 | 203 | 149 | M16x80 | 165 | 20 |
| 4,0 x 4 | M 115 x 2 | 419 | 230 | 12,5 | 25 | 203 | 149 | M16x80 | 165 | 20 |
| 4,0 x 6 | M 115 x 2 | 569 | 280 | 12,5 | 25 | 203 | 149 | M16x80 | 165 | 20 |
| 4,0 x 8 | M 115 x 2 | 669 | 330 | 12,5 | 25 | 203 | 149 | M16x80 | 165 | 20 |
| 4,0 x 10 | M 115 x 2 | 769 | 380 | 12,5 | 25 | 203 | 149 | M16x80 | 165 | 20 |

## SCHWENKBEFESTIGUNG • CLEVIS MOUNTING • FIXATION ARTICULÉE • ATTACCO OSCILLANTE • FIJACIÓN GIRATORIA


Art.-Nr. / Code: S27016

Zug: Endstop 1 mm vor Hubende notwendig
Pull: End stop required 1 mm before the stroke ends

Standard: Stoßdämpfer mit Schwenkbefestigung wird ohne Rückstellfeder geliefert.
Die Rückstellfeder ist optional erhältlich.

Standard: Shock absorber with clevis mounting is delivered without return spring.
Return spring is available on request.

| | GW* | A max | B | B1 | ø C | D | ø E | ø F | D1 | ø E1 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| 4,0 x 2 | M115 x 2 | 473 | 48 | 55 | 25,4 | 89 | 51 | 127 | 38 | 57 |
| 4,0 x 4 | M115 x 2 | 573 | 48 | 55 | 25,4 | 89 | 51 | 127 | 38 | 57 |
| 4,0 x 6 | M115 x 2 | 673 | 48 | 55 | 25,4 | 89 | 51 | 127 | 38 | 57 |
| 4,0 x 8 | M115 x 2 | 773 | 48 | 55 | 25,4 | 89 | 51 | 127 | 38 | 57 |
| 4,0 x 10 | M115 x 2 | 873 | 48 | 55 | 25,4 | 89 | 51 | 127 | 38 | 57 |