

# Stoßdämpfer · Shock Absorbers

Amortisseurs · Deceleratori · Amortiguadores



## GB

### Enlarged Piston

Max. +400% Energy  
Max. -50% Costs / Nm

### ProSurf

### Extended Life Time

Long-life surface protection (p. 6)  
Nitrated guidance system  
Piston: hardened,  
Titanium aluminium nitride  
Special seals + oils

Integrated End Stop

Temperature

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Special models

Stainless steel (Page 62,63)  
Pressure chambers up to 7 bar  
USDA-H1-compliant for food industry

## I

### Pistone allargato

Max. +400% Energia  
Max. -50% Costi / Nm

### ProSurf

### Lunga durata

Durevole protezione delle superfici (p. 6)  
Sistema di guida nitrato  
Pistone: temprato,  
Nitrato di titanio e alluminio  
Guarnizioni + olio speciale

Battuta integrata

Temperatura

-20°C - +80°C  
Opz.: -50°C - +60°C / 0°C - +120°C

Versione speciale

Acciaio inox (Pagina 62,63)  
Camera di pressione fino a 7 bar  
Industria alimentare secondo USDA-H1

## D

### Vergrößerter Kolben

Max. +400% Energie  
Max. -50% Kosten / Nm

### ProSurf

### Lange Lebensdauer

Langlebiger Oberflächenschutz (S. 6)  
Gehärtetes Führungslager  
Kolben: gehärtet, Titanaluminiumnitrid  
Spezialdichtungen + Öle

Integrierter Festanschlag

Temperaturbereich

-20°C - +80°C  
Optional: -50°C - +60°C / 0°C - +120°C

Sonderausführungen

Edelstahl (Seite 62,63)  
Druckraum bis 7 bar  
Lebensmittelindustrie nach USDA-H1

## F

### Piston massif

Max. +400% Energie  
Max. -50% Coût / Nm

### ProSurf

### Longévité

Protection de surface durable (p. 6)  
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  
Option: -50°C - +60°C / 0°C - +120°C

Version spéciale

INOX (page 62,63)  
Chambres pressurisées jusqu'à 7 bars  
Industrie alimentaire selon USDA-H1

## E

### Émbolo mayor

Máx. +400% Energía  
Máx -50% Costes / Nm

### ProSurf

### Larga vida útil

Protección duradera de superficies (p. 6)  
Cojinete de guía templado  
Émbolo: templado,  
Nitrato de titanio aluminio  
Juntas + aceites especiales

Tope fijo integrado

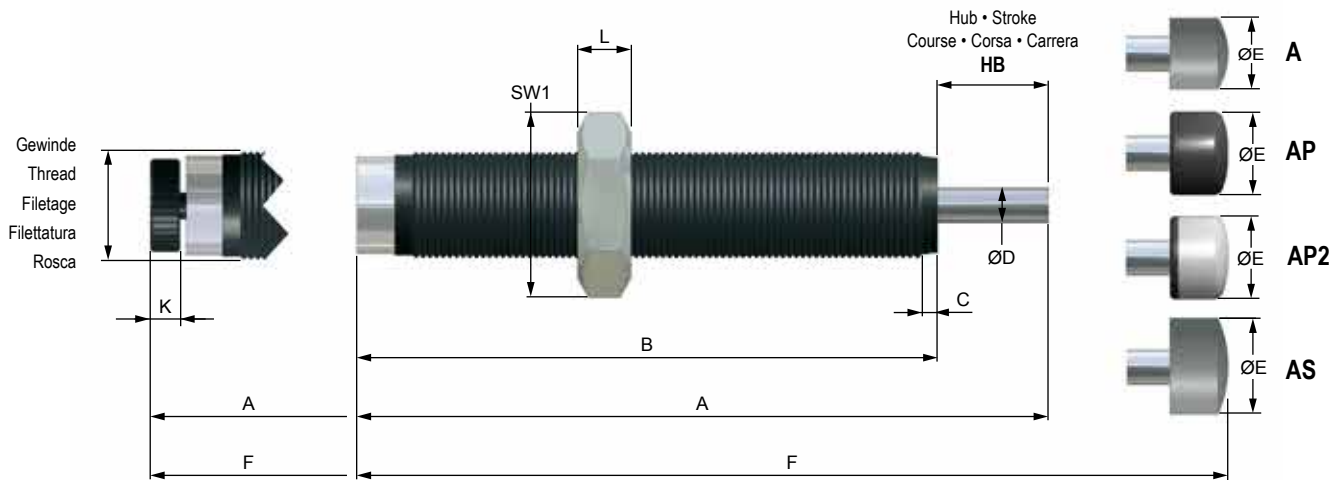
Temperaturas

-20°C - +80°C  
Opc: -50°C - +60°C / 0°C - +120°C

Edición especial

Acero inoxidable (Página 62,63)  
Cámara de presión de hasta 7 bar  
Industria alimenticia conforme a USDA-H1

Anschlagkappe\* • Stop cap\*  
 Chapeau butoir\* • Testina d'urto\*  
 Cabeza de choque\*



\*A: Kunststoff • Plastic • Plastique • Plastico • Plástico / AP: Soft Touch / AS: Stahl • Steel • Acier • Acciaio • Acero

## ABMESSUNGEN - DIMENSIONS - DIMENSIONI - DIMENSIONES

|           | GW       | A    | B    | C   | ø D | øE (A) | øE (AP / AP2) | øE (AS) | F (A) | F (AP / AP2) | F (AS) | L  | SW1 | K   |
|-----------|----------|------|------|-----|-----|--------|---------------|---------|-------|--------------|--------|----|-----|-----|
|           |          | mm   | mm   | mm  | mm  | mm     | mm            | mm      | mm    | mm           | mm     | mm | mm  | mm  |
| WE-M 0,1  | M 8 x 1  | 56,0 | 45,0 | 2,5 | 2,5 | 6      | 6,5           | -       | 61,5  | 63,0         | -      | 3  | 11  | 3,5 |
| WS-M 0,1  | M 8 x 1  | 51,0 | 44,0 | 2,5 | 2,5 | 6      | 6,5           | -       | 57,0  | 58,0         | -      | 3  | 11  | -   |
| WP-M 0,1  | M 8 x 1  | 51,0 | 44,0 | 2,5 | 2,5 | 6      | 6,5           | -       | 57,0  | 58,0         | -      | 3  | 11  | -   |
| WE-M 0,15 | M 10 x 1 | 62,0 | 48,5 | 2,5 | 3,0 | 6      | 8,5           | 8,5     | 68,5  | 68,5         | 68,5   | 3  | 13  | 3,5 |
| WS-M 0,15 | M 10 x 1 | 59,5 | 49,5 | 2,5 | 3,0 | 6      | 8,5           | 8,5     | 66,0  | 66,0         | 66,0   | 3  | 13  | -   |
| WP-M 0,15 | M 10 x 1 | 59,5 | 49,5 | 2,5 | 3,0 | 6      | 8,5           | 8,5     | 66,0  | 66,0         | 66,0   | 3  | 13  | -   |
| WE-M 0,2  | M 12 x 1 | 81,5 | 66,0 | 2,5 | 4,0 | 10     | 10,0          | 10      | 89,5  | 90,0         | 89,5   | 4  | 14  | 3,5 |
| WS-M 0,2  | M 12 x 1 | 77,0 | 65,0 | 2,5 | 4,0 | 10     | 10,0          | 10      | 85,0  | 86,0         | 85,0   | 4  | 14  | -   |
| WP-M 0,2  | M 12 x 1 | 77,0 | 65,0 | 2,5 | 4,0 | 10     | 10,0          | 10      | 85,0  | 86,0         | 85,0   | 4  | 14  | -   |

## LEISTUNGEN - PERFORMANCE - CARATTERISTICHE TECNICHE - CARACTERÍSTICAS TÉCNICAS

|           | Hub - Stroke - Course<br>Corsa - Carrera | Energieaufnahme - Energy absorption - Energie d'absorption<br>Assorbimento d'energia - Absorción de energía |             | Effektive Masse - Effective mass - Masse effective<br>Masa efectiva - Masa efectiva |               |               |                |
|-----------|--|---|-------------|---|---------------|---------------|----------------|
|           |  | Constant load*  |             | -1 (soft)   | -2 (medium)   | -3 (hard)     | -4 (very hard) |
|           |  | Nm/HB (max.)  | Nm/h (max.) | min. - max.kg   | min. - max.kg | min. - max.kg | min. - max.kg  |
| WE-M 0,1  | 7  | 4   | 14.400      | 0,65 - 50   | -             | -             | -              |
| WS-M 0,1  | 7  | 4   | 14.400      | 0,65 - 2,0  | 1,3 - 5,5     | 1,7 - 50      | -              |
| WP-M 0,1  | 7  | 4   | 14.400      | 0,3 - 0,9   | 0,65 - 2,0    | 1,8 - 8       | -              |
| WE-M 0,15 | 10                                       | 15  | 24.000      | 1,0 - 500   | -             | -             | -              |
| WS-M 0,15 | 10                                       | 15  | 24.000      | 1,6 - 7,5   | 6,1 - 71      | 61 - 252      | 232 - 750      |
| WP-M 0,15 | 10                                       | 15  | 24.000      | 1,0 - 2,2   | 2,0 - 7,5     | 6,1 - 71      | -              |
| WE-M 0,2  | 12                                       | 22  | 35.200      | 1,5 - 800   | -             | -             | -              |
| WS-M 0,2  | 12                                       | 22  | 35.200      | 2,0 - 11  | 10 - 107      | 104 - 360     | 343 - 1.100    |
| WP-M 0,2  | 12                                       | 22  | 35.200      | 1,5 - 2,8   | 2 - 21        | 17 - 92       | -              |

\*Dauerbelastung - Constant load - Charge permanente - Carico permanente - Carga continua

## D TECHNISCHE DATEN

|  |  |
|--|--|
| Gewicht  | 0,1 : 10 g<br>0,15 : 20 g<br>0,2 : 36 g  |
| Aufprallgeschwindigkeit                                    | WE-M : 0,2 - 3,5 m/s<br>WS-M : 0,2 - 5,0 m/s<br>WP-M : 0,2 - 5,0 m/s                 |
| Rückholfederkraft  | 0,1 : 2,5 N/min - 6 N/max<br>0,15 : 3,6 N/min - 8 N/max<br>0,2 : 3,5 N/min - 7 N/max |
| Drehmoment: max. Kraft bei Benutzung der Schlüssel­flächen | 0,1 : 2 Nm<br>0,15 : 6 Nm<br>0,2 : 10 Nm   |
| Temperaturbereich  | -20°C - +80°C<br>optional: -50°C - +120°C  |
| Gehäuse  | ProSurf  |
| Kolbenstange   | Gehärteter rostfreier Stahl  |
| RoHS konform   | Richtlinie 2002/95/EG  |
| Lieferumfang   | 1 Kontermutter   |



## F DONNÉES TECHNIQUES

|  |  |
|--|--|
| Poids  | 0,1 : 10 g<br>0,15 : 20 g<br>0,2 : 36 g  |
| Vitesse d'impact   | WE-M : 0,2 - 3,5 m/s<br>WS-M : 0,2 - 5,0 m/s<br>WP-M : 0,2 - 5,0 m/s                 |
| Force du ressort   | 0,1 : 2,5 N/min - 6 N/max<br>0,15 : 3,6 N/min - 8 N/max<br>0,2 : 3,5 N/min - 7 N/max |
| Couple de serrage: max disponible en utilisant les plats | 0,1 : 2 Nm<br>0,15 : 6 Nm<br>0,2 : 10 Nm   |
| Températures   | -20°C - +80°C<br>option: -50°C - +120°C  |
| Corps  | ProSurf  |
| Tige de piston   | Acier trempé inoxydable  |
| RoHS compliantes   | Directive 2002/95/EC   |
| Inclus   | 1 Contre-écrou   |

## E DATOS TÉCNICOS

|   |  |
|---|--|
| Peso  | 0,1 : 10 g<br>0,15 : 20 g<br>0,2 : 36 g  |
| Velocidad de impacto                                | WE-M : 0,2 - 3,5 m/s<br>WS-M : 0,2 - 5,0 m/s<br>WP-M : 0,2 - 5,0 m/s                 |
| Fuerza del muelle recuperador                       | 0,1 : 2,5 N/min - 6 N/max<br>0,15 : 3,6 N/min - 8 N/max<br>0,2 : 3,5 N/min - 7 N/max |
| Par: fuerza máxima utilizando la superficies planas | 0,1 : 2 Nm<br>0,15 : 6 Nm<br>0,2 : 10 Nm   |
| Temperaturas  | -20°C - +80°C<br>opcional: -50°C - +120°C  |
| Carcasa   | ProSurf  |
| Vástago del émbolo                                  | Acero inoxidable templado  |
| RoHS y que cumplan                                  | Directiva 2002/95/CE   |
| Incluido  | 1 Contratuerca   |

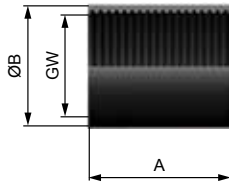
## GB SPECIFICATIONS

|                                       |  |
|---------------------------------------|--|
| Weight                                | 0,1 : 10 g<br>0,15 : 20 g<br>0,2 : 36 g  |
| Impact Speed                          | WE-M : 0,2 - 3,5 m/s<br>WS-M : 0,2 - 5,0 m/s<br>WP-M : 0,2 - 5,0 m/s                 |
| Return spring force                   | 0,1 : 2,5 N/min - 6 N/max<br>0,15 : 3,6 N/min - 8 N/max<br>0,2 : 3,5 N/min - 7 N/max |
| Torque: max. force by using the flats | 0,1 : 2 Nm<br>0,15 : 6 Nm<br>0,2 : 10 Nm   |
| Temperature                           | -20°C - +80°C<br>option: -50°C - +120°C  |
| Housing                               | ProSurf  |
| Piston rod                            | Hardened stainless steel   |
| RoHS compliant                        | Directive 2002/95/EC   |
| Included                              | 1 Lock nut   |

## I DATI TECNICI

|   |  |
|---|--|
| Peso  | 0,1 : 10 g<br>0,15 : 20 g<br>0,2 : 36 g  |
| Velocità d'impatto                                      | WE-M : 0,2 - 3,5 m/s<br>WS-M : 0,2 - 5,0 m/s<br>WP-M : 0,2 - 5,0 m/s                 |
| Forza di ritorno  | 0,1 : 2,5 N/min - 6 N/max<br>0,15 : 3,6 N/min - 8 N/max<br>0,2 : 3,5 N/min - 7 N/max |
| Coppia di serraggio max. utilizzando le superfici piane | 0,1 : 2 Nm<br>0,15 : 6 Nm<br>0,2 : 10 Nm   |
| Temperatura   | -20°C - +80°C<br>opzione: -50°C - +120°C   |
| Corpo   | ProSurf  |
| Stelo del pistone                                       | Acciaio temprato inossidabile  |
| RoHS compliant  | Direttiva 2002/95/EC   |
| Incluso   | 1 Controdado   |

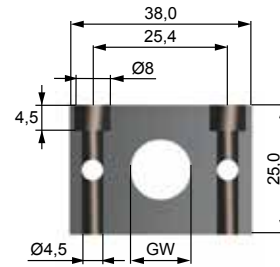
**ANSCHLAGMUTTER • STOP LIMIT NUT • BAGUE DE BUTÉE  
GHIERA DI ARRESTO • TUERCA DE TOPE**



| GW*   | A mm | ØB mm | Art.-Nr. / Code |
|-------|------|-------|-----------------|
| M8x1  | 12   | 11    | 14018           |
| M10x1 | 15   | 14    | 15018           |
| M12x1 | 20   | 16    | 17018           |

\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**RECHTECKFLANSCH • RECTANGULAR FLANGE  
BRIDE RECTANGULAIRE • FLANGIA RETTANGOLARE  
BRIDA RECTANGULAR**

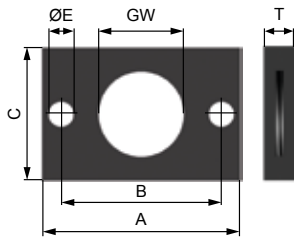


| GW*   | T mm | Art.-Nr. / Code |
|-------|------|-----------------|
| M10x1 | 12   | 15013           |
| M12x1 | 12   | 17013           |

Breite = T / Width = T / Largeur = T  
Larghezza = T / Anchura = T

\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**KLEMMFLANSCH • CLAMPING FLANGE • BRIDE DE FIXATION  
FLANGIA DI FISSAGGIO • BRIDA DE APRIETE**



| GW*    | A mm | B mm | C mm | E mm | T mm | Art.-Nr. / Code |
|--------|------|------|------|------|------|-----------------|
| M6x0,5 | 20   | 14   | 10   | 3,2  | 5    | SK13013         |
| M8x1   | 25   | 18   | 15   | 4,2  | 6    | SK14013         |
| M10x1  | 28   | 20   | 15   | 4,2  | 6    | SK15013         |
| M12x1  | 32   | 24   | 20   | 5,5  | 6    | SK17013         |

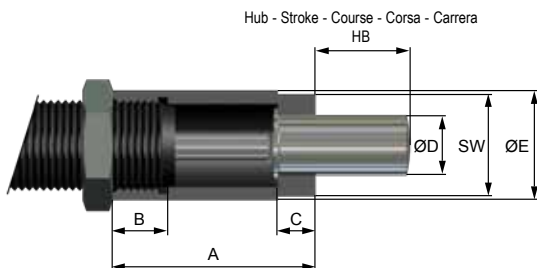
\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

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

| GW*     | Art.-Nr. / Code |
|---------|-----------------|
| M4x0,35 | 11012           |
| M5x0,5  | 12012           |
| M6x0,5  | 13012           |
| M8x1    | 14012           |
| M10x1   | 15012           |
| M12x1   | 17012           |

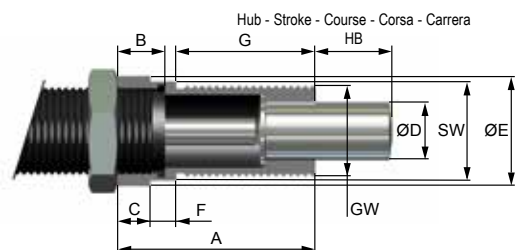
\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**AK 1 FÜR SEITENKRÄFTE • AK 1 FOR SIDE FORCES  
AK 1 POUR CHARGES RADIALES • AK 1 PER CARICHI LATERALI  
AK 1 PARA CARGAS LATERALES**



| GW*    | A mm  | B mm | C mm | ø D mm | ø E mm | SW mm | Art.-Nr. / Code |
|--------|-------|------|------|--------|--------|-------|-----------------|
| M10x6  | M10x1 | 17,5 | 7    | 5      | 7      | 14    | 15119           |
| M10x8  | M10x1 | 20,5 | 7    | 5      | 7      | 14    | 15319           |
| M12x10 | M12x1 | 23,0 | 7    | 5      | 9      | 15    | 17019           |
| 0,15   | M10x1 | 23,5 | 7    | 5      | 6      | 14    | S20519          |
| 0,2    | M12x1 | 25,0 | 7    | 5      | 9      | 15    | S20619          |

**AK 2 FÜR SEITENKRÄFTE • AK 2 FOR SIDE FORCES  
AK 2 POUR CHARGES RADIALES • AK 2 PER CARICHI LATERALI  
AK 2 PARA CARGAS LATERALES**



| GW*    | A mm  | B mm | C mm | ø D mm | ø E mm | F mm | G mm | SW mm | Art.-Nr. / Code |
|--------|-------|------|------|--------|--------|------|------|-------|-----------------|
| M8x5   | M8x1  | 19   | 7    | 5      | 4      | 12   | 4    | 10    | S14119-AK2      |
| M10x6  | M10x1 | 22   | 7    | 5      | 6      | 14   | 5    | 12    | S15119-AK2      |
| M12x10 | M12x1 | 28   | 7    | 5      | 7      | 15   | 5    | 18    | S17019-AK2      |

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## Amortisseurs · Deceleratori · Amortiguadores



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Max. -50% Costs / Nm

#### ProSurf

#### Extended Life Time

Long-life surface protection (p. 6)  
Nitrated guidance system  
Piston: hardened,  
Titanium aluminium nitride  
Special seals + oils

Integrated End Stop

Flats

Temperature

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Special models

Stainless steel (Page 62,63)  
Pressure chambers up to 7 bar  
USDA-H1-compliant for food industry

### I

#### Pistone allargato

Max. +400% Energia  
Max. -50% Costi / Nm

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#### Lunga durata

Durevole protezione delle superfici (p. 6)  
Sistema di guida nitrato  
Pistone: temprato,  
Nitrato di titanio e alluminio  
Guarnizioni + olio speciale

Battuta integrata

Superfici piane

Temperatura

-20°C - +80°C  
Opz.: -50°C - +60°C / 0°C - +120°C

Versione speciale

Acciaio inox (Pagina 62,63)  
Camera di pressione fino a 7 bar  
Industria alimentare secondo USDA-H1

### D

#### Vergrößerter Kolben

Max. +400% Energie  
Max. -50% Kosten / Nm

#### ProSurf

#### Lange Lebensdauer

Langlebiger Oberflächenschutz (S. 6)  
Gehärtetes Führungslager  
Kolben: gehärtet, Titanaluminiumnitrid  
Spezialdichtungen + Öle

Integrierter Festanschlag

Schlüsselflächen

Temperaturbereich

-20°C - +80°C  
Optional: -50°C - +60°C / 0°C - +120°C

Sonderausführungen

Edelstahl (Seite 62,63)  
Druckraum bis 7 bar  
Lebensmittelindustrie nach USDA-H1

### F

#### Piston massif

Max. +400% Energie  
Max. -50% Coût / Nm

#### ProSurf

#### Longévité

Protection de surface durable (p. 6)  
Système de guidage nitruré  
Piston: trempé,  
Nitrure de titane aluminium  
Joints et huiles spécifiques

Butée de fin de course intégrée

Plats usiné

Températures

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Version spéciale

INOX (page 62,63)  
Chambres pressurisées jusqu'à 7 bars  
Industrie alimentaire selon USDA-H1

### E

#### Émbolo mayor

Máx. +400% Energía  
Máx -50% costes / Nm

#### ProSurf

#### Larga vida útil

Protección duradera de superficies (p. 6)  
Cojinete de guía templado  
Émbolo: templado,  
Nitrato de titanio aluminio  
Juntas + aceites especiales

Tope fijo integrado

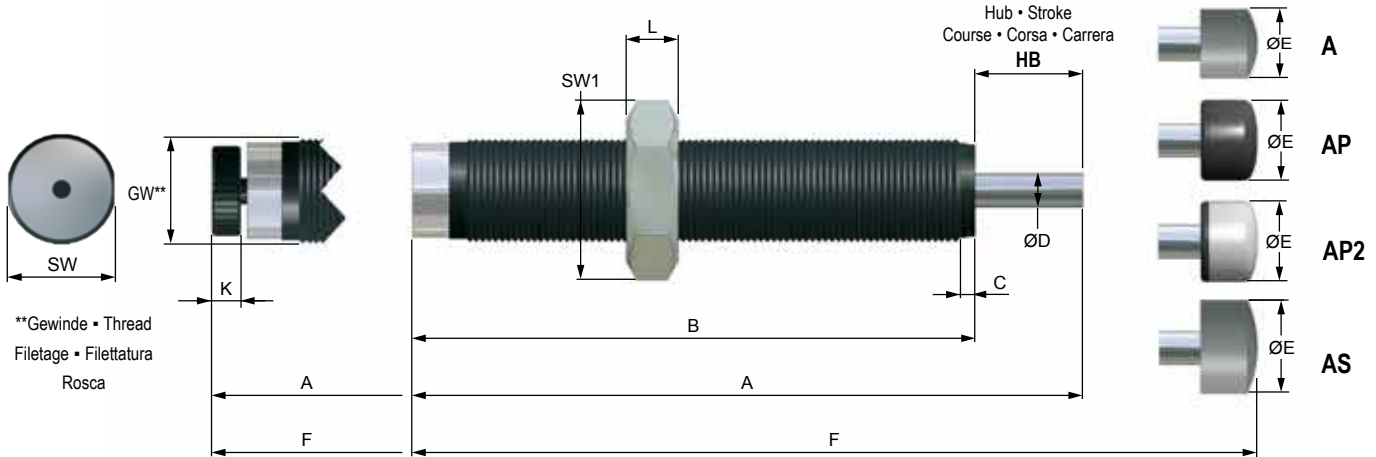
Superficies planas

Temperaturas

-20°C - +80°C  
Opc: -50°C - +60°C / 0°C - +120°C

Edición especial

Acero inoxidable (Página 62,63)  
Cámara de presión de hasta 7 bar  
Industria alimenticia conforme a USDA-H1



\*A: Kunststoff • Plastic • Plastique • Plastico • Plástico / AP: Soft Touch / AS: Stahl • Steel • Acier • Acciaio • Acero

**STOSSDÄMPFER MIT SCHUTZBALG • SHOCK ABSORBERS WITH PROTECTION BELLOW • AMORTISSEURS AVEC SOUFFLET DE PROTECTION • DECELERATORI CON SOFFIETTO DI PROTEZIONE • AMORTIGUADORES CON FUELLE DE PROTECCIÓN**



Material: PTFE / Anschlagkappe: rostfreier Stahl  
 Bestellinformation: WS-M 0,25 - 1B0

Material: PTFE / Stop cap: stainless steel  
 Ordering information: WS-M 0,25 - 1B0

Matière: PTFE / Chapeau butoir: acier inoxydable  
 Exemple de commande: WS-M 0,25 - 1B0

Materiale: PTFE / Testina d'urto: acciaio inossidabile  
 Esempio d'ordinazione: WS-M 0,25 - 1B0

Material: PTFE / Cabeza de choque: acero inoxidable  
 Ejemplo de pedido: WS-M 0,25 - 1B0

**ABMESSUNGEN • DIMENSIONS • DIMENSIONI • DIMENSIONES**

|           | GW*      | A  | B  | C   | øD | øE (A) | øE (AP/AP2) | øE (AS) | F (A) | F (AP/AP2) | F (AS) | K   | L  | SW | SW1 | SW2 | F (B) | øM | H  |
|-----------|----------|----|----|-----|----|--------|-------------|---------|-------|------------|--------|-----|----|----|-----|-----|-------|----|----|
|           | mm       | mm | mm | mm  | mm | mm     | mm          | mm      | mm    | mm         | mm     | mm  | mm | mm | mm  | mm  | mm    | mm | mm |
| WE-M 0,25 | M 14 x 1 | 97 | 78 | 2,5 | 4  | 10     | 10          | 10      | 105   | 105        | 105    | 4,5 | 5  | 13 | 17  | -   | 109   | 20 | 33 |
| WS-M 0,25 | M 14 x 1 | 92 | 78 | 2,5 | 4  | 10     | 10          | 10      | 100   | 101        | 100    | -   | 5  | 13 | 17  | -   | 104   | 20 | 33 |
| WP-M 0,25 | M 14 x 1 | 92 | 78 | 2,5 | 4  | 10     | 10          | 10      | 100   | 101        | 100    | -   | 5  | 13 | 17  | -   | 104   | 20 | 33 |
| WE-M 0,35 | M 16 x 1 | 97 | 78 | 2,5 | 4  | 10     | 10          | 10      | 105   | 105        | 105    | 4,5 | 6  | 14 | 19  | -   | 109   | 22 | 33 |
| WS-M 0,35 | M 16 x 1 | 92 | 78 | 2,5 | 4  | 10     | 10          | 10      | 100   | 101        | 100    | -   | 6  | 14 | 19  | -   | 104   | 22 | 33 |
| WP-M 0,35 | M 16 x 1 | 92 | 78 | 2,5 | 4  | 10     | 10          | 10      | 100   | 101        | 100    | -   | 6  | 14 | 19  | -   | 104   | 22 | 33 |

\*Optionale Gewinde: Seite 12/13 - Optional threads: page 12/13 - Filetages facultatifs: page 12/13 - Filetti facoltativi: pagina 12/13 - Rosca opcionales: página 12/13

**LEISTUNGEN • PERFORMANCE • CARATTERISTICHE TECNICHE • CARACTERÍSTICAS TÉCNICAS**

|           | Hub - Stroke<br>Course - Corsa<br>Carrera | Energieaufnahme - Energy absorption - Energie d'absorption<br>Assorbimento d'energia - Absorción de energía |             |               | Effektive Masse - Effective mass - Masse effective<br>Massa effettiva - Masa efectiva |               |               |               |                |
|-----------|---|---|-------------|---------------|---|---------------|---------------|---------------|----------------|
|           |   | Constant load*  |             |               | -0 (very soft)  | -1 (soft)     | -2 (medium)   | -3 (hard)     | -4 (very hard) |
|           | mm  | Nm/HB (max.)  | Nm/h (max.) | min. - max.kg | min. - max.kg   | min. - max.kg | min. - max.kg | min. - max.kg |                |
| WE-M 0,25 | 14  | 30  | 50.000      | -             | 1,6 - 1500  | -             | -             | -             |                |
| WS-M 0,25 | 14  | 30  | 50.000      | 0,9 - 8       | 3,5 - 17  | 9,9 - 76      | 62 - 252      | 250 - 950     |                |
| WP-M 0,25 | 14  | 30  | 50.000      | -             | 0,8 - 3,7   | 3 - 26        | 21 - 165      | -             |                |
| WE-M 0,35 | 14  | 35  | 52.500      | -             | 6,5 - 1750  | -             | -             | -             |                |
| WS-M 0,35 | 14  | 35  | 52.500      | 1,9 - 4,5     | 4 - 25  | 22 - 90       | 85 - 428      | 420 - 1320    |                |
| WP-M 0,35 | 14  | 35  | 52.500      | -             | 1,1 - 6,4   | 5 - 28        | 25 - 280      | -             |                |

\*Dauerbelastung - Constant load - Charge permanente - Carico permanente - Carga continua

## D TECHNISCHE DATEN

|  |   |
|--|---|
| Gewicht  | 0,25 : 0,05 kg<br>0,35 : 0,07 kg  |
| Aufprallgeschwindigkeit                                    | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s |
| Rückholfederkraft  | <b>0,25 / 0,35 :</b> 13 N/min - 23 N/max<br>Ausführung "BO": 25 N/min - 35 N/max          |
| Drehmoment: max. Kraft bei Benutzung der Schlüssel­flächen | <b>0,25 / 0,35 :</b> 20 Nm<br><b>0,5 / 0,5 x 40 :</b> 25 Nm                               |
| Temperaturbereich  | -20°C - +80°C<br>optional: -50°C - +120°C   |
| Gehäuse  | ProSurf   |
| Kolbenstange   | Gehärteter rostfreier Stahl   |
| RoHS konform   | Richtlinie 2002/95/EG   |
| Lieferumfang   | 1 Kontermutter  |



## GB SPECIFICATIONS

|                                       |   |
|---------------------------------------|---|
| Weight                                | 0,25 : 0,05 kg<br>0,35 : 0,07 kg  |
| Impact Speed                          | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s |
| Return spring force                   | <b>0,25 / 0,35 :</b> 13 N/min - 23 N/max<br>Version "BO": 25 N/min - 35 N/max             |
| Torque: max. force by using the flats | <b>0,25 / 0,35 :</b> 20 Nm  |
| Temperature                           | -20°C - +80°C<br>option: -50°C - +120°C   |
| Housing                               | ProSurf   |
| Piston rod                            | Hardened stainless steel  |
| RoHS compliant                        | Directive 2002/95/EC  |
| Included                              | 1 Lock nut  |

## F DONNÉES TECHNIQUES

|  |   |
|--|---|
| Poids  | 0,25 : 0,05 kg<br>0,35 : 0,07 kg  |
| Vitesse d'impact   | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s |
| Force du ressort   | <b>0,25 / 0,35 :</b> 13 N/min - 23 N/max<br>Version "BO": 25 N/min - 35 N/max             |
| Couple de serrage: max disponible en utilisant les plats | <b>0,25 / 0,35 :</b> 20 Nm  |
| Températures   | -20°C - +80°C<br>option: -50°C - +120°C   |
| Corps  | ProSurf   |
| Tige de piston   | Acier trempé inoxydable   |
| RoHS compliantes   | Directive 2002/95/EC  |
| Inclus   | 1 Contre-écrou  |

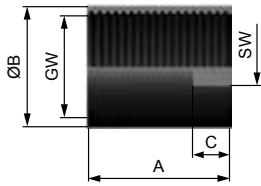
## I DATI TECNICI

|   |   |
|---|---|
| Peso  | 0,25 : 0,05 kg<br>0,35 : 0,07 kg  |
| Velocità d'impatto                                      | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s |
| Forza di ritorno  | <b>0,25 / 0,35 :</b> 13 N/min - 23 N/max<br>Versione "BO": 25 N/min - 35 N/max            |
| Coppia di serraggio max. utilizzando le superfici piane | <b>0,25 / 0,35 :</b> 20 Nm  |
| Temperatura   | -20°C - +80°C<br>opzione: -50°C - +120°C  |
| Corpo   | ProSurf   |
| Stelo del pistone                                       | Acciaio temprato inossidabile   |
| RoHS complianti   | Direttiva 2002/95/EC  |
| Incluso   | 1 Controdado  |

## E DATOS TÉCNICOS

|   |   |
|---|---|
| Peso  | 0,25 : 0,05 kg<br>0,35 : 0,07 kg  |
| Velocidad de impacto                                | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s |
| Fuerza del muelle recuperador                       | <b>0,25 / 0,35 :</b> 13 N/min - 23 N/max<br>Versión "BO": 25 N/min - 35 N/max             |
| Par: fuerza máxima utilizando la superficies planas | <b>0,25 / 0,35 :</b> 20 Nm  |
| Temperaturas  | -20°C - +80°C<br>opcional: -50°C - +120°C   |
| Carcasa   | ProSurf   |
| Vástago del émbolo                                  | Acero inoxidable templado   |
| RoHS y que cumplan                                  | Directiva 2002/95/CE  |
| Incluido  | 1 Contratuerca  |

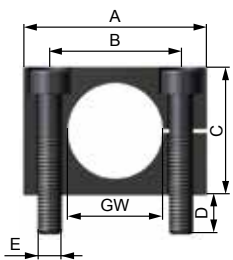
**ANSCHLAGMUTTER • STOP LIMIT NUT • BAGUE DE BUTÉE  
GHIERA DI ARRESTO • TUERCA DE TOPE**



| GW*   | A mm | ØB mm | C mm | SW mm | Art.-Nr. / Code |
|-------|------|-------|------|-------|-----------------|
| M14x1 | 20   | 18    | 6    | 15    | 21058           |
| M16x1 | 25   | 21    | 8    | 19    | 22158           |

\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**RECHTECKFLANSCH • RECTANGULAR FLANGE  
BRIDE RECTANGULAIRE • FLANGIA RETTANGOLARE  
BRIDA RECTANGULAR**

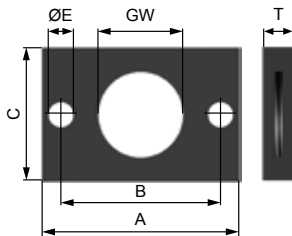


\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

| GW*   | A mm | B mm | C mm | D mm | E mm | T mm | Art.-Nr. / Code |
|-------|------|------|------|------|------|------|-----------------|
| M14x1 | 32   | 20   | 20   | 5    | M5   | 12   | S21053          |
| M16x1 | 40   | 28   | 25   | 6    | M6   | 20   | S22153          |

Breite = T  
Width = T  
Largeur = T  
Larghezza = T  
Anchura = T

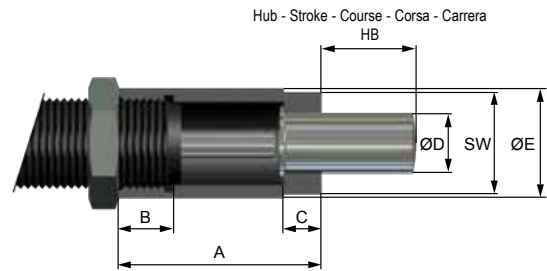
**KLEMMFLANSCH • CLAMPING FLANGE • BRIDE DE FIXATION  
FLANGIA DI FISSAGGIO • BRIDA DE APRIETE**



| GW*   | A mm | B mm | C mm | E mm | T mm | Art.-Nr. / Code |
|-------|------|------|------|------|------|-----------------|
| M14x1 | 34   | 26   | 20   | 5,5  | 6    | SK21053         |
| M16x1 | 34   | 26   | 20   | 5,5  | 6    | SK22153         |

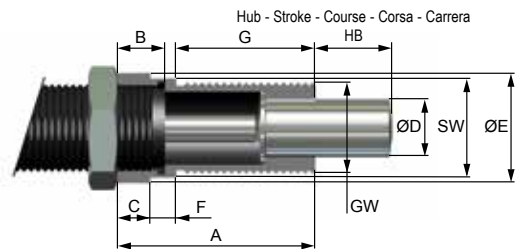
\*Optionale Gewinde: Seite 12/13  
\*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13  
\*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**AK 1 FÜR SEITENKRÄFTE • AK 1 FOR SIDE FORCES  
AK 1 POUR CHARGES RADIALES • AK 1 PER CARICHI LATERALI  
AK 1 PARA CARGAS LATERALES**



| GW*                   | A mm     | B mm | C mm | ØD mm | ØE mm | SW mm | Art.-Nr. / Code |
|-----------------------|----------|------|------|-------|-------|-------|-----------------|
| WE-M; WS-M; WP-M 0,25 | M 14 x 1 | 32   | 8    | 8     | 18    | 15    | S21019          |
| WE-M; WS-M; WP-M 0,35 | M 16 x 1 | 33   | 9    | 8     | 20    | 17    | S22119          |

**AK 2 FÜR SEITENKRÄFTE • AK 2 FOR SIDE FORCES  
AK 2 POUR CHARGES RADIALES • AK 2 PER CARICHI LATERALI  
AK 2 PARA CARGAS LATERALES**



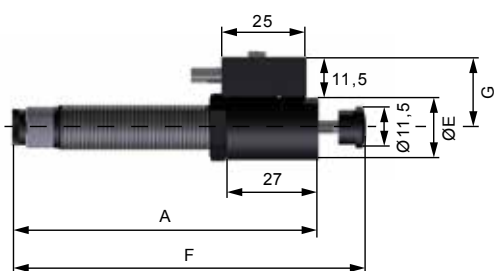
| GW*                   | A mm  | B mm | C mm | ØD mm | ØE mm | F mm | G mm | SW mm | Art.-Nr. / Code |
|-----------------------|-------|------|------|-------|-------|------|------|-------|-----------------|
| WE-M; WS-M; WP-M 0,25 | M14x1 | 32   | 8    | 8     | 18    | 4    | 20   | 16    | S21019-AK2      |
| WE-M; WS-M; WP-M 0,35 | M16x1 | 34,5 | 8    | 8     | 20    | 4    | 18   | 17    | S22119-AK2      |

**KONTERMUTTER • LOCK NUT • CONTRE-ÉCROU  
CONTRORADADO • CONTRATUERCA**

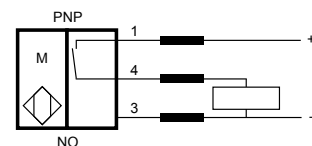
| GW*   | Art.-Nr. / Code |
|-------|-----------------|
| M14x1 | 21052           |
| M16x1 | 22152           |

\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**NÄHERUNGSSCHALTER • PROXIMITY SWITCH • DÉTECTEUR DE PROXIMITÉ • INTERRUPTORE DI PROSSIMITÀ • SENSOR DE PROXIMIDAD**



|           | A (mm) | ØE (mm) | F (mm) | G (mm) | Art.-Nr. / Code |
|-----------|--------|---------|--------|--------|-----------------|
| WE-M 0,25 | 92,0   | 19      | 100    | 20,5   | S31064          |
| WS-M 0,25 | 87,5   | 19      | 105    | 20,5   | S21024          |
| WP-M 0,25 | 87,5   | 19      | 105    | 20,5   | S41024          |
| WE-M 0,35 | 90,0   | 21      | 100    | 21,5   | S31254          |
| WS-M 0,35 | 85,5   | 21      | 105    | 21,5   | S22124          |
| WP-M 0,35 | 85,5   | 21      | 105    | 21,5   | S41524          |



**Lieferumfang • Included • Inclus • Incluso • Incluso**  
Näherungsschalter, Schaltkappe, Anschlagmutter  
Proximity Switch, Switch cap, Stop limit nut  
Décteur de proximité, Bouchon a commutation  
Bague de butée  
Interruttore di prossimità, Cappuccio commutazione  
Ghiera di arresto  
Sensor de proximidad, Interruptor del capó  
Tuerca de tope



# Stoßdämpfer · Shock Absorbers

## Amortisseurs · Deceleratori · Amortiguadores



### GB

#### Enlarged Piston

Max. +400% Energy  
Max. -50% Costs / Nm

#### ProSurf

Long-life surface protection (p. 6)

#### Extended Life Time

Nitrated guidance system  
Piston: hardened,  
Titanium aluminium nitride  
Special seals + oils

Integrated End Stop

Flats

Temperature

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Special models

Stainless steel (Page 62,63)  
Pressure chambers up to 7 bar  
USDA-H1-compliant for food industry

### I

#### Pistone allargato

Max. +400% Energia  
Max. -50% Costi / Nm

#### ProSurf

Durevole protezione delle superfici (p. 6)

#### Lunga durata

Sistema di guida nitrato  
Pistone: temprato,  
Nitrato di titanio e alluminio  
Guarnizioni + olio speciale

Battuta integrata

Superfici piane

Temperatura

-20°C - +80°C  
Opz.: -50°C - +60°C / 0°C - +120°C

Versione speciale

Acciaio inox (Pagina 62,63)  
Camera di pressione fino a 7 bar  
Industria alimentare secondo USDA-H1

### D

#### Vergrößerter Kolben

Max. +400% Energie  
Max. -50% Kosten / Nm

#### ProSurf

Langlebiger Oberflächenschutz (S. 6)

#### Lange Lebensdauer

Gehärtetes Führungslager  
Kolben: gehärtet, Titanaluminiumnitrid  
Spezialdichtungen + Öle

Integrierter Festanschlag

Schlüsselflächen

Temperaturbereich

-20°C - +80°C  
Optional: -50°C - +60°C / 0°C - +120°C

Sonderausführungen

Edelstahl (Seite 62,63)  
Druckraum bis 7 bar  
Lebensmittelindustrie nach USDA-H1

### F

#### Piston massif

Max. +400% Energie  
Max. -50% Coût / Nm

#### ProSurf

Protection de surface durable (p. 6)

#### Longévité

Système de guidage nitruré  
Piston: trempé,  
Nitrure de titane aluminium  
Joints et huiles spécifiques

Butée de fin de course intégrée

Plats usiné

Températures

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Version spéciale

INOX (page 62,63)  
Chambres pressurisées jusqu'à 7 bars  
Industrie alimentaire selon USDA-H1

### E

#### Émbolo mayor

Máx. +400% Energía  
Máx -50% costes / Nm

#### ProSurf

Protección duradera de superficies (p. 6)

#### Larga vida útil

Cojinete de guía templado  
Émbolo: templado,  
Nitrato de titanio aluminio  
Juntas + aceites especiales

Tope fijo integrado

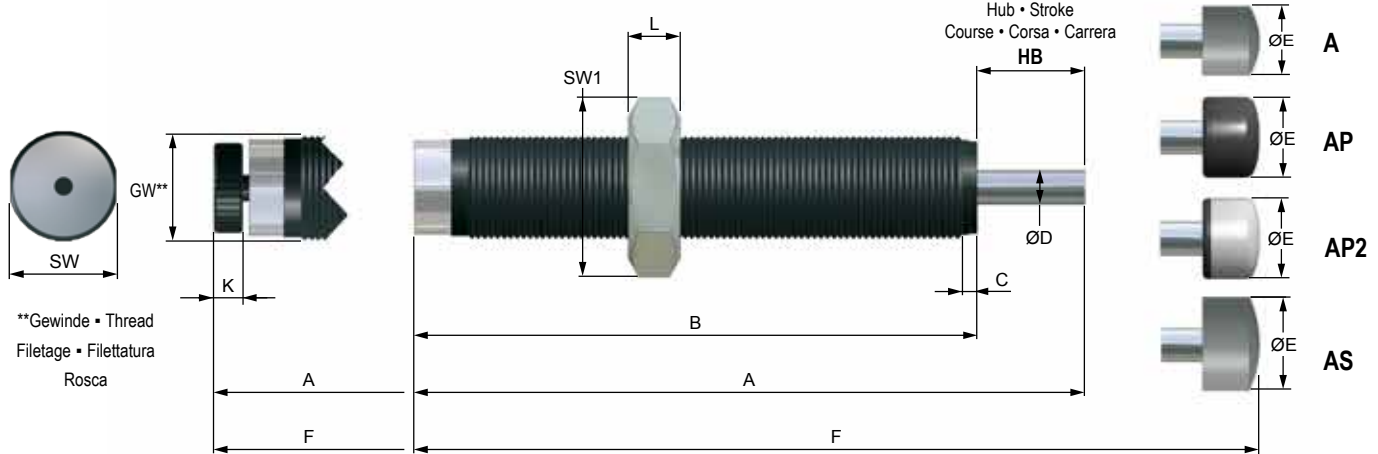
Superficies planas

Temperaturas

-20°C - +80°C  
Opz.: -50°C - +60°C / 0°C - +120°C

Edición especial

Acero inoxidable (Página 62,63)  
Cámara de presión de hasta 7 bar  
Industria alimenticia conforme a USDA-H1



\*A: Kunststoff • Plastic • Plastique • Plastico • Plástico / AP: Soft Touch / AS: Stahl • Steel • Acier • Acciaio • Acero

## STOSSDÄMPFER MIT SCHUTZBALG - SHOCK ABSORBERS WITH PROTECTION BELLOW - AMORTISSEURS AVEC SOUFFLET DE PROTECTION • DECELERATORI CON SOFFIETTO DI PROTEZIONE • AMORTIGUADORES CON FUELLE DE PROTECCIÓN



Material: PTFE / Anschlagkappe: rostfreier Stahl  
Bestellinformation: WS-M 0,5 x 19 - 1B0

Material: PTFE / Stop cap: stainless steel  
Ordering information: WS-M 0,5 x 19 - 1B0

Matière: PTFE / Chapeau butoir: acier inoxydable  
Exemple de commande: WS-M 0,5 x 19 - 1B0

Materiale: PTFE / Testina d'urto: acciaio inossidabile  
Esempio d'ordinazione: WS-M 0,5 x 19 - 1B0

Material: PTFE / Cabeza de choque: acero inoxidable  
Ejemplo de pedido: WS-M 0,5 x 19 - 1B0

## ABMESSUNGEN - DIMENSIONS - DIMENSIONI - DIMENSIONES

|               | GW*      | A   | B   | C   | øD | øE (A) | øE (AS) | F (A) | F (AP / AP2) | F (AS) | K  | L  | SW | SW1 | SW2 | F (B) | øM | H  |
|---------------|----------|-----|-----|-----|----|--------|---------|-------|--------------|--------|----|----|----|-----|-----|-------|----|----|
|               | mm       | mm  | mm  | mm  | mm | mm     | mm      | mm    | mm           | mm     | mm | mm | mm | mm  | mm  | mm    | mm | mm |
| WE-M 0,5 x 13 | M 20 x 1 | 94  | 75  | 2,5 | 6  | 12     | 17      | 104   | 105          | 104    | 6  | 6  | 18 | 24  | -   | 104   | 25 | 30 |
| WS-M 0,5 x 13 | M 20 x 1 | 88  | 75  | 2,5 | 6  | 12     | 17      | 98    | 99           | 98     | -  | 6  | 18 | 24  | -   | 98    | 25 | 30 |
| WP-M 0,5 x 13 | M 20 x 1 | 88  | 75  | 2,5 | 6  | 12     | 17      | 98    | 99           | 98     | -  | 6  | 18 | 24  | -   | 98    | 25 | 30 |
| WE-M 0,5 x 19 | M 20 x 1 | 113 | 88  | 2,5 | 6  | 12     | 17      | 123   | 125          | 123    | 6  | 6  | 18 | 24  | -   | 123   | 25 | 36 |
| WS-M 0,5 x 19 | M 20 x 1 | 107 | 88  | 2,5 | 6  | 12     | 17      | 117   | 119          | 117    | -  | 6  | 18 | 24  | -   | 117   | 25 | 36 |
| WP-M 0,5 x 19 | M 20 x 1 | 107 | 88  | 2,5 | 6  | 12     | 17      | 117   | 119          | 117    | -  | 6  | 18 | 24  | -   | 117   | 25 | 36 |
| WE-M 0,5 x 40 | M 20 x 1 | 171 | 125 | 2,5 | 6  | 12     | 17      | 181   | 183          | 181    | 6  | 6  | 18 | 24  | -   | -     | -  | -  |
| WS-M 0,5 x 40 | M 20 x 1 | 165 | 125 | 2,5 | 6  | 12     | 17      | 175   | 177          | 177    | -  | 6  | 18 | 24  | -   | -     | -  | -  |
| WP-M 0,5 x 40 | M 20 x 1 | 165 | 125 | 2,5 | 6  | 12     | 17      | 175   | 177          | 177    | -  | 6  | 18 | 24  | -   | -     | -  | -  |

\*Optionale Gewinde: Seite 12/13 - Optional threads: page 12/13 - Filetages facultatifs: page 12/13 - Filetti facoltativi: pagina 12/13 - Rosca opcionales: página 12/13

## LEISTUNGEN - PERFORMANCE - CARATTERISTICHE TECNICHE - CARACTERÍSTICAS TÉCNICAS

|               | Hub - Stroke<br>Course - Corsa<br>Carrera | Energieaufnahme - Energy absorption - Energie d'absorption<br>Assorbimento d'energia - Absorción de energía |             |             | Effektive Masse - Effective mass - Masse effective<br>Massa efectiva - Masa efectiva |               |               |               |                |
|---------------|---|---|-------------|-------------|--|---------------|---------------|---------------|----------------|
|               |   | Constant load*  |             | Nm/h (max.) | -0 (very soft)   | -1 (soft)     | -2 (medium)   | -3 (hard)     | -4 (very hard) |
|               |   | Nm/HB (max.)  | Nm/h (max.) |             | min. - max.kg  | min. - max.kg | min. - max.kg | min. - max.kg | min. - max.kg  |
| WE-M 0,5 x 13 | 13  | 65  | 52.000      | -           | 6 - 3250   | -             | -             | -             |                |
| WS-M 0,5 x 13 | 13  | 65  | 52.000      | 1,8 - 8,5   | 7,5 - 36   | 20 - 160      | 130 - 610     | 520 - 3500    |                |
| WP-M 0,5 x 13 | 13  | 65  | 52.000      | -           | 1,8 - 8,5  | 6,4 - 58      | 44 - 360      | -             |                |
| WE-M 0,5 x 19 | 19  | 100   | 76.500      | -           | 9 - 4.500  | -             | -             | -             |                |
| WS-M 0,5 x 19 | 19  | 100   | 76.500      | 2,6 - 10,6  | 10 - 86  | 40 - 209      | 170 - 800     | 680 - 4.050   |                |
| WP-M 0,5 x 19 | 19  | 100   | 76.500      | -           | 2,6 - 12,5   | 10 - 89       | 69 - 555      | -             |                |
| WE-M 0,5 x 40 | 40  | 125   | 95.625      | -           | 12 - 6.300   | -             | -             | -             |                |
| WS-M 0,5 x 40 | 40  | 125   | 95.625      | 3,5 - 16    | 14 - 69  | 40 - 305      | 250 - 1.180   | 1.000 - 6.250 |                |
| WP-M 0,5 x 40 | 40  | 125   | 95.625      | -           | 3,5 - 20   | 13 - 100      | 90 - 690      | -             |                |

\*Dauerbelastung - Constant load - Charge permanente - Carico permanente - Carga continua

## D TECHNISCHE DATEN

|  |   |
|--|---|
| Gewicht  | 0,5 : 0,14 kg<br>0,5 x 40 : 0,20 kg   |
| Aufprallgeschwindigkeit                                    | WE-M: 0,08 - 6,0 m/s<br>WS-M: 0,08 - 6,0 m/s<br>WP-M: 0,30 - 8,0 m/s        |
| Rückholfederkraft  | 0,5 / 0,5 x 40: 12 N/min - 23 N/max<br>Ausführung "BO": 50 N/min - 70 N/max |
| Drehmoment: max. Kraft bei Benutzung der Schlüssel­flächen | 0,5 / 0,5 x 40 : 25 Nm  |
| Temperaturbereich  | -20°C - +80°C<br>optional: -50°C - +120°C                                   |
| Gehäuse  | ProSurf   |
| Kolbenstange   | Gehärteter rostfreier Stahl   |
| RoHS konform   | Richtlinie 2002/95/EG   |
| Lieferumfang   | 1 Kontermutter  |



## F DONNÉES TECHNIQUES

|  |  |
|--|--|
| Poids  | 0,5 : 0,14 kg<br>0,5 x 40 : 0,20 kg                                      |
| Vitesse d'impact   | WE-M: 0,08 - 6,0 m/s<br>WS-M: 0,08 - 6,0 m/s<br>WP-M: 0,30 - 8,0 m/s     |
| Force du ressort   | 0,5 / 0,5 x 40: 12 N/min - 23 N/max<br>Version "BO": 50 N/min - 70 N/max |
| Couple de serrage: max disponible en utilisant les plats | 0,5 / 0,5 x 40 : 25 Nm   |
| Températures   | -20°C - +80°C<br>option: -50°C - +120°C                                  |
| Corps  | ProSurf  |
| Tige de piston   | Acier trempé inoxydable  |
| RoHS compliantes   | Directive 2002/95/EC   |
| Inclus   | 1 Contre-écrou   |

## E DATOS TÉCNICOS

|   |  |
|---|--|
| Peso  | 0,5 : 0,14 kg<br>0,5 x 40 : 0,20 kg                                      |
| Velocidad de impacto                                | WE-M: 0,08 - 6,0 m/s<br>WS-M: 0,08 - 6,0 m/s<br>WP-M: 0,30 - 8,0 m/s     |
| Fuerza del muelle recuperador                       | 0,5 / 0,5 x 40: 12 N/min - 23 N/max<br>Versión "BO": 50 N/min - 70 N/max |
| Par: fuerza máxima utilizando la superficies planas | 0,5 / 0,5 x 40 : 25 Nm   |
| Temperaturas  | -20°C - +80°C<br>opcional: -50°C - +120°C                                |
| Carcasa   | ProSurf  |
| Vástago del émbolo                                  | Acero inoxidable templado  |
| RoHS y que cumplan                                  | Directiva 2002/95/CE   |
| Incluido  | 1 Contratuercia  |

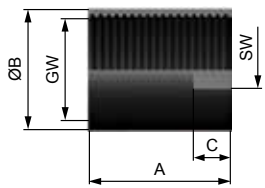
## GB SPECIFICATIONS

|                                       |  |
|---------------------------------------|--|
| Weight                                | 0,5 : 0,14 kg<br>0,5 x 40 : 0,20 kg                                      |
| Impact Speed                          | WE-M: 0,08 - 6,0 m/s<br>WS-M: 0,08 - 6,0 m/s<br>WP-M: 0,30 - 8,0 m/s     |
| Return spring force                   | 0,5 / 0,5 x 40: 12 N/min - 23 N/max<br>Version "BO": 50 N/min - 70 N/max |
| Torque: max. force by using the flats | 0,5 / 0,5 x 40 : 25 Nm   |
| Temperature                           | -20°C - +80°C<br>option: -50°C - +120°C                                  |
| Housing                               | ProSurf  |
| Piston rod                            | Hardened stainless steel   |
| RoHS compliant                        | Directive 2002/95/EC   |
| Included                              | 1 Lock nut   |

## I DATI TECNICI

|   |   |
|---|---|
| Peso  | 0,5 : 0,14 kg<br>0,5 x 40 : 0,20 kg                                       |
| Velocità d'impatto                                      | WE-M: 0,08 - 6,0 m/s<br>WS-M: 0,08 - 6,0 m/s<br>WP-M: 0,30 - 8,0 m/s      |
| Forza di ritorno  | 0,5 / 0,5 x 40: 12 N/min - 23 N/max<br>Versione "BO": 50 N/min - 70 N/max |
| Coppia di serraggio max. utilizzando le superfici piane | 0,5 / 0,5 x 40 : 25 Nm  |
| Temperatura   | -20°C - +80°C<br>opzione: -50°C - +120°C                                  |
| Corpo   | ProSurf   |
| Stelo del pistone                                       | Acciaio temprato inossidabile   |
| RoHS compliant  | Direttiva 2002/95/EC  |
| Incluso   | 1 Controdado  |

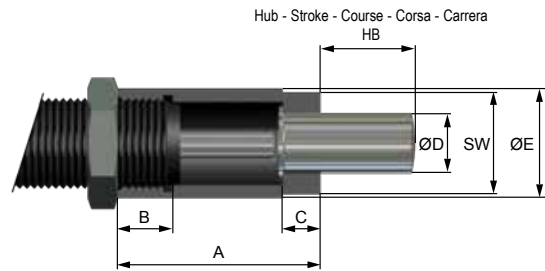
**ANSCHLAGMUTTER • STOP LIMIT NUT • BAGUE DE BUTÉE  
GHIERA DI ARRESTO • TUERCA DE TOPE**



| GW*   | A  | ØB | C  | SW | Art.-Nr. / Code |
|-------|----|----|----|----|-----------------|
| mm    | mm | mm | mm | mm |                 |
| M20x1 | 35 | 25 | 8  | 22 | 21158           |

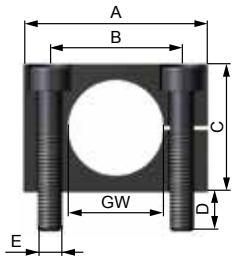
\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**AK 1 FÜR SEITENKRÄFTE • AK 1 FOR SIDE FORCES  
AK 1 POUR CHARGES RADIALES • AK 1 PER CARICHI LATERALI  
AK 1 PARA CARGAS LATERALES**



| GW*                        | A        | B  | C  | ØD | ØE | SW | Art.-Nr. / Code |        |
|----------------------------|----------|----|----|----|----|----|-----------------|--------|
| mm                         | mm       | mm | mm | mm | mm | mm |                 |        |
| WE-M; WS-M;<br>WP-M 0,5x19 | M 20 x 1 | 42 | 16 | 8  | 12 | 24 | 22              | S21119 |

**RECHTECKFLANSCH • RECTANGULAR FLANGE • BRIDE RECTAN-  
GULAIRE • FLANGIA RETTANGOLARE • BRIDA RECTANGULAR**

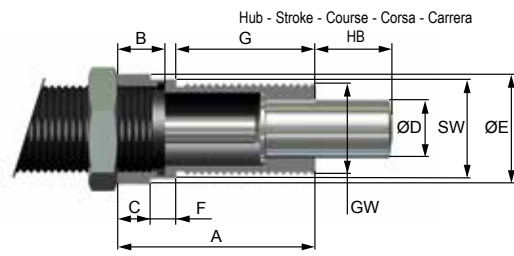


| GW*   | A  | B  | C  | D  | E  | T  | Art.-Nr. / Code |
|-------|----|----|----|----|----|----|-----------------|
| mm    | mm | mm | mm | mm | mm | mm |                 |
| M20x1 | 40 | 28 | 25 | 6  | M6 | 20 | S21153          |

\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

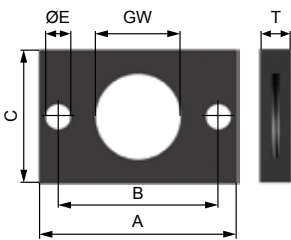
Breite = T / Width = T / Largeur = T  
Larghezza = T / Anchura = T

**AK 2 FÜR SEITENKRÄFTE • AK 2 FOR SIDE FORCES  
AK 2 POUR CHARGES RADIALES • AK 2 PER CARICHI LATERALI  
AK 2 PARA CARGAS LATERALES**



| GW*                        | A     | B  | C  | ØD | ØE | F  | G  | SW | Art.-Nr. / Code |            |
|----------------------------|-------|----|----|----|----|----|----|----|-----------------|------------|
| mm                         | mm    | mm | mm | mm | mm | mm | mm | mm |                 |            |
| WE-M; WS-M;<br>WP-M 0,5x13 | M20x1 | 34 | 9  | 7  | 12 | 24 | 7  | 20 | 22              | S21919-AK2 |
| WE-M; WS-M;<br>WP-M 0,5x19 | M20x1 | 38 | 9  | 6  | 12 | 24 | 7  | 25 | 22              | S21119-AK2 |

**KLEMMFLANSCH • CLAMPING FLANGE • BRIDE DE FIXATION  
FLANGIA DI FISSAGGIO • BRIDA DE APRIETE**



| GW*   | A  | B  | C  | E   | T  | Art.-Nr. / Code |
|-------|----|----|----|-----|----|-----------------|
| mm    | mm | mm | mm | mm  | mm |                 |
| M20x1 | 46 | 36 | 30 | 6,6 | 8  | SK21153         |

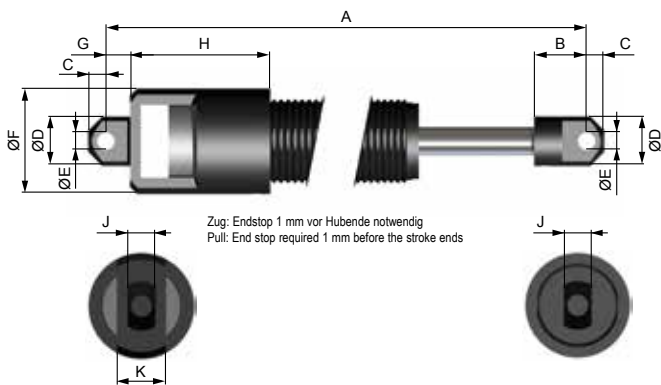
\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

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

| GW*   | Art.-Nr. / Code |
|-------|-----------------|
| M20x1 | 21152           |

\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**SCHWENKBEFESTIGUNG • CLEVIS MOUNTING • FIXATION ARTI-  
CULÉE • ATTACCO OSCILLANTE • FIJACIÓN GIRATORIA**

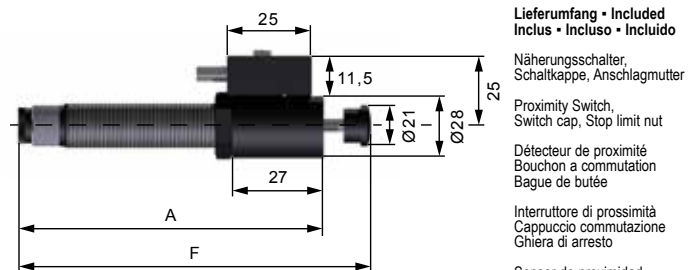


Zug: Endstop 1 mm vor Hubende notwendig  
Pull: End stop required 1 mm before the stroke ends

| GW*            | A     | B   | C  | ØD | ØE | ØF | G  | H  | J  | K  |    |
|----------------|-------|-----|----|----|----|----|----|----|----|----|----|
| mm             | mm    | mm  | mm | mm | mm | mm | mm | mm | mm | mm |    |
| WE-M 0,5x13SB  | M20x1 | 119 | 13 | 5  | 12 | 5  | 26 | 5  | 35 | 6  | 12 |
| WS/P-M0,5x13SB | M20x1 | 111 | 13 | 5  | 12 | 5  | 26 | 5  | 35 | 6  | 12 |
| WE-M 0,5x19SB  | M20x1 | 138 | 13 | 5  | 12 | 5  | 26 | 5  | 35 | 6  | 12 |
| WS/P-M0,5x19SB | M20x1 | 130 | 13 | 5  | 12 | 5  | 26 | 5  | 35 | 6  | 12 |

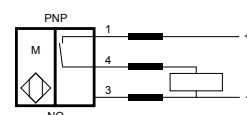
Art.-Nr. / Code: S21116

**NÄHERUNGSSCHALTER • PROXIMITY SWITCH  
DÉTECTEUR DE PROXIMITÉ • INTERRUPTORE DI PROSSIMITÀ  
SENSOR DE PROXIMIDAD**



Lieferumfang • Included  
Inclus • Incluso • Includido  
Näherungsschalter,  
Schaltkappe, Anschlagmutter  
Proximity Switch,  
Switch cap, Stop limit nut  
Détecteur de proximité  
Bouchon a commutation  
Bague de butée  
Interruttore di prossimità  
Cappuccio commutazione  
Ghiera di arresto  
Sensor de proximidad  
Interruptor del capó  
Tuerca de tope

|             | A     | F    | Art.-Nr. / Code | A           | F     | Art.-Nr. / Code |        |
|-------------|-------|------|-----------------|-------------|-------|-----------------|--------|
|             | (mm)  | (mm) |                 | (mm)        | (mm)  |                 |        |
| WE-M 0,5x13 | 88,5  | 104  | S32164          | WE-M 0,5x40 | 138,5 | 181             | S32164 |
| WS-M 0,5x13 | 82,5  | 98   | S21124          | WS-M 0,5x40 | 132,5 | 177             | S21124 |
| WP-M 0,5x13 | 82,5  | 98   | S41124          | WP-M 0,5x40 | 132,5 | 177             | S41124 |
| WE-M 0,5x19 | 101,5 | 123  | S32164          |             |       |                 |        |
| WS-M 0,5x19 | 95,5  | 117  | S21124          |             |       |                 |        |
| WP-M 0,5x19 | 95,5  | 117  | S41124          |             |       |                 |        |



# Stoßdämpfer · Shock Absorbers

Amortisseurs · Deceleratori · Amortiguadores



## GB

### Enlarged Piston

Max. +400% Energy  
Max. -50% Costs / Nm

### ProSurf

Long-life surface protection (p. 6)

### Extended Life Time

Nitrated guidance system  
Piston: hardened,  
Titanium aluminium nitride  
Special seals + oils

Integrated End Stop

Flats

Temperature

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Special models

Stainless steel (Page 62,63)  
Pressure chambers up to 7 bar  
USDA-H1-compliant for food industry

## I

### Pistone allargato

Max. +400% Energia  
Max. -50% Costi / Nm

### ProSurf

Durevole protezione delle superfici (p. 6)

### Lunga durata

Sistema di guida nitrato  
Pistone: temprato,  
Nitrato di titanio e alluminio  
Guarnizioni + olio speciale

Battuta integrata

Superfici piane

Temperatura

-20°C - +80°C  
Opz.: -50°C - +60°C / 0°C - +120°C

Versione speciale

Acciaio inox (Pagina 62,63)  
Camera di pressione fino a 7 bar  
Industria alimentare secondo USDA-H1

## D

### Vergrößerter Kolben

Max. +400% Energie  
Max. -50% Kosten / Nm

### ProSurf

Langlebiger Oberflächenschutz (S. 6)

### Lange Lebensdauer

Gehärtetes Führungslager  
Kolben: gehärtet, Titanaluminiumnitrid  
Spezialdichtungen + Öle

Integrierter Festanschlag

Schlüsselflächen

Temperaturbereich

-20°C - +80°C  
Optional: -50°C - +60°C / 0°C - +120°C

Sonderausführungen

Edelstahl (Seite 62,63)  
Druckraum bis 7 bar  
Lebensmittelindustrie nach USDA-H1

## F

### Piston massif

Max. +400% Energie  
Max. -50% Coût / Nm

### ProSurf

Protection de surface durable (p. 6)

### Longévité

Système de guidage nitruré  
Piston: trempé,  
Nitrure de titane aluminium  
Joints et huiles spécifiques

Butée de fin de course intégrée

Plats usiné

Températures

-20°C - +80°C  
Option: -50°C - +60°C / 0°C - +120°C

Version spéciale

INOX (page 62,63)  
Chambres pressurisées jusqu'à 7 bars  
Industrie alimentaire selon USDA-H1

## E

### Émbolo mayor

Máx. +400% Energía  
Máx -50% costes / Nm

### ProSurf

Protección duradera de superficies (p. 6)

### Larga vida útil

Cojinete de guía templado  
Émbolo: templado,  
Nitrato de titanio aluminio  
Juntas + aceites especiales

Tope fijo integrado

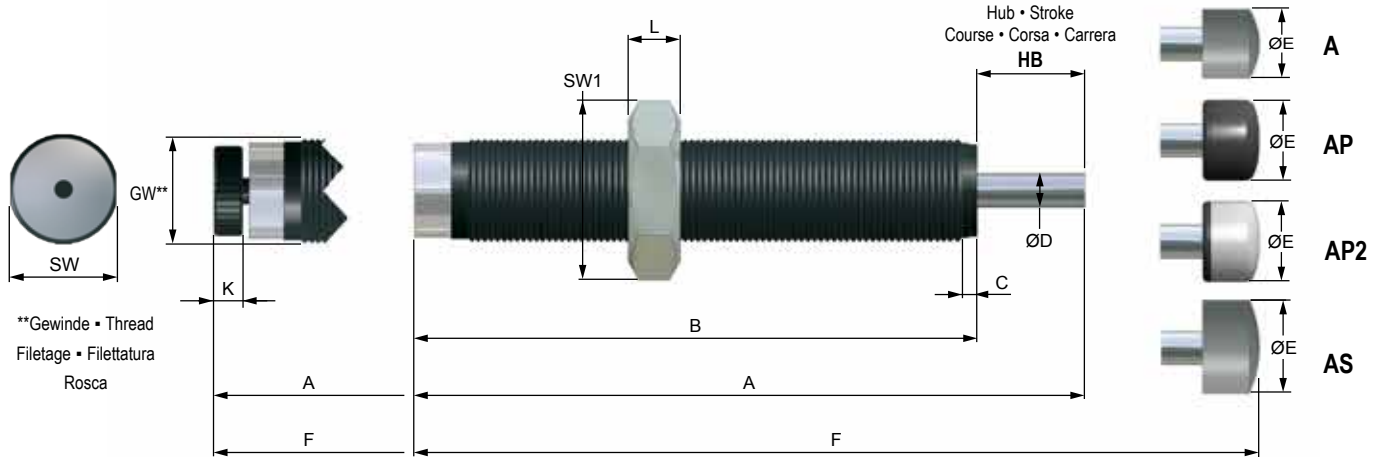
Superficies planas

Temperaturas

-20°C - +80°C  
Opc: -50°C - +60°C / 0°C - +120°C

Edición especial

Acero inoxidable (Página 62,63)  
Cámara de presión de hasta 7 bar  
Industria alimenticia conforme a USDA-H1



\*A: Kunststoff • Plastic • Plastique • Plastico • Plástico / AP: Soft Touch / AS: Stahl • Steel • Acier • Acciaio • Acero

**STOSSDÄMPFER MIT SCHUTZBALG • SHOCK ABSORBERS WITH PROTECTION BELLOW • AMORTISSEURS AVEC SOUFFLET DE PROTECTION • DECELERATORI CON SOFFIETTO DI PROTEZIONE • AMORTIGUADORES CON FUELLE DE PROTECCIÓN**



Material: PTFE / Anschlagkappe: rostfreier Stahl  
 Bestellinformation: WS-M 1,0 - 1B0

Material: PTFE / Stop cap: stainless steel  
 Ordering information: WS-M 1,0 - 1B0

Matière: PTFE / Chapeau butoir: acier inoxydable  
 Exemple de commande: WS-M 1,0 - 1B0

Materiale: PTFE / Testina d'urto: acciaio inossidabile  
 Esempio d'ordinazione: WS-M 1,0 - 1B0

Material: PTFE / Cabeza de choque: acero inoxidable  
 Ejemplo de pedido: WS-M 1,0 - 1B0

**ABMESSUNGEN • DIMENSIONS • DIMENSIONI • DIMENSIONES**

|               | GW*        | A   | B   | C   | øD | øE (A) | øE (AP/AP2) | øE (AS) | F (A) | F   | F (AS) | K  | L  | SW | SW1 | SW2 | F (B) | øM | H  |
|---------------|------------|-----|-----|-----|----|--------|-------------|---------|-------|-----|--------|----|----|----|-----|-----|-------|----|----|
|               | mm         | mm  | mm  | mm  | mm | mm     | mm          | mm      | mm    | mm  | mm     | mm | mm | mm | mm  | mm  | mm    | mm | mm |
| WE-M 1,0      | M 24 x 1,5 | 141 | 108 | 3,5 | 8  | 16     | 21          | 20      | 154   | 156 | 154    | 8  | 8  | 23 | 30  | -   | 154   | 30 | 50 |
| WS-M 1,0      | M 24 x 1,5 | 133 | 108 | 3,5 | 8  | 16     | 21          | 20      | 146   | 148 | 146    | -  | 8  | 23 | 30  | -   | 146   | 30 | 50 |
| WP-M 1,0      | M 24 x 1,5 | 133 | 108 | 3,5 | 8  | 16     | 21          | 20      | 146   | 148 | 146    | -  | 8  | 23 | 30  | -   | 146   | 30 | 50 |
| WE-M 1,0 x 40 | M 24 x 1,5 | 178 | 130 | 3,5 | 8  | 16     | 21          | 20      | 191   | 193 | 191    | 8  | 8  | 23 | 30  | -   | -     | -  | -  |
| WS-M 1,0 x 40 | M 24 x 1,5 | 170 | 130 | 3,5 | 8  | 16     | 21          | 20      | 183   | 185 | 183    | -  | 8  | 23 | 30  | -   | -     | -  | -  |
| WP-M 1,0 x 40 | M 24 x 1,5 | 170 | 130 | 3,5 | 8  | 16     | 21          | 20      | 183   | 185 | 183    | -  | 8  | 23 | 30  | -   | -     | -  | -  |
| WE-M 1,0 x 80 | M 24 x 1,5 | 321 | 233 | 3,5 | 8  | 16     | 21          | 20      | 334   | 336 | 334    | 8  | 8  | -  | 30  | -   | -     | -  | -  |
| WS-M 1,0 x 80 | M 24 x 1,5 | 313 | 233 | 3,5 | 8  | 16     | 21          | 20      | 326   | 328 | 326    | -  | 8  | -  | 30  | -   | -     | -  | -  |
| WP-M 1,0 x 80 | M 24 x 1,5 | 313 | 233 | 3,5 | 8  | 16     | 21          | 20      | 326   | 328 | 326    | -  | 8  | -  | 30  | -   | -     | -  | -  |

\*Optionale Gewinde: Seite 12/13 - Optional threads: page 12/13 - Filetages facultatifs: page 12/13 - Filetti facoltativi: pagina 12/13 - Rosca opcionales: página 12/13

**LEISTUNGEN • PERFORMANCE • CARATTERISTICHE TECNICHE • CARACTERÍSTICAS TÉCNICAS**

|               | Hub - Stroke<br>Course - Corsa<br>Carrera | Energieaufnahme - Energy absorption - Energie d'absorption<br>Assorbimento d'energia - Absorción de energía |              | Effektive Masse - Effective mass - Masse effective<br>Massa efectiva - Masa efectiva |   |               |               |               |               |
|---------------|---|---|--------------|--|---|---------------|---------------|---------------|---------------|
|               |   | Constant load*  | Nm/hB (max.) | Nm/h (max.)  | -0 (very soft) -1 (soft) -2 (medium) -3 (hard) -4 (very hard) |               |               |               |               |
|               |   |   |              |  | min. - max.kg   | min. - max.kg | min. - max.kg | min. - max.kg | min. - max.kg |
| WE-M 1,0      | 25  | 220   | 105.600      | -  | 22 - 11.000   | -             | -             | -             | -             |
| WS-M 1,0      | 25  | 220   | 105.600      | 6 - 29   | 24 - 120  | 70 - 460      | 440 - 2.050   | 1760 - 10.800 |               |
| WP-M 1,0      | 25  | 220   | 105.600      | -  | 6 - 27,5  | 21 - 195      | 150 - 1200    | -             |               |
| WE-M 1,0 x 40 | 40  | 390   | 175.500      | -  | 38 - 18.000   | -             | -             | -             |               |
| WS-M 1,0 x 40 | 40  | 390   | 175.500      | 15 - 103   | 44 - 216  | 135 - 962     | 780 - 3.600   | 3100 - 19.500 |               |
| WP-M 1,0 x 40 | 40  | 390   | 175.500      | -  | 10 - 48   | 39 - 340      | 270 - 2150    | -             |               |
| WE-M 1,0 x 80 | 80  | 390   | 175.500      | -  | 38 - 18.000   | -             | -             | -             |               |
| WS-M 1,0 x 80 | 80  | 390   | 175.500      | 15 - 103   | 44 - 216  | 135 - 962     | 780 - 3.600   | 3100 - 19.500 |               |
| WP-M 1,0 x 80 | 80  | 390   | 175.500      | -  | 10 - 48   | 39 - 340      | 270 - 2150    | -             |               |

\*Dauerbelastung - Constant load - Charge permanente - Carico permanente - Carga continua

## D TECHNISCHE DATEN

|  |   |
|--|---|
| Gewicht  | 1,0 : 0,29 kg<br>1,0 x 40 : 0,39 kg<br>1,0 x 80 : 0,63 kg   |
| Aufprallgeschwindigkeit                                    | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s   |
| Rückholfederkraft  | 1,0 : 15 N/min - 31 N/max<br>Ausführung "BO": 60 N/min - 80 N/max<br>1,0 x 40 : 11 N/min - 20 N/max<br>1,0 x 80 : 14 N/min - 31 N/max |
| Drehmoment: max. Kraft bei Benutzung der Schlüssel­flächen | 1,0 / 1,0 x 40 / 1,0 x 80: 30 Nm  |
| Temperaturbereich  | -20°C - +80°C<br>optional: -50°C - +120°C   |
| Gehäuse  | ProSurf   |
| Kolbenstange   | Gehärteter rostfreier Stahl   |
| RoHS konform   | Richtlinie 2002/95/EG   |
| Lieferumfang   | 1 Kontermutter  |

## F DONNÉES TECHNIQUES

|  |  |
|--|--|
| Poids  | 1,0 : 0,29 kg<br>1,0 x 40 : 0,39 kg<br>1,0 x 80 : 0,63 kg  |
| Vitesse d'impact   | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s  |
| Force du ressort   | 1,0 : 15 N/min - 31 N/max<br>Version "BO": 60 N/min - 80 N/max<br>1,0 x 40 : 11 N/min - 20 N/max<br>1,0 x 80 : 14 N/min - 31 N/max |
| Couple de serrage: max disponible en utilisant les plats | 1,0 / 1,0 x 40 / 1,0 x 80: 30 Nm   |
| Températures   | -20°C - +80°C<br>option: -50°C - +120°C  |
| Corps  | ProSurf  |
| Tige de piston   | Acier trempé inoxydable  |
| RoHS compliantes   | Directive 2002/95/EC   |
| Inclus   | 1 Contre-écrou   |

## E DATOS TÉCNICOS

|   |  |
|---|--|
| Peso  | 1,0 : 0,29 kg<br>1,0 x 40 : 0,39 kg<br>1,0 x 80 : 0,63 kg  |
| Velocidad de impacto                                | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s  |
| Fuerza del muelle recuperador                       | 1,0 : 15 N/min - 31 N/max<br>Versión "BO": 60 N/min - 80 N/max<br>1,0 x 40 : 11 N/min - 20 N/max<br>1,0 x 80 : 14 N/min - 31 N/max |
| Par: fuerza máxima utilizando la superficies planas | 1,0 / 1,0 x 40 / 1,0 x 80: 30 Nm   |
| Temperaturas  | -20°C - +80°C<br>opcional: -50°C - +120°C  |
| Carcasa   | ProSurf  |
| Vástago del émbolo                                  | Acero inoxidable templado  |
| RoHS y que cumplan                                  | Directiva 2002/95/CE   |
| Incluido  | 1 Contratuerca   |

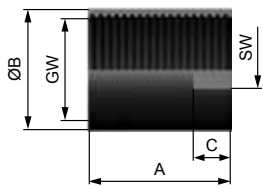
## GB SPECIFICATIONS

|                                       |  |
|---------------------------------------|--|
| Weight                                | 1,0 : 0,29 kg<br>1,0 x 40 : 0,39 kg<br>1,0 x 80 : 0,63 kg  |
| Impact Speed                          | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s  |
| Return spring force                   | 1,0 : 15 N/min - 31 N/max<br>Version "BO": 60 N/min - 80 N/max<br>1,0 x 40 : 11 N/min - 20 N/max<br>1,0 x 80 : 14 N/min - 31 N/max |
| Torque: max. force by using the flats | 1,0 / 1,0 x 40 / 1,0 x 80: 30 Nm   |
| Temperature                           | -20°C - +80°C<br>option: -50°C - +120°C  |
| Housing                               | ProSurf  |
| Piston rod                            | Hardened stainless steel   |
| RoHS compliant                        | Directive 2002/95/EC   |
| Included                              | 1 Lock nut   |

## I DATI TECNICI

|   |   |
|---|---|
| Peso  | 1,0 : 0,29 kg<br>1,0 x 40 : 0,39 kg<br>1,0 x 80 : 0,63 kg   |
| Velocità d'impatto                                      | <b>WE-M:</b> 0,08 - 6,0 m/s<br><b>WS-M:</b> 0,08 - 6,0 m/s<br><b>WP-M:</b> 0,30 - 8,0 m/s   |
| Forza di ritorno  | 1,0 : 15 N/min - 31 N/max<br>Versione "BO": 60 N/min - 80 N/max<br>1,0 x 40 : 11 N/min - 20 N/max<br>1,0 x 80 : 14 N/min - 31 N/max |
| Coppia di serraggio max. utilizzando le superfici piane | 1,0 / 1,0 x 40 / 1,0 x 80: 30 Nm  |
| Temperatura   | -20°C - +80°C<br>opzione: -50°C - +120°C  |
| Corpo   | ProSurf   |
| Stelo del pistone                                       | Acciaio temprato inossidabile   |
| RoHS compliantes  | Direttiva 2002/95/EC  |
| Incluso   | 1 Controdado  |

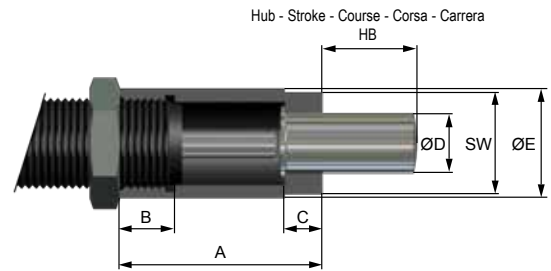
**ANSCHLAGMUTTER • STOP LIMIT NUT • BAGUE DE BUTÉE  
GHIERA DI ARRESTO • TUERCA DE TOPE**



| GW*     | A mm | ØB mm | C mm | SW mm | Art.-Nr. / Code |
|---------|------|-------|------|-------|-----------------|
| M24x1,5 | 38   | 31    | 10   | 30    | 21238           |

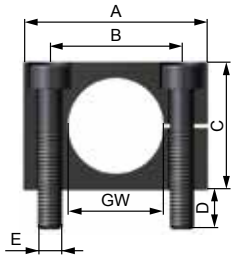
\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

**AK 1 FÜR SEITENKRÄFTE • AK 1 FOR SIDE FORCES  
AK 1 POUR CHARGES RADIALES • AK 1 PER CARICHI LATERALI  
AK 1 PARA CARGAS LATERALES**



| GW*                  | A mm    | B mm | C mm | ØD mm | ØE mm | SW mm | Art.-Nr. / Code |
|----------------------|---------|------|------|-------|-------|-------|-----------------|
| WE-M; WS-M; WP-M 1,0 | M24x1,5 | 53,5 | 14,5 | 10    | 16    | 29    | S21219          |

**RECHTECKFLANSCH • RECTANGULAR FLANGE • BRIDE RECTANGULAIRE • FLANGIA RETTANGOLARE • BRIDA RECTANGULAR**

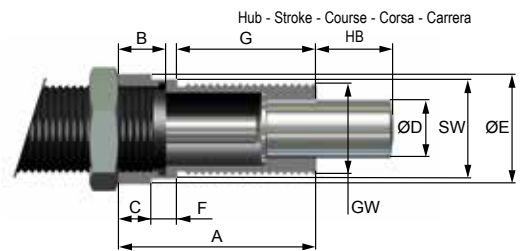


| GW*     | A mm | B mm | C mm | D mm | E mm | T mm | Art.-Nr. / Code |
|---------|------|------|------|------|------|------|-----------------|
| M24x1,5 | 46   | 33   | 32   | 6    | M6   | 25   | S21233          |

\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

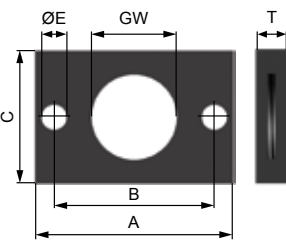
Breite = T / Width = T / Largeur = T  
Larghezza = T / Anchura = T

**AK 2 FÜR SEITENKRÄFTE • AK 2 FOR SIDE FORCES  
AK 2 POUR CHARGES RADIALES • AK 2 PER CARICHI LATERALI  
AK 2 PARA CARGAS LATERALES**



| GW*                  | A mm    | B mm | C mm | ØD mm | ØE mm | F mm | G mm | SW mm | Art.-Nr. / Code |
|----------------------|---------|------|------|-------|-------|------|------|-------|-----------------|
| WE-M; WS-M; WP-M 1,0 | M24x1,5 | 54   | 13   | 9     | 16    | 30   | 7    | 38    | S21219-AK2      |

**KLEMMFLANSCH • CLAMPING FLANGE • BRIDE DE FIXATION  
FLANGIA DI FISSAGGIO • BRIDA DE APRIETE**



| GW*     | A mm | B mm | C mm | E mm | T mm | Art.-Nr. / Code |
|---------|------|------|------|------|------|-----------------|
| M24x1,5 | 52   | 42   | 35   | 6,6  | 8    | SK21233         |

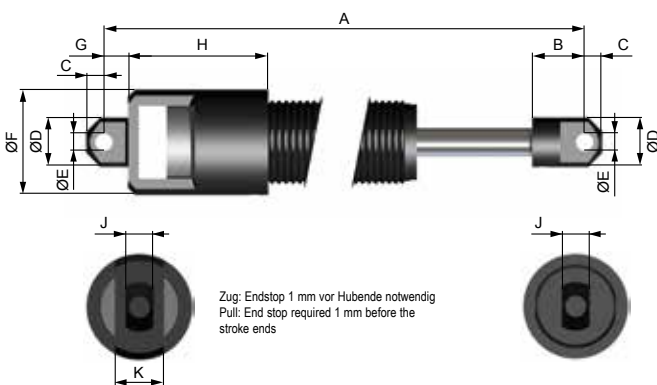
\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

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

| GW*     | Art.-Nr. / Code |
|---------|-----------------|
| M24x1,5 | 21232           |

\*Optionale Gewinde: Seite 12/13 - \*Optional threads: page 12/13  
\*Filetages facultatifs: page 12/13 - \*Filetti facoltativi: pagina 12/13  
\*Rosca opcionales: página 12/13

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

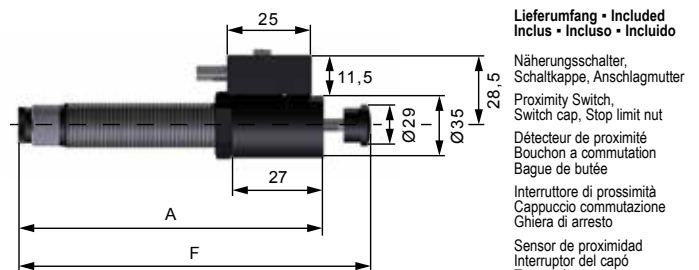


Zug: Endstop 1 mm vor Hubende notwendig  
Pull: End stop required 1 mm before the stroke ends

Art.-Nr. / Code: S21216

|            | A mm | B mm | C mm | ØD mm | ØE mm | ØF mm | G mm | H mm | J mm | K mm |
|------------|------|------|------|-------|-------|-------|------|------|------|------|
| WE-M 1,0SB | 168  | 15   | 5    | 14    | 5     | 30    | 7    | 40   | 8    | 14   |
| WS-M 1,0SB | 158  | 15   | 5    | 14    | 5     | 30    | 7    | 40   | 8    | 14   |
| WP-M 1,0SB |      |      |      |       |       |       |      |      |      |      |

**NÄHERUNGSSCHALTER • PROXIMITY SWITCH • DÉTECTEUR DE  
PROXIMITÉ • INTERRUPTORE DI PROSSIMITÀ  
SENSOR DE PROXIMIDAD**



Lieferumfang • Included  
Inclus • Incluso • Includo  
Näherungsschalter,  
Schaltkappe, Anschlagmutter  
Proximity Switch,  
Switch cap, Stop limit nut  
Décteur de proximité  
Bouchon a commutation  
Bague de butée  
Interruttore di prossimità  
Cappuccio commutazione  
Ghiera di arresto  
Sensor de proximidad  
Interruptor del capó  
Tuerca de tope

|             | A (mm) | F (mm) | Art.-Nr. / Code | A (mm)      | F (mm) | Art.-Nr. / Code |        |
|-------------|--------|--------|-----------------|-------------|--------|-----------------|--------|
| WE-M 1,0    | 122,5  | 154    | S33064          | WE-M 1,0x80 | 247,5  | 334             | S33064 |
| WS-M 1,0    | 114,5  | 146    | S21264          | WS-M 1,0x80 | 239,5  | 326             | S21264 |
| WP-M 1,0    | 114,5  | 146    | S41264          | WP-M 1,0x80 | 239,5  | 326             | S41264 |
| WE-M 1,0x40 | 144,5  | 191    | S33064          |             |        |                 |        |
| WS-M 1,0x40 | 136,5  | 183    | S21264          |             |        |                 |        |
| WP-M 1,0x40 | 136,5  | 183    | S41264          |             |        |                 |        |

