

Doppeltwirkende Vorschubölbremse

Double-Acting Speed Controls

Régulateurs de Vitesse Double Sens · Regolatori di Velocità a Doppio Effetto

Controladores de Velocidad de Doble Efecto



D

Präzise Einstellbarkeit in Zug- und Druckrichtung Stufenlose Einstellung über den gesamten Dämpfungsbereich

| | |
|-------------------|----------------------------|
| Dämpfung | Doppeltwirkend |
| Oberflächenschutz | Gehäuse: Stahl verzinkt |
| Lange Lebensdauer | Kolbenstange hartverchromt |
| Temperaturbereich | -20°C - +80°C |
| RoHS konform | Richtlinie 2002/95/EG |

GB

Precise adjustment in Push- and Pull direction Continuous adjustment over the entire stroke

| | |
|--------------------|--------------------------------|
| Deceleration | Double-acting |
| Surface protection | Housing: zinc plated steel |
| Extended life time | Piston rod: hard-chrome plated |
| Temperature | -20°C - +80°C |
| RoHS compliant | Directive 2002/95/E |

F

Réglage précis dans les deux sens de la course Réglage continu sur toute la course

| | |
|--------------------------|-----------------------------|
| Amortissement | Double effet |
| Protection de la surface | Corps: acier zingué |
| Longévité | Tige de piston: chromée dur |
| Températures | -20°C - +80°C |
| RoHS compliantes | Directive 2002/95/EC |

I

Regolazione accurata nei due sensi della corsa Regolazione continua lungo l'intera corsa

| | |
|--------------------------|------------------------------------|
| Smorzamento | Doppio effetto |
| Superficie di protezione | Corpo: acciaio zincato |
| Lunga durata | Stelo del pistone: acciaio cromato |
| Temperaturbereich | -20°C - +80°C |
| RoHS compliant | Direttiva 2002/95/EC |

E

Ajuste de precisión en ambas direcciones de la carrera Ajuste continuo en toda la carrera

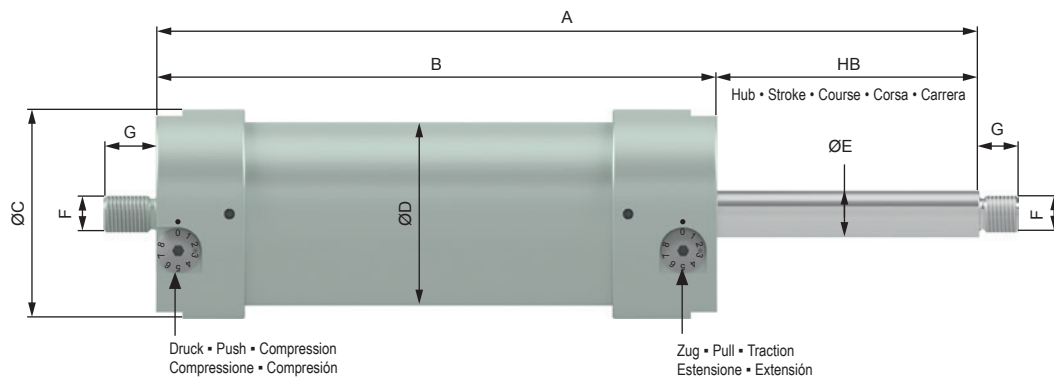
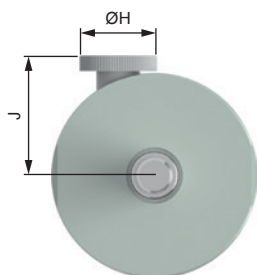
| | |
|--------------------------|------------------------------------|
| Amortiguación | De doble efecto |
| Protección de Superficie | Carcasa: acero zincado |
| Larga vida útil | Vástago del émbolo de cromado duro |
| Temperaturas | -20°C - +80°C |
| RoHS y que cumplan | Directiva 2002/95/CE |

E1



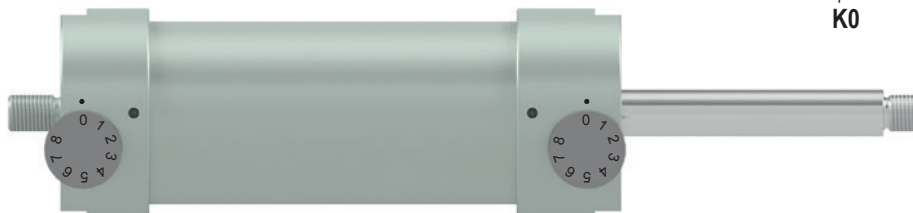
E2

größere Einstellschraube
larger adjustment screw



Befestigung / Mounting
Fixation / Fissaggio

Soporte
G0



Befestigung / Mounting
Fixation / Fissaggio

Soporte
K0

Festanschlag 1 mm vor den Hubenden vorsehen / 1 mm end stop required in both stroke directions
Butée de fin de course de 1 mm nécessaire dans les deux sens de course / Necessità di un finecorsa da 1 mm in entrambe le direzioni di corsa
Se requiere un tope final de 1 mm en ambas direcciones de carrera

LEISTUNGEN • PERFORMANCE • CARATTERISTICHE TECNICHE • CARACTERÍSTICAS TÉCNICAS

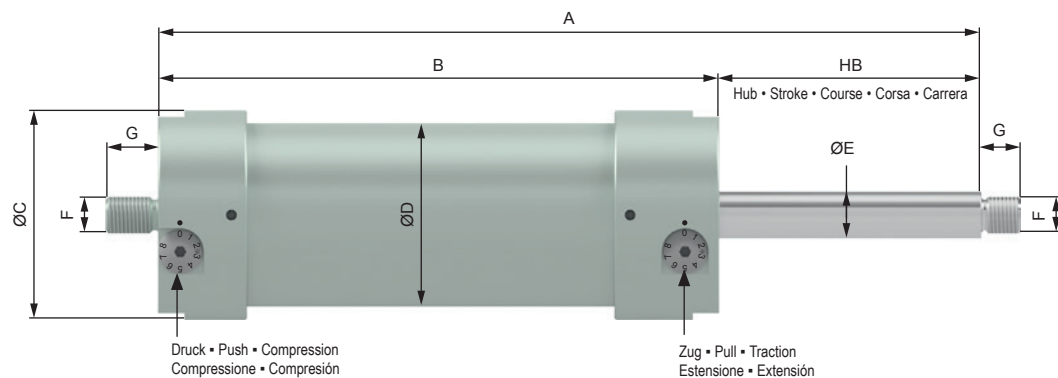
| | Hub - Stroke Course Corsa Carrera | Zug - Pull Traction Estensione Extensión | Druck - Push Pression Compresione Compresión | A | B | ØC | ØD | ØE | F | G | ØH | J | Gewicht - Weight Poids - Peso Peso |
|--------------|--|---|---|------|-----|----|----|----|---------|----|----|------|--|
| | mm | N max. | N max. | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| WM-VD 50-050 | 50 | 11.000 | 11.000 | 196 | 146 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 2,2 |
| WM-VD 50-100 | 100 | 11.000 | 11.000 | 296 | 196 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 2,6 |
| WM-VD 50-150 | 150 | 11.000 | 11.000 | 396 | 246 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 3,1 |
| WM-VD 50-200 | 200 | 11.000 | 11.000 | 496 | 296 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 3,5 |
| WM-VD 50-250 | 250 | 11.000 | 11.000 | 596 | 346 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 4,0 |
| WM-VD 50-300 | 300 | 11.000 | 11.000 | 696 | 396 | 60 | 50 | 14 | M10 | 12 | 22 | 37,5 | 4,4 |
| WM-VD 70-100 | 100 | 18.000 | 18.000 | 314 | 214 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 4,9 |
| WM-VD 70-150 | 150 | 18.000 | 18.000 | 414 | 264 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 5,2 |
| WM-VD 70-200 | 200 | 18.000 | 18.000 | 514 | 314 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 5,8 |
| WM-VD 70-300 | 300 | 18.000 | 18.000 | 714 | 414 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 7,0 |
| WM-VD 70-400 | 400 | 18.000 | 15.000 | 914 | 514 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 8,2 |
| WM-VD 70-500 | 500 | 18.000 | 12.000 | 1114 | 614 | 80 | 70 | 18 | M14x1,5 | 20 | 30 | 48,0 | 9,4 |

Bestellbeispiel • Ordering Information • Exemple de commande • Esempio d'ordinazione • Ejemplo de pedido

WM-VD 70-100-E1-K1G3-C

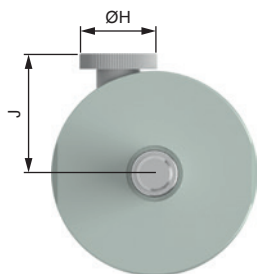
| | |
|---------|--|
| WM | Weforma |
| VD | Vorschubölbremse, doppeltwirkend / Speed control, double-acting / Régulateurs de vitesse, double effet Regolatori di velocità, a doppio effetto / Controlador de velocidad de doble efecto |
| 70 | Baugröße / Size / Dimension / Dimensione / Dimensión |
| 100 | Hub / Stroke / Course / Corsa / Carrera |
| E1 / E2 | E1 = Einstellschraube standard, E2 = größere Einstellschraube / E1 = Adjusting screw standard, E2 = Larger adjustment screw E1 = Vis de réglage standard, E2 = Vis de réglage plus grande / E1 = Vita di regolazione standard, E2 = Vita di regolazione più grande E1 = Tornillo de ajuste estándar, E2 = Tornillo de ajuste más grande |
| K1 | Kolbenstange - Gelenkauge / Piston rod - Male rod clevis / Tige de piston - Tête de chape / Stelo del pistone - Attacco a cerniera maschio / Vástago del émbolo - Charnela macho |
| G3 | Gehäuse - Gabelkopf / Housing - Female rod clevis / Corps - Embout à rotule (femelle) / Ingombri - Forcella femmina / Carcasa - Charnela hembra |
| C | Dämpfung: A=Druck, B=Zug, C=Druck und Zug / Type of deceleration: A=push, B=pull, C=push and pull Type d'amortissement: A=compression, B=traction, C=compression/traction / Tipo di smorzamento: A=compressione, B=estensione, C=compressione e estensione / Tipo de amortiguación: A = compresión, B = extensión, C = compresión/extensión |

E1



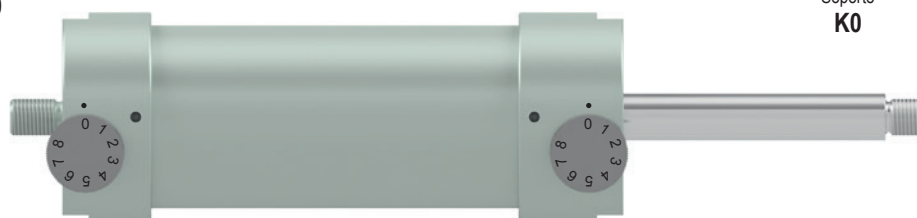
E2

größere Einstellschraube optional
larger adjustment screw optional



Befestigung / Mounting
Fixation / Fissaggio

Soporte
G0



Befestigung / Mounting
Fixation / Fissaggio

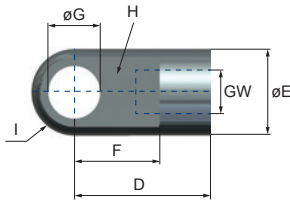
Soporte
K0

Festanschlag 1 mm vor den Hubenden vorsehen / 1 mm end stop required in both stroke directions
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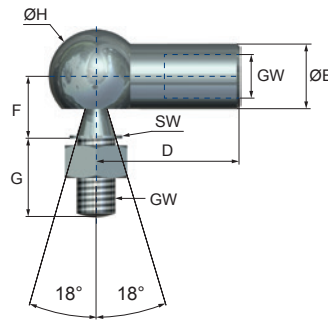
LEISTUNGEN - PERFORMANCE - CARATTERISTICHE TECNICHE - CARACTERÍSTICAS TÉCNICAS

| | Hub - Stroke Course Corsa Carrera | Zug - Pull Traction Estensione Extensión | Druck - Push Pression Compressione Compresión | A | B | ØC | ØD | ØE | F | G | ØH | J | Gewicht - Weight Poids - Peso Peso |
|---------------|--|---|--|------|-----|-----|-----|----|-------|----|----|------|--|
| | mm | N max. | N max. | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| WM-VD 85-100 | 100 | 50000 | 50000 | 361 | 261 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 9,2 |
| WM-VD 85-150 | 150 | 50000 | 40000 | 461 | 311 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 10,4 |
| WM-VD 85-200 | 200 | 50000 | 30000 | 561 | 361 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 11,5 |
| WM-VD 85-250 | 250 | 50000 | 20000 | 661 | 411 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 12,6 |
| WM-VD 85-300 | 300 | 50000 | 15000 | 761 | 461 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 13,7 |
| WM-VD 85-400 | 400 | 50000 | 10000 | 961 | 561 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 15,7 |
| WM-VD 85-500 | 500 | 50000 | 9000 | 1161 | 661 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 18,2 |
| WM-VD 85-600 | 600 | 50000 | 7000 | 1361 | 761 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 20,5 |
| WM-VD 85-700 | 700 | 50000 | 4000 | 1561 | 861 | 95 | 85 | 28 | M24x2 | 35 | 30 | 54,4 | 22,7 |
| WM-VD 110-100 | 100 | 90000 | 90000 | 410 | 310 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 19,5 |
| WM-VD 110-150 | 150 | 90000 | 80000 | 510 | 360 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 21,3 |
| WM-VD 110-200 | 200 | 90000 | 75000 | 610 | 410 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 23,2 |
| WM-VD 110-250 | 250 | 90000 | 70000 | 710 | 460 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 25,1 |
| WM-VD 110-300 | 300 | 90000 | 50000 | 810 | 510 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 27,0 |
| WM-VD 110-400 | 400 | 90000 | 40000 | 1010 | 610 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 30,8 |
| WM-VD 110-500 | 500 | 90000 | 30000 | 1210 | 710 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 34,5 |
| WM-VD 110-600 | 600 | 90000 | 20000 | 1410 | 810 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 38,3 |
| WM-VD 110-700 | 700 | 90000 | 15000 | 1610 | 910 | 120 | 110 | 32 | M30x2 | 40 | 50 | 67,0 | 42,0 |

- 1** Gelenkauge • Male rod clevis
Tête de chape (male)
Attacco a cerniera maschio
Charnela macho

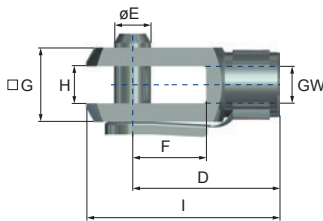


- 2** Winkelgelenk • Angle joint
Joint à angle • Snodo angolare
Charnela articulada (DIN 71802)



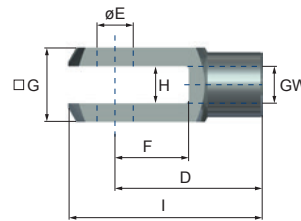
| | Kraft- Force Forza- Fuerza |
|---------------|-------------------------------|
| WM-VD 32 / 36 | 1.230 N |
| WM-VD 50 | 1.900 N |
| WM-VD 70 | 3.200 N |

- 3** Gabelkopf • Female rod clevis
Embout à rotule (femelle)
Forcella femmina
Charnela hembra (DIN 71752)



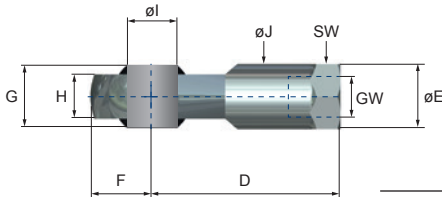
| | |
|---------------|---------|
| WM-VD 32 / 36 | M8 |
| WM-VD 50 | M10 |
| WM-VD 70 | M14x1,5 |
| WM-VD 80 / 85 | M24x2 |

- 3** Gabelkopf • Female rod clevis
Embout à rotule (femelle)
Forcella femmina
Charnela hembra (DIN 71752)



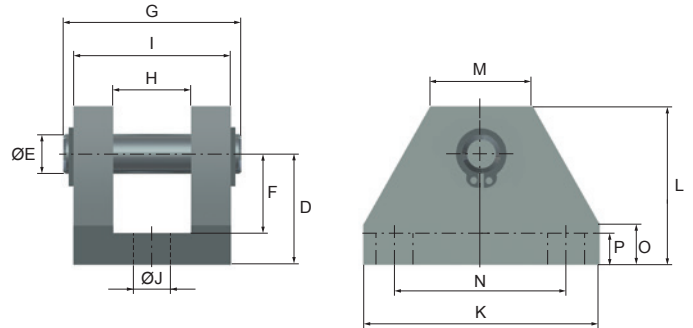
| | |
|-----------|-------|
| WM-VD 110 | M30x2 |
|-----------|-------|

- 4** Gelenkkopf • Spherical end bearing
Embout à rotule • Forcella snodata
Charnela macho articulada
(DIN 648, Maßreihe / Series K,
Maßreihe E auf Anfrage / Series E on enquiry)



| | Kraft - Force Forza- Fuerza |
|---------------|--------------------------------|
| WM-VD 32 / 36 | 7.000 N |
| WM-VD 50 | 10.400 N |
| WM-VD 70 | 22.400 N |
| WM-VD 85 | 45.400 N |
| WM-VD 110 | 55.000 N |

- 5** Schwenkflansch • Clevis flange • Flasque articulé
Flangia oscillante • Brida giratoria



nur in Kombination mit Gelenkkopf (4) verwenden • only use in combination with spherical end bearing (4)
à utiliser uniquement avec la Embout à rotule (4) • Impiegare solo in combinazione con forcella snodata (4)
Utilizar exclusivamente en combinación con charnela macho articulada (4)

ABMESSUNGEN • DIMENSIONS • DIMENSIONI • DIMENSIONES

| | | GW* / GW1 | D mm | ØE mm | F mm | G mm | H mm | I mm | SW mm |
|----------|---------------|--------------|---------|----------|---------|---------|---------|---------|----------|
| 1 | WM-VD 32 / 36 | M8 | 19 | 14 | 12 | 8,1 | 10 | 7 | - |
| | WM-VD 50 | M10 | 27 | 18 | 12 | 8,1 | 10 | 9 | - |
| | WM-VD 70 | M14x1,5 | 40 | 25 | 21 | 14,1 | 14 | 12,5 | - |
| | WM-VD 80 / 85 | M24x2 | 60 | 40 | 35 | 25 | 25 | 20 | - |
| | WM-VD 110 | M30x2 | 80 | 55 | 45 | 30 | 37 | 27,5 | - |
| 2 | WM-VD 32 / 36 | M8 | 30 | 13 | 13 | 16 | 20 | - | 11 |
| | WM-VD 50 | M10 | 35 | 16 | 16 | 19 | 24 | - | 13 |
| | WM-VD 70 | M14x1,5 | 45 | 22 | 20 | 28 | 30 | - | 16 |
| 3 | WM-VD 32 / 36 | M8 | 32 | 8 | 16 | 16 | 8 | 42 | - |
| | WM-VD 50 | M10 | 40 | 10 | 20 | 20 | 10 | 52 | - |
| | WM-VD 70 | M14x1,5 | 56 | 14 | 27 | 27 | 14 | 72 | - |
| | WM-VD 80 / 85 | M24x2 | 100 | 25 | 50 | 50 | 25 | 132 | - |
| | WM-VD 110 | M30x2 | 120 | 30 | 60 | 60 | 30 | 160 | - |

| | | GW* | D mm | ØE mm | F mm | G mm | H mm | I mm | J mm | SW mm | K mm | L mm | M mm | N mm | O mm | P mm |
|----------|---------------|---------|---------|----------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|
| 4 | WM-VD 32 / 36 | M8 | 36 | 16 | 12 | 12 | 9 | 8 | 12,5 | 13 | - | - | - | - | - | - |
| | WM-VD 50 | M10 | 43 | 19 | 14 | 14 | 10,5 | 10 | 15 | 17 | - | - | - | - | - | - |
| | WM-VD 70 | M14x1,5 | 57 | 26 | 18 | 19 | 13 | 14 | 20 | 22 | - | - | - | - | - | - |
| | WM-VD 80 / 85 | M24x2 | 94 | 42 | 30 | 31 | 22 | 25 | 33,5 | 36 | - | - | - | - | - | - |
| | WM-VD 110 | M30x2 | 110 | 55 | 35,5 | 37 | 25 | 30 | 40 | 41 | - | - | - | - | - | - |
| 5 | WM-VD 50 | M10 | 28 | 10 | 20 | 50 | 20 | 40 | 8,5 | - | 60 | 40 | 26 | 46 | 10 | 8 |
| | WM-VD 70 | M14x1,5 | 28 | 14 | 20 | 44 | 20 | 40 | 8,5 | - | 60 | 40 | 26 | 46 | 10 | 8 |
| | WM-VD 80 / 85 | M24x2 | 45 | 25 | 33 | 70 | 32 | 65 | 13 | - | 90 | 65 | 40 | 70 | 20 | 12 |