

Rotationsdämpfer ▪ Rotary Dampers

Amortisseurs Rotatifs ▪ Ammortizzatori Rotanti ▪ Amortiguadores Rotativos



D VORTEILE

- Kontrollierte Dämpfung bei Drehbewegungen
- Drehmomente bis zu 9 Nm
- Preisgünstige Dämpfer durch Kunststoff- und Aluminiumspritzguß
- Dämpfung: rechtsdrehend und linksdrehend
- Festeingestellt (WRD 22 / 23 einstellbar)
- Temperaturbereich: -5°C - +50°C
- RoHS - konform Richtlinie 2002/95/EG

GB BENEFITS

- Controlled damping with rotary movements
- Torques up to 9 Nm
- Economically priced dampers through plastic and aluminium die cast
- Damping: Right-turning and left-turning
- Fixed setting (WRD 22 / 23 adjustable)
- Temperature range: -5°C - +50°C
- RoHS - conform - Directive 2002/95/EC

F AVANTAGES

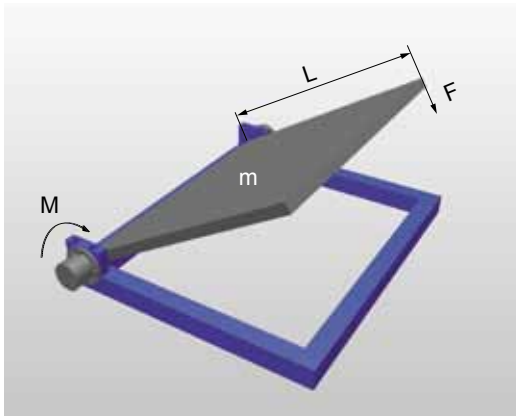
- Amortissement contrôlé lors de mouvements rotatifs
- Couple de rotation jusqu'à 9 Nm
- Amortisseur à un prix avantageux grâce au moulage par injection de plastique et aluminium
- Amortissement : rotation vers la droite et vers la gauche
- Réglage fixe (WRD 22 / 23 réglables)
- Températures: -5°C - +50°C
- RoHS - conformes - Directive 2002/95/EC

I VANTAGGI

- Ammortizzazione controllata in rotazione
- Coppie fino a 9 Nm
- Convenienti ammortizzatori con plastica e alluminio pressofusi
- Ammortizzazione: verso sinistra e verso destra
- Regolazione fissa (impostabile su WRD 22 / 23)
- Temperatura: -5°C - +50°C
- RoHS - conforme - Direttiva 2002/95/EC

E VENTAJAS

- Amortiguación controlada de movimientos giratorios
- Pares de hasta 9 Nm
- Amortiguadores asequibles, moldeados por inyección de plástico o aluminio
- Amortiguación: dextrógiro y levógiro
- Ajuste fijo (WDR 22 / 23 regulable)
- Temperaturas: -5°C - +50°C
- RoHS - y que cumplan - Directiva 2002/95/CE



Example

m = 5,0 kg
L = 0,10 m

F = 20,0 N
L = 0,20 m

Formulae & Calculation

$M = g \times m \times L/2 = 2,45 \text{ Nm}$

 $M = F \times L = 4,00 \text{ Nm}$

Selection

WRD 16-L40

WRD 40-L70



**Online-Berechnung
+ 2D / 3D CAD Download
Online Calculation
+ 2D / 3D CAD Download**

Calcul en ligne + 2D / 3D CAD
Calcolo on-line + 2D / 3D CAD
Cálculo en línea + 2D / 3D CAD

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ERLÄUTERUNGEN ▪ LEGEND ▪ LÉGENDE ▪ LEGENDA ▪ EXPLICACIONES

| | D | GB | F | I | E | |
|---|---------------------|---|---|---|--|--|
| m | (kg) | Masse | Mass | Masse | Massa | Masa |
| L | (m) | Länge | Lenght | Longeur | Lunghezza | Longitud |
| F | (N) | Gewichtskraft | Force | Force | Forza | Fuerza |
| M | (Nm) | Drehmoment | Torque | Couple | Coppia | Par |
| g | (m/s ²) | Erdbeschleunigung (9,81 m/s ²) | Accerelation due to gravity (9,81 m/s ²) | Accélération due à la pesan- teur (9,81 m/s ²) | Accelerazione di gravità (9,81 m/s ²) | Aceleración de la gravedad (9,81 m/s ²) |

DREHMOMENT ▪ TORQUE ▪ COUPLE ▪ COPPIA ▪ PAR

| Rechtsdrehend Clockwise Sens horaire Senso orario Dextrógiro | Links-drehend Anti-clockwise Sens anti-horaire Senso antiorario Levógiro | Drehmoment Torque Couple Coppia Par | Öffnungswinkel Opening angle Angle d'ouverture Angolo di apertura Ángulo de apertura | Gewicht Weight Poids Peso Peso |
|--|--|---|--|--|
| | | Nm | ° | g |
| WRD 16 - R25 | WRD 16 - L25 | 2,45 | 110 | 60 |
| WRD 16 - R40 | WRD 16 - L40 | 3,92 | | |
| WRD 18 - R10 | WRD 18 - L10 | 0,98 | 110 | 10 |
| WRD 18 - R15 | WRD 18 - L15 | 1,47 | | |
| WRD 18 - R20 | WRD 18 - L20 | 1,96 | | |
| WRD 19 - R15 | WRD 19 - L10 | 1,47 | 110 | 30 |
| WRD 19 - R20 | WRD 19 - L20 | 1,96 | | |
| WRD 19 - R25 | WRD 19 - L25 | 2,45 | | |
| WRD 19 - R30 | WRD 19 - L30 | 2,94 | | |
| WRD 20 - R20 | WRD 20 - L20 | 1,96 | 110 | 12 |
| WRD 20 - R25 | WRD 20 - L25 | 2,45 | | |
| WRD 20 - R30 | WRD 20 - L30 | 2,94 | | |
| WRD 20 - R35 | WRD 20 - L35 | 3,43 | | |
| WRD 22 - R13 | WRD 22 - L13 | 0,49 - 1,27 | 110 | 30 |
| WRD 22 - R20 | WRD 22 - L20 | 0,98 - 1,96 | | |
| WRD 23 - R13 | WRD 23 - L13 | 0,49 - 1,27 | | |
| WRD 23 - R20 | WRD 23 - L20 | 0,98 - 1,96 | | |
| WRD 34 - R15 | WRD 34 - L15 | 0,15 | 180 | 20 |
| WRD 34 - R30 | WRD 34 - L30 | 0,29 | | |
| WRD 34 - R60 | WRD 34 - L60 | 0,59 | | |
| WRD 40 - R50 | WRD 40 - L50 | 4,9 | 120 | 200 |
| WRD 40 - R70 | WRD 40 - L70 | 6,86 | | |
| WRD 40 - R90 | WRD 40 - L90 | 8,82 | | |

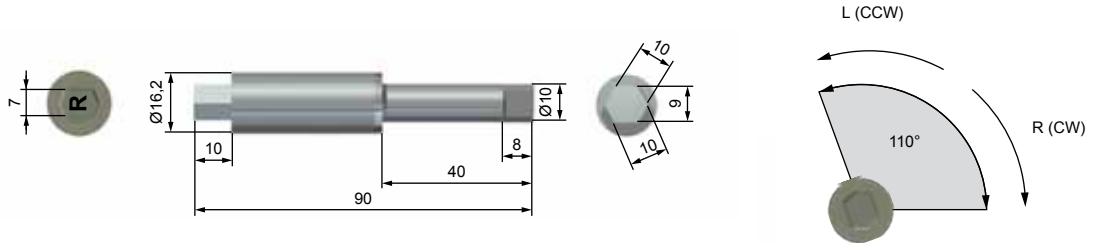
| Rechtsdrehend Clockwise Sens horaire Senso orario Dextrógiro | Links-drehend Anti-clockwise Sens anti-horaire Senso antiorario Levógiro | Drehmoment Torque Couple Coppia Par | Öffnungswinkel Opening angle Angle d'ouverture Angolo di apertura Ángulo de apertura | Gewicht Weight Poids Peso Peso |
|--|--|---|--|--|
| | | Nm | ° | g |
| WRD 60 - R10 | WRD 60 - L10 | 0,98 | 110 | 60 |
| WRD 60 - R15 | WRD 60 - L15 | 1,47 | | |
| WRD 60 - R20 | WRD 60 - L20 | 1,96 | | |
| WRD 58 - R30 | WRD 58 - L30 | 0,3 | kontinuierlich continuously* | 40 |
| WRD 58 - R50 | WRD 58 - L50 | 0,5 | | |
| WRD 58 - R80 | WRD 58 - L80 | 0,8 | | |
| WRD 62 - R3 | WRD 62 - L3 | 0,03 | kontinuierlich continuously* | 16 |
| WRD 62 - R6 | WRD 62 - L6 | 0,06 | | |
| WRD 62 - R9 | WRD 62 - L9 | 0,09 | | |
| WRD 62 - R15 | WRD 62 - L15 | 0,15 | | |
| WRD 62 - R20 | WRD 62 - L20 | 0,20 | | |
| WRD 62 - R25 | WRD 62 - L25 | 0,25 | | |
| WRD 73 - R10 | WRD 73 - L10 | 0,10 | 110 | 2 |
| WRD 73 - R20 | WRD 73 - L20 | 0,20 | | |
| WRD 73 - R30 | WRD 73 - L30 | 0,29 | | |
| WRD 88 - R40 | WRD 88 - L40 | 0,04 | kontinuierlich continuously* | 8 |
| WRD 100 - R15 | WRD 100 - L15 | 1,5 | 110 | 22 |
| WRD 100 - R20 | WRD 100 - L20 | 2,0 | | |
| WRD 100 - R25 | WRD 100 - L25 | 2,5 | | |
| WRD 100 - R30 | WRD 100 - L30 | 3,0 | | |

*kontinuierlich ▪ continuously ▪ continu ▪ continuo ▪ continuas

WRD 16



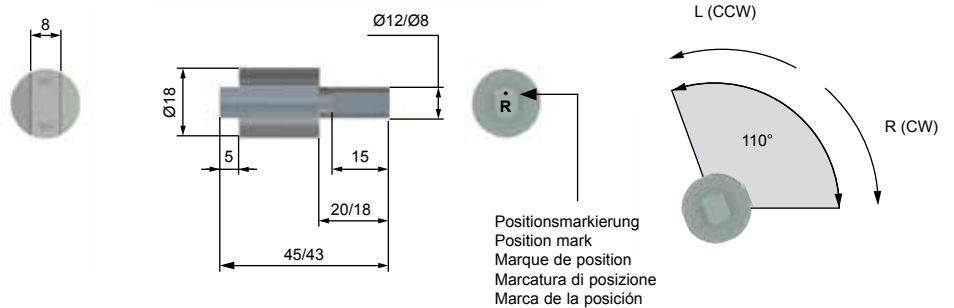
| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|---|
| WRD 16 - R25 | WRD 16 - L25 | 2,45 | Aludruckguß Alu die cast Aluminium Alluminio pressofuso Fundición a presión de aluminio |
| WRD 16 - R40 | WRD 16 - L40 | 3,92 | |



WRD 18 / 19



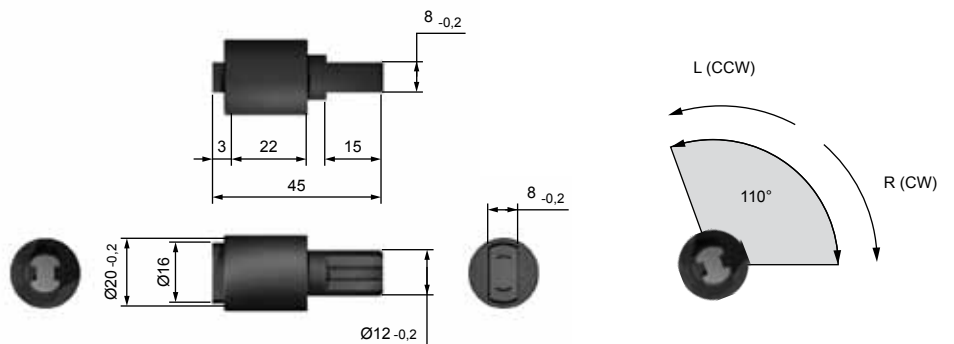
| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 18 - R10 | WRD 18 - L10 | 0,98 | Kunststoff Plastic Plastique Plástico |
| WRD 18 - R15 | WRD 18 - L15 | 1,47 | |
| WRD 18 - R20 | WRD 18 - L20 | 1,96 | |
| WRD 19 - R15 | WRD 19 - L15 | 1,47 | |
| WRD 19 - R20 | WRD 19 - L20 | 1,96 | |
| WRD 19 - R25 | WRD 19 - L25 | 2,45 | |
| WRD 19 - R30 | WRD 19 - L30 | 2,94 | |



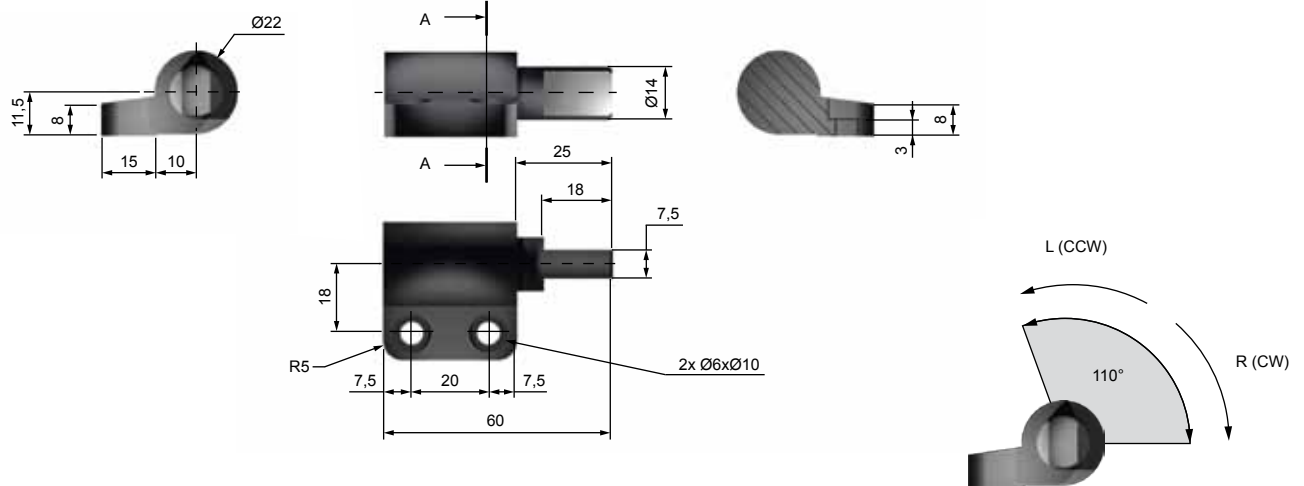
WRD 20



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 20 - R20 | WRD 20 - L20 | 1,96 | Kunststoff Plastic Plastique Plástico |
| WRD 20 - R25 | WRD 20 - L25 | 2,45 | |
| WRD 20 - R30 | WRD 20 - L30 | 2,94 | |
| WRD 20 - R35 | WRD 20 - L35 | 3,43 | |

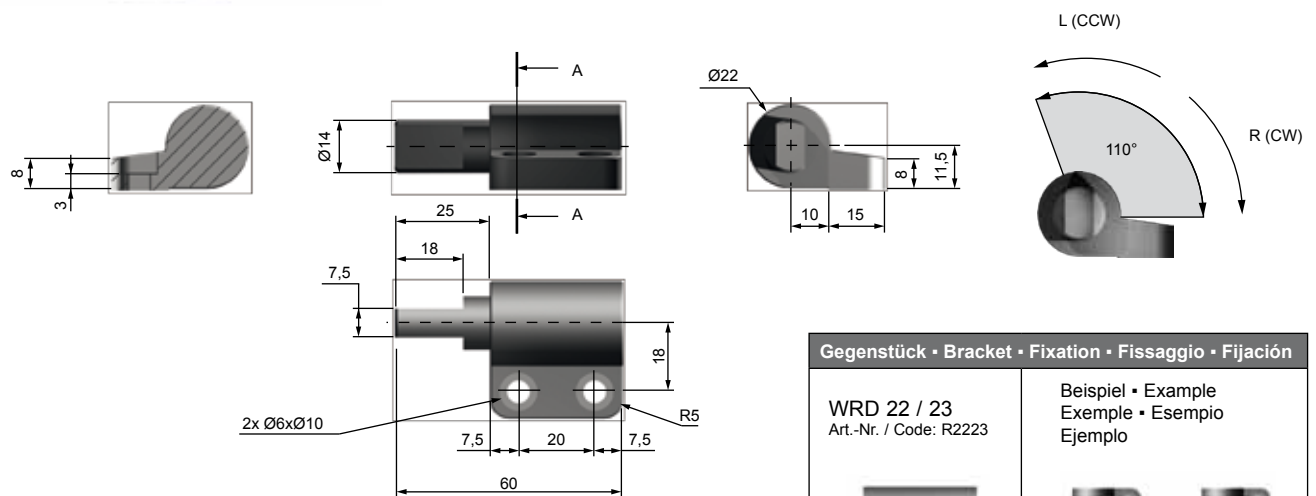


WRD 22



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|-------------|--|
| WRD 22 - R13 | WRD 22 - L13 | 0,49 - 1,27 | Kunststoff Plastic Plastique Plastico Plástico |
| WRD 22 - R20 | WRD 22 - L20 | 0,98 - 1,96 | |

WRD 23



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|-------------|--|
| WRD 23 - R13 | WRD 23 - L13 | 0,49 - 1,27 | Kunststoff Plastic Plastique Plastico Plástico |
| WRD 23 - R20 | WRD 23 - L20 | 0,98 - 1,96 | |

* R (CW): Rechtsdrehend • Clockwise • Sens horaire • Senso orario • Dextrógiro
 L (CCW): Linksdrehend • Anti-clockwise • Sens anti-horaire • Senso antiorario • Levógiro
 M: Drehmoment • Torque • Couple • Coppia • Par
 Material: Material • Matière • Materiale • Material

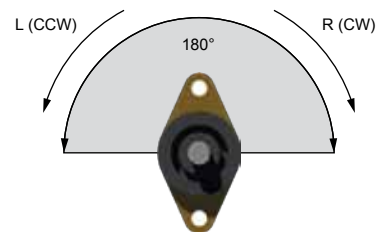
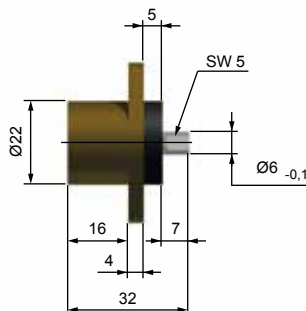
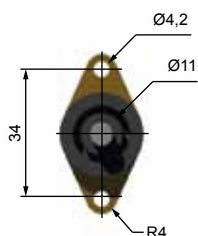
Gegenstück • Bracket • Fixation • Fissaggio • Fijación

WRD 22 / 23
 Art.-Nr. / Code: R2223

Beispiel • Example
 Exemple • Esempio
 Ejemplo

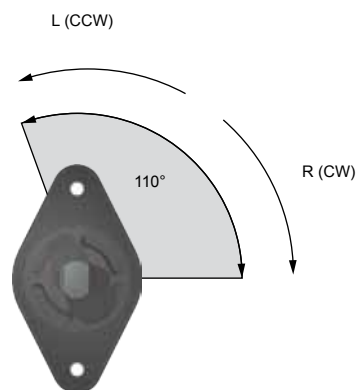
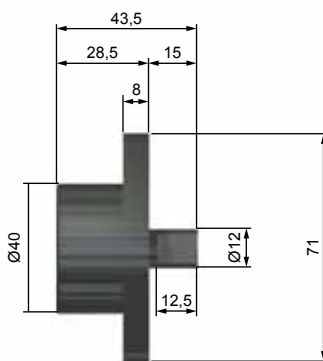
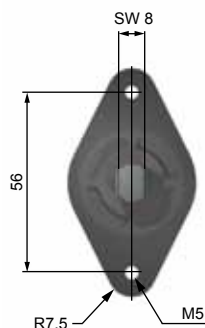


WRD 34



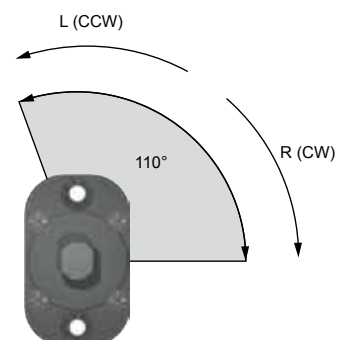
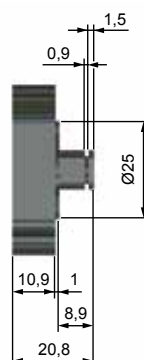
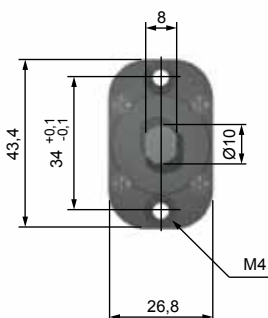
| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|---|
| WRD 34 - R15 | WRD 34 - L15 | 0,15 | Kunststoff / Aludruckguß Plastic / Alu die cast Plastique / Aluminium Plástico / Aluminio pressofuso Plástico / Fundición a presión de aluminio |
| WRD 34 - R30 | WRD 34 - L30 | 0,29 | |
| WRD 34 - R60 | WRD 34 - L60 | 0,59 | |

WRD 40



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 40 - R50 | WRD 40 - L50 | 4,90 | Aludruckguß Alu die cast Aluminium Aluminio pressofuso Fundición a presión de aluminio |
| WRD 40 - R70 | WRD 40 - L70 | 6,86 | |
| WRD 40 - R90 | WRD 40 - L90 | 8,83 | |

WRD 60



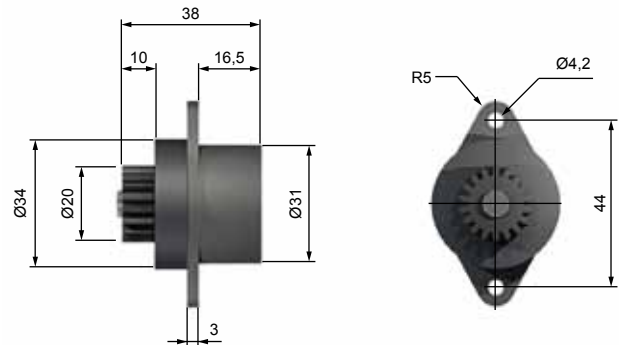
| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 60 - R10 | WRD 60 - L10 | 0,98 | Aludruckguß Alu die cast Aluminium Aluminio pressofuso Fundición a presión de aluminio |
| WRD 60 - R15 | WRD 60 - L15 | 1,47 | |
| WRD 60 - R20 | WRD 60 - L20 | 1,96 | |

WRD 58



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 58 - R30 | WRD 58 - L30 | 0,30 | Kunststoff / Aludruckguß Plastic / Alu die cast Plastique / Aluminium Plastico / Alluminio pressofuso Plástico / Fundición a presión de aluminio |
| WRD 58 - R50 | WRD 58 - L50 | 0,50 | |
| WRD 58 - R80 | WRD 58 - L80 | 0,80 | |

| Ritzel • Standard spur gear • Pignon • Pignone • Piñón: | |
|--|---|
| Modul • Module Modulo • Módulo | 1 |
| Anzahl der Zähne Number of gear teeth Nombre de dents Numero di denti Número de dentado | 18 |
| Dämpfungscharakteristik: Deceleration characteristics: Caractéristiques d'amortissement: Caratteristiche di smorzamento: Características de amortiguación: | kontinuierlich continuously continuo continuo continuas |

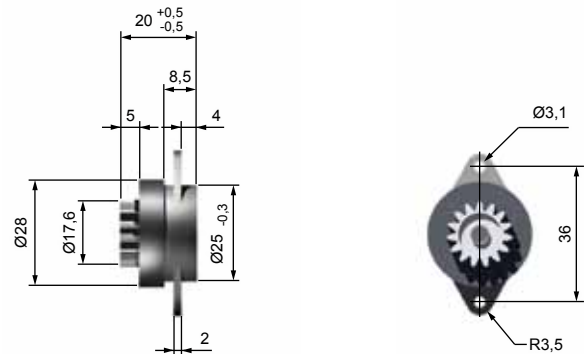


WRD 62



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 62 - R3 | WRD 62 - L3 | 0,03 | Kunststoff / Aludruckguß Plastic / Alu die cast Plastique / Aluminium Plastico / Alluminio pressofuso Plástico / Fundición a presión de aluminio |
| WRD 62 - R6 | WRD 62 - L6 | 0,06 | |
| WRD 62 - R9 | WRD 62 - L9 | 0,09 | |
| WRD 62 - R15 | WRD 62 - L15 | 0,15 | |
| WRD 62 - R20 | WRD 62 - L20 | 0,20 | |
| WRD 62 - R25 | WRD 62 - L25 | 0,25 | |

| Ritzel • Standard spur gear • Pignon • Pignone • Piñón: | |
|--|---|
| Modul • Module Modulo • Módulo | 1 |
| Anzahl der Zähne Number of gear teeth Nombre de dents Numero di denti Número de dentado | 15 |
| Dämpfungscharakteristik: Deceleration characteristics: Caractéristiques d'amortissement: Caratteristiche di smorzamento: Características de amortiguación: | kontinuierlich continuously continuo continuo continuas |



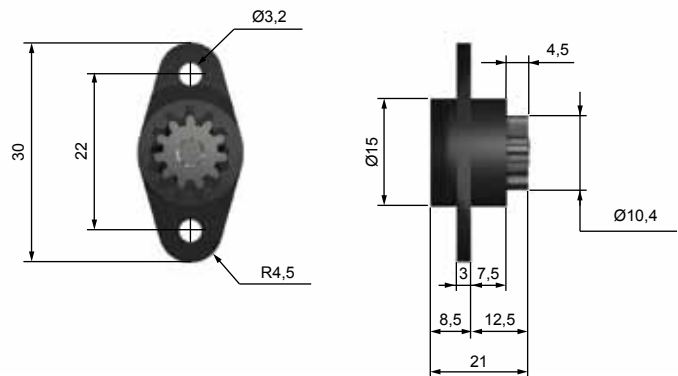
* R (CW): Rechtsdrehend • Clockwise • Sens horaire • Senso orario • Dextrógiro
L (CCW): Linksdrehend • Anti-clockwise • Sens anti-horaire • Senso antiorario • Levógiro
M: Drehmoment • Torque • Couple • Coppia • Par
Material • Material • Matière • Materiale • Material

WRD 88



| Ritzel • Standard spur gear • Pignon • Pignone • Piñón: | |
|--|--|
| Modul • Module Modulo • Módulo | 1 |
| Anzahl der Zähne Number of gear teeth Nombre de dents Numero di denti Número de dentado | 11 |
| Dämpfungscharakteristik: Deceleration characteristics: Caractéristiques d'amortissement: Caratteristiche di smorzamento: Características de amortiguación: | kontinuierlich continuously continu continuo continuas |

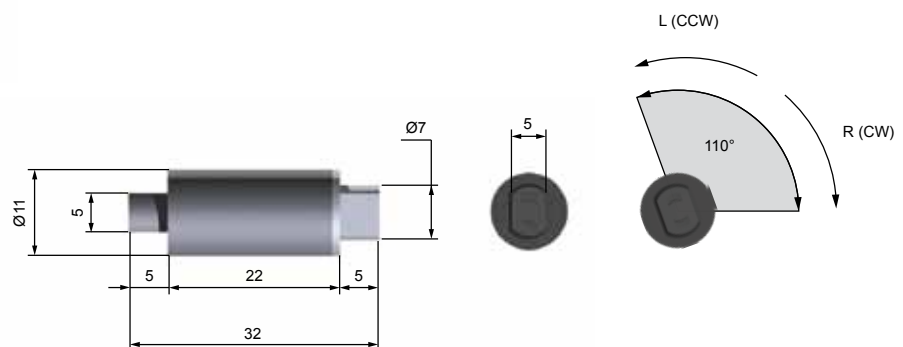
| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|---|
| WRD 88 - R40 | WRD 88 - L40 | 0,04 | Kunststoff / Aludruckguß Plastic / Alu die cast Plastique / Aluminium Plástico / Aluminio Plástico / Aluminio |



WRD 73



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|--------------|--------------|---------|--|
| WRD 73 - R10 | WRD 73 - L10 | 0,10 | Kunststoff Plastic Plastique Plástico Plástico |
| WRD 73 - R20 | WRD 73 - L20 | 0,20 | |
| WRD 73 - R30 | WRD 73 - L30 | 0,29 | |



WRD 100



| R (CW)* | L (CCW)* | M* (Nm) | Material* |
|---------------|---------------|---------|--|
| WRD 100 - R15 | WRD 100 - L15 | 1,5 | Kunststoff / Aludruckguß Plastic / Alu die cast Plastique / Aluminium Plástico / Aluminio pressofuso Plástico / Aluminio |
| WRD 100 - R20 | WRD 100 - L20 | 2,0 | |
| WRD 100 - R25 | WRD 100 - L25 | 2,5 | |
| WRD 100 - R30 | WRD 100 - L30 | 3,0 | |

