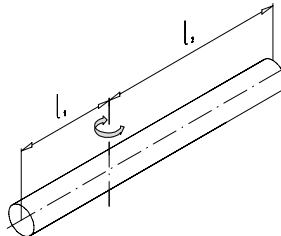
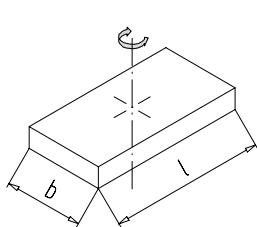


Berechnung der Massenträgheitsmomente von einfachen Grundkörpern

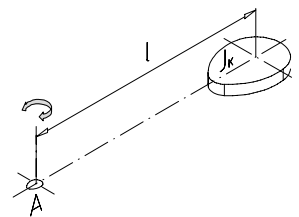
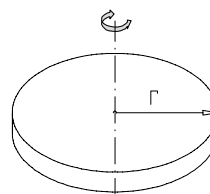
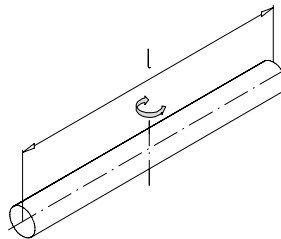
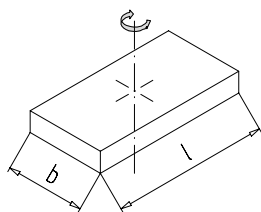
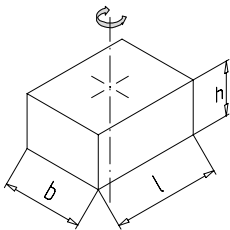
Computation of moments of inertia of simple solids

Calcul des moments d'inertie de corps de base simples



$$J = m_1 \times \frac{4 \times l_1^2 + b^2}{12} + m_2 \times \frac{4 \times l_2^2 + b^2}{12}$$

$$J = m_1 \times \frac{l_1^2}{3} + m_2 \times \frac{l_2^2}{3}$$



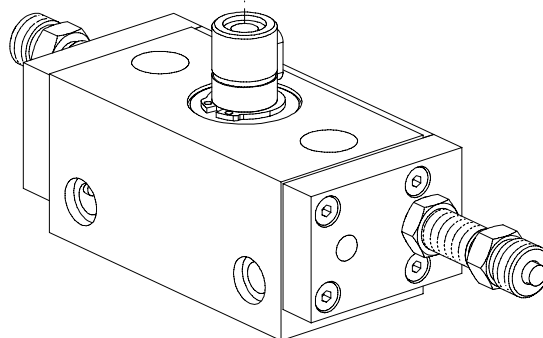
$$J = m \times \frac{b^2 + h^2}{12}$$

$$J = m \times \frac{l^2 + b^2}{12}$$

$$J = m \times \frac{l^2}{12}$$

$$J = m \times \frac{r^2}{2}$$

$$J = m \times l^2 + J_k$$



Modules rotatifs DM12 - 180°



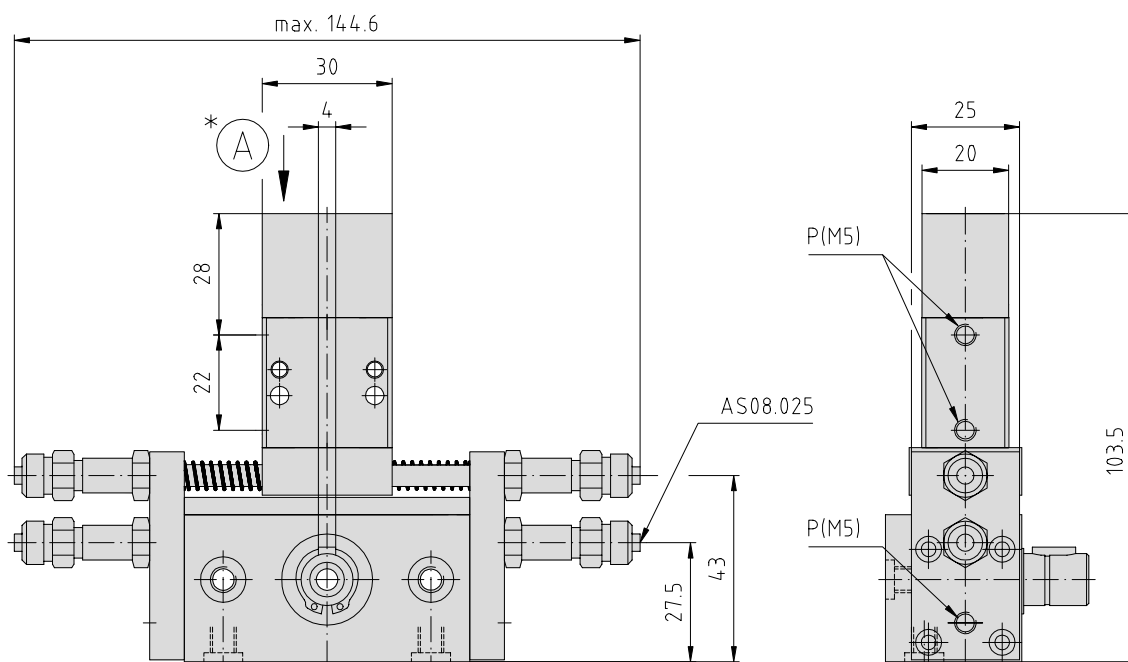
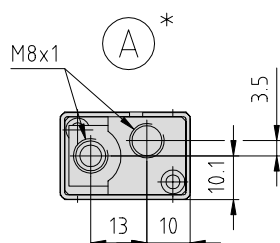
P = Raccord d'air

10.2006

Zwischenposition DMZ12 - 180°

Intermediate position DMZ12 - 180°

Position intermédiaire DMZ12 -180°

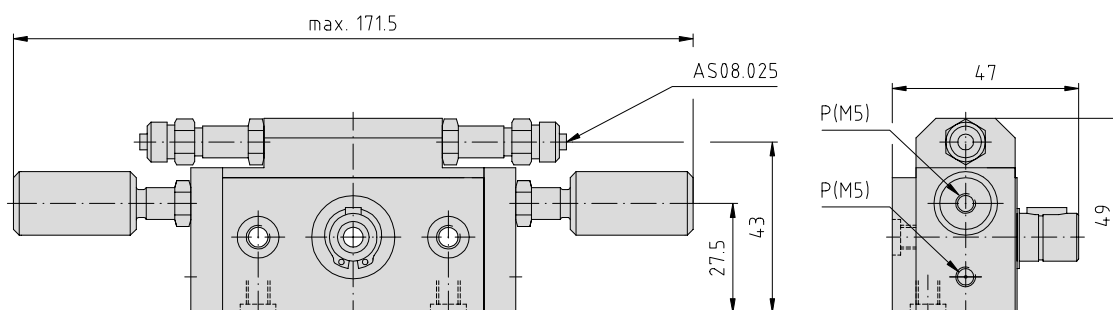


P = Luftanschluss

P = Air connections

P = Raccord d'air

Typ Type, Type	DMZ12/2Q	Bestellnummer Order No., Article No.	DM12.182
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P = Luftanschluss

P = Air connections

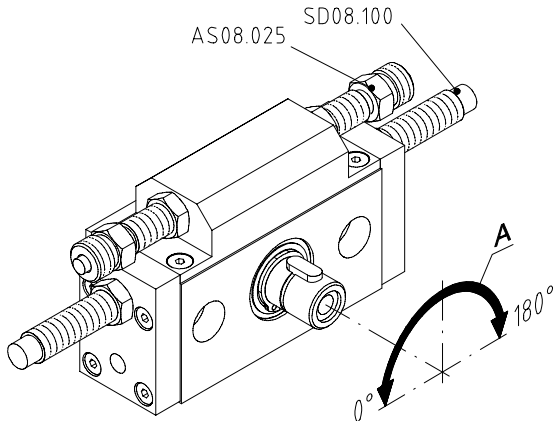
P = Raccord d'air

Typ Type, Type	DMZ12/2	Bestellnummer Order No., Article No.	DM12.189
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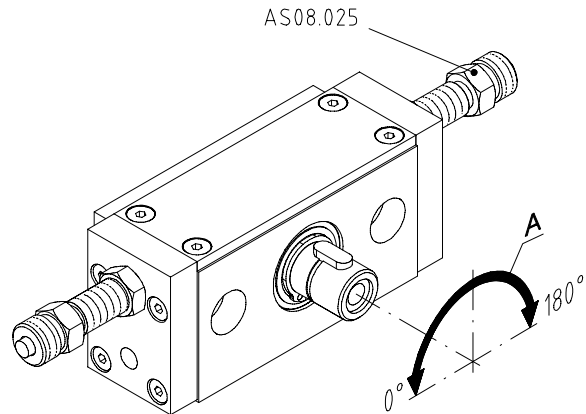
Drehmodule DM12 -180°

Rotary modules DM12 - 180°

Modules rotatifs DM12 - 180°



DM12-SD



DM12

Lieferumfang:
DM12.180

2 Anschlagsschrauben AS08.025
2 Zentrierhülsen KV10.081
1 Passfeder 4x4x10
1 Sicherungsring
2 Stoßdämpfer SD08.100

Items supplied:
DM12.180

2 Stop screws AS08.025
2 Centering bushings KV10.081
1 Tongue 4x4x10
1 Snap ring
2 Shock absorbers SD08.100

Matériel livré:
DM12.180

2 Vis d'arrêt AS08.025
2 Douilles de centrage KV10.081
1 Clavette 4x4x10
1 Circlip
2 Amortisseurs SD08.100

Lieferumfang:
DM12.181

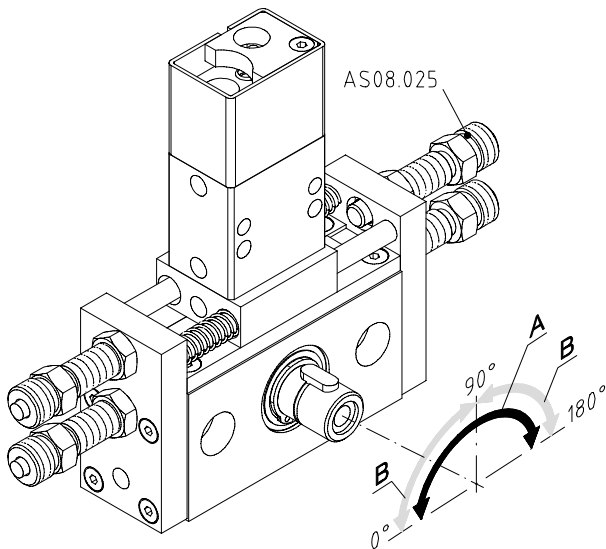
2 Anschlagsschrauben AS08.025
2 Zentrierhülsen KV10.081
1 Passfeder 4x4x10
1 Sicherungsring

Items supplied:
DM12.181

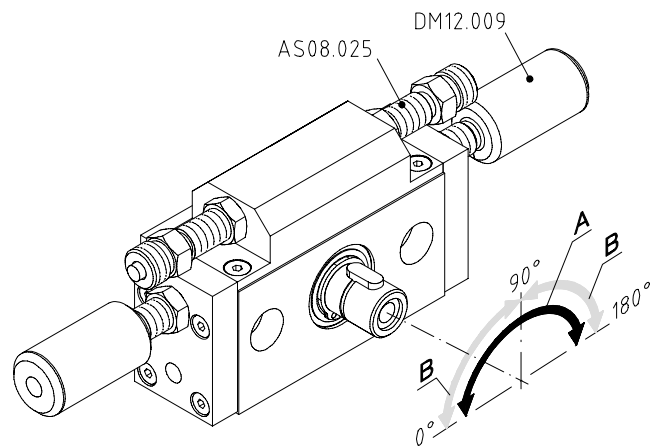
2 Stop screws AS08.025
2 Centering bushings KV10.081
1 Tongue 4x4x10
1 Snap ring

Matériel livré:
DM12.181

2 Vis d'arrêt AS08.025
2 Douilles de centrage KV10.081
1 Clavette 4x4x10
1 Circlip



DMZ12/2Q



DMZ12/2

Lieferumfang:
DM12.182

4 Anschlagsschrauben AS08.025
2 Zentrierhülsen KV10.081
1 Passfeder 4x4x10
1 Sicherungsring

Items supplied:
DM12.182

4 Stop screws AS08.025
2 Centering bushings KV10.081
1 Tongue 4x4x10
1 Snap ring

Matériel livré:
DM12.182

4 Vis d'arrêt AS08.025
2 Douilles de centrage KV10.081
1 Clavette 4x4x10
1 Circlip

Lieferumfang:
DM12.189

2 Anschlagsschrauben AS08.025
2 Zentrierhülsen KV10.081
1 Passfeder 4x4x10
1 Sicherungsring
2 Seitenzylinder DM12.009

Items supplied:
DM12.189

2 Stop screws AS08.025
2 Centering bushings KV10.081
1 Tongue 4x4x10
1 Snap ring
2 Cylinders intermediate
Position DM12.009

Matériel livré:
DM12.189

2 Vis d'arrêt AS08.025
2 Douilles de centrage KV10.081
1 Clavette 4x4x10
1 Circlip
2 Cylindriques positions
intermédiaires DM12.009

A = Drehwinkel
B = Zwischenpositionsbereich

A = Rotation angle
B = Intermediate position range

A = Angle de rotation
B = Zone de la position intermédiaire

Drehmodule DM12 - 180°

Rotary modules DM12 - 180°

Modules rotatifs DM12 - 180°

Technische Daten:

Technical Data:

Données techniques:

Typ Type, Type	DM12/SD	DM12	DMZ12/2Q	DMZ12/2
Bestellnummer Order No., Article No.	DM12.180	DM12.181	DM12.182	DM12.189
Drehwinkel Rotation angle, Angle de rotation	0...180° ± 5°	0...180° ± 5°	0...180° ± 5°	0...180° ± 5°
Drehmoment Moment of torsion Moment de torsion	0,3 Nm (5 bar)	0,3 Nm (5 bar)	0,3 Nm (5 bar)	0,3 Nm (5 bar)
Positionen Positions Positions	2	2	4	4
Betriebsdruck Operating pressure Pression d'alimentation	3 - 8 bar	3 - 8 bar	3 - 8 bar	3 - 8 bar
Luftanschlüsse = P Air connections = P Raccords d'air = P	M5	M5	M5	M5
Luftverbrauch (180°) Air consumption/stroke Consumption d'air/course	0,013 NL	0,013 NL	0,018 NL	0,021 NL
Temperaturbereich Temperature range Ecart de température	-10°/ +60°C	-10°/ +60°C	-10°/ +60°C	-10°/ +60°C
Masse Weight Poids	0,28 kg	0,3 kg	0,45 kg	0,36 kg
max. Belastung radial Max. radial load Charge radiale max.	350 N	350 N	350 N	350 N
max. Belastung axial Max. axial load Charge axiale max.	220 N	220 N	220 N	220 N
max. Trägheitsmoment (J) max. Moment of inertia (J) Moment d'inertie max. (J)	2 kgcm ²	2 kgcm ²	2 kgcm ²	2 kgcm ²
Winkelgenauigkeit Angle precision Précision angulaire	<8'	<8'	<8'	<8'
Einbaulage (beliebig) Installation position (any) Position e montage (à volonté)	Ja / Yes / Oui			

Taktzeit

Messung bei 5 bar

J=Trägheitsmoment (kgcm²)

t=Drehzeit (s)

Cycle time

Measurement by 5 bar

J=Moment of inertia (kgcm²)

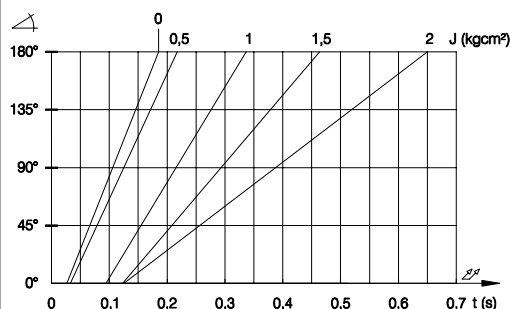
t=Rotation time (s)

Temps de cycle

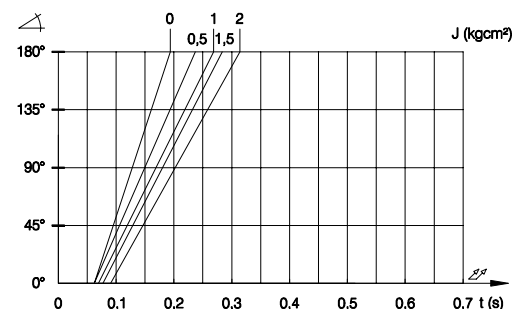
Pression mesurer près 5 bar

J=Moment d'inertie (kgcm²)

t=Durée de rotation (s)



ohne SD
without
sans



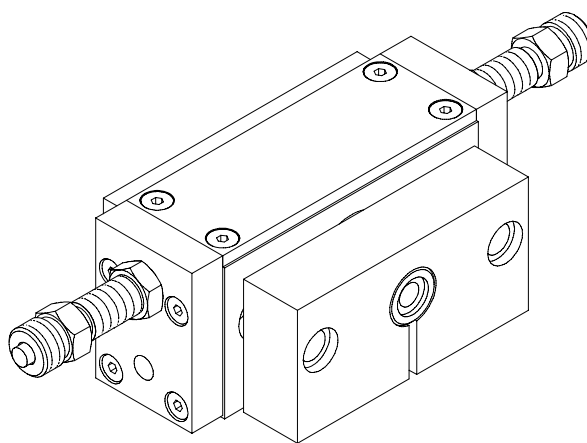
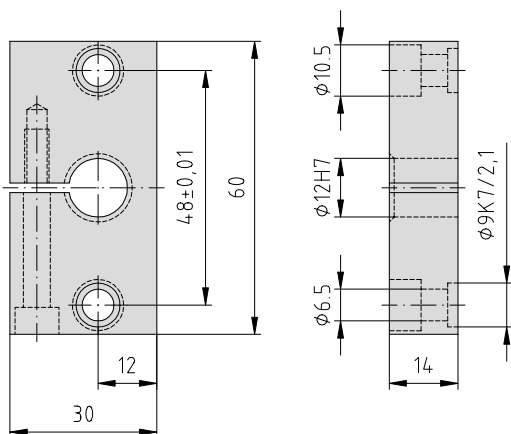
mit SD
with
avec

Zubehör DM12

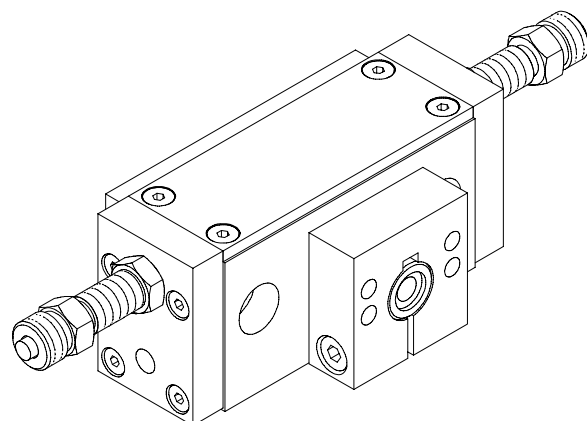
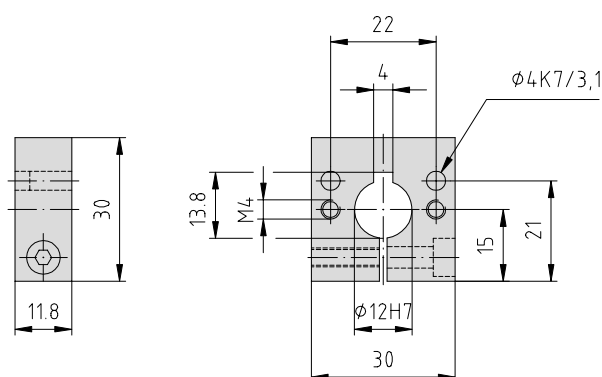
Accessories DM12

Accessoires DM12

Klemmhalter Clamping support Support de serrage	DM12	
Bestellnummer Order No., Article No.	DM12.100	
Masse Weight, Poids	0,075 kg	
Lieferumfang: 2 Zentrierhülsen KV10.081	Items supplied: 2 Centering bushings KV10.081	Matériel livré: 2 Douilles de centrage KV10.081



Rotationsflansch Rotation flange Flasque tournant	DM12	
Bestellnummer Order No., Article No.	DM12.200	
Masse Weight, Poids	0,03 kg	
Lieferumfang: 2 Zentrierstifte KV10.046	Items supplied: 2 Centering pins KV10.046	Matériel livré: 2 Goupilles de centrage KV10.046

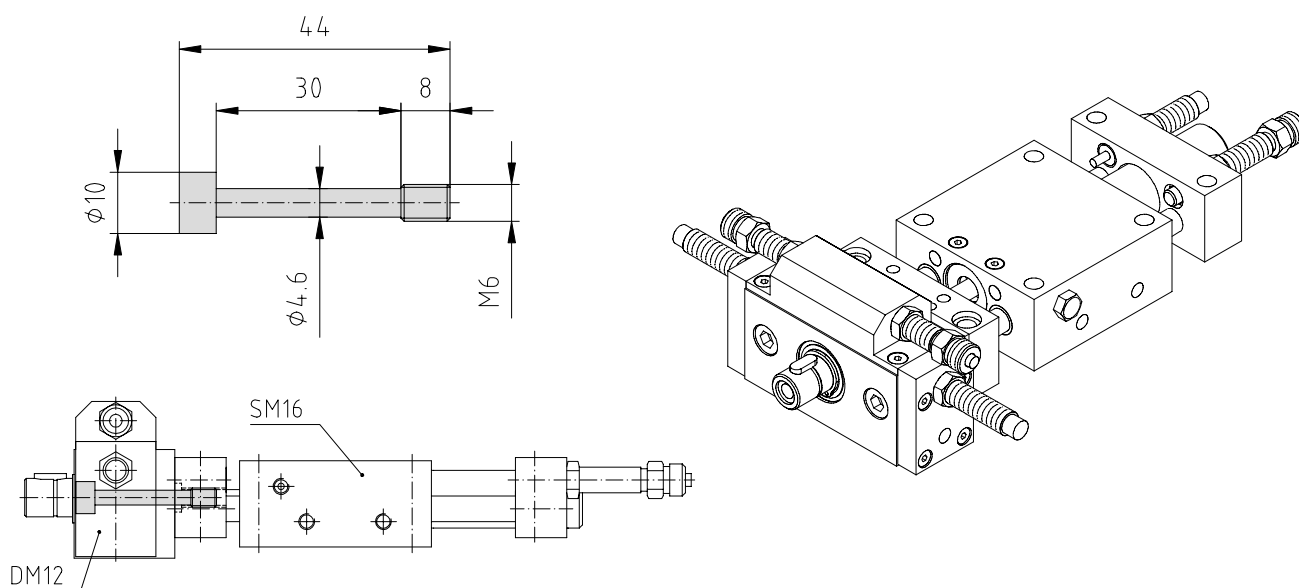


Zubehör DM12

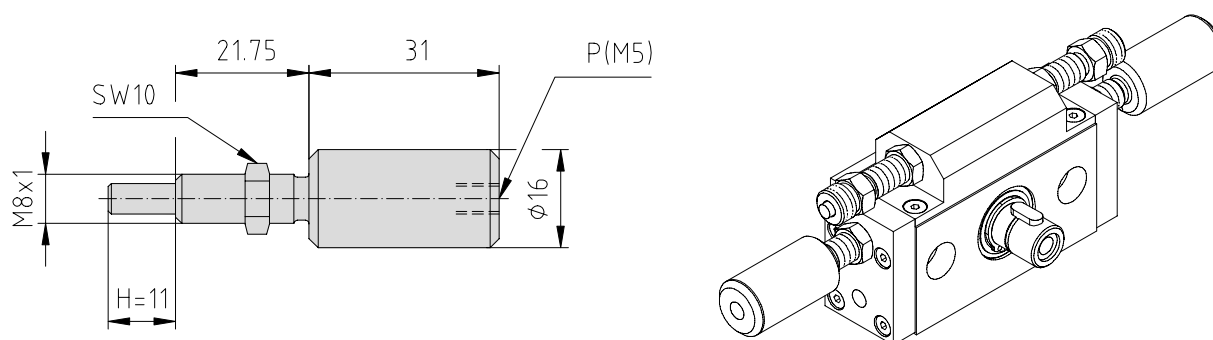
Accessories DM12

Accessoires DM12

Sonderschraube Mounting screw Vis de fixation	DM12/SM16
Bestellnummer Order No., Article No.	DM12.700
Masse Weight, Poids	0,008 kg



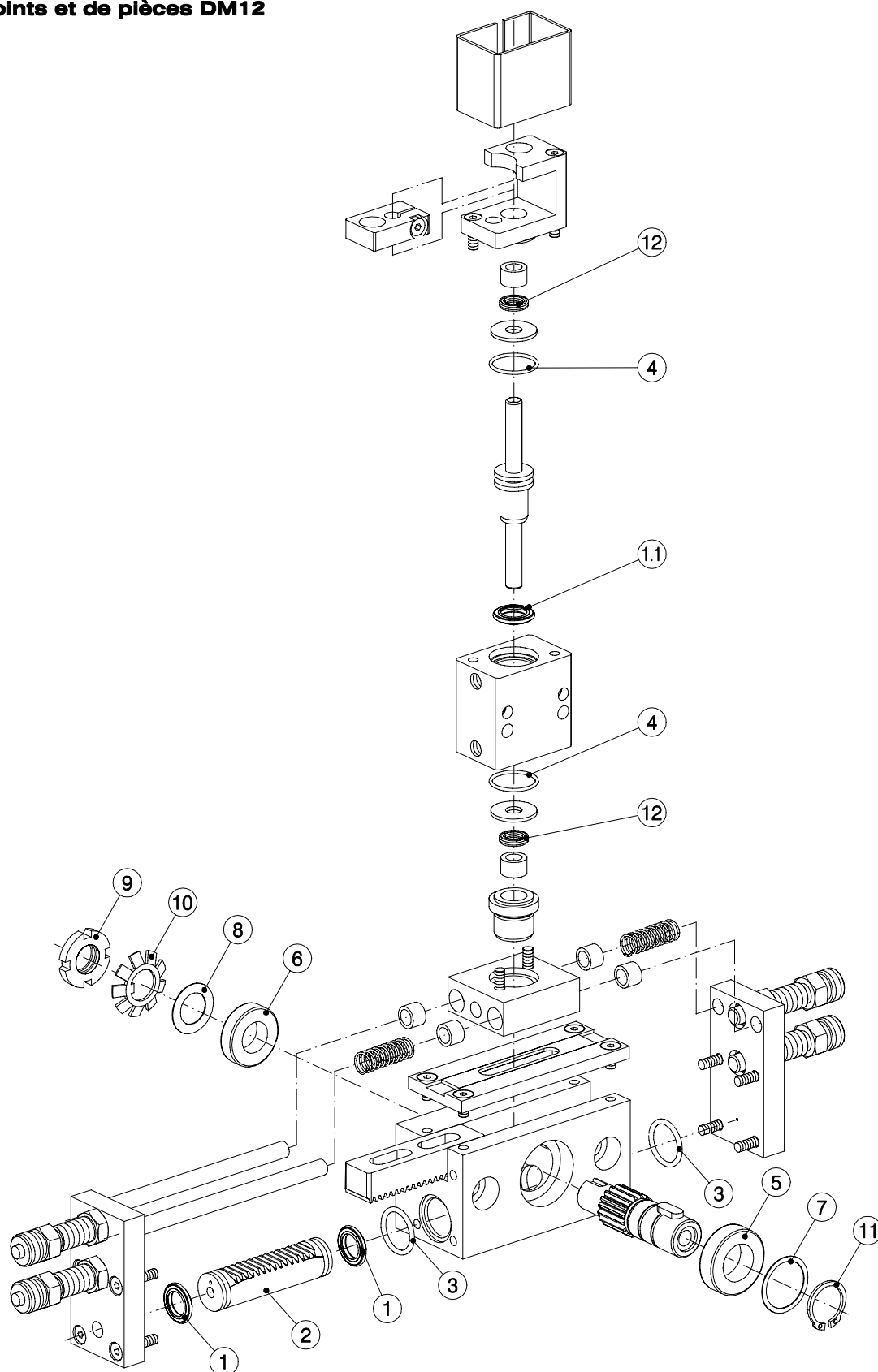
Seitenzylinder Intermediate position cylinder Cylindre pour positions intermédiaire	DM12
Bestellnummer Order No., Article No.	DM12.009
Masse Weight, Poids	0,03 kg
Lieferumfang:	
1 Mutter M8x1	1 Nut M8x1
Items supplied:	
1 Ecrou M8x1	
Matériel livré:	



Dicht- und Verschleißteilsätze DM12

Sealing and wearing parts DM12

Lots de joints et de pièces DM12



DM 12

Änderungen vorbehalten
Modifications reserved
Modifications réservées

3.7

10.2006

Dicht- und Verschleißteilsätze DM12

Sealing and wearing parts DM12

Lots de joints et de pièces DM12

Position Position Position	Bezeichnung Article Article		
① ①.1	Kolbendichtung	Piston packing	Joint pour piston
②	Zahnkolben	Piston formed with rack teeth	Piston à dent
③	O-Ring	O-Ring	Joint torique
④	O-Ring	O-Ring	Joint torique
⑤	Kugellager	Ball bearing	Roulement à bille
⑥	Kugellager	Ball bearing	Roulement à bille
⑦	Passscheibe	Fitting washer	Rondelle
⑧	Passscheibe	Fitting washer	Rondelle
⑨	Sicherungsmutter	Safety nut	Ecrou de sûreté
⑩	Sicherungsblech	Lock plate	Tôle de protection
⑪	Sicherungsring	Snap ring	Circlip
⑫	Kolbenstangendichtungen	Piston-rod sealing	Joint pour barre de piston

	Dichtungssatz Sealing parts Lots de joints		Verschleißteilsatz Wearing parts Lots de pièces	
Type Type Type	Lieferumfang Items supplied Matériel livré	Bestellnr. Order No. Article No.	Lieferumfang Items supplied Matériel livré	Bestellnr. Order No. Article No.
DM12-SD	① ③	DM12.800	① ③ , ⑤ - ⑪	DM12.900
DM12	① ③	DM12.800	① ③ , ⑤ - ⑪	DM12.900
DMZ12/2Q	① ①.1 ③ ④ ⑫	DM12.801	① ①.1 , ③ - ⑫	DM12.901
DMZ12/2	① ③	DM12.800	① ③ , ⑤ - ⑪	DM12.900

!	Schmierfett ist im Lieferumfang enthalten!	Grease is included in the delivery!	Lubrifiant et inclut en livraison!
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