

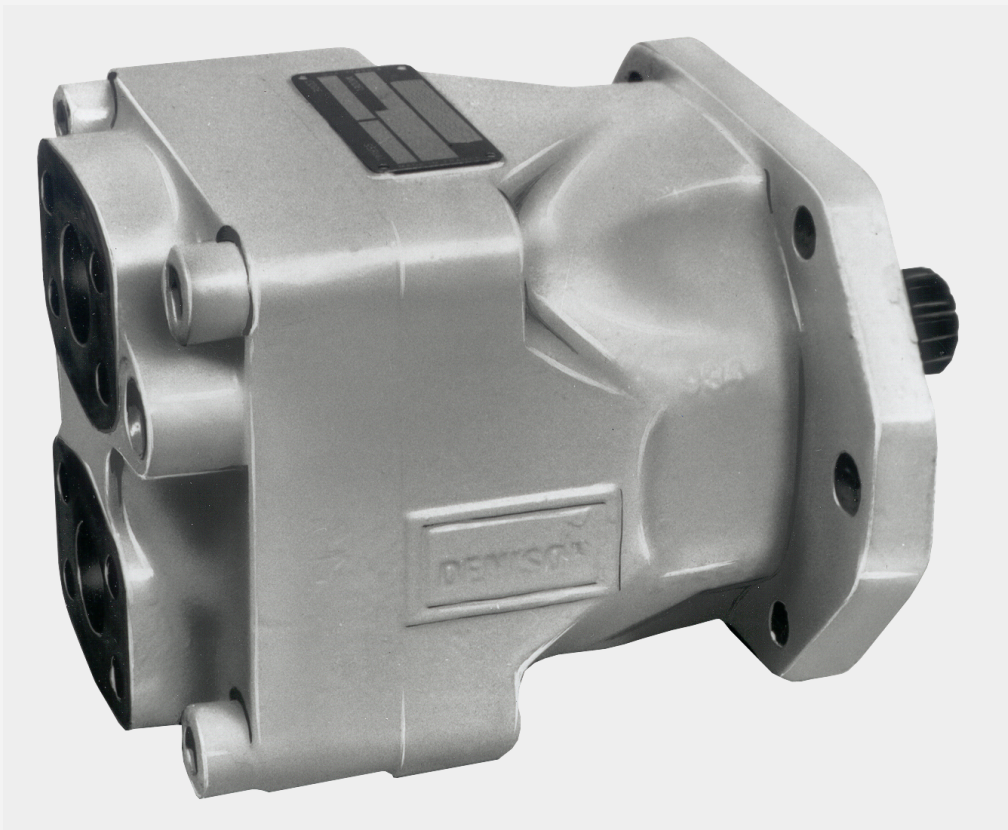
DENISON HYDRAULICS M4D - M4SD - M4D1 - M4SD1

vane-type motor / Flügelzellen Motor

moteur à palettes / motore a palette

motore de paletas

service information



Publ. S2 - ML1502 - A

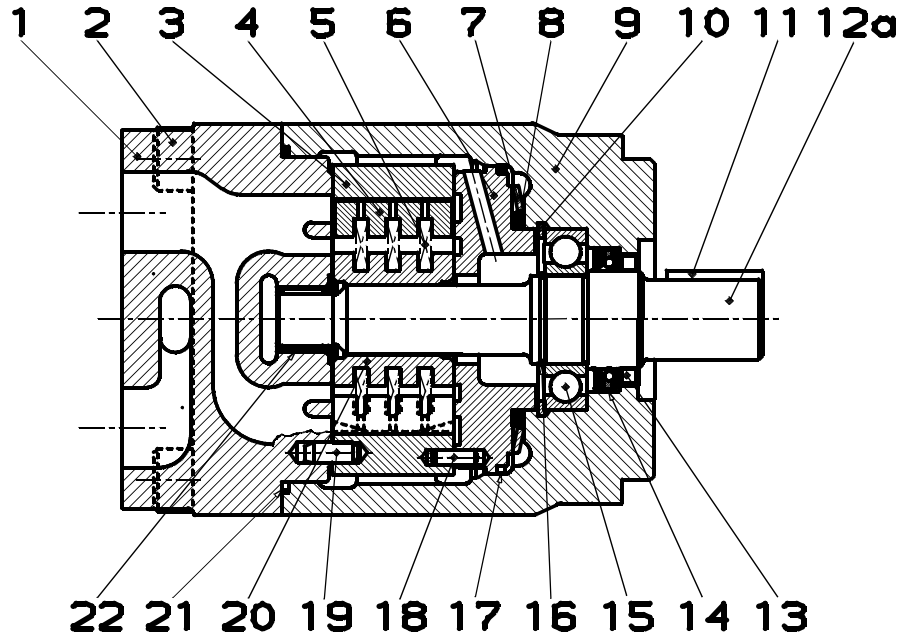
10 / 98 / 2500 / FB

Replace : S2 - ML 152 - B

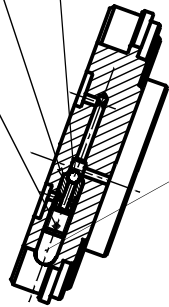
DENISON | **Hydraulics**

Recommended repair kits and assy's are bolt printed
 Empfohlene Austausch - Baugruppen sind fett gedruckt
 Les pochettes de rechange recommandées sont imprimées en caractères gras
 I kit di ricambio consigliati sono indicati in grassetto
 Los juegos de reparacion recomendados y los conjuntos, estan en negrita

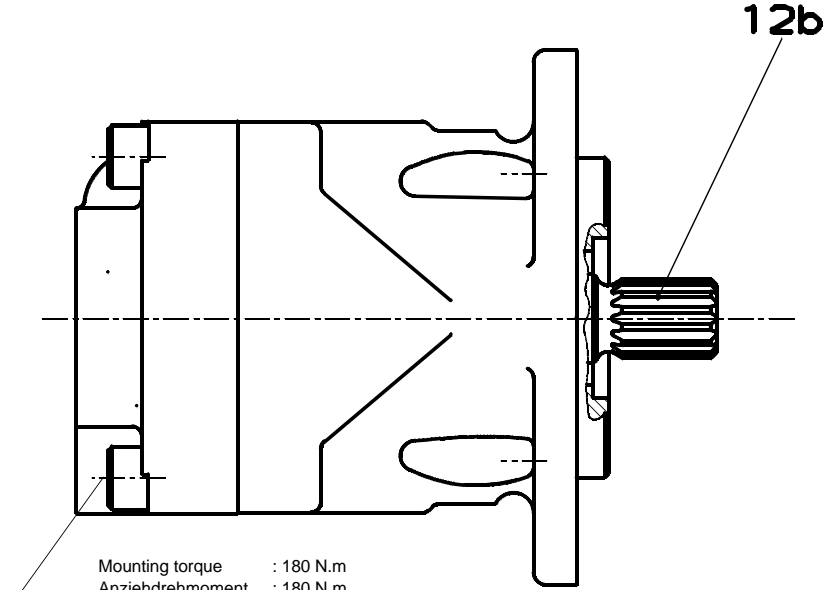
**M4D - M4D1
 M4SD - M4SD1**



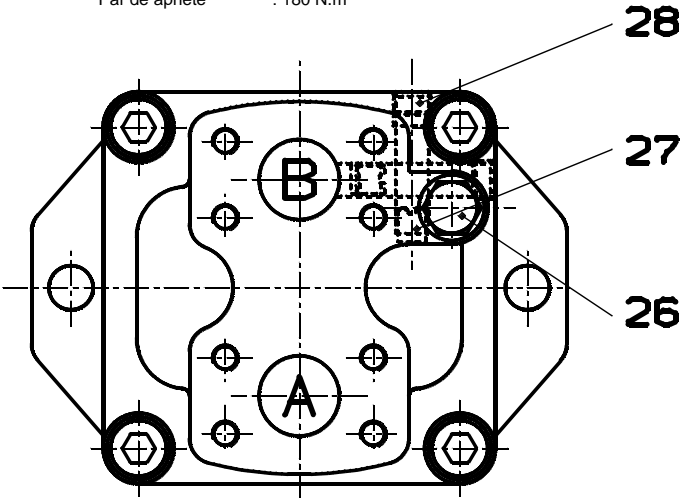
25 24 23



Mounting torque : 11,5 to 12,6 N.m
 Anziehdrehmoment : 11,5 bis 12,6 N.m
 Couple de serrage : 11,5 à 12,6 N.m
 Coppia di serraggio : 11,5 a 12,6 N.m
 Par de apriete : 11,5 a 12,6 N.m



Mounting torque : 180 N.m
 Anziehdrehmoment : 180 N.m
 Couple de serrage : 180 N.m
 Coppia di serraggio : 180 N.m
 Par de apriete : 180 N.m



| Item Pos. Ref. Pos. Pos. | Description <i>Descrizione</i> | Benennung <i>Descripción</i> | Description | | Part N° Teil Nr. Code N° Cod. N° Referencia M4D - M4D1 | Part N° Teil Nr. Code N° Cod. N° Referencia M4SD - M4SD1 | Qty Stück Qté Q.tà Cant. |
|--------------------------|---|--|--|----|---|---|--------------------------------------|
| 1 | End cap 4-bolts UNC (SAE drain) (M4D - M4SD) <i>Coperchio UNC 4 fori (drenaggio SAE) (M4D - M4SD)</i> | Deckel UNC Flansch (SAE Leckölanschluß) (M4D - M4SD) <i>Tapa UNC 4 agujeros (drenaje SAE) (M4D - M4SD)</i> | Chapeau 4 trous UNC (drain SAE) (M4D - M4SD) | G | 034.59694 | 034.59694 | 1 |
| | End cap SAE thd. port (SAE drain) (M4D - M4SD) <i>Coperchio filettature SAE (drenaggio SAE) (M4D - M4SD)</i> | Deckel SAE Gewinde (SAE Leckölanschluß) (M4D - M4SD) <i>Tapa rosca SAE (drenaje SAE) (M4D - M4SD)</i> | Chapeau orifices taraudés SAE (drain SAE) (M4D - M4SD) | G | 034.59695 | 034.59695 | 1 |
| | End cap 4-bolts UNC (BSPP drain) (M4D - M4SD) <i>Coperchio UNC 4 fori (drenaggio BSP) (M4D - M4SD)</i> | Deckel UNC Flansch (R Leckölanschluß) (M4D - M4SD) <i>Tapa UNC 4 agujeros (drenaje BSP) (M4D - M4SD)</i> | Chapeau 4 trous UNC (drain BSPP) (M4D - M4SD) | G | 034.66470 | 034.66470 | 1 |
| | End cap 4-bolts Metric (BSPP drain) (M4D - M4SD) <i>Coperchio metrica 4 fori (drenaggio BSP) (M4D - M4SD)</i> | Deckel Metrisch Flansch (R Leckölanschluß) (M4D - M4SD) <i>Tapa metrica 4 agujeros (drenaje BSP) (M4D - M4SD)</i> | Chapeau 4 trous métriques (drain BSPP) (M4D - M4SD) | G | 034.67013 | 034.67013 | 1 |
| | End cap 4-bolts UNC (SAE drain) (M4D1 - M4SD1) <i>Coperchio UNC 4 fori (drenaggio SAE) (M4D1 - M4SD1)</i> | Deckel UNC Flansch (SAE Leckölanschluß) (M4D1 - M4SD1) <i>Tapa UNC 4 agujeros (drenaje SAE) (M4D1 - M4SD1)</i> | Chapeau 4 trous UNC (drain SAE) (M4D1 - M4SD1) | G | 034.59696 | 034.59696 | 1 |
| | End cap thd. SAE port (SAE drain) (M4D1 - M4SD1) <i>Coperchio filettature SAE (drenaggio SAE) (M4D1 - M4SD1)</i> | Deckel SAE Gewinde (SAE Leckölanschluß) (M4D1 - M4SD1) <i>Tapa rosca SAE (drenaje SAE) (M4D1 - M4SD1)</i> | Chapeau orifices taraudés SAE (drain SAE) (M4D1 - M4SD1) | G | 034.59697 | 034.59697 | 1 |
| 2 | Screw <i>Vite</i> | Schraube <i>Tornillo</i> | Vis | | 358.24300 | 358.24300 | 4 |
| 3 | Cam ring 062 <i>Anello camma 062</i> | Hubring 062 <i>Aro volumetrico 062</i> | Came 062 | A | 034.59680 | 034.59687 | 1 |
| | Cam ring 074 <i>Anello camma 074</i> | Hubring 074 <i>Aro volumetrico 074</i> | Came 074 | A | 034.59681 | 034.59688 | 1 |
| | Cam ring 088 <i>Anello camma 088</i> | Hubring 088 <i>Aro volumetrico 088</i> | Came 088 | A | 034.59682 | 034.59689 | 1 |
| | Cam ring 102 <i>Anello camma 102</i> | Hubring 102 <i>Aro volumetrico 102</i> | Came 102 | A | 034.59683 | 034.59690 | 1 |
| | Cam ring 113 <i>Anello camma 113</i> | Hubring 113 <i>Aro volumetrico 113</i> | Came 113 | A | 034.59684 | 034.59691 | 1 |
| | Cam ring 128 <i>Anello camma 128</i> | Hubring 128 <i>Aro volumetrico 128</i> | Came 128 | A | 034.59685 | 034.59692 | 1 |
| | Cam ring 138 <i>Anello camma 138</i> | Hubring 138 <i>Aro volumetrico 138</i> | Came 138 | A | 034.59686 | 034.59693 | 1 |
| 4 | Vane <i>Paletta</i> | Flügel <i>Paleta</i> | Palette | A | 034.49746 | 034.49746 | 10 |
| 5 | Spring vane <i>Molla</i> | Feder für Flügel <i>Muelle paleta</i> | Ressort de palette | A | 034.49743 | 034.49743 | 30 |
| 6 | Port plate pressure <i>Platto distributore anter.</i> | Steuerplatte <i>Plato de presion</i> | Plaque pression | F | 034.59852 | 034.59852 | 1 |
| 7 | Belleville washer <i>Rondella</i> | Scheibe <i>Arandela de seguridad</i> | Rondelle éventail | | 034.59843 | 034.59843 | 1 |
| 8 | Sq. section seal <i>Guarnizione</i> | Dichtring <i>Junta seccion cuadrada</i> | Joint section carrée | DE | 691.10335 | 695.20335 | 1 |
| 9 | Housing <i>Corpo</i> | Gehäuse <i>Cuerpo</i> | Carter | | 034.49756 | 034.49756 | 1 |
| 10 | Retaining ring <i>Anello elastico</i> | Sicherungsring <i>Aro retencion</i> | Circlips | | 356.32283 | 356.32283 | 1 |

| Item Pos. Ref. Pos. | Description <i>Descrizione</i> | Benennung <i>Descripcion</i> | Description | | Part N° Teil Nr. Code N° Cod. N° Referencia M4D - M4D1 | Part N° Teil Nr. Code N° Cod. N° Referencia M4SD - M4SD1 | Qty Stück Qté Qtá Cant. |
|---------------------|--|---|-----------------------------|----|---|---|-------------------------------------|
| 11 | Key (code 1) <i>Chiavetta (codice 1)</i> | Paßfeder (Typ 1) <i>Chaveta (codigo 1)</i> | Clavette (code 1) | B | 034.49676 | 034.49676 | 1 |
| 12a | Shaft (keyed) (code 1) <i>Albero a chiavetta (codice 1)</i> | Paßfederwelle (Typ 1) <i>Eje chaveteado (codigo 1)</i> | Arbre à clavette (code 1) | B | 034.70982 | 034.70982 | 1 |
| 12b | Shaft (splined) (code 3) <i>Albero scanalato (codice 3)</i> | Vielkeilwelle (Typ 3) <i>Eje estriado (codigo 3)</i> | Arbre à cannelures (code 3) | C | 034.70983 | 034.70983 | 1 |
| 13 | Felt wiper <i>Feltro pulitore</i> | Filzring <i>Felpa</i> | Joint feutre | DE | 605.10020 | 605.10020 | 1 |
| 14 | Shaft seal <i>Paraolio</i> | Simmerring <i>Retén eje</i> | Joint d'arbre | DE | 637.00003 | 637.00003 | 1 |
| 15 | Ball bearing <i>Cuscinetto a sfera</i> | Kugellager <i>Cojinete de bolas</i> | Roulement à billes | BC | 230.00207 | 230.00207 | 1 |
| 16 | Round section ring <i>Anello elastico</i> | Sicherungsring <i>Anillo tórico</i> | Anneau | BC | 034.70853 | 034.70853 | 1 |
| 17 | O.ring <i>Guarnizione torica</i> | Runddichtring <i>Anillo tórico</i> | Joint torique | DE | 691.00246 | 695.00246 | 1 |
| 18 | Dowel pin <i>Spina</i> | Fixierstift <i>Pasador</i> | Goupille | | 324.21612 | 324.21612 | 1 |
| 19 | Dowel pin <i>Spina</i> | Fixierstift <i>Pasador</i> | Goupille | | 324.22414 | 324.22414 | 1 |
| 20 | Rotor <i>Rotore</i> | Rotor <i>Rotor</i> | Rotor | A | 034.49747 | 034.49747 | 1 |
| 21 | Sq. section seal <i>Guarnizione</i> | Dichtring <i>Junta seccion cuadrada</i> | Joint section carrée | DE | 605.10001.3 | 605.10501.3 | 1 |
| 22 | Needle bearing <i>Cuscinetto a rulli</i> | Nadellager <i>Cojinete de agujas</i> | Roulement à aiguilles | G | 230.82002 | 230.82002 | 1 |
| 23 | Ball <i>Sfera</i> | Kugel <i>Bola</i> | Bille d'acier | F | 201.06001 | 201.06001 | 1 |
| 24 | Adaptor valve <i>Adattatore</i> | Kugel ventil <i>Valvula adaptadora</i> | Adapteur valve | F | 034.53346 | 034.53346 | 1 |
| 25 | Screw <i>Vite</i> | Schraube <i>Tornillo</i> | Vis | F | 312.35056 | 312.35056 | 1 |
| 26 | Plug (M4D1 - M4SD1) <i>Tappo (M4D1 - M4SD1)</i> | Stopfen (M4D1 - M4SD1) <i>Tapon (M4D1 - M4SD1)</i> | Bouchon (M4D1 - M4SD1) | G | 488.35022 | 488.35022 | 1 |
| 27 | Check valve (M4D1 - M4SD1) <i>Valvola di ritegno (M4D1 - M4SD1)</i> | Rückschlagventil (M4D1 - M4SD1) <i>Valvula de retención (M4D1 - M4SD1)</i> | Clapet (M4D1 - M4SD1) | G | S14.01257 | S14.01257 | 2 |
| 28 | Plug (M4D1 - M4SD1) <i>Tappo (M4D1 - M4SD1)</i> | Stopfen (M4D1 - M4SD1) <i>Tapon (M4D1 - M4SD1)</i> | Bouchon (M4D1 - M4SD1) | G | 431.90600 | 431.90600 | 2 |
| | | | | | | | |
| | REPAIR KIT KIT DI RICAMBIO | AUSTAUSCH-BAUGRUPPEN CONJUNTO REPARACION | POCHETTES RECHANGES | | | | |
| A | Kit 062 Cartuccia 062 | Pumpeneinsatz 062 Juego 062 | Cartouche 062 | | S24.10620 | S24.10627 | 1 |
| A | Kit 074 Cartuccia 074 | Pumpeneinsatz 074 Juego 074 | Cartouche 074 | | S24.10621 | S24.10628 | 1 |

| Item Pos. Ref. Pos. Pos. | Description <i>Descrizione</i> | Benennung <i>Descripción</i> | Description | Part N° Teil Nr. Code N° Cod. N° Referencia M4D - M4D1 | Part N° Teil Nr. Code N° Cod. N° Referencia M4SD - M4SD1 | Qty Stück Qté Q.tà Cant. |
|--|--|--|---|---|---|--------------------------------------|
| A | Kit 088 <i>Cartucia 088</i> | Pumpeneinsatz 088 <i>Juego 088</i> | Cartouche 088 | S24.10622 | S24.10629 | 1 |
| A | Kit 102 <i>Cartuccia 102</i> | Pumpeneinsatz 102 <i>Juego 102</i> | Cartouche 102 | S24.10623 | S24.10630 | 1 |
| A | Kit 113 <i>Cartuccia 113</i> | Pumpeneinsatz 113 <i>Juego 113</i> | Cartouche 113 | S24.10624 | S24.10631 | 1 |
| A | Kit 128 <i>Cartuccia 128</i> | Pumpeneinsatz 128 <i>Juego 128</i> | Cartouche 128 | S24.10625 | S24.10632 | 1 |
| A | Kit 138 <i>Cartuccia 138</i> | Pumpeneinsatz 138 <i>Juego 138</i> | Cartouche 138 | S24.10626 | S24.10633 | 1 |
| B | Shaft and bearing ass'y (code 1) <i>Ins. albero (codice 1)</i> | Baugruppe (Welle u. Lager) (Typ 1) <i>Conjunto eje (codigo 1)</i> | Arbre à clavette et roulement ass. (code 1) | S14.26720 | S14.26720 | 1 |
| C | Shaft and bearing ass'y (code 3) <i>Ins. albero (codice 3)</i> | Baugruppe (Welle u. Lager) (Typ 3) <i>Conjunto eje (codigo 3)</i> | Arbre à cannelures et roulement ass. (code 3) | S14.26721 | S14.26721 | 1 |
| D | Seal kit (S1) (M4D - M4D1) <i>Serie guarnizioni (S1) (M4D - M4D1)</i> | Dichtringsatz (S1) (M4D - M4D1) <i>Juego de juntas (S1) (M4D - M4D1)</i> | Pochette de joints (S1) (M4D - M4D1) | S24.10916.0 | | 1 |
| E | Seal kit (S5) (M4SD - M4SD1) <i>Serie guarnizioni (S5) (M4SD - M4SD1)</i> | Dichtringsatz (S5) (M4SD - M4SD1) <i>Juego de juntas (S5) (M4SD - M4SD1)</i> | Pochette de joints (S5) (M4SD - M4SD1) | | S24.10916.5 | 1 |
| F | Port plate-pressure ass'y <i>Ins. piatto distributore anter.</i> | Steuerplatte <i>Conjunto plato dist.</i> | Plaque pression ass. | S24.10905 | S24.10905 | 1 |
| G | End cap ass'y <i>Ins. coperchio</i> | Gehäuse baugruppe <i>Conjunto tapa</i> | Chapeau arrière ass. | | | |
| | 4-bolts UNC (SAE drain) (M4D - M4SD) <i>UNC 4 fori (drenaggio SAE) (M4D - M4SD)</i> | UNC Flansch (SAE Leckölanschluß) (M4D - M4SD) <i>UNC 4 agujeros (drenaje SAE) (M4D - M4SD)</i> | 4 trous UNC (drain SAE) (M4D - M4SD) | S24.10616 | S24.10616 | 1 |
| | SAE thd. port (SAE drain) (M4D - M4SD) Filettature SAE (drenaggio SAE) (M4D - M4SD) | SAE Gewinde (SAE Leckölanschluß) (M4D - M4SD) <i>Rosca SAE (drenaje SAE) (M4D - M4SD)</i> | Orifices taraudé SAE (drain SAE) (M4D - M4SD) | S24.10617 | S24.10617 | 1 |
| | 4-bolts UNC (BSPP drain) (M4D - M4SD) <i>UNC 4 fori (drenaggio BSP) (M4D - M4SD)</i> | UNC Flansch (R Leckölanschluß) (M4D - M4SD) <i>UNC 4 agujeros (drenaje BSP) (M4D - M4SD)</i> | 4 trous UNC (drain BSPP) (M4D - M4SD) | S14.97570 | S14.97570 | 1 |
| | 4-bolts Metric (BSPP drain) (M4D - M4SD) <i>Metrica 4 fori (drenaggio BSP) (M4D - M4SD)</i> | Metrisch Flansch (R Leckölanschluß) (M4D - M4SD) <i>Metrico 4 agujeros (drenaje BSP) (M4D - M4SD)</i> | 4 trous métriques (drain BSPP) (M4D - M4SD) | S24.58456 | S24.58456 | 1 |
| | 4-bolts UNC (SAE drain) (M4D1 - M4SD1) <i>UNC 4 fori (drenaggio SAE) (M4D1 - M4SD1)</i> | UNC Flansch (SAE Leckölanschluß) (M4D1 - M4SD1) <i>UNC 4 agujeros (drenaje SAE) (M4D1 - M4SD1)</i> | 4 trous UNC (drain SAE) (M4D1 - M4SD1) | S24.10619 | S24.10619 | 1 |
| SAE thd. port (SAE drain) (M4D1 - M4SD1) Filettature SAE (drenaggio SAE) (M4D1 - M4SD1) | SAE Gewinde (SAE Leckölanschluß) (M4D1 - M4SD1) <i>Rosca SAE (drenaje SAE) (M4D1 - M4SD1)</i> | Orifices taraudé SAE (drain SAE) (M4D1 - M4SD1) | S24.10618 | S24.10618 | 1 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Model Code

Model number :

Series external drain _____

Series internal drain _____

Torque (Nm/bar) _____

062 = 1,04
074 = 1,22
088 = 1,45
102 = 1,68
113 = 1,86
128 = 2,11
138 = 2,30

Type of shaft _____

1 = keyed (SAE C)
3 = splined (SAE C)

Direction of rotation _____

N = bi-directional

Porting combination _____

00 = standard

Design letter _____

Seal class _____

1 = S1 - M4D
5 = S5 - M4SD

Mounting w/connection variables _____

01 = SAE threaded port
SAE drain
02 = SAE 4 bolts flange
UNC threaded - SAE drain
04 = SAE 4 bolts flange
UNC threaded - BSPP drain
M4 = SAE 4 bolts flange
metric threaded - BSPP drain

Modifications _____

Typenschlüssel

Typenbezeichnung :

Baureihe externer Leckölschluß _____

Baureihe interner Leckölschluß _____

Drehmoment (Nm/bar) _____

062 = 1,04
074 = 1,22
088 = 1,45
102 = 1,68
113 = 1,86
128 = 2,11
138 = 2,30

Art der Welle _____

1 = Paßfederwelle (SAE C)
3 = Vielkeilwelle (SAE C)

Drehrichtung _____

N = Rechts und Linkslauf

Lage der Anschlüsse _____

00 = standard

Ausführungsbuchstabe _____

Dichtungsklasse _____

1 = S1 - M4D
5 = S5 - M4SD

Gehäuse-Anschlußgröße _____

01 = SAE-Gewinde
Leckölschluß SAE
02 = 4 Loch-Flansch SAE
UNC-Gewinde - Leckölschluß SAE
04 = 4 Loch-Flansch SAE
UNC-Gewinde - R-Leckölschluß
M4 = 4 Loch-Flansch SAE
metrisch-Gewinde - R-Leckölschluß

Modifikationen _____

Designation - type

Numéro du modèle :

M4*B1 : 138 : 1 N 00 : B 1 02 ::

Série drain externe _____

Série drain interne _____

Couple (Nm/bar) _____

062 = 1,04
074 = 1,22
088 = 1,45
102 = 1,68
113 = 1,86
128 = 2,11
138 = 2,30

Type d'arbre _____

1 = à clavette (SAE C)
3 = à cannelures (SAE C)

Sens de rotation _____

N = Bi-directionnel

Combinaison des orifices _____

00 = standard

Conception _____

Classe de joint _____

1 = S1 - M4D
5 = S5 - M4SD

Option sur orifices _____

01 = taraudage SAE
drain SAE
02 = bride SAE 4 trous
taraudage UNC - drain SAE
04 = bride SAE 4 trous
taraudage UNC - drain BSPP
M4 = bride SAE 4 trous
taraudage métrique - drain BSPP

Modifications _____

Designazione

Clave de designación

Sigla :

Referencia modelo :

M4*B1 : 138 : 1 N 00 : B 1 02 ::

Serie drenaggio esterno _____

Serie drenaje externo _____

Serie drenaggio interno _____

Serie drenaje interno _____

Coppia (Nm/bar) _____

Aro volumetrico (Nm/bar) _____

062 = 1,04
074 = 1,22
088 = 1,45
102 = 1,68
113 = 1,86
128 = 2,11
138 = 2,30

062 = 1,04
074 = 1,22
088 = 1,45
102 = 1,68
113 = 1,86
128 = 2,11
138 = 2,30

Tipo di albero _____

Tipo de eje _____

1 = a chiavetta (SAE C)
3 = scanalato (SAE C)

1 = chaveteado (SAE C)
3 = estriado (SAE C)

Senso di rotazione _____

Sentido de giro _____

N = bidirezionale

N = bi-direccional

Orientamento delle bocche _____

Posición de bocas _____

00 = standard

00 = estándar

Diseño _____

Letra de diseño _____

Tipo di guarnizioni _____

Clase de juntas _____

1 = S1 - M4D
5 = S5 - M4SD

1 = S1 - M4D
5 = S5 - M4SD

Dimensioni delle bocche _____

Opciones de las bocas _____

01 = filettature SAE
drenaggio SAE
02 = flange SAE 4 fori - filettature UNC
drenaggio SAE
04 = flange SAE 4 fori - filettature UNC
drenaggio BSP
M4 = flange SAE 4 fori - filettature metrica
drenaggio BSP

01 = rosca SAE
drenaje SAE
02 = SAE 4 agujeros - rosca UNC
drenaje SAE
04 = SAE 4 agujeros - rosca UNC
drenaje BSP
M4 = SAE 4 agujeros - rosca metrico
drenaje BSP

Modifiche _____

Modificaciones _____