



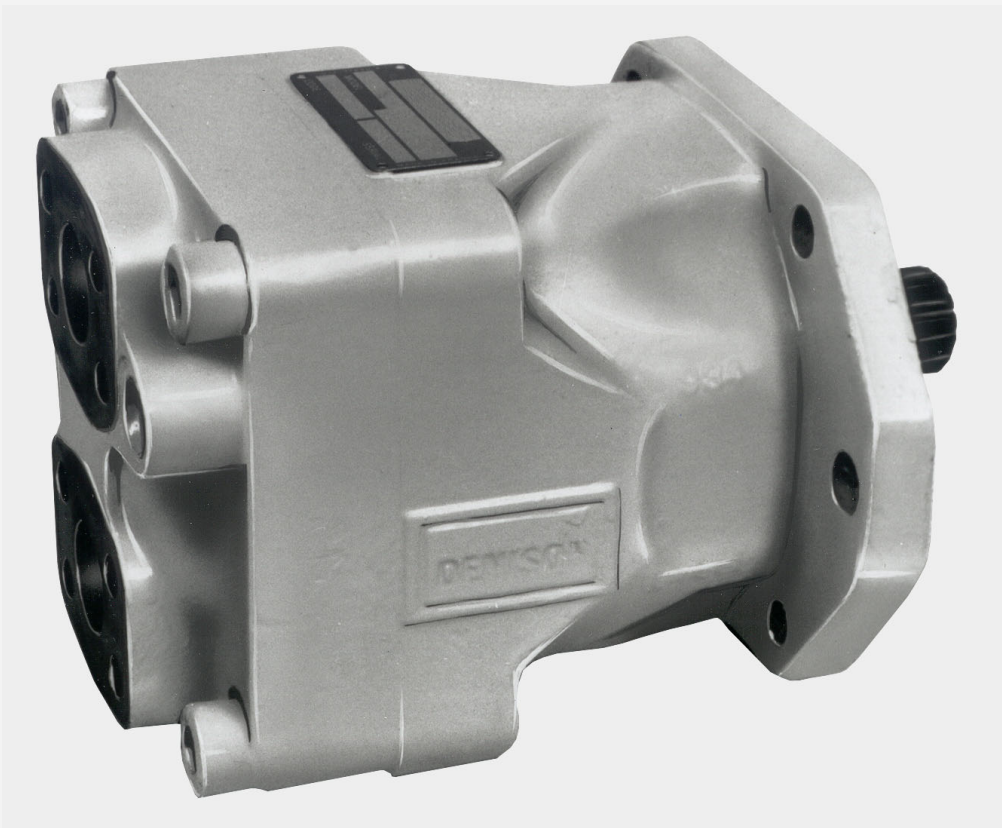
# Vane motors Service information

vane-type motor / Flügelzellen Motor

moteur à palettes / motore a palette

motore de paletas

**M4D - M4SD - M4D1 - M4SD1**



Publ. S2 - ML1502 - B

03 / 2003 / FB

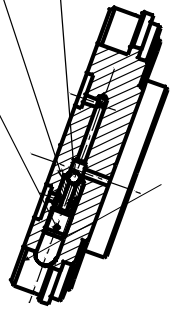
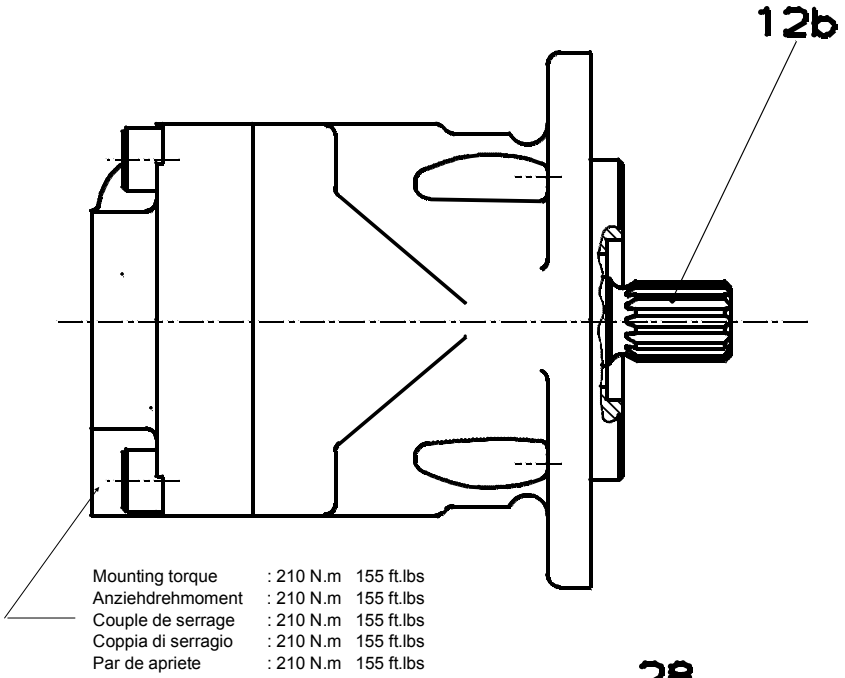
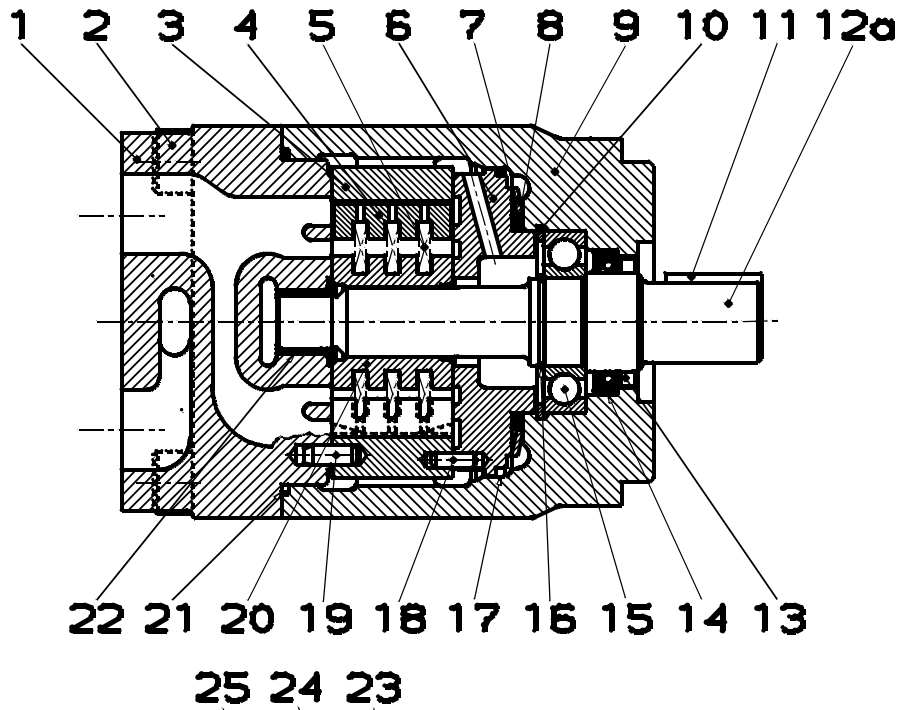
Replace : S2 - ML1502 - A

L25 - 21502 - 2

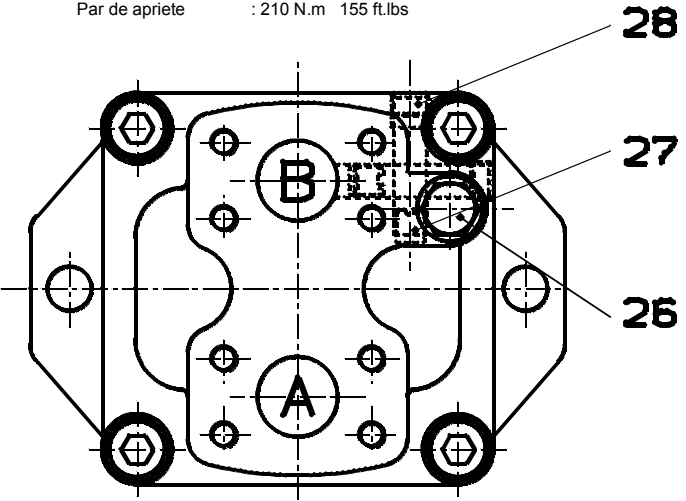
**DENISON** | **Hydraulics**

Recommended repair kits and assy's are bold 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**



Mounting torque	: 11,5 to 12,6 N.m	8,5 to 9,3 ft.lbs
Anziehdrehmoment	: 11,5 bis 12,6 N.m	8,5 bis 9,3 ft.lbs
Couple de serrage	: 11,5 à 12,6 N.m	8,5 à 9,3 ft.lbs
Coppia di serraggio	: 11,5 a 12,6 N.m	8,5 a 9,3 ft.lbs
Par de apriete	: 11,5 a 12,6 N.m	8,5 a 9,3 ft.lbs



Item Pos. Ref. 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>Felipa</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
	<b>REPAIR KIT</b> <b>KIT DI RICAMBIO</b>	<b>AUSTAUSCH-BAUGRUPPEN</b> <b>CONJUNTO REPARACION</b>	<b>POCHETTES RECHANGES</b>				
A	<b>Kit 062</b> <b>Cartuccia 062</b>	<b>Pumpeneinsatz 062</b> <b>Juego 062</b>	<b>Cartouche 062</b>		S24.10620	S24.10627	1
A	<b>Kit 074</b> <b>Cartuccia 074</b>	<b>Pumpeneinsatz 074</b> <b>Juego 074</b>	<b>Cartouche 074</b>		S24.10621	S24.10628	1

Item Pos. Ref. Pos. 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 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 Leckölschluß) (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 Leckölschluß) (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 Leckölschluß) (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 Leckölschluß) (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 Leckölschluß) (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 Leckölschluß) (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 Leckölanschluß \_\_\_\_\_

Baureihe interner Leckölanschluß \_\_\_\_\_

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

Leckölanschluß SAE

02 = 4 Loch-Flansch SAE

UNC-Gewinde - Leckölanschluß SAE

04 = 4 Loch-Flansch SAE

UNC-Gewinde - R-Leckölanschluß

M4 = 4 Loch-Flansch SAE

metrisch-Gewinde - R-Leckölanschluß

Modifikationen \_\_\_\_\_

## Designation - type

### Numéro du modèle :

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 \_\_\_\_\_

M4\*D1 - 138 - 1 N 00 - B 1 02 ..  
M4\*D - 138 - 1 N 00 - B 1 02 ..

## Designazione

## Clave de designación

Sigla :

Referencia modelo :

M4\*D1 - 138 - 1 N 00 - B 1 02 ..  
M4\*D - 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 chiave (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 \_\_\_\_\_

