

**Repair Instructions**  
**Orbital Motors OMR, OMR C and OMRW N**  
**Series 5 and 6**



# Contents

|   |           |
|---|-----------|
| <b>Chapter 1: Safety Precautions.....</b>   | <b>5</b>  |
| <b>Chapter 2: Special Versions and Cost-free Repairs.....</b>                             | <b>7</b>  |
| Special Versions.....   | 8         |
| OMR Series 5.....   | 8         |
| OMR Series 6.....   | 8         |
| <b>Chapter 3: OMR Metric Version, Series 6 with Integrated Spigot Flange.....</b>         | <b>9</b>  |
| Exploded view OMR, metric version Series 6 with integrated spigot flange.....             | 10        |
| <b>Chapter 4: OMR/OMR C Metric Version, Series 5 with Separate Spigot<br/>Flange.....</b> | <b>11</b> |
| Exploded view OMR and OMR C, metric version Series 5 with separate spigot flange.....     | 12        |
| <b>Chapter 5: OMRW N Metric Version, Series 5.....</b>                                    | <b>13</b> |
| Exploded view for OMRW N, metric version Series 5.....                                    | 14        |
| <b>Chapter 6: Spare part list.....</b>  | <b>15</b> |
| Tightening torque.....  | 28        |
| <b>Chapter 7: Special tools.....</b>  | <b>29</b> |
| Special tools.....  | 30        |
| <b>Chapter 8: Dismantling / Cleaning.....</b>   | <b>31</b> |
| Dismantling.....  | 32        |
| Cleaning.....   | 33        |
| <b>Chapter 9: Assembly.....</b>   | <b>35</b> |
| Assembly.....   | 36        |



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# Chapter 1

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## Safety Precautions

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Always consider safety precautions before beginning a service procedure. Protect yourself and others from injury. Take the following general precautions whenever servicing a hydraulic system.



**Warning:**

**Unintended machine movement**

Unintended movement of the machine or mechanism may cause injury to the technician or bystanders. To protect against unintended movement, secure the machine or disable / disconnect the mechanism while servicing.



**Warning:**

**Flammable cleaning solvents**

Some cleaning solvents are flammable. To avoid possible fire, do not use cleaning solvents in an area where a source of ignition may be present.



**Warning:**

**Fluid under pressure**

Escaping hydraulic fluid under pressure can have sufficient force to penetrate your skin causing serious injury and/or infection. This fluid may also be hot enough to cause burns. Use caution when dealing with hydraulic fluid under pressure. Relieve pressure in the system before removing hoses, fittings, gauges, or components. Never use your hand or any other body part to check for leaks in a pressurized line. Seek medical attention immediately if you are cut by hydraulic fluid.



**Warning:**

**Personal safety**

Protect yourself from injury. Use proper safety equipment, including safety glasses, at all times.



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# Chapter

# 2

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## Special Versions and Cost-free Repairs

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### Topics:

- *Special Versions*
  - *OMR Series 5*
  - *OMR Series 6*
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## Special Versions

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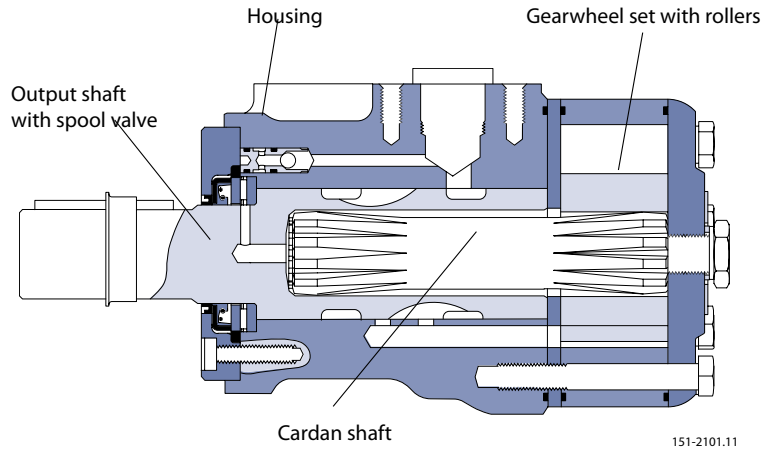
The list of spare parts cannot be used when ordering parts for special OMR versions.

In this respect, please contact the sales organisation.

We would point out that cost-free repairs as mentioned in General Conditions of Sale, are carried out only at service shops authorised by the organization.

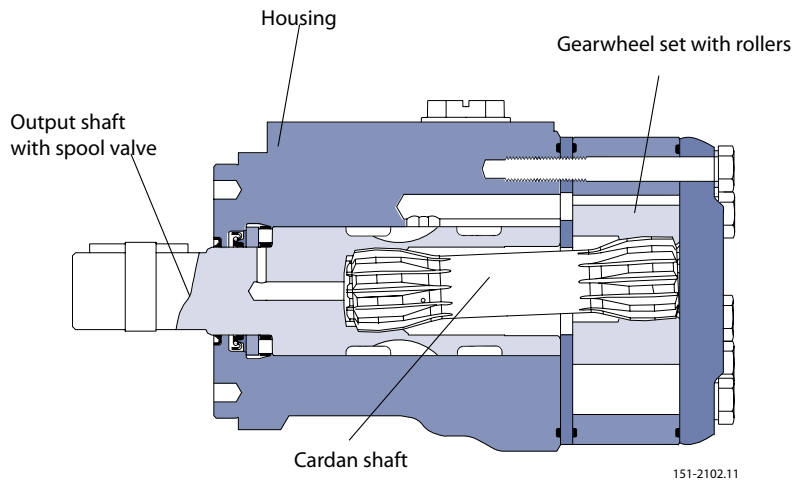
## OMR Series 5

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## OMR Series 6

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# Chapter

# 3

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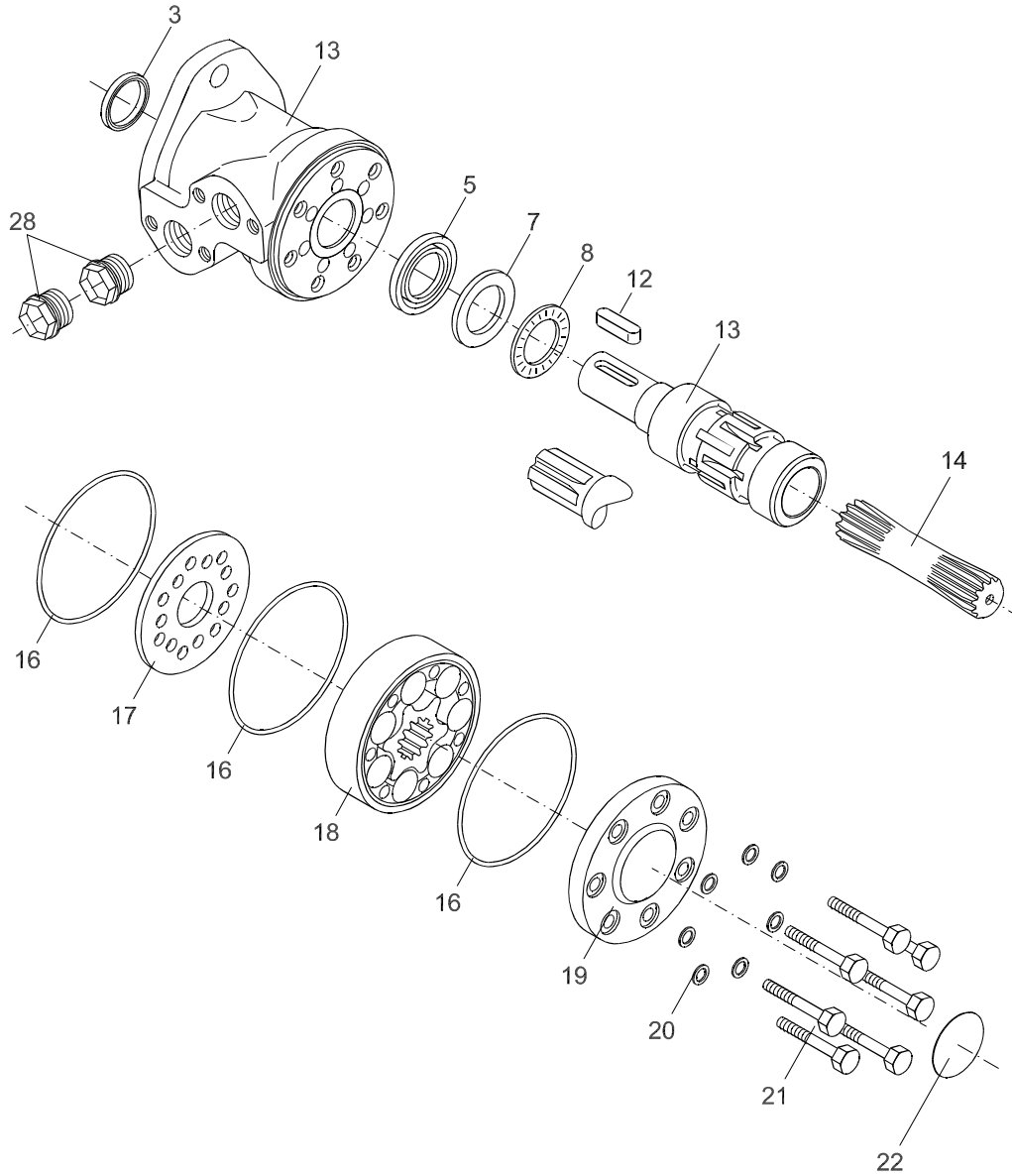
## OMR Metric Version, Series 6 with Integrated Spigot Flange

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### Topics:

- *Exploded view OMR, metric version Series 6 with integrated spigot flange*

# Exploded view OMR, metric version Series 6 with integrated spigot flange



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# Chapter

# 4

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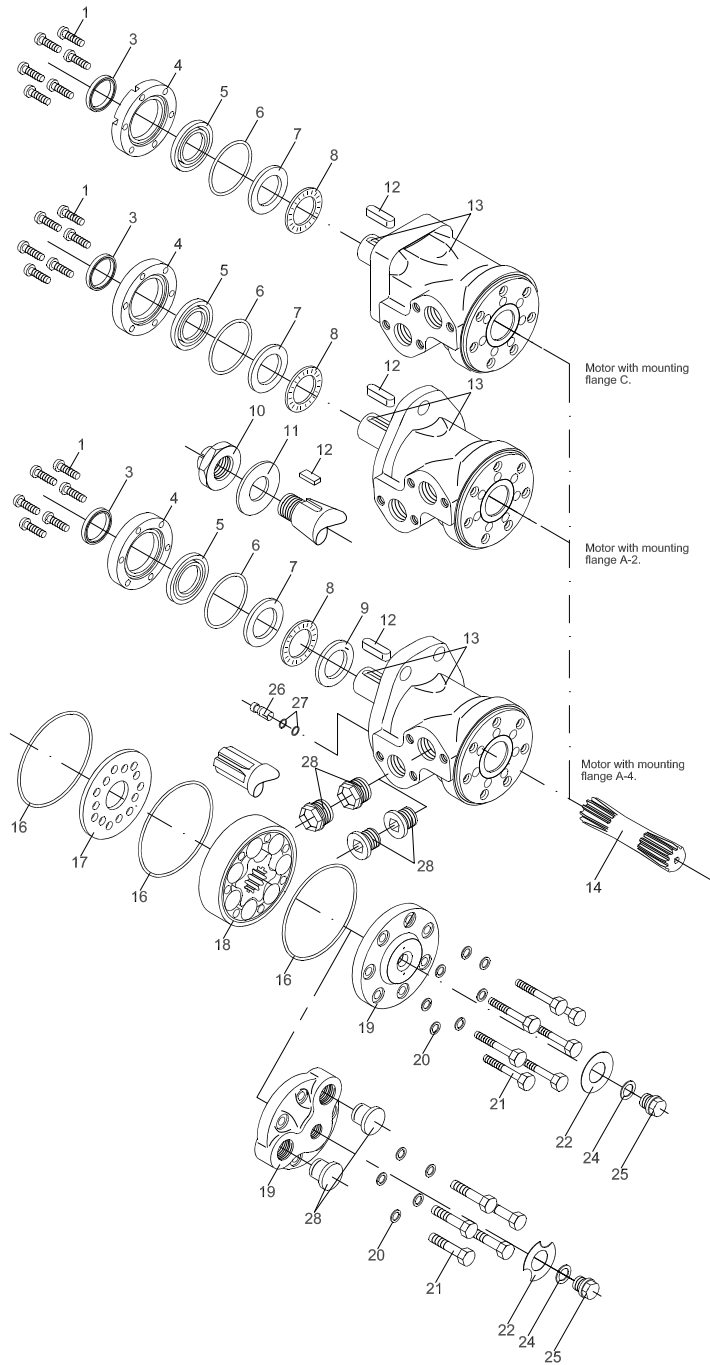
## **OMR/OMR C Metric Version, Series 5 with Separate Spigot Flange**

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### **Topics:**

- *Exploded view OMR and OMR C, metric version Series 5 with separate spigot flange*

# Exploded view OMR and OMR C, metric version Series 5 with separate spigot flange



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# Chapter

# 5

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## OMRW N Metric Version, Series 5

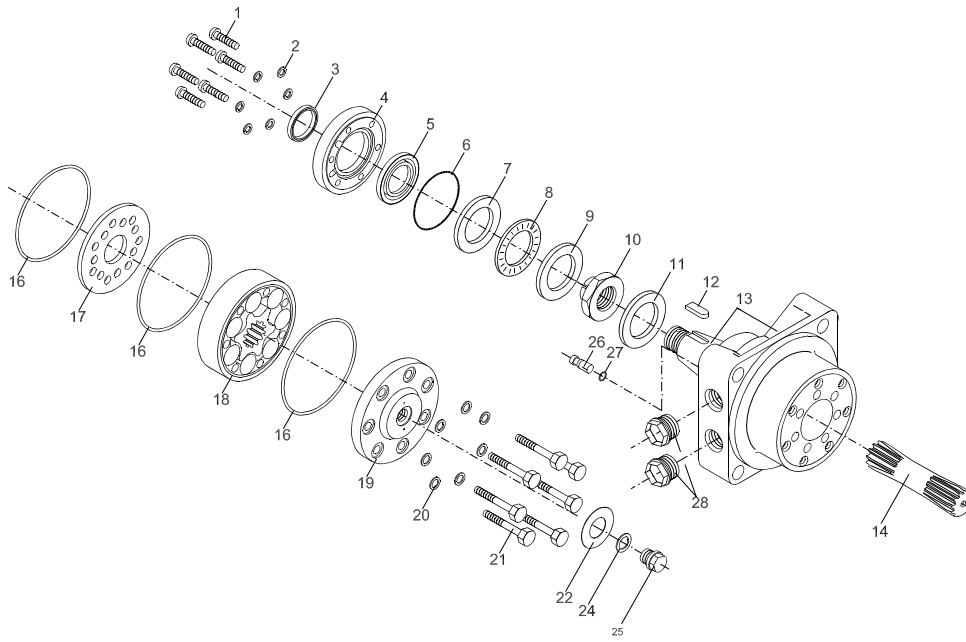
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### Topics:

- [Exploded view for OMRW N, metric version Series 5](#)

# Exploded view for OMRW N, metric version Series 5

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151-1421.10

# Chapter 6

## Spare part list

**Topics:**

- *Tightening torque*

| Item | Spare Part | Dimensions         | Number per motor |                |                                      |                |                |   |
|------|------------|--------------------|------------------|----------------|--------------------------------------|----------------|----------------|---|
|      |            |                    | Cod e no.        | Ser ie 6*      | Series 5 with separate spigot flange |                |                |   |
|      |            |                    | O M R Flange A2  | O MR Flange A2 | O M R C Flange A4                    | O M R Flange C | O M R Flange C |   |
| 1    | Screw      | M6: L = 16         | 681 X19 89       | 6              | 6                                    |                |                |   |
|      |            | M5: L = 16         | 681 X19 61       |                |                                      |                | 6              |   |
|      |            | M6: L = 16         | 681 X02 47       |                | 6                                    | 6              |                |   |
|      |            | M6: L = 25         | 681 X14 54       |                |                                      |                |                | 6 |
| 2    | Washer     | 9.9 • 6.1 • 0.5 mm | 681 X20 47       |                |                                      |                |                | 6 |

|      |  |                          | Number per motor                |                             |  |                                 |                                |               |
|------|--|--------------------------|---------------------------------|-----------------------------|--|---------------------------------|--------------------------------|---------------|
|      |  |                          | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange    |                                 |                                |               |
| Item | Spare Part                             | Dimensions               | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A4<br>A2 | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 3    | Dust seal ring                         |                          |                                 |                             |  |                                 |                                |               |
|      | Ø25 mm, Ø1",<br>1" spl. shaft<br>(HPS) | 35.0 • 27.5 •<br>2.2 mm  | 633<br>B03<br>70                | 1                           |  |                                 |                                |               |
|      | Ø28.5 mm<br>tapered shaft              | 28.56 • 35.0 •<br>4.0 mm | 151-<br>1313                    | 1                           |  | 1                               | 1                              | 1             |
|      | Ø25 mm shaft                           | 35.0 • 28.5 •<br>4.0 mm  | 633<br>B00<br>10                |                             | 1  |                                 |                                |               |
|      | Ø32 mm shaft                           | 42.0 • 35.0 •<br>3.5 mm  | 633<br>B31<br>98                | 1                           |  | 1                               |                                |               |
|      | Ø32 Ø35 mm<br>shaft (HPS)              | 42.0 • 35.0 •<br>1.9 mm  | 633<br>B03<br>69                | 1                           |  | 1                               |                                |               |
| 4    | Spigot flange                          |                          |                                 |                             |  |                                 |                                |               |
|      | Ø25 mm, ø1",<br>1" spl. shaft<br>(HPS) |                          | 151-<br>5588                    | 1                           |  | 1                               |                                |               |
|      | Ø25 mm, ø1",<br>1" spl. shaft          |                          | 151-<br>5458                    | 1                           |  | 1                               |                                |               |
|      | Ø25 mm shaft                           |                          | 151-<br>5473                    |                             | 1  |                                 |                                |               |
|      | Ø25 mm shaft                           |                          | 151-<br>1827                    |                             |  |                                 | 1                              |               |
|      | Ø32 mm shaft<br>(HPS)                  |                          | 151-<br>5589                    | 1                           | 1  | 1                               |                                |               |
|      | Ø32 mm shaft,                          |                          | 151-<br>1734                    | 1                           |  | 1                               |                                |               |
|      | Ø35 mm<br>tapered shaft                |                          | 151-<br>1988                    |                             |  |                                 |                                | 1             |



|      |   |                              | Number per motor                |                             |   |                                 |                                |               |
|------|---|------------------------------|---------------------------------|-----------------------------|---|---------------------------------|--------------------------------|---------------|
|      |   |                              | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange |                                 |                                |               |
| Item | Spare Part  | Dimensions                   | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A2    | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 5    | Shaft seal  |                              |                                 |                             |   |                                 |                                |               |
|      | Ø25 mm, ø1",<br>1" spl. shaft<br>(HPS)                    | 39.0 • 28.6 •<br>4.9 mm      | 633<br>B03<br>61                | 1                           | 1                                       |                                 | 1                              |               |
|      | Ø25 mm, ø1",<br>1" spl.<br>28.5 mm<br>tapered shaft       | 42.0 • 28.6 •<br>5.5 mm, NBR | 633<br>B33<br>85                |                             | 1                                       | 1                               | 1                              | 1             |
|      | Ø25 mm, ø1",<br>1" spl. shaft<br>28.5 mm<br>tapered shaft | 42.0 • 28.6 •<br>5.5 mm, FPM | 633<br>B03<br>23                |                             | 1                                       | 1                               | 1                              | 1             |
|      | Ø32 mm shaft,<br>(HPS)                                    | 46.0 • 35.0 •<br>4.6 mm      | 633<br>B03<br>63                |                             | 1                                       |                                 | 1                              |               |
|      | Ø32 mm shaft,<br>35 tapered shaft                         | 48.0 • 35.0 •<br>5.5 mm      | 633<br>B32<br>73                |                             | 1                                       |                                 | 1                              | 1             |
| 6    | O-ring  |                              |                                 |                             |   |                                 |                                |               |
|      | Ø25 mm, Ø1",<br>1" spl.<br>28.5 mm<br>tapered shaft       | 47.2 • 3.5 mm,<br>NBR        | 633<br>B11<br>91                |                             | 1                                       | 1                               | 1                              | 1             |
|      | Ø25 mm  | 48.0 • 2.0<br>mm, NBR        | 633<br>B13<br>33                |                             |   |                                 |                                | 1             |
|      | Ø32 mm shaft  | 53.0 • 2.0<br>mm, NBR        | 633<br>B15<br>28                |                             |   | 1                               |                                |               |
|      | 35 mm tapered<br>shaft                                    |                              | 633<br>B00<br>63                |                             |   |                                 |                                | 1             |

|      |  |                         | Number per motor |               |                                      |               |              |        |
|------|--|-------------------------|------------------|---------------|--------------------------------------|---------------|--------------|--------|
|      |  |                         | Cod e no.        | Ser ie 6*     | Series 5 with separate spigot flange |               |              |        |
| Item | Spare Part                             | Dimensions              | OMR Flange A2    | OMR Flange A2 | OMR C Flange A2                      | OMR Flange A4 | OMR Flange C | OMRW N |
| 7    | Bearing race                           |                         |                  |               |                                      |               |              |        |
|      | Ø25 mm, Ø1",<br>1" spl. shaft          | 41.6 • 29.0 •<br>4.0 mm | 1104<br>3824     | 1             |                                      |               |              |        |
|      | Ø25 mm, Ø1",<br>1" spl. shaft          | 47.5 • 29.5 •<br>3.0 mm | 151-<br>1608     |               | 1                                    | 1             | 1            | 1      |
|      | 28.5 mm<br>tapered shaft               |                         |                  |               |                                      |               |              |        |
|      | Ø32 mm shaft<br>35 mm tapered<br>shaft | 52.0 • 35.0 •<br>3.5 mm | 1104<br>5961     |               |                                      |               | 1            | 1      |
| 8    | Axial needle<br>bearing                |                         |                  |               |                                      |               |              |        |
|      | Ø25 mm, Ø1",<br>1" spl. shaft          |                         | 1104<br>3825     | 1             |                                      |               |              |        |
|      | Ø25 mm, Ø1",<br>1" spl. shaft          | 45.6 • 28.7 •<br>3.0 mm | 151-<br>1458     |               | 1                                    | 1             | 1            | 1      |
|      | 28.5 mm<br>tapered shaft               |                         |                  |               |                                      |               |              |        |
|      | Ø32 mm shaft<br>35 mm tapered<br>shaft |                         | 981<br>X31<br>98 |               |                                      |               | 1            | 1      |
| 9    | Bearing race                           |                         |                  |               |                                      |               |              |        |
|      | Ø32 mm shaft                           |                         |                  |               | 1                                    |               |              |        |
|      | 35 mm tapered<br>shaft                 | 52.0 • 35.0 •<br>3.5 mm | 1104<br>5961     |               |                                      |               | 1            | 1      |
| 10   | Castellated nut                        |                         |                  |               |                                      |               |              |        |
|      | 28.5 mm<br>tapered shaft               |                         | 681<br>X82<br>02 |               | 1                                    |               |              |        |
|      | 35 mm tapered<br>shaft                 | M20 • 1.5               | 681<br>X82<br>35 |               |                                      |               |              | 1      |



|      |              |              | Number per motor         |                     |                                      |                         |                         |
|------|--------------|--------------|--------------------------|---------------------|--------------------------------------|-------------------------|-------------------------|
|      |              |              | Cod e no.                | Ser ie 6*           | Series 5 with separate spigot flange |                         |                         |
| Item | Spare Part   | Dimensions   | OMR<br>R<br>Flange<br>A2 | OMR<br>Flange<br>A2 | OMR<br>R<br>Flange<br>A4<br>A2       | OMR<br>R<br>Flange<br>C | OMR<br>R<br>Flange<br>C |
| 1    | Cardan shaft |              |                          |                     |                                      |                         |                         |
| 4    | OMR 50       | L = 96.6 mm  | 151-1812                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 50       | L = 79.7 mm  | 11046200                 | 1                   | 1                                    |                         |                         |
|      | OMR 80       | L = 101.0 mm | 151-1813                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 80       | L = 84.4 mm  | 11046261                 | 1                   | 1                                    |                         |                         |
|      | OMR 100      | L = 104.5 mm | 151-1814                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 100      | L = 87.8 mm  | 11077943                 | 1                   | 1                                    |                         |                         |
|      | OMR 125      | L = 109.0 mm | 11087573                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 125      | L = 92.2 mm  | 151-2655                 | 1                   | 1                                    |                         |                         |
|      | OMR 160      | L = 115.0 mm | 11087574                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 160      | L = 98.3 mm  | 151-2656                 | 1                   | 1                                    |                         |                         |
|      | OMR 200      | L = 122.0 mm | 151-1817                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 200      | L = 105.3 mm | 11046282                 | 1                   | 1                                    |                         |                         |
|      | OMR 250      | L = 131.0 mm | 151-1818                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 250      | L = 114.0 mm | 151-2658                 | 1                   | 1                                    |                         |                         |
|      | OMR 315      | L = 142.0 mm | 151-1819                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 315      | L = 125.4 mm | 151-2659                 | 1                   | 1                                    |                         |                         |
|      | OMR 375      | L = 152.5 mm | 151-1820                 | 1                   |                                      | 1                       | 1                       |
|      | OMR 375      | L = 135.6 mm | 151-2660                 | 1                   | 1                                    |                         |                         |

|              |                            |                     | Number per motor                |                             |   |                                 |                                |               |  |
|--------------|----------------------------|---------------------|---------------------------------|-----------------------------|---|---------------------------------|--------------------------------|---------------|--|
|              |                            |                     | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange |                                 |                                |               |  |
| It<br>e<br>m | Spare Part                 | Dimensions          | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A2    | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |  |
| 1<br>6       | O-ring                     | 90 • 2.0 mm,<br>NBR | 633<br>B13<br>01                | 3                           | 3                                       | 3                               | 3                              | 3             |  |
| 1<br>7       | Distributor<br>plate       |                     | 151-<br>1702                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
| 1<br>8       | Gear wheel set             |                     |                                 |                             |   |                                 |                                |               |  |
|              | OMR 50                     | W = 9.0 mm          | 151-<br>1182                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 80                     | W = 14.0 mm         | 151-<br>1138                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 100                    | W = 17.4 mm         | 151-<br>1139                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 125                    | W = 21.8 mm         | 151-<br>1140                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 160                    | W = 27.4 mm         | 151-<br>1141                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 200                    | W = 34.8            | 151-<br>1189                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
| 1<br>8       | Gear wheel set             |                     |                                 |                             |   |                                 |                                |               |  |
|              | OMR 250                    | W = 43.5 mm         | 151-<br>1190                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 315                    | W = 54.8 mm         | 151-<br>1191                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
|              | OMR 375                    | W = 65.0 mm         | 151-<br>1192                    | 1                           | 1                                       | 1                               | 1                              | 1             |  |
| 1<br>9       | End cover                  |                     |                                 |                             |   |                                 |                                |               |  |
|              | Side port<br>without drain |                     | 151-<br>5568                    | 1                           |   |                                 |                                |               |  |
|              | Side port motor            |                     | 151-<br>1659                    |                             | 1                                       | 1                               | 1                              | 1             |  |
|              | End port motor             |                     | 151-<br>1833                    |                             | 1                                       |                                 | 1                              |               |  |

|      |                 |                        | Number per motor                |                             |   |                                 |                                |               |  |
|------|-----------------|------------------------|---------------------------------|-----------------------------|---|---------------------------------|--------------------------------|---------------|--|
|      |                 |                        | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange |                                 |                                |               |  |
| Item | Spare Part      | Dimensions             | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A2    | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |  |
| 20   | Washer          |                        |                                 |                             |   |                                 |                                |               |  |
|      | Side port motor | 15.2 • 8.2 •<br>1.0 mm | 684<br>X01<br>15                | 7                           | 7                                       | 7                               | 7                              | 7             |  |
|      | End port motor  |                        |                                 | 5                           |   |                                 |                                | 5             |  |

|      |                       |            | Number per motor |               |                                      |               |              |          |
|------|-----------------------|------------|------------------|---------------|--------------------------------------|---------------|--------------|----------|
|      |                       |            | Cod e no.        | Ser ie 6*     | Series 5 with separate spigot flange |               |              |          |
| Item | Spare Part            | Dimensions | OMR Flange A2    | OMR Flange A2 | OMR Flange A2                        | OMR Flange A4 | OMR Flange C | OMR RW N |
| 21   | Screw Side port motor | M8 • 1.25  |                  |               |                                      |               |              |          |
|      | OMR 50                | l = 40 mm  | 681 X0180        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 80                | l = 45 mm  | 681 X0181        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 100               | l = 45 mm  | 681 X0181        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 125               | l = 50 mm  | 681 X0182        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 160               | l = 55 mm  | 681 X0183        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 160               | l = 60 mm  | 681 X0184        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 200               | l = 65 mm  | 681 X0185        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 250               | l = 70 mm  | 681 X0187        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 315               | l = 85 mm  | 681 X0189        | 7             | 7                                    | 7             | 7            | 7        |
|      | OMR 375               | l = 95 mm  | 681 X0190        | 7             | 7                                    | 7             | 7            | 7        |
|      | Screw End port motor  | M8 • 1.25  |                  |               |                                      |               |              |          |
|      | OMR 50                | l = 40 mm  | 681 X0181        |               | 5                                    |               |              | 5        |
|      | OMR 80                | l = 50 mm  | 681 X0182        |               | 5                                    |               |              | 5        |

|      |   |                         | Number per motor            |                             |  |                                 |                                |               |
|------|---|-------------------------|-----------------------------|-----------------------------|--|---------------------------------|--------------------------------|---------------|
|      |   |                         | Cod<br>e no.                | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange    |                                 |                                |               |
| Item | Spare Part  | Dimensions              | OM<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A4<br>A2 | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 2    | Name plate  |                         |                             |                             |  |                                 |                                |               |
| 2    | Side port motor   |                         |                             |                             | 1  | 1                               | 1                              | 1             |
|      | End port motor  |                         |                             |                             | 1  |                                 | 1                              |               |
| 2    | Washer  | 17.5 • 13.5 •<br>1.5 mm | 684<br>X21<br>20            |                             | 1  | 1                               | 1                              | 1             |
| 2    | Drain plug  |                         | 151-<br>1524                |                             | 1  | 1                               | 1                              | 1             |
| 2    | Check valve<br>incl. item 27  |                         | 151-<br>1076                |                             | 2  | 2                               | 2                              | 2             |
|      |   |                         | 151-<br>1995                |                             |  |                                 |                                | 2             |
| 2    | O-ring  | 5.0 • 1.5 mm,<br>NBR    | 633<br>B13<br>24            |                             | 4  | 4                               | 4                              | 4             |
| 2    | Plug  |                         |                             |                             |  |                                 |                                |               |
| 8    | Side port<br>motor-plastic<br>plug  |                         | 633<br>X00<br>74            |                             | 2  |                                 |                                |               |
|      | End port motor-<br>steel plug   |                         | 631<br>X97<br>06            | 2                           | 2  | 2                               | 2                              | 2             |
|      | End port motor-<br>plastic plug   |                         | 633<br>X00<br>74            |                             | 2  |                                 | 2                              |               |
|      | Spare parts bag<br>for motors with<br>HPS and Ø25<br>mm, Ø1", 1"<br>spl.shaft (Series<br>6) |                         | 151-<br>1286                | 1                           |  |                                 |                                |               |



|      |  |                 | Number per motor                |                             |  |                                 |                                |               |
|------|--|-----------------|---------------------------------|-----------------------------|--|---------------------------------|--------------------------------|---------------|
|      |  |                 | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange    |                                 |                                |               |
| Item | Spare Part   | Dimensions      | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A4<br>A2 | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 3    | 1 pcs. Dust seal   | 35 • 27.5 • 2.2 | 633                             |                             |  |                                 |                                |               |
| 5    | 1 pcs. shaft seal  | mm NBR          | B03                             |                             |  |                                 |                                |               |
| 1    | (series 5/6)   | 39 • 28.6 • 4.9 | 70                              |                             |  |                                 |                                |               |
| 6    | 3 pcs. O-ring  | mm HSN          | 633                             |                             |  |                                 |                                |               |
| 1    | 3 pcs. O-ring  | 75.9 • 1.8 mm   | B03                             |                             |  |                                 |                                |               |
| 6    |  | NBR             | 61                              |                             |  |                                 |                                |               |
| 2    | 7 pcs. Washer  | 90 • 2.0 mm     | 633                             |                             |  |                                 |                                |               |
| 0    | 1 pcs. Washer  | NBR             | B11                             |                             |  |                                 |                                |               |
| 2    |  | 11.9 • 8.2 • 1  | 633                             |                             |  |                                 |                                |               |
| 4    |  | mm              | B13                             |                             |  |                                 |                                |               |
|      |  | 17.5 • 13.5 •   | 01                              |                             |  |                                 |                                |               |
|      |  | 1.5 mm          | 684                             |                             |  |                                 |                                |               |
|      |  |                 | X01                             |                             |  |                                 |                                |               |
|      |  |                 | 15                              |                             |  |                                 |                                |               |
|      |  |                 | 684                             |                             |  |                                 |                                |               |
|      |  |                 | X21                             |                             |  |                                 |                                |               |
|      |  |                 | 20                              |                             |  |                                 |                                |               |
|      | Spare parts bag<br>for motors with<br>standard shaft<br>seal and Ø25<br>mm, Ø1", 1"<br>spl.shaft (Series<br>5) |                 | 151-<br>1277                    | 1                           | 1**  | 1                               | 1                              | 1             |

|      |   |                 | Number per motor                |                             |  |                                 |                                |               |
|------|---|-----------------|---------------------------------|-----------------------------|--|---------------------------------|--------------------------------|---------------|
|      |   |                 | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange    |                                 |                                |               |
| Item | Spare Part  | Dimensions      | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A4<br>A2 | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 3    | 1 pcs. Dust seal  | 35 • 28.5 • 4.0 | 151-                            |                             |  |                                 |                                |               |
| 5    | 1 pcs. Shaft seal   | mm NBR          | 1313                            |                             |  |                                 |                                |               |
| 6    | (series 5)  | 42 • 28.6 • 5.5 | 633                             |                             |  |                                 |                                |               |
| 6    | 1 pcs. O-ring   | mm HSN          | B33                             |                             |  |                                 |                                |               |
| 6    | 1 pcs. O-ring   | 47.2 • 3.5 mm   | 85                              |                             |  |                                 |                                |               |
| 1    | 1 pcs. O-ring   | NBR             | 633                             |                             |  |                                 |                                |               |
| 6    | 3 pcs. O-ring   | 90 • 2.0 mm     | B11                             |                             |  |                                 |                                |               |
| 2    | 7 pcs. Washer   | NBR             | 91                              |                             |  |                                 |                                |               |
| 0    | 1 pcs. Washer   | 48 • 2.0 mm     | 633                             |                             |  |                                 |                                |               |
| 2    |   | NBR             | B13                             |                             |  |                                 |                                |               |
| 4    |   |                 | 33                              |                             |  |                                 |                                |               |
|      |   | 11.9 • 8.2 • 1  | 633                             |                             |  |                                 |                                |               |
|      |   | mm              | B03                             |                             |  |                                 |                                |               |
|      |   | 17.5 • 13.5 •   | 01                              |                             |  |                                 |                                |               |
|      |   | 1.5 mm          | 684                             |                             |  |                                 |                                |               |
|      |   |                 | X01                             |                             |  |                                 |                                |               |
|      |   |                 | 15                              |                             |  |                                 |                                |               |
|      |   |                 | 684                             |                             |  |                                 |                                |               |
|      |   |                 | X21                             |                             |  |                                 |                                |               |
|      |   |                 | 20                              |                             |  |                                 |                                |               |
|      | Spare parts bag<br>for motors Ø32<br>and 35 mm<br>tapered shaft<br>(Series 5) |                 | 151-<br>1166                    | 1                           |  | 1                               |                                | 1             |

|      |                   |                          | Number per motor                |                             |  |                                 |                                |               |
|------|-------------------|--------------------------|---------------------------------|-----------------------------|--|---------------------------------|--------------------------------|---------------|
|      |                   |                          | Cod<br>e no.                    | Ser<br>ie<br>6*             | Series 5 with separate<br>spigot flange    |                                 |                                |               |
| Item | Spare Part        | Dimensions               | O<br>M<br>R<br>Fla<br>nge<br>A2 | O<br>MR<br>Fla<br>nge<br>A2 | O<br>M<br>R<br>C<br>Fla<br>nge<br>A4<br>A2 | O<br>M<br>R<br>Fla<br>nge<br>A4 | O<br>M<br>R<br>Fla<br>nge<br>C | OM<br>RW<br>N |
| 2    | 6 pcs. Washer     | 9.0 • 6.1 • 0.5<br>mm    | 684                             |                             |  |                                 |                                |               |
| 3    | 1 pcs. Dust seal  | 42 • 35 • 3.5<br>mm NBR  | X20                             |                             |  |                                 |                                |               |
| 5    | 1 pcs. Shaft seal | 42 • 35 • 3.5<br>mm NBR  | 633                             |                             |  |                                 |                                |               |
| 6    | 1 pcs. O-ring     | 48 • 3.5 • 5.5<br>mm NBR | B31                             |                             |  |                                 |                                |               |
| 6    | 1 pcs. O-ring     | 53 • 2.0 mm<br>NBR       | 98                              |                             |  |                                 |                                |               |
| 1    | 3 pcs. O-ring     | 53 • 2.0 mm<br>NBR       | 633                             |                             |  |                                 |                                |               |
| 6    | 7 pcs. Washer     | 74 • 2.0 mm<br>NBR       | B32                             |                             |  |                                 |                                |               |
| 2    | 1 pcs. Washer     | 74 • 2.0 mm<br>NBR       | 73                              |                             |  |                                 |                                |               |
| 2    |                   | 90 • 2.0 mm<br>NBR       | 633                             |                             |  |                                 |                                |               |
| 4    |                   | 11.9 • 8.2 • 1<br>mm     | 28                              |                             |  |                                 |                                |               |
|      |                   | 17.5 • 13.5 •<br>1.5 mm  | 633                             |                             |  |                                 |                                |               |
|      |                   |                          | B13                             |                             |  |                                 |                                |               |
|      |                   |                          | 01                              |                             |  |                                 |                                |               |
|      |                   |                          | 684                             |                             |  |                                 |                                |               |
|      |                   |                          | X01                             |                             |  |                                 |                                |               |
|      |                   |                          | 15                              |                             |  |                                 |                                |               |
|      |                   |                          | 684                             |                             |  |                                 |                                |               |
|      |                   |                          | X21                             |                             |  |                                 |                                |               |
|      |                   |                          | 20                              |                             |  |                                 |                                |               |

NBR: (Buna N, Perbunan)

FPM Viton (ISO 1629)

HPS: High-pressure shaft seal

\*Series 6 with integrated spigot flange

\*\*Excl.dust seal ring 633B0010

## Tightening torque

| Item | Code number | Torque N•m | Torque lbf•in |
|------|-------------|------------|---------------|
| 1    | 681X1989    | 5 - 8      | 45 - 70       |
|      | 681X0247    | 5 - 8      | 45 - 70       |
|      | 681X1961    | 5 - 10     | 45 - 90       |
|      | 681X1454    | 12 - 15    | 110 - 130     |
| 10   | 681X8202    | 90 - 110   | 800 - 975     |
|      | 681X8232    | 190 - 210  | 1680 - 1860   |
| 21   | -           | 30 - 35    | 270 - 315     |
| 25   | -           | 38 - 44    | 340 - 390     |
| 28   | 631X9706    | 20 - 23    | 175 - 200     |

NBR: (BUNA N, PERBUNAN).

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# Chapter

# 7

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## Special tools

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### Topics:

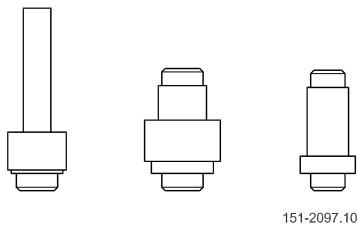
- [Special tools](#)
-

## Special tools

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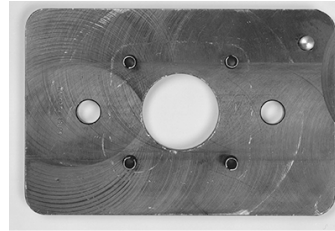
**Figure 1: Main holding tool (horse hole):**  
Code No.: SJ 151-9000-1.



151-2097.10

**Figure 3: Mandrel: Code No.: SJ 151-0414**

Mandrel: Code No.: SJ 151-9000-7 or SJ 151F9000-7



F300 131

**Figure 2: SJ 151-9000-12.**



F300 129

Holding tool for motor with square mounting flange:  
Code No.: SJ 151-9000-12.

Holding tool for OMRW N: Code No.: SJ 151-9000-14.

**Figure 4: SJ 151-9000-14.**

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# Chapter

# 8

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## Dismantling / Cleaning

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**Topics:**

- *Dismantling*
  - *Cleaning*
-

## Dismantling

| Item   | Part to remove                     | Comments   |
|--------|------------------------------------|--|
| 10     | Castellated nut                    |  |
| 11     | Washer                             |  |
| 12     | Parallel key                       |  |
| 28     | Seal plugs                         | Put the motor in a holding tool, with the output shaft downward.<br>For end port version use 10 mm hexagon socket spanner.   |
| 25, 24 | Drain plug, washer<br>(if present) | Use a 17 mm spanner socket.  |
| 21, 20 | Screws, washers                    | Use a 13 mm spanner socket.  |
| 19     | End cover                          | Remove end cover sideways.   |
| 18, 16 | Gear wheel set O-rings (2<br>off)  | Keep fingers under the gearwheel set to prevent the parts from falling out.  |
| 14     | Cardan shaft                       |  |
| 17, 16 | Distributor plate O-ring           |  |
| Item   | Part to remove                     | Comments   |
| 13     | Output shaft                       | <i>Motors with integrated spigot flange:</i><br><br>Place the motor housing on the work bench and press the shaft out of the motor housing.<br><br>Shaft and bearings should normally not be removed from OMRW N.<br><br>However, if necessary for inspection and cleaning, remove the shaft from the housing front end. The rear bearing can thus remain in the housing.<br><br>After this, turn the motor. |
| 1      | Screws (6 off)                     | Use Torx-spanner type T30, 9 mm screwdriver or 4 mm hexagon socket spanner.  |
| 2      | Washer                             | Only OMRW N  |
| 4      | Spigot flange                      |  |
| 6, 7   | O-ring,<br>bearing race            | <i>Motors with integrated spigot flange:</i><br><br>Remove bearing and bearing race from the motor housing.<br><br><i>Motors with separate spigot flange:</i><br><br>Use a 2 mm screwdriver  |
| 8      | Needle bearing                     |  |



| Item | Part to remove       | Comments  |
|------|----------------------|---|
| 5    | Shaft seal           | <i>Motors with integrated spigot flange:</i>  |
| 3    | Dust seal            | With mandrel and plastic hammer, carefully knock out the shaft seal.<br><br><i>Motors with separate spigot flange:</i><br>Knock out the shaft seal / dust seal with a plastic hammer.<br>Use mandrel SJ 151-9000-7 or SJ 151F9000-7 |
| 9    | Bearing race         | Only OMR/OMRW N with ø32 mm/28.5 mm tapered shaft.<br>Use a 2 mm screwdriver.   |
| 26   | Check valves (2 off) | Only OMR with check valves.<br><br>Pull the check valve out with, for example, a ground (shortened) 3.5 mm screw tap.   |

## Cleaning

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### *Cleaning*

Clean all parts carefully with low aromatic kerosine.

### *Inspection and replacement*

Check all parts carefully and replace if necessary.

### *Lubrication*

Before assembly, lubricate all parts with hydraulic oil and grease rubber parts with vaseline.



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# Chapter 9

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## Assembly

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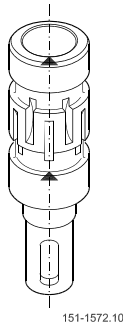
Topics:

- [Assembly](#)

## Assembly

| Item | Part to install        | Comments   |
|------|------------------------|--|
|      |                        | Place the motor housing in the holding tool with the flange upwards.   |
| 26   | Check valves (2 off)   | <i>Only OMR with check valves</i><br>Grease the check valves (fitted with new O-rings) and fit them in their bores with light blows using plastic hammer.  |
| 9    | Bearing race           | Only OMR/OMRW N with $\varnothing 32$ mm / 28.5 mm tapered shaft.  |
| 5    | Shaft seal             | <i>Motors with integrated spigot flange:</i><br>Lubricate the shaft seal on the outside with hydraulic oil. Fit the shaft seal correctly onto mandrel SJ 151-0414 and carefully press the shaft seal into position in the motor housing.<br><br><i>Motors with separate spigot flange:</i><br>Knock the seal into position in the spigot flange. Check that the seal lies against the cover recess. Use mandrel SJ 151-9000-7 or SJ 151F9000-7 |
| 3    | Dust seal ring         | Place the dust seal ring in the spigot flange and knock it into position with a plastic hammer and appropriate mandrel.<br>SJ 151-9000-7 or SJ 151F9000-7  |
| 7, 6 | Bearing race<br>O-ring | <i>Motors with integrated spigot flange:</i><br>Fit bearing and bearing race onto the shaft and mount together with the shaft.<br><br><i>Motors with separate spigot flange:</i><br>Grease the O-ring with vaseline and fit the bearing race and O-ring into the spigot flange.  |
| 8    | Needle bearing         |  |
| 4    | Spigot flange          | Turn so that the holes line up.  |
| 2    | Washer                 | Only OMRW N  |
| 1    | Screws (6 off)         | <i>Tightening torque</i><br>Torx screws M6: 5-8 Nm [45-70 lbf•in]<br>Slotted screws M6: 5-8 Nm [45-70 lbf•in]<br>Hexagon socket screws M5: 5-10 Nm [45-70 lbf•in]<br>Hexagon socket screws M5: 12-15 Nm [45-70 lbf•in]<br>After this, turn the motor.  |

13



**Figure 5: Output shaft**

*Grease the journals with hydraulic oil.*

The rear shaft end must be marked before fitted. The mark must be positioned vertically above a commutation slot leading up to the front annular channel.

For OMRW N, guide the shaft into the motor housing back with the rear needle bearing fitted on the shaft. Bring the shaft in line with the back of the motor by gently tapping the shaft with a plastic hammer. Check that the shaft rotates easily

16

O-ring

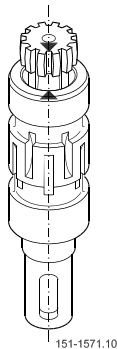
Grease the O-ring and put it in the O-ring groove of the housing.

17

Distributor plate

Turn the distributor plate so that the holes line up.

14



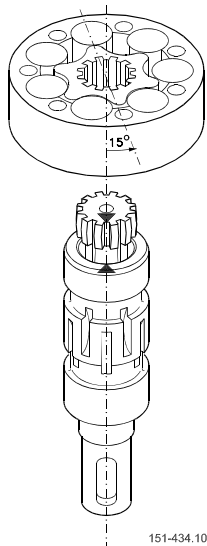
**Figure 6: Cardan shaft**

Guide the cardan shaft down into the motor housing.

In case of different splines lengths turn the cardan shaft to ensure the long splines end is fitted in the output shaft.

Transfer marking from output shaft to cardan shaft.

18, 16



**Figure 7: Gearwheel set**

Place the O-rings (greased) in the O-ring grooves of the gearwheel.

In gearwheels with non through splines place the gearwheel with the recess in the spline hole facing down towards the housing.

Place the gearwheel set on the cardan shaft so that the top of a tooth in the external teeth of the gearwheel is vertically above the mark on the cardan shaft.

Turn the gearwheel set counter clockwise until the cardan shaft and the gearwheel start to mesh ( $15^\circ$ ). Turn the gearwheel rim so that the holes made for the screws line up.

|        |   |  |
|--------|---|--|
| 19     | End cover                                   | Turn the end cover so that the holes line up.  |
| 20, 21 | Washer, screws                              | Use a 17 mm spanner socket<br>Tightening torque: 30 - 35 N•m [265-310 lbf•in].   |
| 24, 25 | Washer, drain plug                          | Use a 17 mm spanner socket.<br>Tightening torque: 30 - 60 N•m [270-315 lbf•in].  |
| 28     | Seal plugs<br>Threaded plug<br>(if present) | End port version:<br>Screw plastic plugs into end ports.<br>Screw in the side port plugs using 10 mm hexagon socket spanner.<br>Tightening torque: 50 - 70 Nm [445-620 lbf•in].<br>Side port version:<br>Screw in plastic plugs. |
| 12     | Parallel key                                | To be secured with tape or plastic ring  |
| 11     | Washer                                      |  |
| 10     | Castellated nut                             |  |