Orbital Motors
TMT, TMTU, TMTW, TMT FL and TMTW FL

powersolutions.danfoss.com
**Revision history**

<table>
<thead>
<tr>
<th>Date</th>
<th>Changed</th>
<th>Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2016</td>
<td>Engineering Tomorrow</td>
<td>0402</td>
</tr>
<tr>
<td>November 2014</td>
<td>Converted to Danfoss layout - DITA CMS</td>
<td>DA</td>
</tr>
<tr>
<td>July 2008</td>
<td></td>
<td>CA</td>
</tr>
<tr>
<td>January 2004</td>
<td></td>
<td>BA</td>
</tr>
</tbody>
</table>
Contents

A wide range of Orbital Motors
Characteristic, features and application areas of Orbital Motors................................................................. 4
Characteristic features of Danfoss Orbital Motors.................................................................................................. 4
Technical features of Danfoss Orbital Motor.......................................................................................................... 4
Survey of literature with technical data on Danfoss Orbital Motors................................................................. 5

Data survey
Speed and torque......................................................................................................................................................... 6

Versions
Versions and code numbers........................................................................................................................................ 7
Features available (options)....................................................................................................................................... 8
Code numbers............................................................................................................................................................ 9

Technical data
Technical data for TMT, TMTU, TMTW and TMT FL.............................................................................................. 10
Technical data for brake motor TMT FL and TMTW FL.......................................................................................... 11
Maximal permissible shaft seal pressure.............................................................................................................. 11
Pressure drop in motor............................................................................................................................................. 12
Oil flow in drain line.................................................................................................................................................. 12
Direction of shaft rotation....................................................................................................................................... 13
Permissible radial shaft load..................................................................................................................................... 13
Permissible shaft load for TMT and TMT FL.......................................................................................................... 14
Permissible radial shaft load for TMTW............................................................................................................... 15
Permissible radial shaft load for TMTW FL........................................................................................................... 16

Function diagrams
Function diagrams...................................................................................................................................................... 17

Shaft version
TMT shaft, European versions.................................................................................................................................. 20
TMT shaft, US versions........................................................................................................................................... 21

Technical data
Port thread versions.................................................................................................................................................. 23

Dimensions – attached component
Dimensions of the attached component for TMTU (bearing less)........................................................................... 24
Internal spline data for the component to be attached...................................................................................... 24

Dimensions
Drain connection on TMTU or attached component............................................................................................ 26
Blank shaft............................................................................................................................................................... 26
TMT dimensions.................................................................................................................................................... 27
TMTU dimensions................................................................................................................................................ 32
TMT FL dimensions............................................................................................................................................. 35
TMTW dimensions.............................................................................................................................................. 42
TMTW FL dimensions........................................................................................................................................ 45

Weight of motors
Weight of TMT, TMTU, TMTW, TMT FL and TMTW FL orbital motors............................................................... 47
Danfoss is a world leader within production of low speed orbital motors with high torque. We can offer more than 3,000 different orbital motors, categorised in types, variants and sizes (including different shaft versions).

The motors vary in size (rated displacement) from 8 cm³ [0.50 in³] to 800 cm³ [48.9 in³] per revolution. Speeds range up to approximate 2,500 min⁻¹ (rpm) for the smallest type and up to approximate 600 min⁻¹ (rpm) for the largest type.

Maximum operating torques vary from 13 N•m [115 lbf•in] to 2,700 N•m [24,000 lbf•in] (peak) and maximum outputs are from 2.0 kW [2.7 hp] to 70 kW [95 hp].

Characteristic features of Danfoss Orbital Motors

- Smooth running over the entire speed range
- Constant operating torque over a wide speed range
- High starting torque
- High return pressure without the use of drain line (High pressure shaft seal)
- High efficiency
- Long life under extreme operating conditions
- Robust and compact design
- High radial and axial bearing capacity
- For applications in both open and closed loop hydraulic systems
- Suitable for a wide variety of hydraulics fluids

Technical features of Danfoss Orbital Motor

The programme is characterised by technical features appealing to a large number of applications and a part of the programme is characterised by motors that can be adapted to a given application. Adaptions comprise the following variants among others:

- Motors with corrosion resistant parts
A wide range of Orbital Motors

- Wheel motors with recessed mounting flange
- OMP, OMR motors with needle bearing
- OMR motor in low leakage version
- OMR motors in a super low leakage version
- Short motors without bearings
- Ultra short motors
- Motors with integrated positive holding brake
- Motors with integrated negative holding brake
- Motors with integrated flushing valve
- Motors with speed sensor
- Motors with tacho connection
- All motors are available with black finish paint

Survey of literature with technical data on Danfoss Orbital Motors

Detailed data on all Danfoss Orbital Motors can be found in our motor catalogue, which is divided into more individual subcatalogues:

- General information on Danfoss Orbital Motors: function, use, selection of orbital motor, hydraulic systems, etc.
- Technical data on small motors: OML and OMM
- Technical data on medium sized motors: OMP, OMR, OMH
- Technical data on medium sized motors: DH and DS
- Technical data on medium sized motors: OMEW
- Technical data on medium sized motors: VMP
- Technical data on medium sized motors: VMR
- Technical data on large motors: OMS, OMT and OMV
- Technical data on large motors: TMK
- Technical data on large motors: TMT
- Technical data on large motors: TMTHW
- Technical data on large motors: TMVW

A general survey brochure on Danfoss Orbital Motors gives a quick motor reference based on power, torque, speed and capabilities.
Speed and torque

The bar diagrams above are useful for a quick selection of relevant motor size for the application. The final motor size can be determined by using the function diagram for each motor size.

- TMT can be found in Function diagrams on page 17

The function diagrams are based on actual tests on a representative number of motors from our production. The diagrams apply to a return pressure between 5 and 10 bar [75 and 150 psi] when using mineral based hydraulic oil with a viscosity of 35 mm²/s [165 SUS] and a temperature of 50°C [120°F]. For further explanation concerning how to read and use the function diagrams, please consult the paragraph “Selection of motor size” in the Technical Information General - 520L0232.
## Versions

### Versions and code numbers

#### TMT versions

<table>
<thead>
<tr>
<th>Mounting flange</th>
<th>4-Bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spigot diameter</td>
<td>Ø 160 mm</td>
</tr>
<tr>
<td>Bolt circle diameter (BC)</td>
<td>Ø 200 mm</td>
</tr>
<tr>
<td>Shaft</td>
<td>Cyl 40 mm</td>
</tr>
<tr>
<td>Port size</td>
<td>G 3/4</td>
</tr>
<tr>
<td>European version</td>
<td>Yes</td>
</tr>
<tr>
<td>US version</td>
<td>Yes</td>
</tr>
<tr>
<td>Side port version</td>
<td>Yes</td>
</tr>
<tr>
<td>Standard shaft seal</td>
<td>Yes</td>
</tr>
<tr>
<td>Drain connection</td>
<td>Yes</td>
</tr>
<tr>
<td>Check valve</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMT 250</td>
</tr>
<tr>
<td>TMT 315</td>
</tr>
<tr>
<td>TMT 400</td>
</tr>
<tr>
<td>TMT 470</td>
</tr>
<tr>
<td>TMT 500</td>
</tr>
<tr>
<td>TMT 630</td>
</tr>
</tbody>
</table>

#### TMT U versions

<table>
<thead>
<tr>
<th>Mounting flange</th>
<th>4-Bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spigot diameter</td>
<td>-</td>
</tr>
<tr>
<td>Bolt circle diameter (BC)</td>
<td>-</td>
</tr>
<tr>
<td>Shaft</td>
<td>-</td>
</tr>
<tr>
<td>Port size</td>
<td>G 3/4</td>
</tr>
<tr>
<td>European version</td>
<td>Yes</td>
</tr>
<tr>
<td>US version</td>
<td>Yes</td>
</tr>
<tr>
<td>Side port version</td>
<td>Yes</td>
</tr>
<tr>
<td>Standard shaft seal</td>
<td>Yes</td>
</tr>
<tr>
<td>Drain connection</td>
<td>Yes</td>
</tr>
<tr>
<td>Check valve</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMT U 250</td>
</tr>
<tr>
<td>TMT U 315</td>
</tr>
<tr>
<td>TMT U 400</td>
</tr>
<tr>
<td>TMT U 470</td>
</tr>
<tr>
<td>TMT U 500</td>
</tr>
<tr>
<td>TMT U 630</td>
</tr>
</tbody>
</table>
### Versions

**TMT FL versions**

<table>
<thead>
<tr>
<th>Mounting flange</th>
<th>4-Bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spigot diameter</td>
<td>Ø 125 mm</td>
</tr>
<tr>
<td>Bolt circle diameter (BC)</td>
<td>Ø 160 mm</td>
</tr>
<tr>
<td>Shaft</td>
<td>Splined 1.5 in</td>
</tr>
<tr>
<td>Port size</td>
<td>G 3/4</td>
</tr>
<tr>
<td>European version</td>
<td>●</td>
</tr>
<tr>
<td>US version</td>
<td></td>
</tr>
<tr>
<td>Side port version</td>
<td>●</td>
</tr>
<tr>
<td>Standard shaft seal</td>
<td>●</td>
</tr>
<tr>
<td>Drain connection</td>
<td>Yes</td>
</tr>
<tr>
<td>Check valve</td>
<td>No</td>
</tr>
</tbody>
</table>

**Code numbers**

| TMT FL 250 | 151Z3040 151Z3050 151Z3090 151Z3110 151Z3120 151Z3130 |
| TMT FL 315 | 151Z3041 151Z3051 151Z3091 151Z3111 151Z3121 151Z3131 |
| TMT FL 400 | 151Z3042 151Z3052 151Z3092 151Z3112 151Z3122 151Z3132 |
| TMT FL 470 | 151Z3043 151Z3053 151Z3093 151Z3113 151Z3123 151Z3133 |
| TMT FL 500 | 151Z3044 151Z3054 151Z3094 151Z3114 151Z3124 151Z3134 |
| TMT FL 630 | 151Z3045 151Z3055 151Z3095 151Z3115 151Z3125 151Z3135 |

**TMTW / TMTW FL versions**

<table>
<thead>
<tr>
<th>Mounting flange</th>
<th>Wheel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spigot diameter</td>
<td>Ø 180 mm</td>
</tr>
<tr>
<td>Bolt circle diameter (BC)</td>
<td>Ø 210 mm</td>
</tr>
<tr>
<td>Shaft</td>
<td>Thread hole fl.</td>
</tr>
<tr>
<td>Port size</td>
<td>G 3/4</td>
</tr>
<tr>
<td>European version</td>
<td>●</td>
</tr>
<tr>
<td>US version</td>
<td></td>
</tr>
<tr>
<td>Side port version</td>
<td>●</td>
</tr>
<tr>
<td>Standard shaft seal</td>
<td>●</td>
</tr>
<tr>
<td>Drain connection</td>
<td>Yes</td>
</tr>
<tr>
<td>Check valve</td>
<td>No</td>
</tr>
</tbody>
</table>

**Code numbers**

| 250 | 151Z3229 151Z3273 - |
| 315 | 151Z3230 151Z3274 - |
| 400 | 151Z3231 151Z3275 - |
| 470 | 151Z3232 151Z3276 - |
| 500 | 151Z3233 151Z3277 11033926 |
| 630 | 151Z3234 151Z3278 11033927 |

**Features available (options)**

- Flushing valve with different flushing flow
- Brake with higher holding torque capacity
**Technical Information**

**TMT, TMTU, TMTW, TMT FL and TMTW FL Orbital Motors**

**Versions**

- Painted

**Code numbers**

<table>
<thead>
<tr>
<th>Displacement [cm³]</th>
<th>250</th>
<th>315</th>
<th>400</th>
<th>470</th>
<th>500</th>
<th>630</th>
</tr>
</thead>
<tbody>
<tr>
<td>151Z3010</td>
<td>151Z3011</td>
<td>151Z3012</td>
<td>151Z3013</td>
<td>151Z3014</td>
<td>151Z3015</td>
<td></td>
</tr>
<tr>
<td>151Z3016</td>
<td>151Z3017</td>
<td>151Z3018</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>151Z3060</td>
<td>151Z3061</td>
<td>151Z3062</td>
<td>151Z3063</td>
<td>151Z3064</td>
<td>151Z3065</td>
<td></td>
</tr>
<tr>
<td>151Z3020</td>
<td>151Z3021</td>
<td>151Z3022</td>
<td>151Z3023</td>
<td>151Z3024</td>
<td>151Z3025</td>
<td></td>
</tr>
<tr>
<td>151Z3026</td>
<td>151Z3027</td>
<td>151Z3028</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>151Z3070</td>
<td>151Z3071</td>
<td>151Z3072</td>
<td>151Z3073</td>
<td>151Z3074</td>
<td>151Z3075</td>
<td></td>
</tr>
<tr>
<td>151Z3030</td>
<td>151Z3031</td>
<td>151Z3032</td>
<td>151Z3033</td>
<td>151Z3034</td>
<td>151Z3035</td>
<td></td>
</tr>
<tr>
<td>151Z3036</td>
<td>151Z3037</td>
<td>151Z3038</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>151Z3080</td>
<td>151Z3081</td>
<td>151Z3082</td>
<td>151Z3083</td>
<td>151Z3084</td>
<td>151Z3085</td>
<td></td>
</tr>
<tr>
<td>151Z3000</td>
<td>151Z3001</td>
<td>151Z3002</td>
<td>151Z3003</td>
<td>151Z3004</td>
<td>151Z3005</td>
<td></td>
</tr>
<tr>
<td>151Z3100</td>
<td>151Z3101</td>
<td>151Z3102</td>
<td>151Z3103</td>
<td>151Z3104</td>
<td>151Z3105</td>
<td></td>
</tr>
<tr>
<td>151Z3040</td>
<td>151Z3041</td>
<td>151Z3042</td>
<td>151Z3043</td>
<td>151Z3044</td>
<td>151Z3045</td>
<td></td>
</tr>
<tr>
<td>151Z3050</td>
<td>151Z3051</td>
<td>151Z3052</td>
<td>151Z3053</td>
<td>151Z3054</td>
<td>151Z3055</td>
<td></td>
</tr>
<tr>
<td>151Z3090</td>
<td>151Z3091</td>
<td>151Z3092</td>
<td>151Z3093</td>
<td>151Z3094</td>
<td>151Z3095</td>
<td></td>
</tr>
<tr>
<td>151Z3110</td>
<td>151Z3111</td>
<td>151Z3112</td>
<td>151Z3113</td>
<td>151Z3114</td>
<td>151Z3115</td>
<td></td>
</tr>
<tr>
<td>151Z3120</td>
<td>151Z3121</td>
<td>151Z3122</td>
<td>151Z3123</td>
<td>151Z3124</td>
<td>151Z3125</td>
<td></td>
</tr>
<tr>
<td>151Z3130</td>
<td>151Z3131</td>
<td>151Z3132</td>
<td>151Z3133</td>
<td>151Z3134</td>
<td>151Z3135</td>
<td></td>
</tr>
<tr>
<td>151Z3229</td>
<td>151Z3230</td>
<td>151Z3231</td>
<td>151Z3232</td>
<td>151Z3233</td>
<td>151Z3234</td>
<td></td>
</tr>
<tr>
<td>151Z3273</td>
<td>151Z3274</td>
<td>151Z3275</td>
<td>151Z3276</td>
<td>151Z3277</td>
<td>151Z3278</td>
<td></td>
</tr>
<tr>
<td>11033922</td>
<td>11033923</td>
<td>11033924</td>
<td>11033926</td>
<td>11033927</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>
## Technical data for TMT, TMTU, TMTW and TMT FL

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor size</th>
<th>TMT 250</th>
<th>TMT 315</th>
<th>TMT 400</th>
<th>TMT 470</th>
<th>TMT 500</th>
<th>TMT 630</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[in³]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum speed</td>
<td>min⁻¹</td>
<td>cont. 500</td>
<td>380</td>
<td>305</td>
<td>270</td>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>[rpm]</td>
<td>int(1) 600</td>
<td>460</td>
<td>360</td>
<td>320</td>
<td>300</td>
<td>240</td>
</tr>
<tr>
<td>Maximum starting pressure with unloaded shaft</td>
<td>bar</td>
<td>cont. 6 [90]</td>
<td>6 [90]</td>
<td>6 [90]</td>
<td>6 [90]</td>
<td>6 [90]</td>
<td>6 [90]</td>
</tr>
</tbody>
</table>

(1) Intermittent operation: the permissible values may occur for maximum 10% of every minute

(2) Peak load: the permissible value may occur for maximum 1% of every minute

For max. permissible combination of flow and pressure, see function diagram for actual motor
Technical data

Technical data for brake motor TMT FL and TMTW FL

<table>
<thead>
<tr>
<th>Technical data for brake motor TMT FL and TMTW FL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding torque&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Min. release pressure&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Max. release pressure cont.</td>
</tr>
<tr>
<td>Max. release pressure peak</td>
</tr>
</tbody>
</table>

<sup>1</sup> Brakes with higher holding torque available, please contact Danfoss.

<sup>2</sup> The release pressure is the difference between the pressure in the brake line and the pressure in the drain line.

Bleed off from brake release chamber to drain line is 0.65 l/min [0.172 US gal/min] at 13 bar [188 psi] release pressure.

---

Maximal permissible shaft seal pressure

TMT with standard shaft seal and drain connection.

The pressure on shaft seal equals the pressure in the drain line.

TMT FL and TMTW FL with standard shaft seal.

The pressure on shaft seal equals the pressure in release port.

---

© Danfoss | March 2016
Technical data

---

Intermittent operation: The permissible values may occur for max. 10% of every minute.

Continuous operation

⚠️ Warning

Drain line should always be used.

Pressure drop in motor

The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm²/s [165 SUS].

A: TMT 250, 315

B: TMT 400, 470, 500 and 630

Oil flow in drain line

The table below shows the max. oil flow in the drain line at a return pressure less than 5-10 bar [75-150 psi].

<table>
<thead>
<tr>
<th>Pressure drop</th>
<th>Viscosity</th>
<th>Oil flow in drain line</th>
</tr>
</thead>
<tbody>
<tr>
<td>bar [psi]</td>
<td>mm²/s</td>
<td>[SUS]</td>
</tr>
<tr>
<td>200 [2900]</td>
<td>20 [100]</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>35 [165]</td>
<td>1.5</td>
</tr>
<tr>
<td>275 [3900]</td>
<td>20 [100]</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>35 [165]</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Technical data

Direction of shaft rotation

**TMTW**

![TMTW Diagram](image1)

**TMT**

![TMT Diagram](image2)

**TMT FL**

![TMT FL Diagram](image3)

Permissible radial shaft load

The output shaft runs in tapered roller bearings that permit high axial and radial forces.

The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.
The curve is based on B10 Bearing life (2,000 hours or 12,000,000 shaft revolutions at 100 min⁻¹) at rated output torque, when mineral-based hydraulic oil with a sufficient content of anti-wear additives, is used.

The dash curve A shows max. radial shaft load. Any shaft load exceeding the values shown in the curve will involve a risk of breakage.

**Permissible shaft load for TMT and TMT FL**

*Spigot diameter Ø160 mm [6.3 in] TMT and Ø180 mm [7.1 in] TMT FL*

*Spigot diameter Ø125 mm [4.92 in] TMT and TMT FL*
Technical data

Spigot diameter Ø 127 mm [5.0 in] TMT and TMT FL

Permissible radial shaft load for TMTW

Permissible Shaft Load for TMTW
Permissible radial shaft load for TMTW FL

Permissible Shaft Load for TMTW FL
Function diagrams

Explanation of function diagram use, basis and conditions can be found in *Speed and torque* on page 6.

**Blue:** Continuous range

**Red:** Intermittent range (max. 10% operation every minute)

Intermittent pressure drop and oil flow must not occur simultaneously.
Function diagrams

TMT, TMTU, TMTW, TMT FL and TMTW FL Orbital Motors

TMT 400

TMT 470
Shaft version

TMT shaft, European versions

A: Cylindrical shaft Ø 40 mm
F: Parallel key, A12 x 8 x 70, DIN 6885

B: Involute splined shaft ANSI B92.1 - 1970 standard, Flat root side fit, Pitch 12/24, Teeth 17, Major diameter 1.50 inch, Pressure angle 30°
Shaft version

C: Tapered shaft Ø 45 mm, (ISO/R775)
E: DIN 937, Across flats: 46 mm, Tightening torque: 500 ± 30 N•m [4425 ± 265 lbf•in]
D: Taper 1 : 10
G: Parallel key, B12 x 8 x 28

TMT shaft, US versions

D: Cylindrical shaft, Ø 1 1/2 inch
I: Parallel key, 3/8 x 3/8 x 2 1/4 inch, B.S. 46

E: Involute splined shaft ANS B92.1 - 1970 standard, Flat root side fit, Pitch 12/24, Teeth 17, Major diameter 1.50 inch, Pressure angle 30°
Shaft version

F: Tapered shaft 1 3/4 in

G: Cone 1 : 8, SAE J501

H: 1 1/4 - 18 UNEF across flats: 2 3/16 inch, Tightening torque: 4425 ± 265 lbf.in [500 ± 30 N•m]

J: Parallel key, 7/16 x 7/16 x 1 1/4 inch, B.S. 46
Technical data

Port thread versions

A: G Main port
F: ISO 228/1 – G \( \frac{3}{4} \)

B: UNF Main port
P: 1 \( \frac{1}{16} \) – 12 UN

C: G Drain/release port
H: ISO 228/1 – G \( \frac{1}{4} \)

D: UNF Drain port
I: 9/16 – 18 UNF O-ring boss port

E: UNF Release port
J: 7/16 – 20 UNF O-ring boss port
Dimensions – attached component

Dimensions of the attached component for TMTU (bearing less)

A: Hardened stop plate
B: Oil circulation hole
C: O-ring 125 x 2 mm [0.08 in]
D: Drain connection

Internal spline data for the component to be attached

The attached component must have internal splines corresponding to the external splines on the motor cardan shaft, please see drawings.

Material:
Case hardening steel with a tensile strenght corresponding at least to 20 MoCr4 (90 daN/mm²). See also SAE 8620 for further information on steel material.

Hardening specification:
• on the surface: HV = 750 ±50
• 0.7 ±0.2 mm under the surface: HV = 560
**Dimensions – attached component**

<table>
<thead>
<tr>
<th>Flat root side fit</th>
<th>mm</th>
<th>[inch]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teeth</td>
<td>z</td>
<td>16</td>
</tr>
<tr>
<td>Pitch DP</td>
<td></td>
<td>12/24</td>
</tr>
<tr>
<td>Pressure angle</td>
<td></td>
<td>30°</td>
</tr>
<tr>
<td>Pitch diameter</td>
<td>D</td>
<td>33.8656 [1.3333]</td>
</tr>
<tr>
<td>Major diameter</td>
<td>D_m</td>
<td>38.4 +0.4/0 [1.5118 +0.0157/0]</td>
</tr>
<tr>
<td>Form diameter (minimum)</td>
<td>D_f</td>
<td>37.6 [1.4803]</td>
</tr>
<tr>
<td>Minor diameter</td>
<td>D_i</td>
<td>32.15 +0.04/0 [1.2657 +0.00157/0]</td>
</tr>
<tr>
<td>Space width (circular)</td>
<td>L_o</td>
<td>4.516 ±0.037 [0.1777 ±0.0014]</td>
</tr>
<tr>
<td>Tooth thickness (circulator)</td>
<td>S_o</td>
<td>2.170 [0.0854]</td>
</tr>
<tr>
<td>Fillet radius</td>
<td>R_min</td>
<td>0.5 [0.02]</td>
</tr>
<tr>
<td>Maximum measurement between pins*</td>
<td>l</td>
<td>26.9 +0.1/0 [1.059 +0.004/0]</td>
</tr>
<tr>
<td>Pin diameter</td>
<td>d</td>
<td>4.843 ±0.001 [0.1903 ±0.00004]</td>
</tr>
</tbody>
</table>

*Finished dimensions (when hardened)
Dimensions

**Drain connection on TMTU or attached component**

A drain line should always be used.

The drain line can be connected at two different points:

- at the motor drain connection
- at the drain connection of the attached component

If a drain is fitted to the attached component, it must be possible for oil to flow freely between motor and the attached component.

The drain line must be led to the tank in such a way that there is no risk of the motor and the attached component being drained of oil when at rest.

The maximum pressure in the drain line is limited by the attached component and its shaft seal.

**Blank shaft**

A blank shaft is available for TMTU motor, please contact Danfoss Sales Organisation.

![Blank shaft diagram](image)

After machining the blank shaft must be hardened according to Danfoss specification in *Internal spline data for the component to be attached* on page 24.
Dimensions

European version

4-Bolt flange-spigot diameter Ø160 mm - BC Ø200 mm

C: G 3/4 ; 17 mm [0.67 in] deep
D: Drain connection G 1/4 ; 12 mm [0.47 in] deep
4-Bolt flange-spigot diameter Ø160 mm - BC Ø200 mm

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMT 250</td>
<td>191.5</td>
<td>[7.54]</td>
<td>165.0</td>
</tr>
<tr>
<td>TMT 315</td>
<td>200.8</td>
<td>[7.91]</td>
<td>174.3</td>
</tr>
<tr>
<td>TMT400</td>
<td>211.3</td>
<td>[8.32]</td>
<td>184.8</td>
</tr>
<tr>
<td>TMT 470</td>
<td>219.5</td>
<td>[8.64]</td>
<td>193.0</td>
</tr>
<tr>
<td>TMT 500</td>
<td>211.3</td>
<td>[8.32]</td>
<td>184.8</td>
</tr>
<tr>
<td>TMT 630</td>
<td>225.3</td>
<td>[8.87]</td>
<td>198.8</td>
</tr>
</tbody>
</table>
Dimensions

4-bolt flange-spigot diameter Ø125 mm - BC Ø160 mm

C: G 3/4 ; 17 mm [0.67] deep
D: Drain connection G 1/4 ; 12 mm [0.47 in] deep
### Dimensions

*4-bolt flange-spigot diameter Ø125 mm - BC Ø160 mm*

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMT 250</td>
<td>200.0</td>
<td>7.87</td>
<td>173.5</td>
</tr>
<tr>
<td>TMT 315</td>
<td>209.3</td>
<td>8.24</td>
<td>182.8</td>
</tr>
<tr>
<td>TMT 400</td>
<td>219.8</td>
<td>8.65</td>
<td>193.3</td>
</tr>
<tr>
<td>TMT 470</td>
<td>228.0</td>
<td>8.98</td>
<td>201.5</td>
</tr>
<tr>
<td>TMT 500</td>
<td>219.8</td>
<td>8.65</td>
<td>193.3</td>
</tr>
<tr>
<td>TMT 630</td>
<td>233.8</td>
<td>9.20</td>
<td>207.3</td>
</tr>
</tbody>
</table>
US version

4-bolt flange-spigot diameter Ø5 in, SAE C mounting flange - BC Ø6.37 in

C: 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep

D: Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep
Dimensions

4-bolt flange-spigot diameter Ø5 in, SAE C mounting flange - BC Ø6.37 in

<table>
<thead>
<tr>
<th>Type</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
</tr>
<tr>
<td>TMT 250</td>
<td>218.7</td>
<td>[8.61]</td>
</tr>
<tr>
<td>TMT 315</td>
<td>227.9</td>
<td>[8.97]</td>
</tr>
<tr>
<td>TMT 400</td>
<td>238.4</td>
<td>[9.39]</td>
</tr>
<tr>
<td>TMT 470</td>
<td>246.7</td>
<td>[9.71]</td>
</tr>
<tr>
<td>TMT 500</td>
<td>238.4</td>
<td>[9.39]</td>
</tr>
<tr>
<td>TMT 630</td>
<td>252.4</td>
<td>[9.94]</td>
</tr>
</tbody>
</table>

TMTU dimensions

European version

Bearing less

C: G 3/4 ; 17 mm [0.67 in] deep
Dimensions

Bearing less

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMTU 250</td>
<td>158.5</td>
<td>(6.24)</td>
<td>131.0</td>
</tr>
<tr>
<td>TMTU 315</td>
<td>168.8</td>
<td>(6.65)</td>
<td>141.3</td>
</tr>
<tr>
<td>TMTU 400</td>
<td>178.3</td>
<td>(7.02)</td>
<td>151.8</td>
</tr>
<tr>
<td>TMTU 470</td>
<td>186.5</td>
<td>(7.32)</td>
<td>160.0</td>
</tr>
<tr>
<td>TMTU 500</td>
<td>178.3</td>
<td>(7.02)</td>
<td>151.8</td>
</tr>
<tr>
<td>TMTU 630</td>
<td>192.3</td>
<td>(7.57)</td>
<td>165.8</td>
</tr>
</tbody>
</table>

US version

Bearing less

C: 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep

D: Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep
### Dimensions

**Bearing less**

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMTU 250</td>
<td>158.5</td>
<td>[6.24]</td>
<td>131.0</td>
</tr>
<tr>
<td>TMTU 315</td>
<td>168.8</td>
<td>[6.65]</td>
<td>141.3</td>
</tr>
<tr>
<td>TMTU 400</td>
<td>178.3</td>
<td>[7.02]</td>
<td>151.8</td>
</tr>
<tr>
<td>TMTU 470</td>
<td>186.5</td>
<td>[7.32]</td>
<td>160.0</td>
</tr>
<tr>
<td>TMTU 500</td>
<td>178.3</td>
<td>[7.02]</td>
<td>151.8</td>
</tr>
<tr>
<td>TMTU 630</td>
<td>192.3</td>
<td>[7.57]</td>
<td>165.8</td>
</tr>
</tbody>
</table>
Dimensions

**TMT FL dimensions**

**European version**

4-bolt flange-spigot diameter Ø125 mm - BC Ø160 mm

C: G 3/4; 17 mm [0.67 in] deep

D: Drain connection G 1/4; 12 mm [0.47 in] deep
## Dimensions

### 4-bolt flange-spigot diameter Ø125 mm - BC Ø160 mm

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMT 250 FL</td>
<td>240.1</td>
<td>9.45</td>
<td>213.6</td>
</tr>
<tr>
<td>TMT 315 FL</td>
<td>249.4</td>
<td>9.82</td>
<td>222.9</td>
</tr>
<tr>
<td>TMT 400 FL</td>
<td>259.9</td>
<td>10.23</td>
<td>233.4</td>
</tr>
<tr>
<td>TMT 470 FL</td>
<td>268.2</td>
<td>10.56</td>
<td>241.7</td>
</tr>
<tr>
<td>TMT 500 FL</td>
<td>259.9</td>
<td>10.23</td>
<td>233.4</td>
</tr>
<tr>
<td>TMT 630 FL</td>
<td>273.9</td>
<td>10.78</td>
<td>247.4</td>
</tr>
</tbody>
</table>
4-Bolt flange-spigot diameter Ø180 mm - BC Ø224 mm

C: G 3/4; 17 mm [0.67 in] deep
D: Drain connection G 1/4; 12 mm [0.47 in] deep
E: Release port G 1/4; 12 mm [0.47 in] deep
### 4-Bolt flange-spigot diameter Ø180 mm - BC Ø224 mm

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
</tr>
<tr>
<td>TMT 250 FL</td>
<td>232.0</td>
<td>205.5</td>
<td>191.0</td>
</tr>
<tr>
<td>TMT 315 FL</td>
<td>241.2</td>
<td>214.7</td>
<td>200.2</td>
</tr>
<tr>
<td>TMT 400 FL</td>
<td>251.7</td>
<td>225.2</td>
<td>210.7</td>
</tr>
<tr>
<td>TMT 470 FL</td>
<td>260.0</td>
<td>233.5</td>
<td>219.0</td>
</tr>
<tr>
<td>TMT 500 FL</td>
<td>251.7</td>
<td>225.2</td>
<td>210.7</td>
</tr>
<tr>
<td>TMT 630 FL</td>
<td>265.7</td>
<td>239.2</td>
<td>224.7</td>
</tr>
</tbody>
</table>

#### US version

4-bolt flange-spigot diameter Ø5 in, SAE C mounting flange - BC Ø6.37 in
Dimensions

C: 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep
D: Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep
E: Release port 7/16 - 20 UNF O-ring boss port; 12.7 mm [0.5 in] deep

4-bolt flange-spigot diameter Ø5 in, SAE C mounting flange - BC Ø6.37 in

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td>[in]</td>
<td>[in]</td>
</tr>
<tr>
<td>TMT 250 FL</td>
<td>259.0</td>
<td>232.5</td>
<td>218.0</td>
</tr>
<tr>
<td></td>
<td>[10.20]</td>
<td>[9.15]</td>
<td>[8.58]</td>
</tr>
<tr>
<td>TMT 315 FL</td>
<td>268.3</td>
<td>241.8</td>
<td>227.3</td>
</tr>
<tr>
<td></td>
<td>[10.56]</td>
<td>[9.52]</td>
<td>[8.95]</td>
</tr>
<tr>
<td>TMT 400 FL</td>
<td>278.8</td>
<td>252.3</td>
<td>237.8</td>
</tr>
<tr>
<td></td>
<td>[10.98]</td>
<td>[9.93]</td>
<td>[9.36]</td>
</tr>
<tr>
<td>TMT 470 FL</td>
<td>287.0</td>
<td>260.5</td>
<td>246.0</td>
</tr>
<tr>
<td></td>
<td>[11.30]</td>
<td>[10.26]</td>
<td>[9.69]</td>
</tr>
<tr>
<td>TMT 500 FL</td>
<td>278.8</td>
<td>252.3</td>
<td>237.8</td>
</tr>
<tr>
<td></td>
<td>[10.98]</td>
<td>[9.93]</td>
<td>[9.36]</td>
</tr>
<tr>
<td>TMT 630 FL</td>
<td>292.8</td>
<td>266.3</td>
<td>251.8</td>
</tr>
<tr>
<td></td>
<td>[11.53]</td>
<td>[10.48]</td>
<td>[9.91]</td>
</tr>
</tbody>
</table>
Dimensions

4-bolt flange-spigot diameter Ø7.08 in - BC Ø8.82 in

C: 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep

D: Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep

E: Release port 7/16 - 20 UNF O-ring boss port; 12.7 mm [0.5 in] deep
### Dimensions

**4-bolt flange-spigot diameter Ø7.08 in - BC Ø8.82 in**

<table>
<thead>
<tr>
<th>Type</th>
<th>L</th>
<th>L₁</th>
<th>L₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>[in]</td>
<td>mm</td>
</tr>
<tr>
<td>TMT 250 FL</td>
<td>232.0</td>
<td>[9.13]</td>
<td>205.5</td>
</tr>
<tr>
<td>TMT 315 FL</td>
<td>241.2</td>
<td>[9.50]</td>
<td>214.7</td>
</tr>
<tr>
<td>TMT 400 FL</td>
<td>251.7</td>
<td>[9.91]</td>
<td>225.2</td>
</tr>
<tr>
<td>TMT 470 FL</td>
<td>260.0</td>
<td>[10.24]</td>
<td>233.5</td>
</tr>
<tr>
<td>TMT 500 FL</td>
<td>251.7</td>
<td>[9.91]</td>
<td>225.2</td>
</tr>
<tr>
<td>TMT 630 FL</td>
<td>265.7</td>
<td>[10.46]</td>
<td>239.2</td>
</tr>
</tbody>
</table>

© Danfoss | March 2016
European version

Wheel - Spigot diameter Ø180 mm - BC Ø210 mm

C: G 3/4; 17 mm [0.67 in] deep
D: Drain connection G 1/4; 12 mm [0.47 in] deep
E: Ø 14.1
F: 5 x M14 • 1.5
H: M10, 17 mm [0.67 in] deep
-------- not painted
**Dimensions**

*Wheel - Spigot diameter Ø180 mm - BC Ø210 mm*

<table>
<thead>
<tr>
<th>Type</th>
<th>TMTW 250</th>
<th>TMTW 315</th>
<th>TMTW 400</th>
<th>TMTW 470</th>
<th>TMTW 500</th>
<th>TMTW 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₁</td>
<td>mm</td>
<td>250.1</td>
<td>259.4</td>
<td>269.9</td>
<td>278.1</td>
<td>269.9</td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td>[9.85]</td>
<td>[10.21]</td>
<td>[10.63]</td>
<td>[10.95]</td>
<td>[10.63]</td>
</tr>
<tr>
<td>L₂</td>
<td>mm</td>
<td>99.0</td>
<td>108.3</td>
<td>118.8</td>
<td>127.0</td>
<td>118.8</td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td>[3.90]</td>
<td>[4.26]</td>
<td>[4.68]</td>
<td>[5.00]</td>
<td>[4.68]</td>
</tr>
</tbody>
</table>

**US version**

*Wheel - Spigot diameter Ø180 mm - BC Ø210 mm*

C: 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep
### Technical Information

#### TMT, TMTU, TMTW, TMT FL and TMTW FL Orbital Motors

### Dimensions

- **D:** Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep
- **E:** Ø 14.1
- **F:** 5 x M14 - 1.5
  ----  not painted

**Wheel - Spigot diameter Ø180 mm - BC Ø210 mm**

<table>
<thead>
<tr>
<th>Type</th>
<th>TMTW 250</th>
<th>TMTW 315</th>
<th>TMTW 400</th>
<th>TMTW 470</th>
<th>TMTW 500</th>
<th>TMTW 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₁</td>
<td>mm</td>
<td>250.1</td>
<td>259.4</td>
<td>269.9</td>
<td>278.1</td>
<td>269.9</td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td>[9.85]</td>
<td>[10.21]</td>
<td>[10.63]</td>
<td>[10.95]</td>
<td>[10.63]</td>
</tr>
<tr>
<td>L₂</td>
<td>mm</td>
<td>99.0</td>
<td>108.3</td>
<td>118.8</td>
<td>127.0</td>
<td>118.8</td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td>[3.90]</td>
<td>[4.26]</td>
<td>[4.68]</td>
<td>[5.00]</td>
<td>[4.68]</td>
</tr>
</tbody>
</table>
Dimensions

TMTW FL dimensions

**US version**

*Wheel - Spigot diameter Ø160 mm - BC Ø194 mm*

- M14, Class 10.9 bolts
- 30 mm (1.18 inch) thread engagement
- Torque = 160 Nm±10 Nm
  (1416 lbf•in±88.5 lbf•in)

**C:** 1 1/16 - 12 UN O-ring boss port; 19 mm [0.75 in] deep

**D:** Drain connection 9/16 - 18 UNF O-ring boss port; 12.7 mm [0.5 in] deep

**E:** Release port; 7/16 - 20 UNF, 13 mm [0.51 in] deep
## Technical Information

**TMT, TMTU, TMTW, TMT FL and TMTW FL Orbital Motors**

### Dimensions

**Wheel - Spigot diameter Ø160 mm - BC Ø194 mm**

<table>
<thead>
<tr>
<th>Type</th>
<th>TMTW 250 FL</th>
<th>TMTW 315 FL</th>
<th>TMTW 400 FL</th>
<th>TMTW 500 FL</th>
<th>TMTW 630 FL</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₁</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₂</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₃</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[in]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| L    | 131.0       | 140.2       | 150.7       | 150.7       | 164.7       |
| [in] | [5.16]      | [5.52]      | [5.93]      | [5.93]      | [6.48]      |
| L₁   | 86.8        | 96.0        | 106.5       | 106.5       | 120.5       |
| [in] | [3.42]      | [3.78]      | [4.19]      | [4.19]      | [4.74]      |
| L₂   | 101.3       | 110.5       | 121.0       | 121.0       | 135.0       |
| [in] | [3.99]      | [4.36]      | [4.76]      | [4.76]      | [5.31]      |
| L₃   | 120.0       | 130.5       | 130.5       | 144.5       |
| [in] | [4.72]      | [5.14]      | [5.14]      | [5.69]      |
### Weight of TMT, TMTU, TMTW, TMT FL and TMTW FL orbital motors

<table>
<thead>
<tr>
<th>Code number</th>
<th>Weight kg</th>
<th>Weight [lb]</th>
</tr>
</thead>
<tbody>
<tr>
<td>151Z3000</td>
<td>16.1</td>
<td>35.49</td>
</tr>
<tr>
<td>151Z3001</td>
<td>16.9</td>
<td>37.26</td>
</tr>
<tr>
<td>151Z3002</td>
<td>17.8</td>
<td>39.24</td>
</tr>
<tr>
<td>151Z3003</td>
<td>18.5</td>
<td>40.79</td>
</tr>
<tr>
<td>151Z3004</td>
<td>19.0</td>
<td>41.89</td>
</tr>
<tr>
<td>151Z3005</td>
<td>19.0</td>
<td>41.89</td>
</tr>
<tr>
<td>151Z3010</td>
<td>25.2</td>
<td>55.56</td>
</tr>
<tr>
<td>151Z3011</td>
<td>26.1</td>
<td>57.54</td>
</tr>
<tr>
<td>151Z3012</td>
<td>27.1</td>
<td>59.75</td>
</tr>
<tr>
<td>151Z3013</td>
<td>27.8</td>
<td>61.29</td>
</tr>
<tr>
<td>151Z3014</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3015</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3016</td>
<td>22.5</td>
<td>49.60</td>
</tr>
<tr>
<td>151Z3017</td>
<td>23.3</td>
<td>51.37</td>
</tr>
<tr>
<td>151Z3018</td>
<td>24.3</td>
<td>53.57</td>
</tr>
<tr>
<td>151Z3020</td>
<td>25.2</td>
<td>55.56</td>
</tr>
<tr>
<td>151Z3021</td>
<td>26.1</td>
<td>57.54</td>
</tr>
<tr>
<td>151Z3022</td>
<td>27.1</td>
<td>59.75</td>
</tr>
<tr>
<td>151Z3023</td>
<td>27.8</td>
<td>61.29</td>
</tr>
<tr>
<td>151Z3024</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3025</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3026</td>
<td>22.5</td>
<td>49.60</td>
</tr>
<tr>
<td>151Z3027</td>
<td>23.3</td>
<td>51.37</td>
</tr>
<tr>
<td>151Z3028</td>
<td>24.3</td>
<td>53.57</td>
</tr>
<tr>
<td>151Z3030</td>
<td>25.2</td>
<td>55.56</td>
</tr>
<tr>
<td>151Z3031</td>
<td>26.1</td>
<td>57.54</td>
</tr>
<tr>
<td>151Z3032</td>
<td>27.1</td>
<td>59.75</td>
</tr>
<tr>
<td>151Z3033</td>
<td>27.8</td>
<td>61.29</td>
</tr>
<tr>
<td>151Z3034</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3035</td>
<td>28.4</td>
<td>62.61</td>
</tr>
<tr>
<td>151Z3036</td>
<td>22.5</td>
<td>49.60</td>
</tr>
<tr>
<td>151Z3037</td>
<td>23.3</td>
<td>51.37</td>
</tr>
<tr>
<td>151Z3038</td>
<td>24.3</td>
<td>53.57</td>
</tr>
<tr>
<td>151Z3040</td>
<td>35.3</td>
<td>77.82</td>
</tr>
<tr>
<td>151Z3041</td>
<td>36.2</td>
<td>80.61</td>
</tr>
<tr>
<td>151Z3042</td>
<td>37.2</td>
<td>82.01</td>
</tr>
<tr>
<td>151Z3043</td>
<td>38.0</td>
<td>84.33</td>
</tr>
<tr>
<td>151Z3044</td>
<td>38.5</td>
<td>85.00</td>
</tr>
<tr>
<td>151Z3045</td>
<td>38.5</td>
<td>85.00</td>
</tr>
<tr>
<td>151Z3050</td>
<td>35.3</td>
<td>77.82</td>
</tr>
</tbody>
</table>
## Weight of motors

<table>
<thead>
<tr>
<th>Code number</th>
<th>Weight kg</th>
<th>Weight [lb]</th>
</tr>
</thead>
<tbody>
<tr>
<td>151Z3051</td>
<td>36.2</td>
<td>[79.81]</td>
</tr>
<tr>
<td>151Z3052</td>
<td>37.2</td>
<td>[82.01]</td>
</tr>
<tr>
<td>151Z3053</td>
<td>38.0</td>
<td>[83.78]</td>
</tr>
<tr>
<td>151Z3054</td>
<td>38.5</td>
<td>[84.88]</td>
</tr>
<tr>
<td>151Z3055</td>
<td>38.5</td>
<td>[84.88]</td>
</tr>
<tr>
<td>151Z3060</td>
<td>23.9</td>
<td>[52.69]</td>
</tr>
<tr>
<td>151Z3061</td>
<td>24.7</td>
<td>[54.45]</td>
</tr>
<tr>
<td>151Z3062</td>
<td>25.7</td>
<td>[56.66]</td>
</tr>
<tr>
<td>151Z3063</td>
<td>26.5</td>
<td>[58.42]</td>
</tr>
<tr>
<td>151Z3064</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3065</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3070</td>
<td>23.9</td>
<td>[52.69]</td>
</tr>
<tr>
<td>151Z3071</td>
<td>24.7</td>
<td>[54.45]</td>
</tr>
<tr>
<td>151Z3072</td>
<td>25.7</td>
<td>[56.66]</td>
</tr>
<tr>
<td>151Z3073</td>
<td>26.5</td>
<td>[58.42]</td>
</tr>
<tr>
<td>151Z3074</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3075</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3080</td>
<td>23.9</td>
<td>[52.69]</td>
</tr>
<tr>
<td>151Z3081</td>
<td>24.7</td>
<td>[54.45]</td>
</tr>
<tr>
<td>151Z3082</td>
<td>25.7</td>
<td>[56.66]</td>
</tr>
<tr>
<td>151Z3083</td>
<td>26.5</td>
<td>[58.42]</td>
</tr>
<tr>
<td>151Z3084</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3085</td>
<td>27.0</td>
<td>[59.52]</td>
</tr>
<tr>
<td>151Z3090</td>
<td>36.7</td>
<td>[80.91]</td>
</tr>
<tr>
<td>151Z3091</td>
<td>37.6</td>
<td>[82.89]</td>
</tr>
<tr>
<td>151Z3092</td>
<td>38.6</td>
<td>[85.10]</td>
</tr>
<tr>
<td>151Z3093</td>
<td>39.4</td>
<td>[86.86]</td>
</tr>
<tr>
<td>151Z3094</td>
<td>39.9</td>
<td>[87.96]</td>
</tr>
<tr>
<td>151Z3095</td>
<td>39.9</td>
<td>[87.96]</td>
</tr>
<tr>
<td>151Z3100</td>
<td>16.1</td>
<td>[35.49]</td>
</tr>
<tr>
<td>151Z3101</td>
<td>16.9</td>
<td>[37.26]</td>
</tr>
<tr>
<td>151Z3102</td>
<td>17.8</td>
<td>[39.24]</td>
</tr>
<tr>
<td>151Z3103</td>
<td>18.5</td>
<td>[40.79]</td>
</tr>
<tr>
<td>151Z3104</td>
<td>19.0</td>
<td>[41.89]</td>
</tr>
<tr>
<td>151Z3105</td>
<td>19.0</td>
<td>[41.89]</td>
</tr>
<tr>
<td>151Z3110</td>
<td>39.5</td>
<td>[87.08]</td>
</tr>
<tr>
<td>151Z3111</td>
<td>40.4</td>
<td>[89.07]</td>
</tr>
<tr>
<td>151Z3112</td>
<td>41.4</td>
<td>[91.27]</td>
</tr>
<tr>
<td>151Z3113</td>
<td>42.2</td>
<td>[93.03]</td>
</tr>
<tr>
<td>151Z3114</td>
<td>42.7</td>
<td>[94.14]</td>
</tr>
<tr>
<td>151Z3115</td>
<td>42.7</td>
<td>[94.14]</td>
</tr>
<tr>
<td>151Z3120</td>
<td>39.5</td>
<td>[87.08]</td>
</tr>
</tbody>
</table>
### Weight of motors

<table>
<thead>
<tr>
<th>Code number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>1S1Z121</td>
<td>40.4</td>
</tr>
<tr>
<td>1S1Z122</td>
<td>41.4</td>
</tr>
<tr>
<td>1S1Z123</td>
<td>42.2</td>
</tr>
<tr>
<td>1S1Z124</td>
<td>42.7</td>
</tr>
<tr>
<td>1S1Z125</td>
<td>42.7</td>
</tr>
<tr>
<td>1S1Z130</td>
<td>39.5</td>
</tr>
<tr>
<td>1S1Z131</td>
<td>40.4</td>
</tr>
<tr>
<td>1S1Z132</td>
<td>41.4</td>
</tr>
<tr>
<td>1S1Z133</td>
<td>42.2</td>
</tr>
<tr>
<td>1S1Z134</td>
<td>42.7</td>
</tr>
<tr>
<td>1S1Z135</td>
<td>42.7</td>
</tr>
<tr>
<td>1S1Z229</td>
<td>27.6</td>
</tr>
<tr>
<td>1S1Z230</td>
<td>28.4</td>
</tr>
<tr>
<td>1S1Z231</td>
<td>29.3</td>
</tr>
<tr>
<td>1S1Z232</td>
<td>30.0</td>
</tr>
<tr>
<td>1S1Z233</td>
<td>30.5</td>
</tr>
<tr>
<td>1S1Z234</td>
<td>30.5</td>
</tr>
<tr>
<td>1S1Z273</td>
<td>27.6</td>
</tr>
<tr>
<td>1S1Z274</td>
<td>28.4</td>
</tr>
<tr>
<td>1S1Z275</td>
<td>29.3</td>
</tr>
<tr>
<td>1S1Z276</td>
<td>30.0</td>
</tr>
<tr>
<td>1S1Z277</td>
<td>30.5</td>
</tr>
<tr>
<td>1S1Z278</td>
<td>30.5</td>
</tr>
<tr>
<td>11033926</td>
<td>41.2</td>
</tr>
<tr>
<td>11033927</td>
<td>41.2</td>
</tr>
</tbody>
</table>

© Danfoss | March 2016

520L0523 | BC00000102en-US0402 | 49
Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles.

We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

Danfoss – Your Strongest Partner in Mobile Hydraulics.

Go to www.powersolutions.danfoss.com for further product information.

Wherever off-highway vehicles are at work, so is Danfoss. We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

Please contact the Danfoss Power Solution representative nearest you.

Products we offer:
- Bent Axis Motors
- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
- Open Circuit Axial Piston Pumps
- Orbital Motors
- PLUS+1® GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without changes being necessary in specifications already agreed.

All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

© Danfoss | March 2016