FLAT SWIVEL UNITS
SERIES DES

► PRODUCT ADVANTAGES

“The unique”

► Decide for yourself!
With the standard motor or motors from another manufacturer - You decide what harmonises the best with your system

► Integrated media transmission
The D1 media exchanger makes cable breaks and undefined interference contours through the power supply line a thing of the past

► Freely positionable
No matter whether your task involves rotating, lifting or cycling: The unit is universally usable and can be uniquely adjusted to your application

► BENEFITS IN DETAIL

1 Energy supply
   - motor cable, female
   - encoder cable, male

2 Drive
   - AC servo motor

3 Intake flange
   - for connection to application-specific adapter plate (to be produced by the customer)
   - simple tool connection

4 Central bore
   - for cable feed-through

5 Mounting and positioning
   - mounting possible from several sides for versatile positioning

6 Robust, lightweight housing
   - Hard-coated aluminum alloy

7 Force transfer
   - tooth belt/gear rack/worm gear

www.zimmer-group.com ► Data, Drawings, 3-D Models, Operating Instructions
SERIES CHARACTERISTICS

Installation size | Version
--- | ---
DESXXX | B | D1-B | .99

PB | Profibus | 
PN | Profinet, EtherCat, EtherNet/IP, Sercos | 
with drive | 
unpowered; installation provided by customer | 
5 million maintenance-free revolutions (max.) | 
Self locking mechanism | 
IP54 | 
Integrated sensing | 
Continuously variable positions | 
Adjustable swivel angle | 
Electrical feed-through | 
Fluid feed-through | 

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Installation size</th>
<th>Swivel angle [°]</th>
<th>Torque [Nm]</th>
<th>Weight [kg]</th>
<th>IP class</th>
</tr>
</thead>
<tbody>
<tr>
<td>DES140</td>
<td>∞</td>
<td>10 - 12</td>
<td>4 - 7</td>
<td>IP54</td>
</tr>
<tr>
<td>DES190</td>
<td>∞</td>
<td>62 - 64</td>
<td>10,8 - 15,9</td>
<td>IP54</td>
</tr>
</tbody>
</table>

FURTHER INFORMATION IS AVAILABLE ONLINE

All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.
FLAT SWIVEL UNITS
INSTALLATION SIZE DES190

PRODUCT SPECIFICATIONS

Forces and moments
Indicates the static load on the bearing.

<table>
<thead>
<tr>
<th>Fa [N]</th>
<th>8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr [Nm]</td>
<td>525</td>
</tr>
</tbody>
</table>

INCLUDED IN DELIVERY

1 [piece]
Commissioning USB
052650

YOU CAN FIND RECOMMENDED ACCESSORIES ON THE FOLLOWING PAGES
### Technical data

<table>
<thead>
<tr>
<th></th>
<th>DES190-B</th>
<th>DES190-99</th>
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</thead>
<tbody>
<tr>
<td><strong>Order no.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drive</strong></td>
<td>AC servo motor</td>
<td>Specific to the customer</td>
</tr>
<tr>
<td><strong>Rotation angle [°]</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nominal torque [Nm]</strong></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td><strong>Torque max. [Nm]</strong></td>
<td>64</td>
<td></td>
</tr>
<tr>
<td><strong>Nominal speed [rpm]</strong></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Max. speed [rpm]</strong></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Swivel time 360° with 15 rpm [s]</strong></td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Swivel time 360° with 25 rpm [s]</strong></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Moment of inertia max. [kg m²]</strong></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Jaw speed in positioning mode [rad/s²]</strong></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Positioning delay [rad/s²]</strong></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Electrical energy transfer</strong></td>
<td>Helical gear / worm gear</td>
<td>Helical gear / worm gear</td>
</tr>
<tr>
<td><strong>Self locking mechanism</strong></td>
<td>Helical gear / worm gear</td>
<td>Helical gear / worm gear</td>
</tr>
<tr>
<td><strong>Power transfer</strong></td>
<td>Helical gear / worm gear</td>
<td>Helical gear / worm gear</td>
</tr>
<tr>
<td><strong>Repetition accuracy +/- [°]</strong></td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Operating temperature [°C]</strong></td>
<td>5 ... +80</td>
<td>5 ... +80</td>
</tr>
<tr>
<td><strong>Net input voltage</strong></td>
<td>1x200-240 VAC 50HZ</td>
<td></td>
</tr>
<tr>
<td><strong>Continuous current [A]</strong></td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td><strong>Peak current [A]</strong></td>
<td>7.4</td>
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<tr>
<td><strong>Protection to IEC 60529</strong></td>
<td>IP54</td>
<td>IP54</td>
</tr>
<tr>
<td><strong>Weight [kg]</strong></td>
<td>11.2</td>
<td>10.8</td>
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</tbody>
</table>

* Select the third-party motor corresponding to the motor performance figures in the DES series - Accessories chapter

* Swivel time does not depend on the moment of inertia (the maximum moment of inertia must not be exceeded)
FLAT SWIVEL UNITS
DES SERIES - ACCESSORIES

► RECOMMENDED ACCESSORIES

**ENERGY SUPPLY**

1. ZUBHCS-B
   Drive controller Profibus

2. ZUBHCSCN
   Line filter

3. GV1-4X8
   Straight Fittings - Quick Connect Style

4. WV1-4X8
   Angled Fittings - Quick Connect Style

**CONNECTIONS / OTHER**

5. ZUBHCSS
   Indra Works Drive Start Up CD

6. ZUBHCSKAG05-B
   Encoder cable 5 m

7. ZUBHCSKAG10-B
   Encoder cable 10 m

8. ZUBHCSKAG25-B
   Encoder cable 25 m

9. ZUBHCSKAP01
   Programming cable

10. ZUBHCSKAL05-B
    Power cable 5 m

11. ZUBHCSKAL10-B
    Power cable 10 m

12. ZUBHCSKAL25-B
    Power cable 25 m

13. RSTVSM23G12S-B
    Round plug, straight - M23 plug

14. RSTVSM23G12B-B
    Round plug, straight - M23 socket

15. RSTVSM23W12S-B
    Round plug, angular - M23 plug

16. RSTVSM23W12B-B
    Round plug, angular - M23 socket
## Technical data for motors

<table>
<thead>
<tr>
<th>Order no.</th>
<th>MSM019B-0300-NN-M5-MH0</th>
<th>MSM031C-0300-NN-M5-MH0</th>
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<tbody>
<tr>
<td>compatible with</td>
<td>DES140</td>
<td>DES190</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>BOSCH</td>
<td>BOSCH</td>
</tr>
<tr>
<td>Nominal torque [Nm]</td>
<td>0.32</td>
<td>1.3</td>
</tr>
<tr>
<td>Torque max. [Nm]</td>
<td>0.95</td>
<td>3.8</td>
</tr>
<tr>
<td>Nominal speed [rpm]</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>Max. speed [rpm]</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>Protection to IEC 60529</td>
<td>IP54</td>
<td>IP54</td>
</tr>
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