



Superior Clamping and Gripping



Product Information

Heavy-duty rotary module ERM

ERM

Heavy-duty rotary module

Adaptable. Strong. Loadable.

ERM Heavy-Duty Rotary Module

electric rotary module for high loads with adaptable servomotor, rotary angle > 360°, center bore and optional feed-throughs.

Field of application

universal, ultra-flexible rotary module for handling and positioning applications in clean or contaminated environments.



Advantages – Your benefits

Modular drive concept for adaption of common servomotors for example from Bosch or Siemens

Easy system integration by use of a preferred motor with available fieldbus and safety technology

90° swivel-mounted drive for flexible adaptation to gantries or robots

High torque and precision for the positioning of heavy loads with high precision

Center bore and integrated feed-through for cable and media feed-through

High robustness and large loading area for demanding applications



Sizes
Quantity: 1



Weight
15.5 .. 21.5 kg



Torque
75 Nm



Repeat accuracy
0.035°

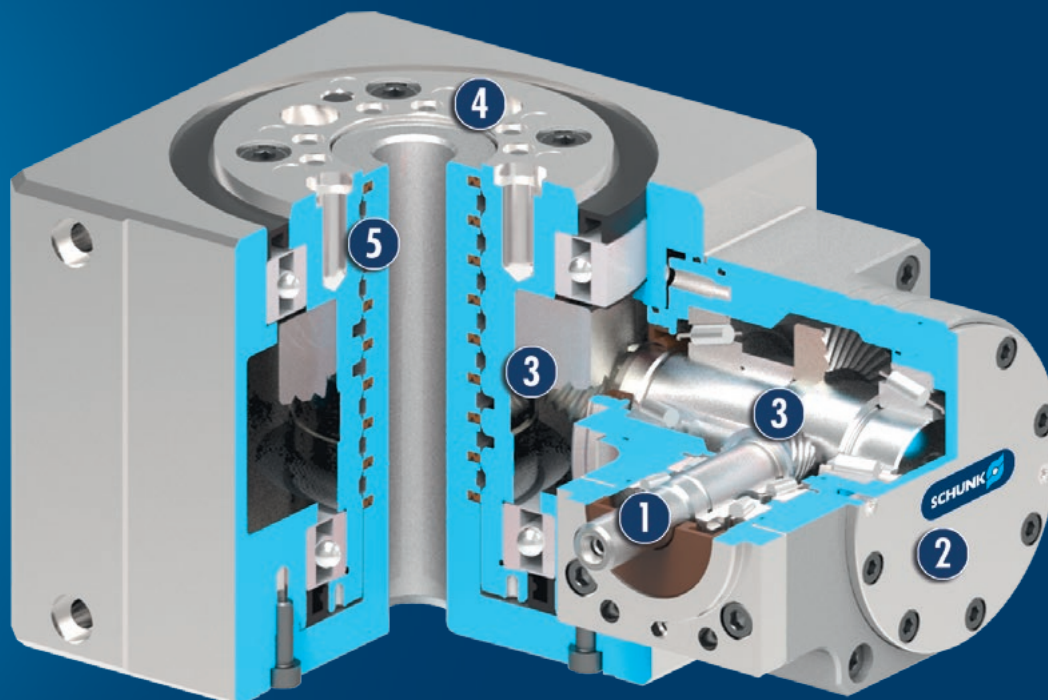


Angle of rotation
> 360°

Functional description

The torque of the motor is transferred from the driving shaft via the two stage hypoid gearing to the output flange. Via the rotary feed-through, compressed air can be transported from the distributor flange to the output

flange. The orientation of the transmission housing can be adjusted in four 90° steps before fastening the module or the attachment.



- ① **Drive shaft**
for motor connection
- ② **Bevel gear**
Can be attached in various positions. The motor can thereby be swiveled by 90° in each direction.
- ③ **Double hypoid gear stage**
for gear reduction of the rotation
- ④ **Output flange**
for mounting the application to be rotated
- ⑤ **Integrated air supply with mounting holes**
for hose-free feed-through of compressed air

CAD data, operating manuals and other current product documents can be found online.

General notes about the series

Housing material: Aluminum alloy, coated

Material of the (internal) functional components: Steel

Actuation: electrically via an adaptable servo drive

Operating principle: Two-stage hypoid gears

Scope of delivery: Centering sleeves for module mounting and mounting on the output flange, O-rings for compressed air connections on the output flange.

Warranty: 24 months

Swiveling time: are purely the times of the module to rotate from rest position to rest position. Relay switching times or SPC reaction times are not included in the above times and must be taken into consideration when determining cycle times. Load-dependent rest periods may have to be included in the cycle time.

Repeat accuracy: Is defined as the spread of the target position after 100 consecutive positioning cycles.

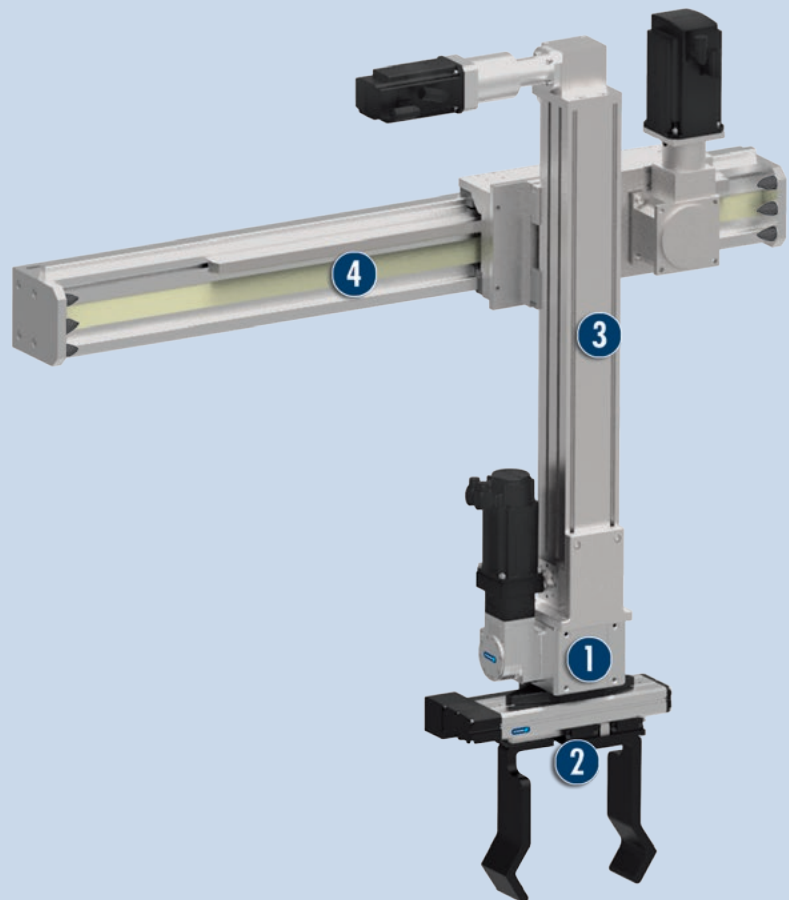
Middle attached load: Intended to represent a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.

Motor torque: For all motor moments from above the rated moment to the maximum motor moment, observe the instructions in the respective product documentation.

Application example

Completely electrically actuated axis gantry for loading and unloading pallets with various greatly differing components.

- 1 ERM electric universal rotary module
- 2 EGA electric long-stroke gripper
- 3 Gamma linear module with toothed-belt drive
- 4 Gamma linear module with rack and pinion drive



SCHUNK offers more ...

The following components make the product ERM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



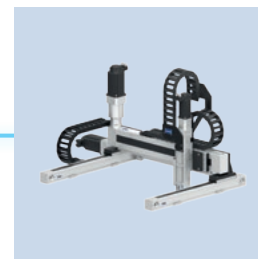
Long-stroke gripper



Universal gripper



Linear axis



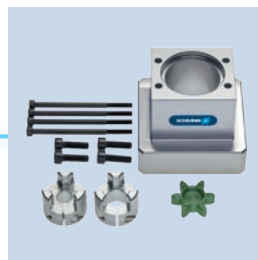
Room gantry



Controller



Servomotor



Motor adapter kit MAS



Compensation units

① Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special information

Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch or Siemens

Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.

Identical control: The rotary module can directly be controlled like a normal servo axis, and can be interpolated with existing axes.

Protection class IP: The specified protection class can only be achieved with the mounted motor.

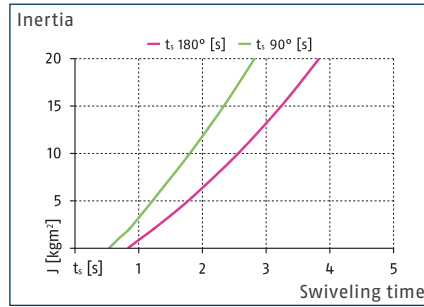
Unique mechatronic modular system: For setting up combined systems, a range of mechatronic products (e.g. gripper and linear units) are available.

ERM 160

Heavy-duty rotary module

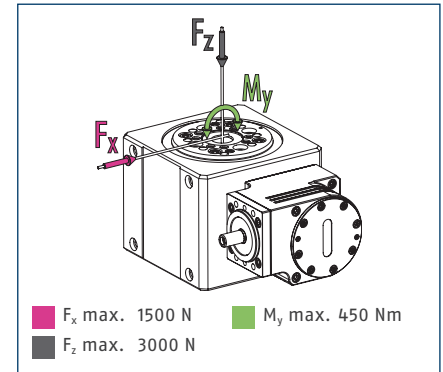


Max. admissible inertia J



① The diagrams are valid for 90° and 180° angles of rotation for use with vertical rotary axes and centric loads with horizontal rotary axes and rated motor moment. The swiveling times must be observed, otherwise the life time can decrease. We will be happy to help you design other applications.

Forces and moments

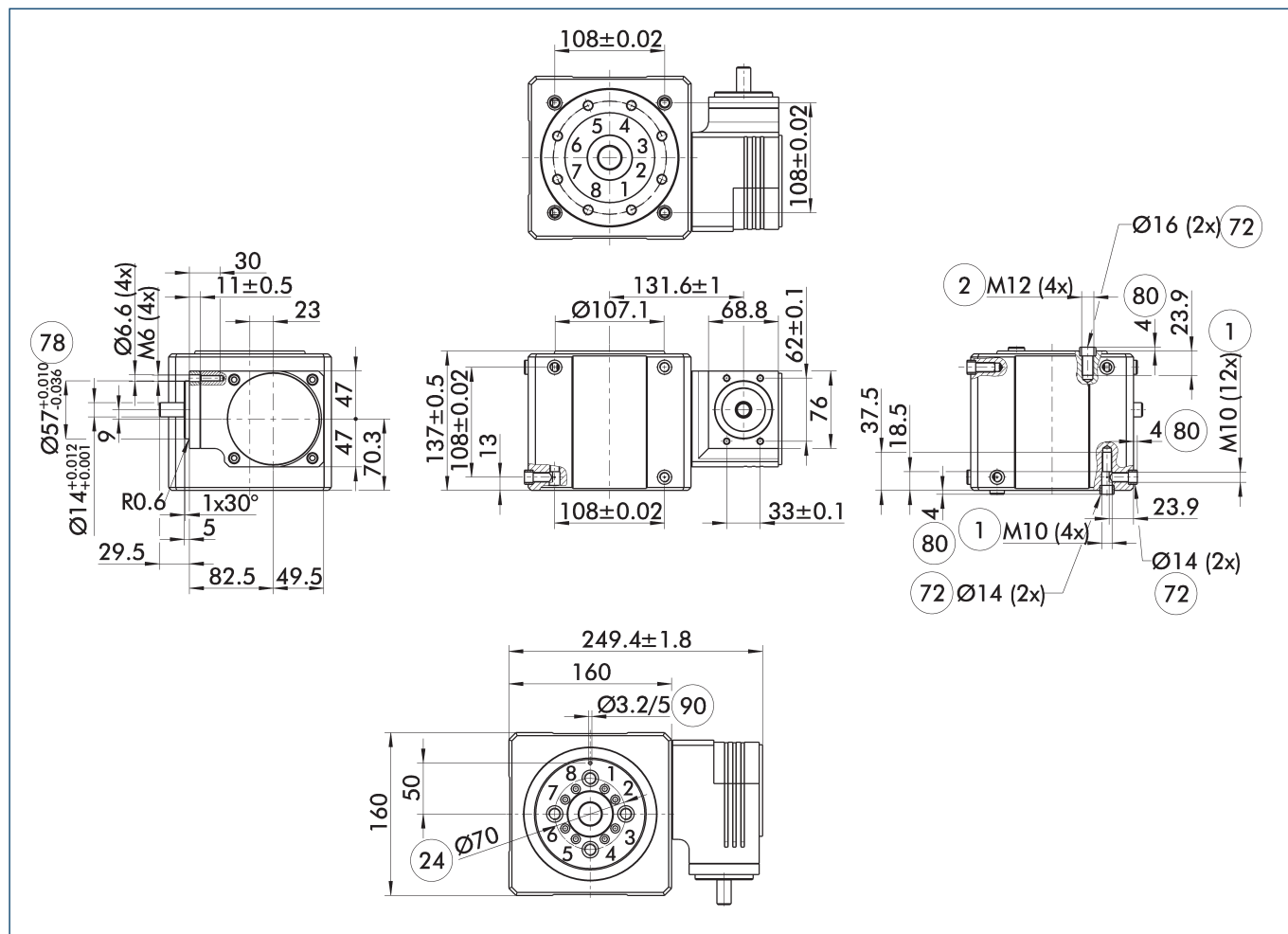


① Moments and forces may occur simultaneously. Depending on the application higher values can be achieved, therefore please contact us.

Technical data

Description		ERM160-8-CB-090-B
ID		0310550
Peak drive moment	[Nm]	2.3
Peak output moment	[Nm]	75
Max. drive speed	[1/min]	3000
Max. output speed	[1/min]	62.5
Max. permissible mass moment of inertia	[kgm ²]	20
Repeat accuracy	[°]	0.035
Axial run-out	[mm]	0.05
Transmission		48
No. of fluid feed-throughs		8
max. operating pressure	[bar]	8
Weight	[kg]	15.5
min./max. ambient temperature	[°C]	5/55
Protection class IP		65
Diameter of center bore	[mm]	22
Options and their characteristics		
Motor version		ERM160-8-CB-090-MSK050B
ID		0310552
Weight	[kg]	21.5

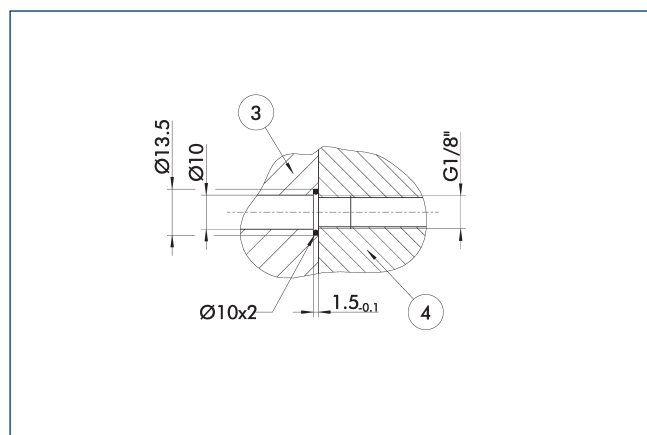
Main view



The drawing shows the module without the motor and the motor add-on kit.

- ① Connection swivel unit
- ② Attachment connection
- ②④ Bolt circle
- ⑦② Fit for centering sleeves
- ⑦⑧ Fit for centering
- ⑧② Depth of the centering sleeve hole in the counter part
- ⑨② Index-bores

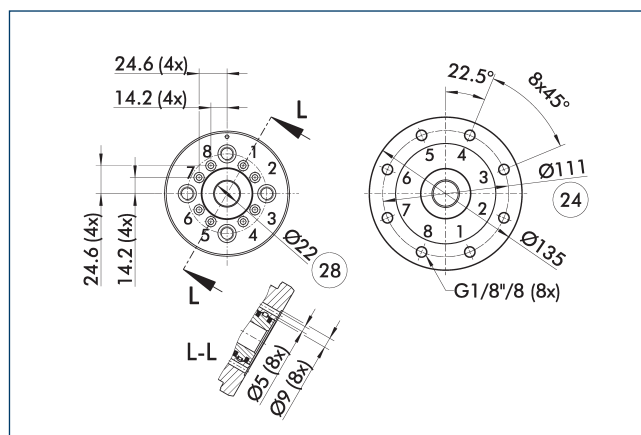
Hose-free direct connection G1/8"



- ③ Adapter
- ④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Media feed-through



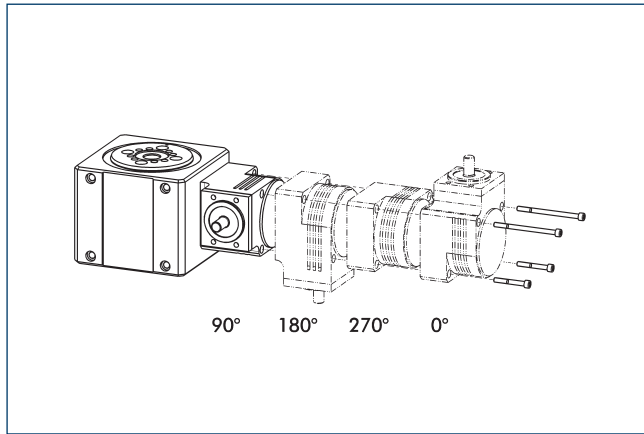
- ②④ Bolt circle
- ②⑧ Through-hole

Connections on the output flange The preferred drilling pattern is two screws and two screws with a centering sleeve.

ERM 160

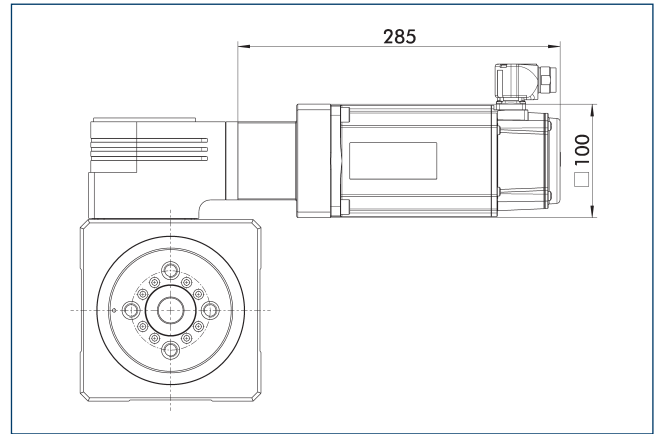
Heavy-duty rotary module

Mounting variants for the transmission gearbox



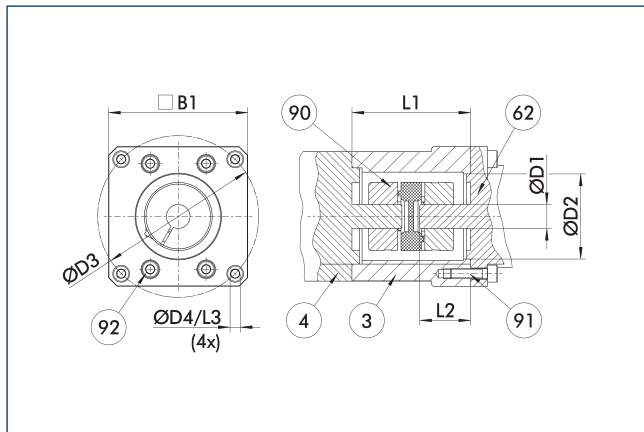
The transmission gearbox can also be re-oriented retrospectively if necessary.

Version with a motor



The variant with a motor add-on kit and Bosch MSK050B is shown.

Motor add-on kit for version „-B“






- ③ Adapter
- ④ Rotary unit
- ⑥② Servomotor
- ⑨① Coupling
- ⑨① Mounting screws for the motor
- ⑨② Mounting screws for adapters

The „-B“ version of the ERM can be equipped with the corresponding motor using a motor add-on kit. The motor itself is not part of the attachment kit, and must be provided by the customer.

ID	B1	L ₁	L ₂	L ₃	D ₁	D ₂	D ₃	D ₄
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
Motor add-on kits								
0310567	82	70	30	16	14	50	95	M6
0310568	76	75.5	30	20	14	60	75	M6
0310572	96	85.5	40	20	19	80	100	M6
0310573	100	82	40	20	19	95	115	M8

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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for precise gripping and safe holding.
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