

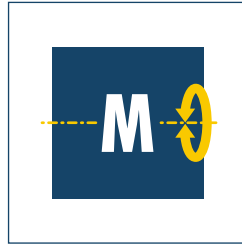
Change • Flat Manual Gripper Change System



Sizes  
50



Payload  
16 kg



Torque load  $M_x$   
50 Nm



Torque load  $M_y$   
50 Nm



Torque load  $M_z$   
up to 4x

Example for application



Lightweight arm in the field of service robotic

1 3-Finger Electric Gripping Hand SDH

2 Servo-electric Rotary Actuator PRL

3 Flat Manual Change System FWS

## Flat manual change system

Extremely flat manual change system with integrated air and electrical feed-through

### Area of application

Can be used wherever low clearance between the effector and the flange surface of the robot arm, low weight and fast changing of the effector are required.

### Benefits

#### Extremely flat design (with a height of only 14 mm)

Weight-reduced for low interference contours and fast effector change

#### Easily handling without the need of additional tools

Can be released easily and quickly

#### Integrated feed-throughs

for up to four fluid and/or 8 electric signals

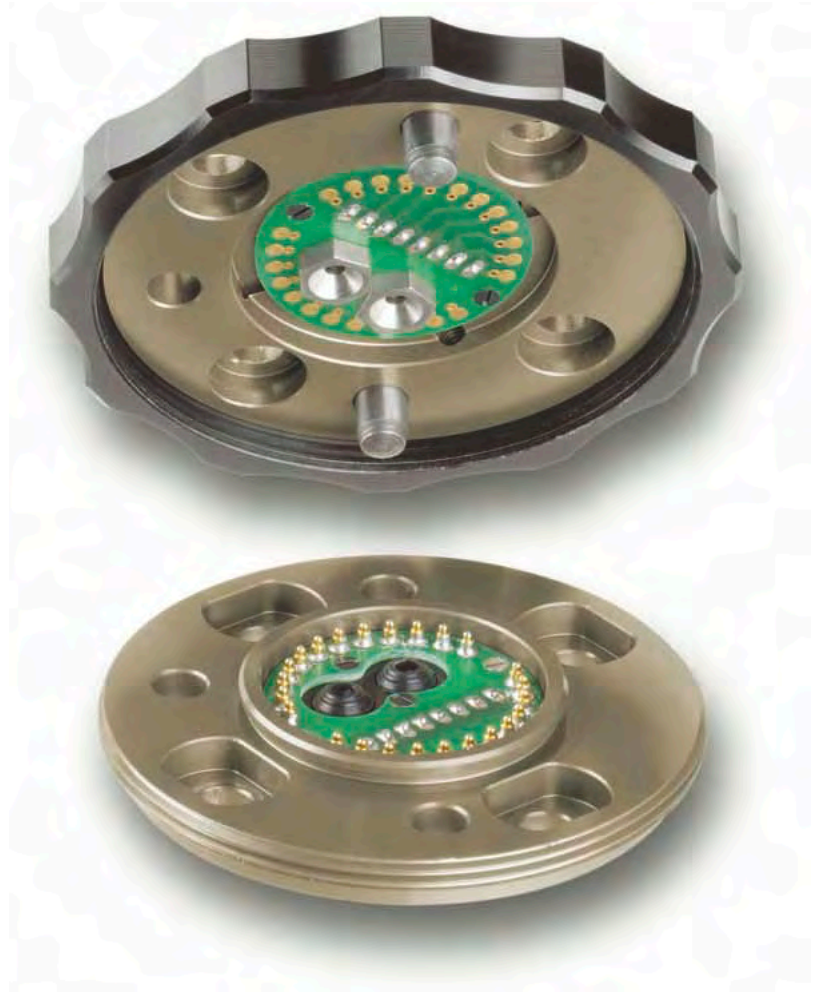
#### Central arrangement of the electrical and pneumatic feed-throughs

Therefore especially suitable for automation components with internal supply lines

#### ISO flange pattern

for easy installation, complies with EN ISO 9409-1:2004

"Industrial robot mechanical interfaces" with a graduated circle diameter of 50 mm



## General information on the series

### Working principle

locking is achieved by turning the actuating ring

### Actuation

manual via integrated locking ring

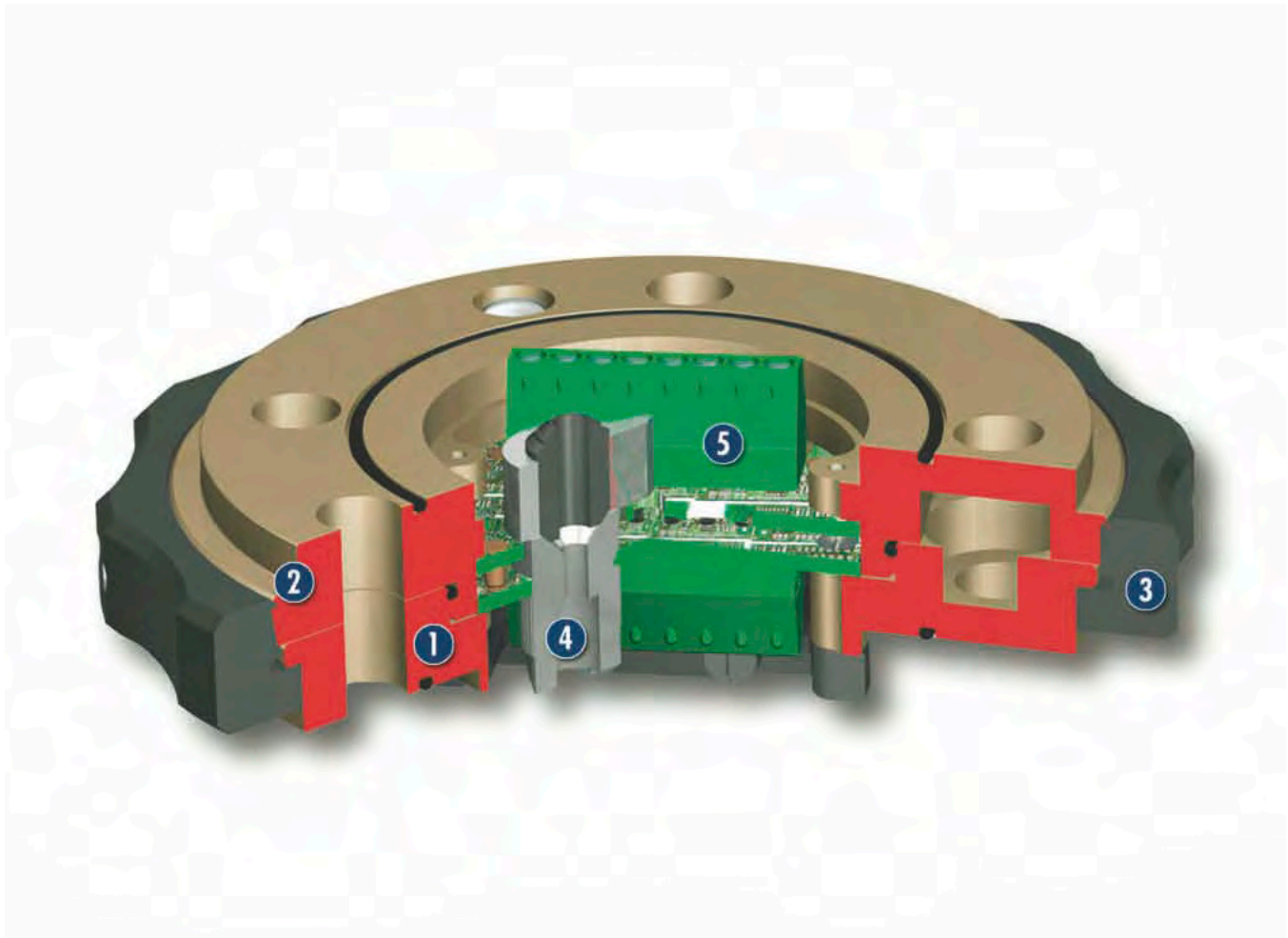
### Energy transmission

integrated pneumatic/fluid and electric feed-through

### Warranty

24 months

## Sectional diagram



- 1 FWK robot-side change head**  
with ISO screw connection diagram for direct mounting on the robot flange
- 3 Coupling ring**  
for manual actuation of the change system
- 5 Electrical feed-through**  
for electrical energy and signal transmission
- 2 FWA tool-side change adapter**
- 4 Pneumatic feed-through**  
no interfering contour due to integration in housing

### Functional characteristics

The flat manual change system FWS consists of a change head (FWK) and a change adapter (FWA). The change head is connected with the change adapter by a form-fit connection by actuating the locking ring. Integrated pneumatic and electric feed-through supply the tool reliably with energy.

### Options and special information

#### Central pneumatic and electric feed-through

If central arrangement of the energy feed-throughs is not possible or not practical, a radial cable feed-through in the form of a spacer ring can be inserted in the FWS.

## Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

### Fittings



① For the exact size of the accessories, the availability for this size and the designation and ID, please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the “Accessories” catalog section.

## General information on the series

### Extreme ambient conditions

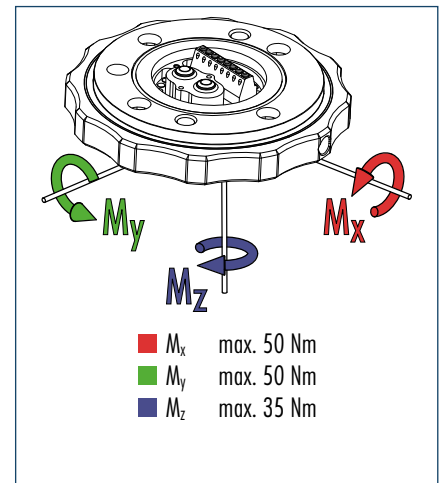
Please note that use in extreme ambient conditions (e.g. in the coolant zone, in the presence of abrasive dust) can significantly reduce the tool life span of these units and we cannot accept any liability for this reduction. However, in many cases we have a solution at hand. Please ask for details.

### Product description

The change system complies with EN ISO 9409-1:2004 "Industrial robots – mechanical interfaces" with a graduated circle diameter of 50 mm. Due to the low height of just 14 mm, the ideal field of application of the change system are sites, where low interference contours between the effector and the flange surface of the robot arm are given, low weights and fast changing of the effector are required.

Up to 28 electric and 2 pneumatic feed-throughs are available, centrally located. Therefore the FWS is especially suitable for automation components with internal supply lines. If this should not be possible, a spacer can be used for radial cable feed-through.

### Moment load



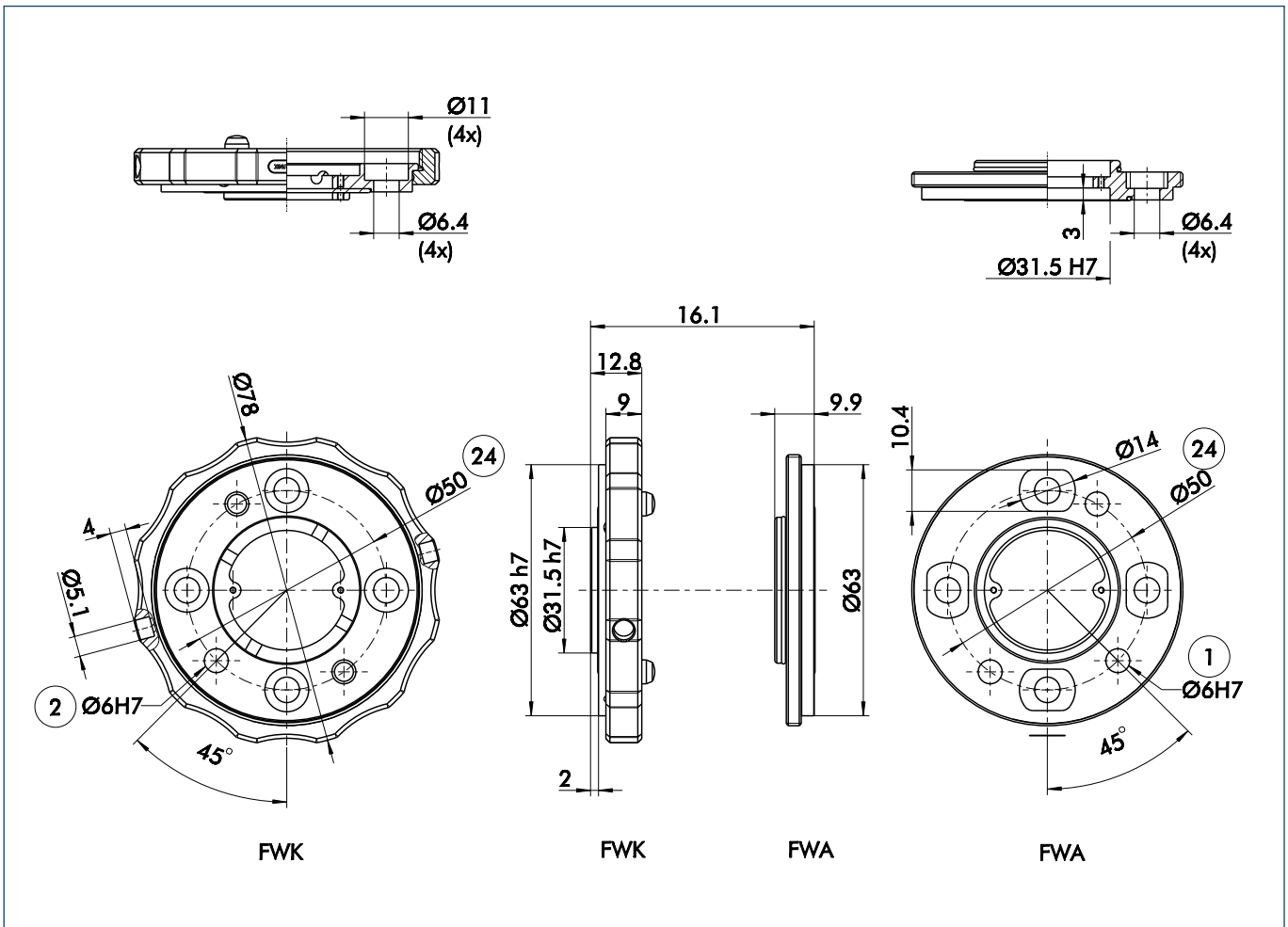
① The dynamic moment load can be up to three times larger than the static moment load. Tests have shown that the system will only begin to fail in the event of 20-fold static moment.



### Technical data

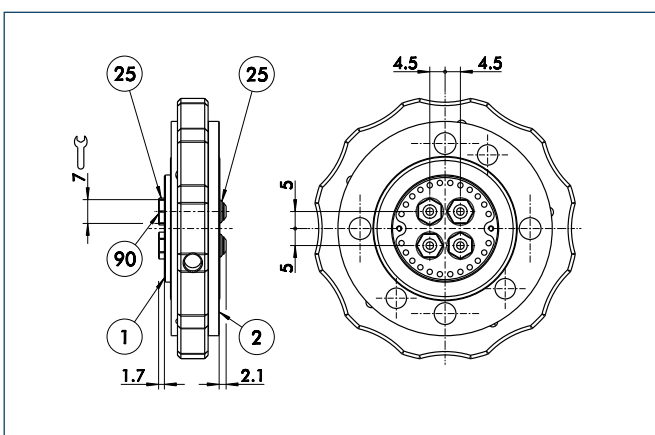
Designation		FWK-050-0-0	FWA-050-0-0	FWK-050-2-8	FWA-050-2-8	FWK-050-4-0	FWA-050-4-0
	ID	320600	320601	320602	320603	320604	320605
Max. payload	[kg]	16					
Torque load							
$M_x$	[Nm]	50					
$M_y$	[Nm]	50					
$M_z$	[Nm]	35					
Weight	[g]	85	45	94	52	98	60
Air feed-through		0	0	2	2	4	4
Electric feed-through		0	0	8	8	0	0

**Main views FWS-050-0-0**



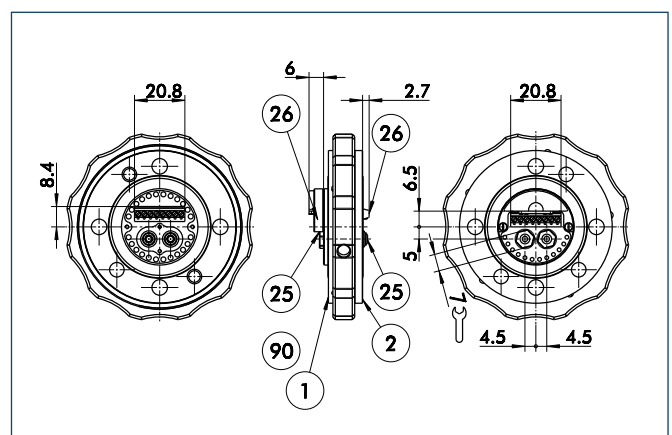
- ① Connection, robot-side
- ② Connection, tool-side
- ②④ Bolt pitch circle

**FWS-050-4-0**



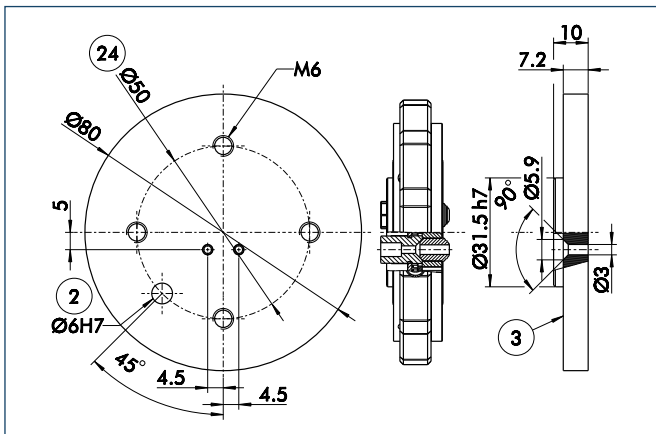
- ① Connection, robot-side
- ② Connection, tool-side
- ②⑤ Air feed-through
- ⑨⑩ Connection for pneumatic hose

**FWS-050-2-8**



- ① Connection, robot-side
- ② Connection, tool-side
- ②⑤ Fluid feed-through
- ②⑥ Electrical signal feed-through
- ⑨⑩ Connection for pneumatic hose

### Screw connection diagram for ISO flange pattern



- ② Connection, tool-side
- ③ Adapter plate
- ②④ Bolt pitch circle