# Modular. Compact. Flexible.
# MWS Miniature Change System

Manual tool change system with integrated air feed-through and optional electric feed-through.

## Field of Application

Ideal for use in micro-systems technology and particularly for handling tiny components.

## Advantages – Your benefit

**Extremely thin design** for less interfering contours

**Easy handling** without additional tools, quick and easy to remove at any time

**Center bore** for feed-through of parts, camera, laser beams, etc.

**Integrated feed-through** for six pneumatic or four electrical signals

**Suitable storage rack** to ensure the optimal adaption to each application

**ISO flange pattern** for simple assembly; in compliance with DIN 32565 level 4

| **Sizes** Quantity: 2 | **Handling weight** 0.5 .. 1 kg | **Moment load $M_x$** 0.5 .. 1 Nm | **Moment load $M_z$** 0.2 .. 0.75 Nm |
| --- | --- | --- | --- |

## Functional Description

The MWS miniature change system consists of a MWK miniature change master and a MWA miniature change adapter. A form-fit connection is established between the MWK miniature change master and the MWA miniature change adapter by actuating the locking ring. An integrated pneumatic feed-through safely provides the tool with electricity.

① **Screw surface**
compliant with DIN 32565 level 4

② **Locking mechanism**
for safe locking and unlocking

③ **Anti-twist protection**
for exact coupling and maximum precision

④ **Locking mechanism**
fail-safe locking mechanism

⑤ **Pneumatic feed-through**
integration into housing means no interfering contours

⑥ **Electrical feed-through**
for electrical energy and signal transmission

CAD data, operating manuals and other current product documents are available at **www.schunk.com**

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## General Notes to the Series

**Actuation:** manual

**Operating principle:** The master and adapter are locked and unlocked by turning the manual lever.

**Energy feed-through:** integrated pneumatic and electric energy feed-through

**Housing:** stainless steel

**Scope of delivery:** Electrical feed-throughs, O-rings for pneumatic feed-throughs and small components for mounting

**Warranty:** 24 months (details, general terms and conditions and operation manuals can be downloaded at www.schunk.com)

**Harsh environmental conditions:** Please note that use in harsh environmental conditions (e.g. in the coolant area, cast and grinding dust) can considerably reduce the service lifetime of the units, and may void the warranty. However, in many cases we can find a solution. Please contact us.

**Handling weight:** The weight of the total load attached to the flange. The design must take into account the permissible forces and moments. Please note that the life span will be reduced if the maximum handling weight is exceeded.
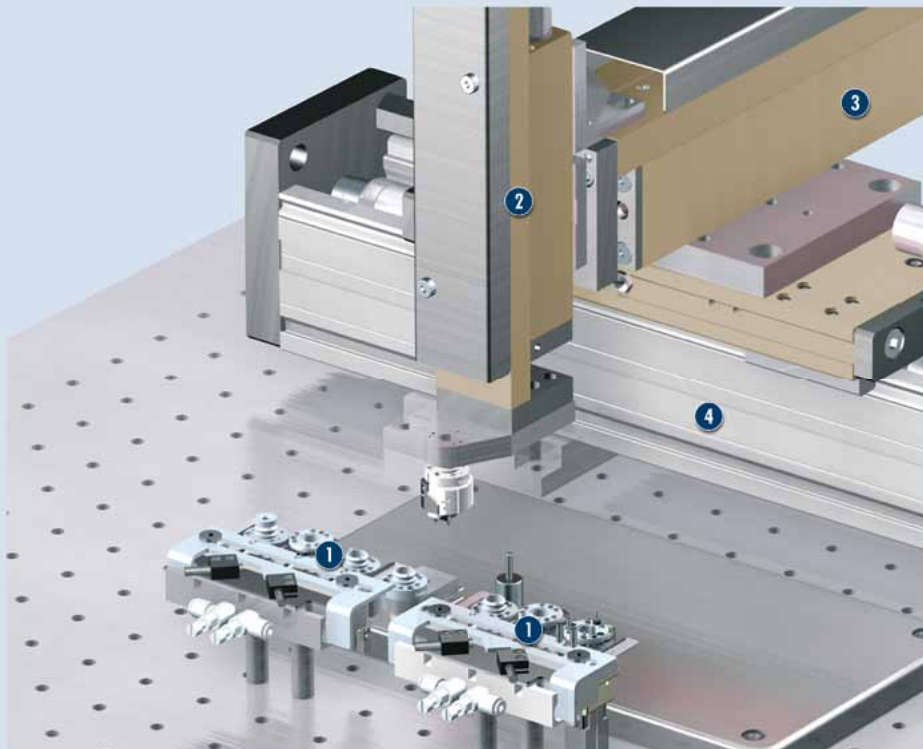
## Application example

Automated assembly of writing utensils: Lead refills are inserted into mechanical pencils. The MWS ensures fast changing of the gripper and tools.

❶ MWS Miniature Change System

❷ ELM 23-H70 Linear Module with direct drive

❸ ELM 37-H260 Linear Module with direct drive

❹ EPM 48-0300 Gantry Module with direct drive

# SCHUNK offers more ...

The following components make the MWS even more productive – the perfect complement for highest functionality, flexibility, and process reliability.
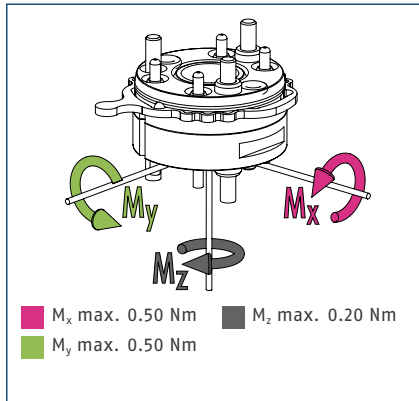




MPG–plus 2–Finger Small Parts Gripper



MWPG Miniature Change Parallel Gripper



MPZ 3–Finger Centric Gripper

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

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## Forces and moments



$M_x$ max. 0.50 Nm   $M_z$ max. 0.20 Nm
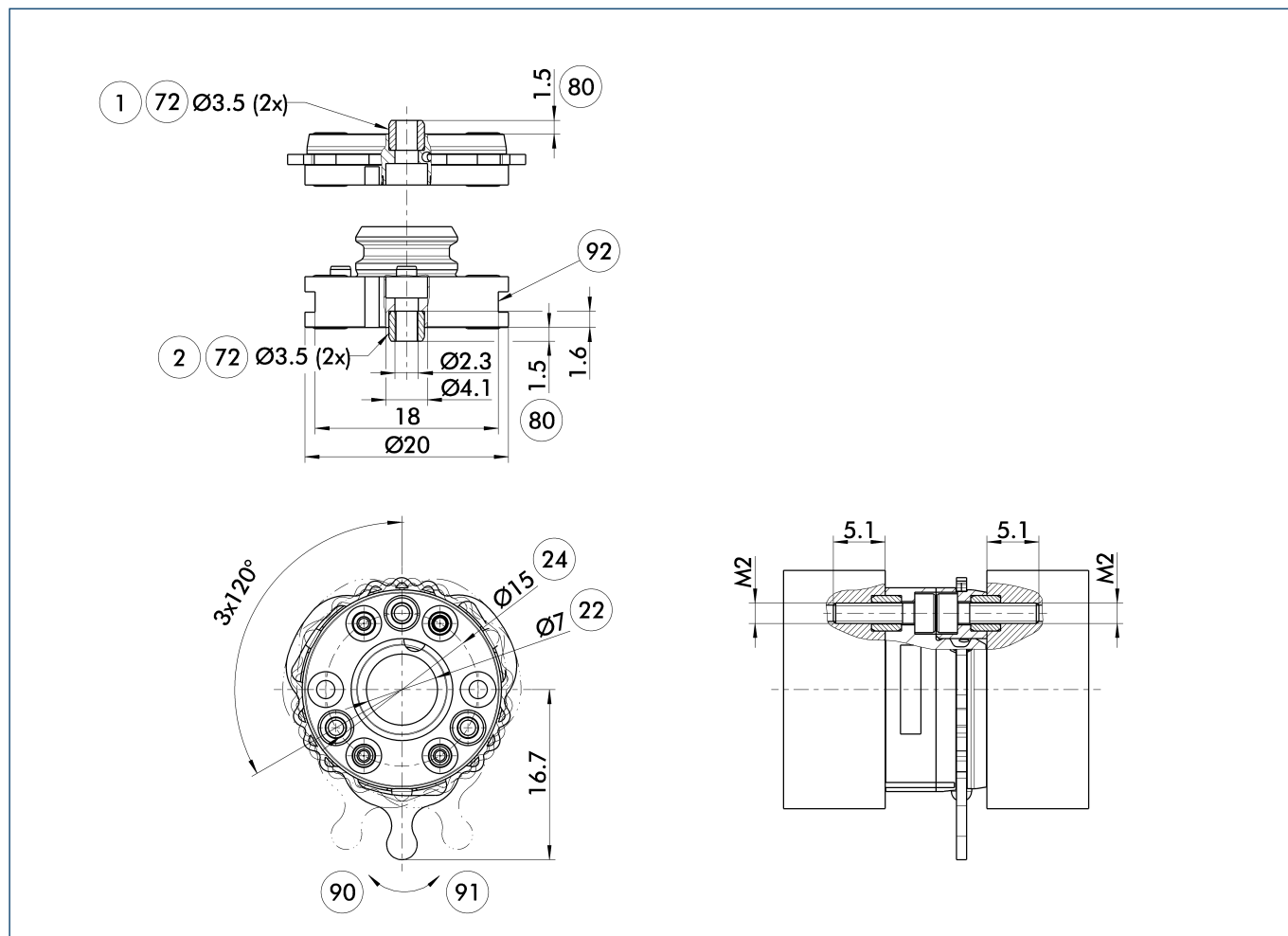$M_y$ max. 0.50 Nm

ⓘ This is the max. sum of all torques (acceleration torques, process forces, acceleration forces etc.) that are permitted to act on the change system to ensure error–free functioning.

## Technical data

| Description | | MWK-020-2P-0E | MWA-020-2P-0E | MWK-020-2P-4E | MWA-020-2P-4E |
|---|---|---|---|---|---|
| | | Miniature change master | Miniature change adapter | Miniature change master | Miniature change adapter |
| ID | | 0305623 | 0305624 | 0305611 | 0305612 |
| max. payload | [kg] | 0.5 | 0.5 | 0.5 | 0.5 |
| Repeat accuracy | [mm] | 0.1 | 0.1 | 0.1 | 0.1 |
| Mass | [g] | 7 | 9 | 7 | 9 |
| min. / max. locking distance | [mm] | 0.25 | 0.25 | 0.25 | 0.25 |
| Number of fluid feed–throughs | | 2 | 2 | 2 | 2 |
| Number of electrical feed–throughs | | | | 4 | 4 |
| Voltage | [V] | | | 24 | 24 |
| Current strength | [A] | | | 1 | 1 |
| max. permissible XY offset | [mm] | ±0.3 | ±0.3 | ±0.3 | ±0.3 |
| max. permissible angular offset | [°] | ±0.8 | ±0.8 | ±0.8 | ±0.8 |

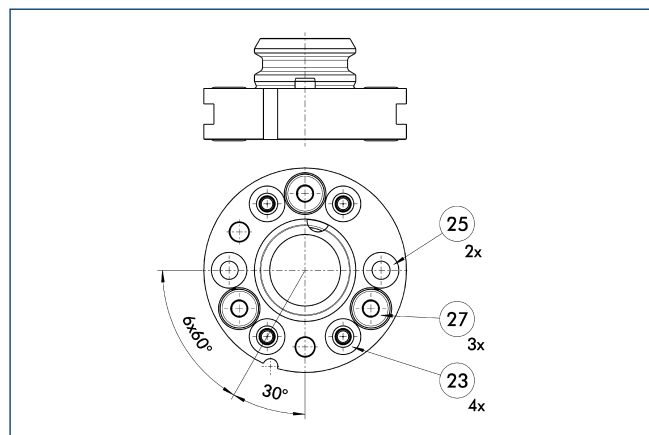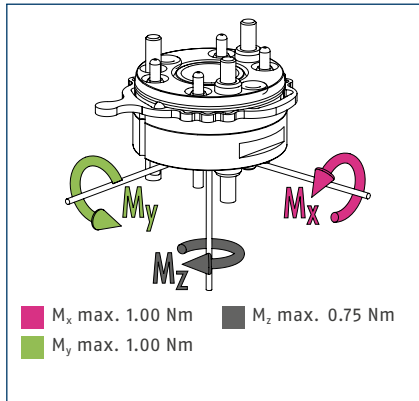## Main view



The main view shows the unit in its basic version.

① Robot side connection
② Tool side connection
㉒ Center bore
㉔ Bolt circle
㊲ Fitting for centering sleeve

⑧⓪ Depth of the centering sleeve hole in the mating part
⑨⓪ Unit unlocked
⑨① Unit locked
⑨② Channel for quick-change rack

## Mounting and feed-throughs



㉓ Electrical signal feed-through
㉕ Pneumatic feed-through
㉗ Through-holes for screw connections

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## Forces and moments



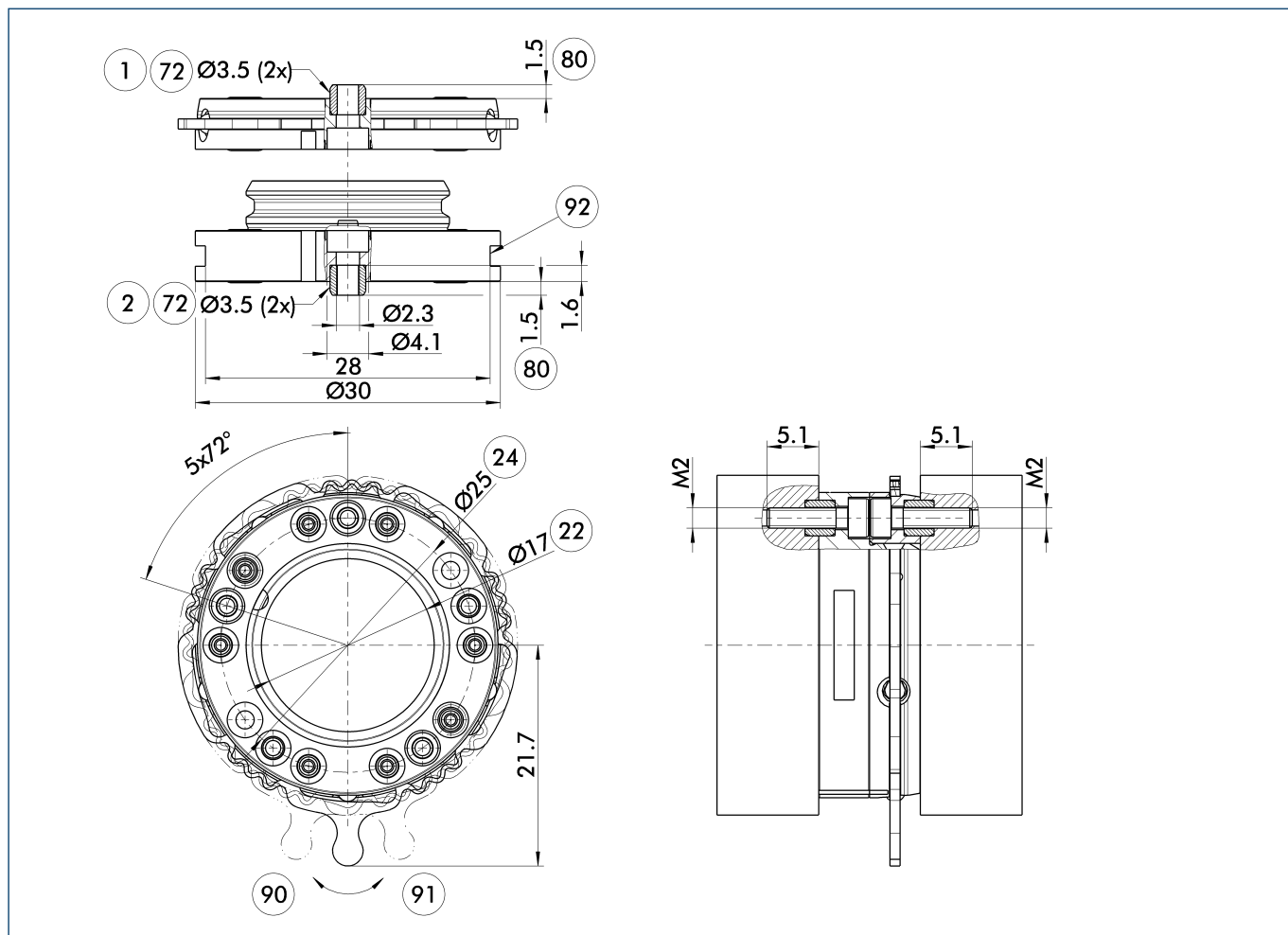M<sub>x</sub> max. 1.00 Nm    M<sub>z</sub> max. 0.75 Nm
M<sub>y</sub> max. 1.00 Nm

ⓘ This is the max. sum of all torques (acceleration torques, process forces, acceleration forces etc.) that are permitted to act on the change system to ensure error-free functioning.

## Technical data

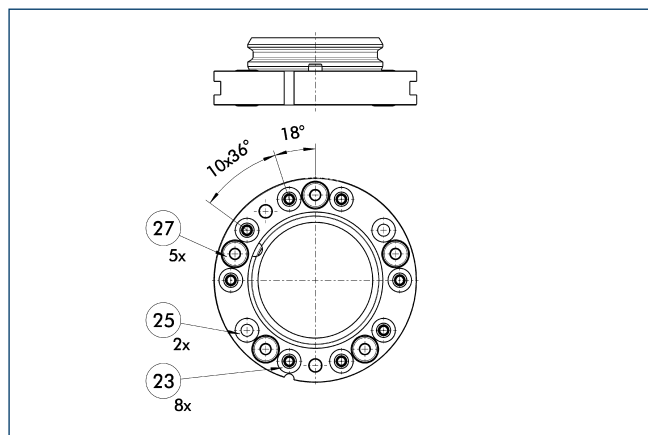| Description | Unit | MWK-030-2P-0E | MWA-030-2P-0E | MWK-030-2P-4E | MWA-030-2P-4E | MWK-030-2P-6E | MWA-030-2P-6E |
|---|---|---|---|---|---|---|---|
| | | Miniature change master | Miniature change adapter | Miniature change master | Miniature change adapter | Miniature change master | Miniature change adapter |
| ID | | 0305633 | 0305634 | 0305641 | 0305642 | 0305643 | 0305644 |
| max. payload | [kg] | 1 | 1 | 1 | 1 | 1 | 1 |
| Repeat accuracy | [mm] | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Mass | [g] | 12 | 16 | 12 | 16 | 12 | 16 |
| min. / max. locking distance | [mm] | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Number of fluid feed-throughs | | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of electrical feed-throughs | | | | 4 | 4 | 6 | 6 |
| Voltage | [V] | | | 24 | 24 | 24 | 24 |
| Current strength | [A] | | | 1 | 1 | 1 | 1 |
| max. permissible XY offset | [mm] | ±0.3 | ±0.3 | ±0.3 | ±0.3 | ±0.3 | ±0.3 |
| max. permissible angular offset | [°] | ±0.8 | ±0.8 | ±0.8 | ±0.8 | ±0.8 | ±0.8 |

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