Superior Clamping and Gripping

SCHUNK®

Product data sheet

Manual change system SHS 050

Flexible. Compact. Intuitive.

Manual change system SHS

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

Field of application

Excellently suitable for use in the flexible production of products with a comprehensive range of variants in which reliable manual changes are required.

Advantages – Your benefits

Series with six unit sizes for optimal size selection and a broad application range

Integrated pneumatic feed-through for a safe power supply of the handling modules and tools

The locking lever is opened sideways this allows the changer to be easily operated even in confined spaces

Optional locking and presence monitoring thus increased process reliability

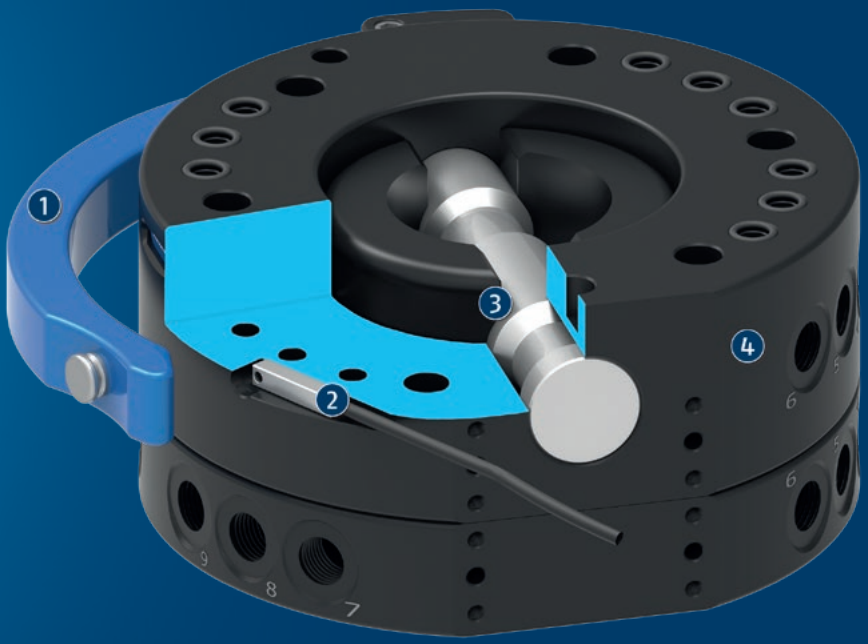
Wide range of signal, pneumatic, fluid and communication modules for universal energy transmission possibilities

ISO mounting pattern for easy assembly to most types of robots without needing additional adapter plates

Sizes	Handling weight	Moment load Mx	Moment load Mz
Quantity: 6	9 .. 58 kg	15 .. 320 Nm	25 .. 775 Nm

Functional description

The manual change system (SHS) consists of a manual change head (SHK) and a manual change adapter (SHA). The manual change head (SHK) is form-fit locked with the manual change adapter (SHA), and due to the patented locking it is free from play. A pin is pushed forward or backward via a locking lever for locking or unlocking. An integrated pneumatic feed-through supplies the tool with energy.



① **Locking lever**
for manual actuation

② **Lock sensing**
optional, for process-reliable monitoring of the locking condition

③ **Locking pin**
made of corrosion-free steel for easy and secure locking

④ **Air feed-through**
without interfering contours due to the integration into the housing. Also suitable for vacuum.

General notes about the series

Actuation: Manual via locking lever

Operating principle: by turning the locking lever, the head and adapter are locked and unlocked.

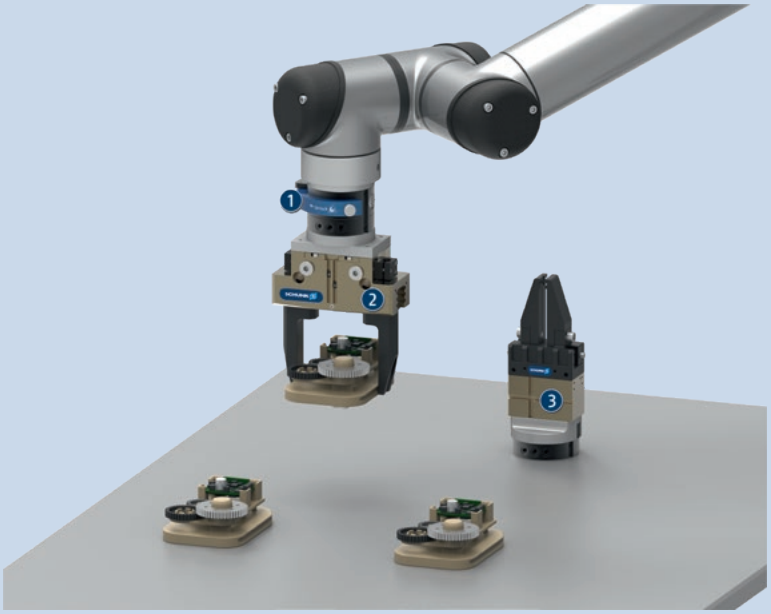
Media transmission: Optional via electrical modules and/or fluid modules. Pneumatic feed-through already integrated.

Housing: The housing consists of high-strength, hard-coated aluminum alloy. The functional components are made of hardened steel.

Warranty: 24 months

Harsh environmental conditions: Please note that use under harsh environmental conditions (e.g. in the coolant area, cast and grinding dust) can considerably reduce the service life of the units, and we will not take over any warranty. However, in many cases we can find a solution. Please contact us for assistance.

Handling weight: is the weight of the total load attached to the flange. When designing, the permissible forces and moments have to be paid attention to. Please note that exceeding the recommended handling weight will shorten the lifespan.



Application example

Handling tool with manual tool change system for gripping of middle and small parts.

1. Manual change system SHS
2. 2-finger parallel gripper PGN-plus-P with customized gripper fingers
3. 2-finger parallel gripper MPG-plus with customized gripper fingers

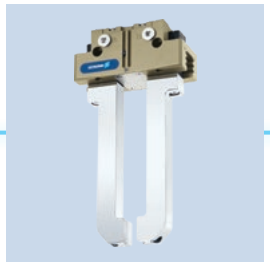
SCHUNK offers more ...

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

Rotary feed-through

Compensation unit

Anti-collision and overload protection sensor



Universal gripper

Inductive proximity switch

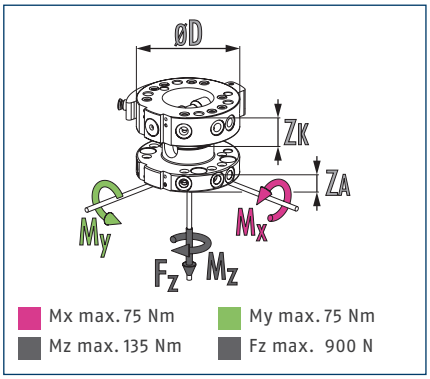
Electronic module

ⓘ For more information on these products can be found on the following product pages or at schunk.com.

SHS 050

Manual change system

Dimensions and maximum loads



ⓘ This is the max. sum of all forces and moments which are permitted to act on the change system for ensuring proper functioning.

Technical data

Description		SHK-050-000-000	SHA-050-000-000
		Manual change head	Manual change adapter
ID		0310410	0310411
Recommended handling weight	[kg]	11	11
Lock sensing		optionally via attachment kit	
Repeat accuracy	[mm]	0.02	0.02
Weight	[kg]	0.25	0.1
Max. distance when locking	[mm]	1	1
Number of pneumatic feed-throughs		6	6
Feed-throughs for radial use		3	6
Pitch circle diameter	[mm]	50	50
Connection flange according to		ISO 9409-1-50-4-M6	
Min./max. ambient temperature	[°C]	5/60	5/60
Dimensions Ø D x Z*	[mm]	63 x 26.5	63 x 16
Screw connection diagram		S5/S7 via adapter plate	S5/S7 via adapter plate

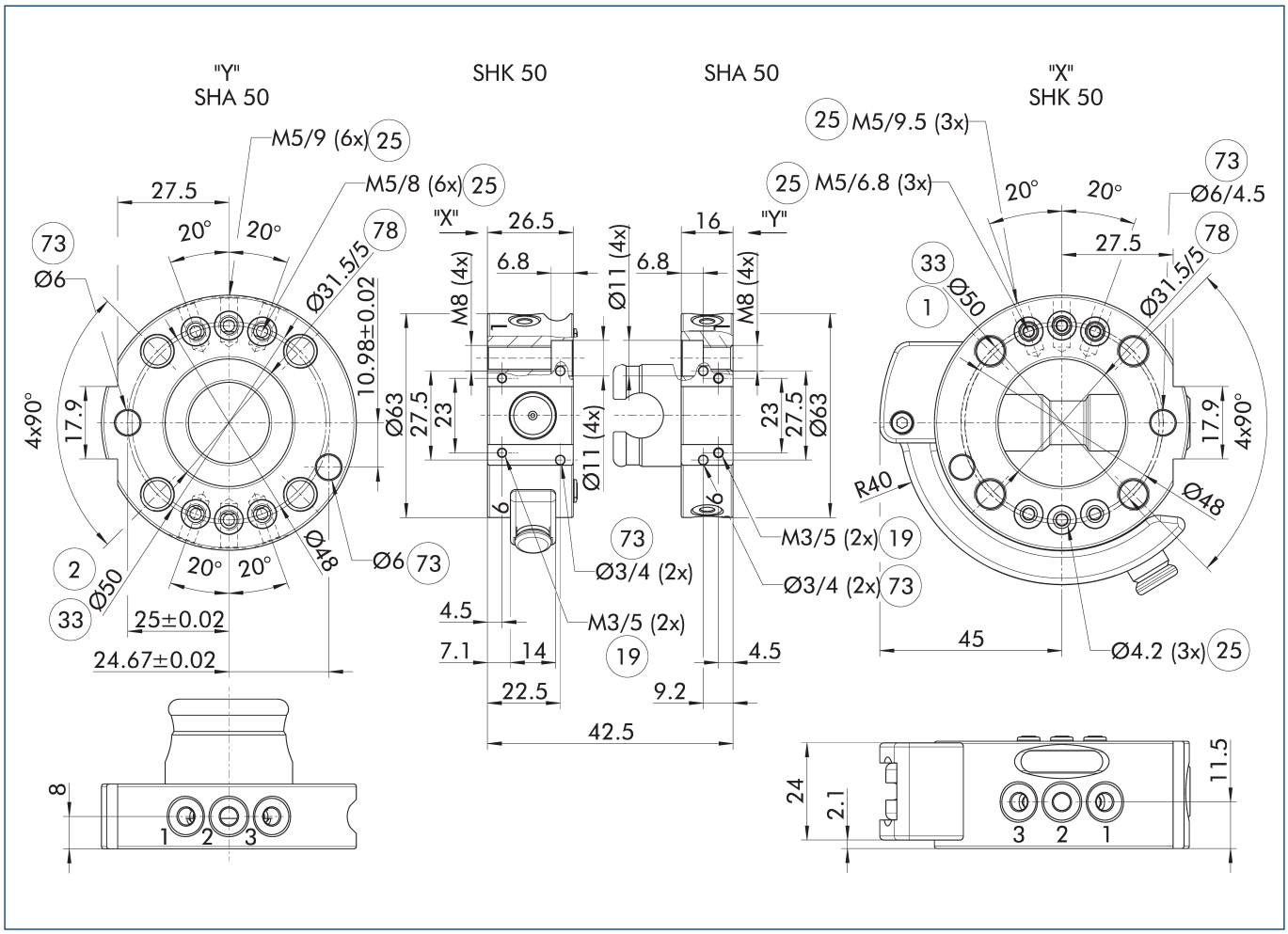
* Please note that the heights of the change master (ZK) and change adapter (ZA) differ. The sum represents the total height of a coupled change system.

Technical data for Universal Robots, Techman Robot, OMRON and Doosan Robotics

Description		EOA-UR3510-SHK-050-E08-000	EOA-UR3510-SHA-050-E08-000	EOA-TM51214-SHK-050-E08-000	EOA-TM51214-SHA-050-E08-000	EOA-DRM-SHK-050-E08-000	EOA-DRM-SHA-050-E08-000
		Manual change head	Manual change adapter	Manual change head	Manual change adapter	Manual change head	Manual change adapter
ID		1334788	1334789	1399638	1399639	1399576	1399581
Recommended handling weight	[kg]	11	11	11	11	11	11
Lock sensing		optionally via attachment kit		optionally via attachment kit		optionally via attachment kit	
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Weight	[kg]	0.35	0.14	0.5	0.14	0.35	0.14
Max. distance when locking	[mm]	1	1	1	1	1	1
Number of pneumatic feed-throughs		6	6	6	6	6	6
Feed-throughs for radial use		3	6	3	6	3	6
Pitch circle diameter	[mm]	50	50	50	50	50	50
Connection flange according to		ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Dimensions Ø D x Z*	[mm]	63 x 26.5	63 x 16	63 x 26.5	63 x 16	63 x 26.5	63 x 16
Screw connection diagram		S5/S7 via adapter plate	S5/S7 via adapter plate	S5/S7 via adapter plate	S5/S7 via adapter plate	S5/S7 via adapter plate	S5/S7 via adapter plate
Media feed-through							
Transmission type		Signal	Signal	Signal	Signal	Signal	Signal
Number of pin contacts		8	8	8	8	8	8
Nominal current	[A]	1.5	1.5	1.5	1.5	1.5	1.5
Nominal voltage	[V DC]	-/30	-/30	-/30	-/30	-/30	-/30
Electrical connection		M8 socket, 8-pin	M8 connector, 8-pin	M8 socket, 8-pin	M8 connector, 8-pin	M8 socket, 8-pin	M8 connector, 8-pin
Electrical connection outlet		tangential (right)	tangential (left)	tangential (right)	tangential (left)	tangential (right)	tangential (left)

* Please note that the heights of the change master (ZK) and change adapter (ZA) differ. The sum represents the total height of a coupled change system.

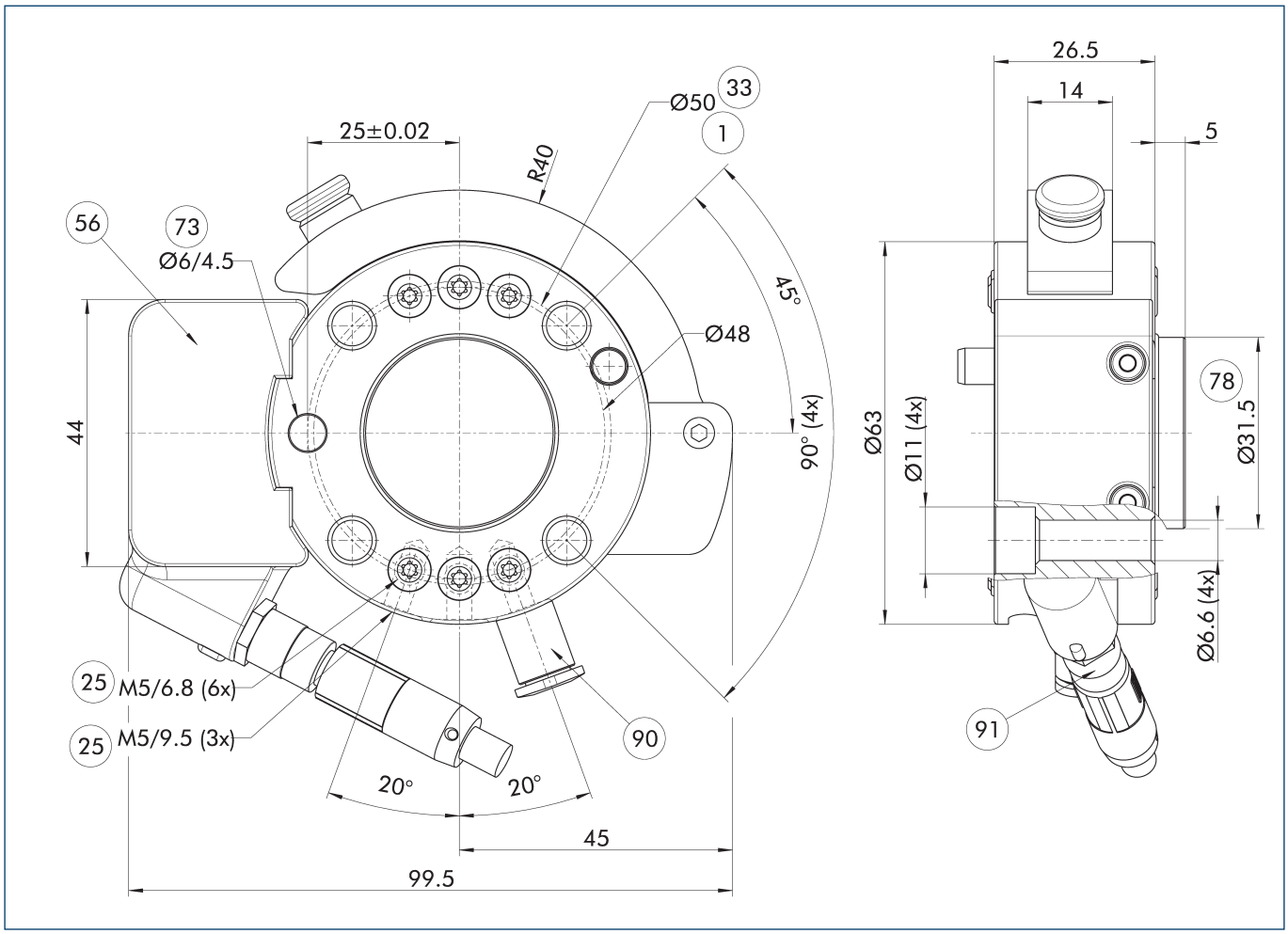
Main view



The main view shows the unit in its basic version.

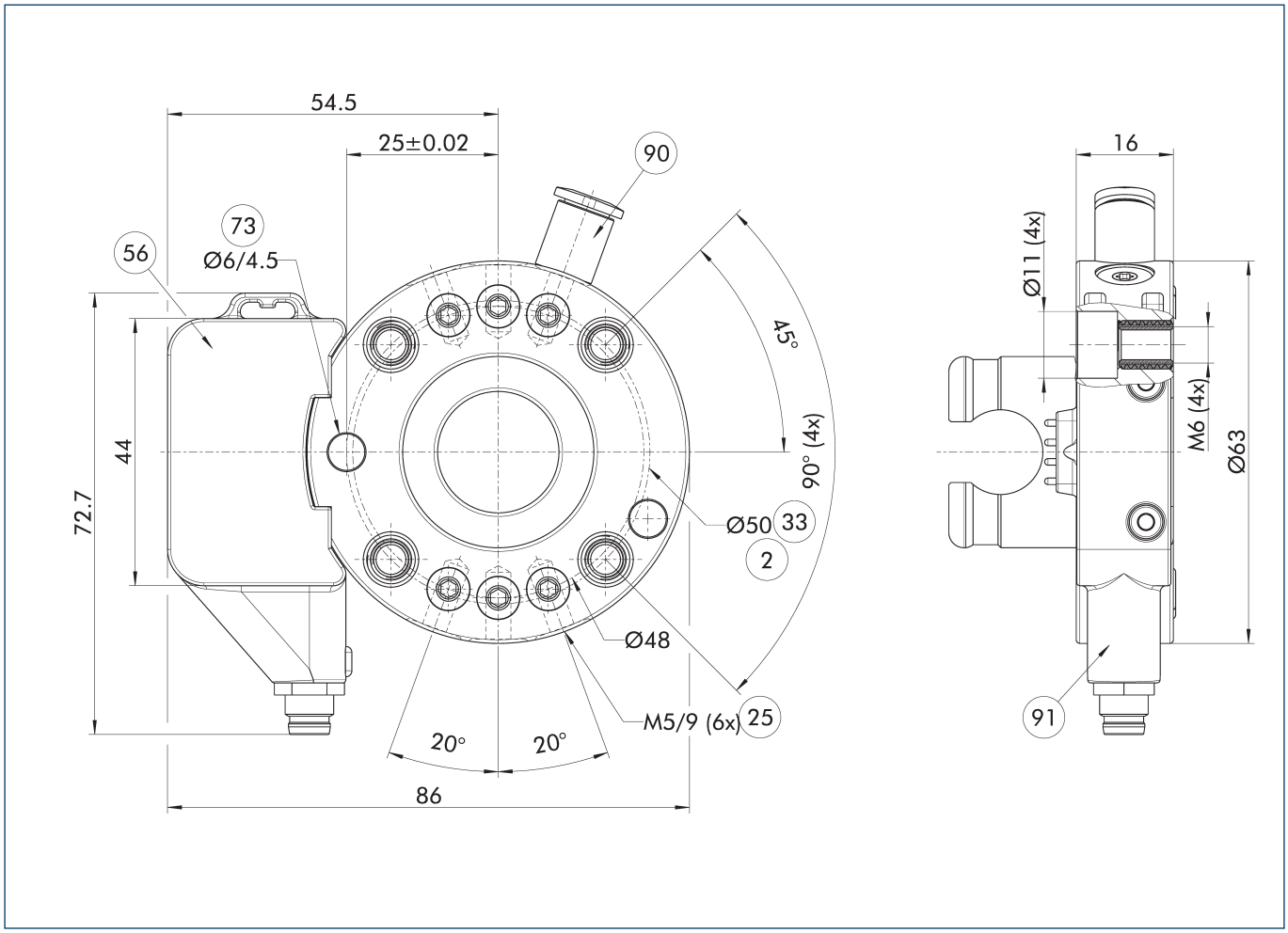
1 Robot-side connection
2 Tool-side connection
19 Mounting surface for options
25 Pneumatic feed-throughs
33 DIN ISO-9409 bolt circle
73 Fit for centering pins
78 Fit for centering

Main view EOA-UR3510-SHK-050



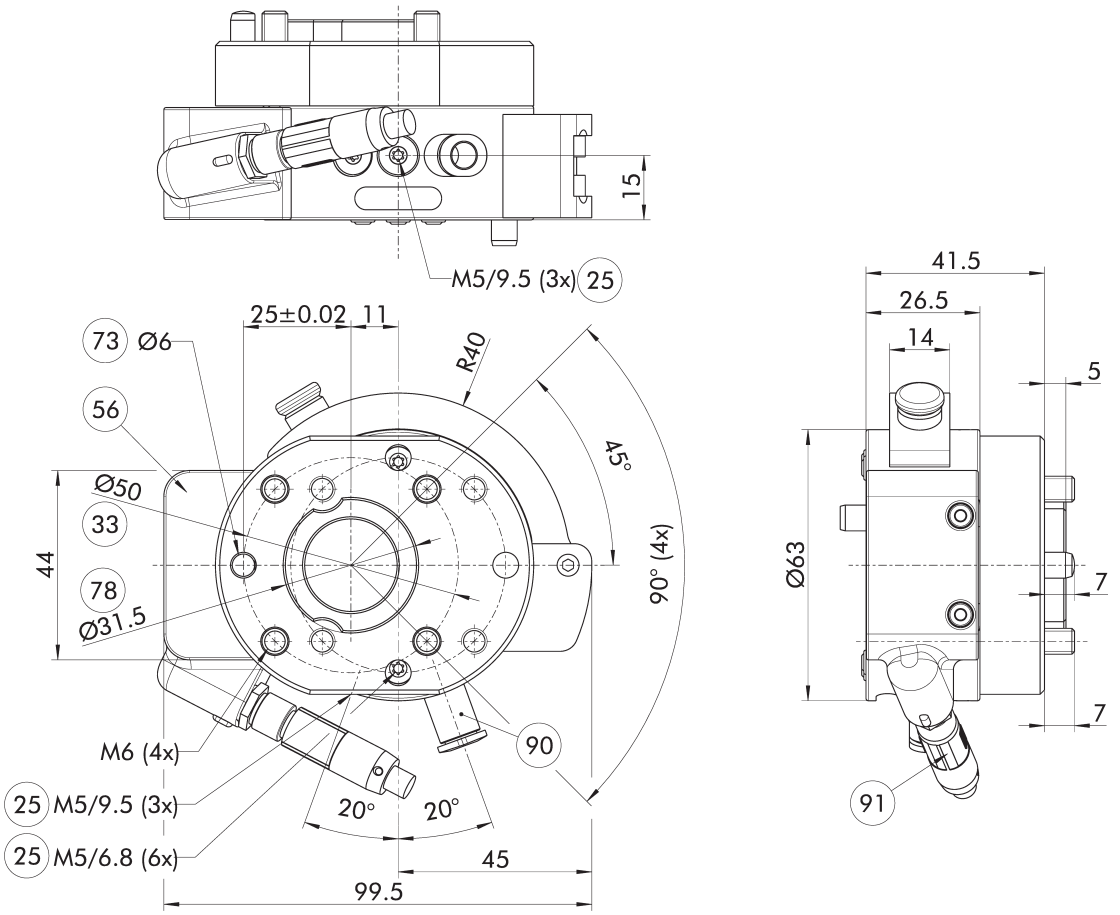
1 Robot-side connection
25 Pneumatic feed-throughs
33 DIN ISO-9409 bolt circle
56 Included in the scope of delivery
73 Fit for centering pins
78 Fit for centering
90 Air connection
91 Electrical connection

Main view EOA-UR3510-SHA-050



(2) Tool-side connection
(25) Pneumatic feed-throughs
(33) DIN ISO-9409 bolt circle
(56) Included in the scope of delivery
(73) Fit for centering pins
(90) Air connection
(91) Electrical connection

Main view EOA-TM51214-SHK-050

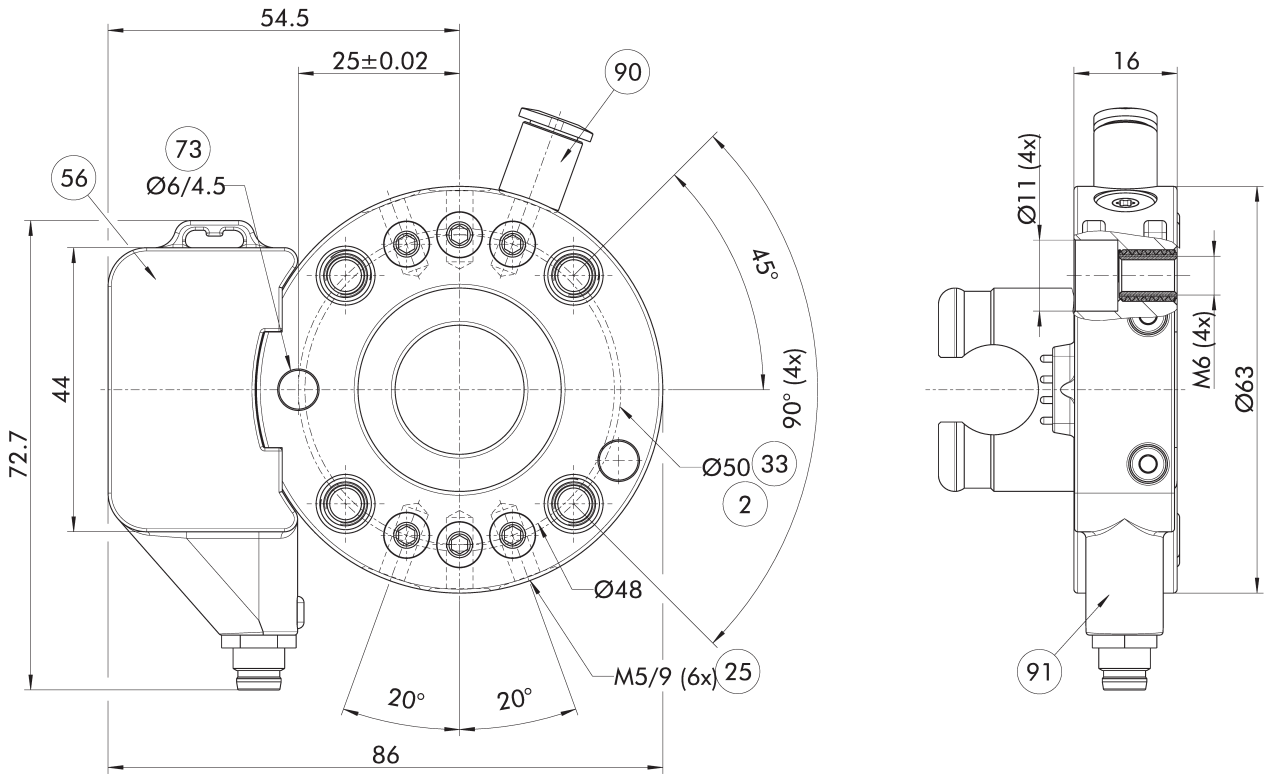


1 Robot-side connection
25 Pneumatic feed-throughs
33 DIN ISO-9409 bolt circle
56 Included in the scope of delivery
73 Fit for centering pins
78 Fit for centering
90 Air connection
91 Electrical connection

SHS 050

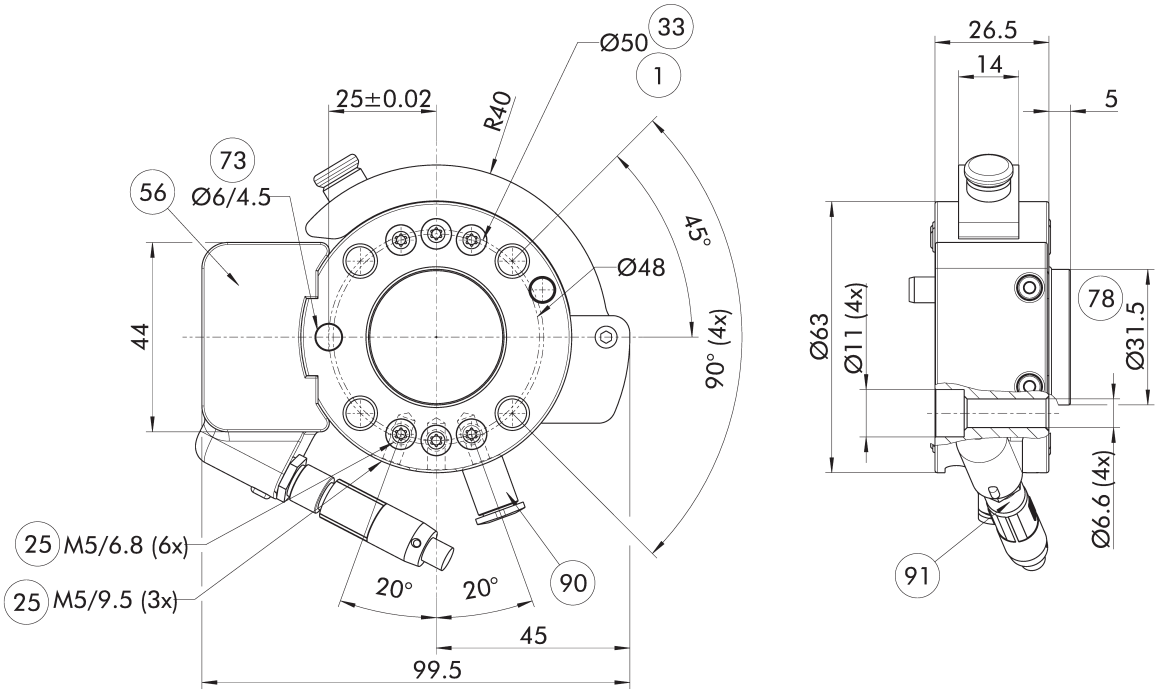
Manual change system

Main view EOA-TM51214-SHA-050



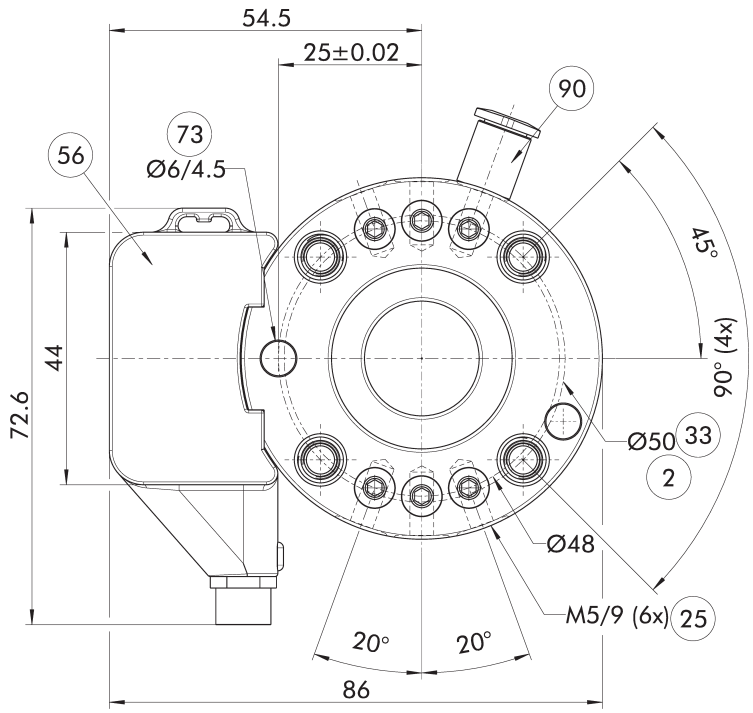
(2) Tool-side connection
(25) Pneumatic feed-throughs
(33) DIN ISO-9409 bolt circle
(56) Included in the scope of delivery
(73) Fit for centering pins
(90) Air connection
(91) Electrical connection

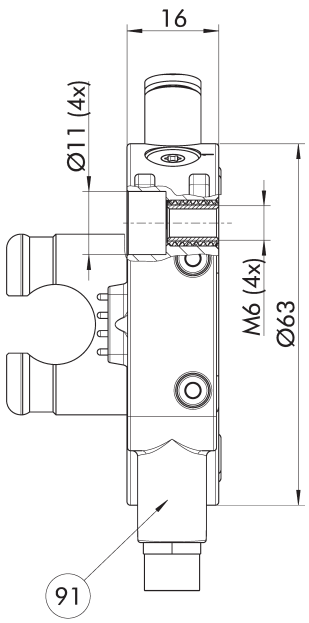
Main view EOA-DRM-SHK-050



(1) Robot-side connection
(25) Pneumatic feed-throughs
(33) DIN ISO-9409 bolt circle
(56) Included in the scope of delivery
(73) Fit for centering pins
(78) Fit for centering
(90) Air connection
(91) Electrical connection

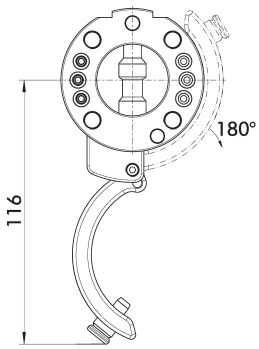
Main view EOA-DRM-SHA-050





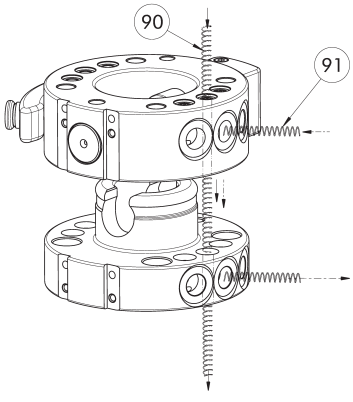
2 Tool-side connection
25 Pneumatic feed-throughs
33 DIN ISO-9409 bolt circle
56 Included in the scope of delivery
73 Fit for centering pins
90 Air connection
91 Electrical connection

Interference Contour when locking/unlocking



The drawing shows the interfering contour when locking and unlocking. The specified values may vary depending on the opening angle of the locking lever.

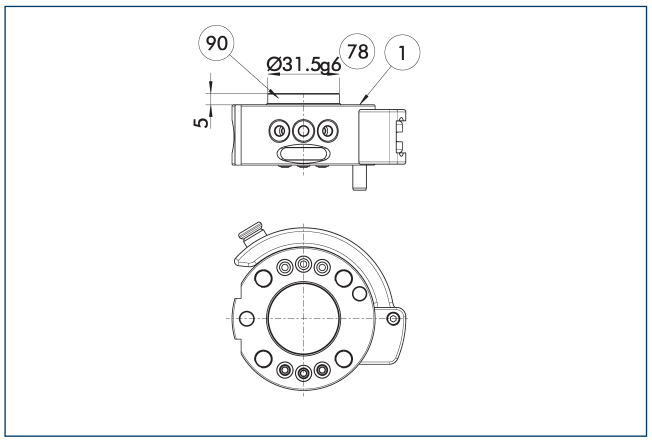
Pneumatic feed-through



90 Feed-through axial
91 Feed-through radial

The changing system has pneumatic feed-throughs.They can be used hose-free via the adapter plate (axial) or with a hose (radial).Some of the feed-throughs can be used axially.

Centering disc for SHK

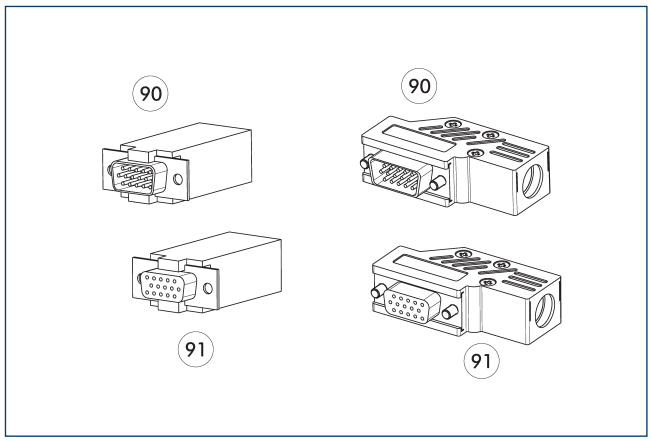


(1) Robot-side connection
(90) Centring disc
(78) Fit for centering

Description	ID	
Centering disc		
A-HWK-050-BOSS	0302752	

ⓘ Serves as a fitting collar for centering on mechanical interfaces, e. g. on the robot.

Cable connector



(90) D-sub connecting plug
(91) D-sub connector

Description	ID	
Angled cable connector, robot-side		
KAS-A15-K-90	0301301	
Angled cable connector, tool-side		
KAS-A15-A-90	0301302	
Straight cable connector, robot-side		
KAS-A15-K-0	0301264	
Straight cable connector, tool-side		
KAS-A15-A-0	0301265	

ⓘ Detailed information and further cable connectors can be found at schunk.com

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