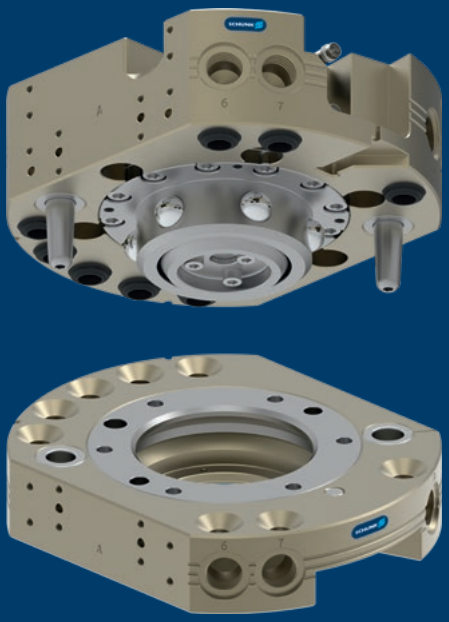


Hand in hand for tomorrow

Product data sheet

Automatic tool changers CPS

Modular. Robust. Flexible.

Automatic tool changers CPS

Pneumatically actuated tool changer with self-retaining function in the event of a loss of compressed air, the integrated piston spring ensures that gap formation is minimized.

Field of application

Universally applicable (e.g., for handling tasks or machine loading) with short change-over times between an end effector such as a gripper or a customer's tool.

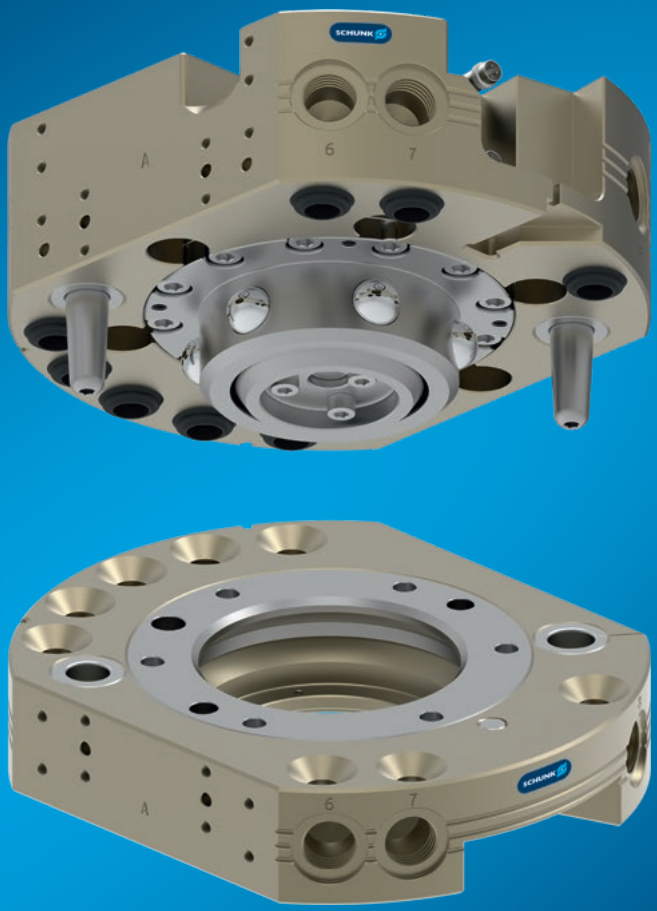
Advantages – Your benefits

Wide range of sizes with 18 sizes, the CPS enables an optimal selection for every application

Versatile media transmission extensive range of optional modules for feed-through of electrical and fluidic media extends the application possibilities of the tool change system

Durability The use of hardened and stainless steel in all functional parts increases the bearing load capacity and extends the service life

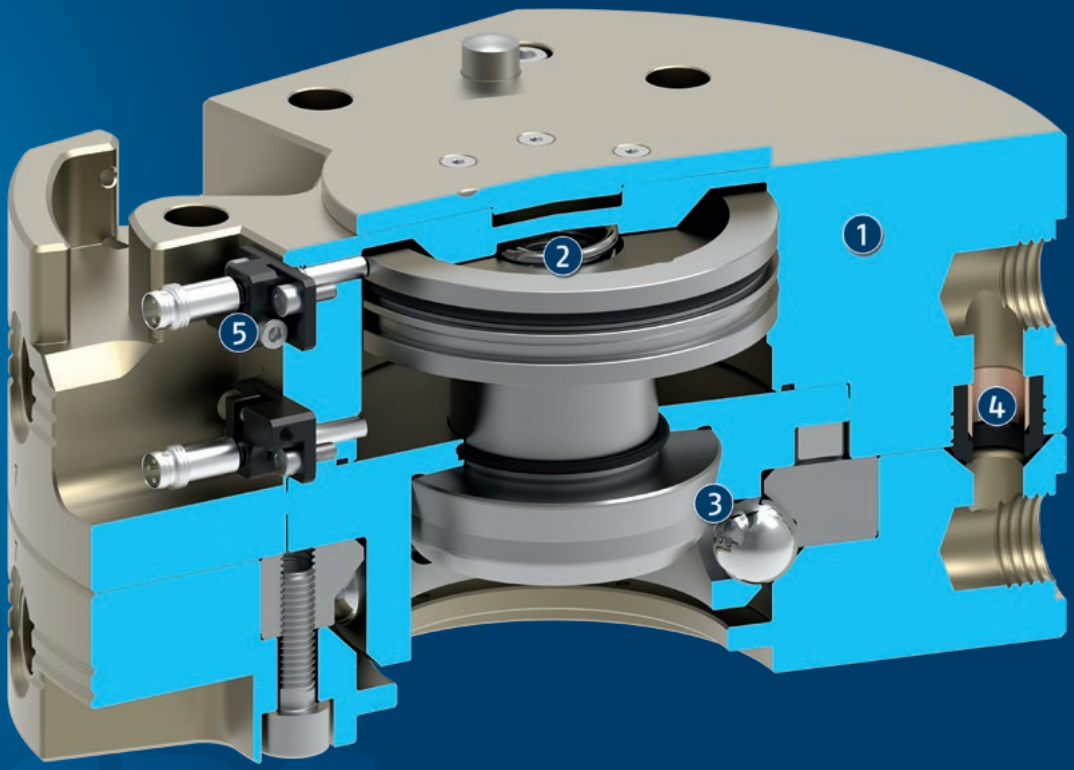
Easy assembly Installation is quick and easy using standardized adapter plates or directly on the mechanical interface



Sizes
Quantity: 18

Functional description

The automatic tool changer CPS consists of a change master (CPS-K) and a change adapter (CPS-A). The CPS-K that is mounted on the robot couples and decouples the CPS-A which is mounted on the tool. The pneumatically actuated locking piston ensures a reliable connection. Suitable option modules supply the coupled tool.



① **Housing**
Weight-optimized due to the use of high-strength, hard-coated aluminum alloy

② **Piston**
Pneumatically driven, ensures locking/unlocking of the system

③ **Locking mechanism**
Functional parts are made of hardened stainless steel. Locking balls ensure a quick and secure connection. Self-retaining during compressed air drop. Integrated spring prevents gap formation between master and adapter.

④ **Integrated pneumatic feed-throughs**
Minimization of the interfering contour. Also suitable for transferring vacuum.

⑤ **Sensor monitoring of the locking device**
Optional, for monitoring in a reliable process

General notes about the series

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Operating principle: piston-actuated balls with integrated spring (to support the locked piston position)

Media transmission: variable via attachment feed-through modules, depending on the unit size

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

Warranty: 24 months

Service life characteristics: on request

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.

Minimum pressure: The minimum pressure is the required minimum pressure to lock the system. This pressure must be continuously present during operation.

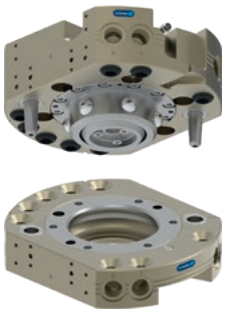
Self-retaining: The automatic tool changer has a self-retaining feature that prevents the tool from falling off in case of the pressure drop. The change master and change adapter can be separated by pneumatically actuating the piston.

Application example

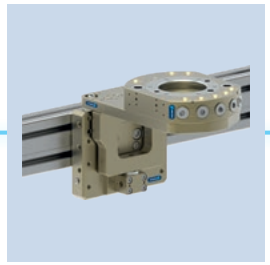
1. Automatic tool changers CPS
2. Optional modules COS
3. Modular storage rack CTS
4. Universal gripper EGU
5. 2-finger parallel gripper JGP-P

SCHUNK offers more ...

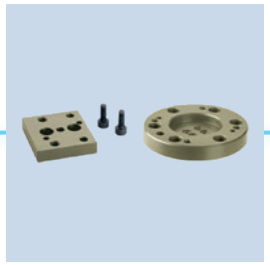
The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



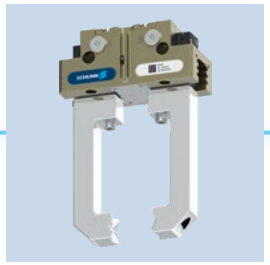
Optional modules COS



Modular storage rack CTS



Adapter plates



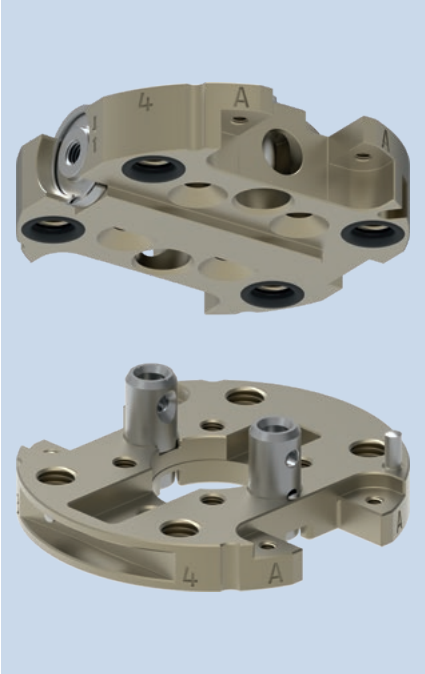
Universal gripper

Proximity switch

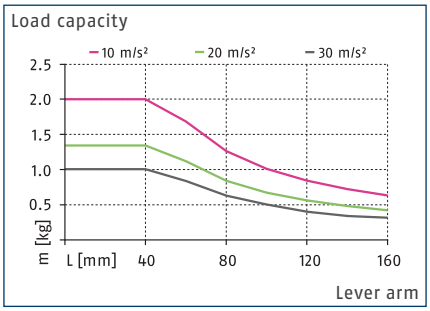
ⓘ For more information on these products can be found on the following product pages or at schunk.com.

CPS 001

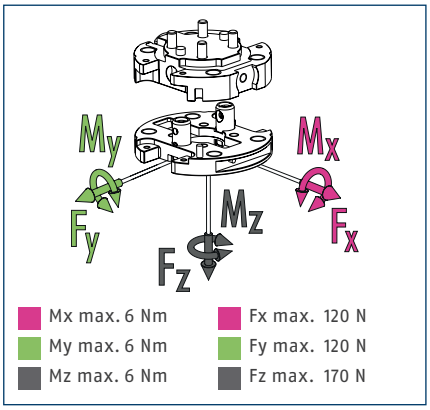
Automatic tool changers



Load chart



Max. loads

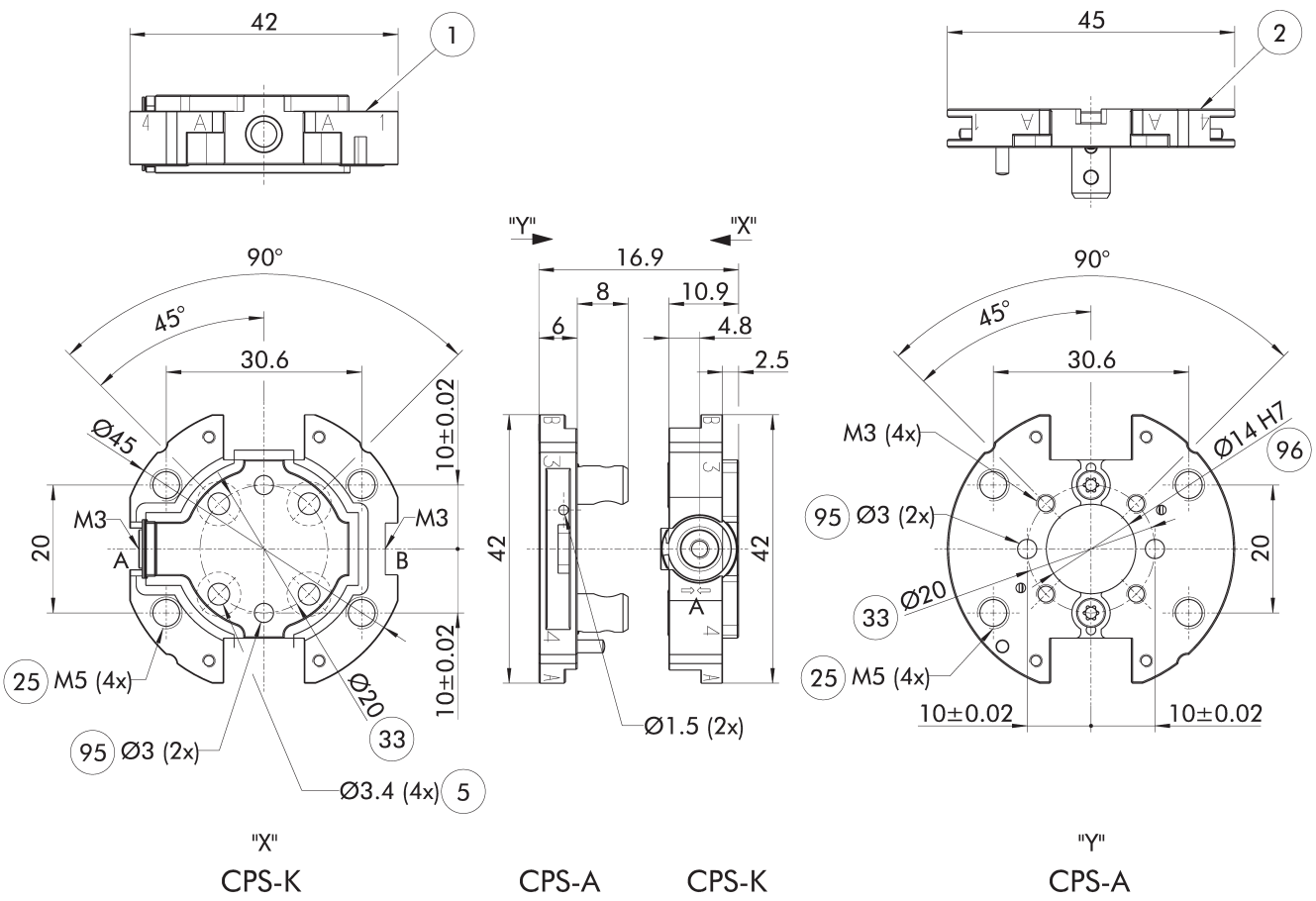


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 001-K	CPS 001-A
		Change head	Tool
ID		1590948	1619548
Lock sensing		not possible	
Locking force	[N]	170	
Locking force provided by spring force	[N]	4	
Repeat accuracy	[mm]	0.01	
Weight	[kg]	0.03	0.02
Max. distance when locking	[mm]	1	
Number of pneumatic feed-throughs		4x M5	4x M5
Lock/unlock main connection		M3	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		S1	S1
Opening/closing time	[s]	0.1/0.1	
Cylinder volume per double stroke	[cm³]	1.2	
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	2	2
Max. dynamic moment My	[Nm]	2	2
Max. dynamic moment Mz	[Nm]	2	2
Force Fx max. dynamic	[N]	40	40
Force Fy max. dynamic	[N]	40	40
Force Fz max. dynamic	[N]	57	57

Main view

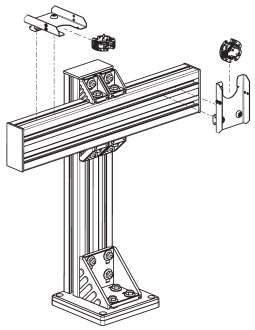


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

1 Robot-side connection
2 Tool-side connection
5 Through hole for connection with screws
24 Bolt circle
25 Pneumatic feed-throughs
90 Groove for tool rack
95 Fit for centering pins
96 Fit for centering

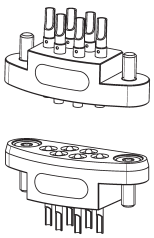
Modular storage rack CTS



CTS-T

ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

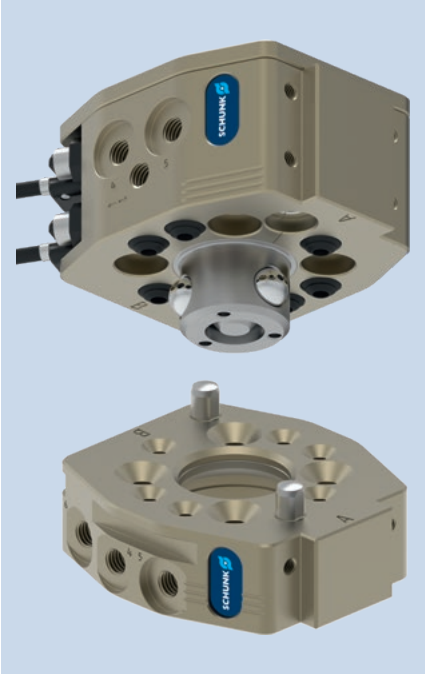
Optional modules COS



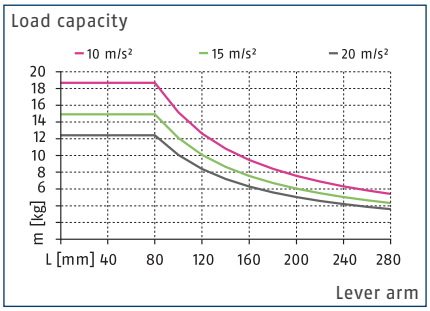
ⓘ For detailed information, see the "COS" chapter in the catalog, or visit schunk.com.

CPS 007

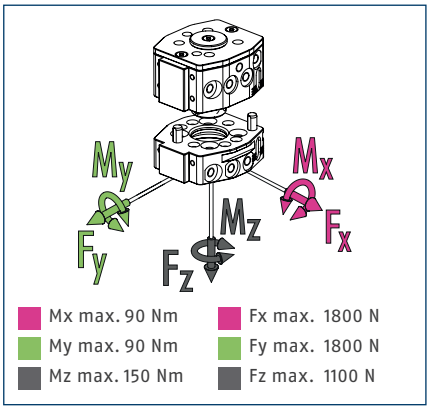
Automatic tool changers



Load chart



Max. loads

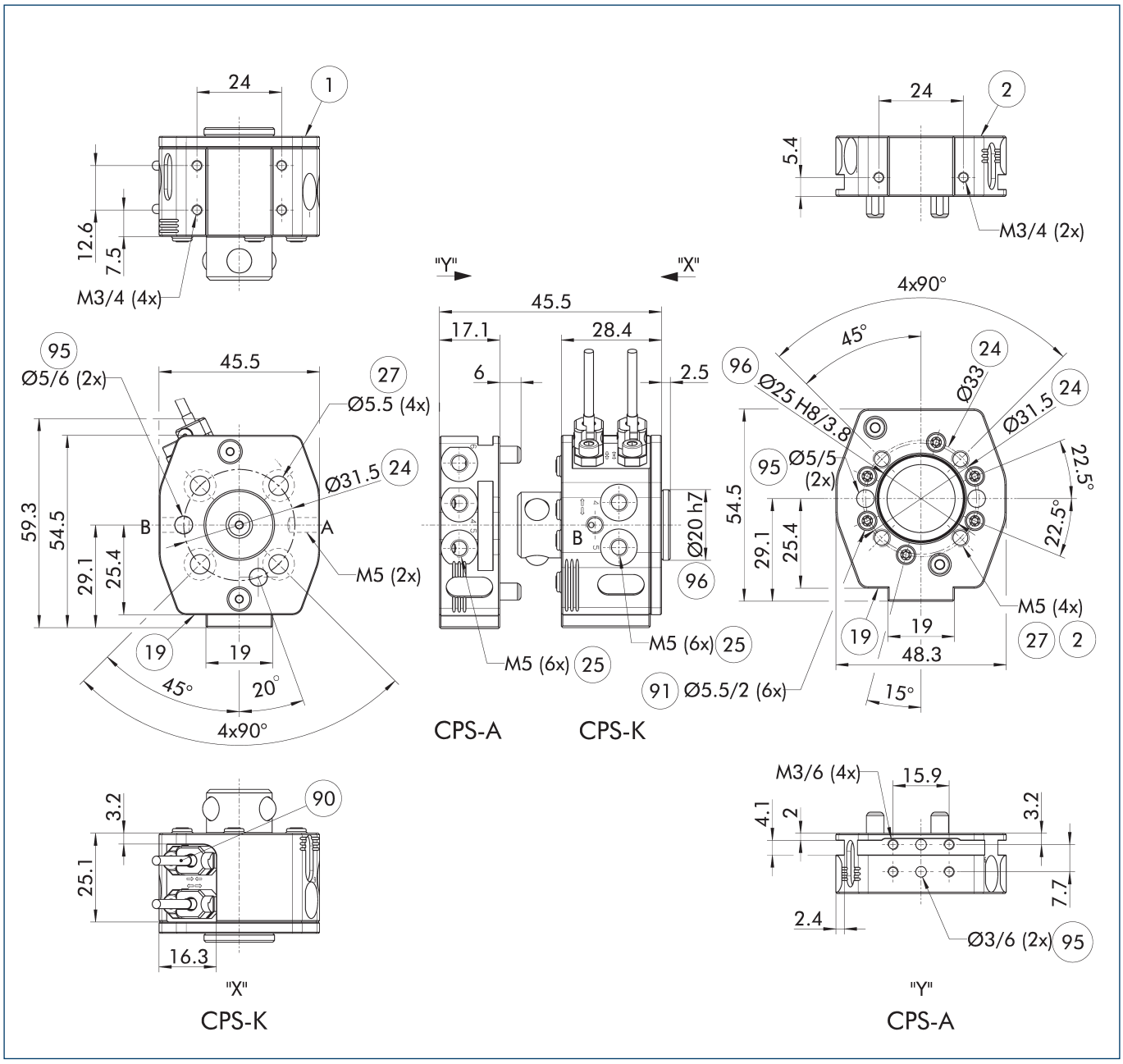


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 007-K-S	CPS 007-K	CPS 007-A
		Change head	Change head	Tool
ID		1613262	1591016	1591017
Lock sensing		integrated	prepared	
Locking force	[N]	980	980	
Locking force provided by spring force	[N]	28	28	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	0.19	0.19	0.08
Max. distance when locking	[mm]	1.5	1.5	
Number of pneumatic feed-throughs		6x M5	6x M5	6x M5
Lock/unlock main connection		M5	M5	
Max. permissible XY axis offset	[mm]	±1	±1	±1
Max. permissible angular offset XY	[°]	±0.8	±0.8	±0.8
Max. permissible angular offset Z	[°]	±2	±2	±2
Robot-side connection		ISO 9409-1-31.5-4-M5	ISO 9409-1-31.5-4-M5	
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		S7	S7	S7
Opening/closing time	[s]	0.1/0.1	0.1/0.1	
Cylinder volume per double stroke	[cm³]	7.1	7.1	
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	30	30	30
Max. dynamic moment My	[Nm]	30	30	30
Max. dynamic moment Mz	[Nm]	50	50	50
Force Fx max. dynamic	[N]	600	600	600
Force Fy max. dynamic	[N]	600	600	600
Force Fz max. dynamic	[N]	370	370	370

Main view

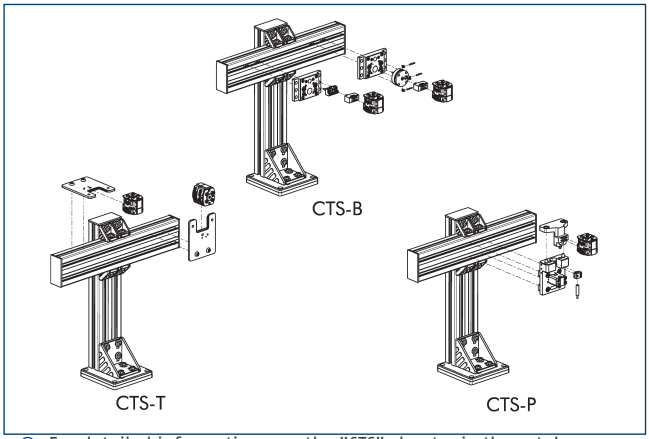


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

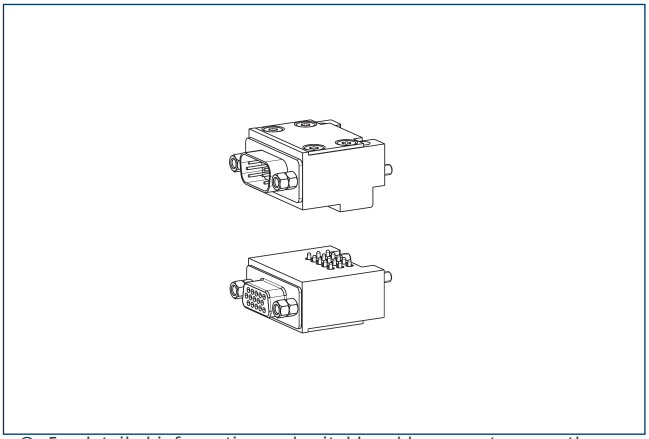
(1) Robot-side connection
(2) Tool-side connection
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(27) Through holes for screw connections
(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)
(91) Axial air connection (supplied with locking screw)
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



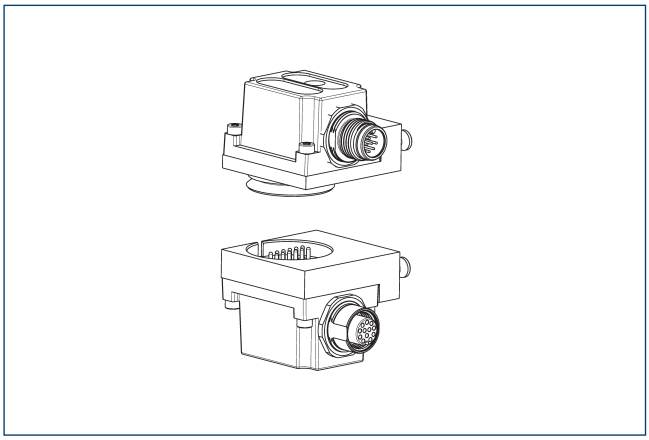
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

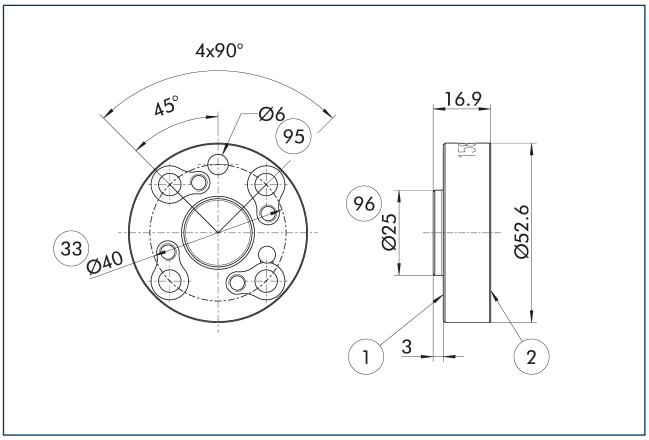


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z84-A-S7/B	1618198	S7
COS Z84-K-S7/B	1618197	S7

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A40-R

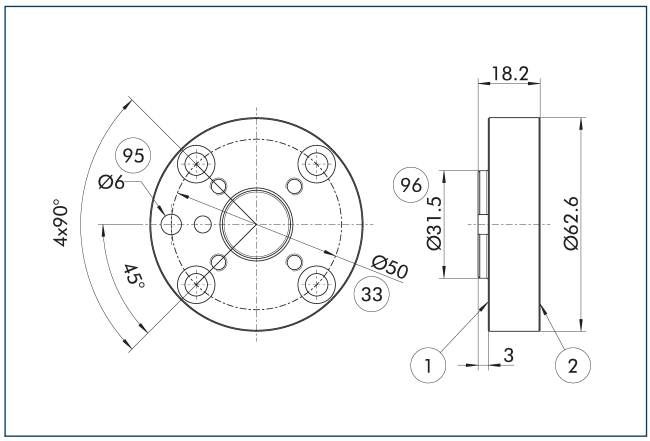


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS007	1581604	

Adapter plate ISO-A50-R

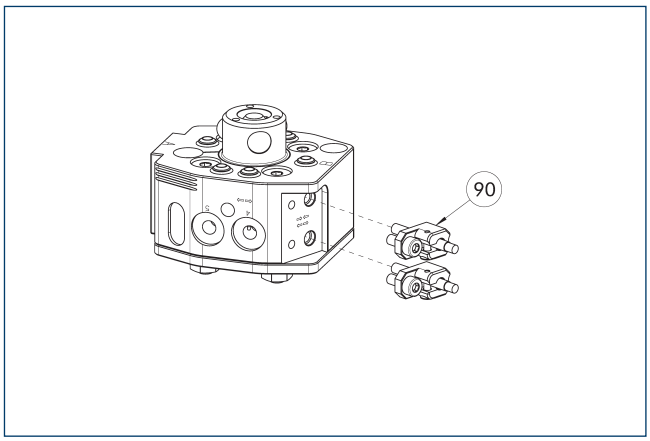


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS007	1581606	

Assembly situation of the locking monitoring



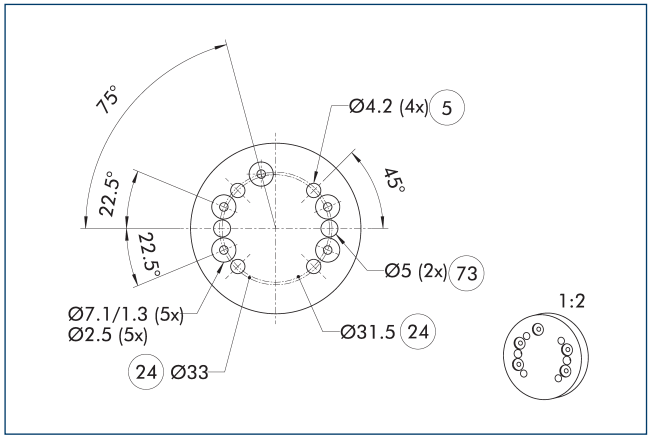
(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-007	1610158	

ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

Design of an adapter plate for using the axial air feed-through

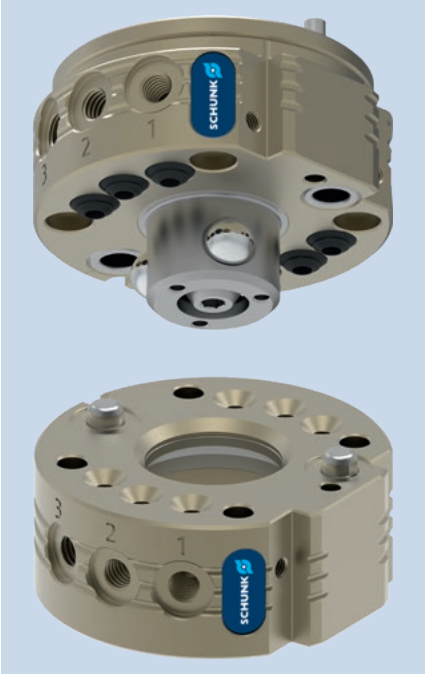


(5) Through hole for connection with screws
(24) Bolt circle
(73) Fit for centering pins

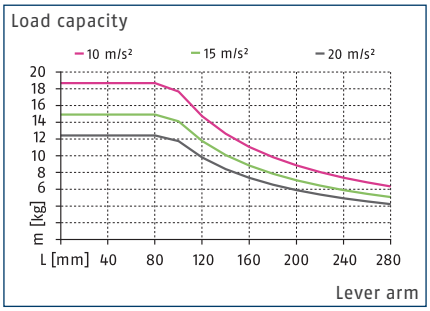
The adapter plate serves as an interface between the change adapter and the tool of the customer. To ensure correct use of the axial air feed-throughs, the counterbores shown in the drawing must be taken into account when designing the adapter plate. The appropriate seals are included in the accessory kit.

CPS 011

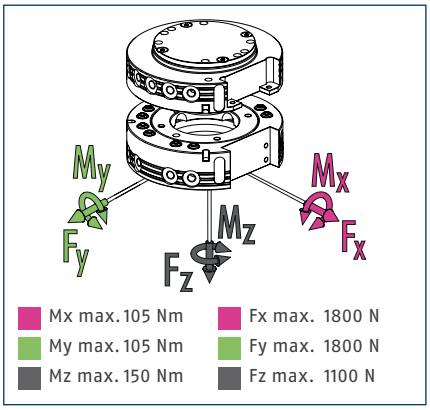
Automatic tool changers



Load chart



Max. loads

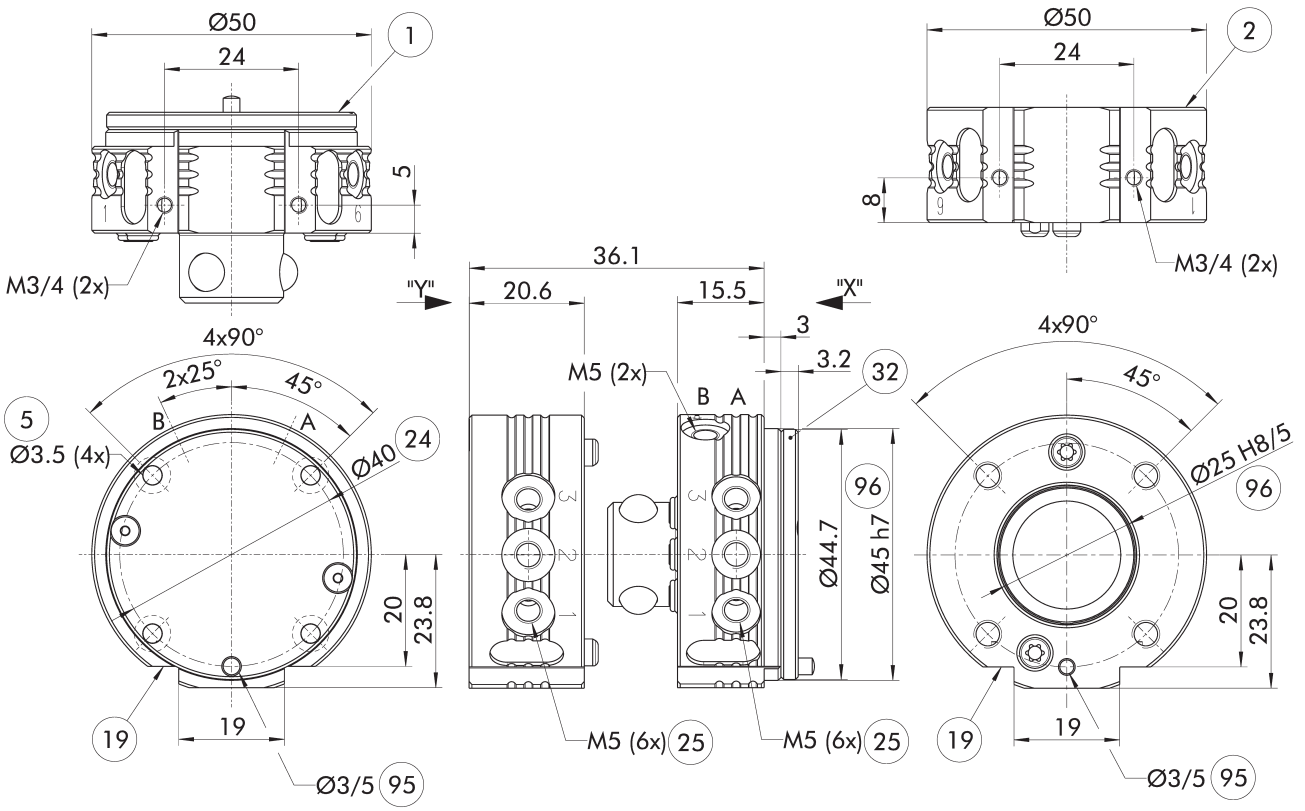


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 011-K	CPS 011-A
		Change head	Tool
ID		1619555	1619558
Lock sensing		optional	
Locking force	[N]	1100	
Locking force provided by spring force	[N]	23	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	0.13	0.08
Max. distance when locking	[mm]	1.5	
Number of pneumatic feed-throughs		6x M5	6x M5
Lock/unlock main connection		M5	
Max. permissible XY axis offset	[mm]	±1	±1
Max. permissible angular offset XY	[°]	±0.8	±0.8
Max. permissible angular offset Z	[°]	±2	±2
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		S7	S7
Opening/closing time	[s]	0.1/0.1	
Cylinder volume per double stroke	[cm³]	7.9	
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	35	35
Max. dynamic moment My	[Nm]	35	35
Max. dynamic moment Mz	[Nm]	50	50
Force Fx max. dynamic	[N]	600	600
Force Fy max. dynamic	[N]	600	600
Force Fz max. dynamic	[N]	370	370

Main view

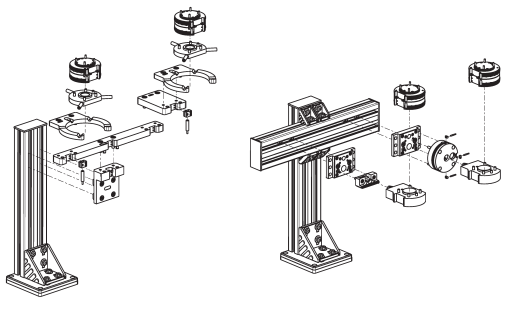


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

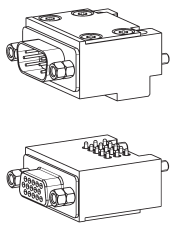
A, a Air connection locked
B, b Air connection unlocked
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



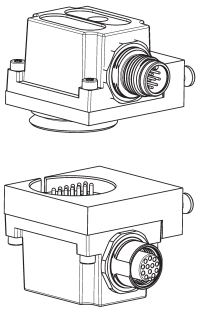
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

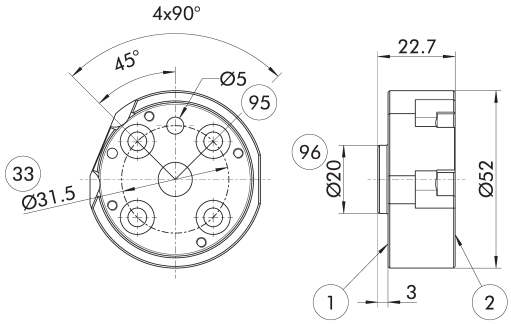


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z84-A-S7/B	1618198	S7
COS Z84-K-S7/B	1618197	S7

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A31.5-R

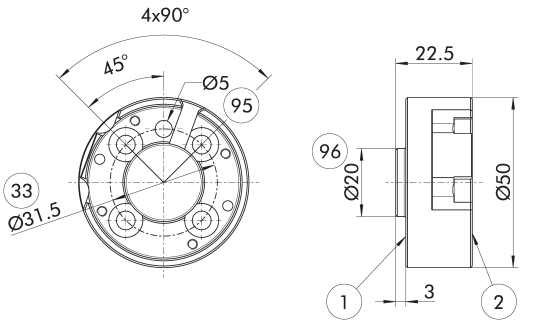


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO031/CPS011	1581616	

Adapter plate ISO-A31.5-SIP-R

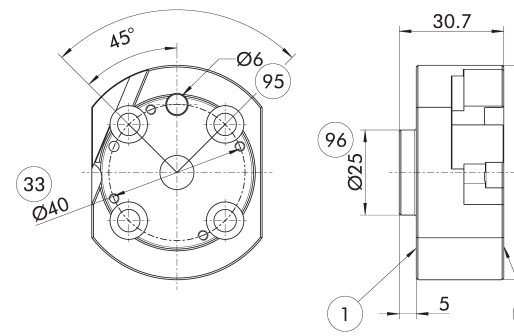


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO031/CPS011-SIP	1581623	

Adapter plate ISO-A40-R

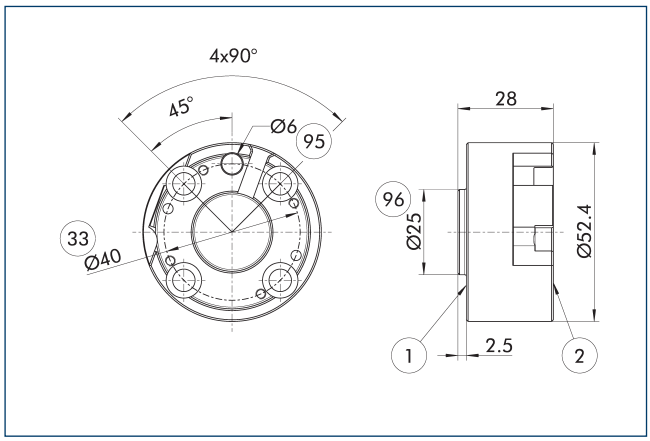


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS011	1581629	

Adapter plate ISO-A40-SIP-R

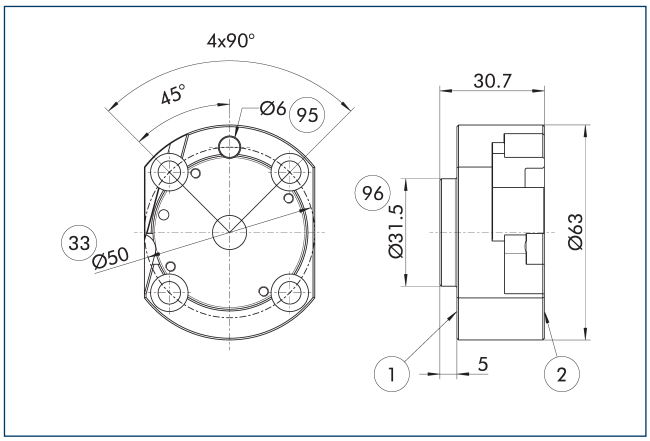


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS011-SIP	1581648	

Adapter plate ISO-A50-R

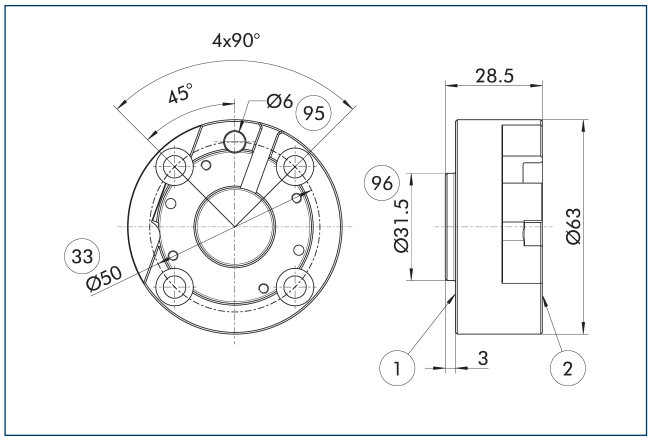


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS011	1581654	

Adapter plate ISO-A50-SIP-R

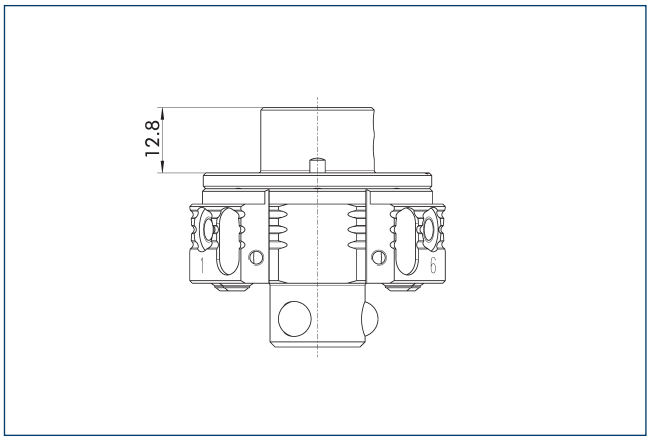


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS011-SIP	1581659	

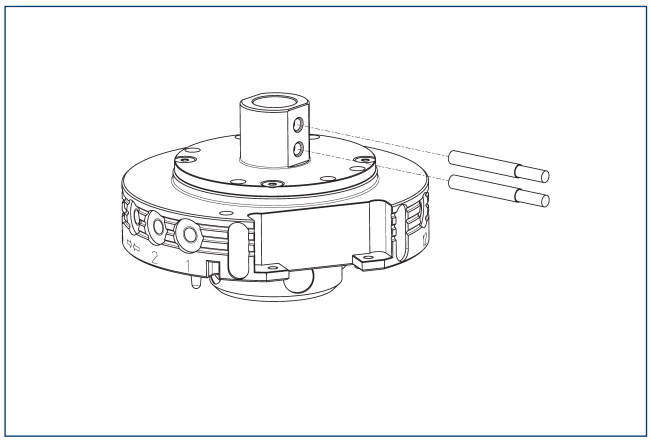
Lock sensing



The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-011-SIP-IN00	1596403	

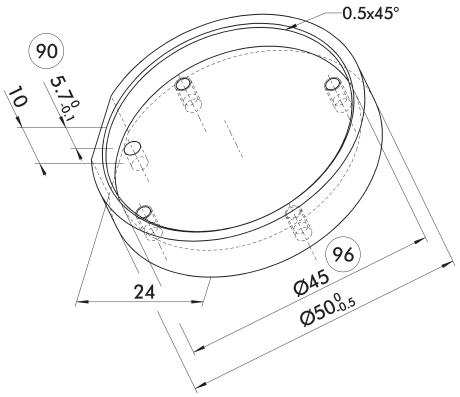
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 41-S-M8-PNP	1325755	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design



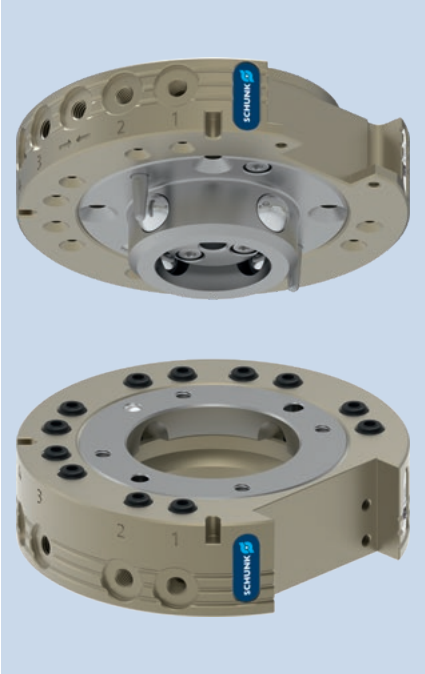
(90) Recommended adapter plate depth

(96) Fit for centering

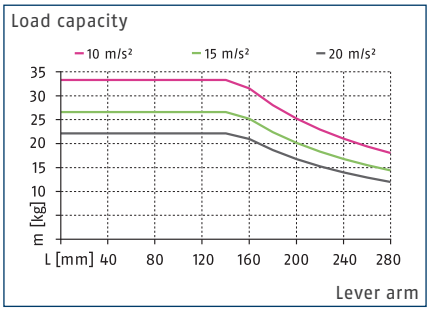
Recommendation for the design of the adapter plate.

CPS 020

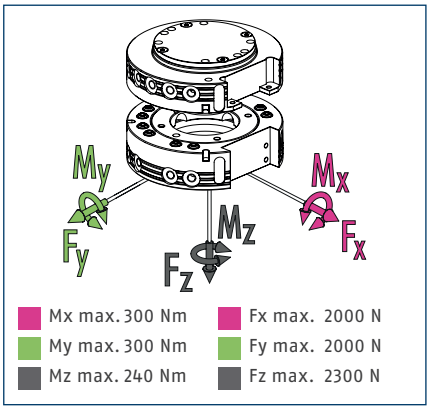
Automatic tool changers



Load chart



Max. loads

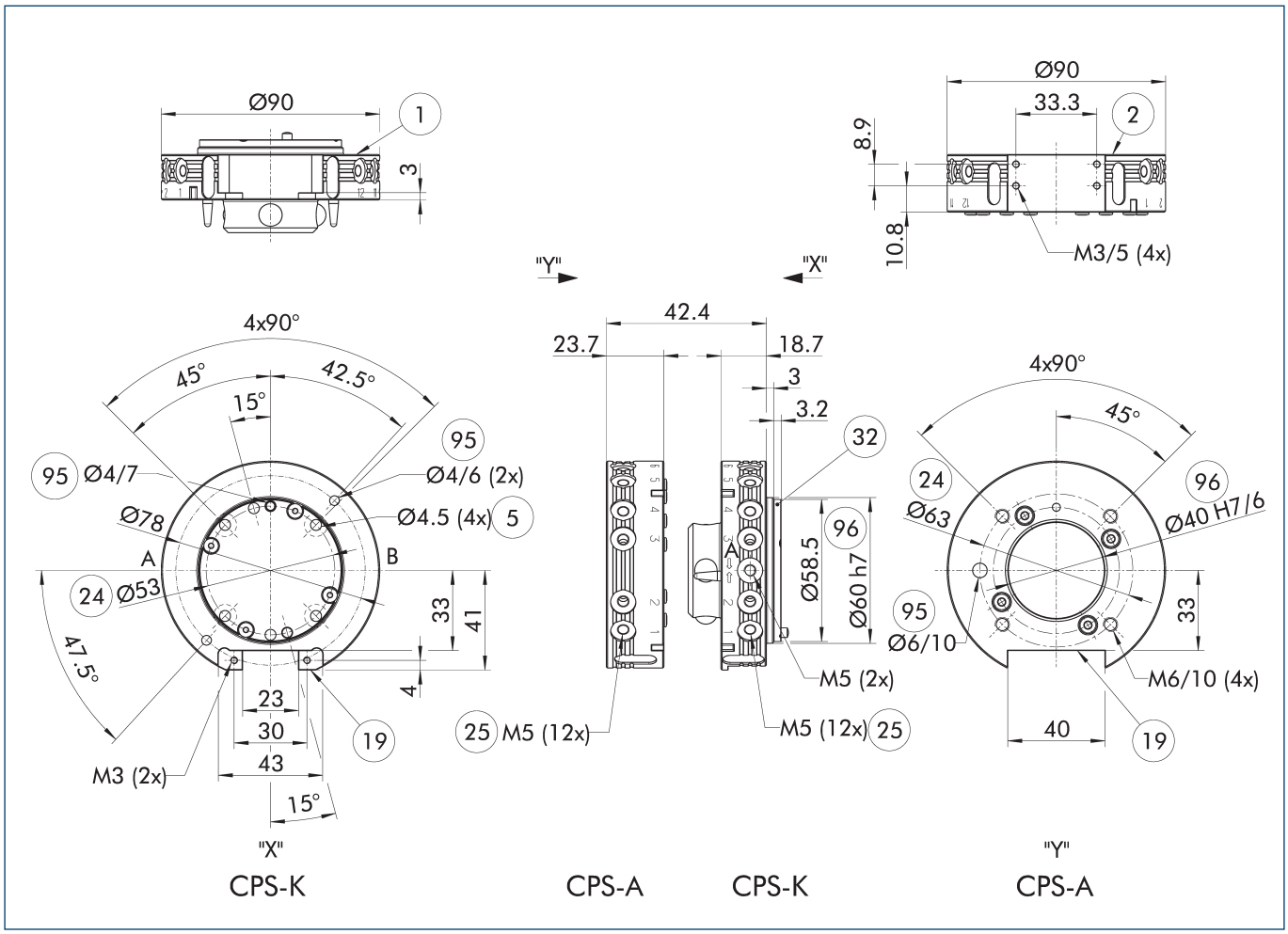


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 020-K	CPS 020-A
		Change head	Tool
ID		1591033	1591034
Lock sensing		optional	
Locking force	[N]	2300	
Locking force provided by spring force	[N]	68	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	0.48	0.35
Max. distance when locking	[mm]	2	
Number of pneumatic feed-throughs		12x M5	12x M5
Lock/unlock main connection		M5	
Max. permissible XY axis offset	[mm]	±1	±1
Max. permissible angular offset XY	[°]	±0.8	±0.8
Max. permissible angular offset Z	[°]	±2	±2
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		K	K
Opening/closing time	[s]	0.1/0.1	
Cylinder volume per double stroke	[cm³]	20	
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	100	100
Max. dynamic moment My	[Nm]	100	100
Max. dynamic moment Mz	[Nm]	80	80
Force Fx max. dynamic	[N]	660	660
Force Fy max. dynamic	[N]	660	660
Force Fz max. dynamic	[N]	760	760

Main view

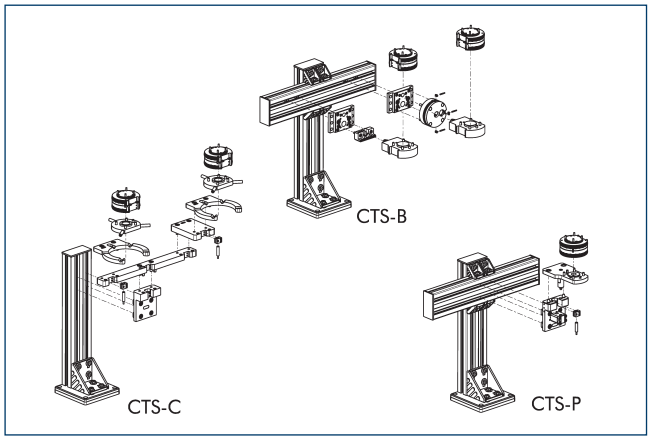


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

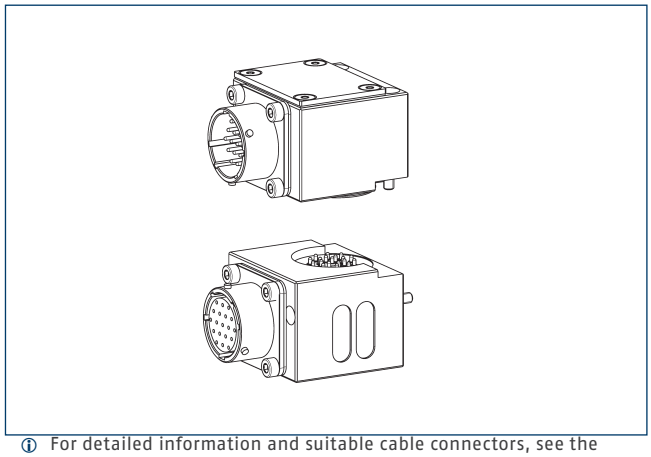
A, a Air connection locked
B, b Air connection unlocked
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



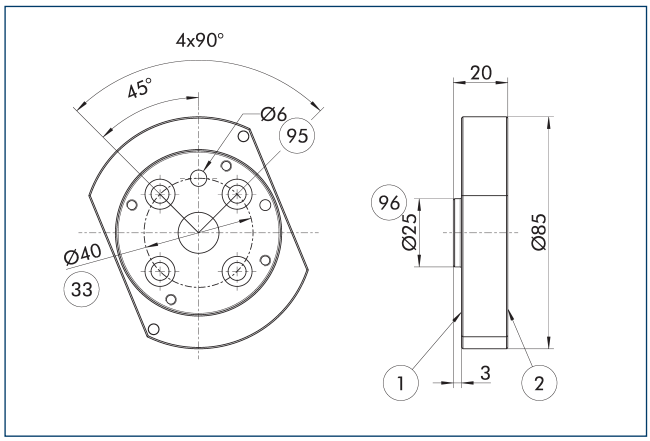
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A40-R

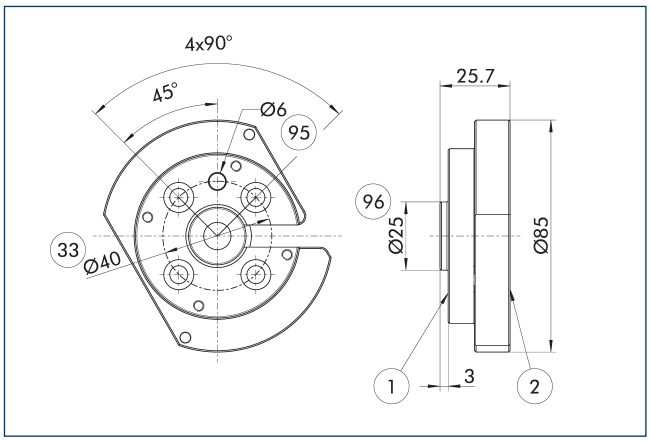


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS020-021	1581668	

Adapter plate ISO-A40-SIP-R

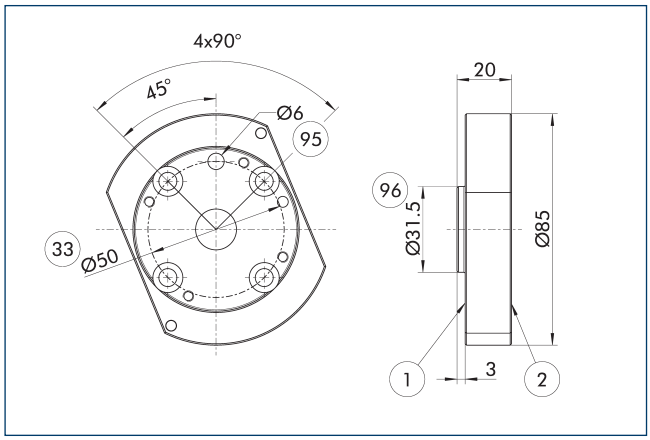


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS020-021-SIP	1581676	

Adapter plate ISO-A50-R

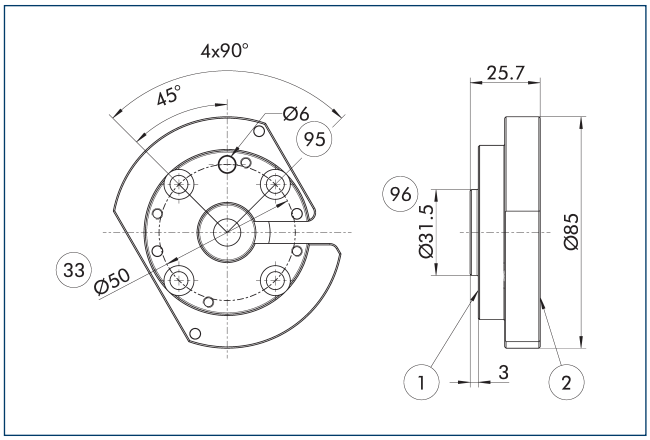


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS020-021	1581683	

Adapter plate ISO-A50-SIP-R

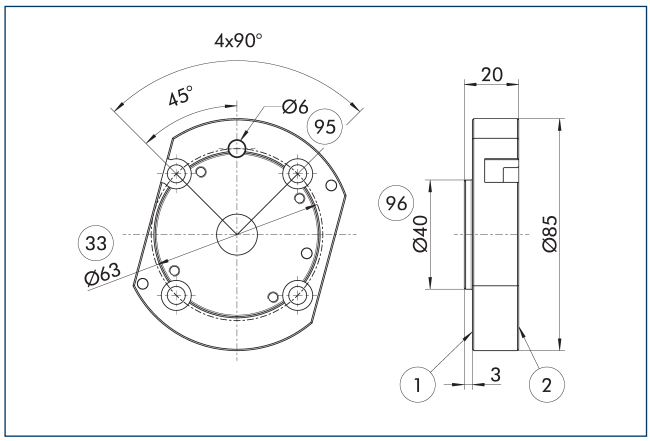


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS020-021-SIP	1581686	

Adapter plate ISO-A63-R

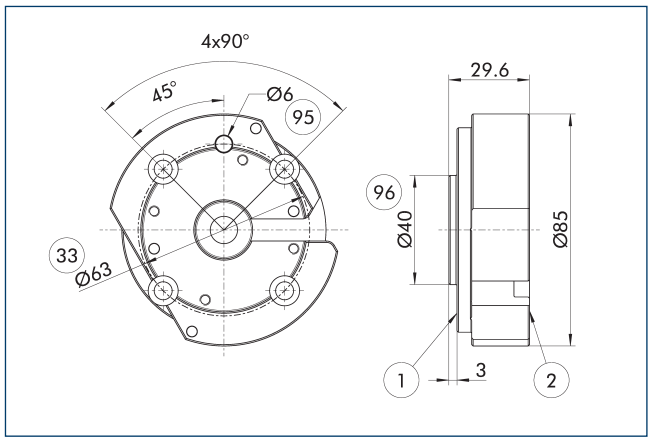


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO063/CPS020-021	1581689	

Adapter plate ISO-A63-SIP-R

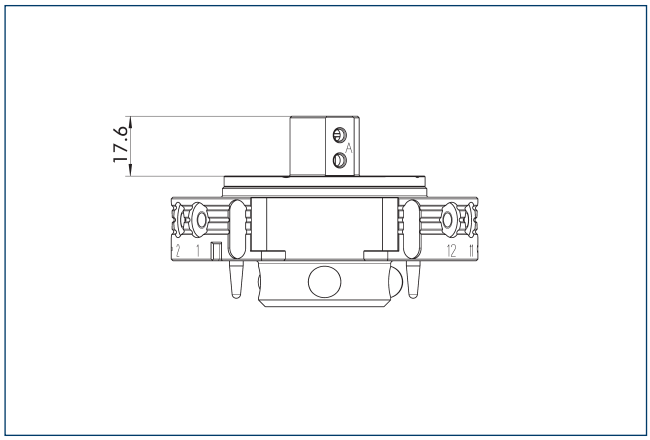


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO063/CPS020-021-SIP	1581694	

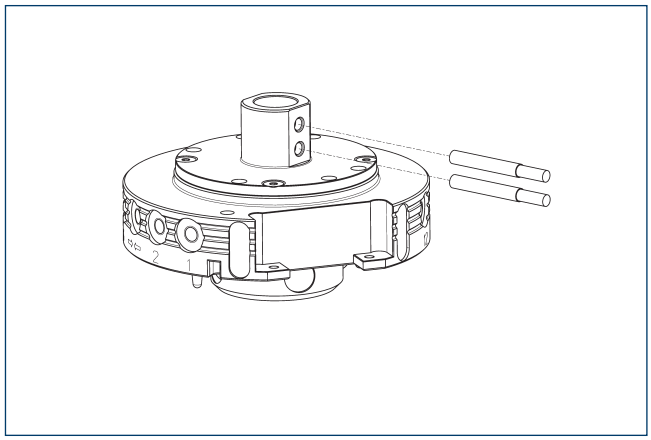
Lock sensing



The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-020-SIP-IN00	1596404	

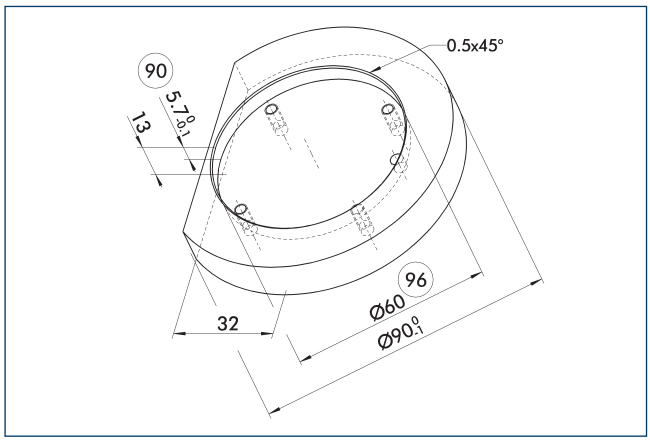
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 41-S-M8-PNP	1325755	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design



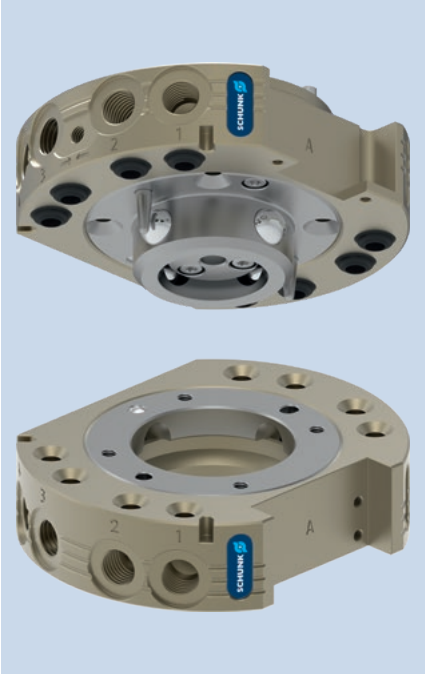
(90) Recommended adapter plate depth

(96) Fit for centering

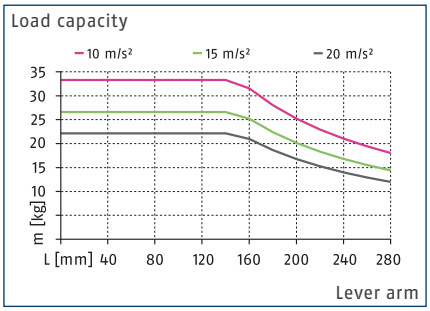
Recommendation for the design of the adapter plate.

CPS 021

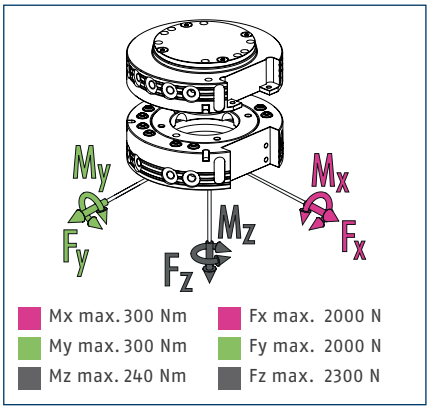
Automatic tool changers



Load chart



Max. loads

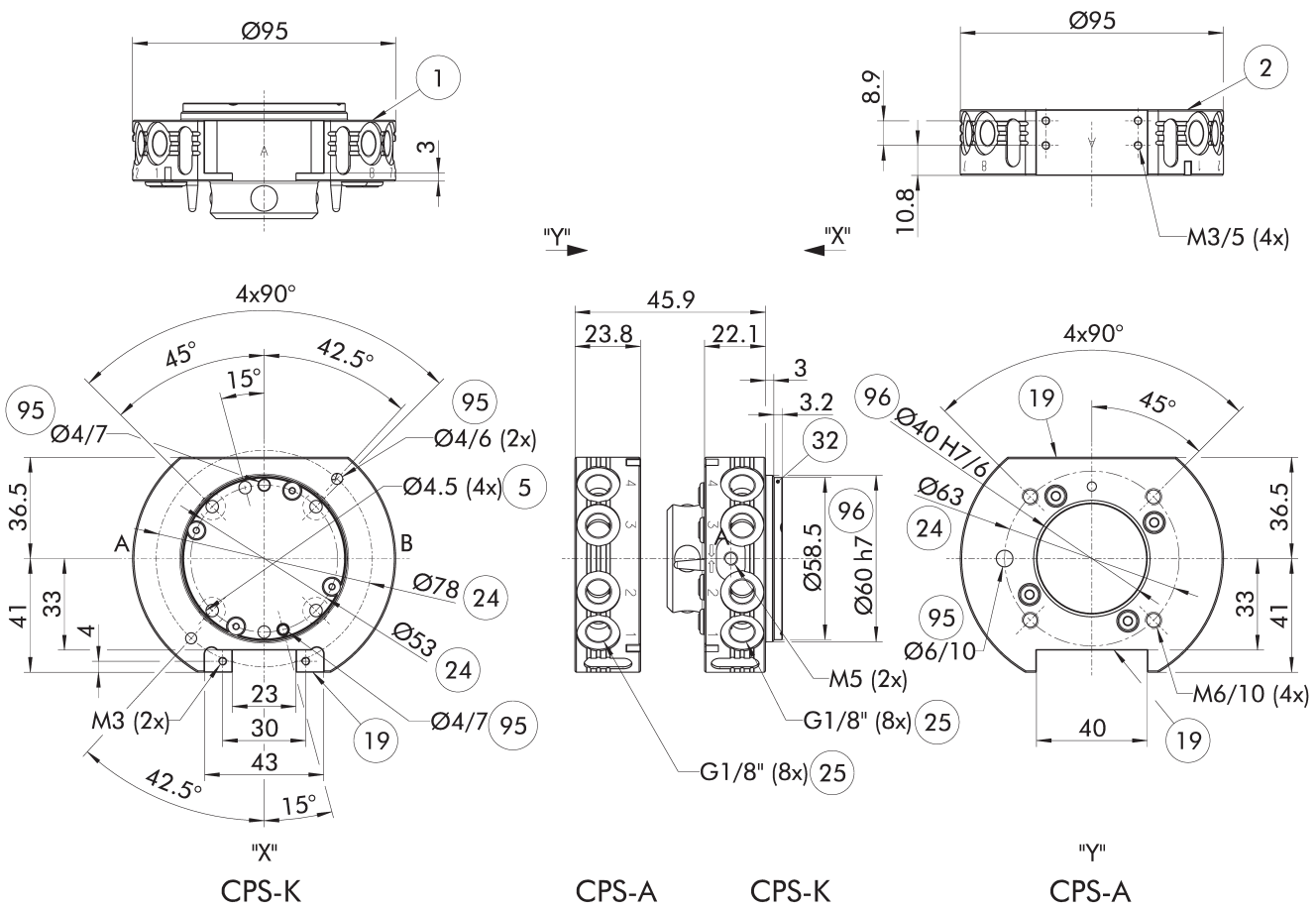


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 021-K	CPS 021-A
		Change head	Tool
ID		1619570	1619572
Lock sensing		optional	
Locking force	[N]	2300	
Locking force provided by spring force	[N]	68	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	0.51	0.35
Max. distance when locking	[mm]	2	
Number of pneumatic feed-throughs		8x G1/8"	8x G1/8"
Lock/unlock main connection		M5	
Max. permissible XY axis offset	[mm]	±1	±1
Max. permissible angular offset XY	[°]	±0.8	±0.8
Max. permissible angular offset Z	[°]	±2	±2
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		K side A, K or J via adapter plate side B	K side A, K or J via adapter plate side B
Opening/closing time	[s]	0.1/0.1	
Cylinder volume per double stroke	[cm³]	24	
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")
Max. dynamic moment Mx	[Nm]	100	100
Max. dynamic moment My	[Nm]	100	100
Max. dynamic moment Mz	[Nm]	80	80
Force Fx max. dynamic	[N]	660	660
Force Fy max. dynamic	[N]	660	660
Force Fz max. dynamic	[N]	760	760

Main view

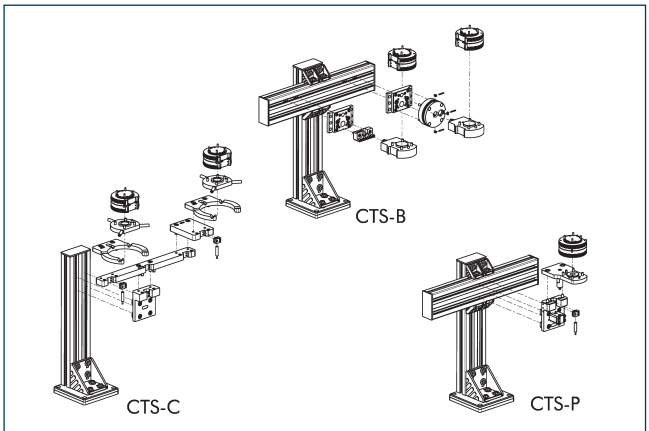


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

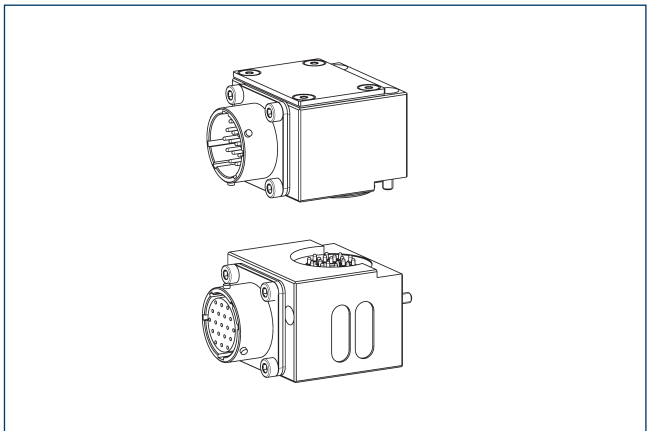
A, a Air connection locked
B, b Air connection unlocked
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



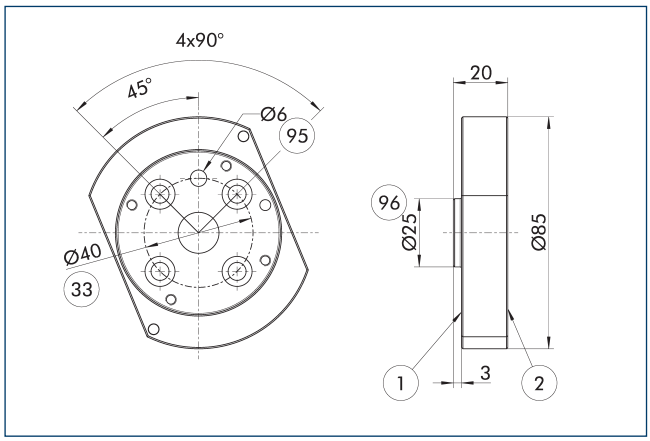
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A40-R

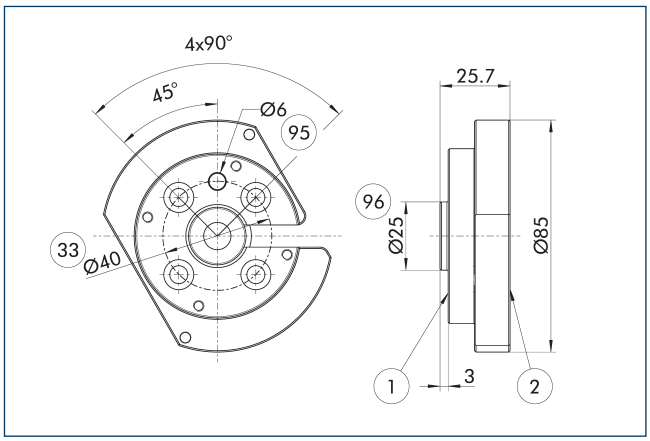


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS020-021	1581668	

Adapter plate ISO-A40-SIP-R

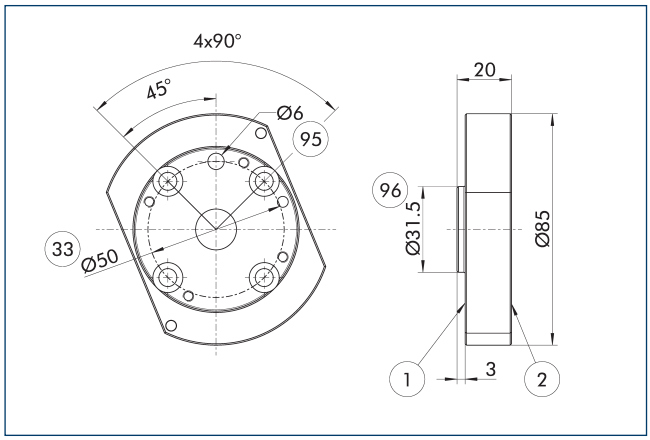


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO040/CPS020-021-SIP	1581676	

Adapter plate ISO-A50-R

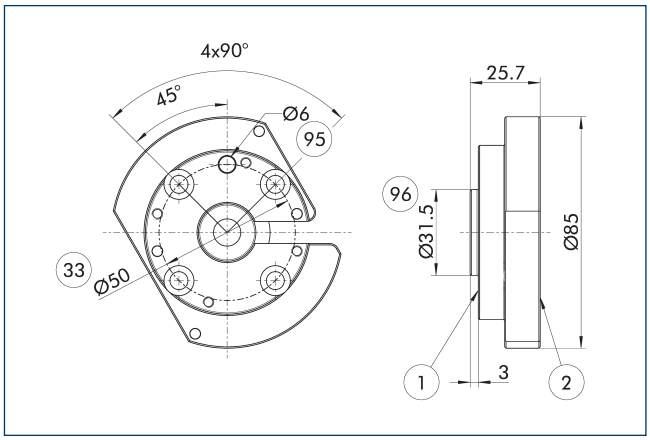


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS020-021	1581683	

Adapter plate ISO-A50-SIP-R

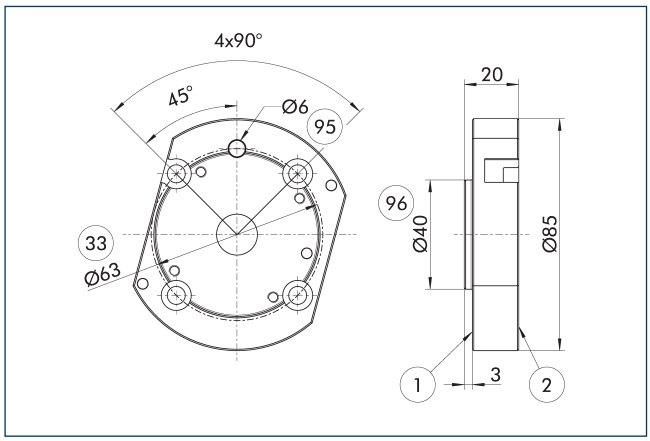


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO050/CPS020-021-SIP	1581686	

Adapter plate ISO-A63-R

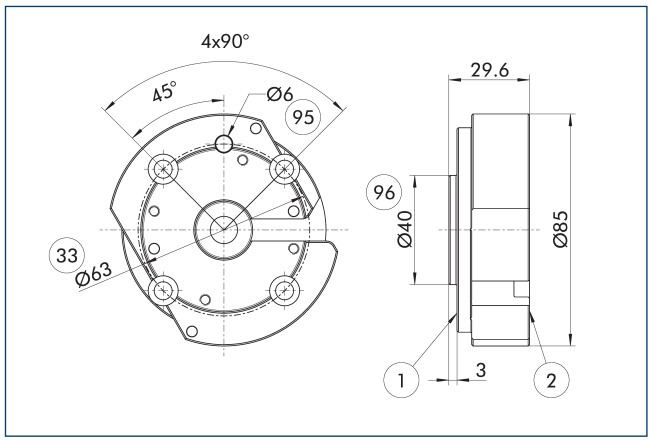


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO063/CPS020-021	1581689	

Adapter plate ISO-A63-SIP-R

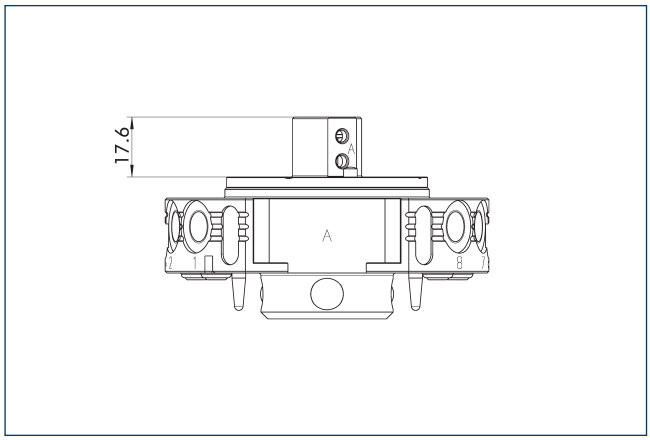


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO063/CPS020-021-SIP	1581694	

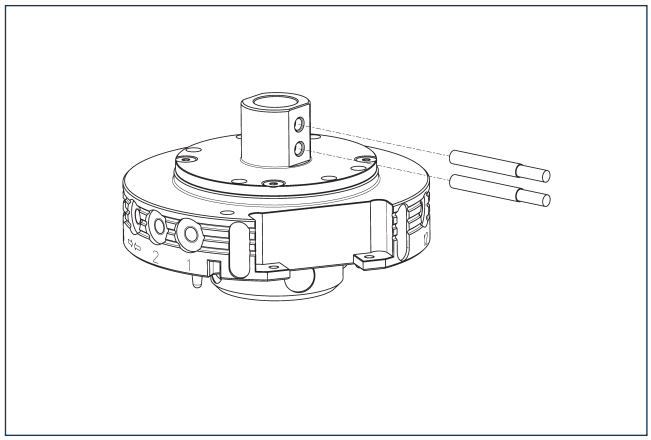
Lock sensing



The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-021-SIP-IN00	1596406	

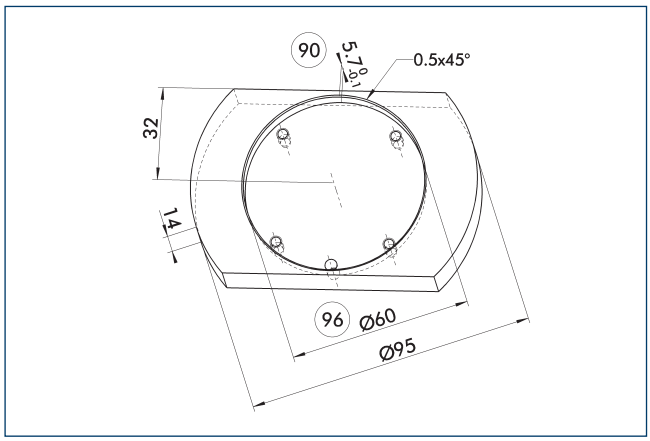
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 41-S-M8-PNP	1325755	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design



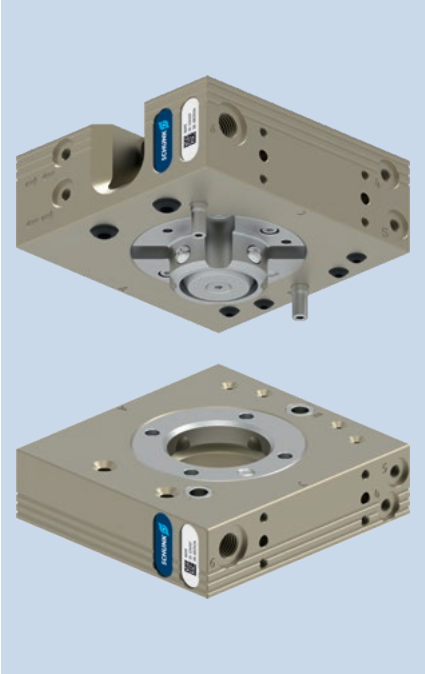
(90) Recommended adapter plate depth

(96) Fit for centering

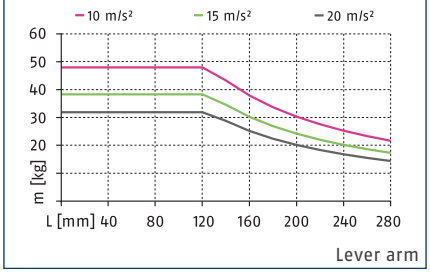
Recommendation for the design of the adapter plate.

CPS 029

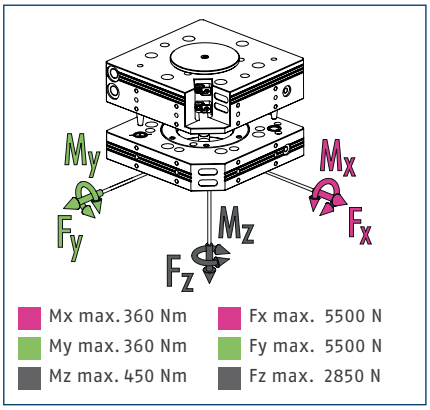
Automatic tool changers



Load chart



Max. loads



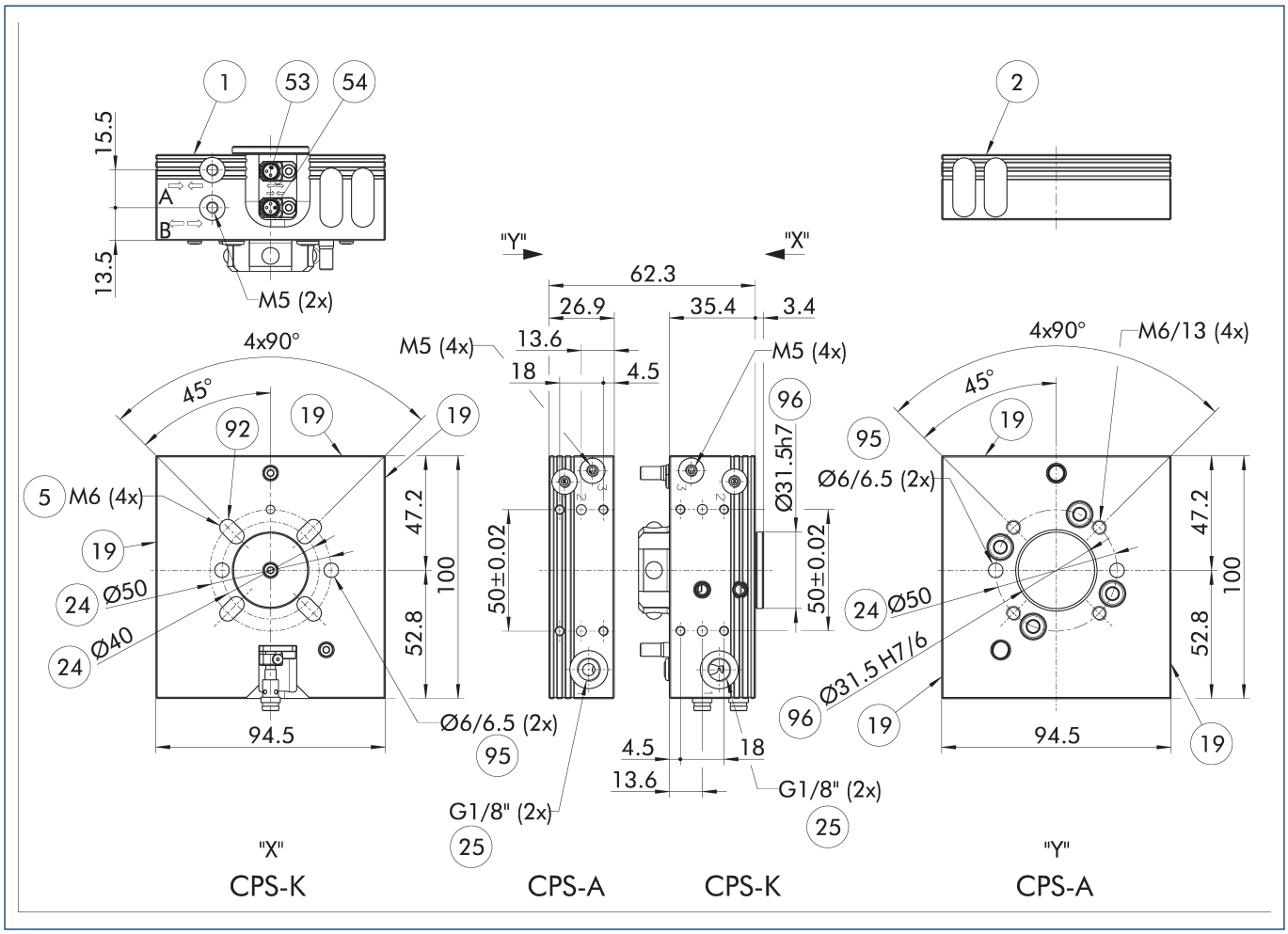
Mx max. 360 Nm	Fx max. 5500 N
My max. 360 Nm	Fy max. 5500 N
Mz max. 450 Nm	Fz max. 2850 N

ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 029-K-S	CPS 029-K	CPS 029-A
		Change head	Change head	Tool
ID		1613280	1590976	1590977
Lock sensing		integrated	prepared	
Locking force	[N]	2900	2900	
Locking force provided by spring force	[N]	24	24	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	1	1	0.7
Max. distance when locking	[mm]	1.5	1.5	
Number of pneumatic feed-throughs		2x G1/8"	2x G1/8"	2x G1/8"
Number of pneumatic feed-throughs		4x M5	4x M5	4x M5
Lock/unlock main connection		M5	M5	
Max. permissible XY axis offset	[mm]	±1	±1	±1
Max. permissible angular offset XY	[°]	±0.8	±0.8	±0.8
Max. permissible angular offset Z	[°]	±1	±1	±1
Robot-side connection		ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	
Tool-side connection				ISO 9409-1-50-4-M6
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		3 x J	3 x J	3 x J
Opening/closing time	[s]	0.1/0.1	0.1/0.1	
Cylinder volume per double stroke	[cm³]	15	15	
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")	650 l/min (G1/8")
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	120	120	120
Max. dynamic moment My	[Nm]	120	120	120
Max. dynamic moment Mz	[Nm]	150	150	150
Force Fx max. dynamic	[N]	1850	1850	1850
Force Fy max. dynamic	[N]	1850	1850	1850
Force Fz max. dynamic	[N]	950	950	950

Main view

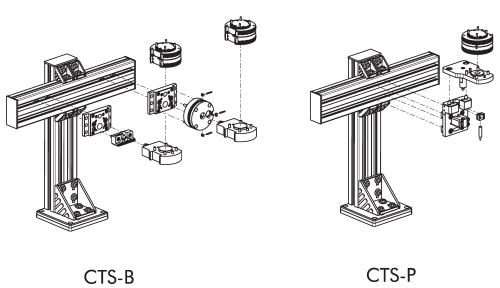


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(53) Monitoring Position unlocked
(54) Monitoring Position locked
(95) Fit for centering pins
(96) Fit for centering

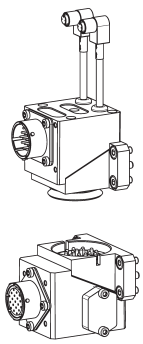
Modular storage rack CTS



CTS-B CTS-P

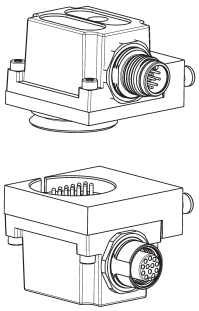
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

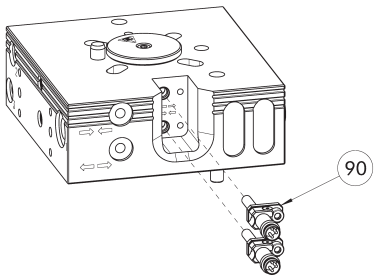


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Assembly situation of the locking monitoring



(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

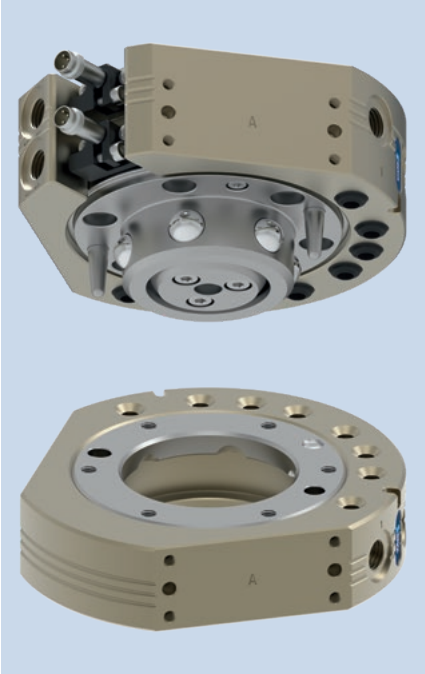
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-029	1622613	

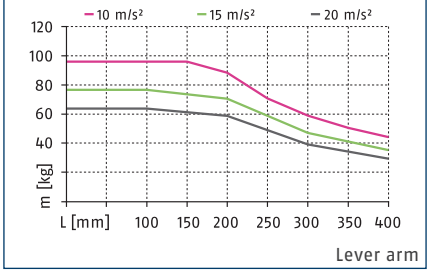
ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 040

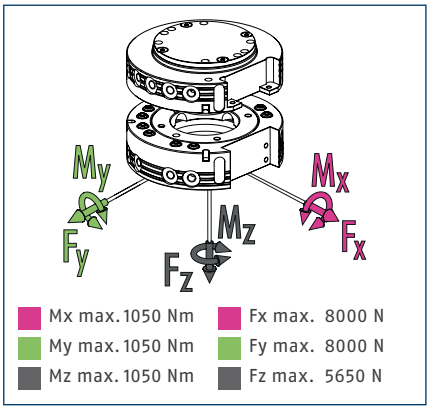
Automatic tool changers



Load chart



Max. loads

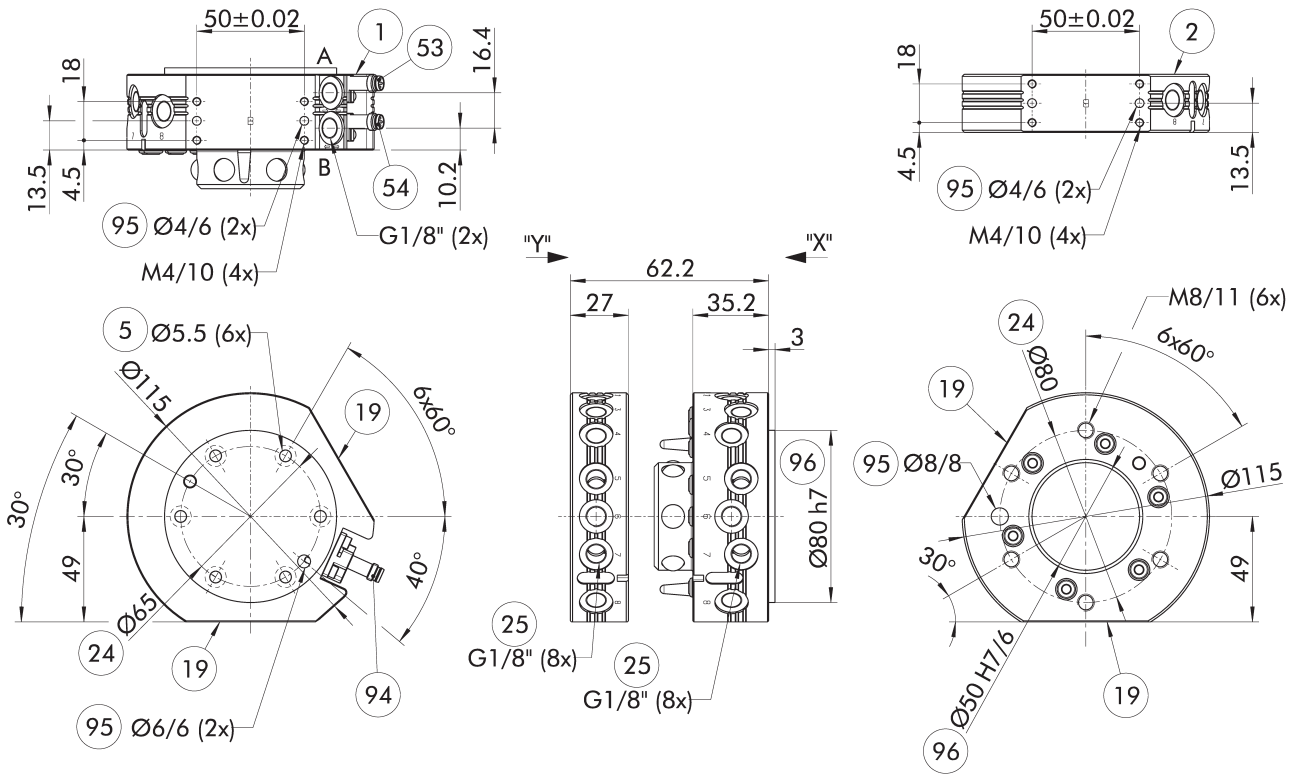


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 040-K-S	CPS 040-K	CPS 040-A
		Change head	Change head	Tool
ID		1613282	1590978	1590979
Lock sensing		integrated	prepared	
Locking force	[N]	5600	5600	
Locking force provided by spring force	[N]	91	91	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	1.1	1.1	0.62
Max. distance when locking	[mm]	3	3	
Number of pneumatic feed-throughs		8x G1/8"	8x G1/8"	8x G1/8"
Lock/unlock main connection		G1/8"	G1/8"	
Max. permissible XY axis offset	[mm]	±2	±2	±2
Max. permissible angular offset XY	[°]	±1	±1	±1
Max. permissible angular offset Z	[°]	±2	±2	±2
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		2 x J	2 x J	2 x J
Opening/closing time	[s]	0.1/0.1	0.1/0.1	
Cylinder volume per double stroke	[cm³]	42	42	
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")	650 l/min (G1/8")
Max. dynamic moment Mx	[Nm]	350	350	350
Max. dynamic moment My	[Nm]	350	350	350
Max. dynamic moment Mz	[Nm]	350	350	350
Force Fx max. dynamic	[N]	2700	2700	2700
Force Fy max. dynamic	[N]	2700	2700	2700
Force Fz max. dynamic	[N]	1900	1900	1900

Main view CPS 040

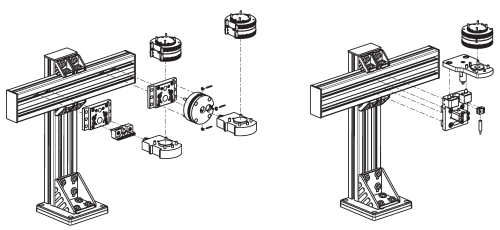


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(53) Monitoring Position unlocked
(54) Monitoring Position locked
(94) Optional proximity switch
(95) Fit for centering pins
(96) Fit for centering

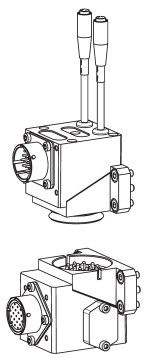
Modular storage rack CTS



CTS-B CTS-P

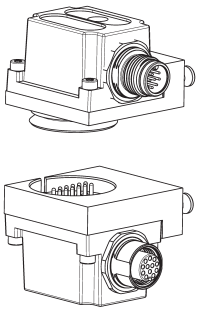
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

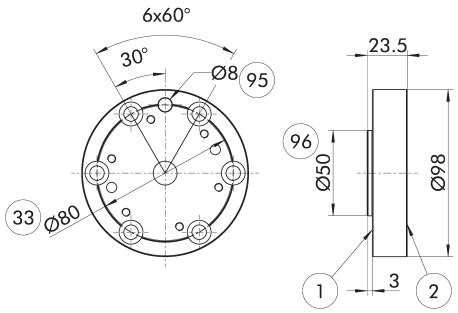


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A80-R

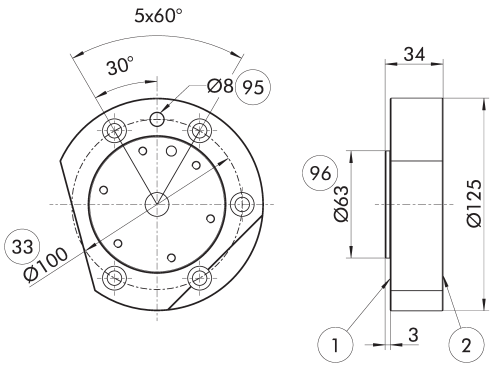


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS040	1581814	

Adapter plate ISO-A100-R

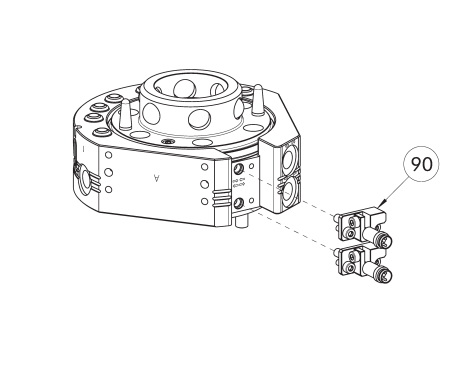


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS040	1581811	

Assembly situation of the locking monitoring



90 Attachmient kit for lock/unlock monitoring (bracket and sensor)

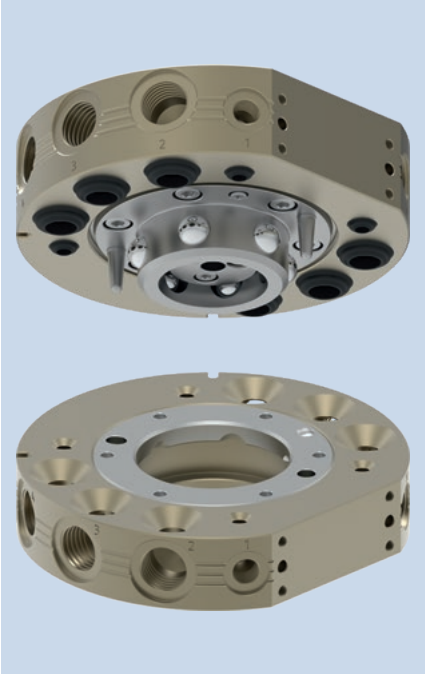
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-040-076	1610160	

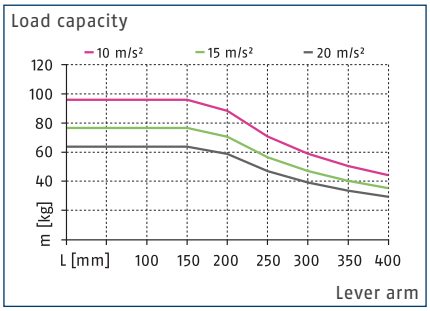
ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 041

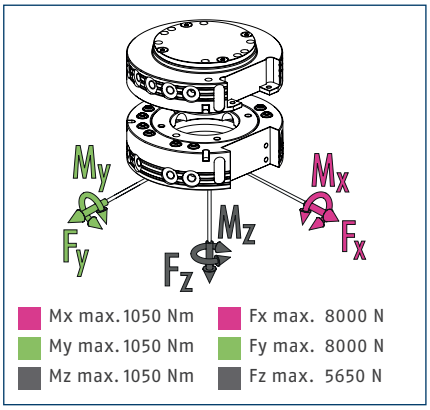
Automatic tool changers



Load chart



Max. loads

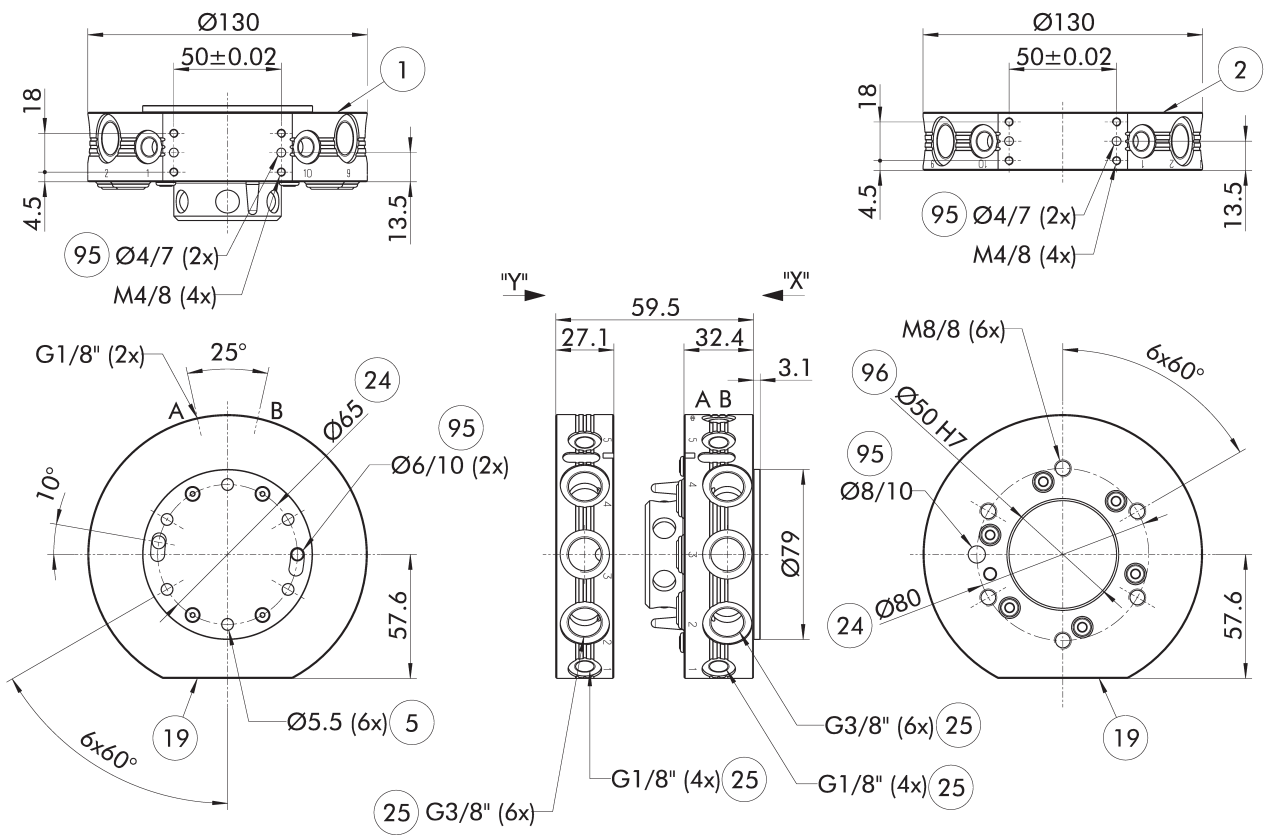


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 041-K	CPS 041-A
		Change head	Tool
ID		1619573	1619574
Lock sensing		optional	
Locking force	[N]	5600	
Locking force provided by spring force	[N]	47	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	1.4	0.8
Max. distance when locking	[mm]	3	
Number of pneumatic feed-throughs		6x G3/8"	6x G3/8"
Number of pneumatic feed-throughs		4x G1/8"	4x G1/8"
Lock/unlock main connection		G1/8"	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±1	±1
Max. permissible angular offset Z	[°]	±2	±2
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		J	J
Opening/closing time	[s]	0.1/0.1	
Cylinder volume per double stroke	[cm³]	46	
Flow rate at 6 bar (per feed-through)		1.400 l/min (G3/8")	1.400 l/min (G3/8")
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")
Max. dynamic moment Mx	[Nm]	350	350
Max. dynamic moment My	[Nm]	350	350
Max. dynamic moment Mz	[Nm]	350	350
Force Fx max. dynamic	[N]	2700	2700
Force Fy max. dynamic	[N]	2700	2700
Force Fz max. dynamic	[N]	1900	1900

Main view



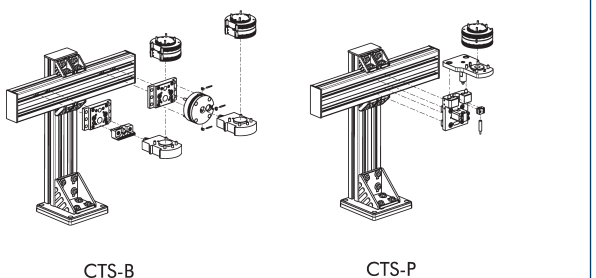
The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

A, a Air connection locked
B, b Air connection unlocked

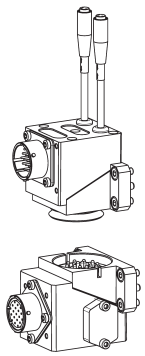
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



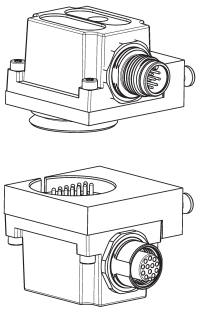
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

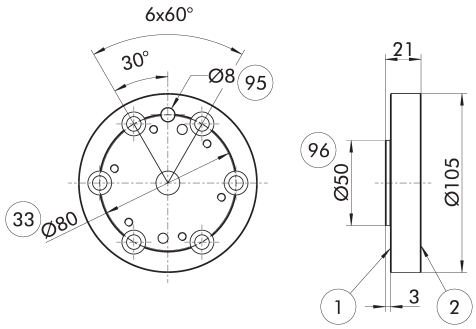


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A80-R

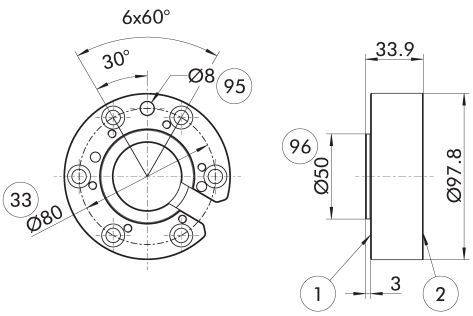


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS041	1581826	

Adapter plate ISO-A80-SIP-R

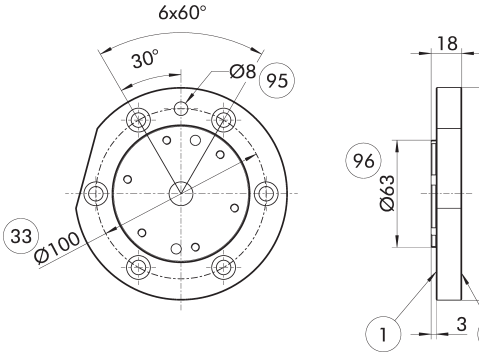


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS041-SIP	1581840	

Adapter plate ISO-A100-R

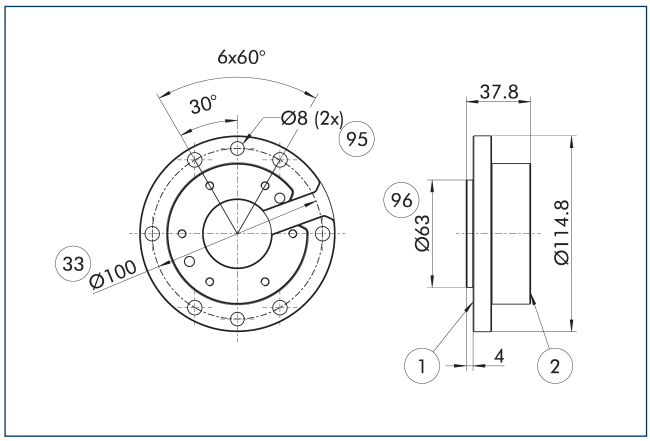


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS041	1581823	

Adapter plate ISO-A100-SIP-R

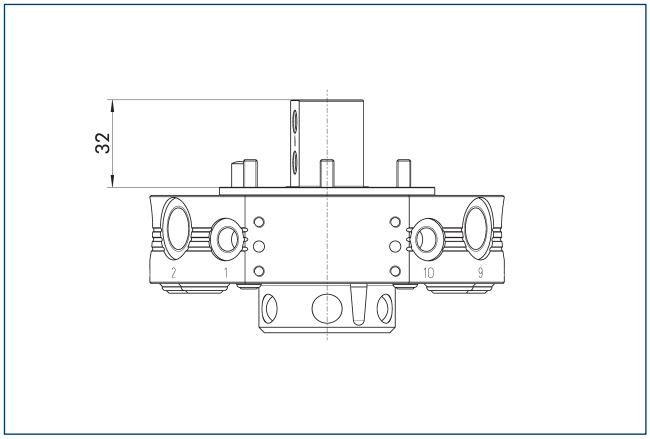


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS041-SIP	1581819	

Lock sensing



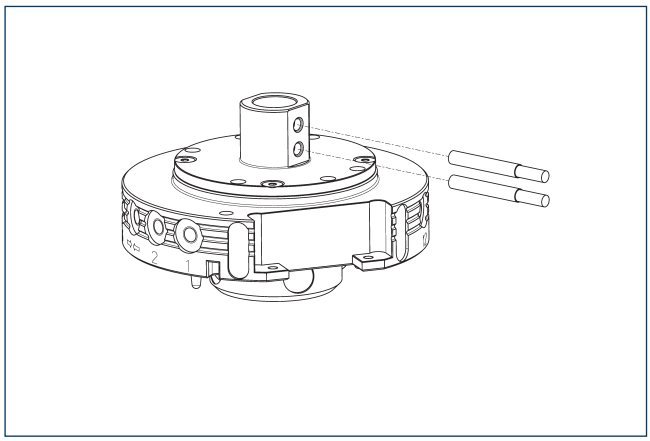
The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-041-SIP-IN00	1596409	

CPS 041

Automatic tool changers

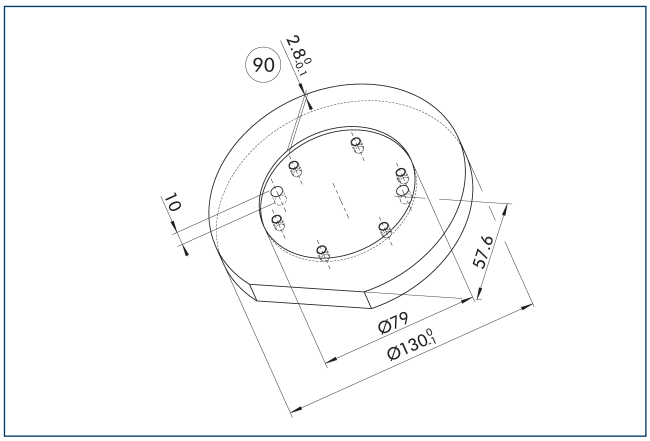
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design

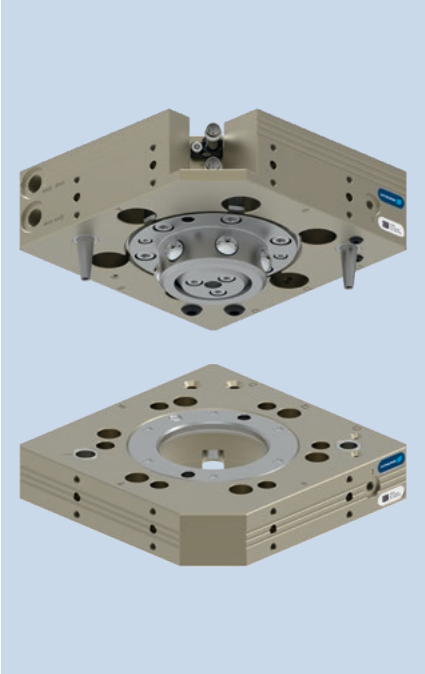


(90) Recommended adapter plate depth

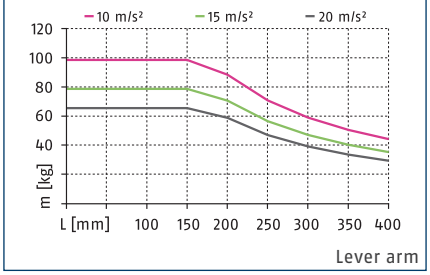
Recommendation for the design of the adapter plate.

CPS 046

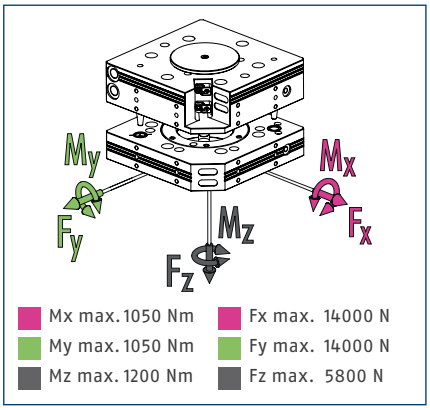
Automatic tool changers



Load chart



Max. loads



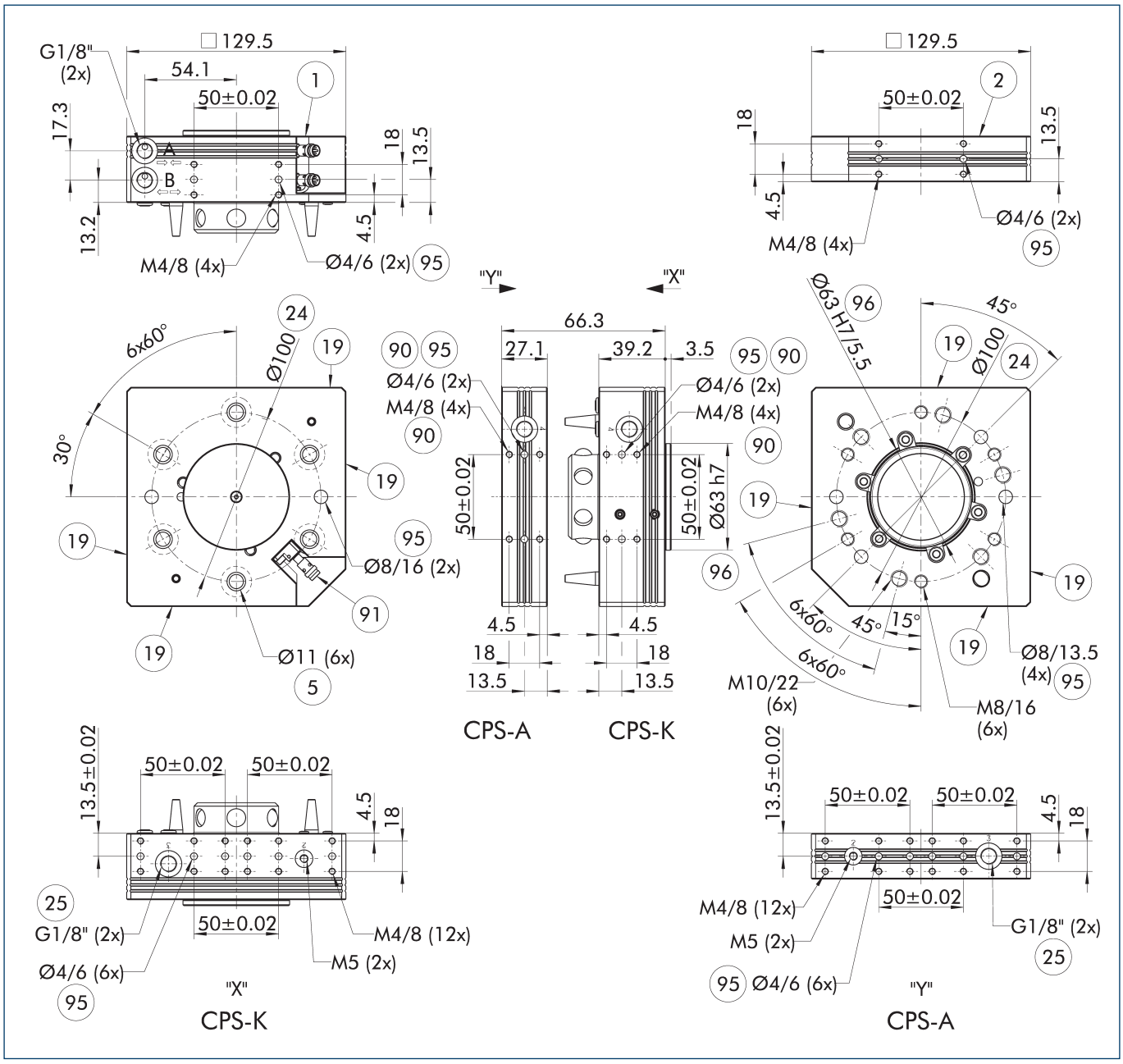
Mx max. 1050 Nm	Fx max. 14000 N
My max. 1050 Nm	Fy max. 14000 N
Mz max. 1200 Nm	Fz max. 5800 N

ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 046-K-S	CPS 046-K	CPS 046-A
		Change head	Change head	Tool
ID		1613284	1590984	1590986
Lock sensing		integrated	prepared	
Locking force	[N]	5800	5800	
Locking force provided by spring force	[N]	104	104	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	2	2	1.1
Max. distance when locking	[mm]	2.5	2.5	
Number of pneumatic feed-throughs		2x G1/8"	2x G1/8"	2x G1/8"
Number of pneumatic feed-throughs		2x M5	2x M5	2x M5
Lock/unlock main connection		G1/8"	G1/8"	
Max. permissible XY axis offset	[mm]	±1.5	±1.5	±1.5
Max. permissible angular offset XY	[°]	±1	±1	±1
Max. permissible angular offset Z	[°]	±2	±2	±2
Robot-side connection		ISO 9409-1-100-6-M8	ISO 9409-1-100-6-M8	
Tool-side connection				ISO 9409-1-100-6-M8
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		5 x J	5 x J	5 x J
Opening/closing time	[s]	0.1/0.1	0.1/0.1	
Cylinder volume per double stroke	[cm³]	48		
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")	650 l/min (G1/8")
Flow rate at 6 bar (per feed-through)		150 l/min (M5)	150 l/min (M5)	150 l/min (M5)
Max. dynamic moment Mx	[Nm]	350	350	350
Max. dynamic moment My	[Nm]	350	350	350
Max. dynamic moment Mz	[Nm]	400	400	400
Force Fx max. dynamic	[N]	4600	4600	4600
Force Fy max. dynamic	[N]	4600	4600	4600
Force Fz max. dynamic	[N]	1950	1950	1950

Main view

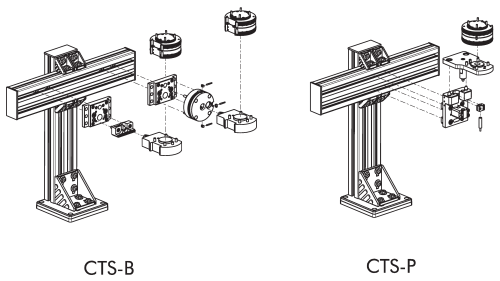


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(90) on both sides
(91) Sensor connections for the lock monitoring
(95) Fit for centering pins
(96) Fit for centering

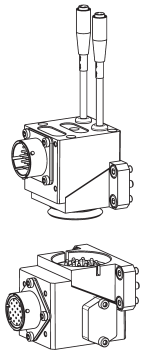
Modular storage rack CTS



CTS-B CTS-P

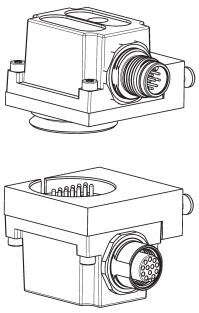
For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

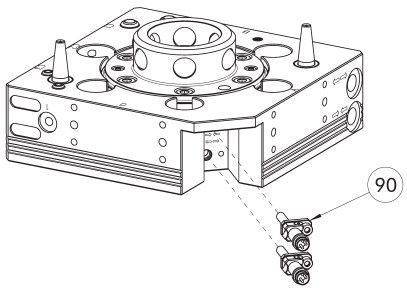


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Assembly situation of the locking monitoring



90 Attachmient kit for lock/unlock monitoring (bracket and sensor)

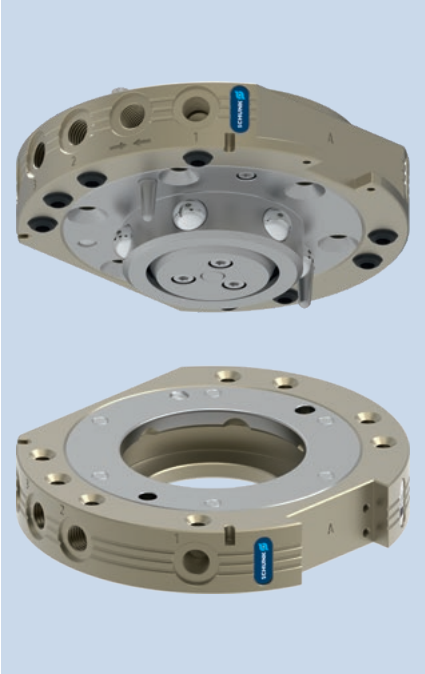
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-046	1610159	

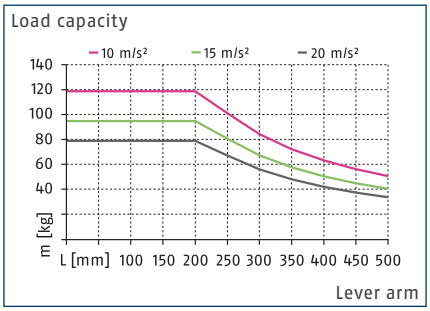
The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 060

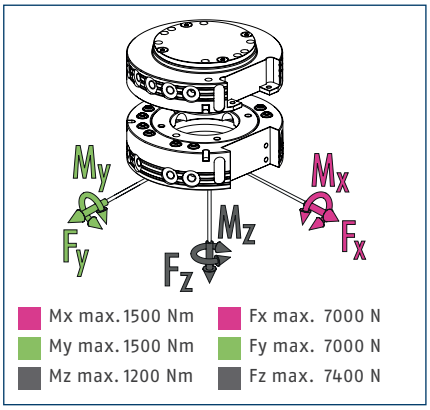
Automatic tool changers



Load chart



Max. loads

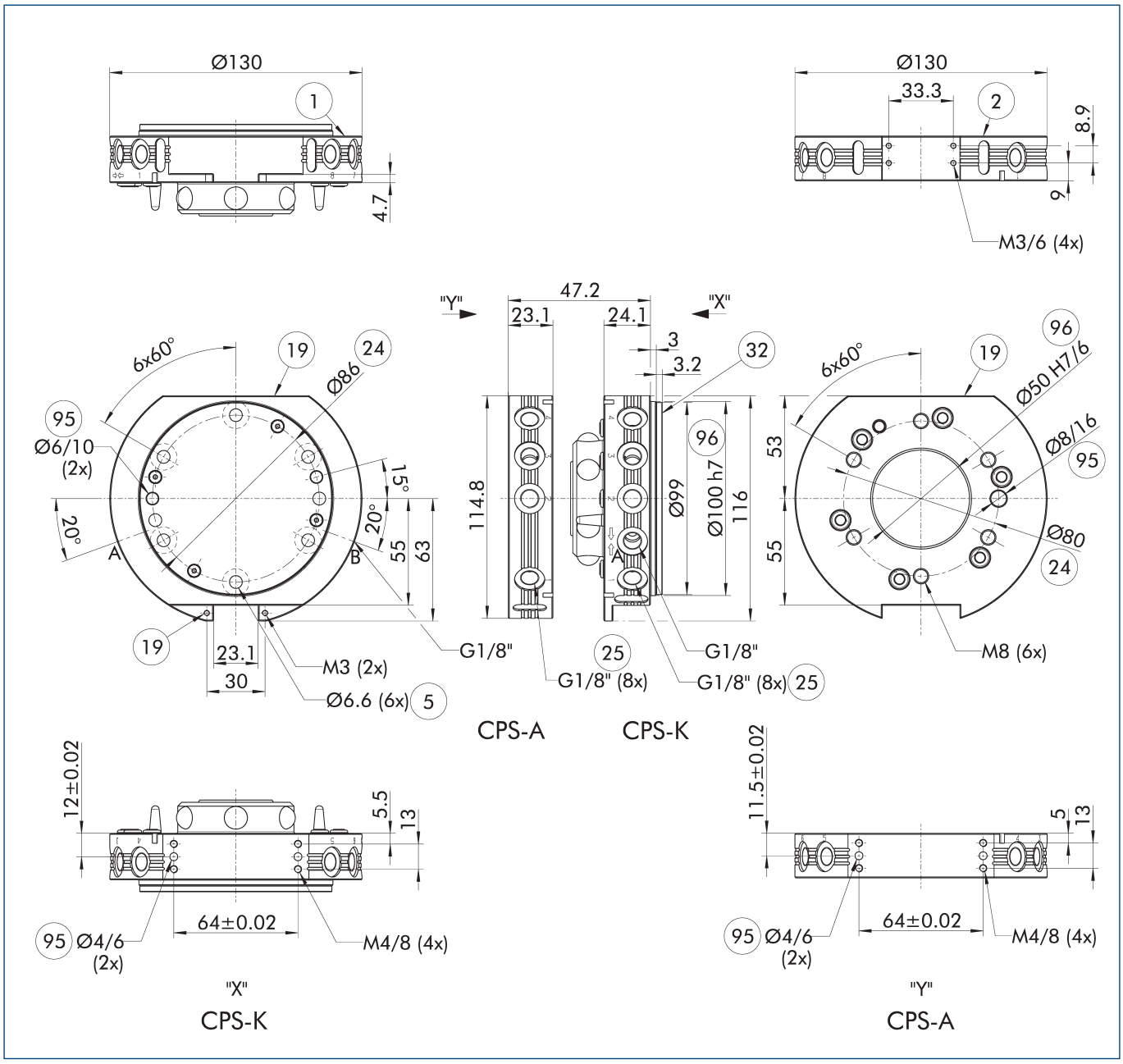


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 060-K	CPS 060-A
		Change head	Tool
ID		1590997	1591020
Lock sensing		optional	
Locking force	[N]	7400	
Locking force provided by spring force	[N]	99	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	1.3	0.7
Max. distance when locking	[mm]	3	
Number of pneumatic feed-throughs		8x G1/8"	8x G1/8"
Lock/unlock main connection		G1/8"	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.6	±0.6
Max. permissible angular offset Z	[°]	±1	±1
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		K side A, J via adapter plate side B	K side A, J via adapter plate side B
Opening/closing time	[s]	0.3/0.1	
Cylinder volume per double stroke	[cm³]	82	
Flow rate at 6 bar (per feed-through)		650 l/min (G1/8")	650 l/min (G1/8")
Max. dynamic moment Mx	[Nm]	500	500
Max. dynamic moment My	[Nm]	500	500
Max. dynamic moment Mz	[Nm]	400	400
Force Fx max. dynamic	[N]	2350	2350
Force Fy max. dynamic	[N]	2350	2350
Force Fz max. dynamic	[N]	2500	2500

Main view

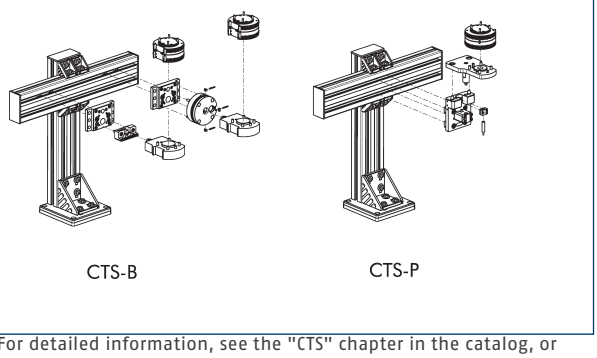


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

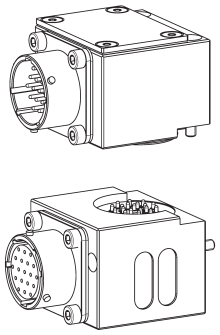
A, a Air connection locked
B, b Air connection unlocked
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



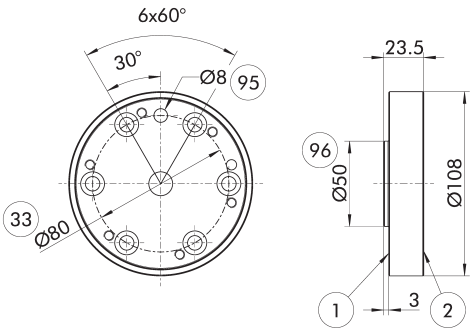
For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A80-R

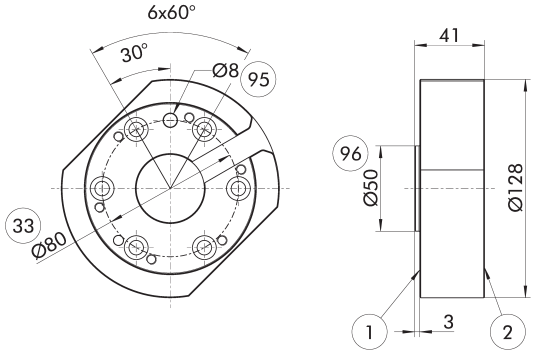


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS060	1581855	

Adapter plate ISO-A80-SIP-R

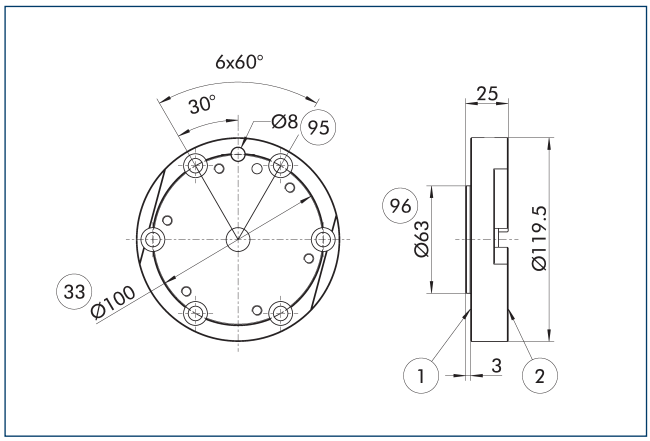


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS060-SIP	1581857	

Adapter plate ISO-A100-R

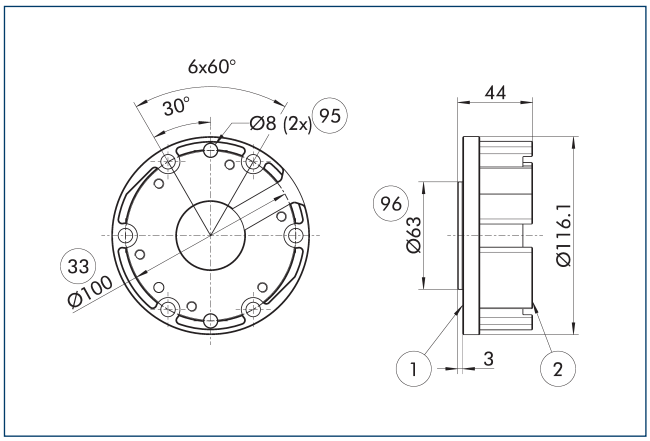


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS060	1581852	

Adapter plate ISO-A100-SIP-R

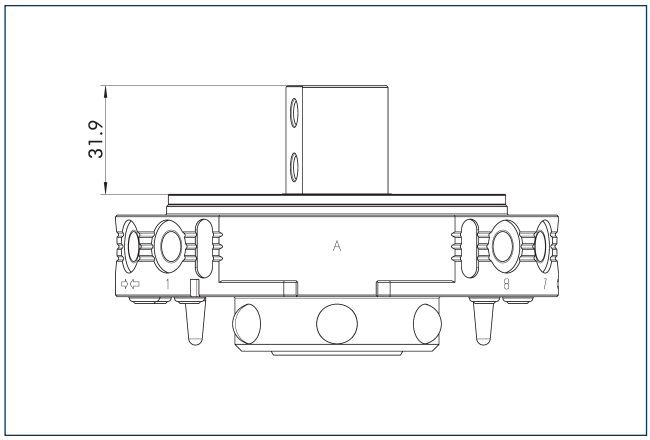


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS060-SIP	1581854	

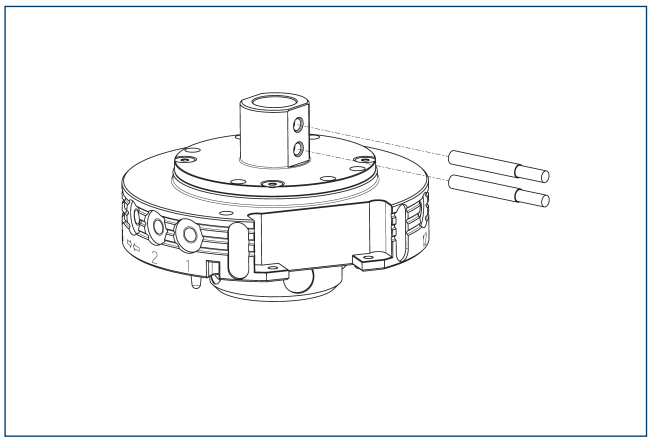
Lock sensing



The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-060-SIP-IN00	1596431	

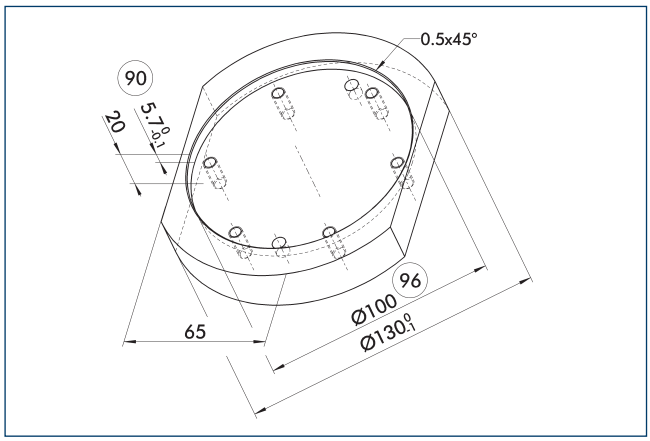
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design



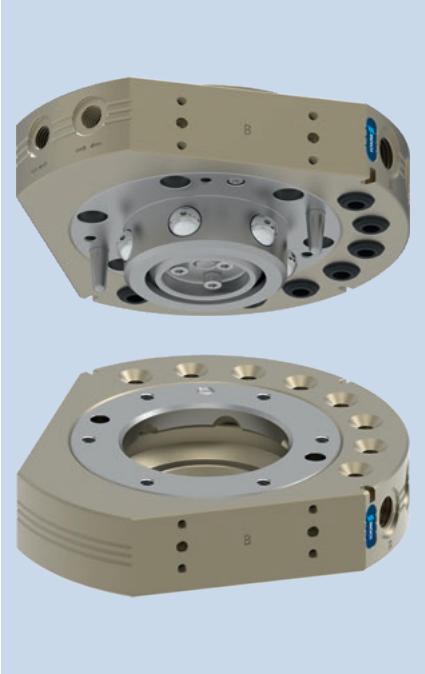
90 Recommended adapter plate depth

96 Fit for centering

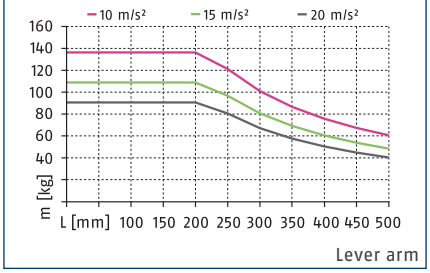
Recommendation for the design of the adapter plate.

CPS 071

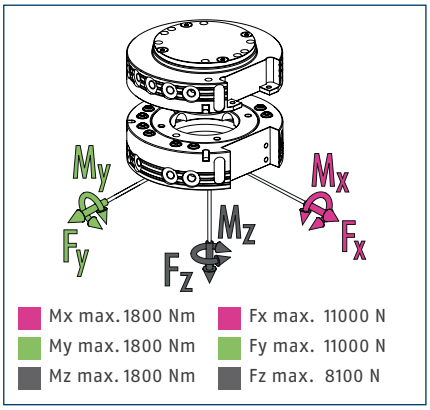
Automatic tool changers



Load chart



Max. loads

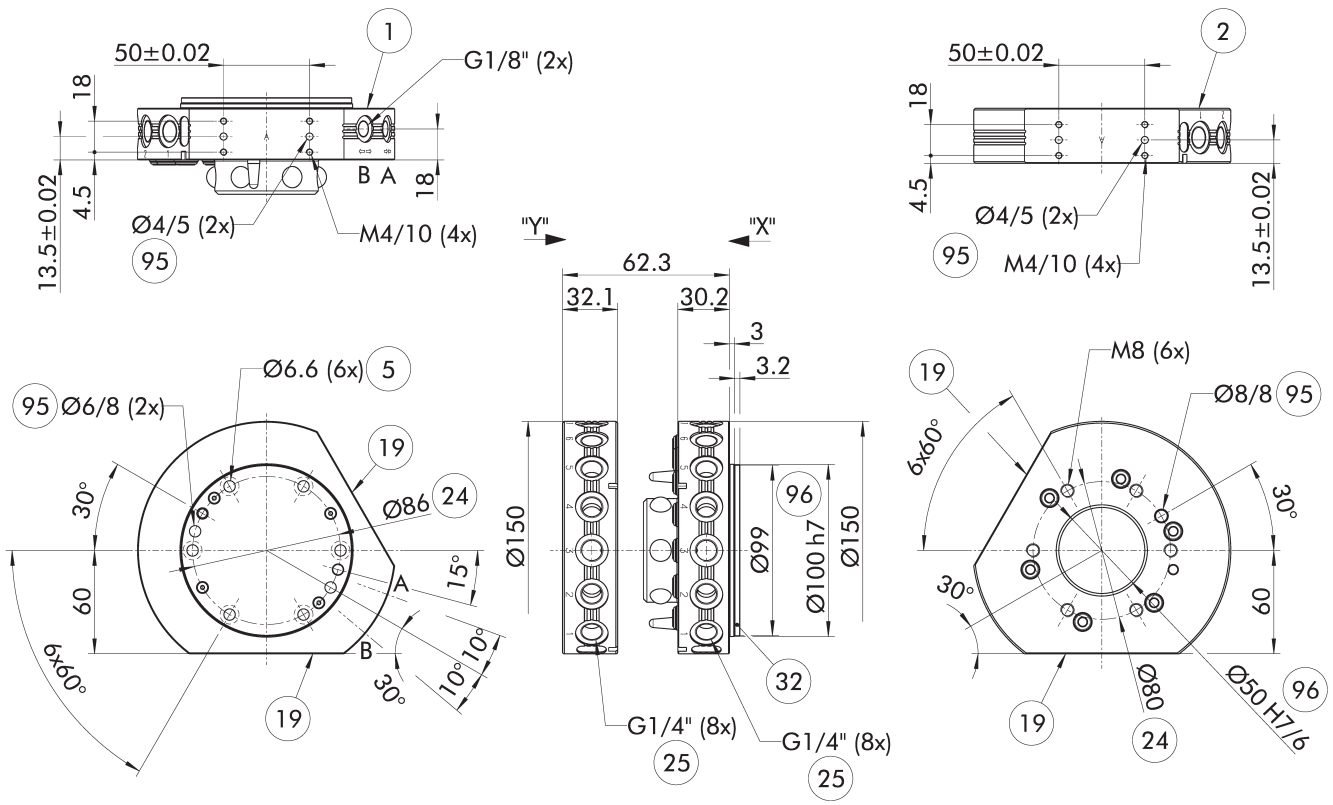


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 071-K	CPS 071-A
		Change head	Tool
ID		1591027	1591028
Lock sensing		optional	
Locking force	[N]	8100	
Locking force provided by spring force	[N]	93	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	2	1.3
Max. distance when locking	[mm]	3	
Number of pneumatic feed-throughs		8x G1/4"	8x G1/4"
Lock/unlock main connection		G1/8"	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.6	±0.6
Max. permissible angular offset Z	[°]	±1	±1
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7
Screw connection diagram		2 x J	2 x J
Opening/closing time	[s]	0.3/0.1	
Cylinder volume per double stroke	[cm³]	81	
Flow rate at 6 bar (per feed-through)		900 l/min (G1/4")	900 l/min (G1/4")
Max. dynamic moment Mx	[Nm]	600	600
Max. dynamic moment My	[Nm]	600	600
Max. dynamic moment Mz	[Nm]	600	600
Force Fx max. dynamic	[N]	3700	3700
Force Fy max. dynamic	[N]	3700	3700
Force Fz max. dynamic	[N]	2700	2700

Main view

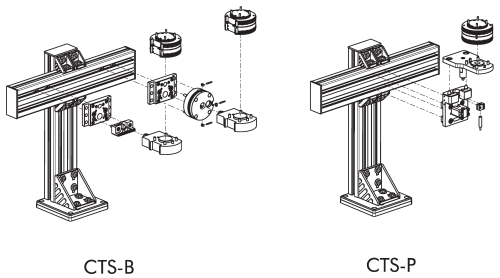


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

ⓘ The robot-side plate mounted on the CPS-K is a cover for the piston chamber. It is essential that it is supported by the adapter plate. See the further product information for a note on how to design this adapter plate.

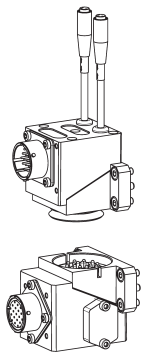
A, a Air connection locked
B, b Air connection unlocked
(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Modular storage rack CTS



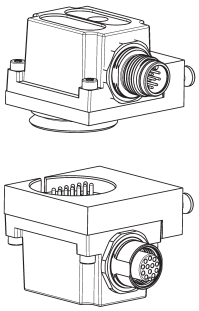
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

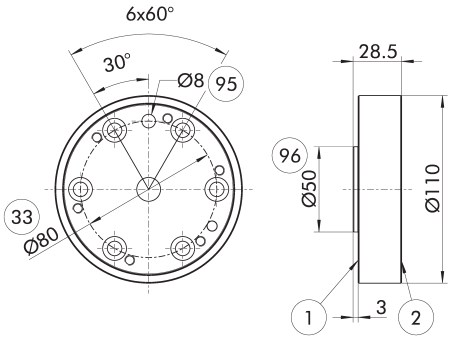


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A80-R

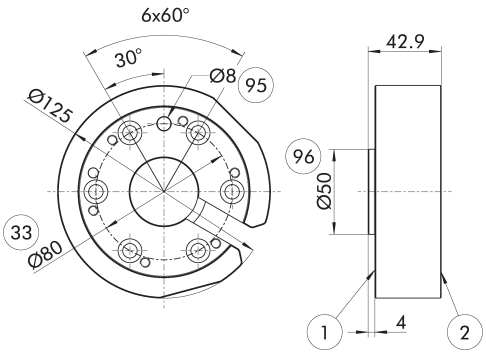


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS071	1581925	

Adapter plate ISO-A80-SIP-R

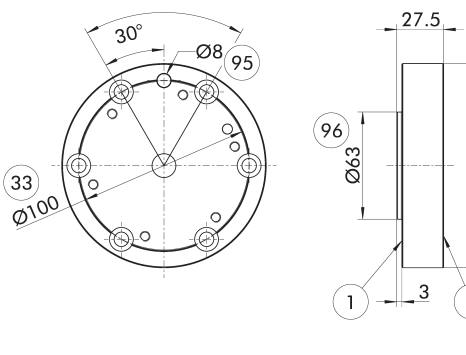


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO080/CPS071-SIP	1581927	

Adapter plate ISO-A100-R

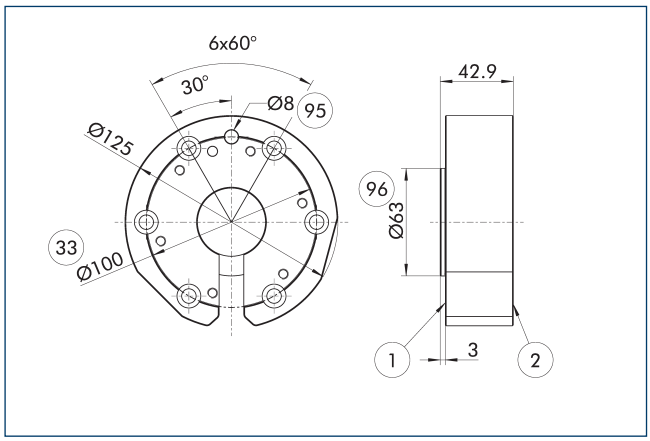


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS071	1581858	

Adapter plate ISO-A100-SIP-R

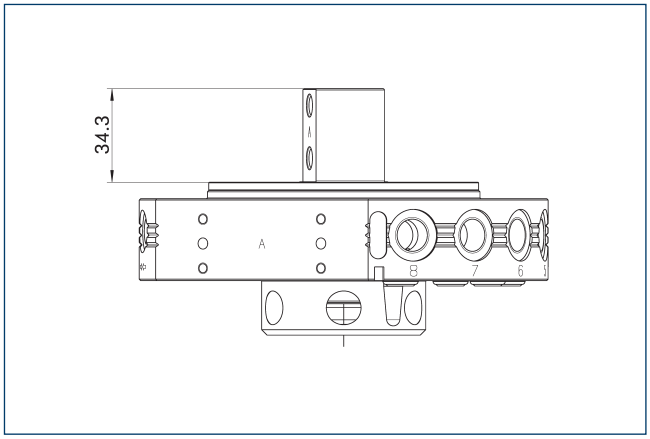


1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO100/CPS071-SIP	1581859	

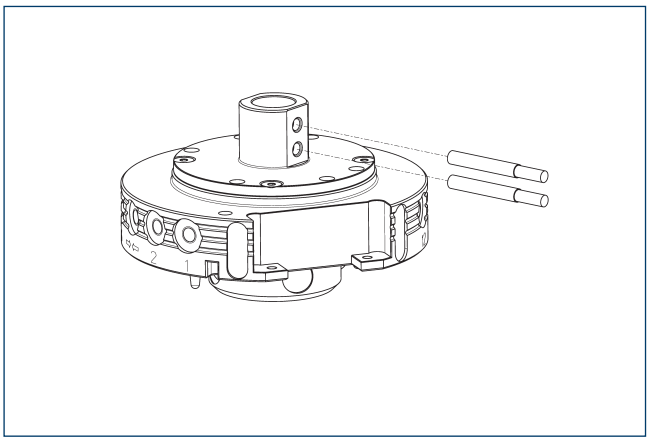
Lock sensing



The drawing shows the minimum height of the adapter plate required for installing locking monitoring.

Description	ID	
Lock sensing		
AS-CPS-071-SIP-IN00	1596432	

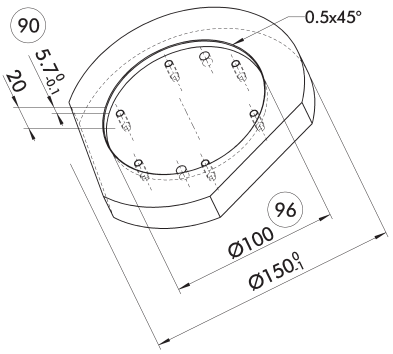
Lock sensing



Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ Per unit two sensors (closer/S) are required for each unit, as well as extension cables on option. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Adapter plate design



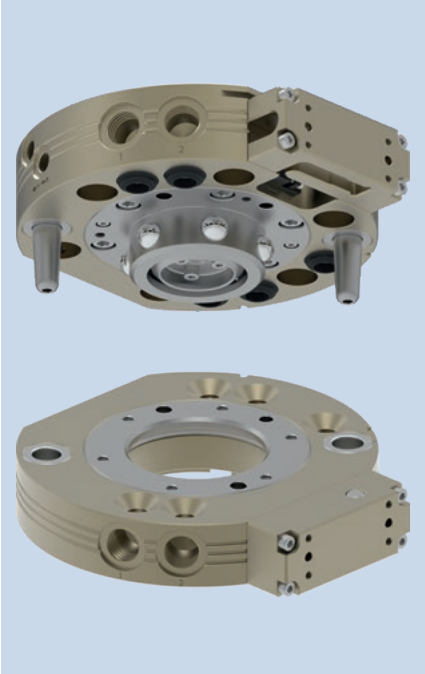
(90) Recommended adapter plate depth

(96) Fit for centering

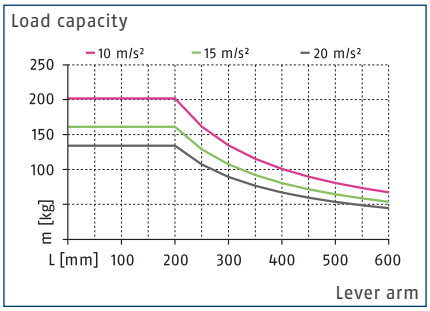
Recommendation for the design of the adapter plate.

CPS 076

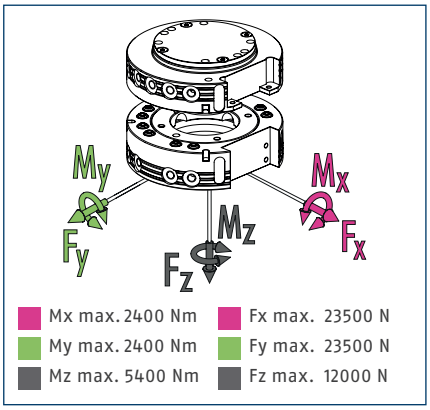
Automatic tool changers



Load chart



Max. loads

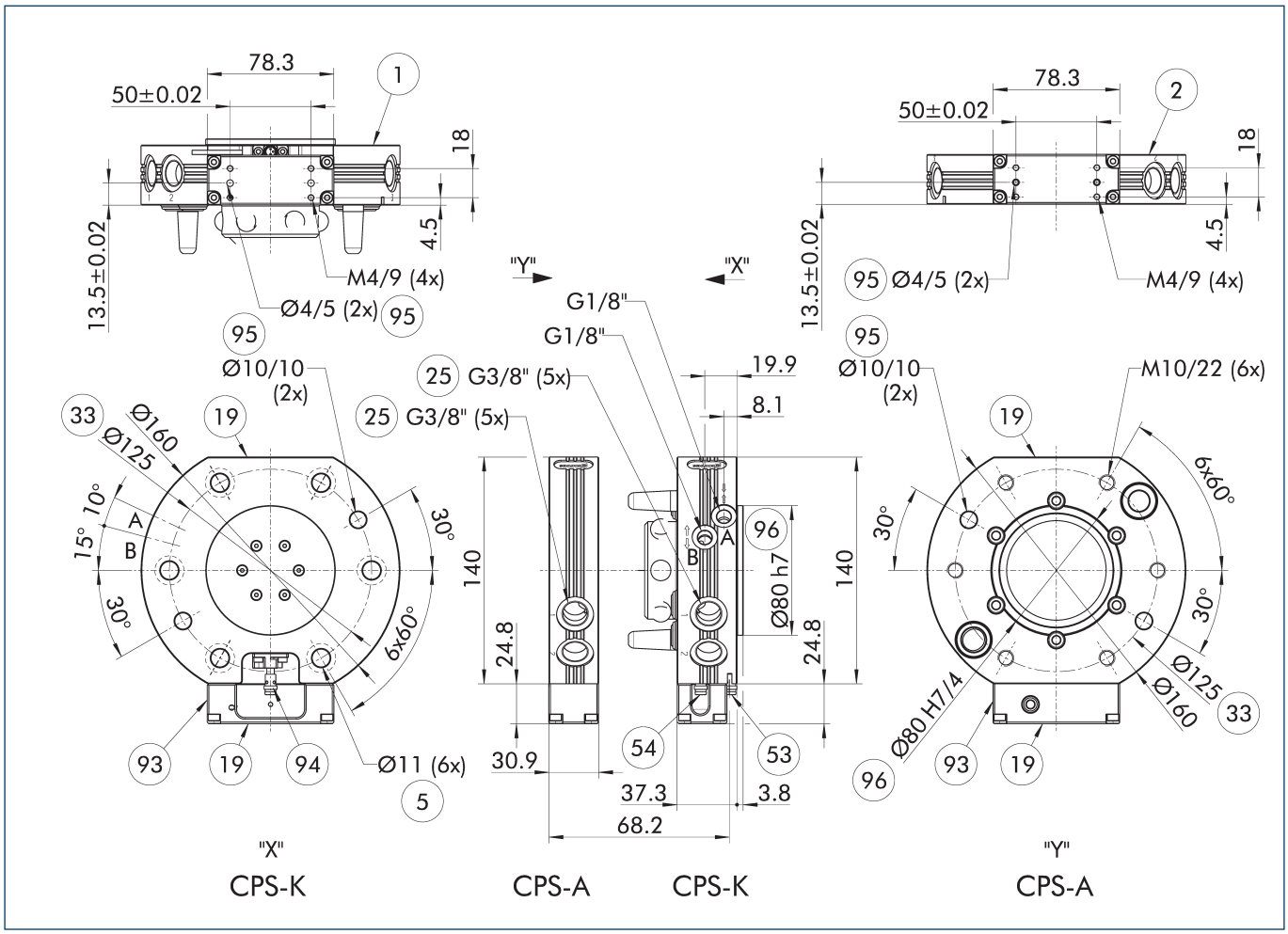


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 076-K-S	CPS 076-K	CPS 076-A
		Change head	Change head	Tool
ID		1613287	1591031	1591035
Lock sensing		integrated	prepared	
Locking force	[N]	12000	12000	
Locking force provided by spring force	[N]	104	104	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	2.6	2.6	1.4
Max. distance when locking	[mm]	2	2	
Number of pneumatic feed-throughs		5x G3/8"	5x G3/8"	5x G3/8"
Lock/unlock main connection		G1/8"	G1/8"	
Max. permissible XY axis offset	[mm]	±1	±1	±1
Max. permissible angular offset XY	[°]	±0.7	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1	±1
Robot-side connection		ISO 9409-1-125-6-M10	ISO 9409-1-125-6-M10	
Tool-side connection				ISO 9409-1-125-6-M10
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		2 x J	2 x J	2 x J
Opening/closing time	[s]	0.3/0.1	0.3/0.1	
Cylinder volume per double stroke	[cm³]	91	91	
Flow rate at 6 bar (per feed-through)		1.400 l/min (G3/8")	1.400 l/min (G3/8")	1.400 l/min (G3/8")
Max. dynamic moment Mx	[Nm]	800	800	800
Max. dynamic moment My	[Nm]	800	800	800
Max. dynamic moment Mz	[Nm]	1800	1800	1800
Force Fx max. dynamic	[N]	7800	7800	7800
Force Fy max. dynamic	[N]	7800	7800	7800
Force Fz max. dynamic	[N]	4000	4000	4000

Main view

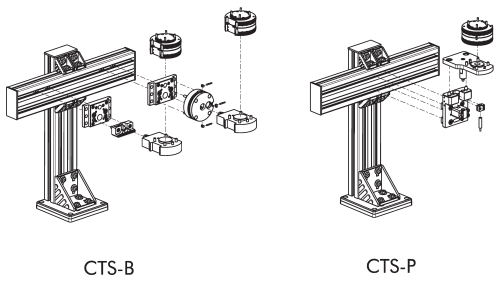


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(25) Pneumatic feed-throughs
(33) DIN ISO-9409 bolt circle
(53) Monitoring Position unlocked
(54) Monitoring Position locked
(93) Pre-assembled spacer adapter (included in the scope of delivery)
(94) Optional proximity switch
(95) Fit for centering pins
(96) Fit for centering

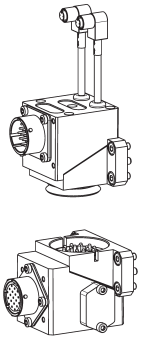
Modular storage rack CTS



CTS-B CTS-P

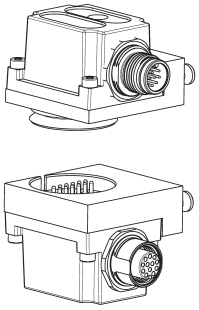
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

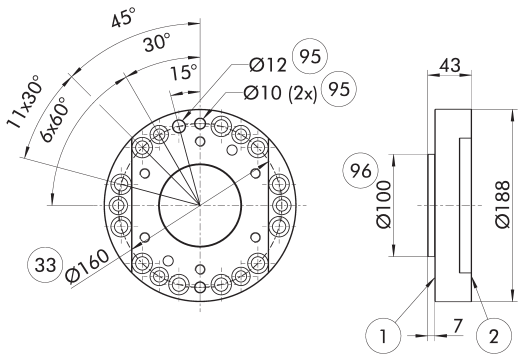


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A160-R

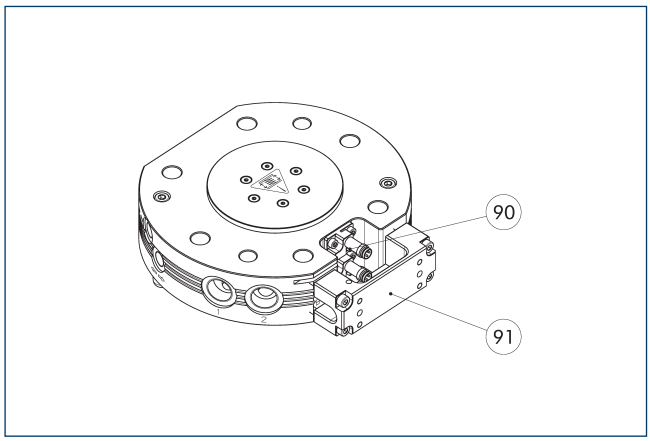


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO160/CPS076	1581928	

Assembly situation of the locking monitoring



(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

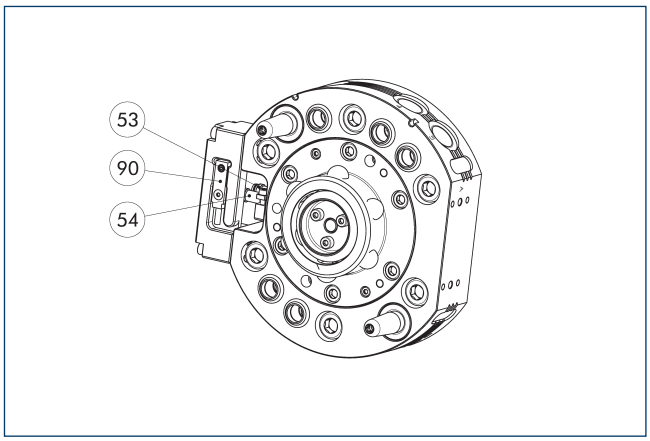
(91) Pre-assembled spacer adapter (included in the scope of delivery)

The drawing shows the installation situation with the prepared locking monitoring. A spacer adapter is required between the optional module and the CPS-K when using the integrated locking monitoring. The spacer adapter is included in the scope of delivery and is already pre-assembled. The spacer adapter is not required if the locking monitoring is not used.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-040-076	1610160	

ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

Installation situation presence monitoring



(53) Monitoring Position unlocked

(54) Monitoring Position locked

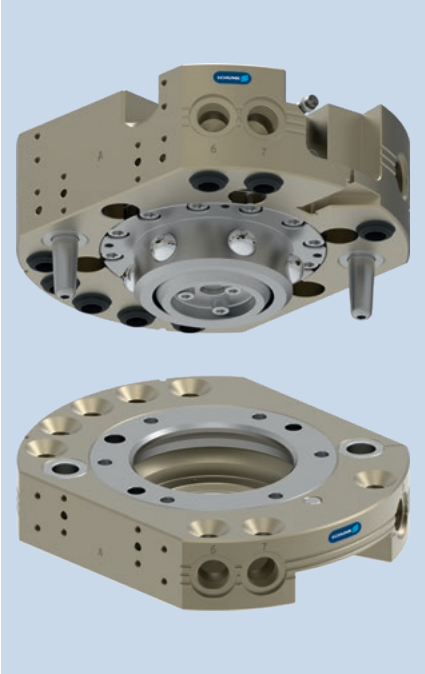
(90) Sensor for presence control

Description	ID	
Inductive proximity switch		
IN 8-SL-M8-SW	1622470	
INK 8-SL	0302456	

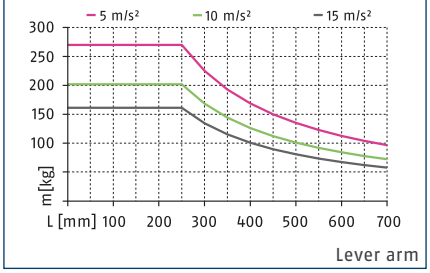
ⓘ For each CPS-K, a proximity switch is required for presence monitoring.

CPS 110

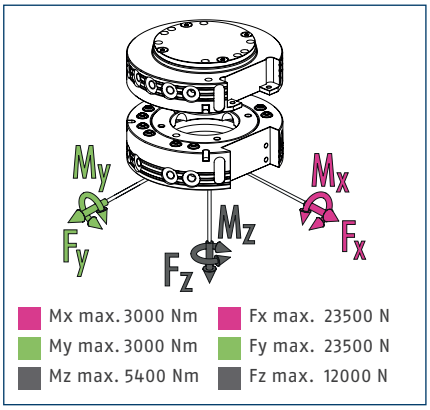
Automatic tool changers



Load chart



Max. loads

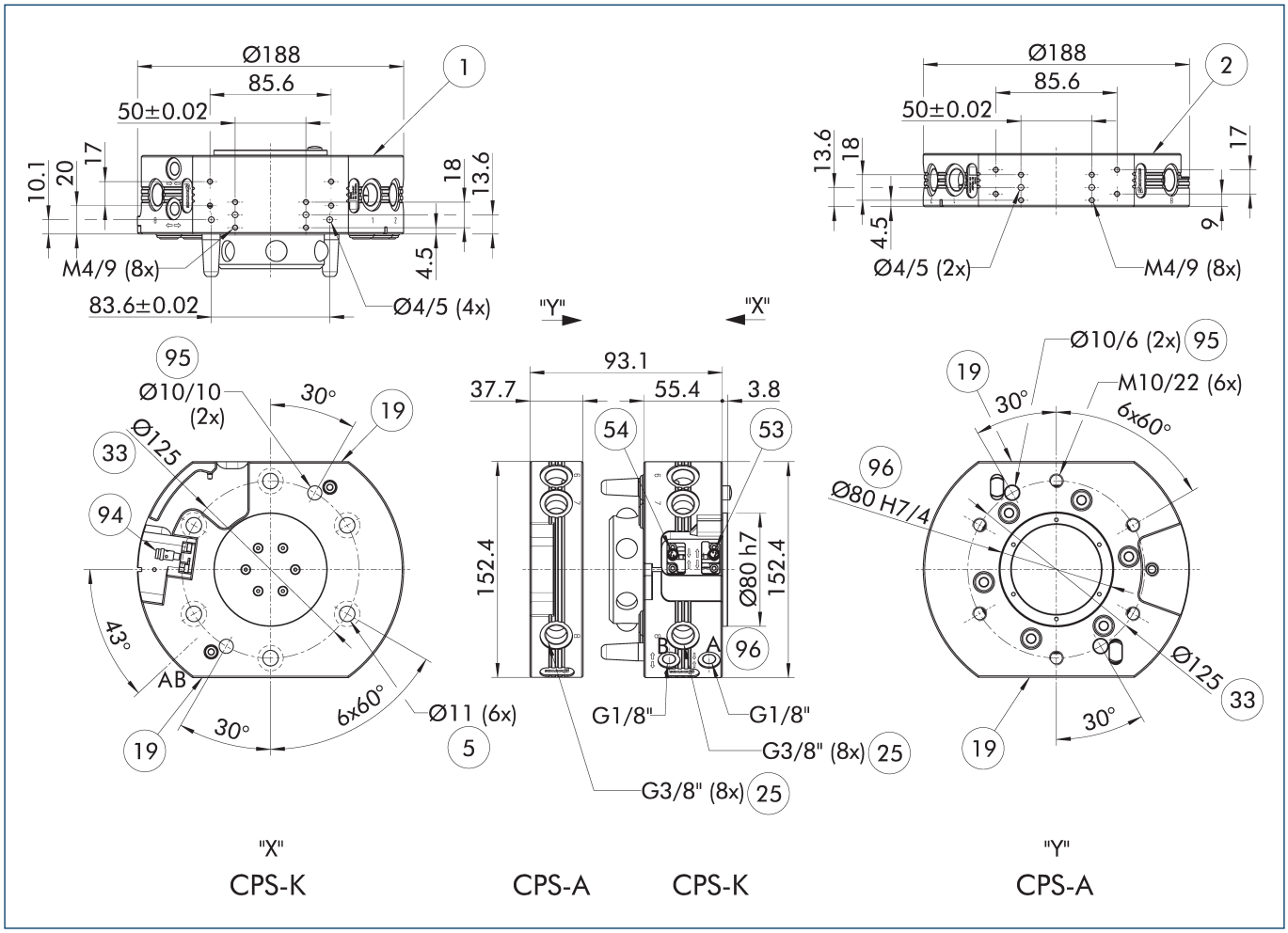


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 110-K-S	CPS 110-K	CPS 110-A
		Change head	Change head	Tool
ID		1613289	1590259	1590282
Lock sensing		integrated	prepared	
Locking force	[N]	12000	12000	
Locking force provided by spring force	[N]	230	230	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	4.5	4.5	2.3
Max. distance when locking	[mm]	3	3	
Number of pneumatic feed-throughs		8x G3/8"	8x G3/8"	8x G3/8"
Lock/unlock main connection		G1/8"	G1/8"	
Max. permissible XY axis offset	[mm]	±1	±1	±1
Max. permissible angular offset XY	[°]	±0.7	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1	±1
Robot-side connection		ISO 9409-1-125-6-M10	ISO 9409-1-125-6-M10	
Tool-side connection				ISO 9409-1-125-6-M10
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		2 x J	2 x J	2 x J
Opening/closing time	[s]	0.3/0.1	0.3/0.1	
Cylinder volume per double stroke	[cm³]	193	193	
Flow rate at 6 bar (per feed-through)		1.400 l/min (G3/8")	1.400 l/min (G3/8")	1.400 l/min (G3/8")
Max. dynamic moment Mx	[Nm]	1000	1000	1000
Max. dynamic moment My	[Nm]	1000	1000	1000
Max. dynamic moment Mz	[Nm]	1800	1800	1800
Force Fx max. dynamic	[N]	7800	7800	7800
Force Fy max. dynamic	[N]	7800	7800	7800
Force Fz max. dynamic	[N]	4000	4000	4000

Main view

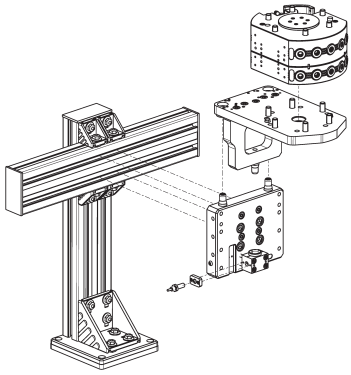


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(25) Pneumatic feed-throughs
(33) DIN ISO-9409 bolt circle
(53) Monitoring Position unlocked
(54) Monitoring Position locked
(94) Optional proximity switch
(95) Fit for centering pins
(96) Fit for centering

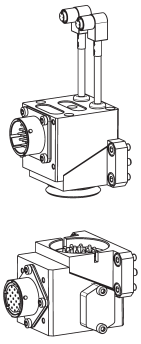
Modular storage rack CTS



CTS-P

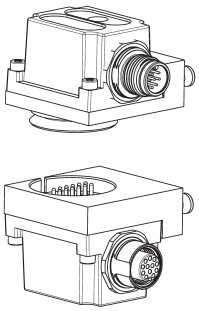
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

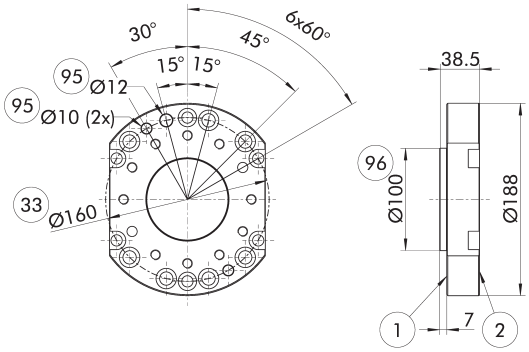


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A160-R



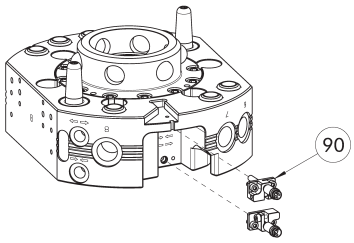
1 Robot-side connection
2 Tool-side connection
33 DIN ISO-9409 bolt circle
95 Fit for centering pins
96 Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO160/CPS110-210	1581929	

ⓘ Adapter plate for robots with M10 or M12 mounting patterns

Assembly situation of the locking monitoring



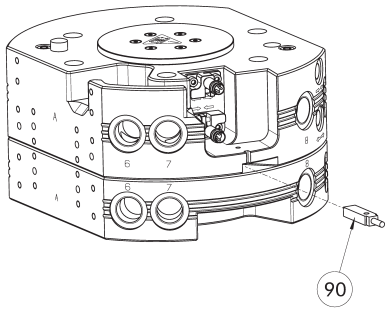
90 Attachmient kit for lock/unlock monitoring (bracket and sensor)

The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-110-160	1610161	

ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

Installation situation presence monitoring



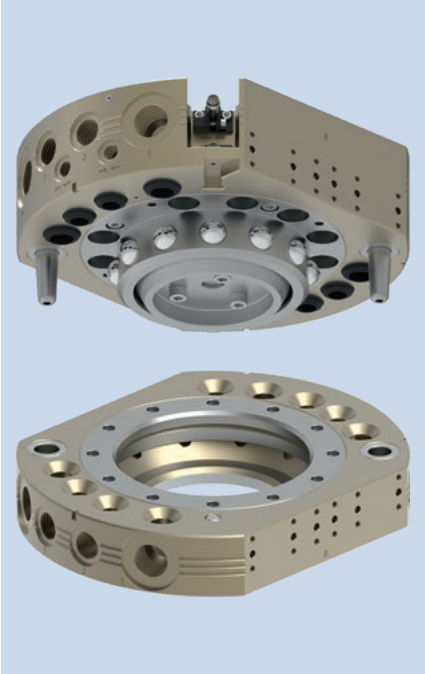
90 Sensor for presence control

Description	ID	
Inductive proximity switch		
IN 8-SL-M8-SW	1622470	
INK 8-SL	0302456	

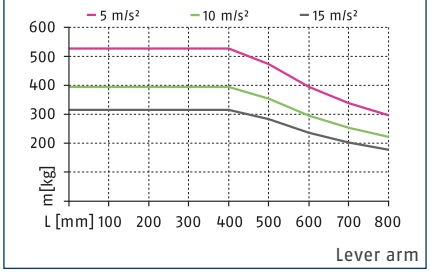
ⓘ For each CPS-K, a proximity switch is required for presence monitoring.

CPS 160

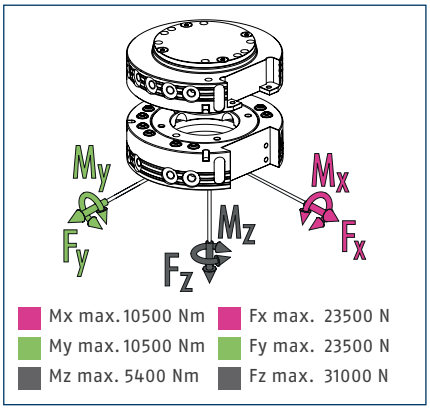
Automatic tool changers



Load chart



Max. loads



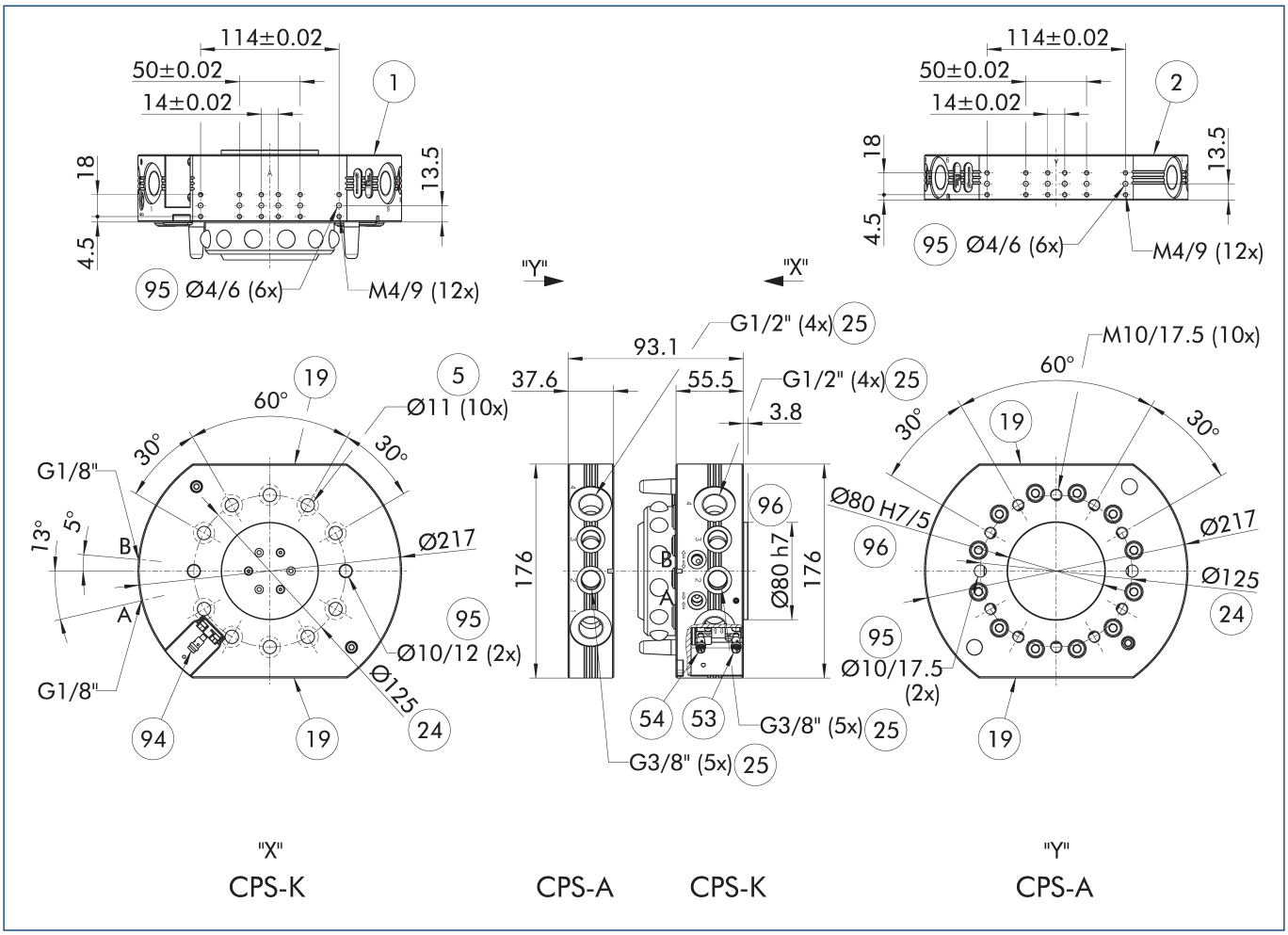
Mx max. 10500 Nm	Fx max. 23500 N
My max. 10500 Nm	Fy max. 23500 N
Mz max. 5400 Nm	Fz max. 31000 N

ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 160-K-S	CPS 160-K	CPS 160-A
		Change head	Change head	Tool
ID		1613301	1590284	1590286
Lock sensing		integrated	prepared	
Locking force	[N]	31000	31000	
Locking force provided by spring force	[N]	378	378	
Repeat accuracy	[mm]	0.015	0.015	
Weight	[kg]	7.6	7.6	3.1
Max. distance when locking	[mm]	2	2	
Number of pneumatic feed-throughs		5x G3/8"	5x G3/8"	5x G3/8"
Number of pneumatic feed-throughs		4x G1/2"	4x G1/2"	4x G1/2"
Lock/unlock main connection		G1/8"	G1/8"	
Max. permissible XY axis offset	[mm]	±2	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1	±1
Robot-side connection		ISO 9409-1-125-10-M10	ISO 9409-1-125-10-M10	
Tool-side connection				ISO 9409-1-125-10-M10
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Nominal operating pressure	[bar]	6	6	6
Min./max. operating pressure	[bar]	4.5/7	4.5/7	4.5/7
Screw connection diagram		4 x J	4 x J	4 x J
Opening/closing time	[s]	0.3/0.1	0.3/0.3	
Cylinder volume per double stroke	[cm³]	279	279	
Flow rate at 6 bar (per feed-through)		1.400 l/min (G3/8")	1.400 l/min (G3/8")	1.400 l/min (G3/8")
Flow rate at 6 bar (per feed-through)		1.600 l/min (G1/2")	1.600 l/min (G1/2")	1.600 l/min (G1/2")
Max. dynamic moment Mx	[Nm]	3500	3500	3500
Max. dynamic moment My	[Nm]	3500	3500	3500
Max. dynamic moment Mz	[Nm]	1800	1800	1800
Force Fx max. dynamic	[N]	7800	7800	7800
Force Fy max. dynamic	[N]	7800	7800	7800
Force Fz max. dynamic	[N]	10500	10500	10500

Main view

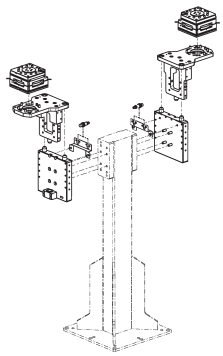


The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

A, a Air connection locked
B, b Air connection unlocked

1 Robot-side connection
2 Tool-side connection
5 Through hole for connection with screws
19 Mounting surface for options
24 Bolt circle
25 Pneumatic feed-throughs
53 Monitoring Position unlocked
54 Monitoring Position locked
94 Optional proximity switch
95 Fit for centering pins
96 Fit for centering

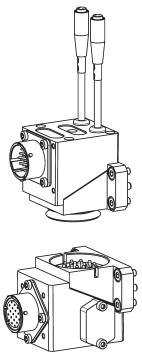
Modular storage rack CTS



CTS-P

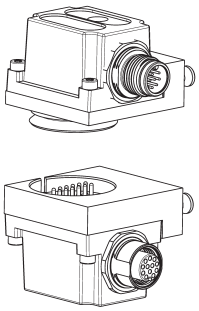
ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Optional modules COS



ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COB

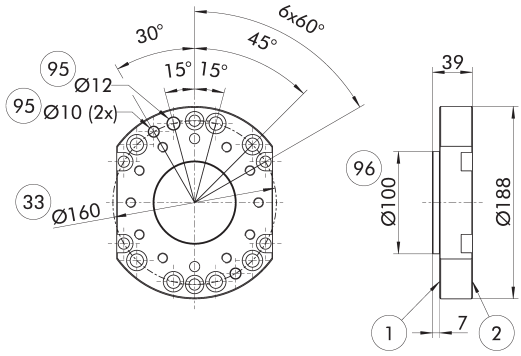


An adapter plate is required to mount COB option modules on CPS tool changers.

Description	ID	Screw connection diagram
Adapter plate		
COS Z83-J/B	1610155	J

ⓘ For detailed information and suitable cable connectors, see the "COB" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A160-R

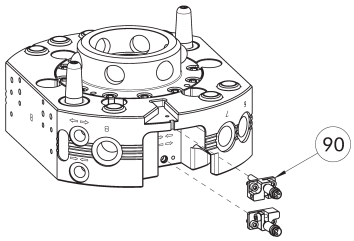


(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO160/CPS160	1581930	

Assembly situation of the locking monitoring



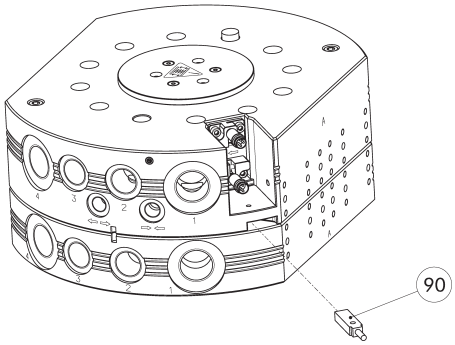
(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-110-160	1610161	

ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

Installation situation presence monitoring



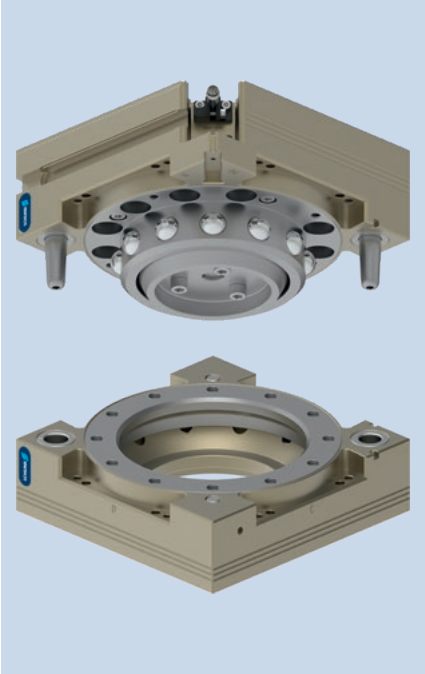
(90) Sensor for presence control

Description	ID	
Inductive proximity switch		
IN 8-SL-M8-SW	1622470	
INK 8-SL	0302456	

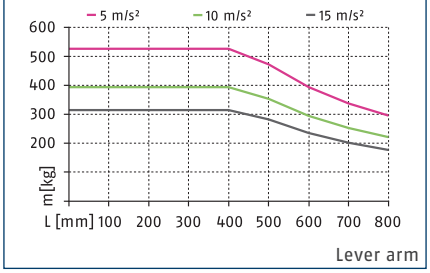
ⓘ For each CPS-K, a proximity switch is required for presence monitoring.

CPS 210

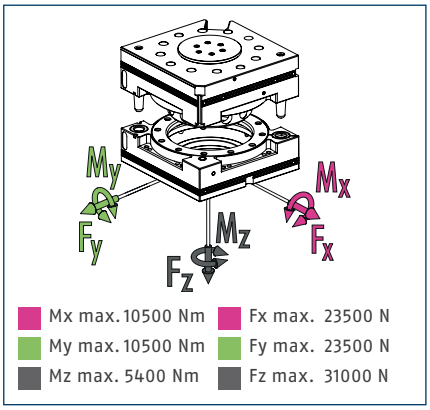
Automatic tool changers



Load chart



Max. loads

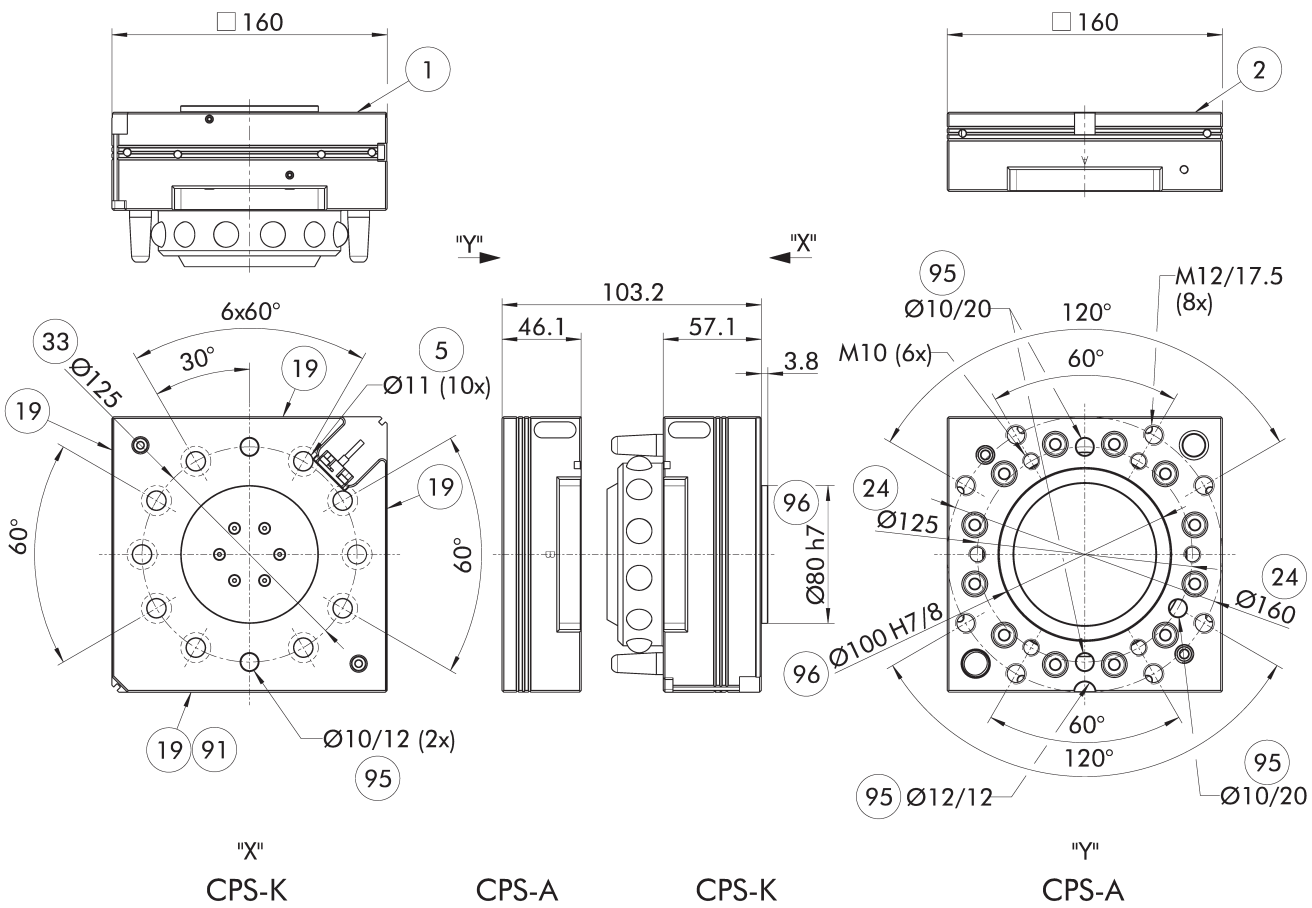


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 210-K-S	CPS 210-A
		Change head	Tool
ID		1613303	1590994
Lock sensing		integrated	
Locking force	[N]	31000	
Locking force provided by spring force	[N]	378	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	5.8	2.7
Max. distance when locking	[mm]	2	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1
Robot-side connection		ISO 9409-1-125-10-M10	
Tool-side connection			ISO 9409-1-125-10-M10
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	5/7	5/7
Screw connection diagram		L1 side A, L side B/C/D	L side A/B/C/D
Mounting surface control module		Side A	Side A
Opening/closing time	[s]	0.3/0.1	
Cylinder volume per double stroke	[cm³]	314	
Max. dynamic moment Mx	[Nm]	3500	3500
Max. dynamic moment My	[Nm]	3500	3500
Max. dynamic moment Mz	[Nm]	1800	1800
Force Fx max. dynamic	[N]	7800	7800
Force Fy max. dynamic	[N]	7800	7800
Force Fz max. dynamic	[N]	10500	10500

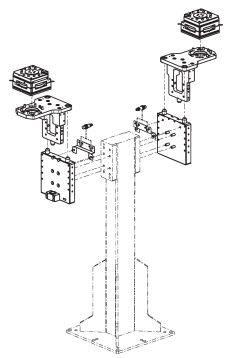
Main view



The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(33) DIN ISO-9409 bolt circle
(91) Mounting surface A for control modules
(95) Fit for centering pins
(96) Fit for centering

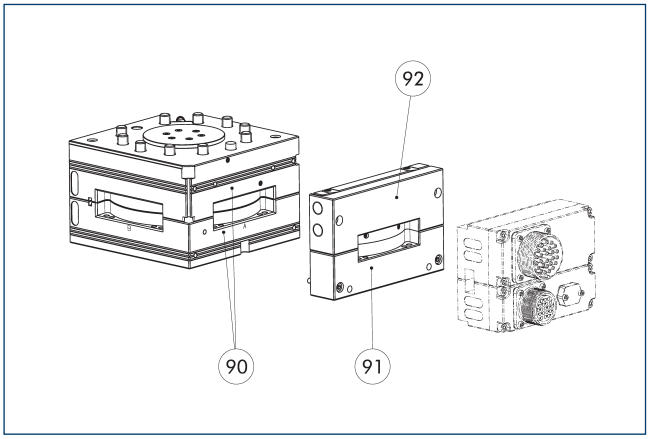
Modular storage rack CTS



CTS-P

ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Pneumatic control module

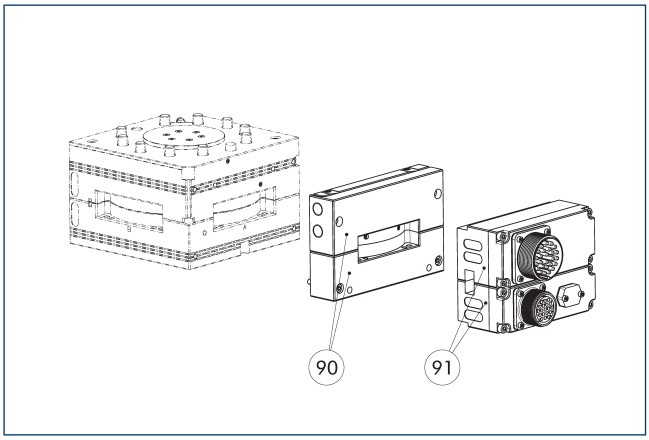


(90) Mounting surface A for control modules
(91) Distance plate
(92) Pneumatic control module

An additional pneumatic control module is required on the CPS-K for locking and unlocking, which is available in different versions. The simple version includes 2 air connections for locking and unlocking, and a customer-side pneumatic valve is required. The other variant already includes a pneumatic valve in the module, which is connected to the piston chamber of the CPS-K and locks and unlocks the tool changer.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COS

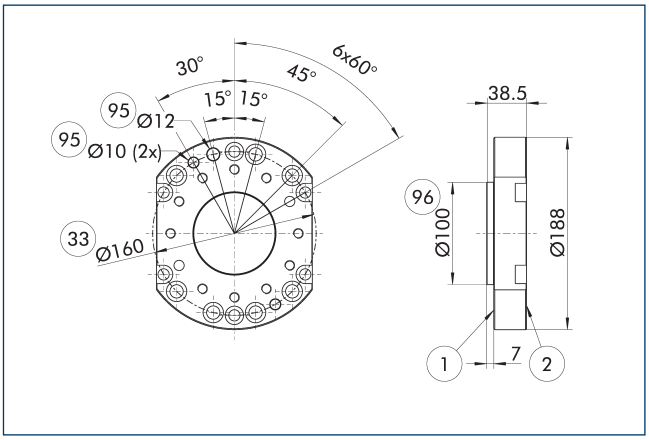


(90) Pneumatic control module and spacer plate
(91) Optional module COS

It is possible to screw additional COS option modules onto the pneumatic control module and the distance plate.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Adapter plate ISO-A160-R



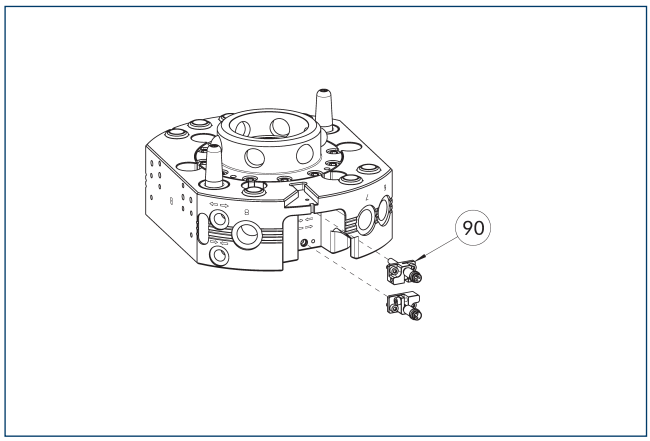
(1) Robot-side connection
(2) Tool-side connection
(33) DIN ISO-9409 bolt circle
(95) Fit for centering pins
(96) Fit for centering

Robot side adapter plate

Description	ID	
Adapter plate		
A-ISO160/CPS110-210	1581929	

ⓘ Adapter plate for robots with M10 or M12 mounting patterns

Assembly situation of the locking monitoring



(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

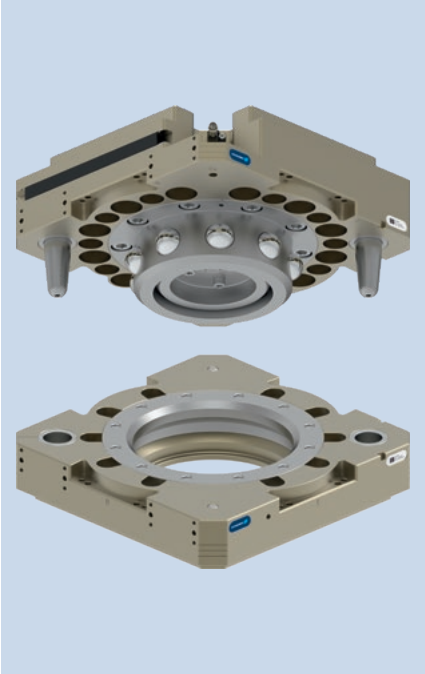
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-210	1620279	

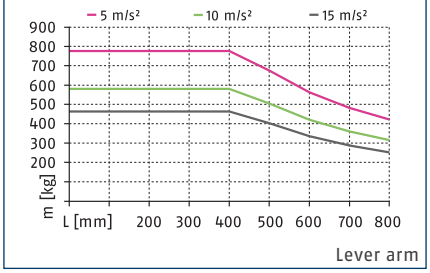
ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 310

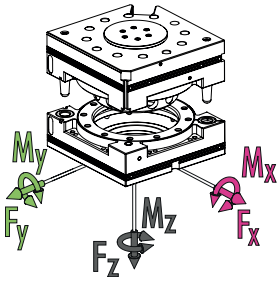
Automatic tool changers



Load chart



Max. loads



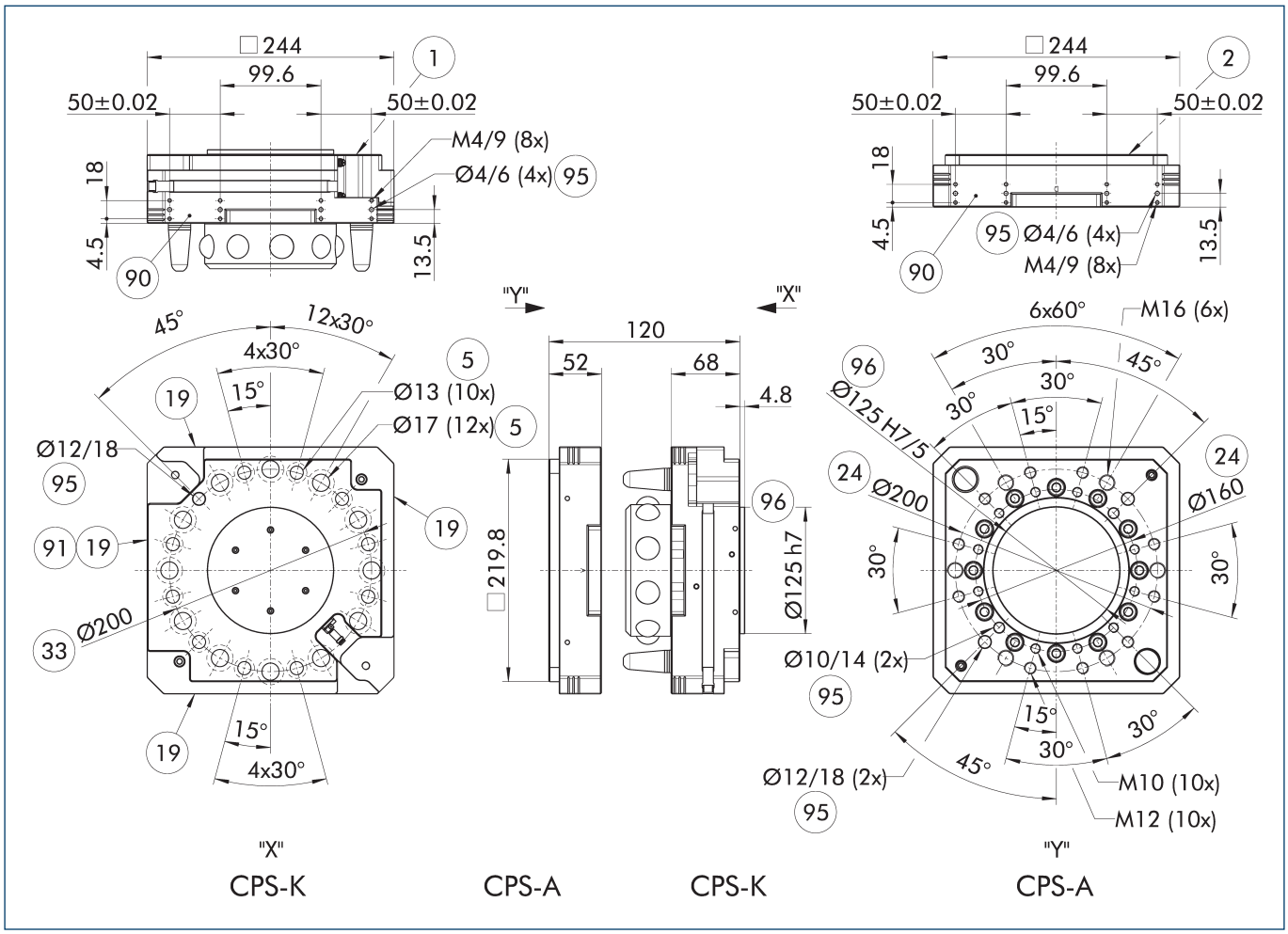
Mx max. 15000 Nm	Fx max. 35000 N
My max. 15000 Nm	Fy max. 35000 N
Mz max. 13500 Nm	Fz max. 38000 N

ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 310-K-S	CPS 310-A
		Change head	Tool
ID		1613305	1590996
Lock sensing		integrated	
Locking force	[N]	38000	
Locking force provided by spring force	[N]	574	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	13.4	7.3
Max. distance when locking	[mm]	2.5	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1
Robot-side connection		ISO 9409-1-200-6-M12	
Tool-side connection			ISO 9409-1-200-6-M12
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	5/7	5/7
Screw connection diagram		L2 side A, L side B/C/D, 2 x J side B/D	L side A/B/C/D, 2 x J side B/D
Mounting surface control module		Side A	Side A
Opening/closing time	[s]	0.5/0.5	
Cylinder volume per double stroke	[cm³]	581	
Max. dynamic moment Mx	[Nm]	5000	5000
Max. dynamic moment My	[Nm]	5000	5000
Max. dynamic moment Mz	[Nm]	4500	4500
Force Fx max. dynamic	[N]	11500	11500
Force Fy max. dynamic	[N]	11500	11500
Force Fz max. dynamic	[N]	12500	12500

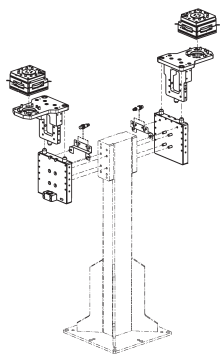
Main view



The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

1 Robot-side connection
2 Tool-side connection
5 Through hole for connection with screws
19 Mounting surface for options
24 Bolt circle
33 DIN ISO-9409 bolt circle
90 Screw connection diagram also on the opposite side
91 Mounting surface A for control modules
95 Fit for centering pins
96 Fit for centering

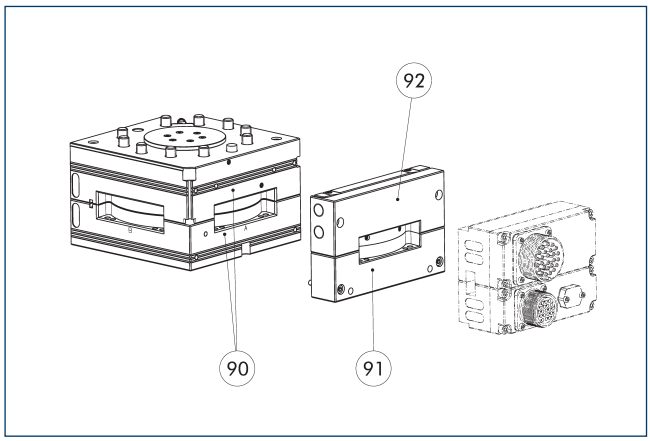
Modular storage rack CTS



CTS-P

ⓘ For detailed information, see the "CTS" chapter in the catalog, or visit schunk.com.

Pneumatic control module

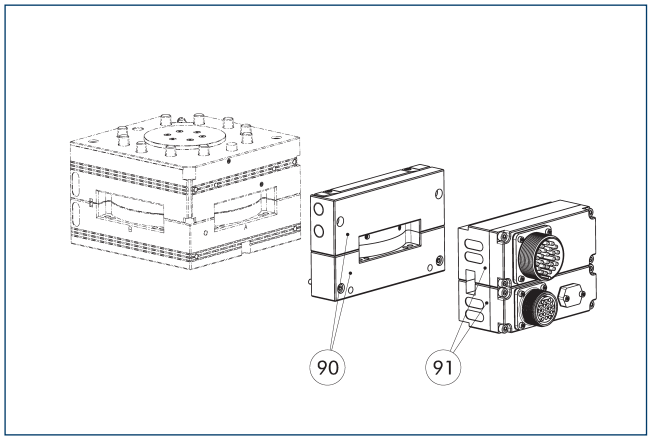


(90) Mounting surface A for control modules
(91) Distance plate
(92) Pneumatic control module

An additional pneumatic control module is required on the CPS-K for locking and unlocking, which is available in different versions. The simple version includes 2 air connections for locking and unlocking, and a customer-side pneumatic valve is required. The other variant already includes a pneumatic valve in the module, which is connected to the piston chamber of the CPS-K and locks and unlocks the tool changer.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COS

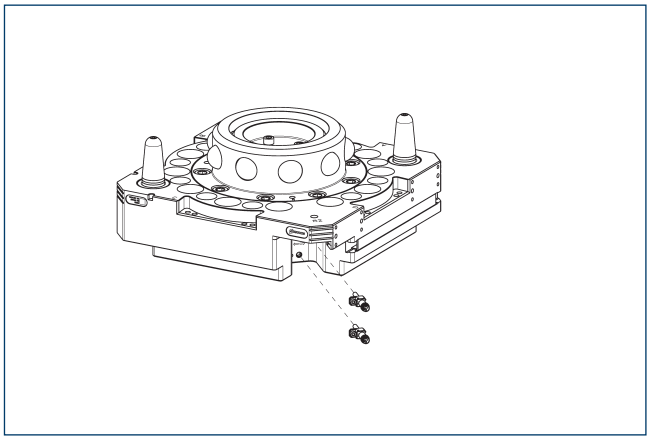


(90) Pneumatic control module and spacer plate
(91) Optional module COS

It is possible to screw additional COS option modules onto the pneumatic control module and the distance plate.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Assembly situation of the locking monitoring



(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

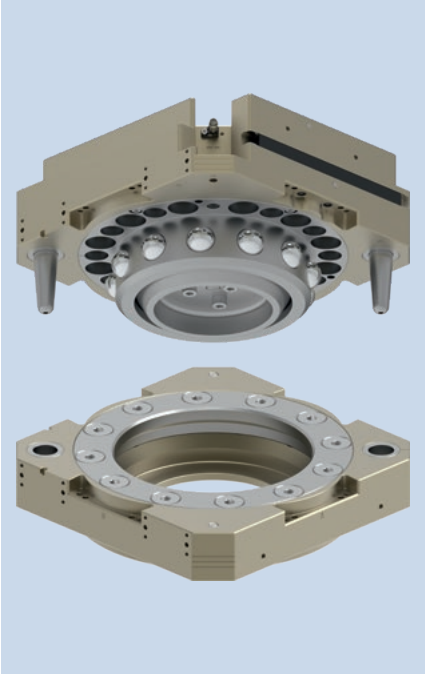
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-310	1610162	

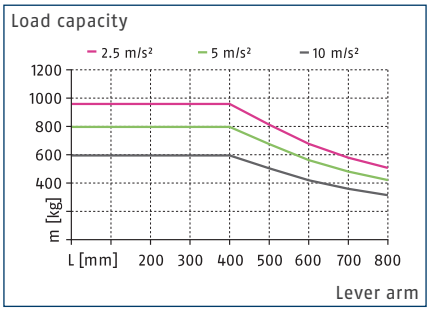
ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 510

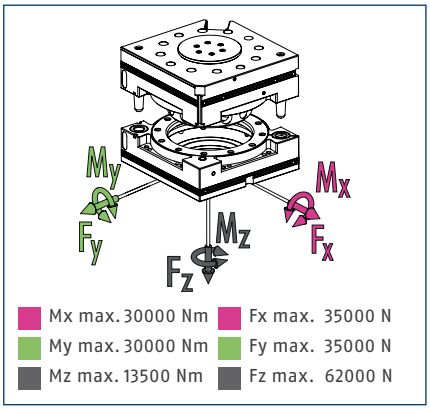
Automatic tool changers



Load chart



Max. loads

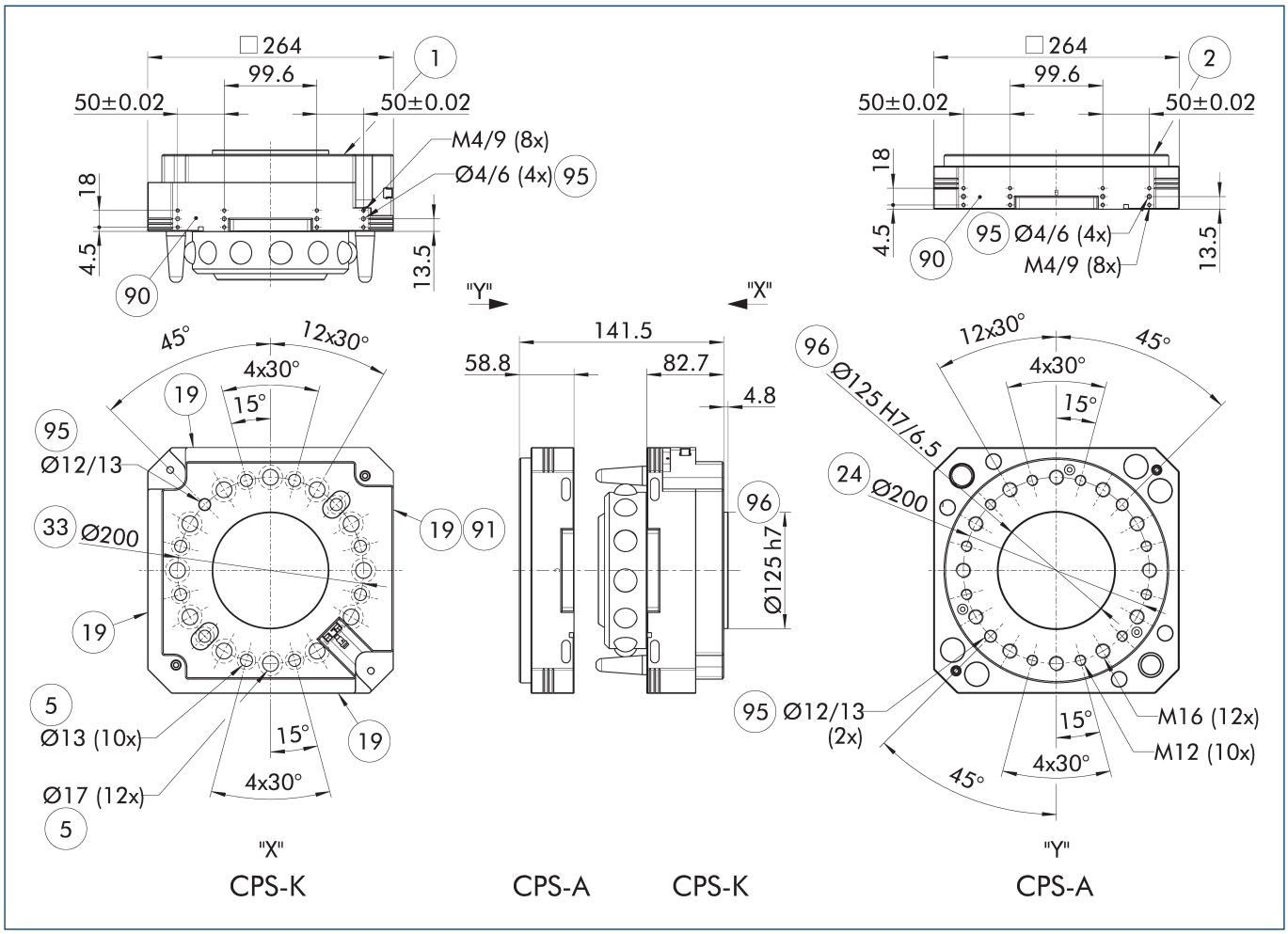


ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 510-K-S	CPS 510-A
		Change head	Tool
ID		1613306	1590999
Lock sensing		integrated	
Locking force	[N]	62000	
Locking force provided by spring force	[N]	710	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	19.7	8.7
Max. distance when locking	[mm]	2.5	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1
Robot-side connection		ISO 9409-1-200-12-M16	
Tool-side connection			ISO 9409-1-200-12-M16
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	5/7	5/7
Screw connection diagram		L2 side A, L side B/C/D, 2 x J side B/D	L side A/B/C/D, 2 x J side B/D
Mounting surface control module		Side A	Side A
Opening/closing time	[s]	0.5/0.1	
Cylinder volume per double stroke	[cm³]	1080	
Max. dynamic moment Mx	[Nm]	10000	10000
Max. dynamic moment My	[Nm]	10000	10000
Max. dynamic moment Mz	[Nm]	4500	4500
Force Fx max. dynamic	[N]	11800	11800
Force Fy max. dynamic	[N]	11800	11800
Force Fz max. dynamic	[N]	20500	20500

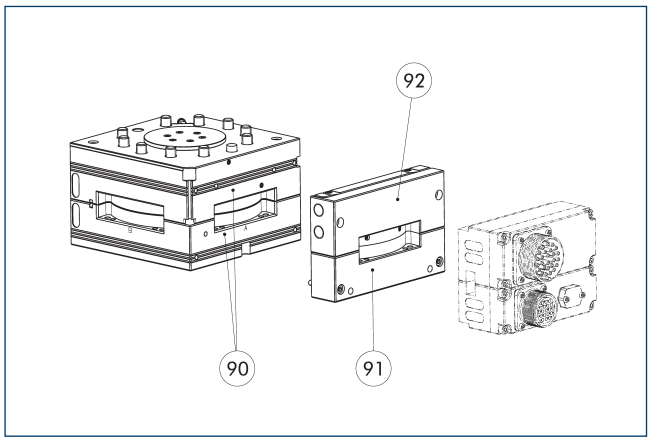
Main view



The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

1 Robot-side connection
2 Tool-side connection
5 Through hole for connection with screws
19 Mounting surface for options
24 Bolt circle
33 DIN ISO-9409 bolt circle
90 Screw connection diagram also on the opposite side
91 Mounting surface A for control modules
95 Fit for centering pins
96 Fit for centering

Pneumatic control module

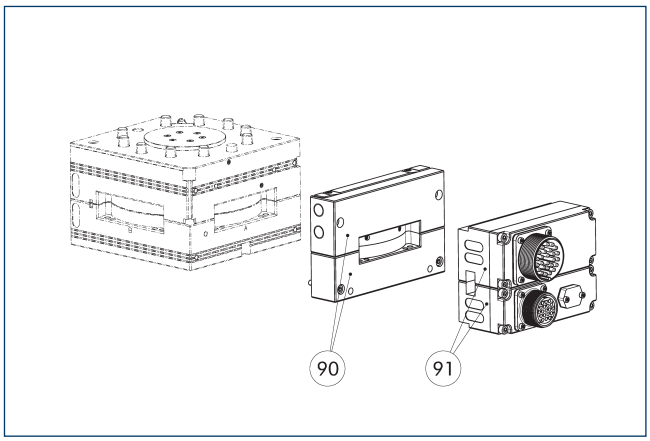


(90) Mounting surface A for control modules
(91) Distance plate
(92) Pneumatic control module

An additional pneumatic control module is required on the CPS-K for locking and unlocking, which is available in different versions. The simple version includes 2 air connections for locking and unlocking, and a customer-side pneumatic valve is required. The other variant already includes a pneumatic valve in the module, which is connected to the piston chamber of the CPS-K and locks and unlocks the tool changer.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Optional modules COS

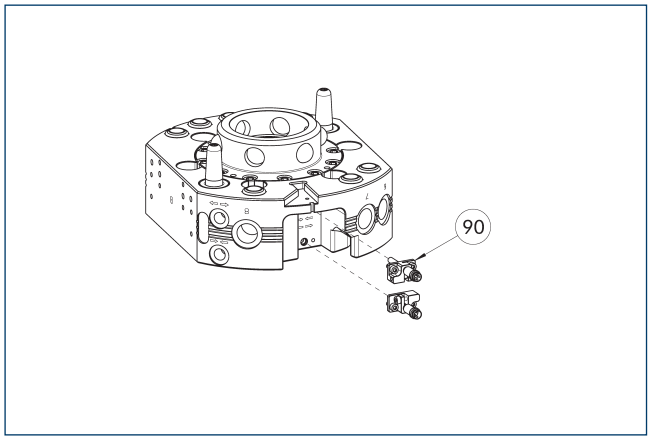


(90) Pneumatic control module and spacer plate
(91) Optional module COS

It is possible to screw additional COS option modules onto the pneumatic control module and the distance plate.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Assembly situation of the locking monitoring



(90) Attachmient kit for lock/unlock monitoring (bracket and sensor)

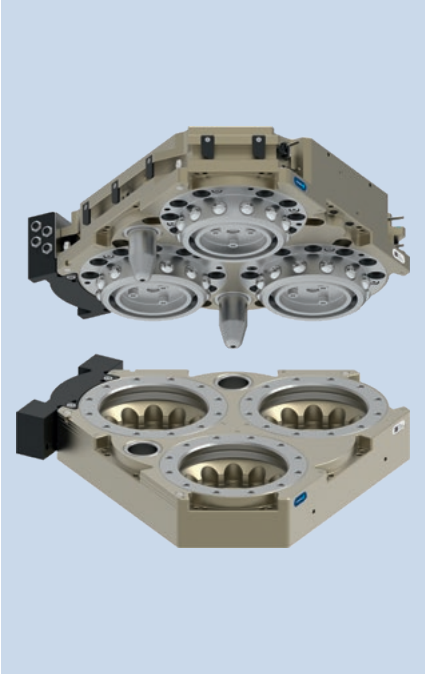
The drawing shows the installation situation with the prepared locking monitoring.

Description	ID	
Attachment kit for proximity switch		
AS-CPS-510	1620282	

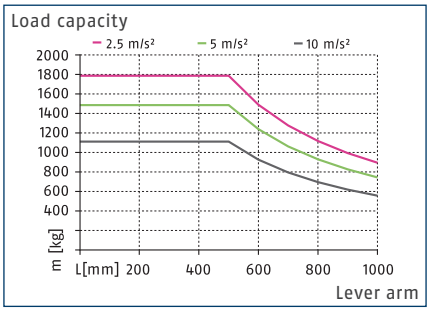
ⓘ The K-S variants of the CPS-K already have lock monitoring integrated, so there is no need to order an additional attachment kit. The scope of delivery of each attachment kit contains one preset sensor with bracket, meaning that two attachment kits are required per CPS-K.

CPS 1210

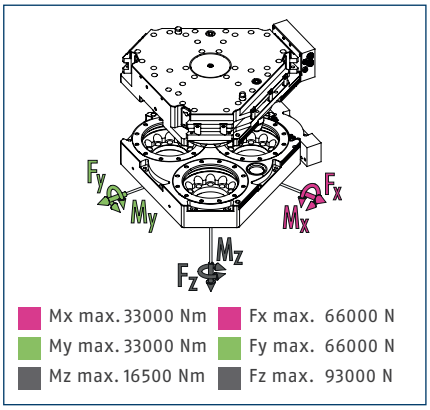
Automatic tool changers



Load chart



Max. loads



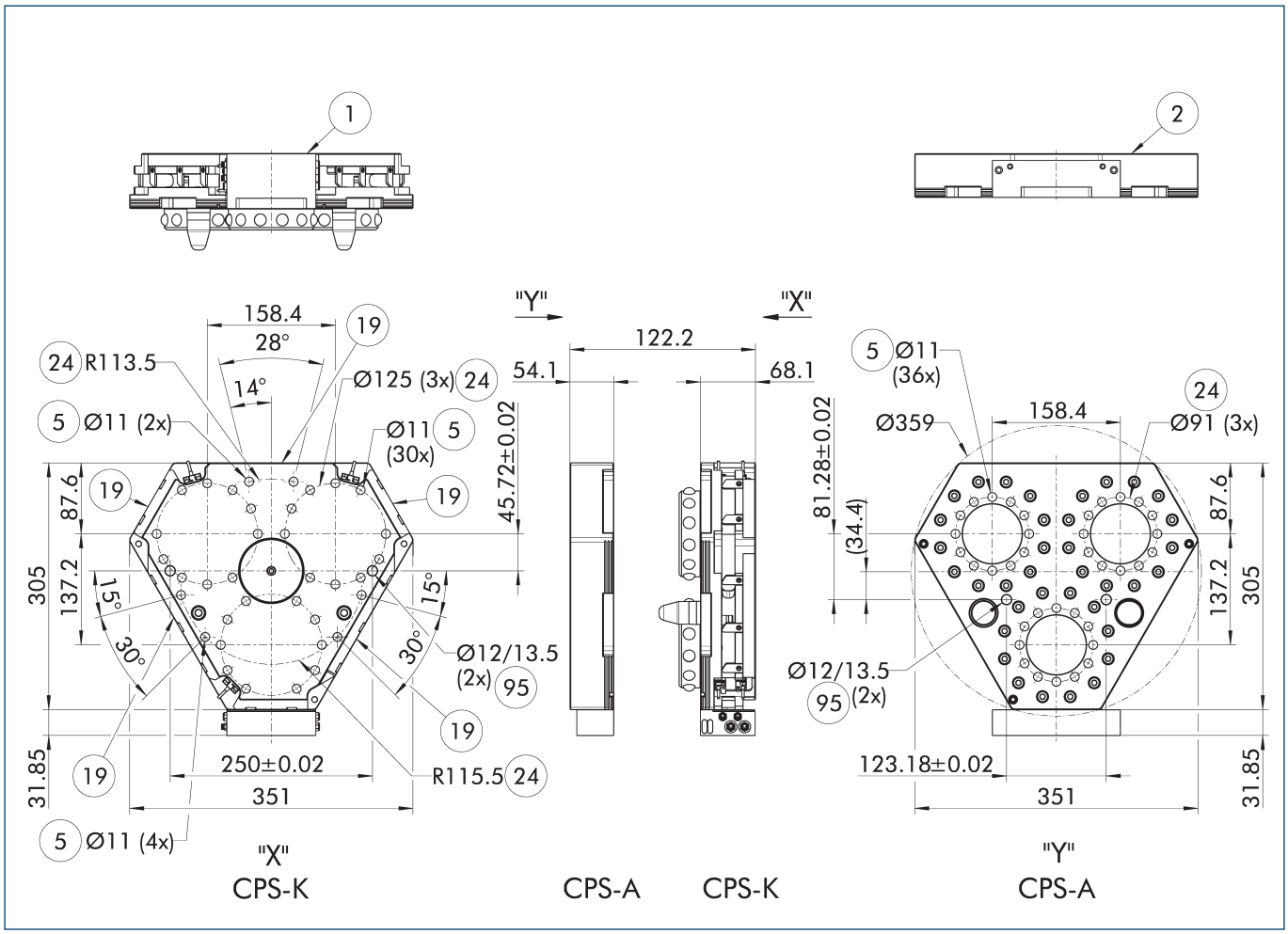
ⓘ This is the sum of all static loads that are permitted to act on the tool changer.

Technical data

Description		CPS 1210-K-S	CPS 1210-A
		Change head	Tool
ID		1639338	1639339
Lock sensing		3x integrated	
Locking force	[N]	93000	
Locking force provided by spring force	[N]	1134	
Repeat accuracy	[mm]	0.015	
Weight	[kg]	21.5	10
Max. distance when locking	[mm]	1	
Max. permissible XY axis offset	[mm]	±2	±2
Max. permissible angular offset XY	[°]	±0.7	±0.7
Max. permissible angular offset Z	[°]	±1	±1
Min./max. ambient temperature	[°C]	5/60	5/60
Nominal operating pressure	[bar]	6	6
Min./max. operating pressure	[bar]	5/7	5/7
Screw connection diagram		L2 side A, L side B/C/D/E/F	L side A/B/C/D/E/F
Opening/closing time	[s]	1/1	
Cylinder volume per double stroke	[cm³]	942	
Max. dynamic moment Mx	[Nm]	11000	11000
Max. dynamic moment My	[Nm]	11000	11000
Max. dynamic moment Mz	[Nm]	5500	5500
Force Fx max. dynamic	[N]	22000	22000
Force Fy max. dynamic	[N]	22000	22000
Force Fz max. dynamic	[N]	31000	31000

ⓘ The sensor distribution box COS STB-K, ID 1640081, is included in the scope of delivery of the CPS 1210-K-S.
The distance plate COS Z59-A-STB, ID 1640082, is included in the scope of delivery of the CPS 1210-A.

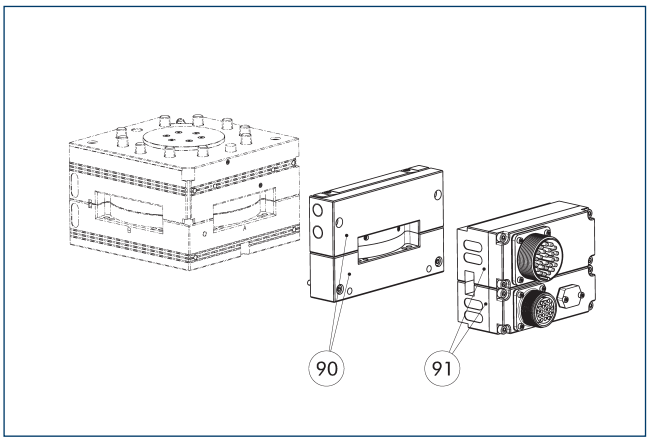
Main view



The drawing shows the basic version of the tool changer without taking account of the dimensions of the options described below.

(1) Robot-side connection
(2) Tool-side connection
(5) Through hole for connection with screws
(19) Mounting surface for options
(24) Bolt circle
(25) Pneumatic feed-throughs
(32) Cover
(95) Fit for centering pins
(96) Fit for centering

Optional modules COS



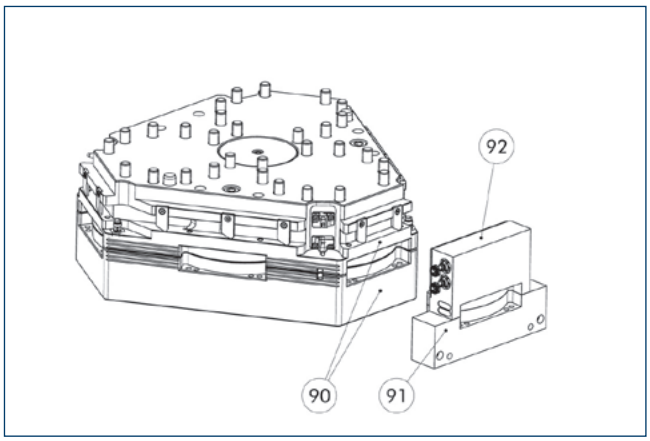
90 Pneumatic control module and spacer plate

91 Optional module COS

It is possible to screw additional COS option modules onto the pneumatic control module and the distance plate.

ⓘ For detailed information and suitable cable connectors, see the "COS" chapter in the catalog, or visit schunk.com.

Sensor terminal block



90 Screw-on surface D for sensor terminal block

91 Distance plate

92 Sensor terminal block

ⓘ For detailed information on sensor systems, see "CPS operating manual" or visit schunk.com.

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