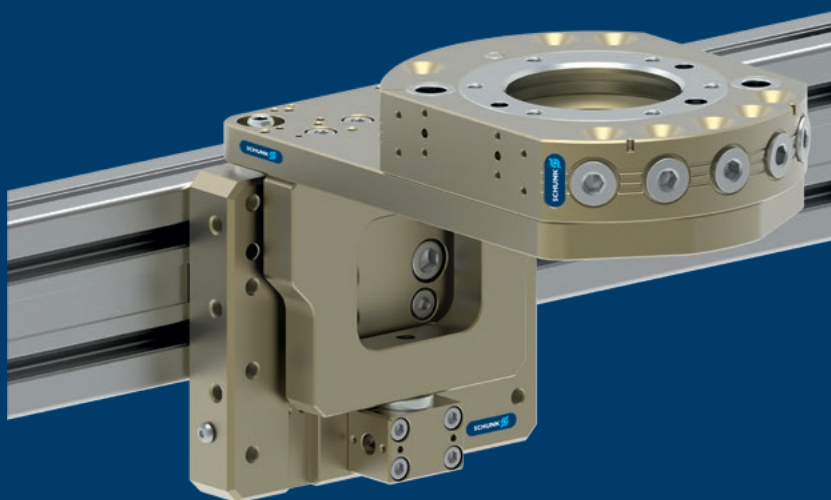




Hand in hand for tomorrow



Product data sheet

Storage module CTS C-016

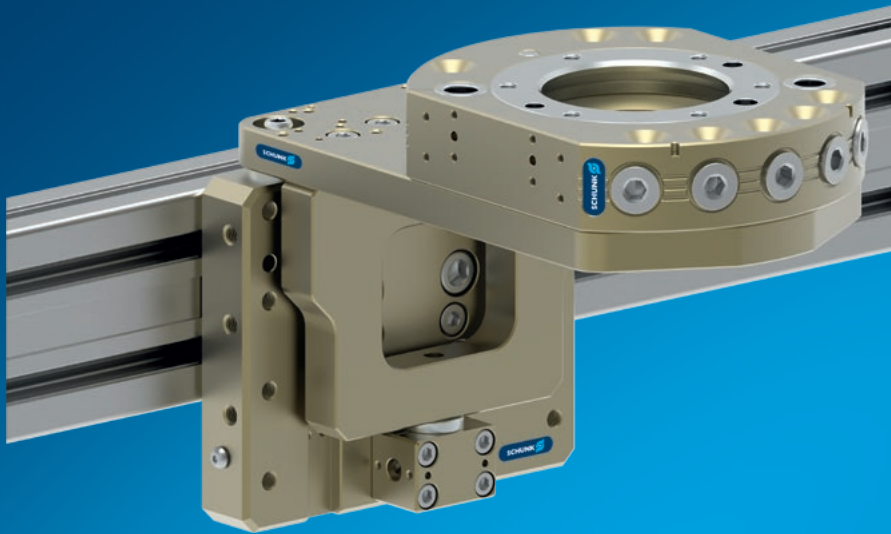
Compact. Reliable. Versatile.

Storage rack

Storage racks for the automatic tool changers CPS and CPB

Field of application

SCHUNK storage systems CTS are optimally adapted to SCHUNK tool changers CPS and CPB and provide stability, flexibility, and a long service life.



Advantages – Your benefits

Compact design for minimal interfering contours on storage station and tool

Comprehensive range of variants for flexible use in various application areas

Standardized adapter plates available for all CPS and CPB sizes

Stainless, hardened contact surfaces for a long service life

Sensor monitoring optionally available

Easy integration in customized solutions

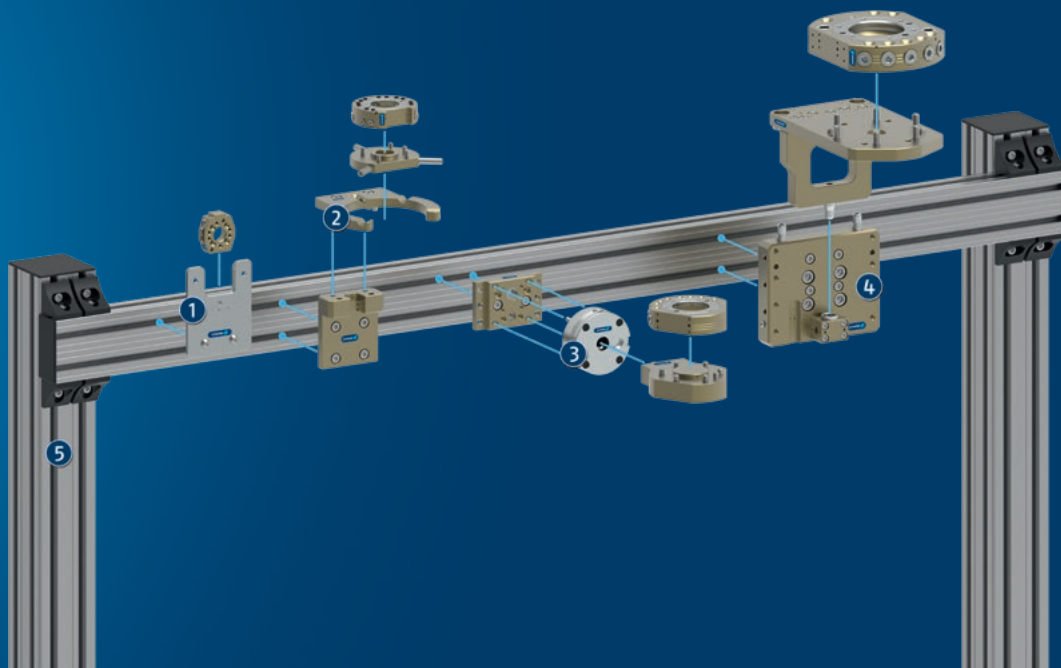


Sizes
Quantity: 10

Functional description

Automatic change of the end effector (e.g. gripper, etc.) increases the flexibility of your robot. In addition to an automatic tool changer (CPS/CPB), a tool storage rack is required for a change operation. For placing a tool, the robot inserts the tool into the storage connecting member of the storage rack. At least one of the four different

storage types is available for all CPS and CPB sizes. This means that the CTS systems can be used both in simple cost-sensitive applications as well as in applications with the greatest requirements and flexibility in the orientation and position of the storage rack.



① **Tool stand CTS T**
Variable horizontal and vertical mounting possible

② **Storage module CTS C**
offers the option of using free pneumatic connections on the CPS-A, alternatively an adapter plate can be used

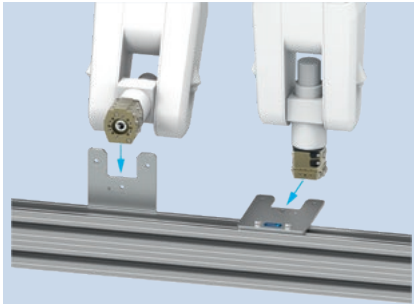
③ **Storage module CTS B**
Compact design, minimal interfering contour and high compatibility between variants

④ **Storage module CTS P**
Precise positioning thanks to 3-point support

⑤ **Aluminum profile**
Can be optimally adapted to customized applications thanks to their combinability

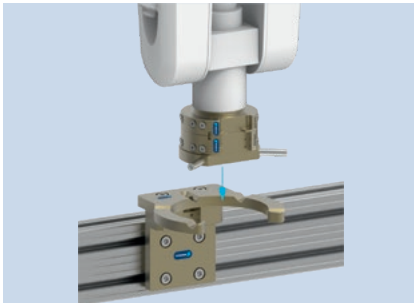
Detailed functional description

Storage process CTS T



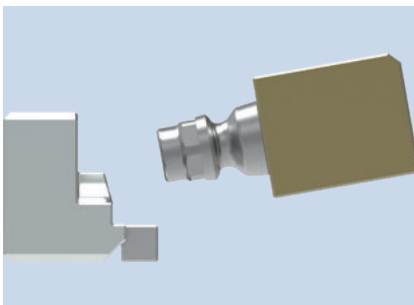
A special feature of the tray storage system is the variable mounting of the metal tray. The tray can be installed horizontally, vertically or laterally on a horizontal profile section. To store the CPS-A in the storage plate, the existing groove in the CPS-A is pushed onto the plate and the CPS-A is held in storage position by means of a locking device.

Storage process CTS C



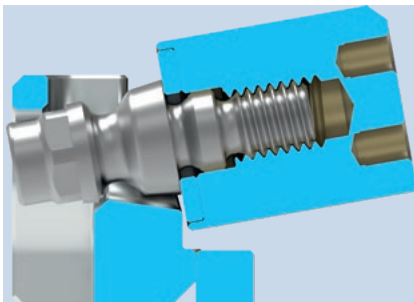
In the bolt storage system, the tool is deposited in the storage system from above. The workpiece stops are positioned in the provided grooves. Position adapters allow up to four tools to be deposited per profile. The extension adapter allows increasing the distance to the profile. This also allows large-sized tools to be deposited. The screw-on pattern of the CPS-A is already integrated into the intermediate plate and is therefore easy to mount.

Storage process CTS B, passive variant – Step 1: Inserting the tool into the storage module



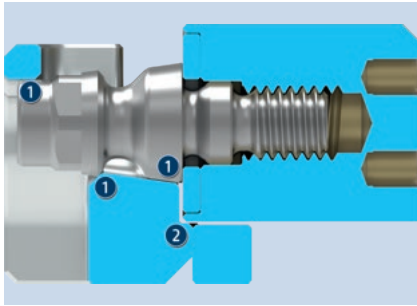
To store the tool in the storage module, the storage system must be approached at an angle of 10°.

Storage process CTS B, passive variant – Step 2: Lowering the tool

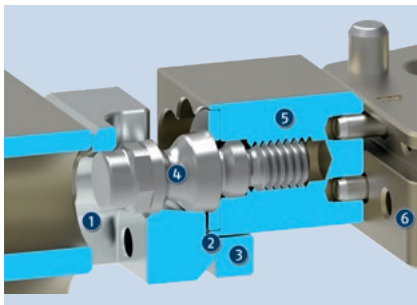


Before the tool is lowered into the horizontal storage position, the bolt must be briefly moved beyond the rear side of the storage module. Therefore, a hole must be provided behind the bore hole on the rear side of the storage module. This hole is already present in the mounting plate that is provided as an accessory.

Storage process CTS B, passive variant – Step 3: Stored tool

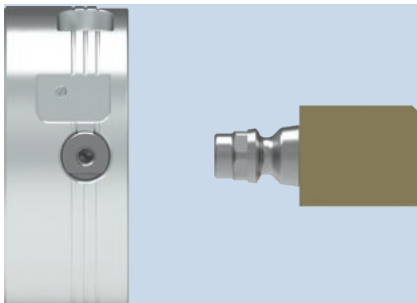


- ❶ When in the stored position, the bolt rests on the storage module at three points.
- ❷ In addition, when the center of gravity of the tool is off-center, the adapter plate also rests on the storage module, thereby preventing it from tipping.



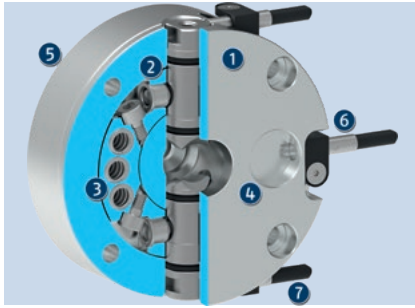
- ❶ Base body made of vacuum-hardened stainless steel for maximum service life
- ❷ Anti-rotation protection for storing tools with a decentralized center of gravity
- ❸ Sensor monitoring optional, for the process-reliable monitoring of tool presence
- ❹ Storage pins hardened for maximum wear resistance
- ❺ Adapter plate for tool change adapter available as intermediate plate or for side mounting (shown here) depending on size
- ❻ Automatic tool changer for a safe, automated tool change

Storage process CTS B, active variant



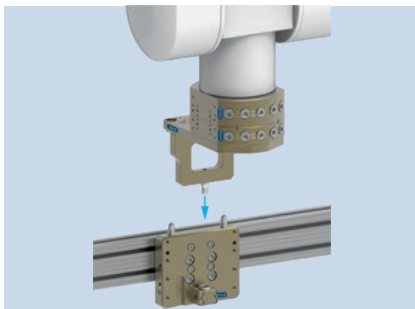
When storing the active variant, the bolt attached to the tool change adapter CPS-A or CPB-A is inserted linearly into the storage module. After the CTS B -V has been locked, the change system can be unlocked, allowing the tool to be stored.

Sectional diagram of function, active variant (with locking)



- ❶ Base body
made of vacuum-hardened
stainless steel for maximum service
life
- ❷ Locking
via pistons with patented rapid
stroke and clamping stroke
- ❸ Piston drive via spring assembly
and pneumatics
Opening by pneumatics, closing by
spring – for secure locking, even in
the event of compressed air failure
- ❹ Anti-rotation protection
for storing tools with a decentra-
lized center of gravity
- ❺ Centering sleeves
for repeatable mounting
- ❻ Monitoring of tool presence
optional, for higher process
reliability
- ❼ Monitoring of locking status
optional, for the positions "storage
module open" and "storage
module locked"

Storage process CTS P



The pin & bushing storage rack offers the option of precisely positioning tools using a 3-point support. Pins and bolts are integrated in the storage module and in the adapter plates for this purpose. The adapter plates for storage are available in horizontal or vertical variants. The horizontal intermediate plate is fitted bottom-sided onto the CPS-A, and the vertical intermediate plate is firmly bolted onto the side using the bolting pattern of the optional modules. The vertical intermediate plates are also available without an integrated drilling pattern for customized solutions.

General notes about the series

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.

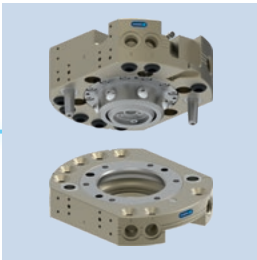
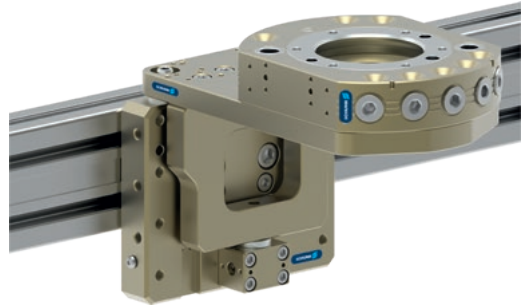


Application example

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

SCHUNK offers more ...

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



Automatic tool changer



Inductive proximity switch

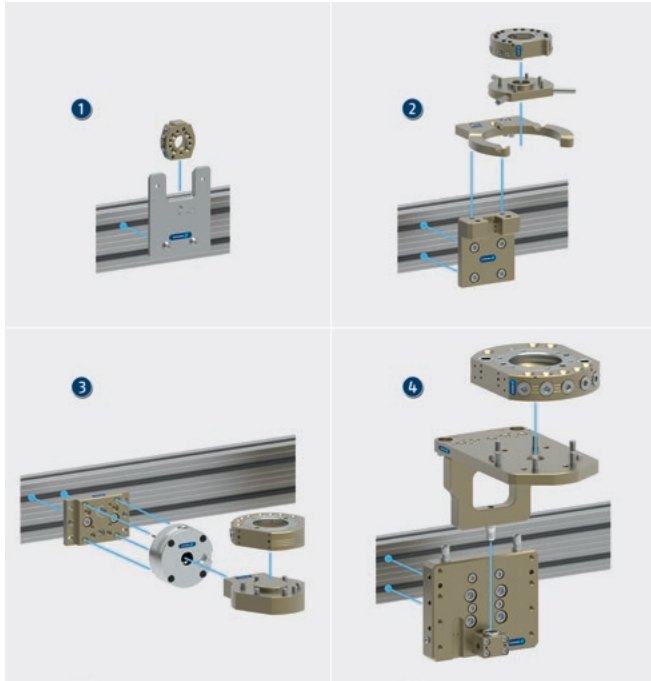


SAS

① For more information on these products can be found on the following product pages or at schunk.com.

Overview of modular storage systems CTS

SCHUNK storage racks CTS are optimally adapted to SCHUNK tool changers and provide stability, flexibility, and a long service life. The modularity of the storage module, adapter plates, stand profiles, and sensor systems enables the compact assembly of a complete package tailored to customized requirements. If you have already found the right tool changer for your application, you will find an overview of our storage modules for your system on the following page. The matching extruded upright profiles can be found after the storage modules.



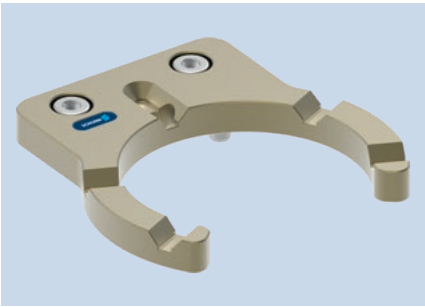
- ❶ Tool stand CTS T
- ❷ Storage module CTS C
- ❸ Storage module CTS B
- ❹ Storage module CTS P

	CTS T-001	CTS T-016	CTS C-016	CTS C-025	CTS B-016	CTS B-100	CTS B-300	CTS P-050	CTS P-150	CTS P-500
CPS 001	x									
CPS 007		x			x			x		
CPS 011			x		x					
CPS 020				x		x		x		
CPS 021				x		x		x		
CPS 029						x		x		
CPS 040						x		x		
CPS 041						x		x		
CPS 046						x		x		
CPS 060						x			x	
CPS 071						x			x	
CPS 076						x			x	
CPS 110							x		x	
CPS 160							x			x
CPS 210							x			x
CPS 310										x
CPS 510										

	CTS B-016	CTS B-100	CTS B-300							
CPB 040	x									
CPB 050	x									
CPB 063		x								
CPB 080		x								
CPB 100		x								
CPB 125			x							
CPB 160			x							

CTS C-016

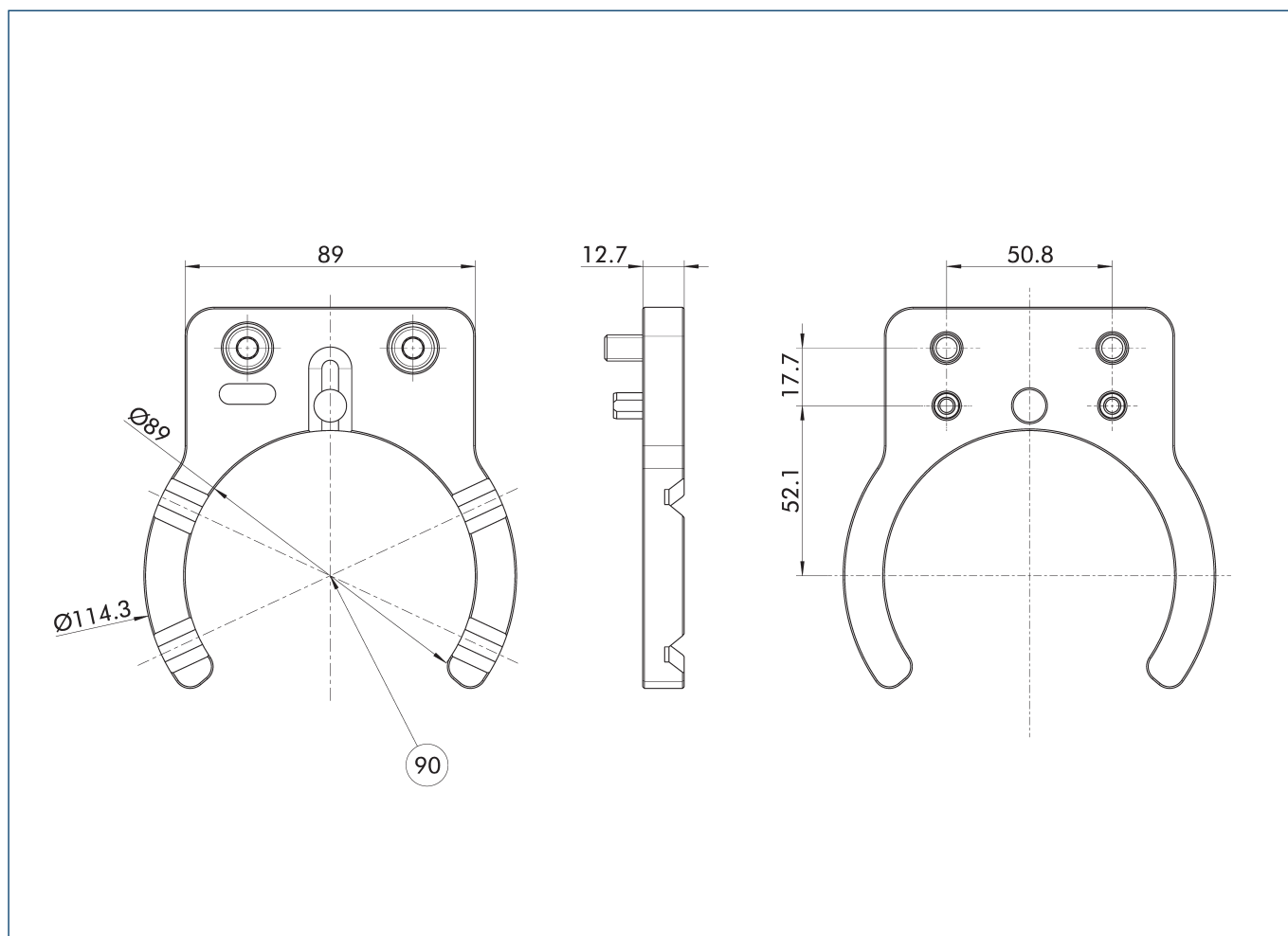
Storage module



Technical data

Description		CTS C-016-MM
ID		1594543
Recommended CPS size		011
max. load capacity	[kg]	16
Installation position		horizontal
Tool presence monitoring		optional
Min./max. ambient temperature	[°C]	5/60
Weight	[kg]	0.215

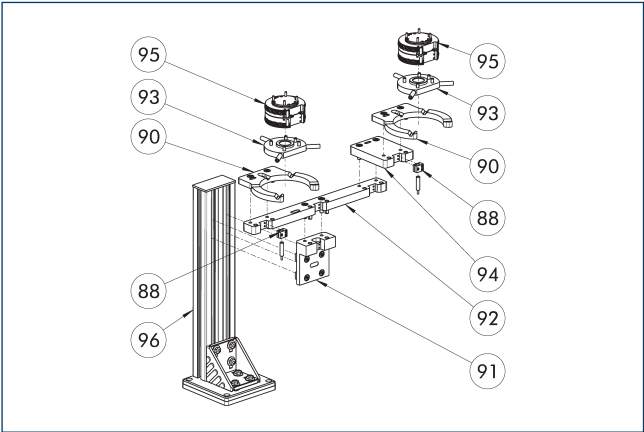
Main view CTS C-016-MM



The drawing shows the storage module in the basic version.

90 Tool changer position

Modular storage rack CTS C



- 88 Sensor system

90 Storage module

91 Fixing block

92 3-position adapter
- 93 Adapter plate

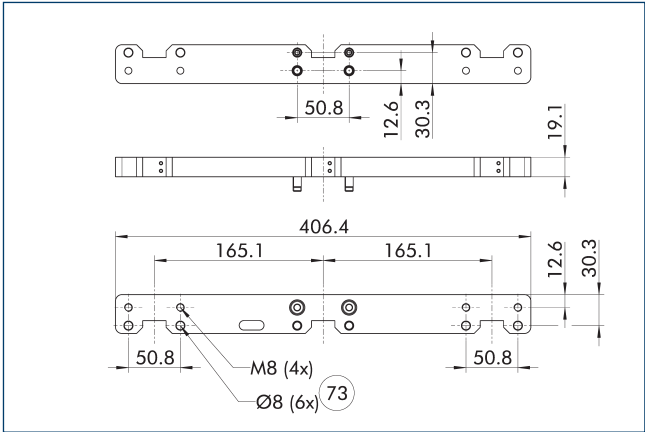
94 Extension adapter

95 Tool changer

96 Profile structure CTS

Description	ID	
3-position adapter		
CTS C-M3	1594642	
4-position adapter		
CTS C-M4	1594644	
Storage pins		
CTS C-AB-M5	1594629	
Adapter plates		
CTS C-016-AH-CPS011	1594574	
Fixing block		
CTS C-MB	1594641	
Extension adapter		
CTS C-ME	1594643	

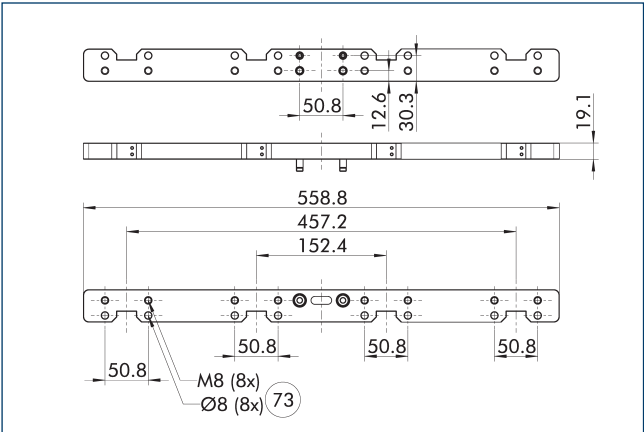
3-position adapter CTS C-M3



- 73 Fit for centering pins

Description	ID	
3-position adapter		
CTS C-M3	1594642	

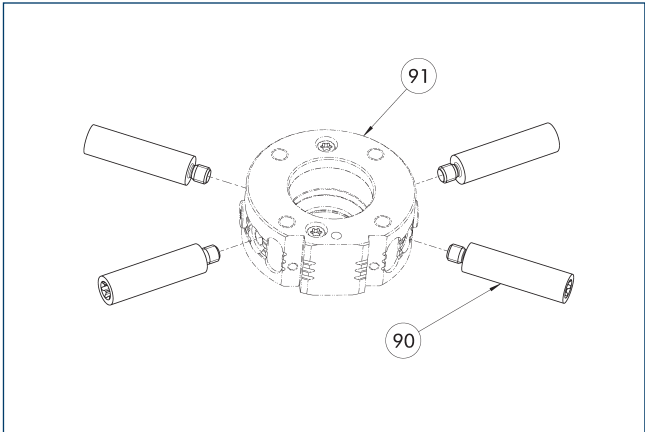
4-position adapter CTS C-M4



- 73 Fit for centering pins

Description	ID	
4-position adapter		
CTS C-M4	1594644	

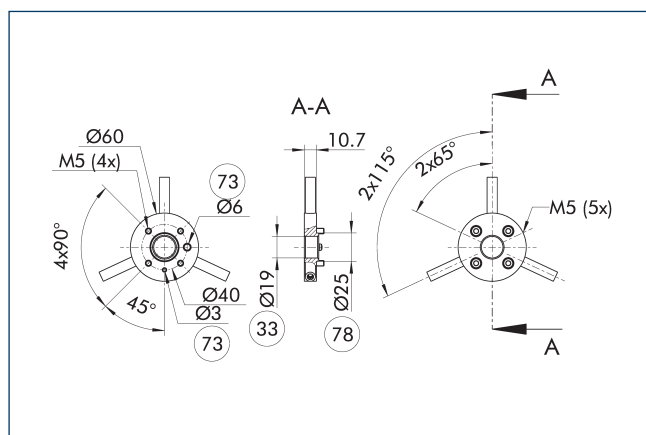
Storage bolt CTS C-AB-M5



- 90 Storage pins
- 91 Automatic tool changers CPS

Description	ID	
Storage pins		
CTS C-AB-M5	1594629	

Adapter plate CTS C-016-AH-CPS005-011



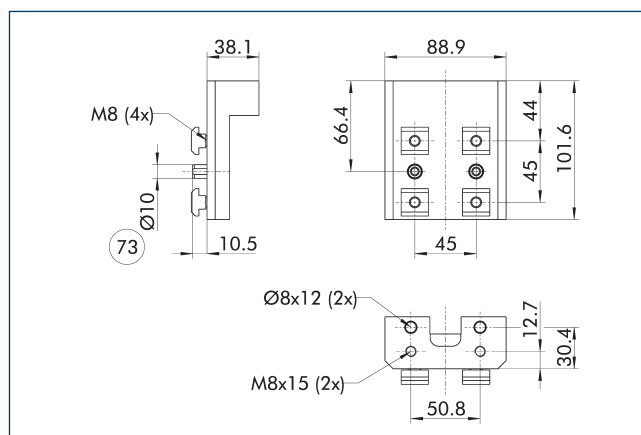
33 DIN ISO-9409 bolt circle

78 Fit for centering

73 Fit for centering pins

Description	ID	
Adapter plates		
CTS C-016-AH-CPS011	1594574	

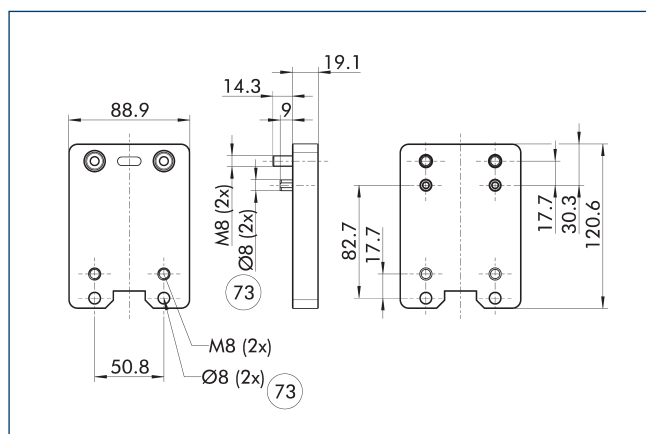
Mounting block CTS C-MB



73 Fit for centering pins

Description	ID	
Fixing block		
CTS C-MB	1594641	

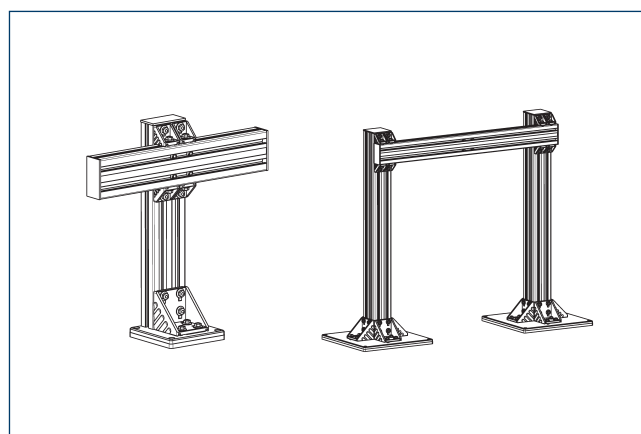
Extension adapter CTS C-ME



73 Fit for centering pins

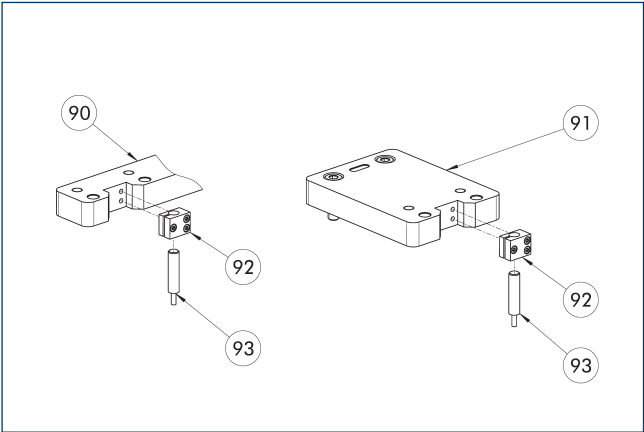
Description	ID	
Extension adapter		
CTS C-ME	1594643	

Profile



Description	ID	
Mounting bracket		
CTS MB-45x45	1332525	
Base plate		
CTS BP-45x90	0302580	
Cross profile 45 x 90 mm		
CTS PH-45x90-1200	1356073	
CTS PH-45x90-1500	1496166	
CTS PH-45x90-300	1564976	
CTS PH-45x90-460	0303229	
CTS PH-45x90-610	1419762	
CTS PH-45x90-920	0303228	
Stand profile section 45 x 90 mm		
CTS PV-45x90-1300	30070338	
CTS PV-45x90-300	30077021	
CTS PV-45x90-460	1564977	
CTS PV-45x90-610	0302586	
CTS PV-45x90-890	30046674	
Attachment bracket		
CTS BB-90x90	0302581	

Tool presence monitoring CTS C



- 90

Position adapter
- 91

Extension adapter
- 92

Attachment kit
- 93

Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-CTS-C-016-025	1594626	
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	

- ⓘ

Per unit one sensor is required, along with an optional extension cable. This attachment kit needs to be ordered optionally as an accessory. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.



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