

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending  
CKL2  
CKLG2  
CKL2-HC  
CKH2  
CKLB2  
CKG  
CK  
CKA  
CKS  
CKS-F  
CKF  
CKJ  
CHC



Auto hand changer

# CHC Series

- Connected axial force: 78, 245, 676, 1087 N



## Overview

Auto hand changer CHC Series is an automatic replacement unit for robot tip tools.

Mount the body side on the robot, prepare the tool adapter side in accordance with the number of workpieces, and mount a tool such as a hand chuck.

When the body side and tool adapter side are connected, the air port and electrode (option) will be connected as well, so that air piping and electric wiring changes are not required at changeover.

Just switch the air connection to mount or remove the changer, enabling automatic tool change and sharply reducing changeover time.

## Features

- High connection strength between body and adaptor, ensuring high rigidity
- Position locking mechanism prevents falling tools even when the drive source is cut off
- A wide range of options including D sub-connector are available

## Specifications

Item		CHC			
Size		1	5	10	20
Load capacity	kg	1	5	10	20
Bore size	mm	ø45	ø64	ø78	ø88
Total length when connected	mm	36	43	49	56
Working fluid		Compressed air			
Max. working pressure	MPa	0.7 (≈101 psi, 7 bar)			
Min. working pressure	MPa	0.3 (≈44 psi, 3 bar)			
Ambient temperature	°C	5 (41°F) to 60 (140°F)			
Repeatability	mm	±0.01			
Connected axial force	N	78	245	676	1087
Moment when connected	N·m	3.1	11.8	34.3	76.6
Torque when connected	N·m	8.6	12.8	24.5	18.9
Weight	kg	0.187	0.35	0.65	0.9
Connection port size		M3		M5	
Pneumatic interface	No. of ports *1	6			
	Port size	M3		M5	
Electric interface *2	Contact	15 pcs, contact probe method			
	Contact capacity	2 A/pc			
	Electrical connections	D1/D: Specifications with solder D3: D-sub-connector (15-pin)			

\*1 : Working pressure range is -100 kPa to 0.7 MPa; note that vacuum cannot be retained.

\*2 : The electrode block for electric interface can be retrofitted.

## How to order

· CHC body side



**A** Size

**B** Parts

**C** Option

Code	Description
<b>A Size</b>	
1	
5	
10	
20	
<b>B Parts</b>	
R	Body side only
<b>C Option</b>	
Blank	Standard
D1	Electrode block specification with solder
D3 *1	Electrode block D-sub-connector (socket)
B *1	Check valve

\*1: **A** Size "1" cannot be selected.

· Tool adaptor side



**A** Size

**B** Parts

**C** Option

Code	Description
<b>A Size</b>	
1	
5	
10	
20	
<b>B Parts</b>	
H	Tool adaptor side only
<b>C Option</b>	
Blank	Standard
D	Electrode block specification with solder
D3 *1	Electrode block D-sub-connector (socket)

\*1: **A** Size "1" cannot be selected.

Electrode block discrete model No. \*When retrofitting the electrode block, order the following parts.

Part name	Size	Model No.	Description
Electrode block for body side	1	CHC-1RS-D1	Specifications with solder
		CHC-5RS-D1	Specifications with solder
	5	CHC-5RS-D3	D-sub-connector (socket)
		CHC-10RS-D1	Specifications with solder
	10	CHC-10RS-D3	D-sub-connector (socket)
		20	CHC-20RS-D1
CHC-20RS-D3	D-sub-connector (socket)		
Electrode block for tool adapter side	1	CHC-1HS-D	Specifications with solder
		CHC-5HS-D	Specifications with solder
	5	CHC-5HS-D3	D-sub-connector (socket)
		10	CHC-10HS-D
	CHC-10HS-D3		D-sub-connector (socket)
	20	CHC-20HS-D	Specifications with solder
CHC-20HS-D3		D-sub-connector (socket)	

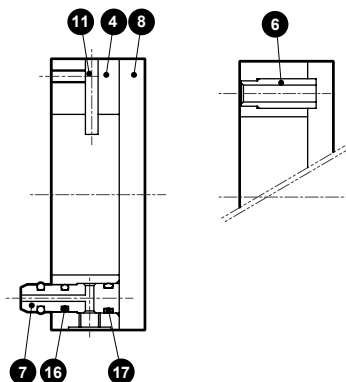
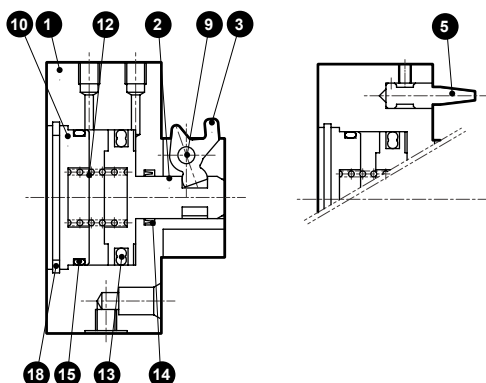
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
<b>Chuk</b>
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
<b>CHC</b>

## Internal structure and parts list

● CHC-1 to 20R (body side)

● CHC-1 to 20H (tool adaptor side)



No.	Part name	Material	No.	Part name	Material
1	Body	Aluminum alloy	10	Cylinder guard	Aluminum alloy
2	Piston	Stainless steel	11	Operation shaft	Alloy steel
3	Arm	Stainless steel	12	Spring	Stainless steel
4	Tool adaptor	Aluminum alloy	13	Piston seal	Nitrile rubber
5	Positioning pin	Stainless steel	14	Rod sealant	Nitrile rubber
6	Positioning hole	Stainless steel	15	Cylinder sealant	Nitrile rubber
7	Air pin	Stainless steel	16	Air pin seal	Nitrile rubber
8	Tool plate	Aluminum alloy	17	Air pin seal	Nitrile rubber
9	Fulcrum axis	Steel	18	C type snap ring *1	Stainless steel

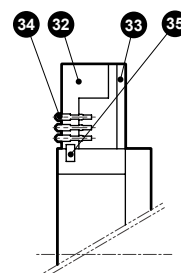
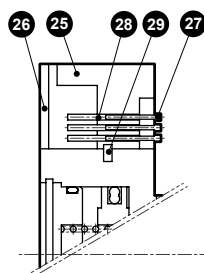
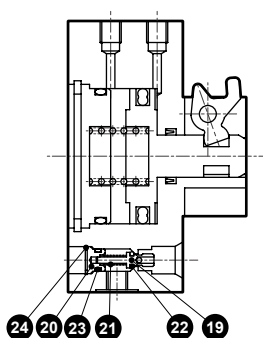
\*1: Not available for 10R, 20R.

## Internal structure and parts list with options

● Body side/with check valve  
CHC-5 to 20R-B

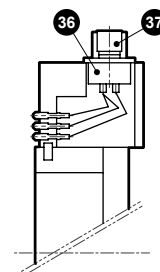
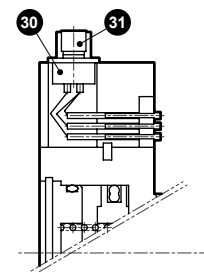
● Body side/with electrode block  
CHC-1 to 20R-D1

● Tool adaptor side/with electrode block  
CHC-1 to 20H-D



CHC-5 to 20R-D3

CHC-5 to 20H-D3



No.	Part name	Material
19	Spool	Stainless steel
20	Spool holder	Aluminum alloy
21	Spring	Stainless steel
22	Check valve seal 1	Nitrile rubber
23	Check valve seal 2	Nitrile rubber
24	C type snap ring	Stainless steel

No.	Part name	Material
25	Electrode base	Resin
26	Base cover	Resin
27	Probe	
28	Receptacle	
29	Positioning pin	Alloy steel
30	D sub-connector	
31	Fitting fixing table	

No.	Part name	Material
32	Electrode base	Resin
33	Base cover	Resin
34	Electrode pin	
35	Positioning pin	Alloy steel
36	D sub-connector	
37	Fitting fixing table	

\*1 : Check valve cannot be retrofitted.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending  
CKL2  
CKLG2  
CKL2-HC  
CKH2  
CKLB2  
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CKA  
CKS  
CKS-F  
CKF  
CKJ  
CHC

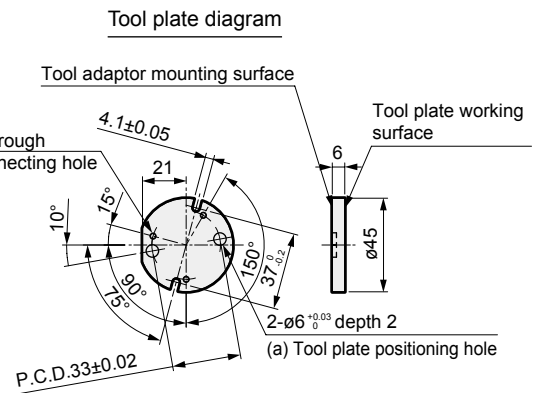
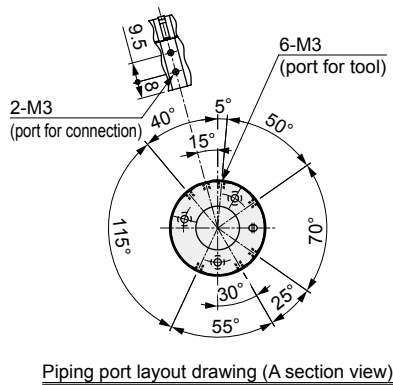
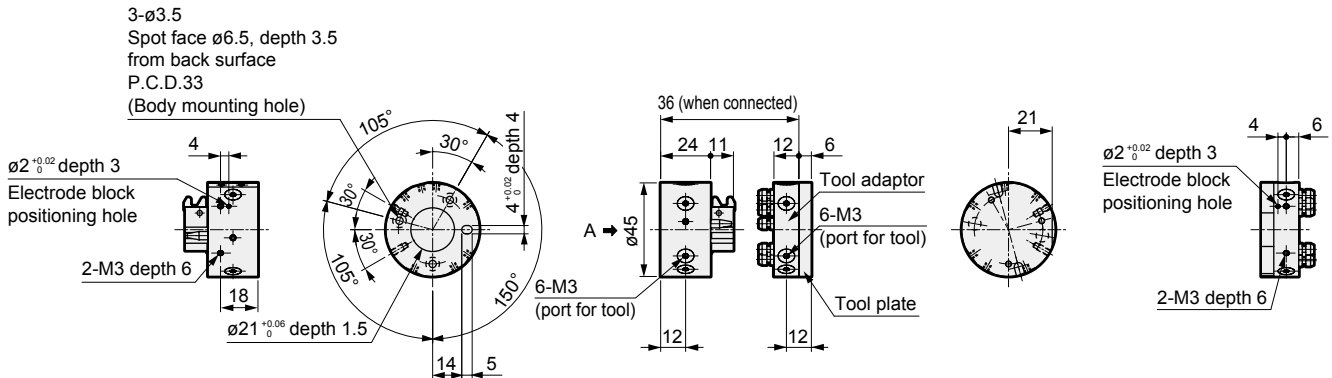
### Dimensions (CHC-1)



#### ● CHC-1

· Body side CHC-1R

· Tool adaptor side CHC-1H



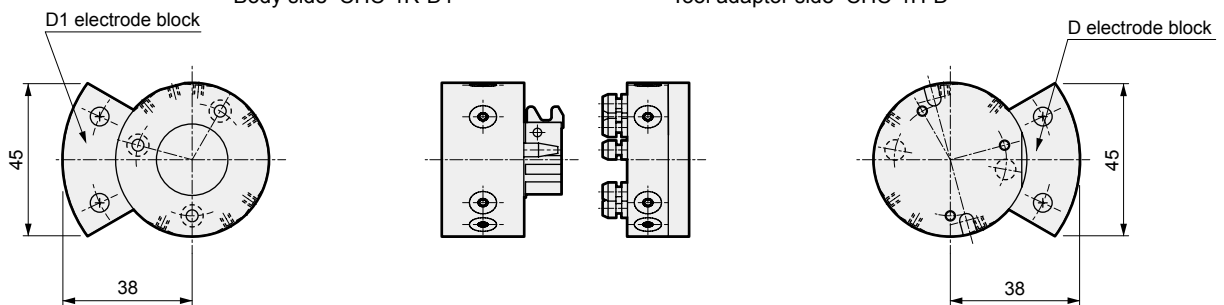
Note: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. If mounting on a different tool plate, drill (a) and (b) holes on the plate.

### Dimensions with options

#### ● With electrode block

· Body side CHC-1R-D1

· Tool adaptor side CHC-1H-D

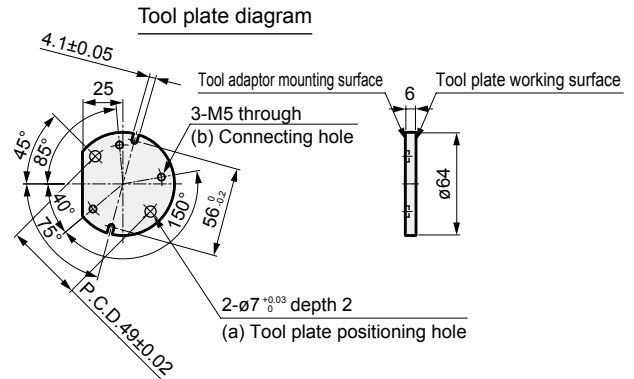
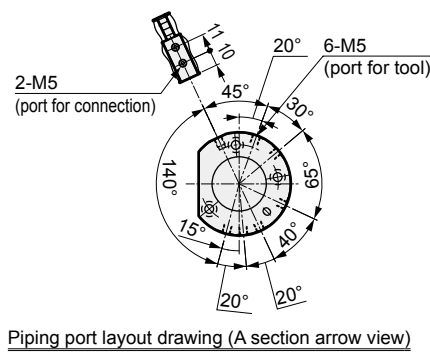
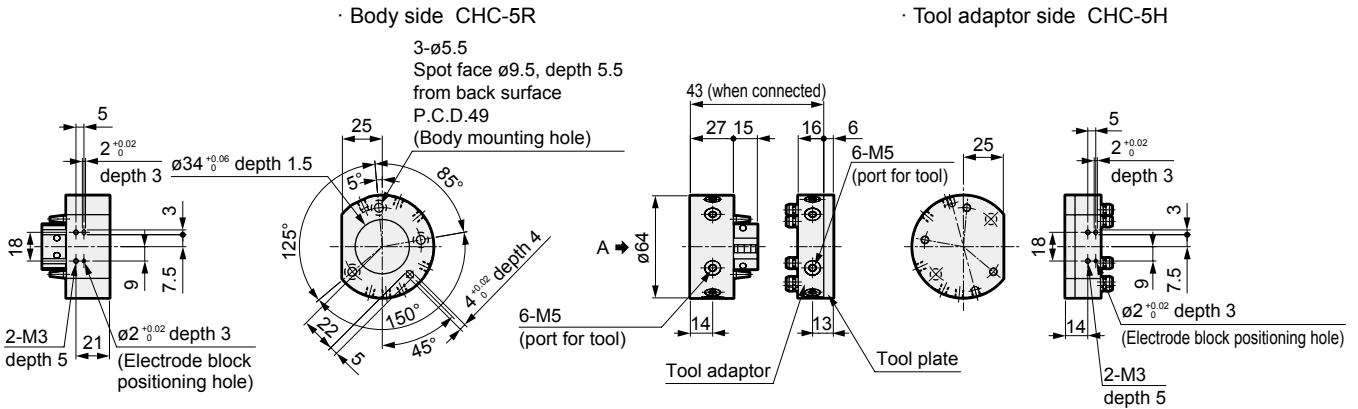


L	LCM
L	LCR
L	LCG
L	LCW
L	LCX
S	STM
S	STG
S	STS/STL
S	STR2
U	UCA2
U	ULK*
J	JSK/M2
J	JSG
J	JSC3/JSC4
U	USSD
U	UFCD
U	USC
U	UB
J	JSB3
L	LMB
L	LML
H	HCM
H	HCA
L	LBC
C	CAC4
C	UCAC2
C	CAC-N
C	UCAC-N
R	RCS2
R	RCC2
P	PCC
S	SHC
M	MCP
G	GLC
M	MFC
B	BBS
R	RRC
G	GRC
R	RV3*
N	NHS
H	HRL
L	LN
H	Hand
C	Chuk
M	MechMol/Chuk
S	ShkAbs
F	FJ
F	FK
S	SpdContr
E	Ending
C	CKL2
C	CKL2
C	CKL2-HC
C	CKH2
C	CKLB2
C	CKG
C	CK
C	CKA
C	CKS
C	CKS-F
C	CKF
C	CKJ
C	CHC

## Dimensions (CHC-5)



### ● CHC-5



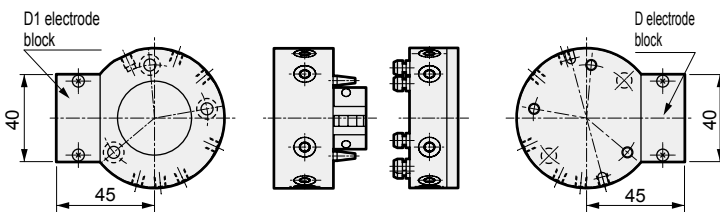
Note: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. If mounting on a different tool plate, drill (a) and (b) holes on the plate.

## Dimensions with options

### ● With electrode block

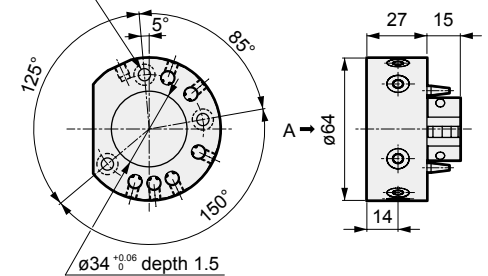
· Body side CHC-5R-D1

· Tool adaptor side CHC-5H-D



### ● With check valve CHC-5R-B

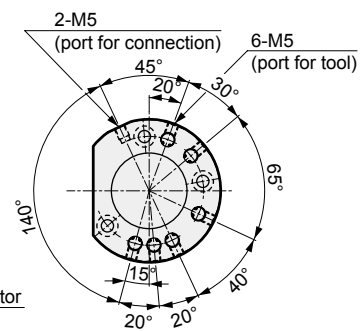
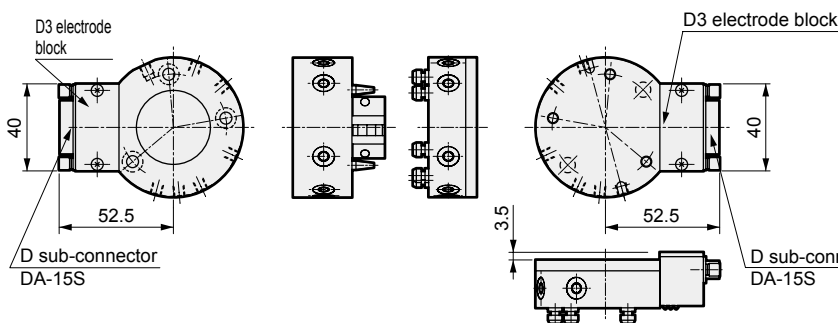
3-ø5.5  
 Spot face ø9.5 from back surface  
 P.C.D.49 (Body mounting hole)



### ● With electrode block + D sub-connector (socket)

· Body side CHC-5R-D3

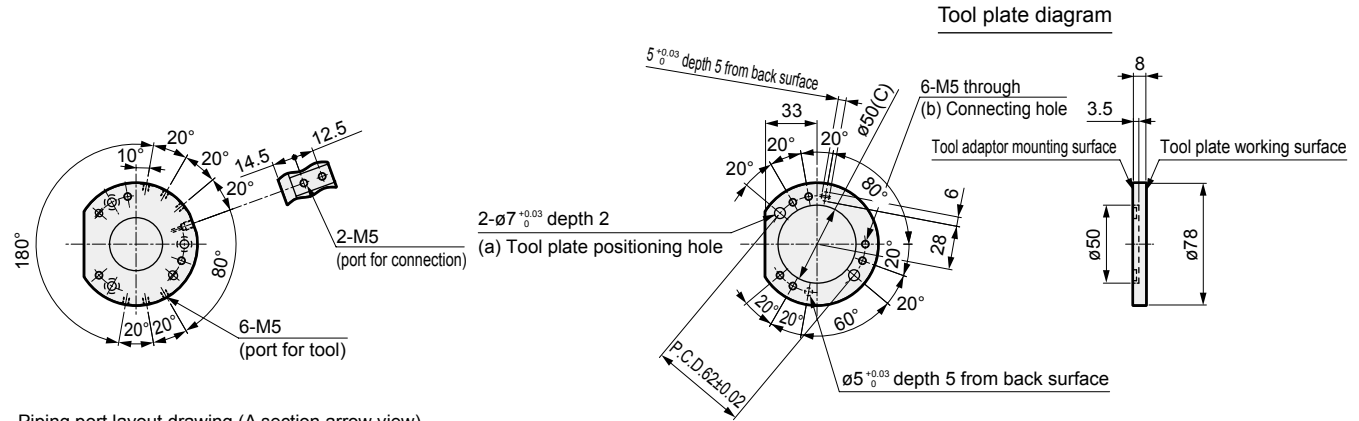
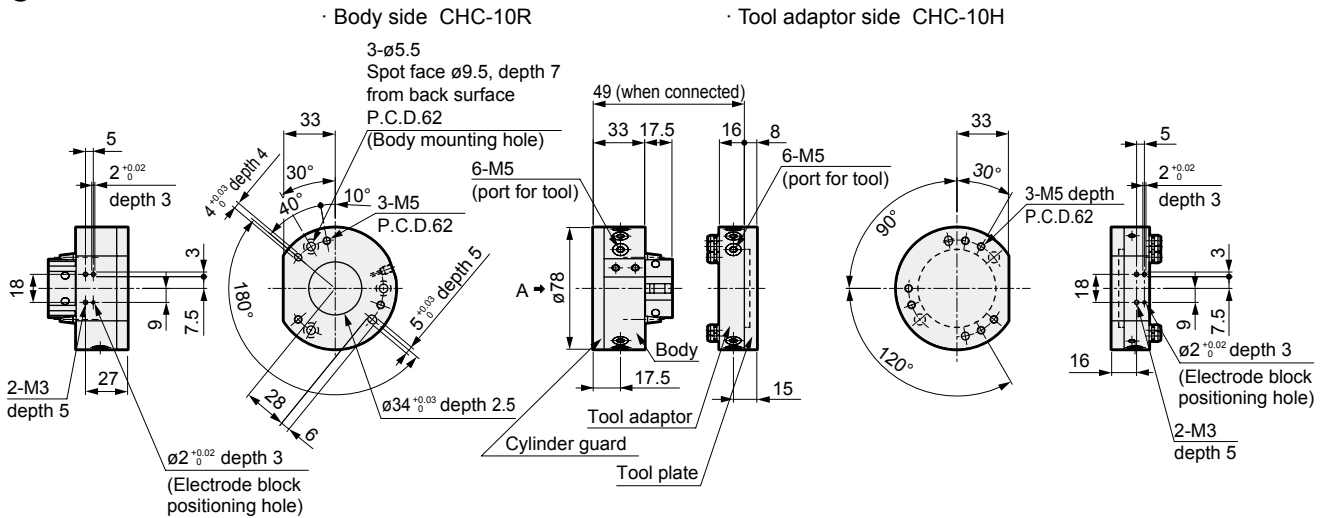
· Tool adaptor side CHC-5H-D3



### Dimensions (CHC-10)



#### ● CHC-10

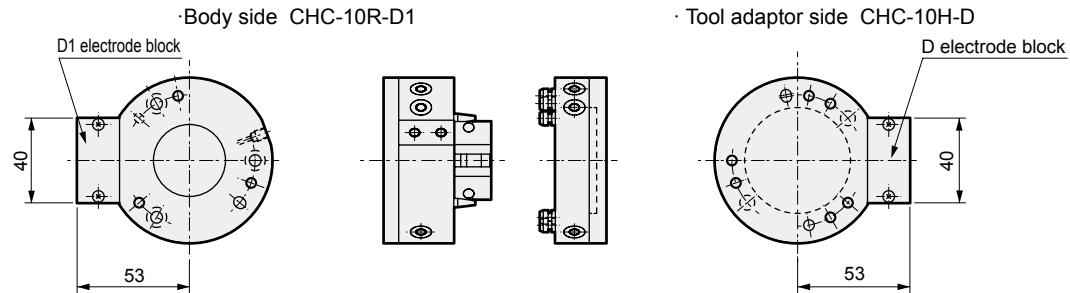


Piping port layout drawing (A section arrow view)

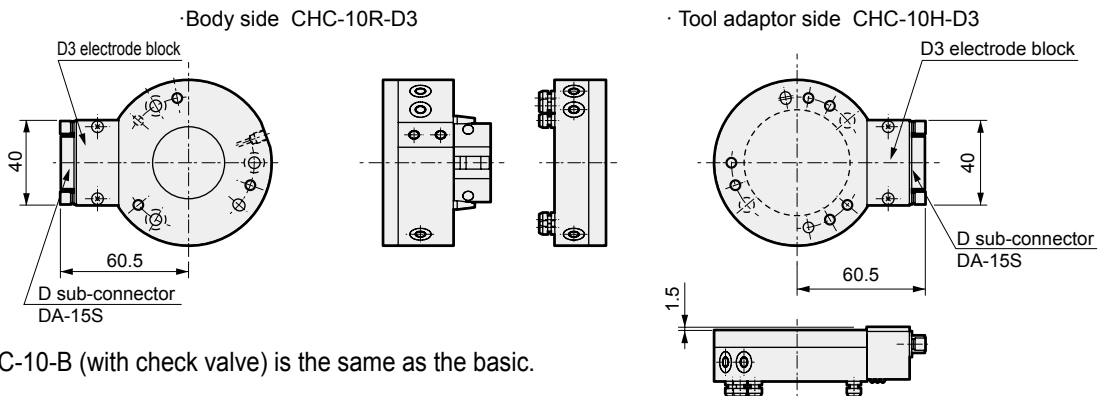
Note: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. In addition, (c) is a necessary space for operation of the arm when the body side grasps the tool adaptor unit. If mounting on a different tool plate, drill (a), (b) and (c) holes on the plate.

### Dimensions with options

#### ● With electrode block



#### ● With electrode block + D sub-connector (socket)



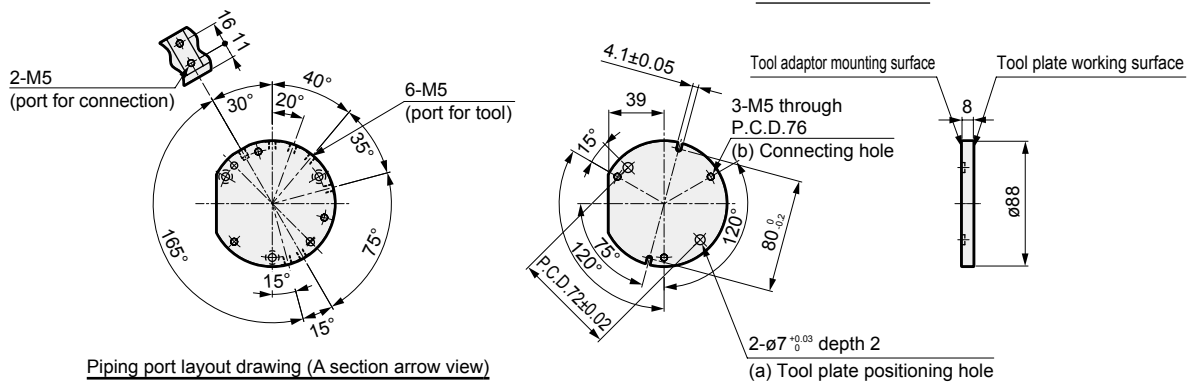
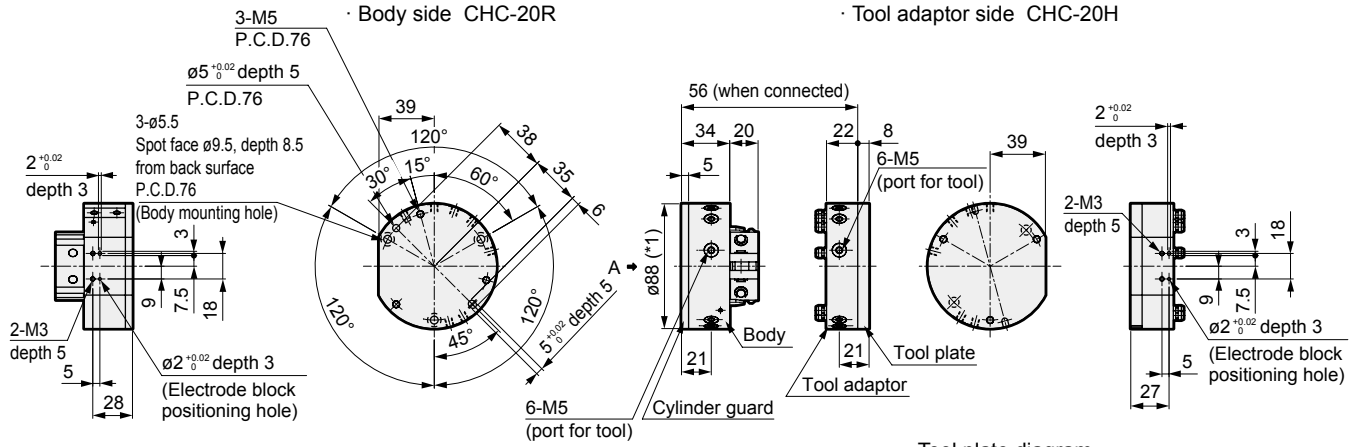
Note: CHC-10-B (with check valve) is the same as the basic.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
<b>Chuk</b>
MechAndChuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
<b>CHC</b>



## Dimensions (CHC-20)

### ● CHC-20



\*1: Cylinder guard part only  $\phi 88_{-0.1}^0$

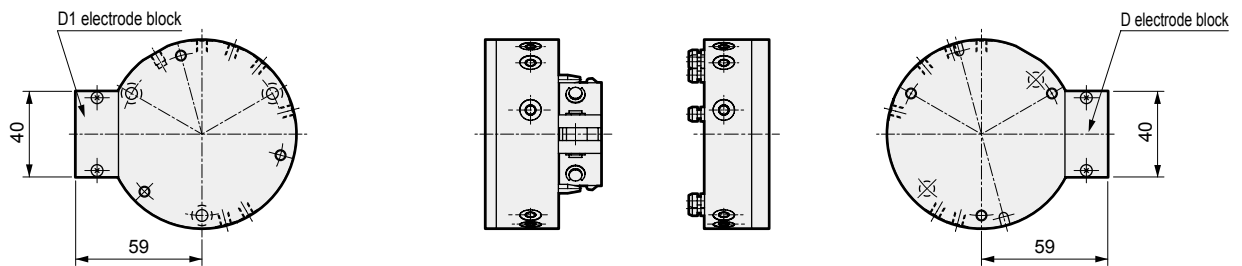
\*2: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. If mounting on a different tool plate, drill (a) and (b) holes on the plate.

## Dimensions with options

### ● With electrode block

· Body side CHC-20R-D1

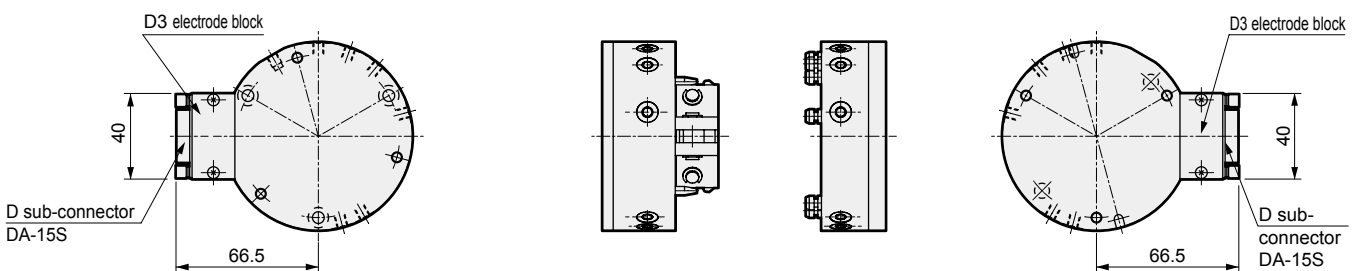
· Tool adaptor side CHC-20H-D



### ● With electrode block + D sub-connector (socket)

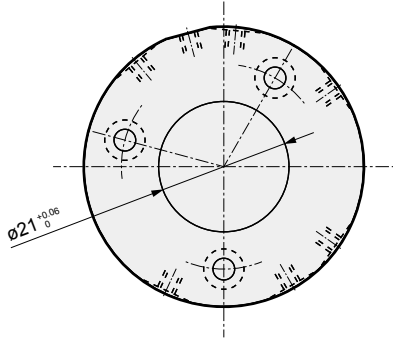
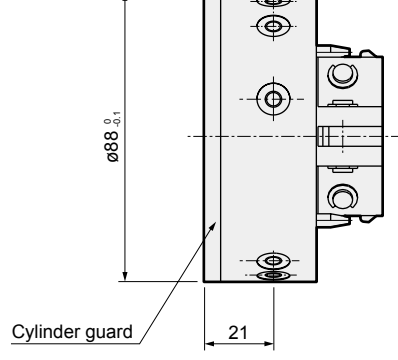

· Body side CHC-20R-D3

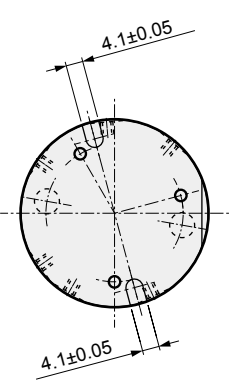
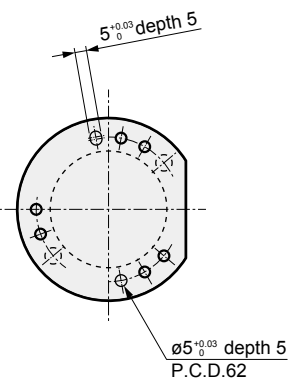
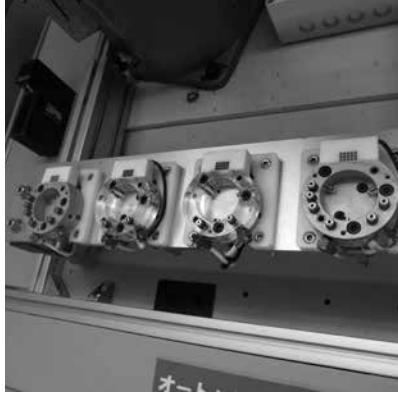
· Tool adaptor side CHC-20H-D3



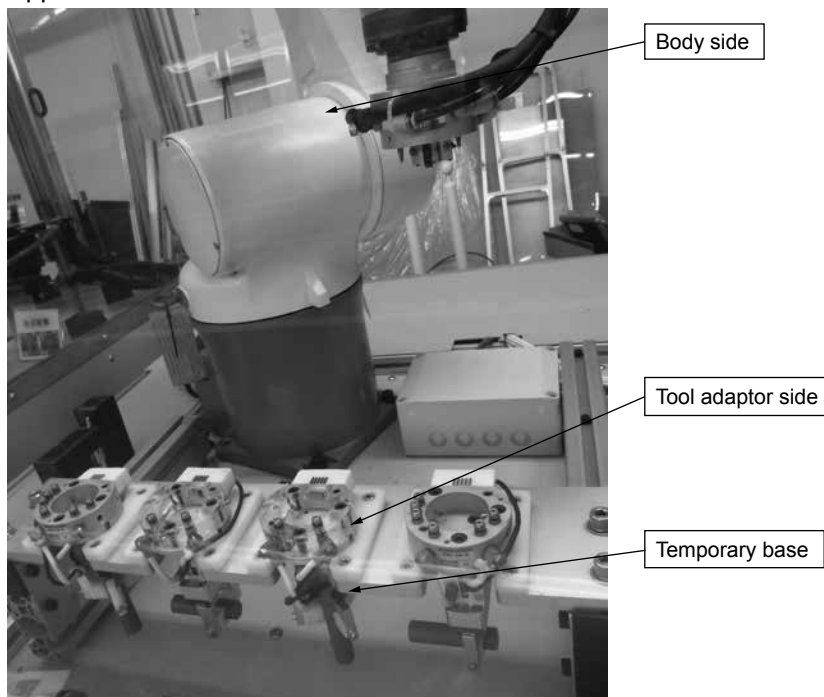
Note: CHC-20-B (with check valve) is the same as the basic.

Positioning (between customer's machine and body side, between tool adaptor side and customer's temporary jig)

Body side			Applications
CHC-1 CHC-5 CHC-10	CHC-20		
			
Position with the $\varnothing 21^{+0.06}$ spigot shown in the figure. (The above figure is for CHC-1.)	Position with the circumference of $\varnothing 88_{-0.1}$ shown in the figure.	Referring to the positions in the figure at left, mount on the main body.	

Tool adaptor side			Applications
CHC-1 CHC-5 CHC-20	CHC-10		
			
Position with the $\varnothing 4.1 \pm 0.05$ cutout shown in the figure. (The above figure is for CHC-1.)	Position with the $\varnothing 5^{+0.03}$ depth 5 slotted hole and $\varnothing 5^{+0.03}$ depth 5, P.C.D.62 hole as shown in the figure.	Prepare positioning pins on the temporary base and position with the holes of the tool adaptor side shown in the figure at left.	

## Applications



LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
<b>Chuk</b>
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
<b>CHC</b>