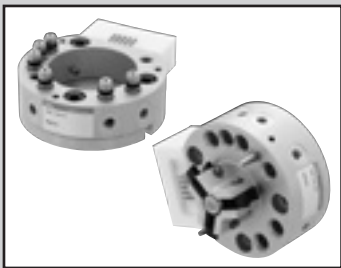


LCM
 LCR
 LCG
 LCW
 LCX
 STM
 STG
 STS/STL
 STR2
 UCA2
 ULK*
 JSK/M2
 JSG
 JSC3/JSC4
 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
 LBC
 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
 MCP
 GLC
 MFC
 BBS
 RRC
 GRC
 RV3*
 NHS
 HRL
 LN
 Hand
Chuk
 MecHnd/Chuk
 ShkAbs
 FJ
 FK
 SpdContr
 Ending
 CKL2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

CHC - **5** **R** - **D1**

A Size

B Parts

C Option

Code	Description
A Size	
1	
5	
10	
20	
B Parts	
R	Body side only
C Option	
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

CHC - **5** **H** - **D**

A Size

B Parts

C Option

Code	Description
A Size	
1	
5	
10	
20	
B Parts	
H	Tool adaptor side only
C Option	
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
	5	CHC-5RS-D1	Specifications with solder
		CHC-5RS-D3	D-sub-connector (socket)
	10	CHC-10RS-D1	Specifications with solder
		CHC-10RS-D3	D-sub-connector (socket)
	20	CHC-20RS-D1	Specifications with solder
		CHC-20RS-D3	D-sub-connector (socket)
Electrode block for tool adaptor side	1	CHC-1HS-D	Specifications with solder
	5	CHC-5HS-D	Specifications with solder
		CHC-5HS-D3	D-sub-connector (socket)
	10	CHC-10HS-D	Specifications with solder
		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
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
CHC

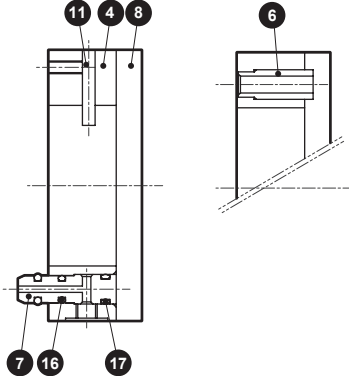
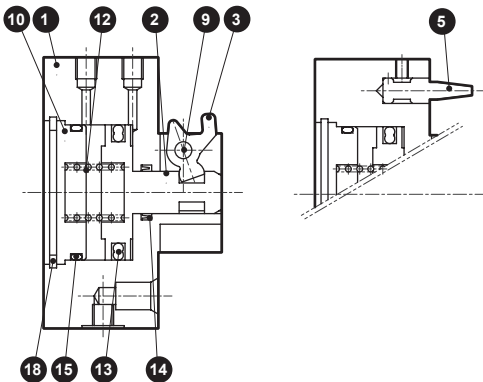
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF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

Cannot be disassembled

Internal structure and parts list

● CHC-1 to 20R (body side)

● CHC-1 to 20H (tool adaptor side)

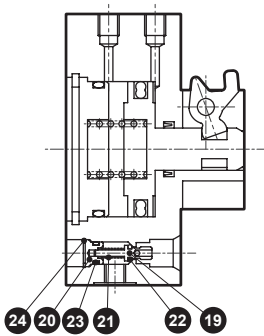


No.	Part name	Material	No.	Part name	Material
1	Body	Aluminum alloy	10	Cylinder guard	Aluminum alloy
2	Piston	Stainless steel	11	Operation shaft	Alloy steel
3	Arm	Stainless steel	12	Spring	Stainless steel
4	Tool adaptor	Aluminum alloy	13	Piston seal	Nitrile rubber
5	Positioning pin	Stainless steel	14	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-snap ring *1	Stainless steel

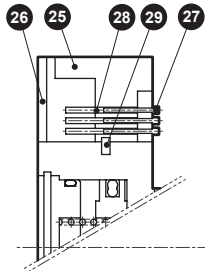
*1: Not available for 10R, 20R.

Internal structure and parts list with options

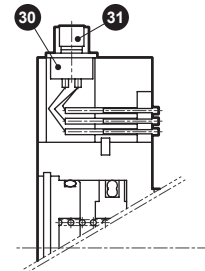
● Body side/with check valve
CHC-5 to 20R-B



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



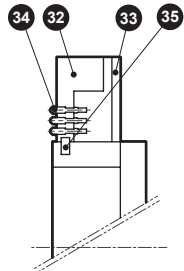
CHC-5 to 20R-D3



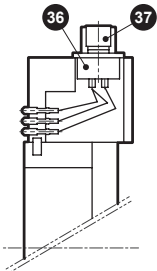
No.	Part name	Material
19	Spool	Stainless steel
20	Spool holder	Aluminum alloy
21	Spring	Stainless steel
22	Check valve seal 1	Nitrile rubber
23	Check valve seal 2	Nitrile rubber
24	C-snap ring	Stainless steel

*1 : Check valve cannot be retrofitted.

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



CHC-5 to 20H-D3



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	

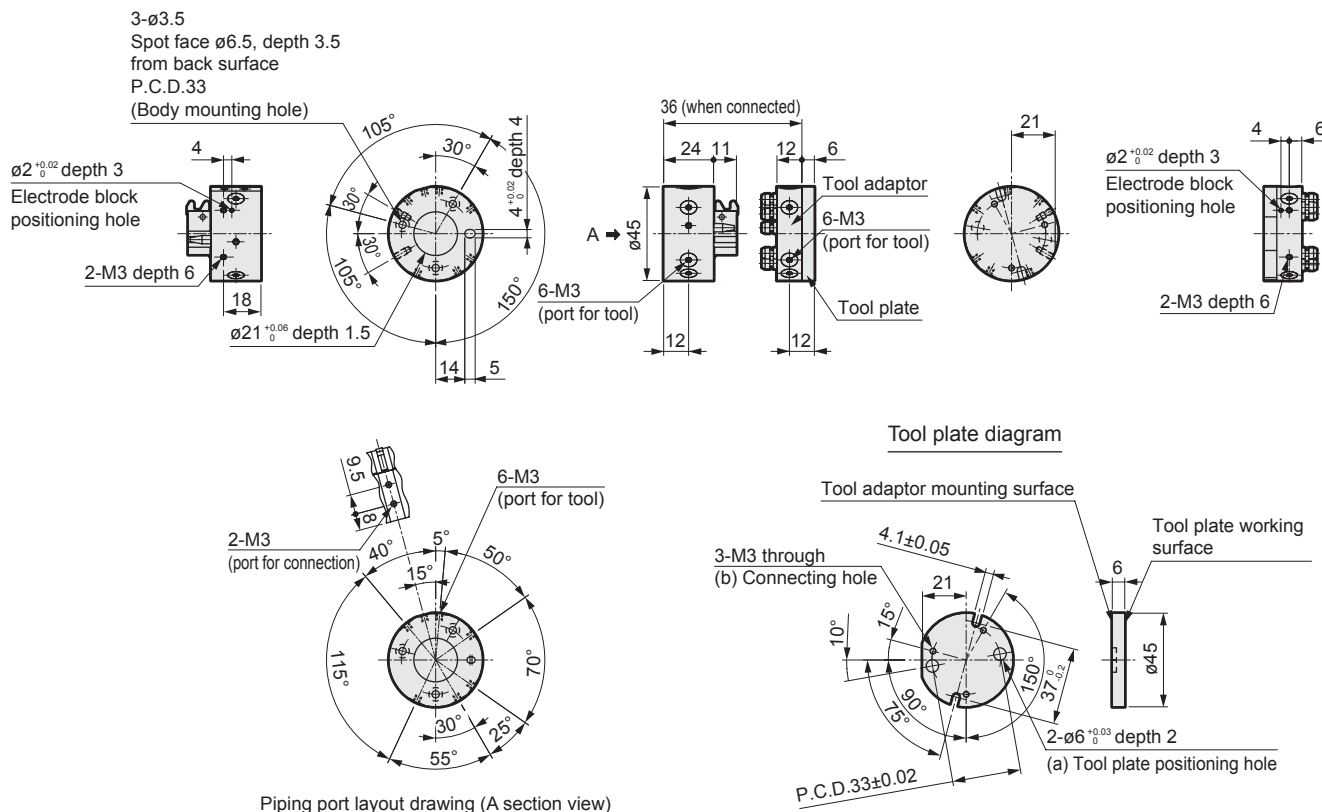
Dimensions (CHC-1)



● CHC-1

· Body side CHC-1R

· Tool adaptor side CHC-1H



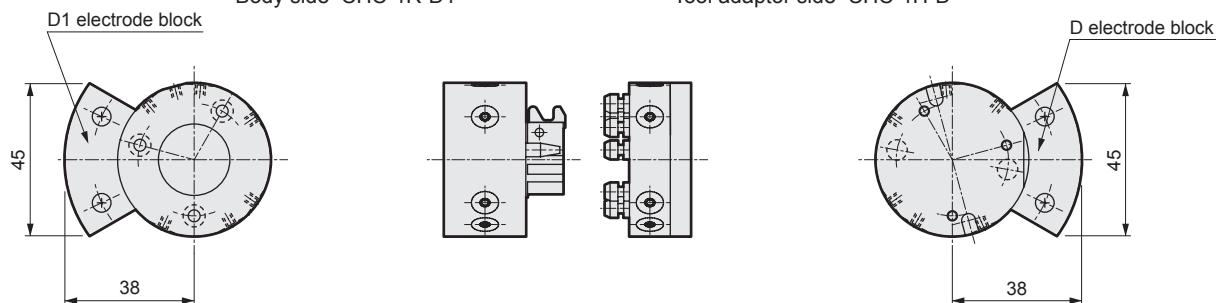
Note: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. If mounting on a different tool plate, drill (a) and (b) holes on the plate.

Dimensions with options

● With electrode block

· Body side CHC-1R-D1

· Tool adaptor side CHC-1H-D



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
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MechMndChuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
CHC

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
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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
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
CHC

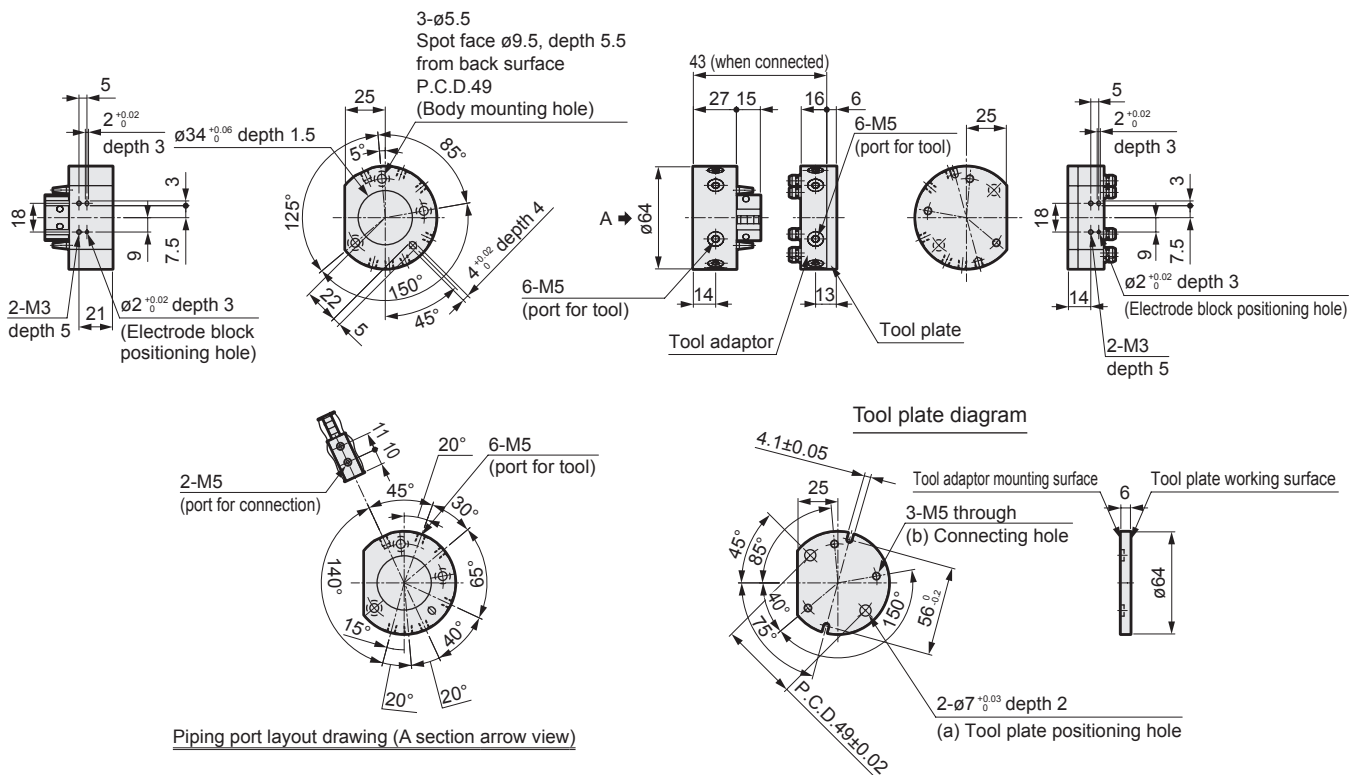
Dimensions (CHC-5)



● CHC-5

- Body side CHC-5R

- Tool adaptor side CHC-5H



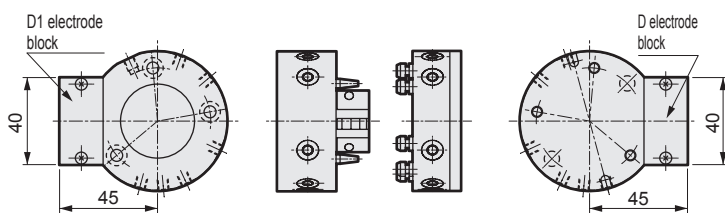
Note: If attaching a hand to the tool adaptor side, remove the tool plate and modify the tool plate working surface before attaching the hand. Avoid machining on (a) tool plate positioning hole and (b) connecting hole. If mounting on a different tool plate, drill (a) and (b) holes on the plate.

Dimensions with options

● With electrode block

·Body side CHC-5R-D1

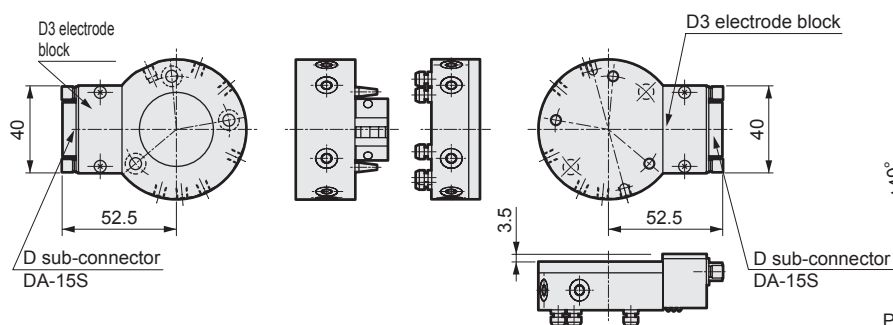
- Tool adaptor side CHC-5H-D



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

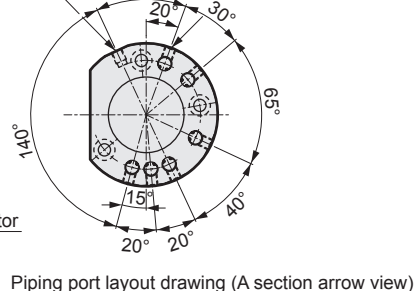
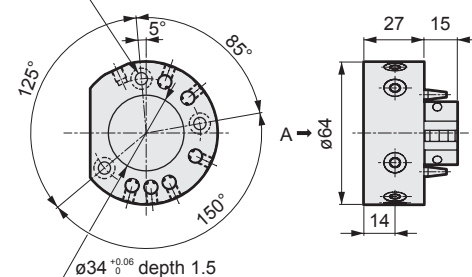
·Body side CHC-5R-D3

- Tool adaptor side CHC-5H-D3



● With check valve CHC-5R-B

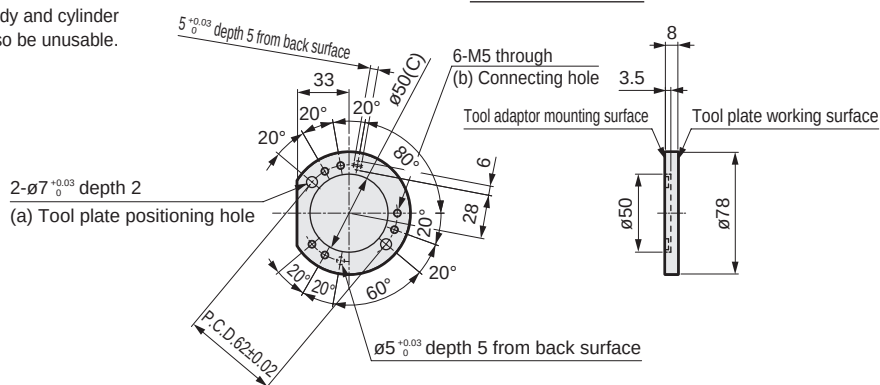
3- ϕ 5.5
Spot face ϕ 9.5 from back surface
P.C.D.49
(Body mounting hole)



- Body side CHC-10R



*2: This cannot be used because it is for connecting the body and cylinder cover. The holes (a), (b) and (c) on the tool plate will also be unusable.



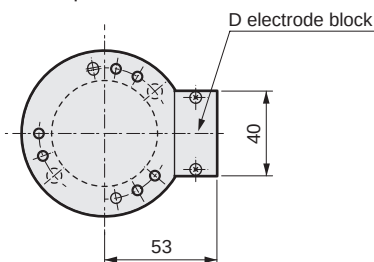
Piping port layout drawing (A section arrow view)

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

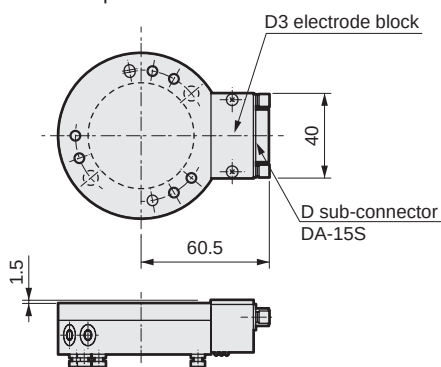
- With electrode block

·Body side CHC-10R-D1



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

·Body side CHC-10R-D3



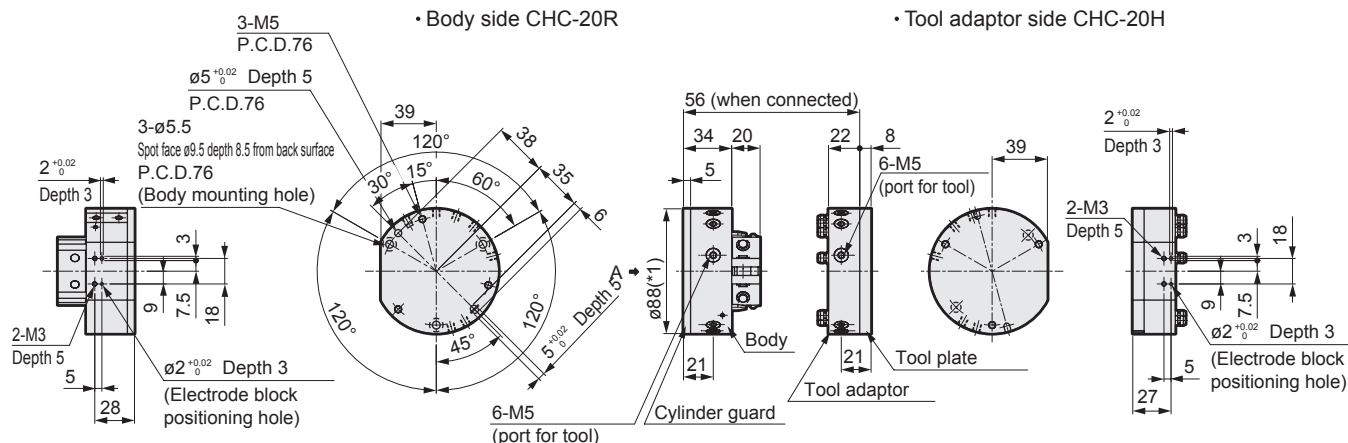
Note: CHC-10-B (with check valve) is the same as the basic.

CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
CHC

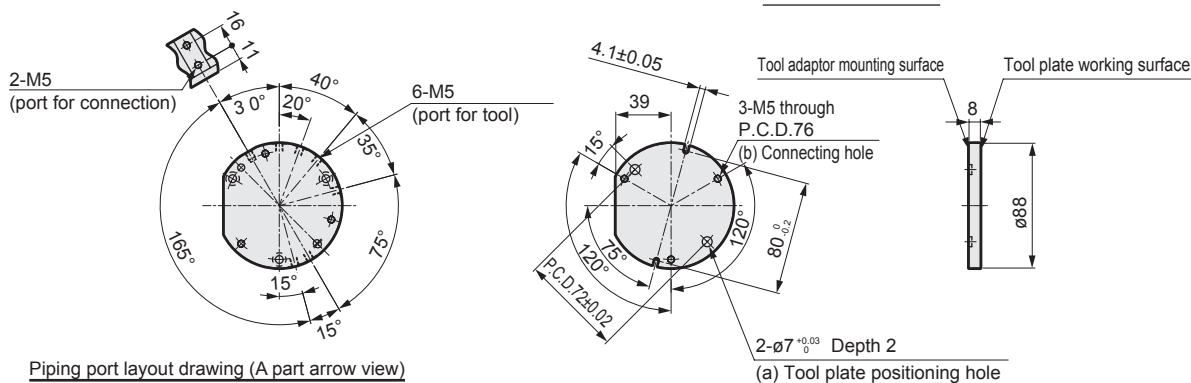
Dimensions (CHC-20)



● CHC-20



Tool plate diagram



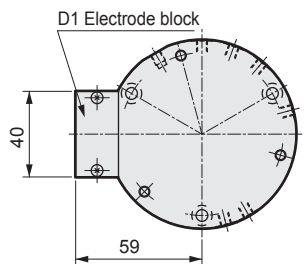
*1: $\phi 88$ for cylinder cover only $\phi 0.1$

*2: If attaching a hand to the tool adaptor side, remove the tool plate and machine the tool plate application 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.

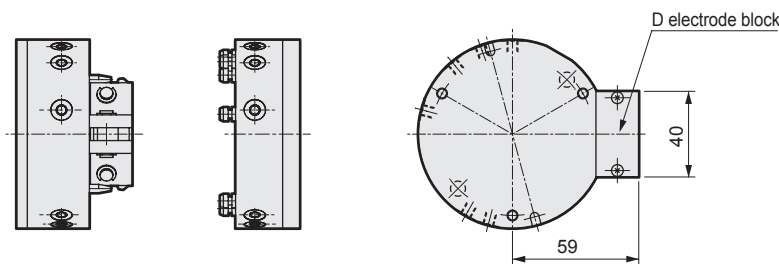
Optional dimensions

● With electrode block

• Body side CHC-20R-D1

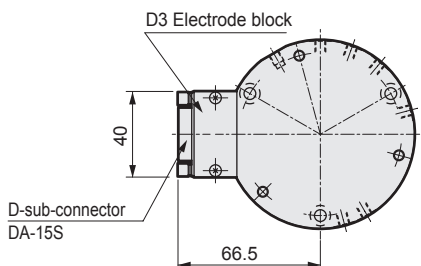


• Tool adaptor side CHC-20H-D

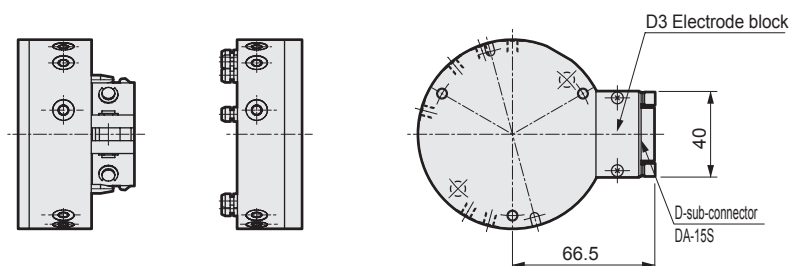


● D-sub-connector with electrode block (socket)

• Body side CHC-20R-D3



• Tool adaptor side CHC-20H-D3



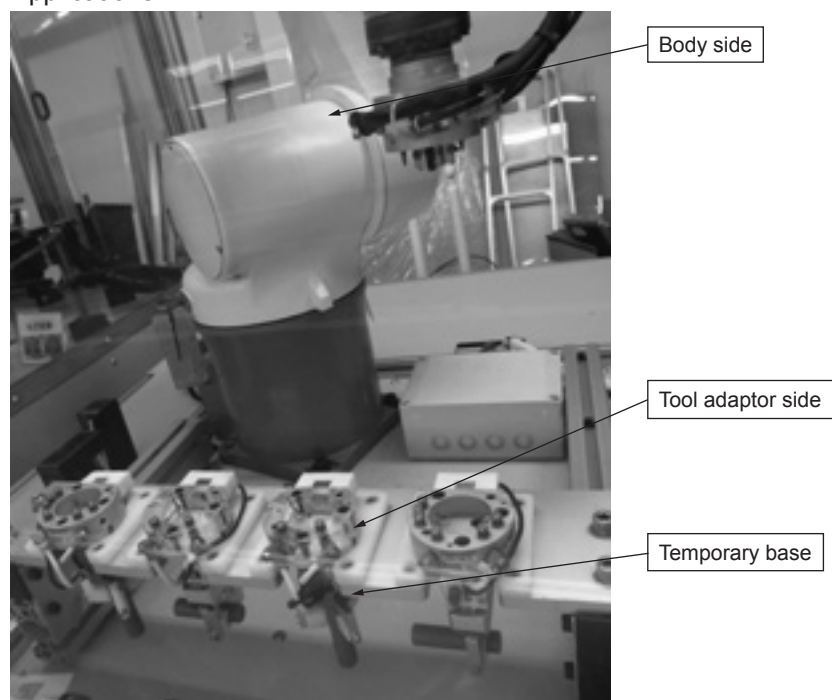
Note: CHC-20-B (with check valve) is the same as the basic type.

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

Body side		
CHC-1 CHC-5 CHC-10	CHC-20	Applications
Position with the $\phi 21^{+0.06}_0$ spigot shown in the figure. (The above figure is for CHC-1.)	Position with the circumference of $\phi 88^{+0.1}_0$ shown in the figure.	Referring to the positions in the figure at left, mount on the main body.

Tool adaptor side		
CHC-1 CHC-5 CHC-20	CHC-10	Applications
Position with the $\phi 4.1 \pm 0.05$ cutout shown in the figure. (The above figure is for CHC-1.)	Position with a slot $\phi 5^{+0.03}_0$ depth 5 and $\phi 5^{+0.03}_0$ depth 5 P.C.D.62 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
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
CKL2
CKLG2
CKL2-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
CHC