

Technical Information

DHRCJ

Hydraulic Joystick



DHRCJ is part of D-HRC series.

D-HRC means Danfoss Hydraulic Remote Control valves which include:

DHRCJ — — Hydraulic Joystick

DHRCD — — Hydraulic Pilot Sectional Valve

DHRCP — — Hydraulic Foot Pedals

**Excavator
Crane
Loader
AWP**

**Forklift
Drilling machine
Special vehicles**

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DHRCJ General Description



Description

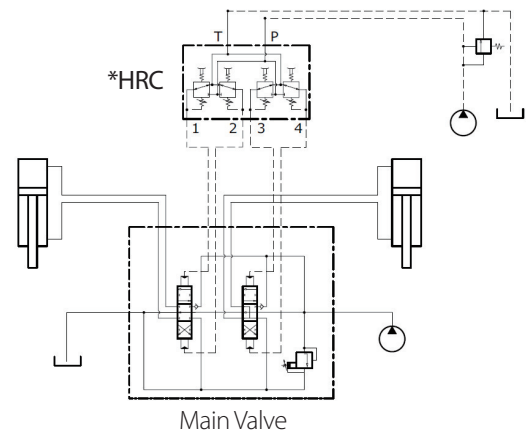
Hydraulic Remote Controls (HRCs) are used to activate and control directional valves or pumps from a remote and single operating station. HRCs come in hand, foot and mechanically operated versions, like the DHRCJ series, a dual-function hydraulic pilot joystick that can achieve pilot control in both X-axis and Y-axis directions. Suitable for various applications such as excavators, drilling rigs, cranes, loaders and so on. Flexible configuration with multiple valve bodies, handles, and switch options. It has excellent handling performance, sturdy and durable design, and reliable quality.

Operation

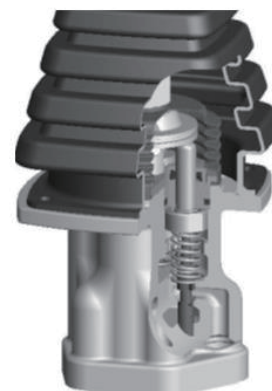
HRCs are fed a constant input pressure, from which they create reduced output pressures that vary proportionally with lever or pedal stroke. When the HRC is operated, output pilot pressure flows to the main directional control valves, precisely controlling main spool position and direction.

D-HRC Features

- **Market leader** with over 30 years of industry experience.
- **Precision control** with less leakage, close to flat hysteresis and excellent linearity.
- **Reliability and Quality.**
- **Ergonomic efficiency and customization capabilities** provide unparalleled flexibility.



*Schematic exemplification can be either one of the DHRC products.



DHRCJ General specification



Hydraulic specification:

Max. inlet pressure (bar)	70
Max. back pressure (bar)	3
Rated flow (LPM/Section)	20
Output pressure (bar)	0~30
Fluid type	Mineral oil
Fluid temperature	-20°C to 90°C
Ambient temperature	-40°C to 60°C
Viscosity	12~400 mm ² /s
Max level of fluid contamination	18/16/13 –ISO 4406

Mechanical specification:

Weight for refer (Kg)	Grip	0.43 ~ 0.58
	Body	1.9 ~ 4.1
	Total	1.9 ~ 4.7
Operation angle range (°)	Single operation	17 ~ 24
	Double operation	23.5 ~ 29
Operation torque range (Nm)	0.41 ~ 0.68	
Lifecycle	>3,000,000 cycles	

Note: Detailed operating angle and torque are provided on the drawings

Electric specification:

Push button	IP40	AC 125V 5A
	IP69K (Only for D,E grip front button)	AC 125V 3A
	IP67 (Only for D,E grip rear button)	AC 125V 3A
Roller	IP40	Signal 5V
	IP69K	Signal 5V
FNR	IP40	AC 125V 3A
FR	IP40	AC 125V 3A
Electric Detent	DC 12V/24V	

DHRCJ Configuration

Model code example:	DHRCJ	1	0	1	0C	D21	MXXX	A01	A02
Model code position in catalogue:	1.2.3.4.5	6	8	9	15.16	20.21.22	23.24.25.26	28.29.30	31.32.33
Description:	Series	Body type	Port	Installation	Grip type	Switch option	Electric connector	Output pressure for port1&3	Output pressure for port2&4

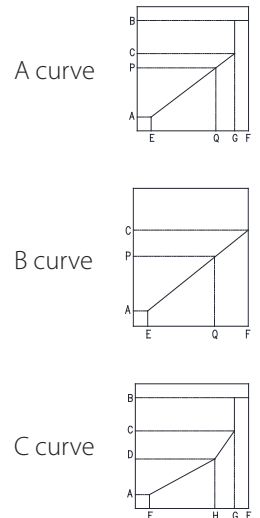
- 1. Standard AL*
 - 2. Small AL 98 diameter
 - 3. Small AL 89 diameter
 - 4. Primal Iron black
 - 5. Primal Iron Blue
 - 6. Mega AL
- 1. BSPP G3/8 O-ring sealing
 - 2. BSPP G3/8, P port G1/4 -Oring sealing
 - 3. BSPP G1/4 O-ring sealing
 - 4. BSPP G1/4 (ISO 1179-1) O-ring flat sealing
 - 5. UNF 9/16 (ISO 11926-1) O-ring sealing
- 1. PCD113[4.448]x Ø7[0.275] hole
 - 2. PCD118.9[4.681] x Ø7[0.275] hole
 - 3. PCD100[3.937] 113[4.448] x Ø7[0.275] slot
 - 4. PCD113[4.448] 107[4.212] x Ø7[0.275] slot

- 00** No grip
- 01** A type grip
- 02,03,04,0K** B type grip
- 05,06,07,08,09** C type grip
- 0A, 0H** D type grip*
- 0J** E type grip

- A00**
 - A10**
 - B10**
 - B11**
 - ...
- Note: See switch table, to page XX

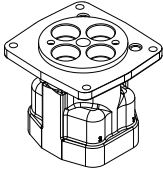
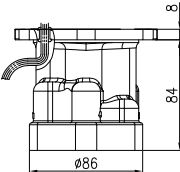
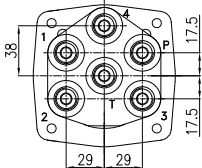
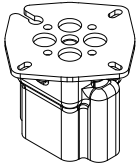
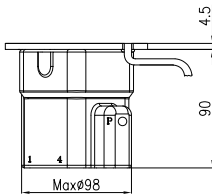
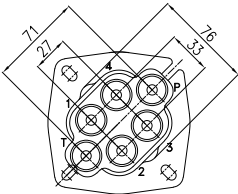
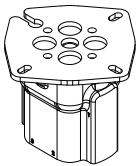
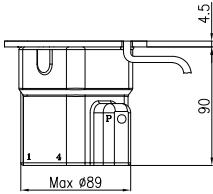
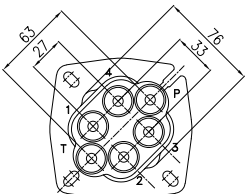

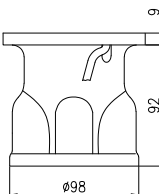
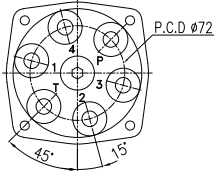
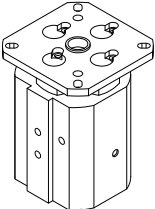
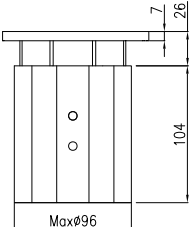
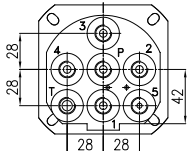
- X**
 - A**
 - B**
 - C**
 - ...
- Note: See electric connector table

000 Not applicable
A## A type pressure curve
B## B type pressure curve
C## C type pressure curve
 Note: See curve table

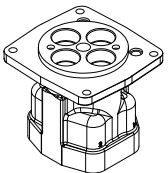
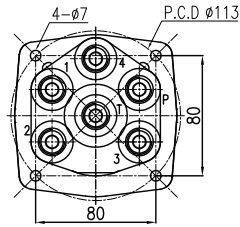
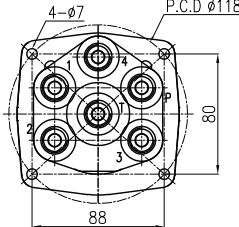
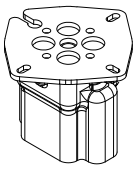
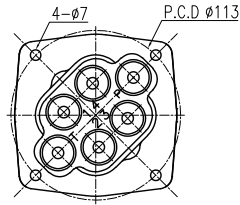
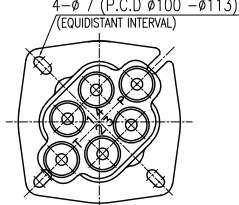
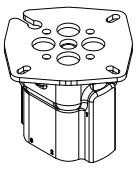
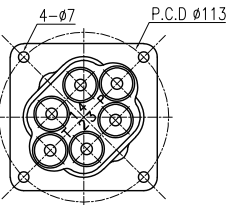
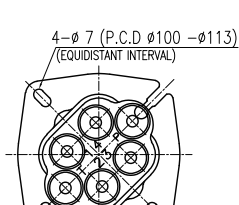

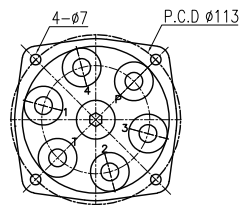
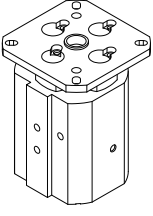
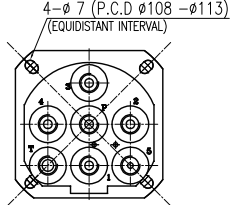


Note:
 Above is simple version of model code, only focus on main requirement information. If have more requirement or need more information, please find details in catalogue.
 "*" means most recommend option.

Body type – Model code position 6






Model code position 6	Description	3D diagram	2D diagram	Port position
1	Standard AL	 <p>Cover and body are integrated.</p>		
2	Small AL 98[3.858] diameter	 <p>Cover and body are separate.</p>		
3	Small AL 89[3.503] diameter	 <p>Cover and body are separate.</p>		
4	Primal Iron black	 <p>Cover and body are integrated.</p>		
5	Primal Iron blue			
6	Mega AL	 <p>Cover and body are separate.</p>		

Installation– Model code position 9

		1	2	3	4
		PCD113[4.448] xØ7[0.275] hole	PCD118.9[4.681] xØ7[0.275] hole	PCD100[3.937]- 113[4.448] xØ7[0.275] slot	PCD108[4.252]- 113[4.448] xØ7[0.275] slot
1	Standard AL 				
2	Small AL 98[3.858] diameter 				
3	Small AL 89[3.503] diameter 	 <p>Note: This is not in mass production.</p>			
4,5	Primal Iron 				
6	Mega AL 				











DHRCJ Options

Grip type – Model code position 15,16

Mode code Position 15,16	Grip type	Diagram
00	No grip	
01	A	
02,03,04,0K	B	
05,06,07,08,09	C	
0A-0H	D	
0J	E	

Note: Different model code for same grip type means different length and angel.

Switch option – Model code position 20,21,22

Grip	Model code position 20,21,22	Code meaning	Picture (Front and rear side)
A grip 	A00	No button	
	A10	1 button in front	
B grip 	B10	1 button in front	
	B11	1 button in front, 1button in back	
C grip 	C10	1 button in front	
	C20	2 buttons in front	
	C30	3 buttons in front	

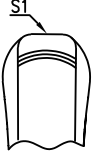
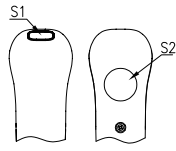
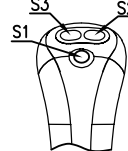
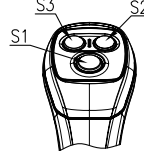
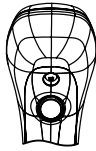
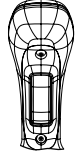
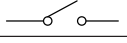
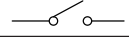
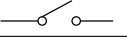
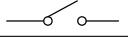
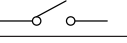
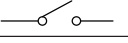
DHRCJ Options

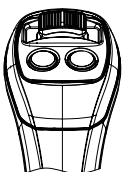
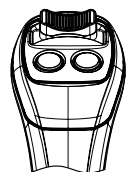
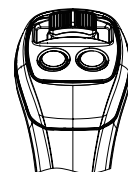
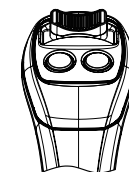
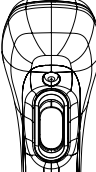
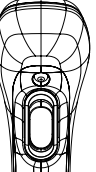
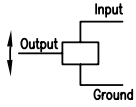
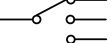
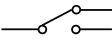
Grip	Model code position 20,21,22	Code meaning	Picture (Front and rear side)
<p>D grip</p> 	D00	No button	
	D10	1 button in front	
	D11	1 button in front, 1 button in back	
	D20	2 buttons in front	
	D21	2 buttons in front and 1 button in back	
	D30/G30 *	3 buttons in front	
	D31/G31 *	3 buttons in front and 1 button in back	
	D3F	3 buttons in front and 1 FNR in back	
	D3G	3 buttons in front and 1 FR in back	
	E20 / F20 / H20 / J20 **	Roller and 2 buttons in front	
	E21 / F21 / H21 / J21 **	Roller and 2 buttons in front, 1 button in back	
	E2F / F2F / H2F / J2F **	Roller and 2 buttons in front, 1 FNR in back	
E2G / F2G / H2G / J2G **	Roller and 2 buttons in front, 1 FR in back		
<p>D grip</p> 	N.A. / N.A. / H10 / J10 **	Roller and 1 button in front	
	N.A. / N.A. / H11 / J11 **	Roller and 1 button in front, 1 button in back	
	N.A. / N.A. / H1F / J1F **	Roller and 1 button in front, 1 FNR in back	
	N.A. / N.A. / H1G / J1G **	Roller and 1 button in front, 1 FR in back	

DHRCJ Options

Grip	Model code position 20,21,22	Code meaning	Picture (Front and rear side)
E grip 	K00	No button	
	K10	1 button in front	
	K11	1 button in front, 1 button in back	
	K20	2 buttons in front	
	K21	2 buttons in front and 1 button in back	
E grip 	K2B	2 buttons in front and 1 big button in back	
	K30 / P30 *	3 buttons in front	
	K31 / P31 *	3 buttons in front and 1 button in back	
	K3B	3 buttons in front and 1 big button in back	
	L20 / M20 / Q20 / R20 **	Roller and 2 buttons in front	
	L21 / M21 / Q21 / R21 **	Roller and 2 buttons in front, 1 button in back	
	N.A. / N.A. / Q2B / R2B **	Roller and 2 buttons in front, 1 big button in back	
	N.A. / N.A. / Q10 / R10 **	Roller and 1 button in front	
	N.A. / N.A. / Q11 / R11 **	Roller and 1 button in front, 1 button in back	
	N.A. / N.A. / Q1B / R1B **	Roller and 1 button in front, 1 big button in back	

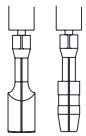
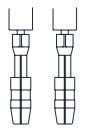
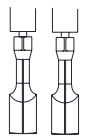
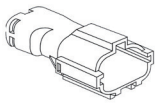
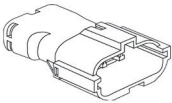
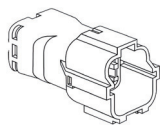
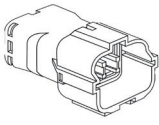
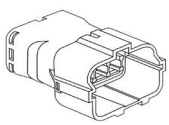
Switch specification

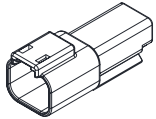
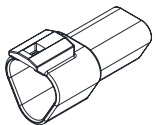
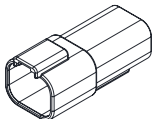
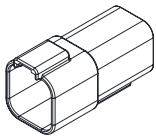
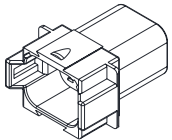
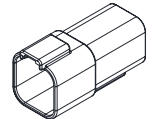
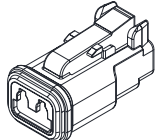
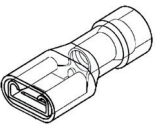
	Push button					
	A grip	B grip	C grip	D/E grip	D/E grip rear button	E grip rear big button
Pictures						
Schematic						
Mechanical	Spring return	Spring return	Spring return	Spring return	Spring return	Spring return
Operating environment	-25°C ~ +85°C 90%RH	-25°C ~ +85°C 90%RH	-25°C ~ +85°C 90%RH	-25°C ~ +85°C 90%RH	-25°C ~ +85°C 90%RH	-25°C ~ +85°C 90%RH
Electrical	AC 125V 5A	AC 125V 5A	AC 125V 5A	AC 125V 5A AC 125V 3A(IP69K)	AC 125V 5A AC 125V 3A(IP67)	AC 125V 5A AC 125V 3A(IP67)
IP	IP40	IP40	IP40	IP40/IP69K	IP40/IP67	IP40/IP67
Life cycle	3,000,000	3,000,000	3,000,000	3,000,000 5,000,000(IP69K)	3,000,000 5,000,000(IP67)	3,000,000 5,000,000(IP67)
Other spec.	-	-	-	IP40 is rotatable IP69K is only 180 degree rotatable	-	-

	Roller				FNR	FR
	Convex	Concave	Convex With IP	Concave With IP		
Pictures						
Schematic						
Mechanical	±26° Spring return	±26° Spring return	±26° Spring return	±26° Spring return	3 position detent	2 position detent
Operating temperature	-40°C ~ +85°C 95%RH	-40°C ~ +85°C 95%RH	-40°C ~ +85°C 95%RH	-40°C ~ +85°C 95%RH	-30°C ~ +85°C 90%RH	-30°C ~ +85°C 90%RH
Electrical	Max 5V	Max 5V	Max 5V	Max 5V	AC 125V 3A	AC 125V 3A
IP	IP40	IP40	IP69K	IP69K	IP40	IP40
Life cycle	3,000,000	3,000,000	3,000,000	3,000,000	50,000	50,000
Other spec.	Rotatable	Rotatable	Only 180 degree rotatable	Only 180 degree rotatable	-	-

DHRCJ Options

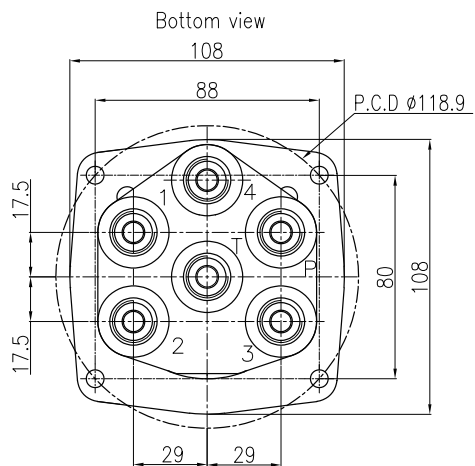
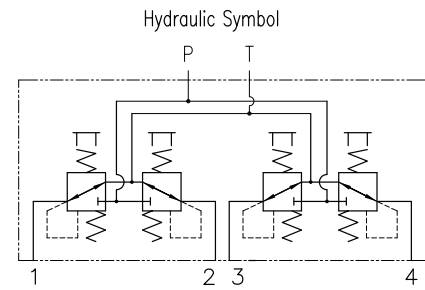
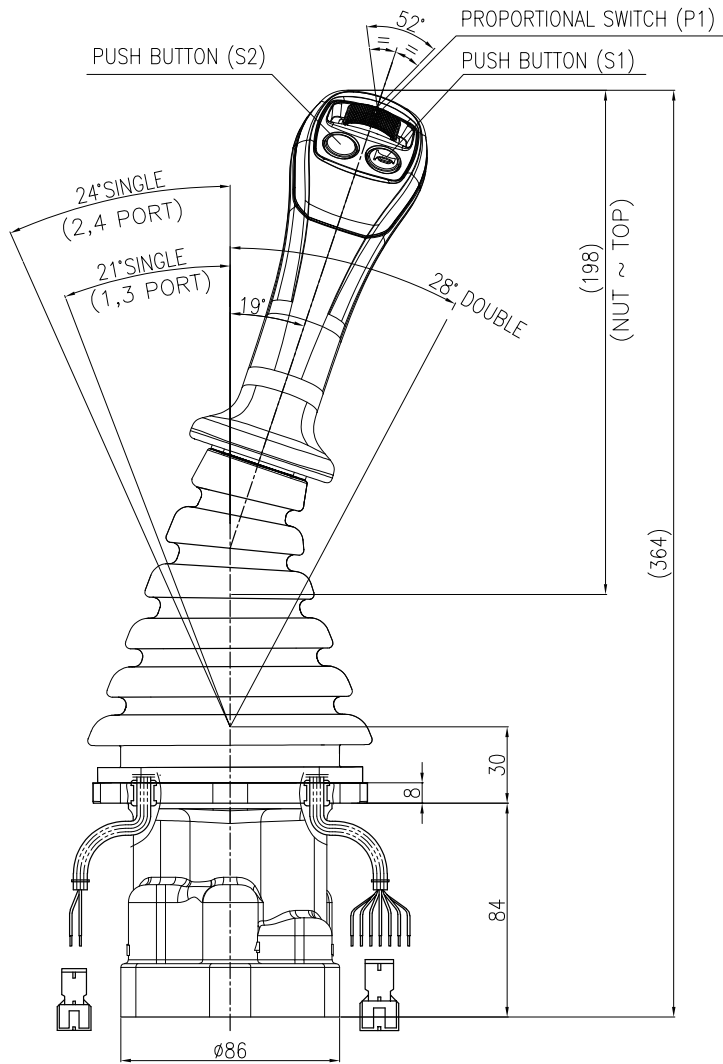
Electric connector – Model code for each position 23,24,25,26

Model code position 23~26	Description	Diagram
X	No connector	
A	JIS D5403 CA104 & CB104 terminal end	
B	JIS D5403 CA104 2EA terminal end male	
C	JIS D5403 CB104 2EA terminal end female	
D	Korea Electric Terminal KET 2Pin	
E	Korea Electric Terminal KET 3Pin	
F	Korea Electric Terminal KET 4Pin	
G	Korea Electric Terminal KET 6Pin	
H	Korea Electric Terminal KET 8Pin	

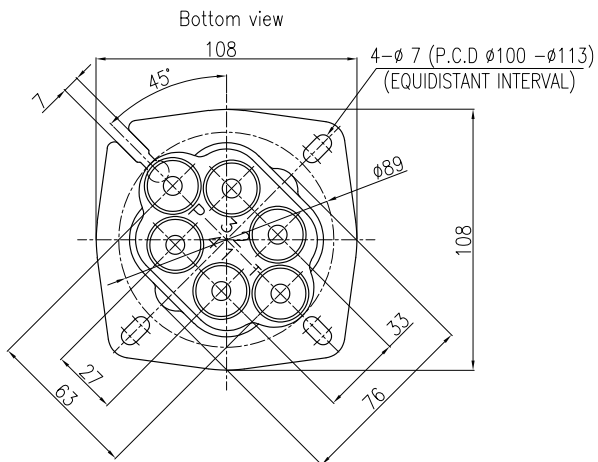
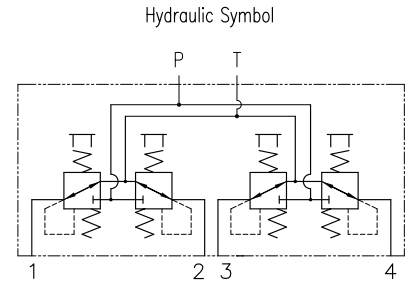
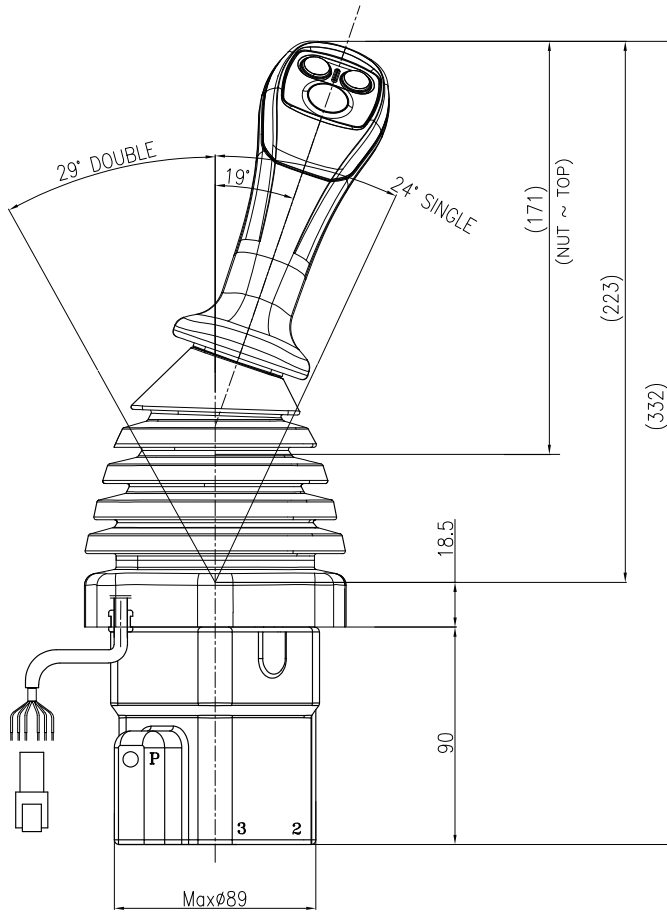
Model code position 23~26	Description	Diagram
I	Deuchi DT04-2P Receptacle Assembly	
J	Deuchi DT04-3P Receptacle Assembly	
K	Deuchi DT04-4P Receptacle Assembly	
L	Deuchi DT04-6P Receptacle Assembly	
M	Deuchi DT04-08PA Receptacle Assembly	
N	Deuchi DT04-6P-E004 Receptacle Assembly	
O	Deuchi DT06-2S Plug Assembly	
P	Female crimp terminal	

DHRCJ Dimensions

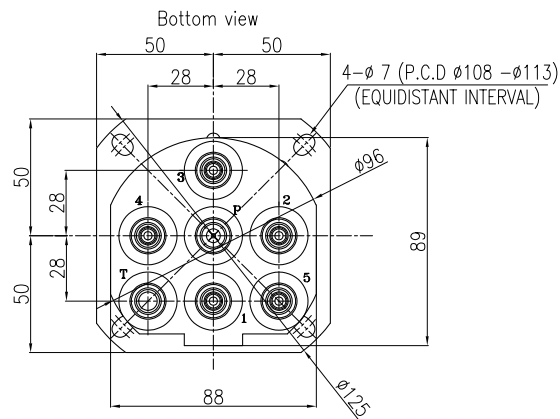
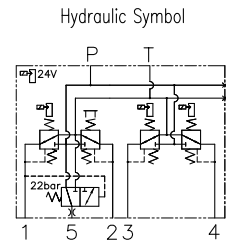
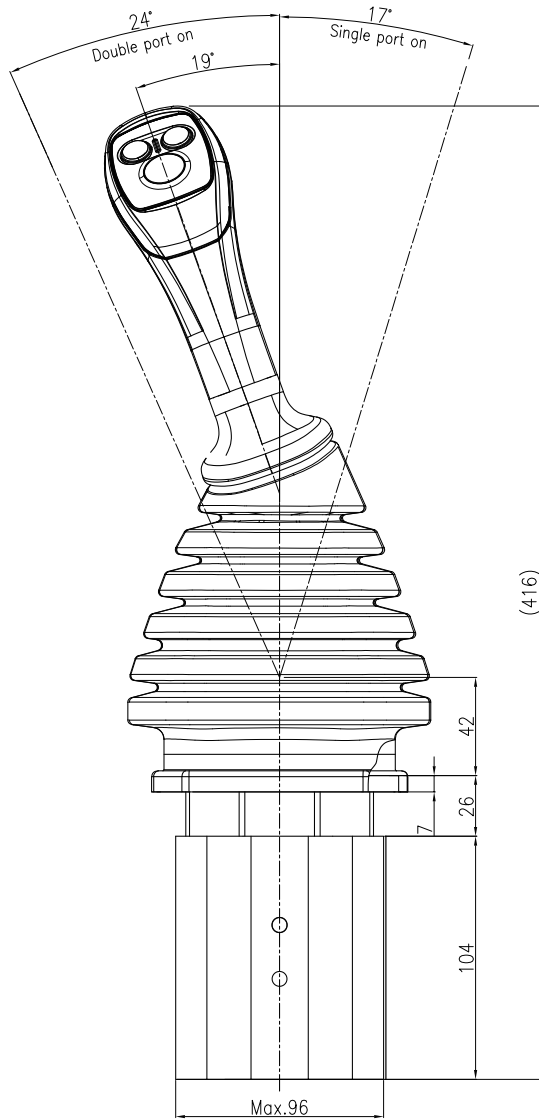
Standard body with D type grip



DHRCJ Options



DHRCJ Dimensions



Revision history

Date	Changed	Rev
March 2024	New created	A

Products we offer:

- Cartridge valves
- DCV directional control valves
- Electric converters
- Electric machines
- Electric motors
- Fluid Conveyance
- Gear motors
- Gear pumps
- Hydraulic integrated circuits (HICs)
- Hydrostatic motors
- Hydrostatic pumps
- Industrial hydraulics
- Orbital motors
- PLUS+1° controllers
- PLUS+1° displays
- PLUS+1° joysticks and pedals
- PLUS+1° operator interfaces
- PLUS+1° sensors
- PLUS+1° software
- PLUS+1° software services, support and training
- Position controls and sensors
- PVG proportional valves
- Steering components and systems
- Telematics

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