JR SERIES SHELL SIZE 13-25 ALUMINUM CONNECTORS

Scope

There is a Japanese standard titled JIS C 5432: "Electronic Equipment Round Type Connectors." JIS C 5432 is especially aiming at future standardization of new connectors. JR series connectors are designed to meet this specification JR series connectors offer excellent performance both electrically and mechanically. They have five keys in the fitting section to assure smooth coupling. A waterproof type is available. Contact arrangement performance of the pins is shown on page 160.

Material and Finish

Part name	Material	Finish
Shell	Aluminum alloy	Nickel plated
Insulator	Synthetin	
Pin contact	Copper alloy	Silver plated
Soket contact	Copper alloy	Silver plated

Ordering Information

JR 16 P A – 10 S

(1) Series No.
(2) Shell size
(3) Shell type
(4) Shell model change mark
(5) Number of contacts
(6) Contact type

(1) Series No.: JR stands for JIS Round Connector

(2) Shell size: The shell size is 13, 16, 21, and 25

(3) Shell type:
- P: Plug
- J: Jack
- R: Receptacle
- RC: Receptacle Cap
- BP: Bayonet Lock Type Plug
- BR: Bayonet Lock Type Receptacle
- WP: Waterproof Type Plug
- WR: Waterproof Type Receptacle

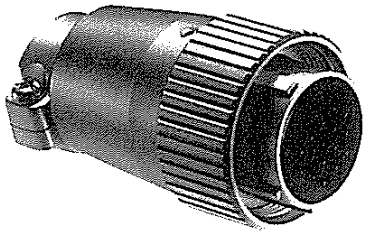
(4) Shell model change mark:
Any change of shell configuration involves a new symbol mark A, B, D, E, and so on. C, J, P, and R, which are used for other connectors, are not used.

(5) Number of contacts

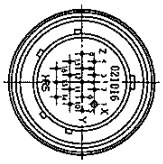
(6) Contact type:
- P: Pin contact
- PC: Crimp Pin Contact
- S: Socket contact
- SC: Crimp Socket Contact

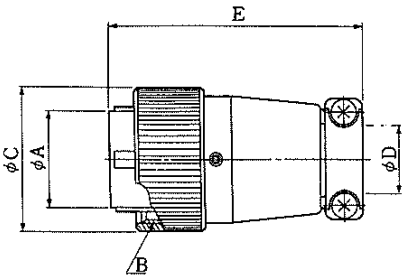
Plug

(Sordering Type)



JR21PK-16S(71)





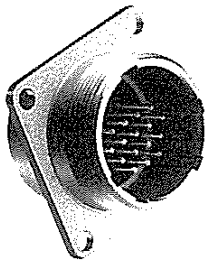
(An example in shape)

HRS No.	Part No.	No.of pins	φA	B	φC	φD	E	JIS No.	RoHS
114-0501-7-71	JR13PK-3P(71)	3	12.7	M18×1	21.8	8.5	45.5	CNR01SPM013003	
114-0502-0-71	JR13PK-5P(71)	5	12.7	M18×1	21.8	8.5	45.5	CNR01SPM013005	
114-0503-2-71	JR16PK-7P(71)	7	16.3	M22×1	25.8	11.5	49.5	CNR01SPM016007	
114-0504-5-71	JR16PK-10P(71)	10	16.3	M22×1	25.8	11.5	49.5	CNR01SPM016010	
114-0505-8-71	JR21PK-10P(71)	10	20.5	M26×1	29.8	15	53.5	CNR01SPM021010	
114-0506-0-71	JR21PK-16P(71)	16	20.5	M26×1	29.8	15	53.5	CNR01SPM021016	○
114-0507-3-71	JR25PK-16P(71)	16	24.7	M30×1	33.8	18	56.5	CNR01SPM025016	
114-0508-6-71	JR25PK-24P(71)	24	24.7	M30×1	33.8	18	56.5	CNR01SPM025024	
114-0552-8-71	JR25PK-4P(71)	4	24.7	M30×1	33.8	18	56.5	———	
114-0554-3-71	JR25PK-5P(71)	5	24.7	M30×1	33.8	18	56.5	———	
114-0556-9-71	JR25PK-8P(71)	8	24.7	M30×1	33.8	18	56.5	———	

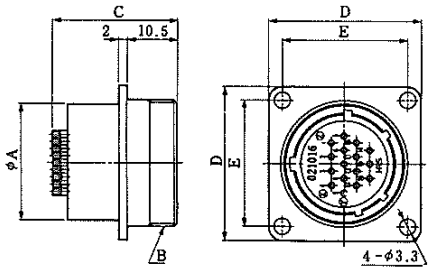
HRS No.	Part No.	No.of pins	φA	B	φC	φD	E	JIS No.	RoHS
114-0509-9-71	JR13PK-3S(71)	3	12.7	M18×1	21.8	8.5	45.5	CNR01SPF013003	
114-0510-8-71	JR13PK-5S(71)	5	12.7	M18×1	21.8	8.5	45.5	CNR01SPF013005	
114-0511-0-71	JR16PK-7S(71)	7	16.3	M22×1	25.8	11.5	49.5	CNR01SPF016007	
114-0512-3-71	JR16PK-10S(71)	10	16.3	M22×1	25.8	11.5	49.5	CNR01SPF016010	
114-0513-6-71	JR21PK-10S(71)	10	20.5	M26×1	29.8	15	53.5	CNR01SPF021010	
114-0514-9-71	JR21PK-16S(71)	16	20.5	M26×1	29.8	15	53.5	CNR01SPF021016	○
114-0515-1-71	JR25PK-16S(71)	16	24.7	M30×1	33.8	18	56.5	CNR01SPF025016	
114-0516-4-71	JR25PK-24S(71)	24	24.7	M30×1	33.8	18	56.5	CNR01SPF025024	
114-0553-0-71	JR25PK-4S(71)	4	24.7	M30×1	33.8	18	56.5	———	
114-0555-6-71	JR25PK-5S(71)	5	24.7	M30×1	33.8	18	56.5	———	
114-0557-1-71	JR25PK-8S(71)	8	24.7	M30×1	33.8	18	56.5	———	

Note: Fasten a screw by means of torque wrench at 3.5~4.5kg·cm

Receptacle



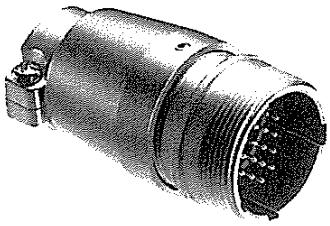
JR21RK–16P



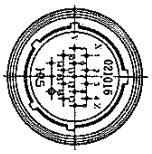
(An example in shape)

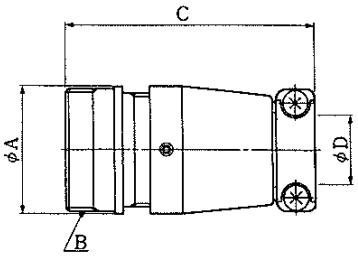
HRS No.	Part No.	No .of pins	φA	B	C	D	E	JIS No.	RoHS
114-0517-7	JR13RK-3P	3	15.9	M18×1	26.6	26	20	CNR01SRM013003	
114-0518-0	JR13RK-5P	5	15.9	M18×1	26.1	26	20	CNR01SRM013005	
114-0519-2	JR16RK-7P	7	19.9	M22×1	26.6	29	23	CNR01SRM016007	
114-0520-1	JR16RK-10P	10	19.9	M22×1	26.1	29	23	CNR01SRM016010	
114-0521-4	JR21RK-10P	10	23.9	M26×1	26.6	32	26	CNR01SRM021010	
114-0522-7	JR21RK-16P	16	23.9	M26×1	26.1	32	26	CNR01SRM021016	○
114-0523-0	JR25RK-16P	16	27.9	M30×1	26.6	35	29	CNR01SRM025016	
114-0524-2	JR25RK-24P	24	27.9	M30×1	26.1	35	29	CNR01SRM025024	
114-0558-4-71	JR25RK-4P(71)	4	27.9	M30×1	28	35	29	———	
114-0560-6-71	JR25RK-5P(71)	5	27.9	M30×1	26.6	35	29	———	
114-0562-1-71	JR25RK-8P(71)	8	27.9	M30×1	26.6	35	29	———	

HRS No.	Part No.	No .of pins	φA	B	C	D	E	JIS No.	RoHS
114-0525-5	JR13RK-3S	3	15.9	M18×1	28	26	20	CNR01SRF013003	
114-0526-8	JR13RK-5S	5	15.9	M18×1	27	26	20	CNR01SRF013005	
114-0527-0	JR16RK-7S	7	19.9	M22×1	28	29	23	CNR01SRF016007	
114-0528-3	JR16RK-10S	10	19.9	M22×1	27	29	23	CNR01SRF016010	
114-0529-6	JR21RK-10S	10	23.9	M26×1	28	32	26	CNR01SRF021010	
114-0530-5	JR21RK-16S	16	23.9	M26×1	27	32	26	CNR01SRF021016	○
114-0531-8	JR25RK-16S	16	27.9	M30×1	28	35	29	CNR01SRF025016	
114-0532-0	JR25RK-24S	24	27.9	M30×1	27	35	29	CNR01SRF025024	
114-0559-7	JR25RK-4S	4	27.9	M30×1	28	35	29	———	
114-0561-9	JR25RK-5S	5	27.9	M30×1	27.8	35	29	———	
114-0563-4	JR25RK-8S	8	27.9	M30×1	27.8	35	29	———	



JR21JK–16P





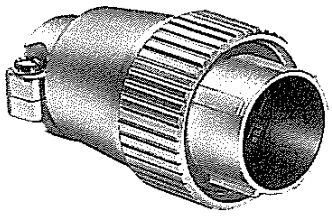
(An example in shape)

HRS No.	Part No.	No .of pins	ϕA	B	C	ϕD	RoHS
114-0533-3	JR13JK-3P	3	19	M18×1	44.5	8.5	
114-0534-6	JR13JK-5P	5	19	M18×1	44.5	8.5	
114-0535-9	JR16JK-7P	7	23	M22×1	48.5	11.5	
114-0536-1	JR16JK-10P	10	23	M22×1	48.5	11.5	
114-0537-4	JR21JK-10P	10	27	M26×1	52.5	15	○
114-0538-7	JR21JK-16P	16	27	M26×1	52.5	15	
114-0564-7-71	JR25JK-4P(71)	4	31	M30×1	55.5	18	
114-0539-0	JR25JK-16P	16	31	M30×1	55.5	18	
114-0540-9	JR25JK-24P	24	31	M30×1	55.5	18	

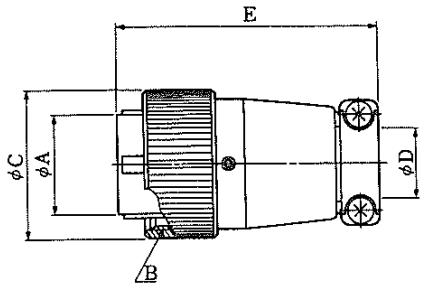
HRS No.	Part No.	No .of pins	ϕA	B	C	ϕD	RoHS
114-0541-1	JR13JK-3S	3	19	M18×1	44.5	8.5	
114-0542-4	JR13JK-5S	5	19	M18×1	44.5	8.5	
114-0543-7	JR16JK-7S	7	23	M22×1	48.5	11.5	
114-0544-0	JR16JK-10S	10	23	M22×1	48.5	11.5	○
114-0545-2	JR21JK-10S	10	27	M26×1	52.5	15	
114-0546-5	JR21JK-16S	16	27	M26×1	52.5	15	
114-0565-0	JR25JK-4S	4	31	M30×1	55.5	18	
114-0548-0	JR25JK-24S	24	31	M30×1	55.5	18	

Remark : Fasten a screw by means of torque wrench at 3.5～4.5kg-cm.

Plug (Crimp Type)



JR21PK-10PC(71)

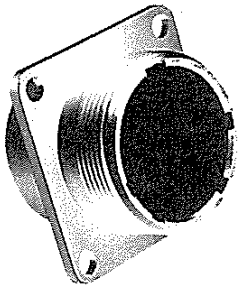


(An example in shape)

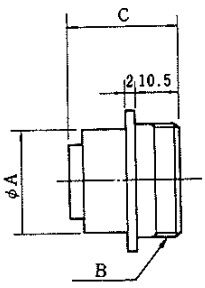
HRS No.	Part No.	No. of pins	φA	B	φC	φD	E	Remarks	RoHS No.
114-0570-0-71	JR21PK-10PC(71)	10	20.5	M26×1	29.8	15	53.5	Contact φ1.6	○
114-0571-2-71	JR21PK-10SC(71)	10	20.5	M26×1	29.8	15	53.5	Contact φ1.6	
114-0572-5-71	JR21PK-16PC(71)	16	20.5	M26×1	29.8	15	53.5	Contact φ1	
114-0573-8-71	JR21PK-16SC(71)	16	20.5	M26×1	29.8	15	53.5	Contact φ1	
114-0574-0-71	JR25PK-24PC(71)	24	24.7	M30×1	33.8	18	56.5	Contact φ1	
114-0575-3-71	JR25PK-24SC(71)	24	24.7	M30×1	33.8	18	56.5	Contact φ1	

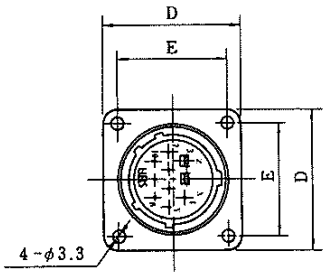
Note: Fasten a screw by means of torque wrench at 3.5~4.5kg·cm

Receptacle



JR21RK–10SC

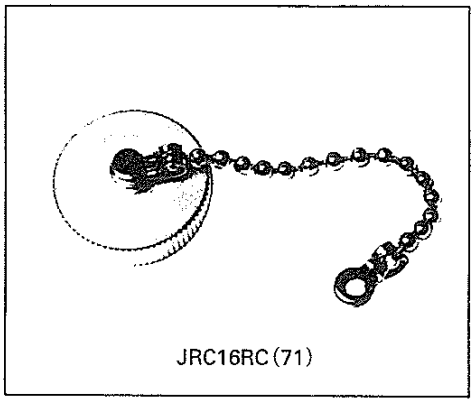




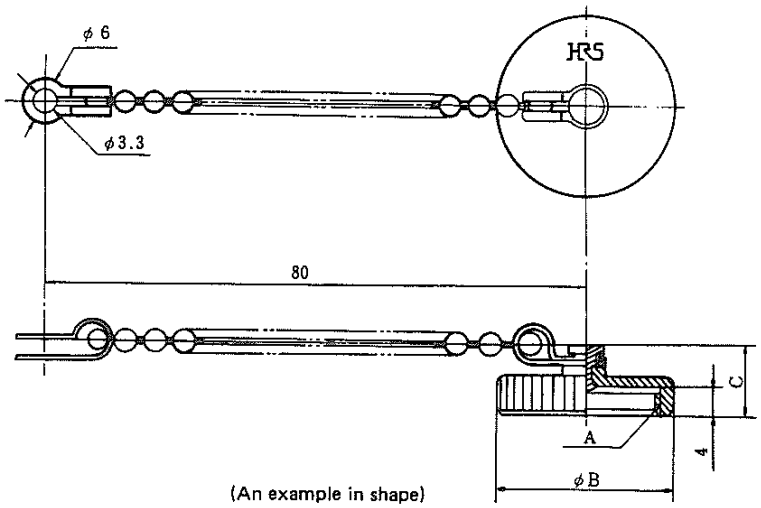
(An example in shape)

HRS No.	Part No.	No. of pins	φA	B	C	D	E	Remarks	RoHS No.
									○
114-0577-9	JR21RK-10SC	10	23.9	M26×1	27.6	32	26	Contact φ1.6	
114-0578-1	JR21RK-16PC	16	23.9	M26×1	25.4	32	26	Contact φ1	
114-0579-4	JR21RK-16SC	16	23.9	M26×1	23	32	26	Contact φ1	
114-0581-6	JR25RK-24SC	24	27.9	M30×1	23	35	29	Contact φ1	

Cap for Receptacle



JRC16RC(71)

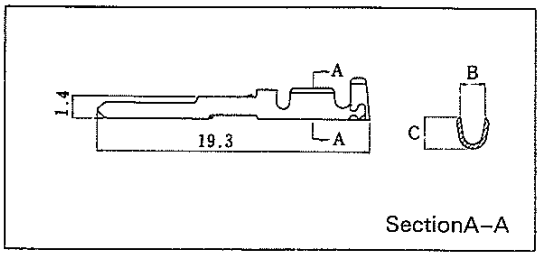


(An example in shape)

HRS No.	Part No.	A	φB	C	JIS No.	RoHS
114-0053-8-71	JRC13RC(71)	M18×1	21	10	CNR01RC013	○
114-0054-0-71	JRC16RC(71)	M22×1	25	10	CNR01RC016	
114-0055-3-71	JRC21RC(71)	M26×1	29	10	CNR01RC021	
114-0056-6-71	JRC25RC(71)	M30×1	33	10	CNR01RC025	

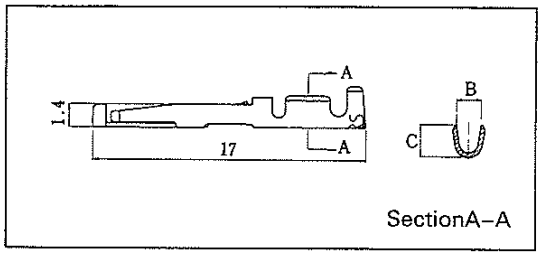
Contact diameter ϕ1.0 mm

Male Pin



Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0243-3	JRC-PC2-112	1.6	2.0	AWG#20~#24	○
	114-0244-6	JRC-PC2-122	1.45	1.5	AWG#24~#28	
Chain	114-0245-9	JRC-PC2-212	1.6	2.0	AWG#20~#24	
	114-0246-1	JRC-PC2-222	1.45	1.5	AWG#24~#28	

Female Pin

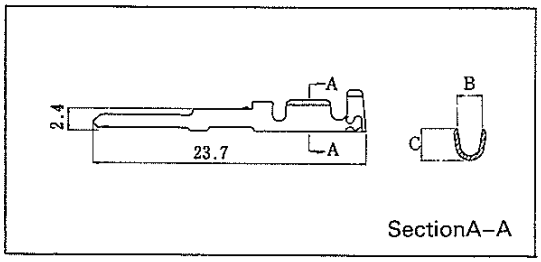


Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0247-4	JRC-SC2-112	1.6	2.0	AWG#20~#24	○
	114-0248-7	JRC-SC2-122	1.45	1.5	AWG#24~#28	
Chain	114-0249-0	JRC-SC2-212	1.6	2.0	AWG#20~#24	
	114-0250-9	JRC-SC2-222	1.45	1.5	AWG#24~#28	

Note: Bulk in bags of 100 pcs. chain or reels of 8,000 pcs.

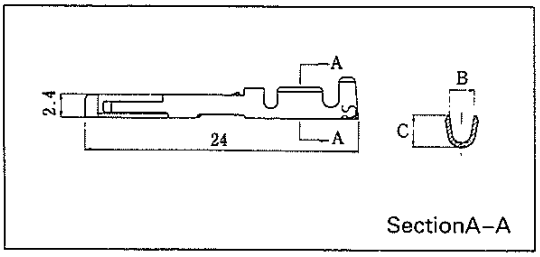
Contact diameter ϕ1.6 mm

Male Pin



Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0239-6	JRC-PC-112	2.3	2.9	AWG#16~#20	○
Chain	114-0240-5	JRC-PC-212	2.3	2.9	AWG#16~#20	

Female Pin

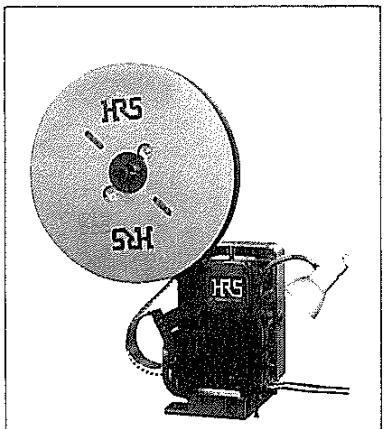


Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0241-8	JRC-SC-112	2.3	2.9	AWG#16~#20	○
Chain	114-0242-0	JRC-SC-212	2.3	2.9	AWG#16~#20	

Note: Bulk in bags of 100 pcs. chain or reels of 8,000 pcs.

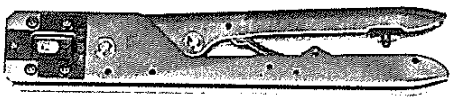
Tools

Contact diameter	Type	Item	HRS No.	Part No.	Applicable terminal	Applicable wire
φ1	Manual	Manual crimping tool	150-0006-1	RM-TC-11	JRC-PC2-112 JRC-SC2-112	AWG# 20~# 24
			150-0007-4	RM-TC-12	JRC-PC2-122 JRC-SC2-122	AWG# 24~# 28
	Automatic	Automatic crimping machine body	901-0005-4	CM-105	—	—
		Applicator	—	AP105-JRC2-1	JRC-PC2-212 JRC-SC2-212	AWG# 20~# 24
			—	AP105-JRC2-2	JRC-PC2-222 JRC-SC2-222	AWG# 24~# 28
	Extractor		150-0008-7	RM-TP	—	—
φ1.6	Manual	Manual crimping tool	150-0033-4	JRC-TC-11	JRC-PC-112 JRC-SC-112	AWG# 16
			150-0034-7	JRC-TC-12	JRC-PC-112 JRC-SC-112	AWG# 18~# 20
	Automatic	Automatic crimping machine body	901-0005-4	CM-105	—	—
		Applicator	—	AP105-JRC-1	JRC-PC-212	AWG# 16~# 20
	Extractor		150-0035-0	JRC-TP	—	—
Hexagon bar wrench (opposing side-to-side distance 1.27)			150-0066-3	PB205/1.27	—	—

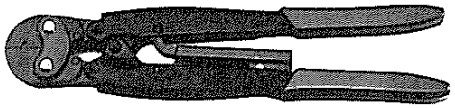


Automatic crimping Machine CM-105

Hand Tool Crimp



For Contact Diameter φ 1.0 mm



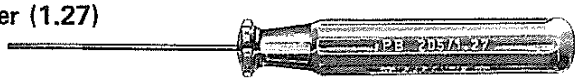
For Contact Diameter φ1.6 mm

Extraction Tool

For Contact Diameter φ 1.0 mm

For Contact Diameter φ1.6 mm

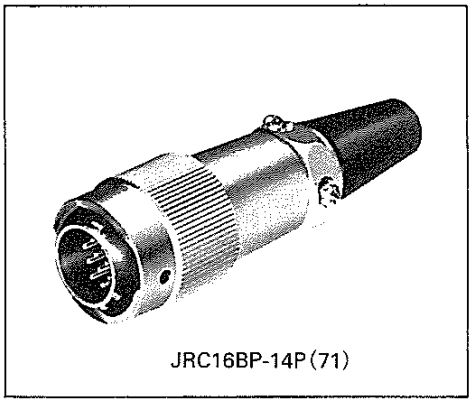
Hexagon Wrench Driver (1.27)



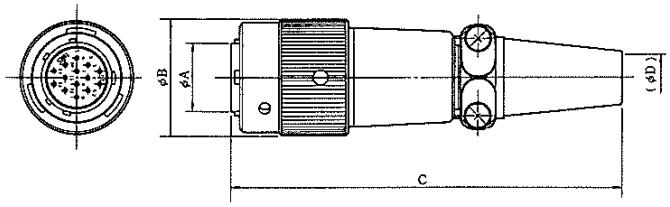
(PB 205/1.27)

HRS No.	Part No.
150—0066—3	PB205—1.27

Bayonet Lock Type Plug (Solder Type)



JRC16BP-14P(71)



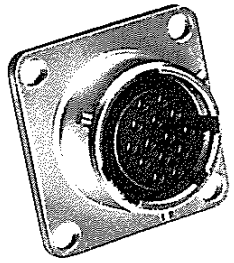
(An example in shape)

HRS No.	Part No.	No. of pins	φA	φB	C	φD	RoHS No.
114-0253-7-71	JRC16BP-7P(71)	7	16.3	27	91	11.2	○
114-0252-4-71	JRC16BP-10P(71)	10	16.3	27	91	11.2	
114-0251-1-71	JRC16BP-14P(71)	14	16.3	27	91	11.2	
114-0268-4-71	JRC21BPA-26P(71)	26	20.5	31	98	12.2	

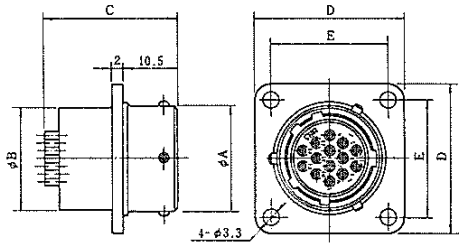
HRS No.	Part No.	No. of pins	φA	φB	C	φD	RoHS No.
114-0256-5-71	JRC16BP-7S(71)	7	16.3	27	91	11.2	○
114-0255-2-71	JRC16BP-10S(71)	10	16.3	27	91	11.2	
114-0254-0-71	JRC16BP-14S(71)	14	16.3	27	91	11.2	
114-0267-1-71	JRC21BP-26S(71)	26	20.3	31	98	12.2	

Remark Fasten a screw by means of torque wrench at 3.5~4.5kg-cm.

Bayonet Lock Type Receptacle



JRC16BR-14S(71)

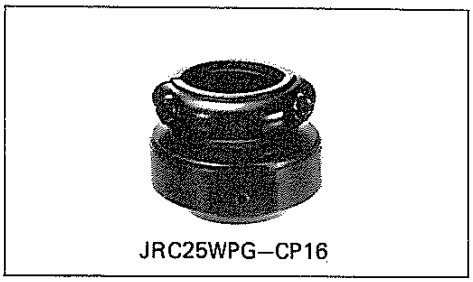


(An example in shape)

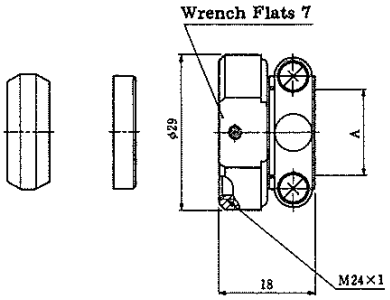
HRS No.	Part No.	No. of pins	φA	φB	C	D	E	RoHS No.
114-0259-3-71	JRC16BR-7P(71)	7	20.5	19.9	26.5	29	23	○
114-0258-0-71	JRC16BR-10P(71)	10	20.5	19.9	26.5	29	23	
114-0257-8-71	JRC16BR-14P(71)	14	20.5	19.9	26.6	29	23	
114-0269-7-71	JRC21BR-26P(71)	26	25.8	23.9	26.8	32	26	

HRS No.	Part No.	No. of pins	φA	φB	C	D	E	RoHS No.
114-0262-8-71	JRC16BR-7S(71)	7	20.5	19.9	27.7	29	23	○
114-0261-5-71	JRC16BR-10S(71)	10	20.5	19.9	26.5	29	23	
114-0260-2-71	JRC16BR-14S(71)	14	20.5	19.9	25.8	29	23	
114-0270-6	JRC21BRA-26S	26	25.8	23.9	28	32	26	

Cable Clamp (Waterproof type)



JRC25WPG—CP16



Remark: The clamp locking screw should be tightened with a torque of 0.3 to 0.4 N-m (3.5 to 4.5 kg-cm).

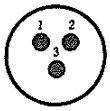
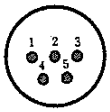
HRS No.	Part No.	A
114-1046-8	JRC25WPG-CP8	8
114-1047-0	JRC25WPG-CP10	10

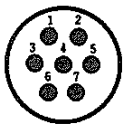
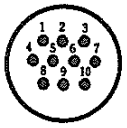
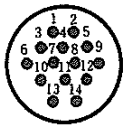
HRS No.	Part No.	A
114-1048-3	JRC25WPG-CP12	12
114-1049-6	JRC25WPG-CP14	14
114-1050-5	JRC25WPG-CP16	16

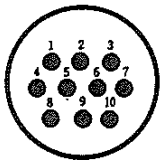
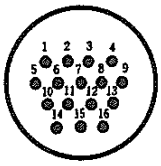
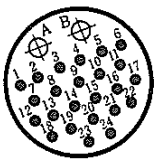
Note 1) JR Waterproof type is modified from current JR series. Electrical specifications are same as current JR series.

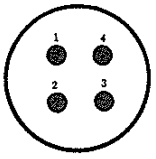
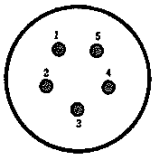
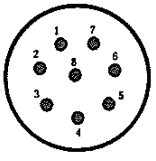
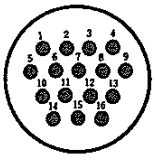
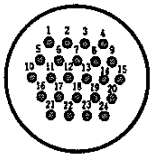
2) Sealing capability: Submersible at 1.8 m depth for 48 hours. Watertight coupling (Cable clamp) between the plug and the cable is dependent upon how the outer jacket of the cables fits in the sealing bushing. It is required, therefore, to select the most suitable cable clamp that meets the cable diameter when ordering connectors. Refer to A above for cable diameter.

JR Series Contact Arrangement

Shell size 13		
No. of pins	3	5
Withstanding voltage	AC1000V a minute	AC1000V a minute
Current rating	10A	5A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	1.7φ	1.1φ

Shell size 16			
No. of pins	7	10	14
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	10A	5A	5A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	1.7φ	1.1φ	1.1φ

Shell size 21			
No. of pins	10	16	26
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC 1000V a minute
Current rating	10A	5A (CRIMP 3A)	5A / 10A (only A, B)
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX. (CRIMP 10mΩ)	5mΩ MAX.
Solder cup dia.	1.7φ	1.1φ	1.1φ / 1.7φ (only A, B)

Shell size 25					
No. of pins	4	5	8	16	24
Withstanding voltage	AC3000V a minute	AC3000V a minute	AC3000V a minute	AC1000V a minute	AC1000V a minute
Current rating	30A	10A	10A	10A	5A (CRIMP 3A)
Insulation resistance	10,000MΩ MIN.	10,000MΩ MIN.	10,000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.(CRIMP 10mΩ)
Solder cup dia.	3.4φ	1.7φ	1.7φ	1.7φ	1.1φ

Remarks: 1. View direction: Mating surface of pin insert.
2. The withstand voltage is the test value.