

# JR SERIES SHELL SIZE 13-25 ALUMINUM CONNECTORS

## Scope

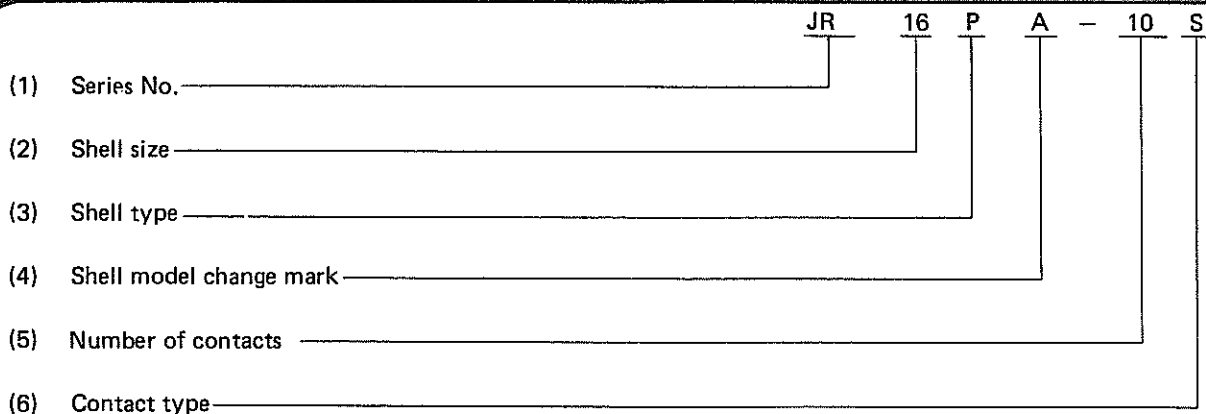
There is a Japanese standard titled JIS C 5432: "Electronic Equipment Round Type Connectors." JIS C 5432 is especially aiming at future standardization of new connectors. JR series connectors are designed to meet this specification. JR series connectors offer excellent performance

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	Synthetic	
Pin contact	Copper alloy	Silver plated
Socket contact	Copper alloy	Silver plated

## Ordering Information



(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.

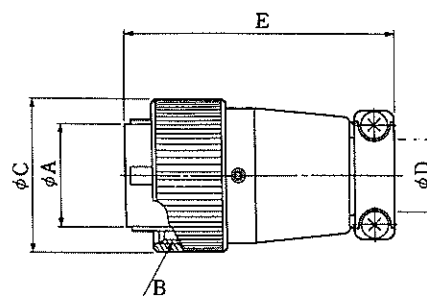
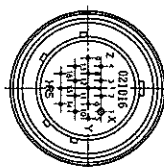
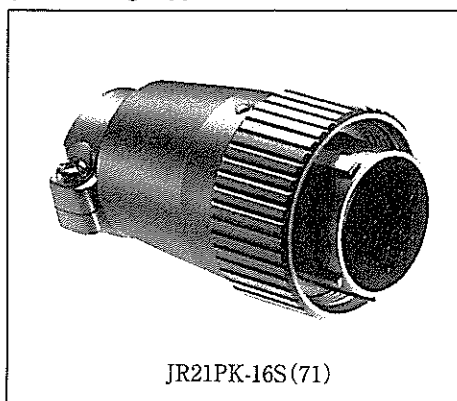
(5) Number of contacts

(6) Contact type:

- P: Pin contact
- PC: Crimp Pin Contact
- S: Socket contact
- SC: Crimp Socket Contact

## Plug

(Soldering Type)



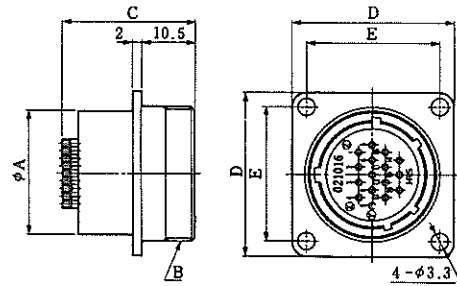
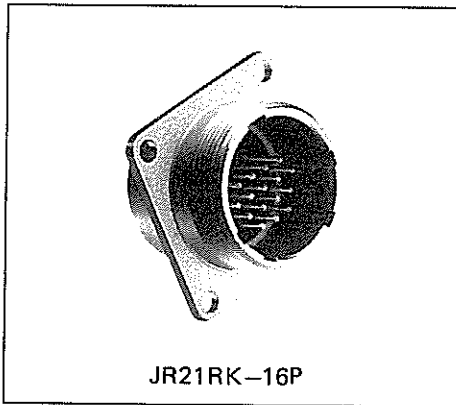
(An example in shape)

HRS No.	Part No.	No. of pins	$\phi A$	B	$\phi C$	$\phi D$	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	$\phi A$	B	$\phi C$	$\phi D$	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

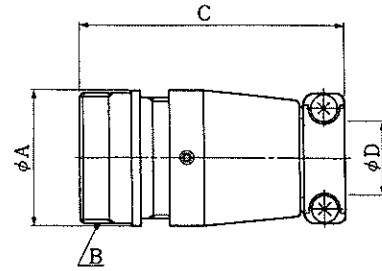
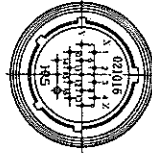
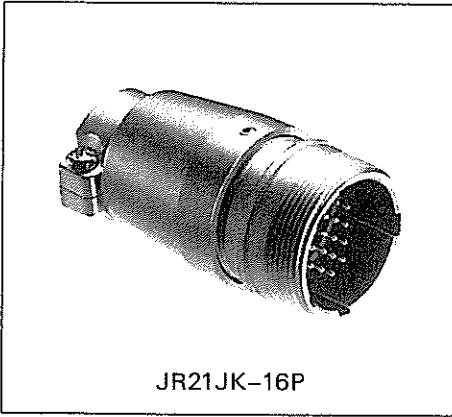


(An example in shape)

HRS No.	Part No.	No. of pins	$\phi A$	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	$\phi A$	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	_____	

## Jack



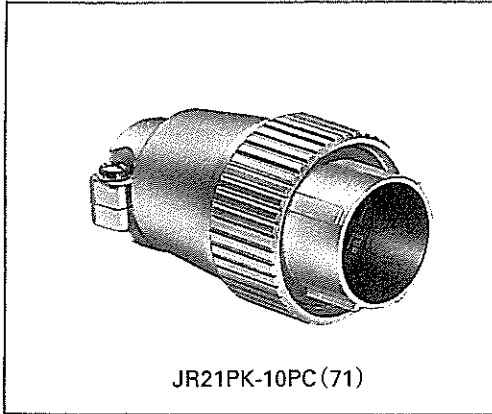
(An example in shape)

HRS No.	Part No.	No. of pins	$\phi A$	B	C	$\phi D$	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	

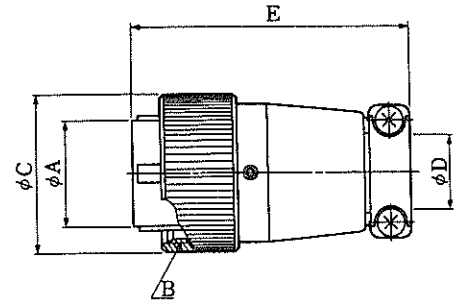
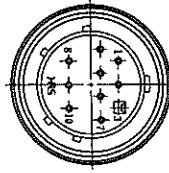
HRS No.	Part No.	No. of pins	$\phi A$	B	C	$\phi D$	RoHS
114-0541-1	JR13JK-3S	3	19	M18×1	44.5	8.5	○
114-0542-4	JR13JK-5S	5	19	M18×1	44.5	8.5	
114-0543-7	JR16JK-7S	7	23	M22×1	48.5	11.5	
114-0544-0	JR16JK-10S	10	23	M22×1	48.5	11.5	
114-0545-2	JR21JK-10S	10	27	M26×1	52.5	15	
114-0546-5	JR21JK-16S	16	27	M26×1	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)

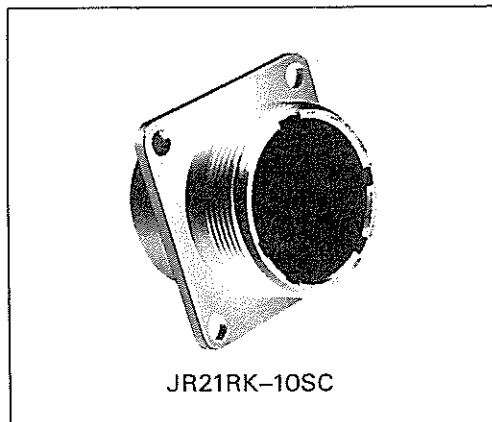


(An example in shape)

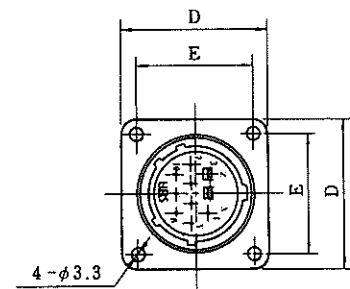
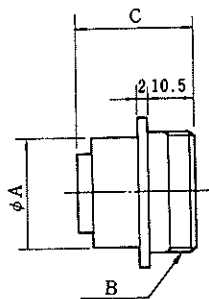
HRS No.	Part No.	No. of pins	$\phi A$	B	$\phi C$	$\phi D$	E	Remarks	RoHS No.
114-0570-0-71	JR21PK-10PC (71)	10	20.5	M26×1	29.8	15	53.5	Contact $\phi$ 1.6	○
114-0571-2-71	JR21PK-10SC (71)	10	20.5	M26×1	29.8	15	53.5	Contact $\phi$ 1.6	
114-0572-5-71	JR21PK-16PC (71)	16	20.5	M26×1	29.8	15	53.5	Contact $\phi$ 1	
114-0573-8-71	JR21PK-16SC (71)	16	20.5	M26×1	29.8	15	53.5	Contact $\phi$ 1	
114-0574-0-71	JR25PK-24PC (71)	24	24.7	M30×1	33.8	18	56.5	Contact $\phi$ 1	
114-0575-3-71	JR25PK-24SC (71)	24	24.7	M30×1	33.8	18	56.5	Contact $\phi$ 1	

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

## Receptacle



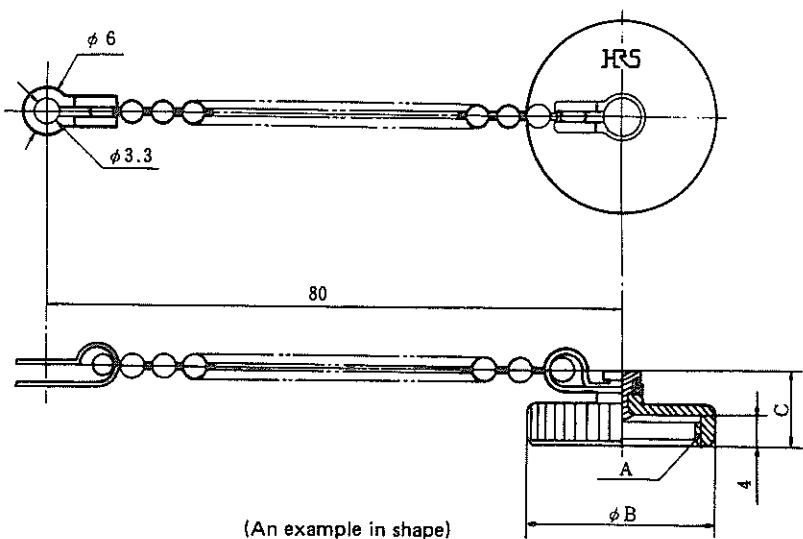
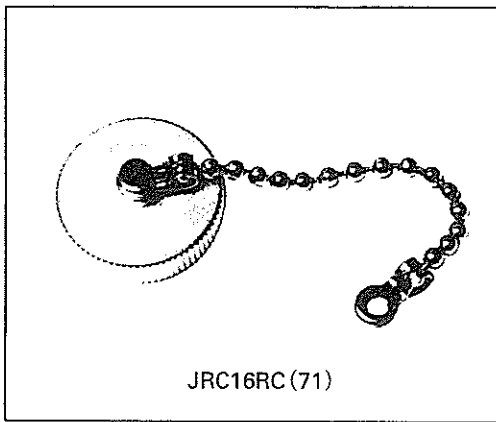
JR21RK-10SC



(An example in shape)

HRS No.	Part No.	No. of pins	$\phi A$	B	C	D	E	Remarks	RoHS No.
114-0577-9	JR21RK-10SC	10	23.9	M26×1	27.6	32	26	Contact $\phi$ 1.6	○
114-0578-1	JR21RK-16PC	16	23.9	M26×1	25.4	32	26	Contact $\phi$ 1	
114-0579-4	JR21RK-16SC	16	23.9	M26×1	23	32	26	Contact $\phi$ 1	
114-0581-6	JR25RK-24SC	24	27.9	M30×1	23	35	29	Contact $\phi$ 1	

## Cap for Receptacle

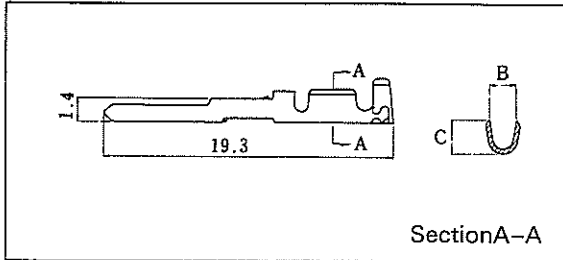


HRS No.	Part No.	A	$\phi B$	C	JIS No.	RoHS
114-0053-8-71	JRC13RC(71)	M18×1	21	10	CNR01RC013	○
114-0054-0-71	JRC16RC(71)	M22×1	25	10	CNR01RC016	
114-0055-3-71	JRC21RC(71)	M26×1	29	10	CNR01RC021	
114-0056-6-71	JRC25RC(71)	M30×1	33	10	CNR01RC025	

## Contact

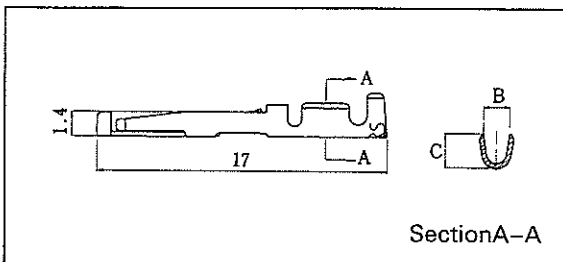
Contact diameter  $\phi 1.0$  mm

### 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

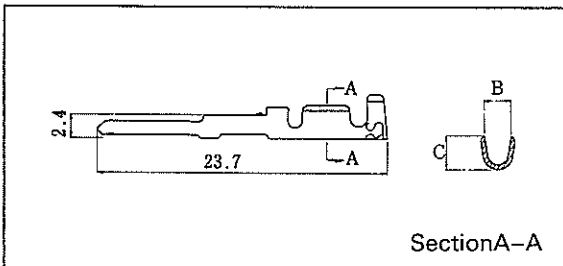


Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0247-4	JRC-SC2-112	1.6	2.0	AWG # 20~# 24	○
	114-0248-7	JRC-SC2-122	1.45	1.5	AWG # 24~# 28	
Chain	114-0249-0	JRC-SC2-212	1.6	2.0	AWG # 20~# 24	
	114-0250-9	JRC-SC2-222	1.45	1.5	AWG # 24~# 28	

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

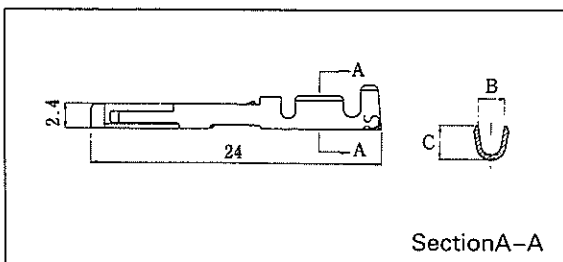
Contact diameter  $\phi 1.6$  mm

### 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

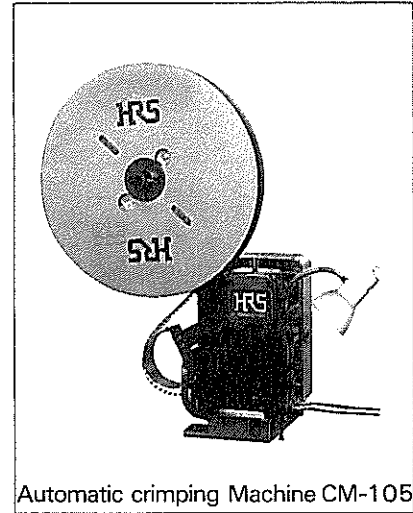


Type	HRS No.	Part No.	B	C	Applicable wire	RoHS
Bulk	114-0241-8	JRC-SC-112	2.3	2.9	AWG # 16~# 20	○
Chain	114-0242-0	JRC-SC-212	2.3	2.9	AWG # 16~# 20	

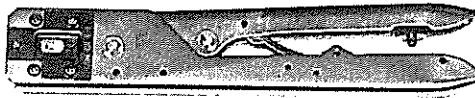
Note: Bulk in bags of 100 pcs. chain or reels of 8,000 pcs.

## Tools

Contact diameter	Type	Item	HRS No.	Part No.	Applicable terminal	Applicable wire
φ 1	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	—	—
			—	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	—	—	
φ 1.6	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	—	—
			—	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	—	—



### Hand Tool Crimp



For Contact Diameter φ 1.0 mm

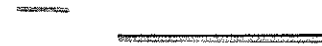


For Contact Diameter φ 1.6 mm

### Extraction Tool



For Contact Diameter φ 1.0 mm



For Contact Diameter φ 1.6 mm

### Hexagon Wrench Driver (1.27)

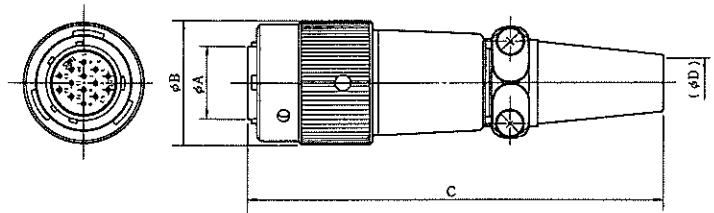
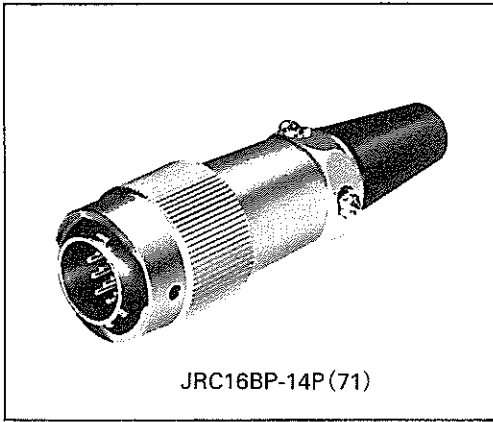


(PB 205/1.27)

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



## Bayonet Lock Type Plug (Solder Type)



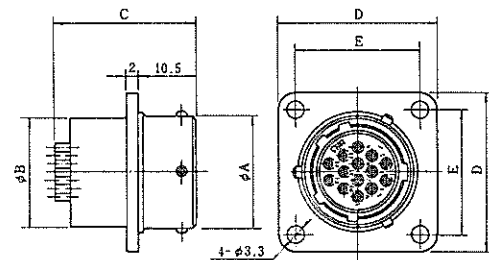
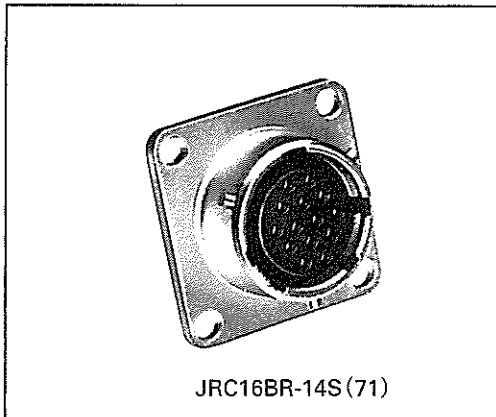
(An example in shape)

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

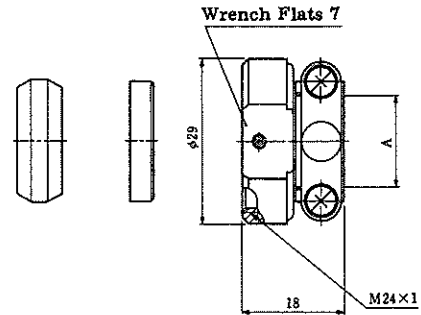


(An example in shape)

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)



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	HRS No.	Part No.	A
114-1046-8	JRC25WPG-CP8	8	114-1048-3	JRC25WPG-CP12	12
114-1047-0	JRC25WPG-CP10	10	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			
<b>13</b>			
	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				
<b>16</b>				
	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					
<b>21</b>					
	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						
<b>25</b>						
	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.

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