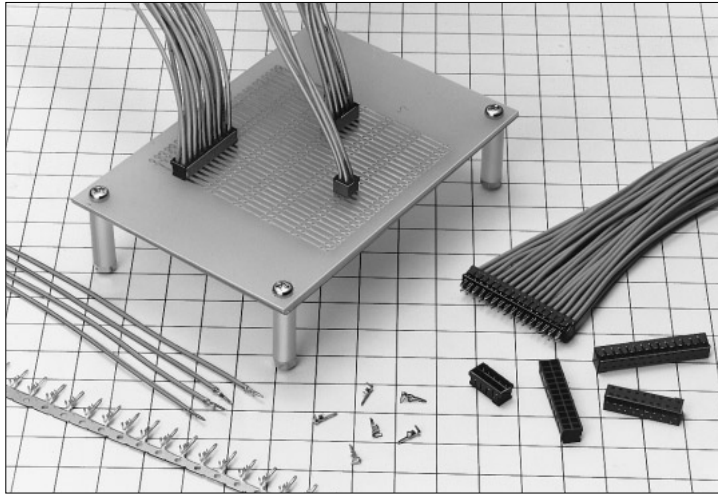


2mm Pitch Connector Directly Mounted on Board

DF4 Series



■ Features

1. Cost Saving for Header

Thanks to the insertion/extraction socket and the harness product at the both connector edges, one of two headers necessary at both edge sockets can be saved without losing the function to separate individual boards.

2. Miniature and Multiple Contacts

The miniature connector has broad variations in contact number.

Board mounting height : **4mm (Crimping)**

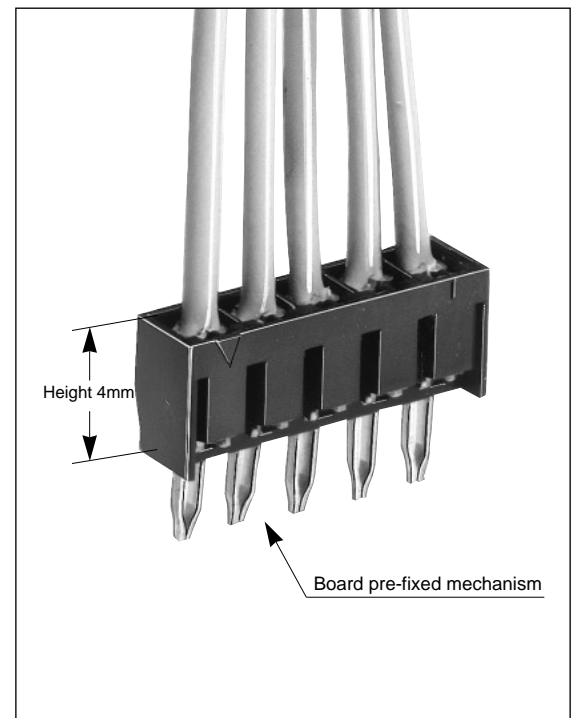
Maximum contact number : **32 contacts (Crimping)**

3. Board Pre-fixed Mechanism

The insertion state to the board is a light crimping, which enables the pre-fixed process to the board.

■ Applications

Note PC, Small business equipment



■Product Specifications

Rating	Current rating (Note 1)	Crimping	Cable Size			Operating Temperature Range	-30 to +85°C(Note 2)
			AWG 24 : 3A	AWG 26 : 2A	AWG 28 : 1A	Operating Moisture Range	40 to 80%
	Voltage rating	Crimping	250V AC	Insulation Displacement	100V AC	Storage Temperature Range	-10 to +60°C
		Insulation Displacement	Cable Size			Storage Moisture Range	40 to 70%
			AWG 26, 28 : 1A				

Item	Specification	Condition
1. Insulation Resistance	1000M ohms Min	500V DC
2. Withstanding voltage	No flashover or insulation breakdown.	650V AC/1 minute
3. Crimping Area Resistance	30m ohms Max.	100mA
4. Vibration	No damage, cracks, or parts looseness.	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
5. Humidity (Steady state)	Contact resistance: 30m ohms Max Insulation resistance: 500M ohms Min	96 hours at temperature of 40°C and humidity of 90% to 95%
6. Temperature Cycle	Contact resistance: 30m ohms Max Insulation resistance: 1000M ohms Min	Flow: 250°C for 10 seconds
7. Resistance to Soldering heat	No deformation of components affecting performance.	Manual soldering: 300°C for 3 seconds

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

■Material

Product	Part	Material	Finish	Remarks
Crimping Plug	Insulator	Polyamide	Black	UL94V-0
Crimping Contact for Plug	Contact	Brass	Tin plating	————
Insulator Displacement Plug	Insulator	Polyamide	Black	UL94V-0
	Contact	Phosphor copper	Tin plating	————

■Ordering Information

●Connector

DF4 - ***** **P** - **2** **C**
 ① ② ③ ④ ⑤

① Series Name: DF4	④ Contact Pitch: 2mm
② Number of Contact: 2 to 15, 4 to 32	⑤ Connection Type
③ Connector Type P: Single row plug DP: Double row plug	C: Crimping socket R26: Insulator displacement plug for AWG26 R28: Insulator displacement plug for AWG28

●Contact

DF4 - **2428-** **PCE**
 ① ②

① Applicable cable size 2428 : AWG24 to 28	② Packaging Type PCF: Plug contact/Reel PC: Plug contact/Bag
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Single Row Crimping Plug

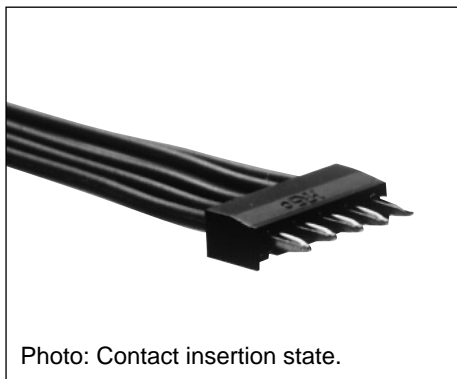
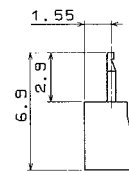
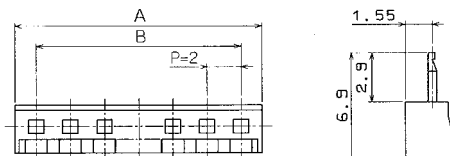


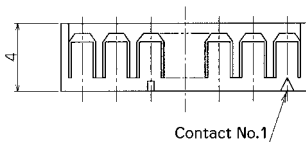
Photo: Contact insertion state.

●Applicable Through-hole Diameter : $\phi 0.8 \pm 0.1$

[Specific No.] - **, (**)
 Blank: 1 bag: 100pcs.
 (40): 500pcs. packaging
 (41): 1000pcs. packaging



Contact insertion figure

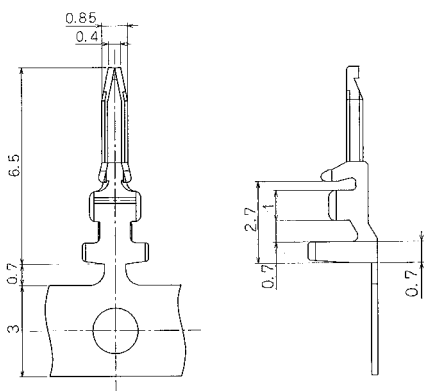


Unit:mm

Part Number	CL No.	Number of Contacts	A	B	Part Number	CL No.	Number of Contacts	A	B
DF4- 2P-2C (**)	544-0003-4-**	2	4.5	2.0	DF4- 9P-2C (**)	544-0010-0- **	9	18.5	16.0
DF4- 3P-2C (**)	544-0004-7-**	3	6.5	4.0	DF4-10P-2C (**)	544-0011-2- **	10	20.5	18.0
DF4- 4P-2C (**)	544-0005-0-**	4	8.5	6.0	DF4-11P-2C (**)	544-0012-5- **	11	22.5	20.0
DF4- 5P-2C (**)	544-0006-2-**	5	10.5	8.0	DF4-12P-2C (**)	544-0013-8- **	12	24.5	22.0
DF4- 6P-2C (**)	544-0007-5-**	6	12.5	10.0	DF4-13P-2C (**)	544-0014-0- **	13	26.5	24.0
DF4- 7P-2C (**)	544-0008-8-**	7	14.5	12.0	DF4-14P-2C (**)	544-0015-3- **	14	28.5	26.0
DF4- 8P-2C (**)	544-0009-0-**	8	16.5	14.0	DF4-15P-2C (**)	544-0016-6- **	15	30.5	28.0

Note 1.The quantity at the specific No. "None" is delivered per bag (100pcs.). If needed, please order the products per bag.

Crimping Contact



Part Number	CL No.	Packaging Type	Quantity	Finish
DF4-2428PCF	544-0020-3	Reel	10,000	Tin plating
DF4-2428PC	544-0021-6	Bag	100	Tin plating

●Applicable Cable (Tin plating Annealed copper wire)

Conductor Size	Recommended Cable	Jacket Diameter
AWG24 (11 cores./0.16mm)	UL1061	$\phi 0.75$ to $\phi 1.2$ mm
AWG 26 (7cores./0.16mm)		
AWG 28 (7cores./0.127mm)	UL1061/1007	

Note:If other cables are used instead of the applicable cable, contact Hirose sales department.

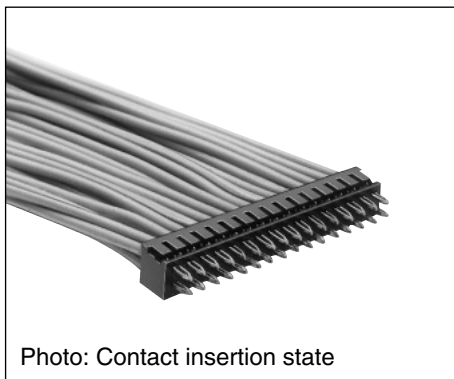
● Strip Length: 1.3 to 1.9mm

Applicable Crimping Tool

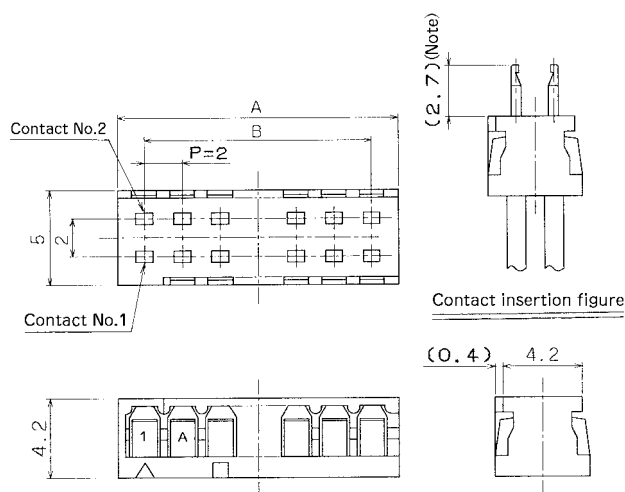
Type	Part Number	CL No.	Applicable Contact
Applicator	AP105-DF4-2428P	901-4539-0	DF4-2428PCF
Press Main Unit	CM-105	901-0005-4	—————
Manual Crimping Tool	DF4-TA2428HC	550-0173-6	DF4-2428PC
Extraction Tool	DF-C-PO (B)	550-0179-2	DF4-2428PCF

Note: If any trouble has occurred due to other tools, which are not designated by Hirose, Hirose won't guarantee any products.

Double Row Crimping Plug



- Applicable Through-hole Diameter $\phi 0.9 \pm 0.05$



Note: The dip side may be deviated according to the cable thickness and the crimping contact bent up/down.

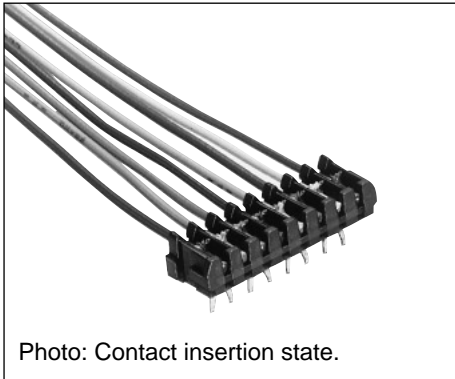
Unit:mm

Part Number	CL No.	Number of Contacts	A	B
DF4- 4DP-2C (**)	544-0078-3-**	4	4.8	2.0
DF4- 6DP-2C (**)	544-0079-6-**	6	6.8	4.0
DF4- 8DP-2C (**)	544-0080-5-**	8	8.8	6.0
DF4-10DP-2C (**)	544-0081-8-**	10	10.8	8.0
DF4-12DP-2C (**)	544-0082-0-**	12	12.8	10.0
DF4-14DP-2C (**)	544-0083-3-**	14	14.8	12.0
DF4-16DP-2C (**)	544-0084-6-**	16	16.8	14.0
DF4-18DP-2C (**)	544-0085-9-**	18	18.8	16.0
DF4-20DP-2C (**)	544-0086-1-**	20	20.8	18.0
DF4-22DP-2C (**)	544-0087-4-**	22	22.8	20.0
DF4-24DP-2C (**)	544-0088-7-**	24	24.8	22.0
DF4-26DP-2C (**)	544-0089-0-**	26	26.8	24.0
DF4-28DP-2C (**)	544-0090-9-**	28	28.8	26.0
DF4-30DP-2C (**)	544-0091-1-**	30	30.8	28.0
DF4-32DP-2C (**)	544-0092-4-**	32	32.8	30.0

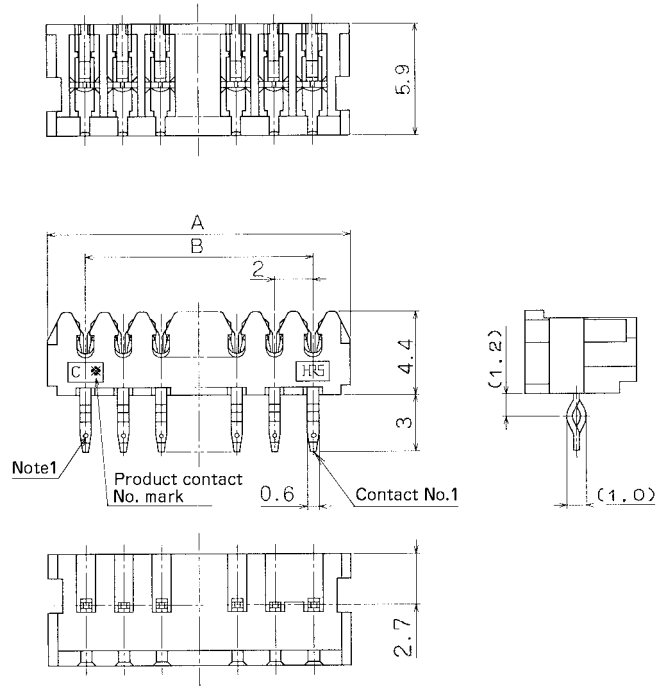
[Specific No.] – **, (**)
 Blank: 1 bag: 100pcs.

Note 1. The quantity at the specific No. "None" is delivered per bag (100pcs.). If needed, please order the products per bag.

Right Angle Type ID Plug



●Applicable Through-hole Diameter : $\phi 0.8^{+0.1}$



Note 1. The plug, which has the mark at the designated position, is for AWG26.

Note 2. The cleaning by heat and trichloroethylene can't be implemented.

●Applicable Cable (Tin plating Annealed copper wire)

Part Number	Applicable Cable	Jacket Diameter
DF4-*PA-2R26	UL1061 AWG26 (7/0.16)	$\phi 0.9$ to 1mm
DF4-*PA-2R28	UL1061 AWG28 (7/0.127)	$\phi 0.9$ to 1mm

[Specific No.] - **, (**)
 Blank: Tin plating, 1 pack: 100pcs.

●AWG26

Unit:mm

Part Number	CL No.	Number of Contacts	A	B
DF4- 2PA-2R26 (**)	544-0022-9-**	2	6.0	2.0
DF4- 3PA-2R26 (**)	544-0023-1-**	3	8.0	4.0
DF4- 4PA-2R26 (**)	544-0024-4-**	4	10.0	6.0
DF4- 5PA-2R26 (**)	544-0025-7-**	5	12.0	8.0
DF4- 6PA-2R26 (**)	544-0026-0-**	6	14.0	10.0
DF4- 7PA-2R26 (**)	544-0027-2-**	7	16.0	12.0
DF4- 8PA-2R26 (**)	544-0028-5-**	8	18.0	14.0
DF4- 9PA-2R26 (**)	544-0029-8-**	9	20.0	16.0
DF4-10PA-2R26 (**)	544-0030-7-**	10	22.0	18.0
DF4-11PA-2R26 (**)	544-0031-0-**	11	24.0	20.0
DF4-12PA-2R26 (**)	544-0032-2-**	12	26.0	22.0
DF4-13PA-2R26 (**)	544-0033-5-**	13	28.0	24.0
DF4-14PA-2R26 (**)	544-0034-8-**	14	30.0	26.0
DF4-15PA-2R26 (**)	544-0035-0-**	15	32.0	28.0

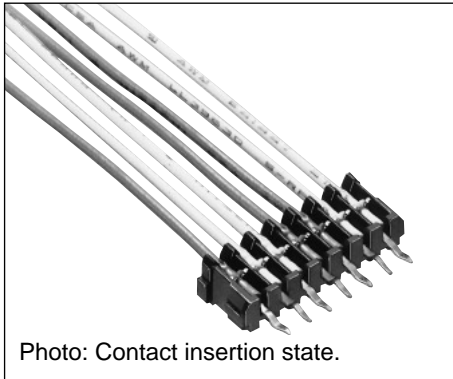
●AWG28

Unit:mm

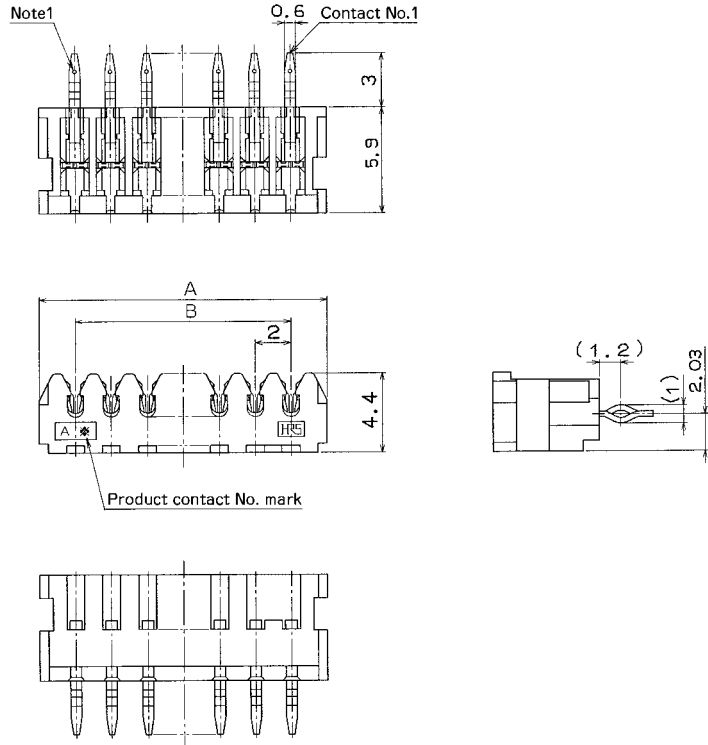
Part Number	CL No.	Number of Contacts	A	B
DF4- 2PA-2R28 (**)	544-0036-3-**	2	6.0	2.0
DF4- 3PA-2R28 (**)	544-0037-6-**	3	8.0	4.0
DF4- 4PA-2R28 (**)	544-0038-9-**	4	10.0	6.0
DF4- 5PA-2R28 (**)	544-0039-1-**	5	12.0	8.0
DF4- 6PA-2R28 (**)	544-0040-0-**	6	14.0	10.0
DF4- 7PA-2R28 (**)	544-0041-3-**	7	16.0	12.0
DF4- 8PA-2R28 (**)	544-0042-6-**	8	18.0	14.0
DF4- 9PA-2R28 (**)	544-0043-9-**	9	20.0	16.0
DF4-10PA-2R28 (**)	544-0044-1-**	10	22.0	18.0
DF4-11PA-2R28 (**)	544-0045-4-**	11	24.0	20.0
DF4-12PA-2R28 (**)	544-0046-7-**	12	26.0	22.0
DF4-13PA-2R28 (**)	544-0047-0-**	13	28.0	24.0
DF4-14PA-2R28 (**)	544-0048-2-**	14	30.0	26.0
DF4-15PA-2R28 (**)	544-0049-5-**	15	32.0	28.0

Note : A packaging quantity is delivered in the bag unit (100 pcs.). If needed, please order the product per bag.

■Straight Type ID Plug



●Applicable Through-hole Diameter : $\phi 0.8 \pm 0.1$



Note 1. The plug, which has the mark at the designated position, is for AWG26.

Note 2. The cleaning by heat and trichloroethylene can't be implemented.

●Applicable Cable (Tin plating Annealed copper wire)

Part Number	Applicable Cable	Jacket Diameter
DF4- \ast P-2R26	UL1061 AWG26 (7/0.16)	$\phi 0.9$ to 1mm
DF4- \ast P-2R28	UL1061 AWG28 (7/0.127)	$\phi 0.9$ to 1mm

[Specific No.] – $\ast\ast$, ($\ast\ast$)
 Blank: Tin plating, 1 pack: 100pcs.

●AWG26

Unit:mm

Part Number	CL No.	Number of Contacts	A	B
DF4- 2P-2R26 ($\ast\ast$)	544-0050-4- $\ast\ast$	2	6.0	2.0
DF4- 3P-2R26 ($\ast\ast$)	544-0051-7- $\ast\ast$	3	8.0	4.0
DF4- 4P-2R26 ($\ast\ast$)	544-0052-0- $\ast\ast$	4	10.0	6.0
DF4- 5P-2R26 ($\ast\ast$)	544-0053-2- $\ast\ast$	5	12.0	8.0
DF4- 6P-2R26 ($\ast\ast$)	544-0054-5- $\ast\ast$	6	14.0	10.0
DF4- 7P-2R26 ($\ast\ast$)	544-0055-8- $\ast\ast$	7	16.0	12.0
DF4- 8P-2R26 ($\ast\ast$)	544-0056-0- $\ast\ast$	8	18.0	14.0
DF4- 9P-2R26 ($\ast\ast$)	544-0057-3- $\ast\ast$	9	20.0	16.0
DF4-10P-2R26 ($\ast\ast$)	544-0058-6- $\ast\ast$	10	22.0	18.0
DF4-11P-2R26 ($\ast\ast$)	544-0059-9- $\ast\ast$	11	24.0	20.0
DF4-12P-2R26 ($\ast\ast$)	544-0060-8- $\ast\ast$	12	26.0	22.0
DF4-13P-2R26 ($\ast\ast$)	544-0061-0- $\ast\ast$	13	28.0	24.0
DF4-14P-2R26 ($\ast\ast$)	544-0062-3- $\ast\ast$	14	30.0	26.0
DF4-15P-2R26 ($\ast\ast$)	544-0063-6- $\ast\ast$	15	32.0	28.0

●AWG28

Unit:mm

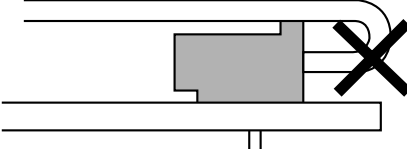
Part Number	CL No.	Number of Contacts	A	B
DF4- 2P-2R28 ($\ast\ast$)	544-0064-9- $\ast\ast$	2	6.0	2.0
DF4- 3P-2R28 ($\ast\ast$)	544-0065-1- $\ast\ast$	3	8.0	4.0
DF4- 4P-2R28 ($\ast\ast$)	544-0066-4- $\ast\ast$	4	10.0	6.0
DF4- 5P-2R28 ($\ast\ast$)	544-0067-7- $\ast\ast$	5	12.0	8.0
DF4- 6P-2R28 ($\ast\ast$)	544-0068-0- $\ast\ast$	6	14.0	10.0
DF4- 7P-2R28 ($\ast\ast$)	544-0069-2- $\ast\ast$	7	16.0	12.0
DF4- 8P-2R28 ($\ast\ast$)	544-0070-1- $\ast\ast$	8	18.0	14.0
DF4- 9P-2R28 ($\ast\ast$)	544-0071-4- $\ast\ast$	9	20.0	16.0
DF4-10P-2R28 ($\ast\ast$)	544-0072-7- $\ast\ast$	10	22.0	18.0
DF4-11P-2R28 ($\ast\ast$)	544-0073-0- $\ast\ast$	11	24.0	20.0
DF4-12P-2R28 ($\ast\ast$)	544-0074-2- $\ast\ast$	12	26.0	22.0
DF4-13P-2R28 ($\ast\ast$)	544-0075-5- $\ast\ast$	13	28.0	24.0
DF4-14P-2R28 ($\ast\ast$)	544-0076-8- $\ast\ast$	14	30.0	26.0
DF4-15P-2R28 ($\ast\ast$)	544-0077-0- $\ast\ast$	15	32.0	28.0

Note : A packaging quantity is delivered in the bag unit (100 pcs.). If needed, please order the product per bag.

◆ID Tool

Type	Part Number	Objective Connector	Remarks
DF3-DF4 Table Insulation Displacement Machine	SA701/DF3 903-4507-7	DF3-*S-2R** DF4-*P/PA-2R**	Desk top machine

◆Precautions

<p>1. Recommended Soldering Condition</p>	<p>Flow: 250°C for 3 seconds Manual soldering: 290°C for 2 seconds</p> <p>■ If the cable neighboring the connector is bent and unstraightened, secure a large bending radius because the Jacket will be broken by the solder heat and the contact wire will be exposed. The Jacket in this part will be tore.</p>  <p>■ After the soldering process. If a stress is applied to the cable in the state where the connector and the cable has heat inside, the Jacket hold area will be loosen. Therefore, carry out the post-soldering operation after the connector has returned to the room temperature..</p>
<p>2. Cleaning Condition</p>	<p>Refer to Nylon Connector Use Hand book. Don't use a solvent such as trichloroethylene which invades the cable Jacket. In addition, avoid heat cleaning by a solvent.</p>
<p>3. Connection Condition</p>	<p>Refer to the Nylon Connector Use Hand book.</p>