

EMBOSSED CARRIER TAPE DIMENSION (2:1)

TAPE WIDTH : 24mm MAX

A technical drawing of a vertical pipe assembly. The pipe is shown in cross-section, revealing an internal structure. Dimension lines indicate a total height of 1.7 and a gap of 0.3 between two horizontal reference lines. Callouts point to specific features: callout 5 points to the top flange, callout 6 points to the middle flange, and callout 8 points to the bottom flange.

TAPE WIDTH : 32mm MIN

A technical drawing of a vertical pipe assembly. The pipe is shown with a central vertical line and two parallel lines on either side. At the top, there is a horizontal line with a dimension of (1.7) and a callout circle labeled 5. Another horizontal line further down has a dimension of (0.3) and a callout circle labeled 6. Near the bottom, there is a horizontal line with a callout circle labeled 8. A dashed horizontal line is also present in the middle of the pipe.

The diagram illustrates a trailer section. At the top, three horizontal dimensions are labeled: 'TRAILER' on the left, 'PORTION EQUIPPED WITH CONNECTORS' in the middle, and 'LEADER (400 mm MIN)' on the right. Below these labels is a horizontal line with tick marks. The trailer section itself is a rectangular box divided into two main sections by a central vertical line. The left section contains ten small square compartments arranged in two rows of five. The right section also contains ten such compartments. Two rectangular blocks, each with a diagonal hatching pattern, are positioned on the top edge of the trailer, one in each section. Below the trailer, two horizontal arrows point to labels: 'EMBOSSED CARRIER TAPE' points to the bottom edge of the left section, and 'TOP COVER TAPE' points to the bottom edge of the right section. At the bottom of the diagram, two additional labels with arrows point to the bottom of the trailer's compartments: '10 EMPTY COMPONENT COMPARTMENTS MIN' on the left and '10 EMPTY COMPONENT COMPARTMENTS MIN' on the right.

DIRECTION OF UNREELING

Diagram illustrating the dimensions of a vacuum pick-up area. The area is a rectangle with a width of (1) and a height of (3.8). The top edge is labeled "VACUUM PICK UP AREA".

$\mu \pm 0.1$ $M \pm 0.3$

REEL DIMENSION (FREE)

A technical line drawing of a circular component. The component features a central circular hole with a jagged, star-like internal profile. Surrounding this central hole are five distinct, petal-like lobes. A horizontal dashed line passes through the center of the central hole, and a vertical dashed line passes through the center of the component. A callout labeled '7' points to the top of one of the lobes. Another callout, labeled '(Ø13)', points to the outer diameter of the central hole.

The diagram shows a vertical pipe assembly. A vertical line on the left indicates a total height of $(\phi 180)$. A horizontal line on the left indicates a diameter of $(\phi 80)$. A horizontal line at the top indicates a width of $(R: INSIDE)$. A horizontal line at the bottom indicates a width of $(S: OUTSIDE)$. The assembly consists of two vertical pipes and a horizontal pipe connecting them. A small rectangular component is shown on the top pipe.

NOTE 8 PER REEL : 500 CONNECTORS

9. COMPLIANT TO JIS C 0806 AND IEC 60286-3 (PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING.)

FORM HC0011-5-8 1 2 3 4 5 6 7 8 NO.

DIMENSION TABLE OF CONNECTOR, FPC, FFC, LAND PATTERN AND METAL MASK

PART No.	CODE No.	*	A	B	C	D	J	K	L
FH33- 6S-0.5SH(99)	CL580-1301-1-99	6	5	2.5	3.57	4.35	3.8	4.9	3.5
FH33- 9S-0.5SH(99)	CL580-1303-7-99	9	6.5	4	5.07	5.85	5.3	6.4	5
FH33-10S-0.5SH(99)	CL580-1304-0-99	10	7	4.5	5.57	6.35	5.8	6.9	5.5
FH33-12S-0.5SH(99)	CL580-1302-4-99	12	8	5.5	6.57	7.35	6.8	7.9	6.5
FH33-14S-0.5SH(99)	CL580-1305-2-99	14	9	6.5	7.57	8.35	7.8	8.9	7.5
FH33-19S-0.5SH(99)	CL580-1307-8-99	19	11.5	9	10.07	10.85	10.3	11.4	10
FH33-20S-0.5SH(99)	CL580-1317-1-99	20	12	9.5	10.57	11.35	10.8	11.9	10.5
FH33-26S-0.5SH(99)	CL580-1306-5-99	26	15	12.5	13.57	14.35	13.8	14.9	13.5
FH33-28S-0.5SH(99)	CL580-1300-9-99	28	16	13.5	14.57	15.35	14.8	15.9	14.5
FH33-30S-0.5SH(99)	CL580-1312-8-99	30	17	14.5	15.57	16.35	15.8	16.9	15.5
FH33-32S-0.5SH(99)	CL580-1310-2-99	32	18	15.5	16.57	17.35	16.8	17.9	16.5
FH33-36S-0.5SH(99)	CL580-1311-5-99	36	20	17.5	18.57	19.35	18.8	19.9	18.5
FH33-40S-0.5SH(99)	CL580-1308-0-99	40	22	19.5	20.57	21.35	20.8	21.9	20.5
FH33-45S-0.5SH(99)	CL580-1316-9-99	45	24.5	22	23.07	23.85	23.3	24.4	23

DIMENSION TABLE OF DRAWING FOR PACKING

PART No.	CODE No.	*	M	N	P	Q	R	S
FH33- 6S-0.5SH(99)	CL580-1301-1-99	6	16	7.5	—	5.3	17.4	21.4
FH33- 9S-0.5SH(99)	CL580-1303-7-99	9	16	7.5	—	6.8	17.4	21.4
FH33-10S-0.5SH(99)	CL580-1304-0-99	10	16	7.5	—	7.3	17.4	21.4
FH33-12S-0.5SH(99)	CL580-1302-4-99	12	16	7.5	—	8.3	17.4	21.4
FH33-14S-0.5SH(99)	CL580-1305-2-99	14	16	7.5	—	9.3	17.4	21.4
FH33-19S-0.5SH(99)	CL580-1307-8-99	19	24	11.5	—	11.8	25.4	29.4
FH33-20S-0.5SH(99)	CL580-1317-1-99	20	24	11.5	—	12.3	25.4	29.4
FH33-26S-0.5SH(99)	CL580-1306-5-99	26	24	11.5	—	15.3	25.4	29.4
FH33-28S-0.5SH(99)	CL580-1300-9-99	28	24	11.5	—	16.3	25.4	29.4
FH33-30S-0.5SH(99)	CL580-1312-8-99	30	24	11.5	—	17.3	25.4	29.4
FH33-32S-0.5SH(99)	CL580-1310-2-99	32	32	14.2	28.4	18.3	33.4	37.4
FH33-36S-0.5SH(99)	CL580-1311-5-99	36	32	14.2	28.4	20.3	33.4	37.4
FH33-40S-0.5SH(99)	CL580-1308-0-99	40	44	20.2	40.4	22.3	45.4	49.4
FH33-45S-0.5SH(99)	CL580-1316-9-99	45	44	20.2	40.4	24.8	45.4	49.4

* : NUMBER OF CONTACTS

This connector is small and thin and requires delicate and careful handling.
Read through the instructions shown below and handle the connector properly.
Each values indicating here are for reference and may differ from standard value.

[INSTRUCTIONS FOR MOUNTING ON THE BOARD]

◆Warp of Board

Minimize warp of the board as much as possible.
Lead co-planarity including reinforced metal fittings is 0.1 mm or less.
Too much warp of the board may result in a soldering failure.

◆Flexible board design

Please make sure to put a stiffener on the backside of the flexible board.
We recommend a glass epoxy material with the thickness of 0.3mm MIN.

◆Load to Connector

Do not add 1N or greater external force when unreel or pick and place the connector etc.
or it may get broken.
In addition, do not insert the FPC or operate the connector before mounting it.

[INSTRUCTIONS FOR PCB HANDLING AFTER MOUNTING THE CONNECTOR]

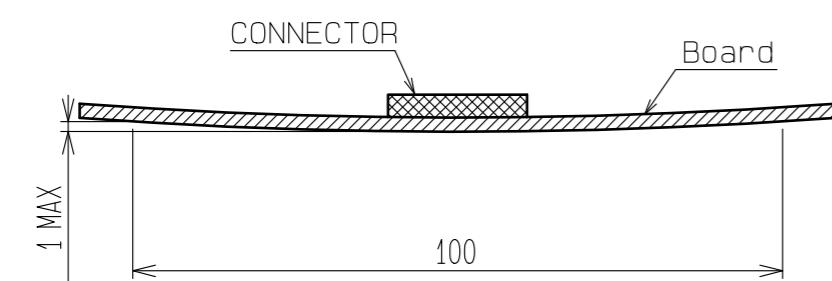
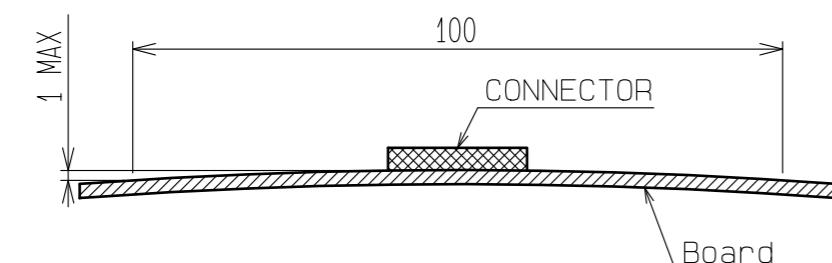
◆Load to Board

- Splitting a large board into several pieces
- Screwing the board

Avoid the handling described above so that no force is exerted on the board during the assembly process.
Otherwise, the connector may become defective.

◆Amount of Warp

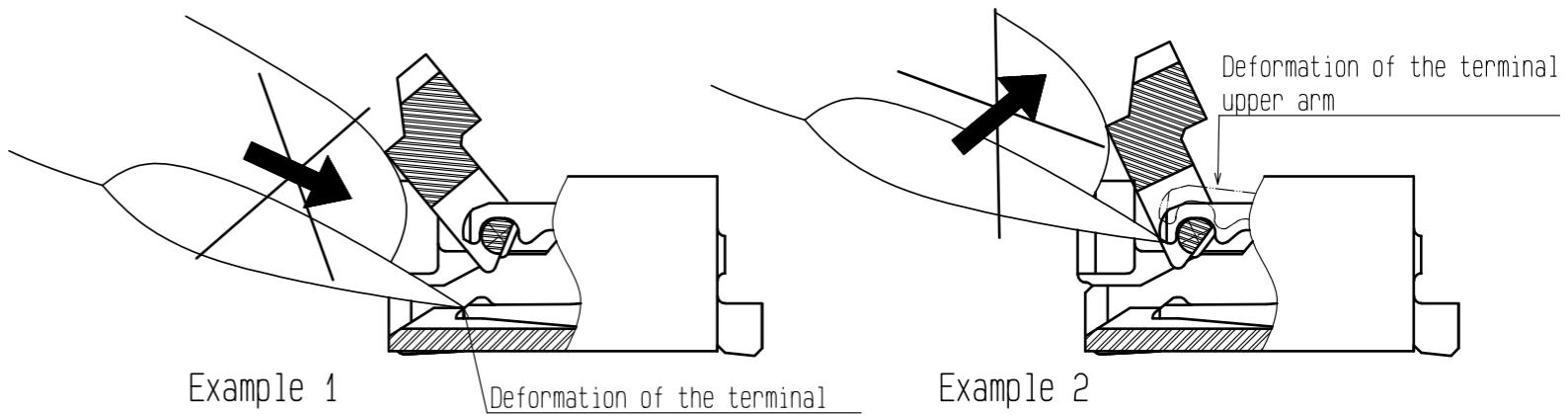
The warp of a 100-mm wide board should be 1 mm or less.
The warp of board suffers stress on connector and the connector may become defective.



[INSTRUCTIONS ON INSERTING FPC AND CONNECTION]

◆Use of the Actuator

1. Be very careful not to apply excessive force when releasing the actuator in the initial position (with no FPC inserted).
If you use your nail or finger as shown below, the terminals may be deformed.

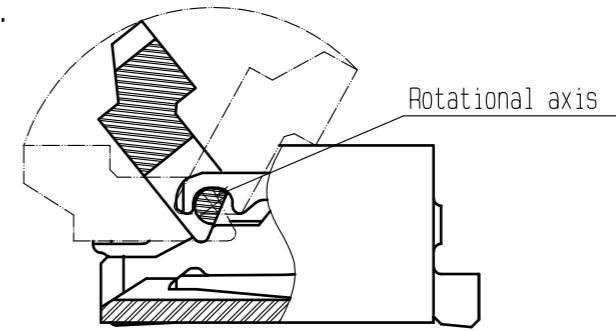


Example 1

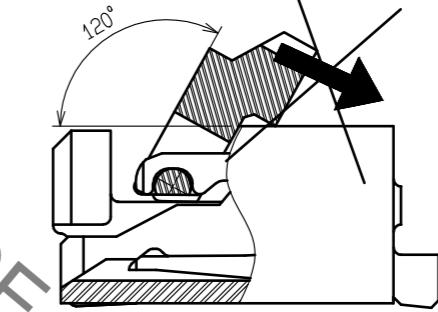
Deformation of the terminal

Example 2

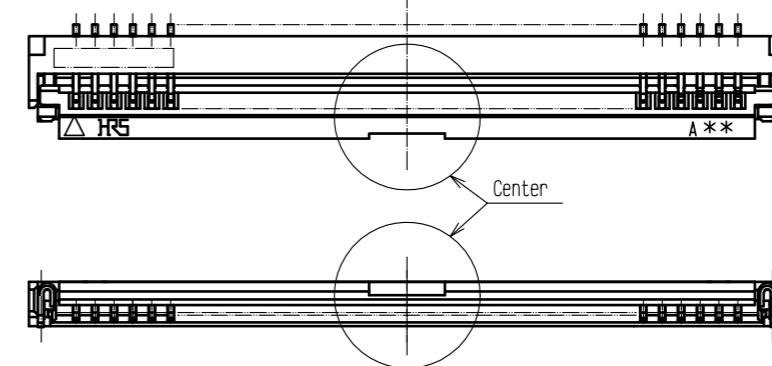
2. The actuator rotates around the rotational axis as shown below.
Rotate the actuator.



3. The actuator will not open more than 120°.
Do not apply any force backward beyond this point.
Otherwise, the actuator may come off or break.

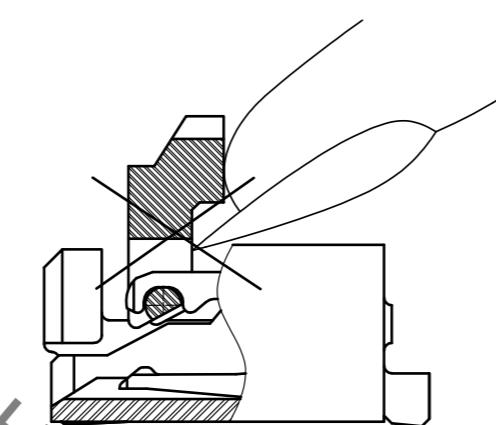
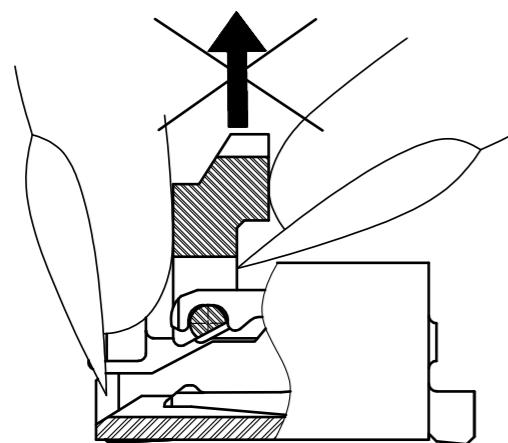


4. Move the actuator at approximately the center.
Do not operate the edge of actuator.
Otherwise, the actuator may come off or break.



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	PART NO.	FH33-**S-0.5SH(99)
	CODE NO.	CL580
	45	45

5. Do not pinch or pick the actuator to lift it as shown below. Otherwise, it may break.
(Do not carry out any operation other than rotating the actuator as shown in 2 above.)



◆Direction of Contacts

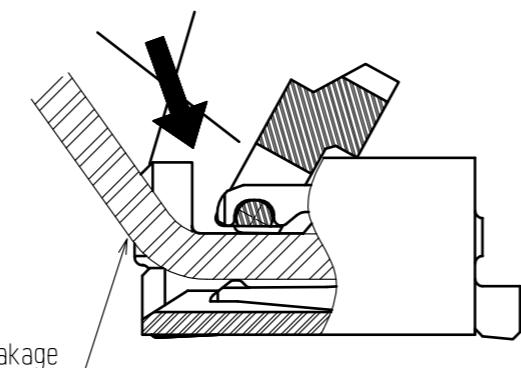
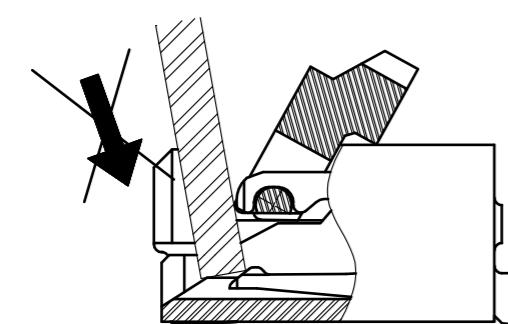
This connector has contacts on the bottom. Thus, insert it with the exposed conductors face down.

◆Inserting the FPC

1. Insert the FPC horizontally along the surface and at a right angle to the connector.
Insert it properly to the very end.
If the FPC is inserted at a slant (incorrectly),
the conductors may short-circuit due to pitch shift or the edge of the FPC may catch in the terminals,
resulting in deformation of the terminals.
This connector has a ZIF structure, and its effective engagement length is 1.1 mm
(when the recommended FPC nominal is used).
Use the actuator carefully to prevent the FPC from dislocating after inserting it.
2. Do not insert the FPC diagonally from above.
If the FPC is inserted at a slant (incorrectly) as shown below in the FPC insertion process,
the FPC may bend and patterns may break or the FPC may not insert completely,
resulting in improper conduction.

※Keep a sufficient FPC insertion space in the stage of the layout in order to avoid incorrect FPC insertion.
Besides, it is not difficult to insert FPC correctly all the way to the end.
Design the proper layout of parts.

※Make adjustments with the FPC manufacturer for FPC bending performance and wire breakage.



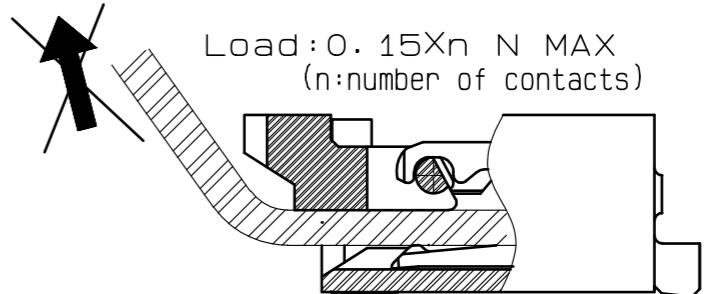
◆Checking the Locking Condition

In the locked condition, make sure that the actuator is horizontal on the board surface.
Do not apply excessive force to it near the 0° position of the actuator.
Otherwise, the terminals may be deformed. (Allowable force: 1 N or less)

[INSTRUCTIONS ON FPC LAYOUT AFTER CONNECTION]

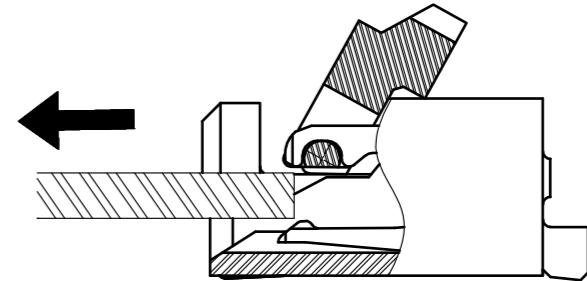
◆Load to FPC

Be very careful not to apply any force to the FPC after inserting it.
Otherwise, the connector may become unlocked or the FPC may break.
Fix the FPC, in particular, when loads are applied to it continuously.
Design the FPC layout with care not to bend it sharply near the insertion opening.



[INSTRUCTIONS ON REMOVING FPC]

◆Release the actuator to remove the FPC.



[OTHER INSTRUCTIONS]

◆Instructions on Manual Soldering

Follow the instructions shown below when soldering the connector manually during repair work, etc.
1. Do not perform reflow soldering or manual soldering with the FPC inserted into the connector.
2. Do not heat the connector excessively. Be very careful not to let the soldering iron contact any parts other than connector leads. Otherwise, the connector may be deformed or melt.
3. Do not use excessive solder (or flux).

If excessive solder (or flux) is used on the terminals, solder or flux may adhere to the contacts or rotating parts of the actuator, resulting in poor contact or a rotation failure of the actuator.

Supplying excessive solder to the reinforcing bracket may hinder actuator rotation,
resulting in breakage of the connector.