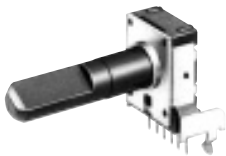


12 mm Square Two-in-One
Rotary Potentiometers (Dual Type)

Japan
Malaysia

Type: **EVJC/EVJY**



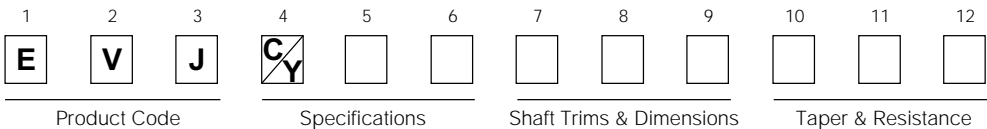
■ Features

- Rectangular-shaped, automatic mounting type
- High tactile feedback
- Available for automatic dip soldering (Flux-proof structure)
- Highly reliable and dust-proof

■ Recommended Applications

- Audio Equipment
- Video Equipment
- Electronic Musical Instruments

■ Explanation of Part Numbers



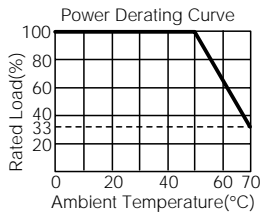
■ Product Chart

| Installation direction | Style | Height (H=mm) | Applications | Detent | Type |
|------------------------|-----------------|---------------|----------------|----------------|--------|
| Horizontal | Without bushing | 10.0 | Volume control | Without detent | EVJC00 |
| | | | Tone control | Without detent | EVJC30 |
| | | | | Midpoint | EVJC31 |
| | | 12.5 | Volume control | Without detent | EVJC90 |
| | | | Tone control | Without detent | EVJC40 |
| | | | | Midpoint | EVJC41 |
| | With bushing | 10.0 | Volume control | Without detent | EVJC20 |
| | | | Tone control | Without detent | EVJC50 |
| | | | | Midpoint | EVJC51 |
| | | 12.5 | Volume control | Without detent | EVJCB0 |
| | | | Tone control | Without detent | EVJCH0 |
| | | | | Midpoint | EVJCH1 |
| | With sleeve | 10.0 | Volume control | Without detent | EVJC25 |
| | | | Tone control | Without detent | EVJC55 |
| | | | | Midpoint | EVJC56 |
| | | 12.5 | Volume control | Without detent | EVJCB5 |
| | | | Tone control | Without detent | EVJCH5 |
| | | | | Midpoint | EVJCH6 |
| Vertical | Without bushing | — | Volume control | Without detent | EVJY00 |
| | | | Tone control | Without detent | EVJY80 |
| | | | | Midpoint | EVJY81 |
| | With bushing | — | Volume control | Without detent | EVJY10 |
| | | | Tone control | Without detent | EVJY90 |
| | | | | Midpoint | EVJY91 |
| | With sleeve | — | Volume control | Without detent | EVJY15 |
| | | | Tone control | Without detent | EVJY95 |
| | | | | Midpoint | EVJY96 |

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

Oct. 2005

■ Specifications

| Classification | Item | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|-----------------------------|----------------------------|------------------|--------------------|-------------------|--------------------|-------------|--------------------|-------------|----------------------|-------------------|----------------|-------------|-------------------|-------------------|-------------|-------------|--------------------------|--|--|--|--|--|--|--|--|------------------|-----------|--|-----------|--|-----------|-----------|--|-----------|--------------------|-----------|--|-----------|--|-----------|-----------|--|-----------|---------------------|------------|--|------------|--|-----------|------------|--|-----------|
| Applications | 12 mm square Two-in-One | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mechanical Specifications | Rotation Angle | 300 ° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rotation Torque | 2 mN·m to 20 mN·m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Stopper Strength | 0.5 N·m min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Pull/Push Strength | 80 N min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Inclination (Measured at the top of the shaft) | 0.35 mm max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bushing-Nut Tightening Torque | 1 N·m max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical Specifications | Nominal Total Resistance | 5 kΩ to 500 kΩ (Tolerance ±20 %) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Taper | A, B, C, D, G, BH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Power Rating | <div>0.05 W (0 °C to 50 °C) For potentiometers operating in ambient temperatures above 50 °C, Rating should be derated in accordance with the figure on the right.</div> <div><p>Power Derating Curve</p></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Residual Resistance | <table><tr><th rowspan="2">Type Taper & Terminal</th><th colspan="4">For general purpose (tone)</th><th colspan="4">For volume control</th></tr><tr><th>A, B, D, G 1 to 2</th><th>B, C, G 2 to 3</th><th>A, D 2 to 3</th><th>C 1 to 2</th><th>A, B, D 1 to 2</th><th>A, B, D 2 to 3</th><th>C 1 to 2</th><th>C 2 to 3</th></tr><tr><td>Nominal Total Resistance</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5 kΩ < R < 50 kΩ</td><td>25 Ω max.</td><td></td><td>25 Ω max.</td><td></td><td>15 Ω max.</td><td>25 Ω max.</td><td></td><td>20 Ω max.</td></tr><tr><td>50 kΩ < R < 250 kΩ</td><td>25 Ω max.</td><td></td><td>50 Ω max.</td><td></td><td>15 Ω max.</td><td>50 Ω max.</td><td></td><td>20 Ω max.</td></tr><tr><td>250 kΩ < R < 500 kΩ</td><td>100 Ω max.</td><td></td><td>100 Ω max.</td><td></td><td>50 Ω max.</td><td>100 Ω max.</td><td></td><td>50 Ω max.</td></tr></table> | Type Taper & Terminal | For general purpose (tone) | | | | For volume control | | | | A, B, D, G 1 to 2 | B, C, G 2 to 3 | A, D 2 to 3 | C 1 to 2 | A, B, D 1 to 2 | A, B, D 2 to 3 | C 1 to 2 | C 2 to 3 | Nominal Total Resistance | | | | | | | | | 5 kΩ < R < 50 kΩ | 25 Ω max. | | 25 Ω max. | | 15 Ω max. | 25 Ω max. | | 20 Ω max. | 50 kΩ < R < 250 kΩ | 25 Ω max. | | 50 Ω max. | | 15 Ω max. | 50 Ω max. | | 20 Ω max. | 250 kΩ < R < 500 kΩ | 100 Ω max. | | 100 Ω max. | | 50 Ω max. | 100 Ω max. | | 50 Ω max. |
| | Type Taper & Terminal | For general purpose (tone) | | | | For volume control | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | A, B, D, G 1 to 2 | B, C, G 2 to 3 | A, D 2 to 3 | C 1 to 2 | A, B, D 1 to 2 | A, B, D 2 to 3 | C 1 to 2 | C 2 to 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Nominal Total Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 kΩ < R < 50 kΩ | 25 Ω max. | | 25 Ω max. | | 15 Ω max. | 25 Ω max. | | 20 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 kΩ < R < 250 kΩ | 25 Ω max. | | 50 Ω max. | | 15 Ω max. | 50 Ω max. | | 20 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 kΩ < R < 500 kΩ | 100 Ω max. | | 100 Ω max. | | 50 Ω max. | 100 Ω max. | | 50 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Attenuation (for volume control, taper A, B, D) | <table><tr><th>Nominal total resistance</th><th>Max. Attenuation</th><th>Insertion loss</th></tr><tr><td>5 kΩ < R < 10 kΩ</td><td>−65 dB max.</td><td rowspan="4">0.1 dB max.</td></tr><tr><td>10 kΩ < R < 50 kΩ</td><td>−72 dB max.</td></tr><tr><td>50 kΩ < R < 100 kΩ</td><td>−82 dB max.</td></tr><tr><td>100 kΩ < R</td><td>−92 dB max.</td></tr></table> | Nominal total resistance | Max. Attenuation | Insertion loss | 5 kΩ < R < 10 kΩ | −65 dB max. | 0.1 dB max. | 10 kΩ < R < 50 kΩ | −72 dB max. | 50 kΩ < R < 100 kΩ | −82 dB max. | 100 kΩ < R | −92 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal total resistance | Max. Attenuation | Insertion loss | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 kΩ < R < 10 kΩ | −65 dB max. | 0.1 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 kΩ < R < 50 kΩ | −72 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 kΩ < R < 100 kΩ | −82 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 kΩ < R | −92 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tracking | For volume control within ±3 dB at −40 to 0 dB For Tone control within ±3 dB at midpoint | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Resistance | 100 MΩ min. at 250 Vdc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dielectric Withstand Voltage | 300 Vac for 1 minute | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Noise Level | 47 mV max. Apply 20 V (When Voltage Rating < 20 V, use the rated voltage.) Rotate shaft at 30 r/min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endurance | Operating Life *1 | 15000 cycles min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Quantity/Packing Unit *2 | 80 pcs. (Tray Pack) | L≤20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 pcs. (Tray Pack) | L>20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packing Unit *2 | 800 pcs. | L≤20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 600 pcs. | L>20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*1 : No direct current should be applied.

*2 : With bushing : L=L+7.5 mm

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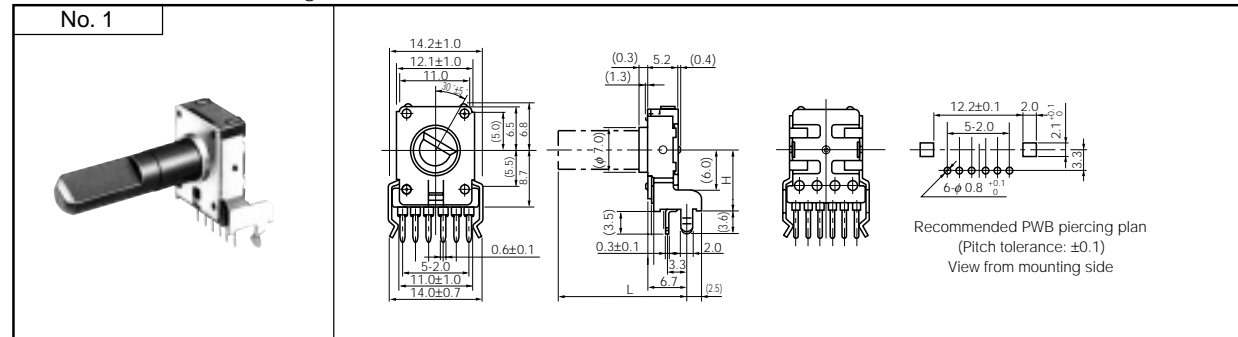
Dec. 2005

■ Dimensions in mm (not to scale)

for Volume : EVJC00, EVJC90

for Tone : EVJC30, EVJC40 (without detent)

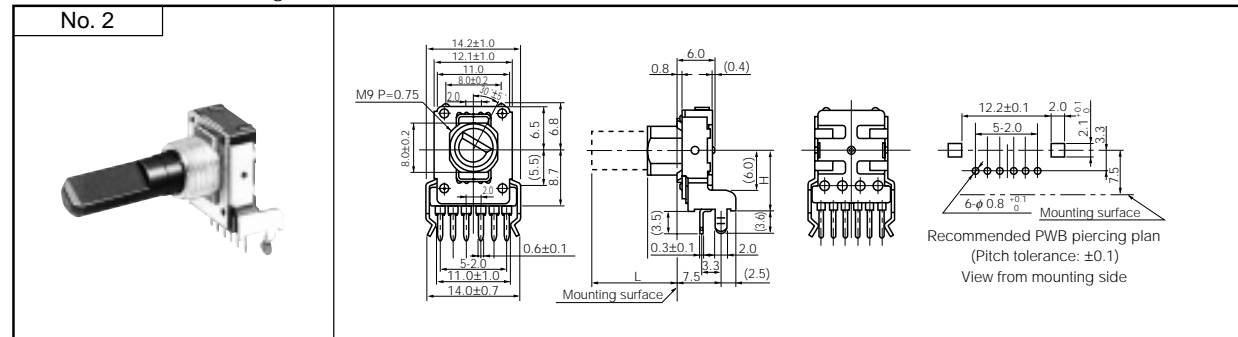
● Horizontal, without Bushing EVJC31, EVJC41 (with detent)



for Volume : EVJC20, EVJCB0

for Tone : EVJC50, EVJCH0 (without detent)

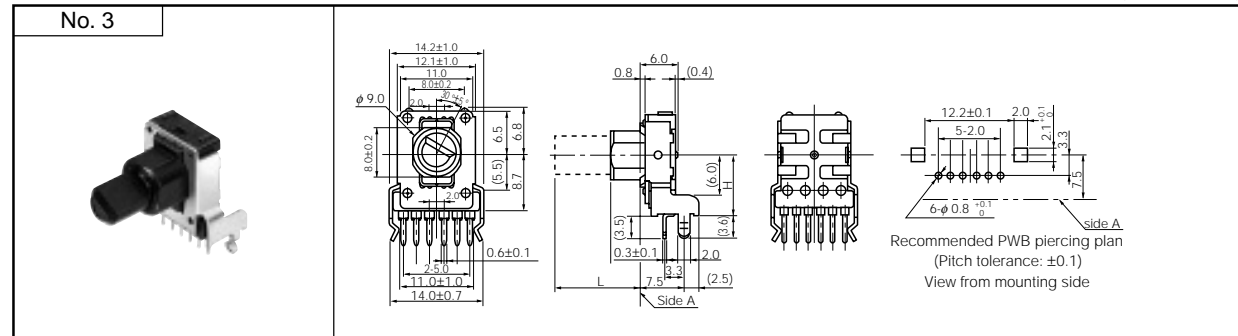
● Horizontal, with Bushing EVJC51, EVJCH1 (with detent)



for Volume : EVJC25, EVJCB5

for Tone : EVJC55, EVJCH5 (without detent)

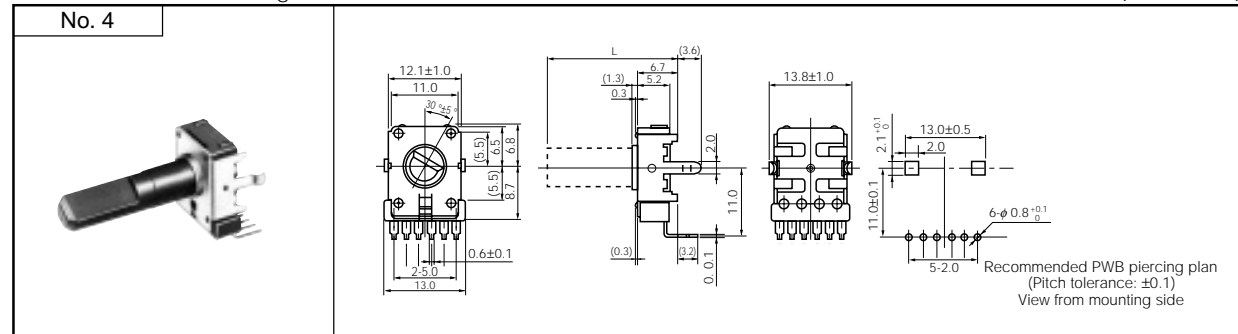
● Horizontal, with Sleeve EVJC56, EVJCH6 (with detent)



for Volume : EVJY00

for Tone : EVJY80 (without detent)

● Vertical, without Bushing EVJY81 (with detent)



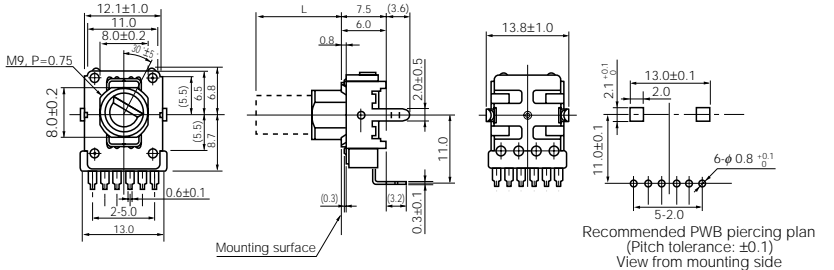

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Mar. 2005

for Volume : EVJY10
for Tone : EVJY90 (without detent)
EVJY91 (with detent)

● Vertical, with Bushing

No. 5

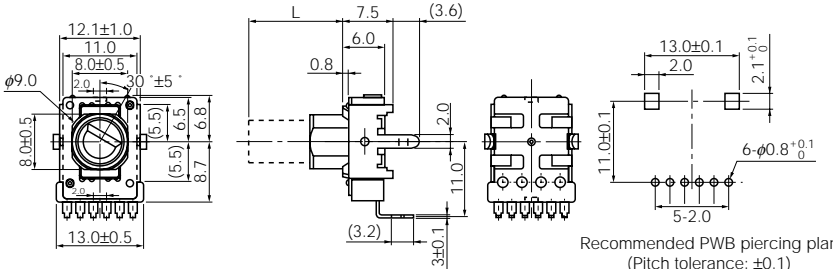



Recommended PWB piercing plan
(Pitch tolerance: ±0.1)
View from mounting side

for Volume : EVJY15
for Tone : EVJY95 (without detent)
EVJY96 (with detent)

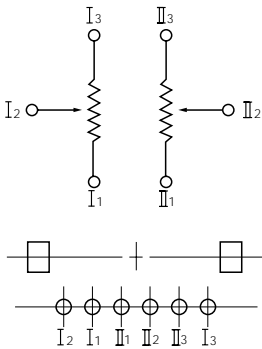

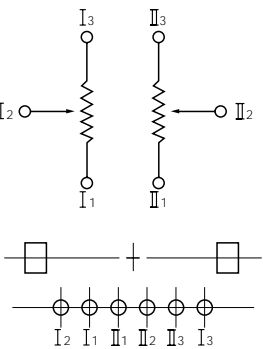
● Vertical, with Sleeve

No. 6



Recommended PWB piercing plan
(Pitch tolerance: ±0.1)
View from mounting side

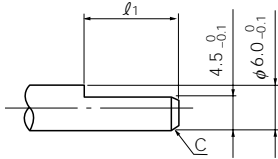
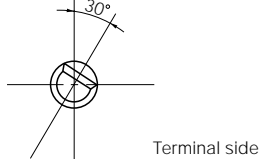
■ Circuit Diagram and PWB Piercing Plan

| | Volume control without tap | With tap | Tone control |
|--|---|--|---|
| Relation of mounting holes and terminals |  |  |  |

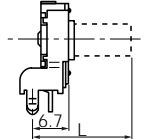
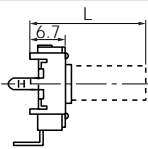
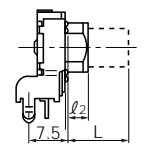
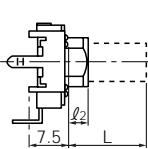
Notes:

- 1. I=Resistor 1, II=Resistor 2
- 2. Relation of mounting holes and terminals. Refer to each piercing plan for dimensions.
- 3. View from mounted part side.

■ Shaft Trims and Dimensions in mm

| Dimensions | Trim Position |
|--|--|
|  |  |

Note: The drawing at full CCW position

| Style | | | Dimensions in mm | | | |
|-----------------------------|------------|---|------------------|----------------|------------|-----------------|
| | | | Shaft | | | Bushing, Sleeve |
| | | | L | l ₁ | Corner cut | l ₂ |
| without Bushing | Horizontal |  | 15.0 | 4.5 | C0.5 | — |
| | | | 20.0 | 7.0 | C1.0 | — |
| | | | 25.0 | 12.0 | C1.0 | — |
| | | | 30.0 | 12.0 | C1.0 | — |
| | Vertical |  | 15.0 | 4.5 | C0.5 | — |
| | | | 20.0 | 7.0 | C1.0 | — |
| | | | 25.0 | 12.0 | C1.0 | — |
| | | | 30.0 | 12.0 | C1.0 | — |
| with Bushing or with Sleeve | Horizontal |  | 12.5 | 7.0 | C1.0 | 5.0 |
| | | | 15.0 | 7.0 | C1.0 | 5.0 |
| | | | 17.5 | 12.0 | C1.0 | 5.0 |
| | | | 20.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 22.5 | 12.0 | C1.0 | 5.0, 7.0 |
| | Vertical |  | 12.5 | 7.0 | C1.0 | 5.0 |
| | | | 15.0 | 7.0 | C1.0 | 5.0 |
| | | | 17.5 | 12.0 | C1.0 | 5.0 |
| | | | 20.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 22.5 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 20.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 22.5 | 12.0 | C1.0 | 5.0, 7.0 |

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