MEIDEN

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## Model VJ Series

MEIDEN

# Vacuum Circuit-Breakers

7.2kV to 36kV

***Pursuit of easy use with features of compactness and high performance***


*Empower for new days*

# Model VJ Series
# 7.2kV to 36kV Vacuum Circuit-Breakers

Model VJ series vacuum circuit-breakers have a light and compact structure manufactured according to a new design concept, with vacuum interrupters (VIs) mounted on individual insulation frame. An up-to-date mass-production line and rigorous quality control assure high performance characteristics and high reliability.
This series is outstanding for its modernity of design and its ease of maintenance, and it offers high performance and very compact cubicle design. It is suitable for use in all industrial applications.

## Contents





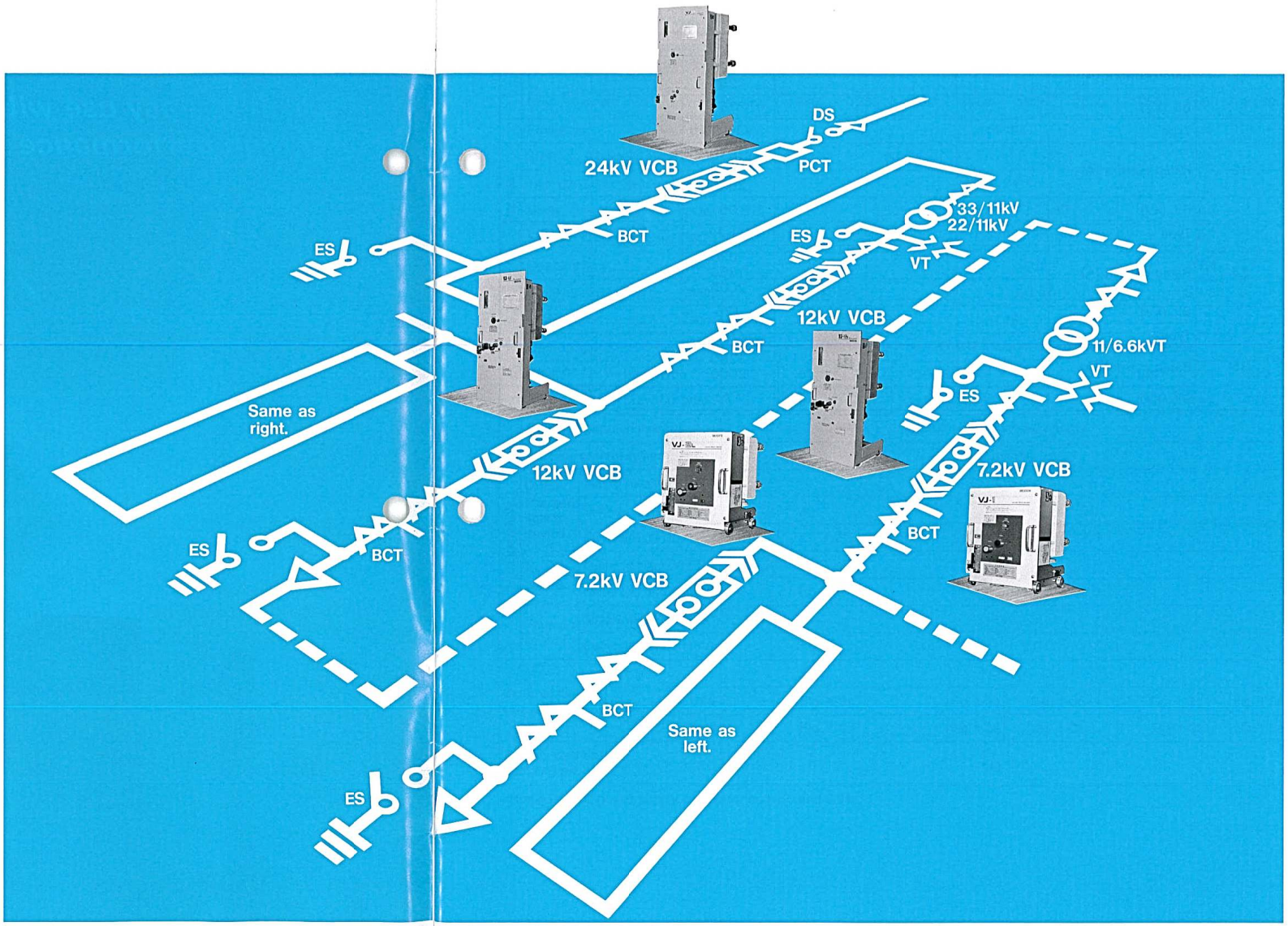
## ◆ Application ◆

### For Installation

- In case of narrow spaces in buildings, etc., where safety is an important factor.
- Where the possibility of fire must be strictly avoided.
- When maintenance cost must be minimized or maintenance is difficult to achieve.
- Where special environmental gas may exist.
- Where noise must be kept minimal.

### Because of High Performance and Reliability, It is Applicable To:

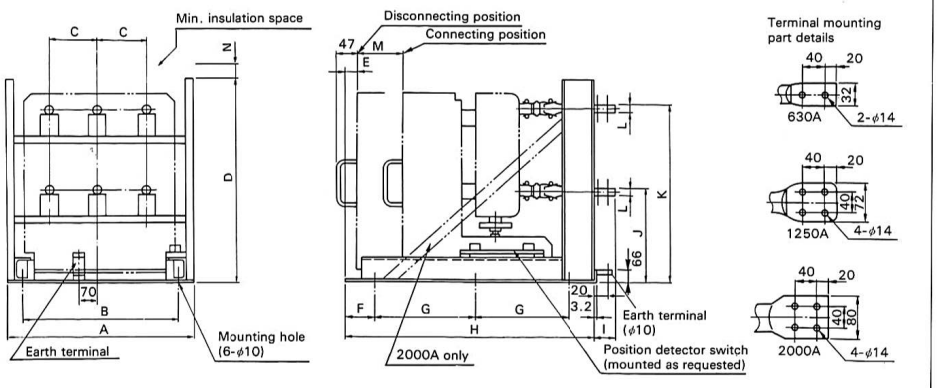
- Circuits in which out-of-phase breaking will take place.
- Cases in which high-speed reclosing duty is required.
- Wherever circuit conditions are severe.
- Switching for capacitors.



## Draw-out Unit

### ●VJ-1/1L (630A, 12.5kA) VJ-2S (630A/1250A/2000A, 20kA)/-2L (630A/1250A, 20kA)

Type C : Supporting Insulator Type Draw-out Unit



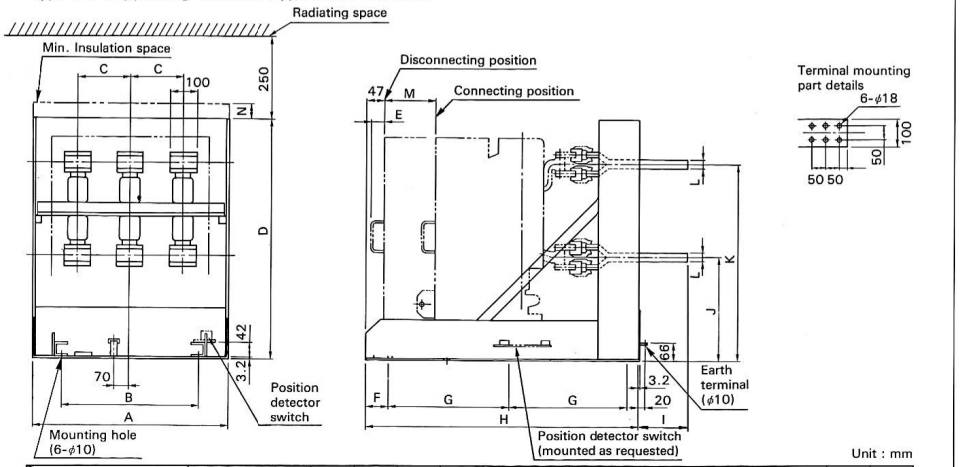

Unit : mm

| Dimension / Applicable VCB | Unit type | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VJ-1/1L 630A | UVJ1 -2C | 496 | 420 | 130 | 545 | 13 | 70 | 264 | 640 | 80 | 249 | 469 | 12 | 110 | 28 |
| VJ-2S/-2L 630A | UVJ2S-2C | 496 | 420 | 130 | 545 | 13 | 70 | 264 | 640 | 80 | 249 | 469 | 12 | 110 | 28 |
| VJ-2S/-2L 1250A | UVJ2S-5C | 596 | 520 | 165 | 545 | 80 | 72 | 296 | 707 | 80 | 253 | 473 | 20 | 110 | 38 |
| VJ-2S 2000A | UVJ2S-7C | 620 | 542 | 180 | 780 | 30 | 97 | 332 | 804 | 95 | 418 | 663 | 30 | 185 | 48 |

Fig 1-3a

### ●VJ-2S (3150A, 20kA), VJ-4 (3150A, 40kA)

Type C : Supporting Insulator Type Draw-out Unit



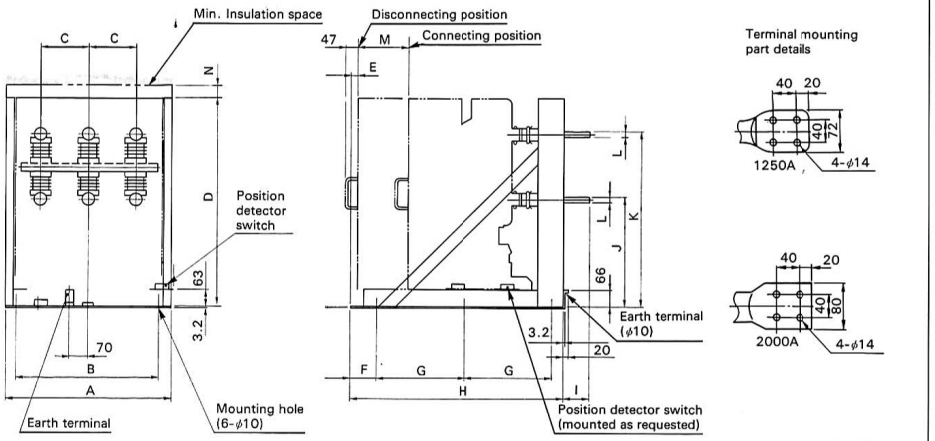

Unit : mm

| Dimension / Applicable VCB | Unit type | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VJ-2S 3150A | UVJ2S-8C | 700 | 542 | 195 | 885 | 47 | 80 | 440 | 995 | 185 | 383 | 725 | 32 | 200 | 45 |

Fig 1-3b

### ●VJ-3 (1250A/2000A, 31.5kA), VJ-4 (1250A/2000A, 40kA)

Type C : Supporting Insulator Type Draw-out Unit




Unit : mm

| Dimension / Applicable VCB | Unit type | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VJ-3 1250A | UVJ3-5C | 620 | 542 | 180 | 780 | 30 | 97 | 332 | 804 | 95 | 413 | 658 | 20 | 185 | 48 |
| VJ-3 2000A | UVJ3-7C | 620 | 542 | 180 | 780 | 30 | 97 | 332 | 804 | 95 | 418 | 663 | 30 | 185 | 48 |
| VJ-4 1250A | UVJ4-5C | 620 | 542 | 180 | 780 | 30 | 97 | 332 | 804 | 95 | 413 | 658 | 20 | 185 | 48 |
| VJ-4 2000A | UVJ4-7C | 620 | 542 | 180 | 780 | 30 | 97 | 332 | 804 | 95 | 418 | 663 | 30 | 185 | 48 |

Fig 1-3c

# ◆ Model of Vacuum Circuit-Breakers ◆

| Rated voltage (kV) | Model No./ Rated current/ BIL value \ Rated breaking current (kA) | 12.5 | 20 | | 25 | 31.5 | 40 |
|---|---|---|---|---|---|---|---|
| 7.2 | Model No. | VJ-1/1L | VJ-2S | VJ-2L | | VJ-3 | VJ-4 |
| | Rated current (A) | 630 | 630<br>1250<br>2000<br>3150 | 630<br>1250 | | 1250<br>2000 | 1250<br>2000<br>3150 |
| | BIL (kV) | 60 | 60 | 60 | | 60 | 60 |
| 12 | Type | | | | VJ-12 | | |
| | Rated current (A) | | | | 630<br>1250 | | |
| | BIL (kV) | | | | 75 | | |
| 15 | Type | | | | VJ-12B | | |
| | Rated current (A) | | | | 630<br>1250<br>2000 | | |
| | BIL (kV) | | | | 95 | | |
| 24 | Type | | | | VJ-22 | | |
| | Rated current (A) | | | | 630<br>1250<br>2000 | | |
| | BIL (kV) | | | | 125 | | |
| 36 | Type | | | | VJ-32 | | |
| | Rated current (A) | | | | 1250<br>2000 | | |
| | BIL (kV) | | | | 170 | | |



# ◆ Standard Specifications ◆

**Applicable Standard:IEC Pub.56**

**(A)7.2kV Series(Motor charged spring operation type)**

| Model No. | | | VJ-1/1L | VJ-2S/2L | | | | VJ-3 | | VJ-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Draw-out type | | VBJD-6213BC-□<br>6213BC-□L<br>6213BD-□L | VBJD-6220BC-□<br>6220BC-□L | VBJD-6520BC-□<br>6520BC-□L | VBJD-6720BC-□ | VBJD-6820BC-□ | VBJD-6532BC-□ | VBJD-6732BC-□ | VBJD-6540BS-□ | VBJD-6740BS-□ | VBJD-6840BS-□ |
| Ratings | Voltage (kV) | | 7.2 | | | | | | | | | |
| | Withstand voltage | 1 min power frequency withstand voltage(kV)(rms) | 20 | | | | | | | | | |
| | | Impulse withstand voltage(kV)(Peak) (1.2×50μs) | 60 | | | | | | | | | |
| | Normal current (A) | | 630 | 630 | 1250 | 2000 | 3150 | 1250 | 2000 | 1250 | 2000 | 3150 |
| | Frequency (Hz) | | 50/60 | | | | | | | | | |
| | Short-circuit breaking current (kA) | | 12.5 | 20 | | | | 31.5 | | 40 | | |
| | Transient recovery voltage (kV/μs) | | 0.24 | | | | | | | | | |
| | Making current (kA)(Peak value) | | 31.5 | 50 | | | | 80 | | 100 | | |
| | Short-time current for 3sec (kA) | | 12.5 | 20 | | | | 31.5 | | 40 | | |
| | Opening time (sec) | | 0.04 | | | | 0.05 | | | 0.04 | | |
| | Breaking time (sec) | | ≦0.06 | | | | ≦0.07 | | | ≦0.06 | | |
| | Closing time (sec) | | 0.05 | | | | | | | | | |
| | Operating duty | | O-3min-CO-3min-CO, CO-15sec-CO,O-0.3sec-CO-3min-CO | | | | | | | | | |
| | Mass of breaker main body (kg) | Fixed type | 55 | 62 | 76 | 150 | 235 | 140 | 150 | 160 | 175 | 235 |
| | | Draw-out type | 57 | 64 | 84 | 165 | 245 | 150 | 165 | 170 | 190 | 245 |
| Operation | Closing operation system | | Motor spring stored energy | | | | | | | | | |
| | Tripping control system | | Shunt trip | | | | | | | | | |
| | Motor charged spring device | Supply voltage (V) DC | 110 | | | | | | | | | |
| | | Output (W) | 30 | | | 60 | | | | | | |
| | | Current(A) (at DC110V) | 1.0 | 1.5 | | 2.0 | | | | | | |
| | Closing control | Supply voltage (V) DC | 110 | | | | | | | | | |
| | | Current(A) (at DC110V) | 1.5 | | | 2.0 | | | | | | |
| | Tripping control | Supply voltage (V) DC | 110 | | | | | | | | | |
| | | Current(A) (at DC110V) | 3.0 | | | 6.0 | 3.0 | | | 5.5 | | |
| External dimension drawing | VCB | | Fig. 1-1 | | | | | | | | | |
| | Draw-out unit | C type | Fig. 1-3a | | | | Fig. 1-3b | Fig. 1-3c | | Fig. 1-3c | | Fig. 1-3b |
| | | M type | Fig. 1-3d | | | | Fig. 1-3e | Fig. 1-3f | | Fig. 1-3f | | Fig. 1-3e |
| Internal connection diagram | | | Fig. 1-2 | | | | | | | | | |

<Note>The AC power supply can be for both 50 and 60Hz.