



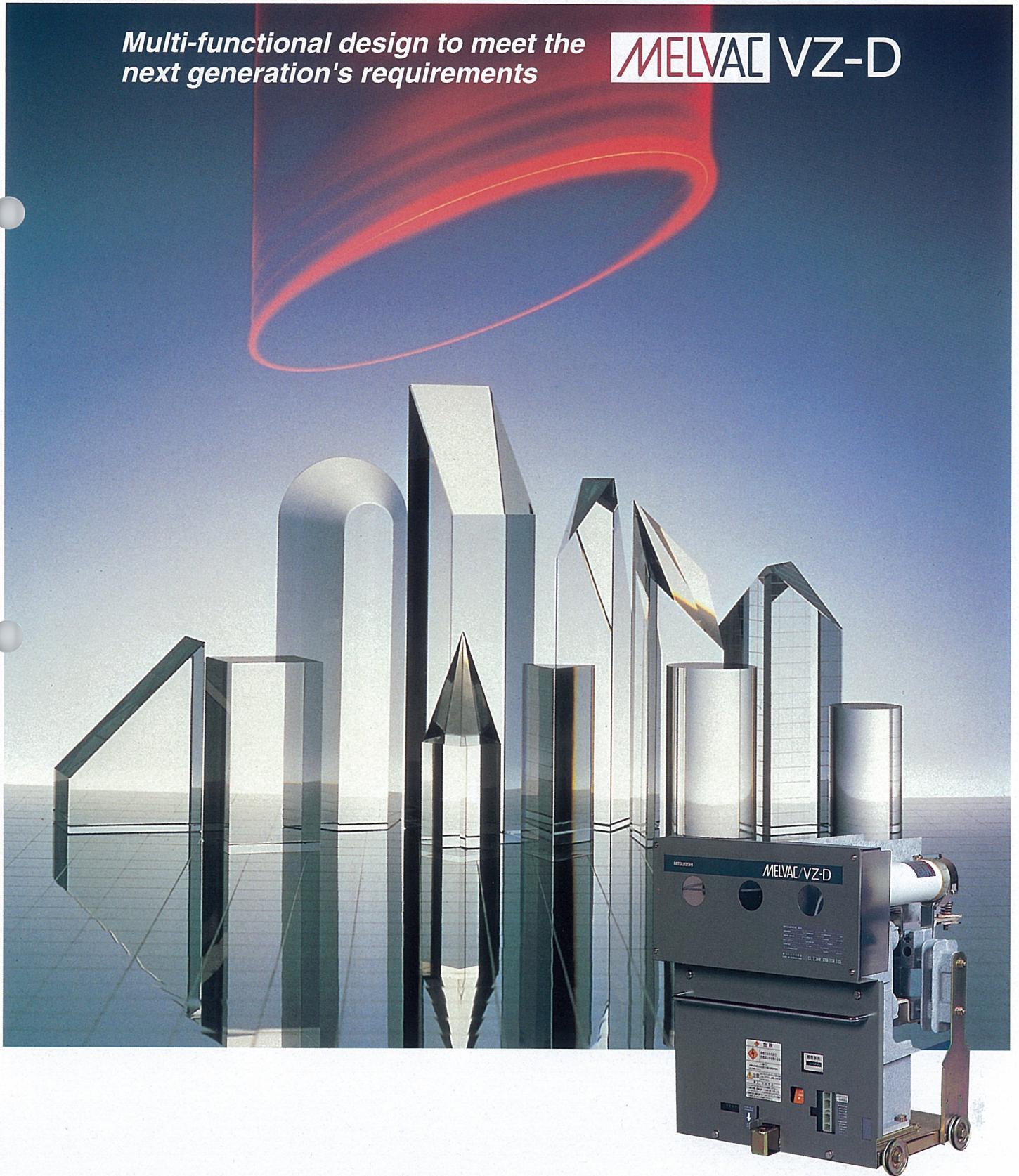
**MITSUBISHI  
ELECTRIC**

*Changes for the Better*

MELVAC VACUUM CONTACTORS & COMBINATION UNITS

*Multi-functional design to meet the  
next generation's requirements*

**MELVAC VZ-D**



# VZ-D SERIES FEATURES

## *Compact & Lightweight*

Compact & lightweight achieved by up to date technology brings you advantageous application.

## *Very Versatile Menu*

Panel designing can be simplify since the versatile menu of this series enables the most suitable selection of units to match the panelboard grade and the layout of the main-circuit conductor.

## *Upgraded Safety*

Live parts are fully enclosed by insulators with optimum design. Various safety functions are provided such as priority to open operation by electronic circuit.

## *Energy Saving with less Operating Power*

Types VZ2, VZ4 can be operated by small transformer (50VA).  
Ex: Mitsubishi Type PD-50HF for 6/3kV circuit and AC/DC power supply.

## *Common Use*

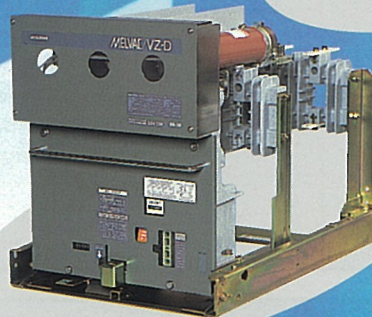
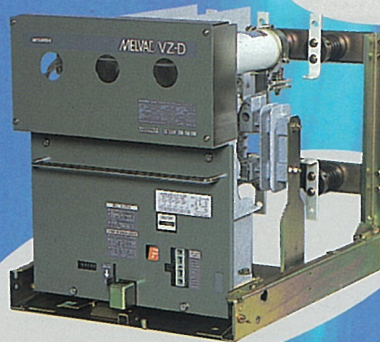
Common usage of 6/3kV and AC/DC power supply ensures highly rational panelboard design for various specification.

*The latest electronics technology achieves high performance and easy operation.*

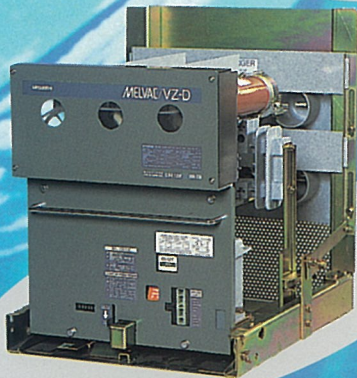
**Fixed-type Contactor (P Type)**



**Thin Drawout-type Combination Unit (V type)**



**Standard Drawout-type Combination Unit (C Type)**



**Bushing Drawout-type Combination Unit (D Type)**

**Followings are also available**

- Standard Drawout-type contactor (E type)
- Bushing Drawout-type contactor (F type)
- Fixed-type combination unit (G type)

**Contents**

1. Type Selection	_____	P2
2. Rating	_____	P3
3. Outside Dimensions	_____	P4 ~ P11
4. Connecting Diagram	_____	P12 ~ P13
5. Standard Specifications and Attachments	_____	P14
6. Optional Attachments	_____	P15
7. Characteristic Curve of Power Fuse	_____	P16 ~ P20
8. Related Devices	_____	P21 ~ P23
9. Operation System and Circuit	_____	P24, P25
10. Applicable Standards	_____	P26, P27
11. For Order Placement	_____	P28, P29

## Standard Type Classification system

**VZ2-PL-D**

Style Code "D"

Rated continuous current		2	200A
		4	400A
Mounting configuration	Contactor	Fixed Type	P Direct connection to the contactor with horizontal main circuit terminals
		Drawout Type	E Horizontal main circuit terminals of standard cradle
			F Horizontal main circuit terminals of bushing type cradle with shutter
	Combination Unit	Fixed Type	G Direct connection to combination unit with horizontal main circuit terminals
		Drawout Type	C Horizontal main circuit terminals of standard cradle
			D Horizontal main circuit terminals of bushing type cradle with shutter
		V Vertical main circuit terminals of thin cradle	
ON/OFF Operating method		E	Electrical hold
		L	Mechanical latch

## Applicable standards

Table 1.1 Applicable standards

Type	Standards			
	JEM 1167	IEC 470	BS 775-2	NEMA ICS
VZ2-□E-D			*1	*2
VZ2-□L-D	○	○	○	○
VZ4-□E-D				
VZ4-□L-D				

Note ○: Applicable

Remark \*1: 3.6kV 25MVA, 7.2kV 50MVA  
\*2: 5kV 25MVA

## Rating and Specifications

● Table 2.1 Ratings of Contactor

Item		Specification	
Type		VZ2-□□-D	VZ4-□□-D
Rated working voltage (kV)		6.6/3.3	
Rated insulating voltage (kV)		7.2	
Rated continuous current (A)		200	400
Rated frequency (Hz)		50/60	
Short-circuit breaking current (kA)		4	
Rated short-time withstand current (kA-S)		4-2	4-10, 8-0.5
Half-wave conduction current (kA crest value)		33 (peak)	60 (peak)
Closing capacity and breaking capacity (kA) 25times		1.6	3.2
Switching frequency (times/hour)		600	
Electrical and mechanical life (times)		250 x 10 <sup>3</sup>	
Insulation class (No.)		AC 22kV-1min. Impulse 60kV	
Maximum applicable capacity	Motor (kW)	750 (at 3.3kV) 1500 (at 6.6kV)	1500 (at 3.3kV) 3000 (at 6.6kV)
	Transformer (kVA)	1000 (at 3.3kV) 2000 (at 6.6kV)	2000 (at 3.3kV) 4000 (at 6.6kV)
	Capacitor (kVar)	750 (at 3.3kV) 1500 (at 6.6kV)	1200 (at 3.3kV) 2000 (at 6.6kV)
Weight (kg)		17	

● Table 2.2 Ratings of combination unit

Item	Draw-out type		Fixed type	
	VZ2-□□-D	VZ4-□□-D	VZ2-□□-D	VZ4-□□-D
Type				
Rated working voltage (kV)	6.6/3.3	6.6 (single use) 3.3 (single use)	6.6/3.3	6.6 (single use) 3.3 (single use)
Rated insulating voltage (kV)	7.2		7.2	
Rated continuous current (A)	200	400	200	400
Rated frequency (Hz)	50/60		50/60	
Short-circuit breaking current (kA)	40 (Power fuse)		40 (Power fuse)	
Rated short-time withstand current (kA-S)	4-2	4-10, 8-0.5	4-2	4-10, 8-0.5
Half-wave conduction current (kA crest value)	33	60	33	60
Closing capacity and breaking capacity (kA) 25times	1.6	3.2	1.6	3.2
Switching frequency (times/hour)	600		600	
Electrical and mechanical life (times)	250 x 10 <sup>3</sup>		250 x 10 <sup>3</sup>	
Insulation class (No.)	AC22kV-1min. Impulse 60kV		AC22kV-1min. Impulse 60kV	
Maximum applicable capacity	Motor (kW)	750 (at 3.3kV) 1500 (at 6.6kV)	1500 (at 3.3kV) 3000 (at 6.6kV)	750 (at 3.3kV) 1500 (at 6.6kV)
	Transformer (kVA)	1000 (at 3.3kV) 2000 (at 6.6kV)	2000 (at 3.3kV) 4000 (at 6.6kV)	1000 (at 3.3kV) 2000 (at 6.6kV)
	Capacitor (kVar) *1	750 (at 3.3kV) 1500 (at 6.6kV)	1200 (at 3.3kV) 2000 (at 6.6kV)	750 (at 3.3kV) 1500 (at 6.6kV)
*2 Weight (with out VT)	52	64 (for 6kV) 53 (for 3kV)	50	62 (for 6kV) 51 (for 3kV)

\*1. The figure shows a maximum installation capacity with a serial reactor of 6% - 13%. Note that the indicated value assumes that there is no other capacitor in parallel.

\*2. Power fuse is maximum rating add 10 kg for one VT, or 20 kg for two VTs when mounting VT(s).

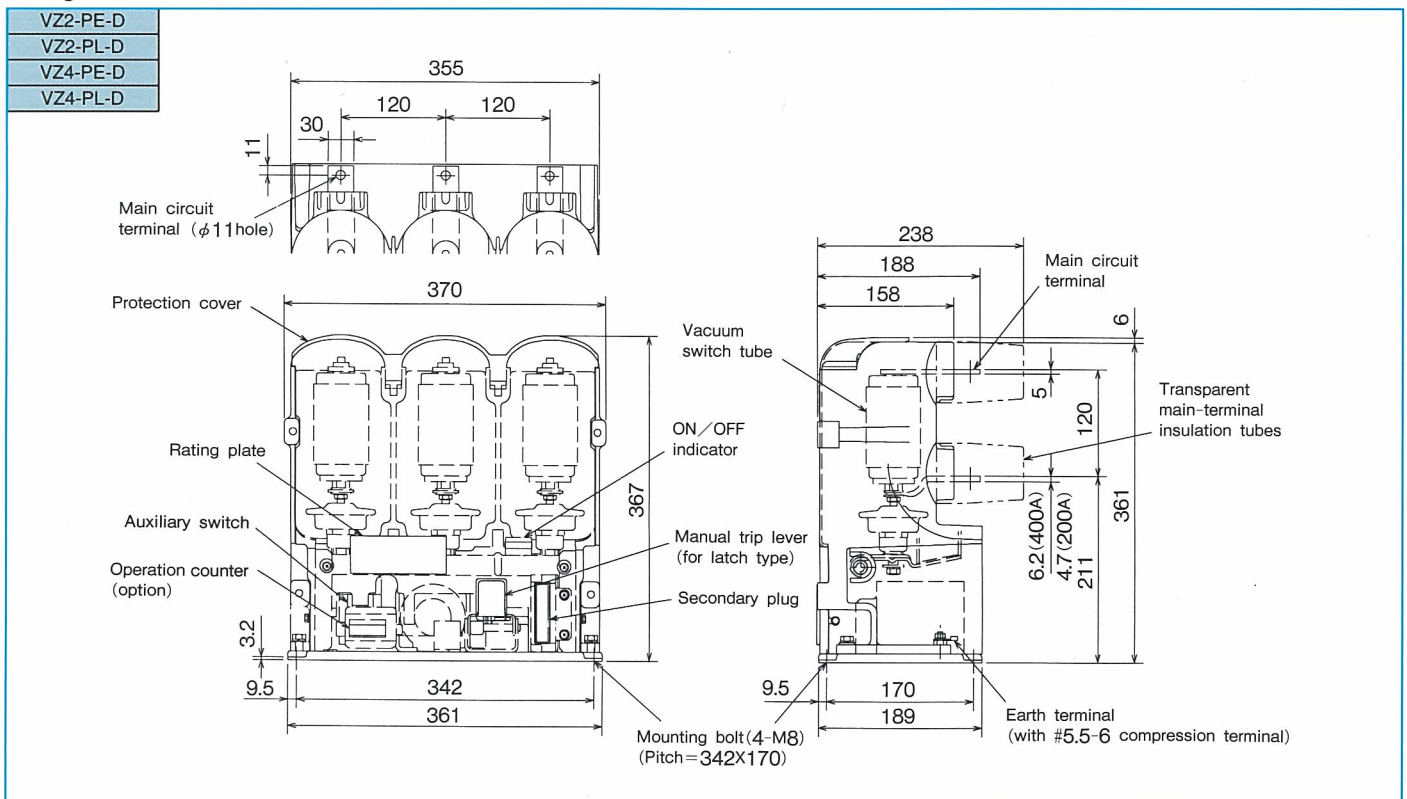
Weight of cradle (kg)	20 C-type 29 D-type 21 V-type	21 (for 6kV) C type 20 (for 3kV) C type 30 (for 6kV) D type 29 (for 3kV) D type	—	
Applicable Mitsubishi fuse link (A)	G5 ~ G200 M20 ~ M200 7.2 kV for type V. Mounting isn't possible to M100-M200.	at 3.3kV G300, G400 M300, M400 at 6.6kV M300, M400	G5 ~ G200 M20 ~ M200	at 3.3kV G300, G400 M300, M400 at 6.6kV M300, M400

## Outline List

Mounting configuration		Type	VMC	Cradle	
Contactor	Fixed Type	200A	P	P.4 fig. 3.1	_____
		400A			
	Drawout Type	200A	E	P.5 fig. 3.2	P.6 fig. 3.4
			F		P.6 fig. 3.5
		400A	E	P.5 fig. 3.3	P.6 fig. 3.4
			F		P.6 fig. 3.5
Combination unit	Fixed Type	200A	G	P.7 fig. 3.6	_____
		400A		P.7 fig. 3.7	
	Drawout Type	200A	C	P.8 fig. 3.8	P.9 fig. 3.10
			D		P.9 fig. 3.11
			V		P.10 fig. 3.12
		400A	C	P.10 fig. 3.13	P.11 fig. 3.14
			D		P.11 fig. 3.15

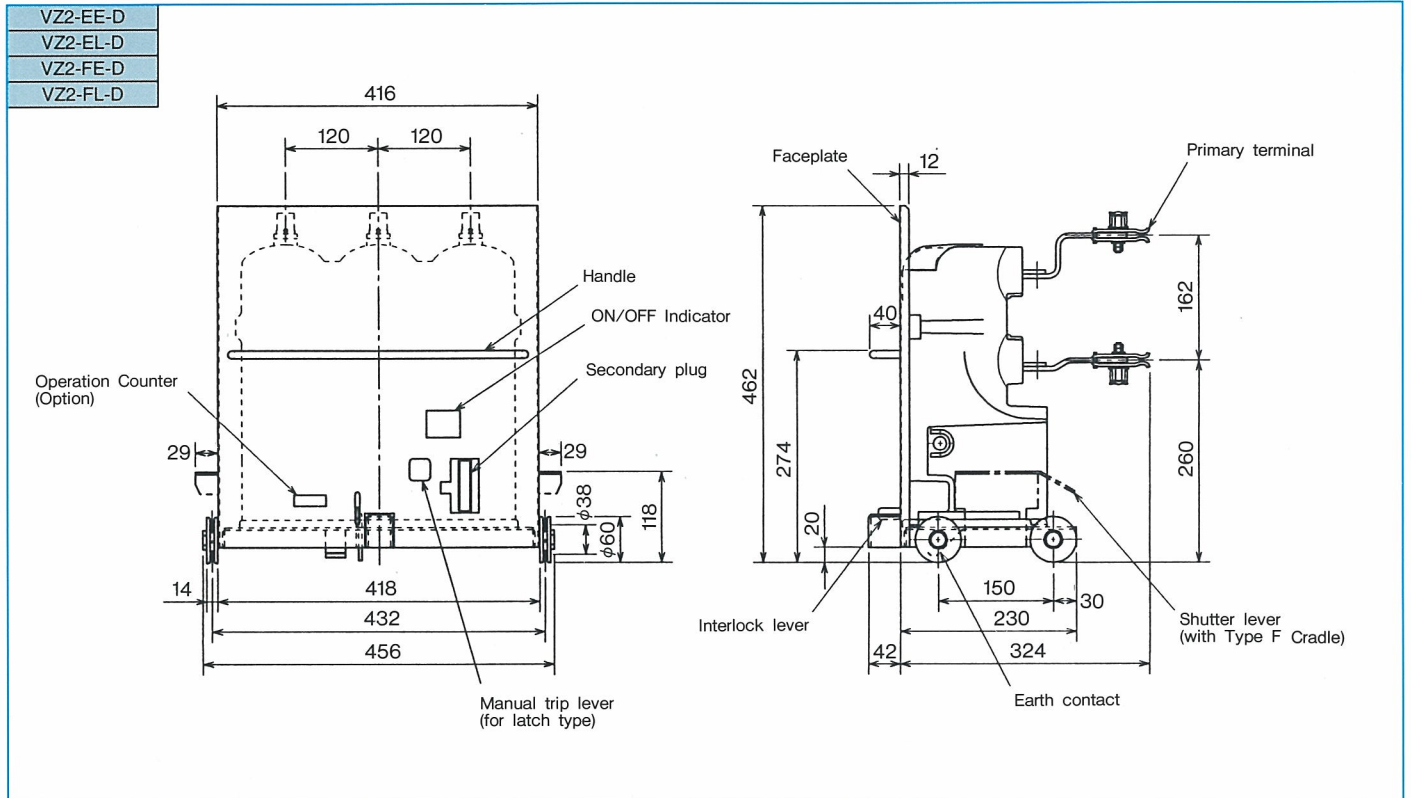
## Fixed-type Contactor

● Fig. 3.1

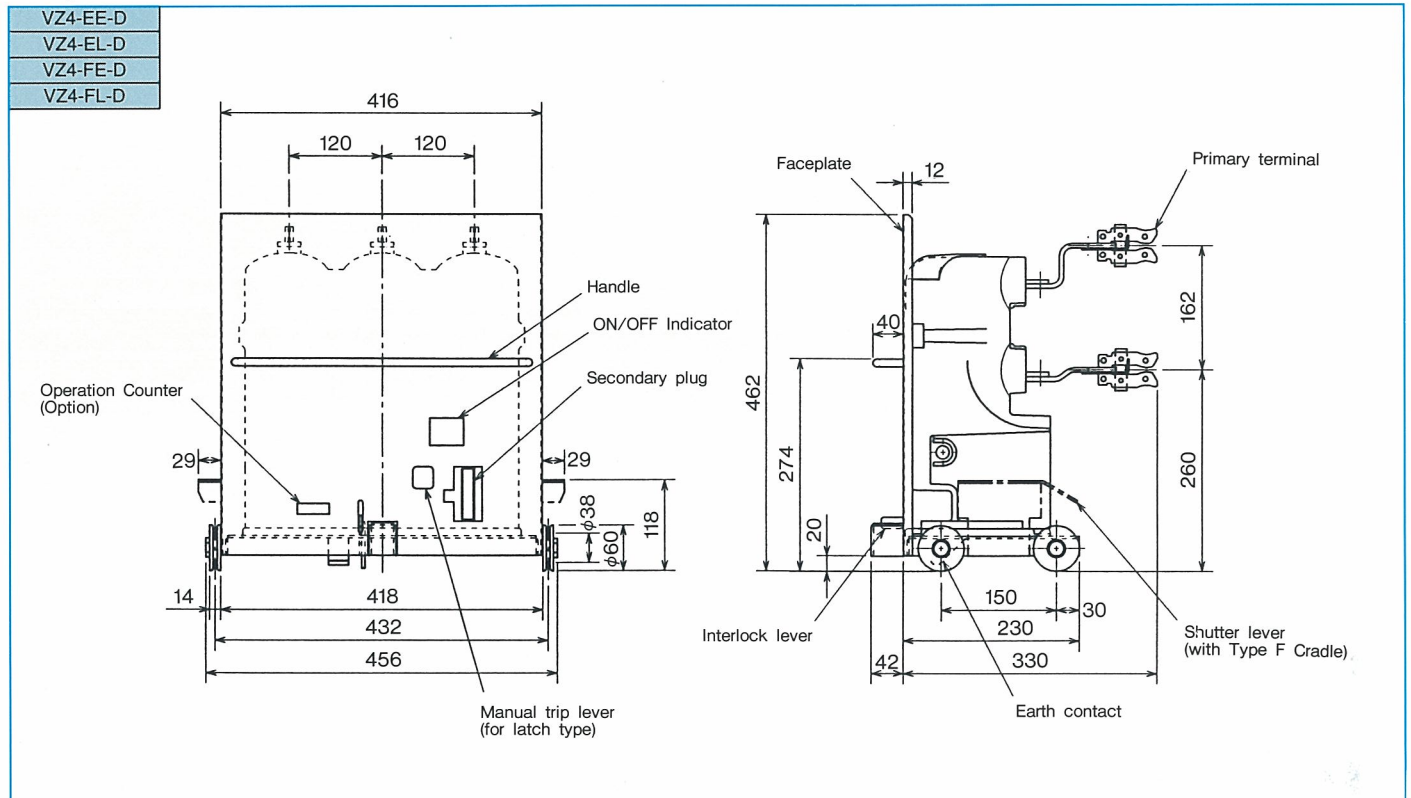


## Drawout-type Contactor

● Fig. 3.2



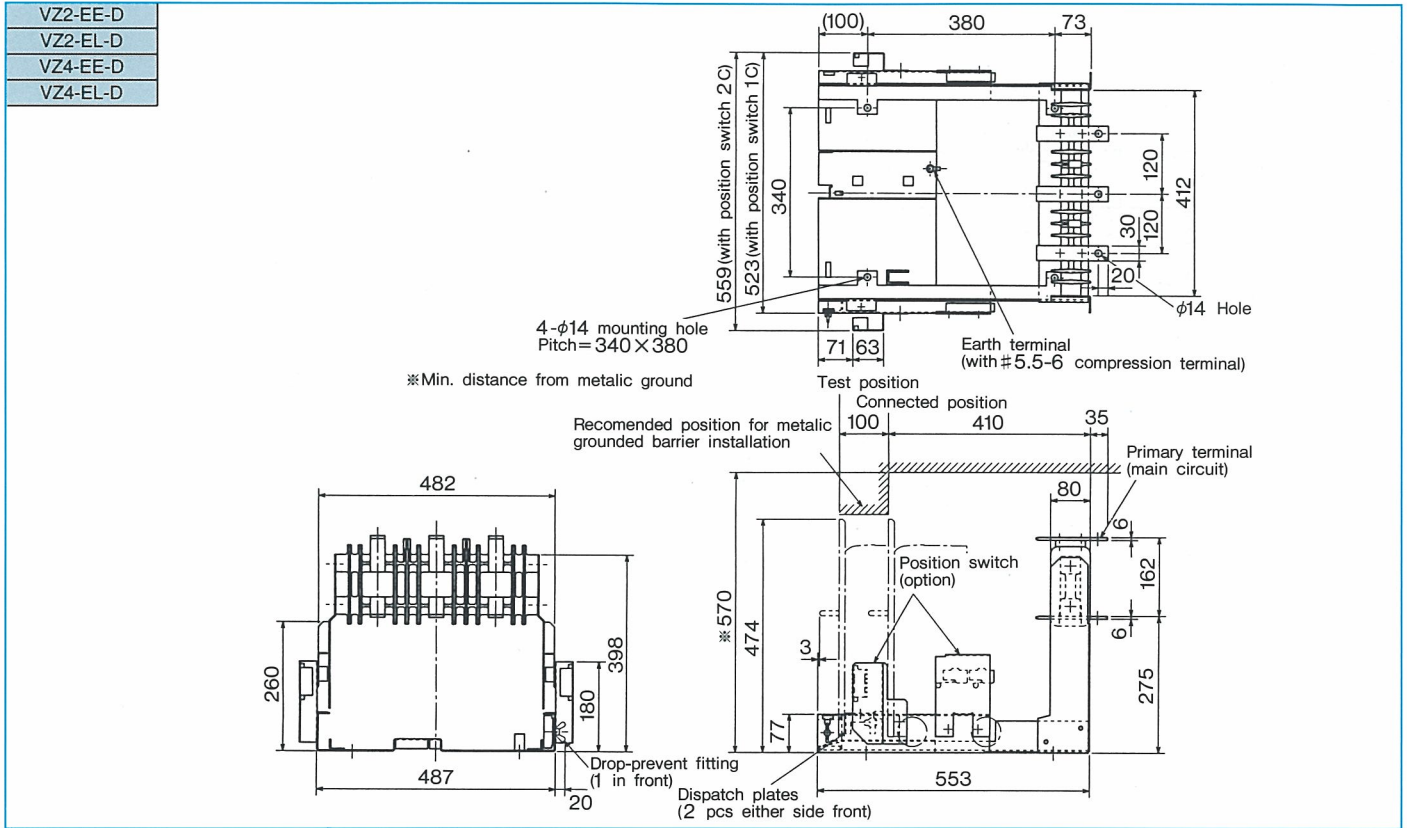
● Fig. 3.3



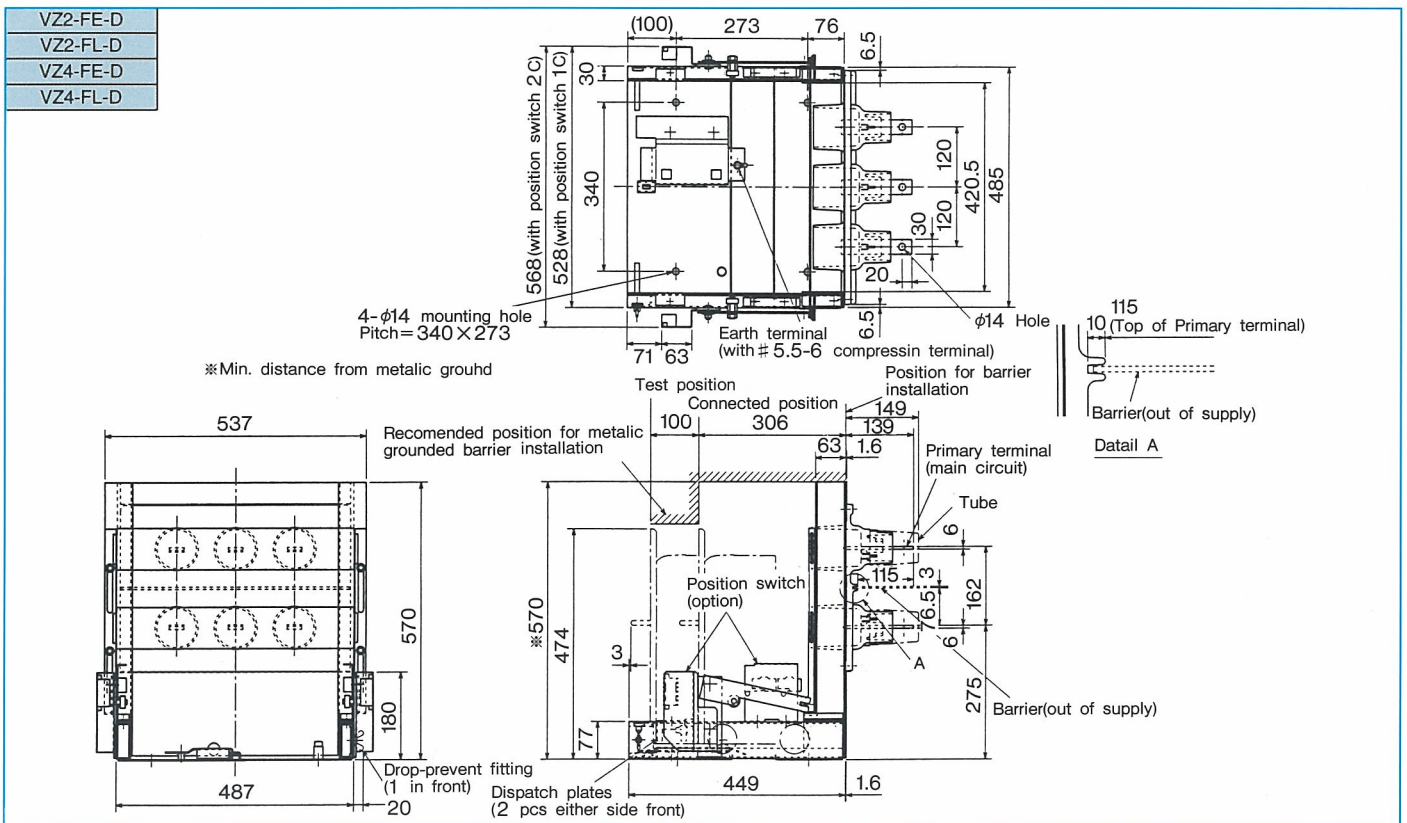
# Outside Dimensions

## ■ Cradle of Contactor

● Fig. 3.4



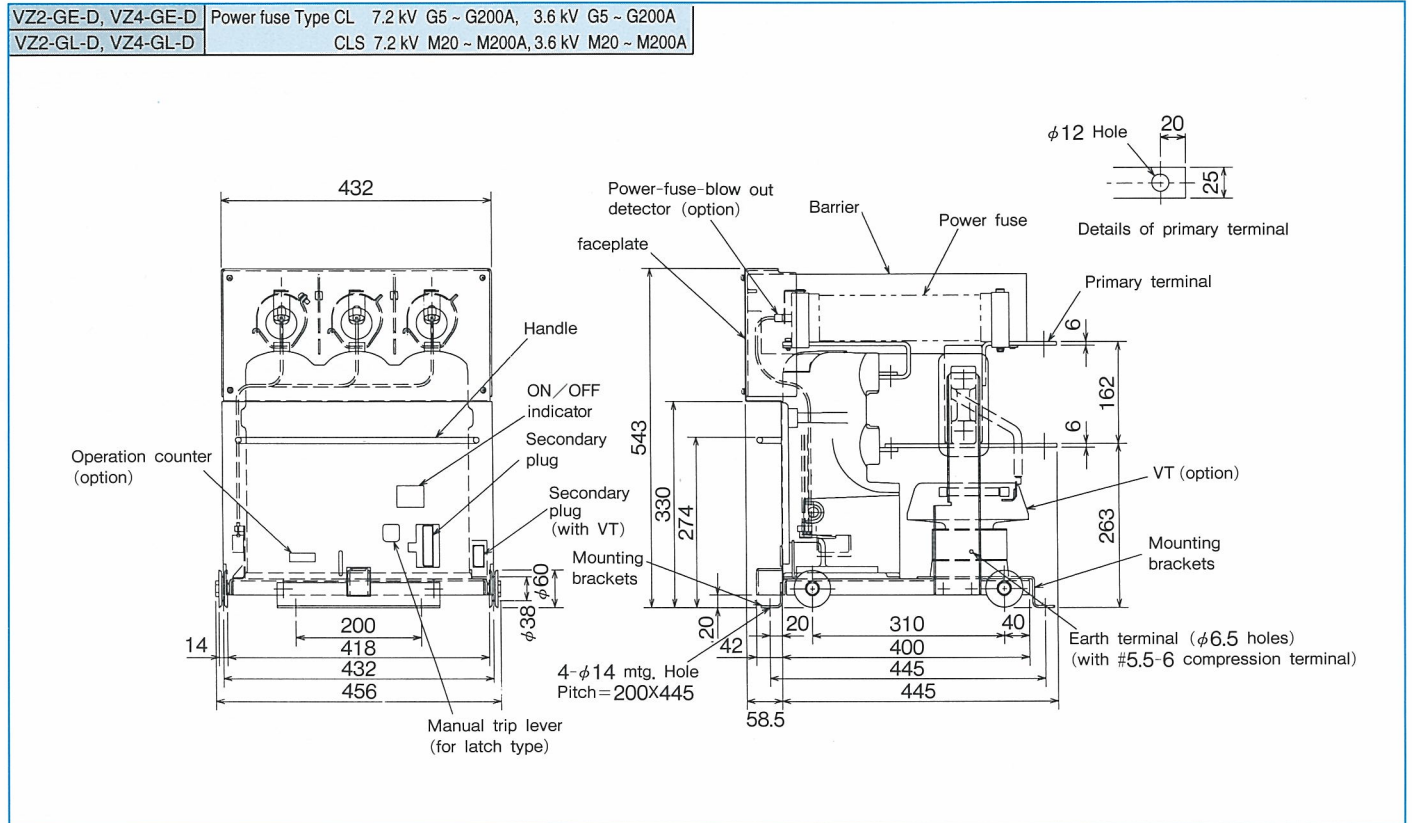
● Fig. 3.5



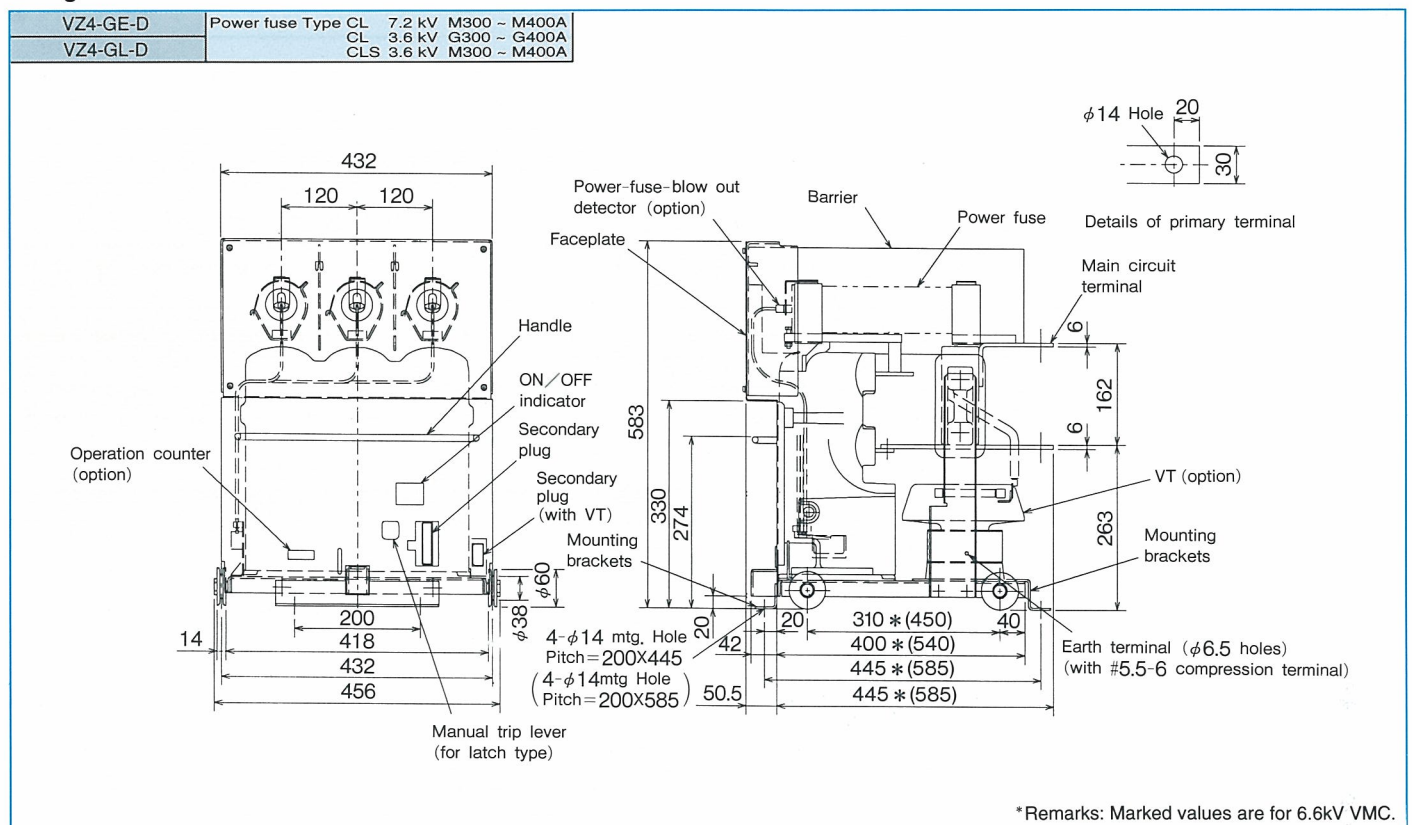


## Fixed-type Combination Unit (Caster-fixed Type)

● Fig. 3.6



● Fig. 3.7

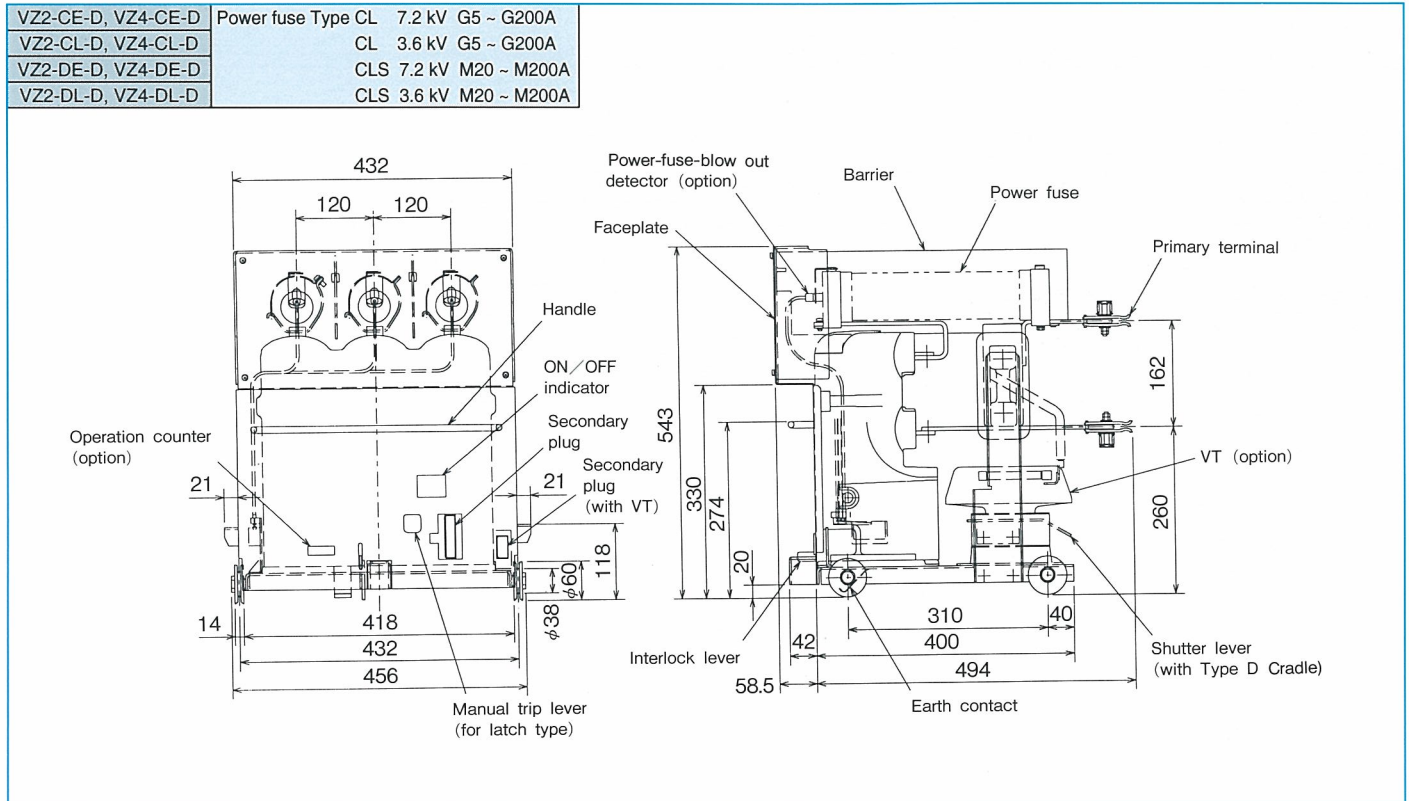


\*Remarks: Marked values are for 6.6kV VMC.

# Outside Dimensions

## Drawout-type Combination Unit (Standard, Bushing Type)

● Fig. 3.8



## Drawout-type Combination Unit (Slim Type)

● Fig. 3.9

