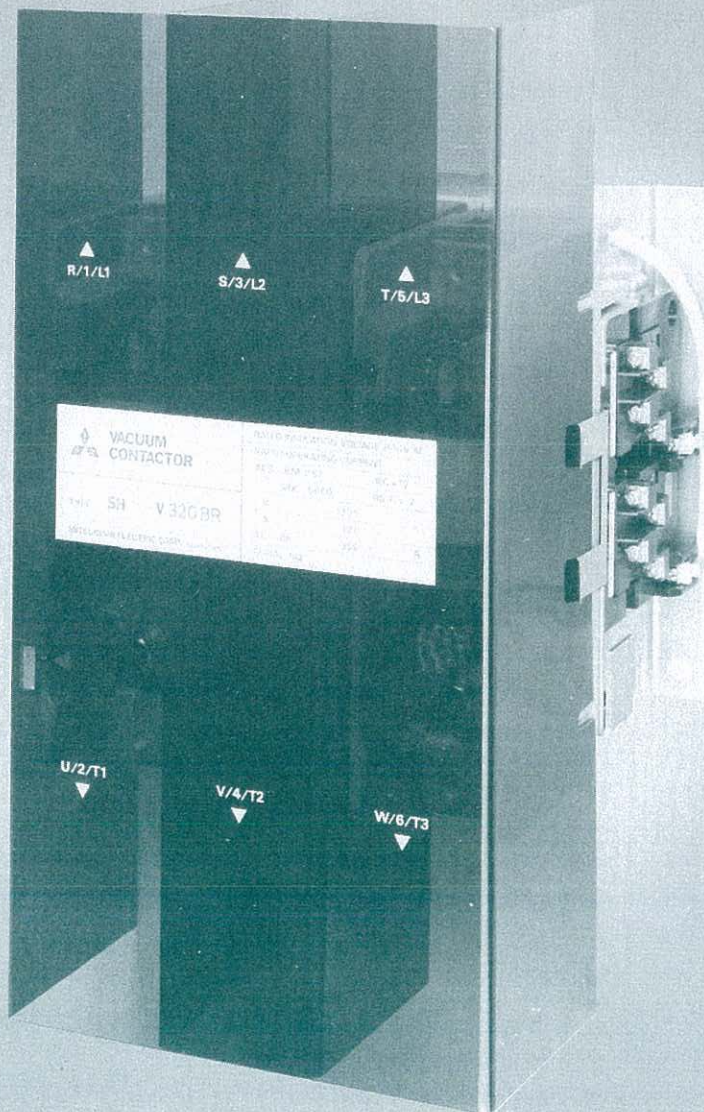




MITSUBISHI

MEDIUM VOLTAGE VACUUM CONTACTORS

TYPE
SH - V□BR



Better Performance Through Superior Technology

FEATURES

Compact Design

Types SH-V□BR are only 210 x 226 x 380 mm and an arc clearance is not required.

Power Saving and Ultrawide Coil Voltage Range

Greatly minimized coil power consumption is achieved by new innovative coil technology of DC holding magnet energized by AC power source. Coil consumption is 45VA and 5 watts.

The new coils cover an ultrawide range of ratings so that the worries about voltage variations, differences in frequency, and fluctuations are a thing of the past. For instance, the AC 200V coil covers 200 to 240V 50/60HZ.

Auxiliary Contacts: Standard 2NO 2NC MAX. 4NO 4NC

The cassette type auxiliary contacts (2NO 2NC) are fitted as standard. A maximum of four (4NO 4NC) can be installed.

Excellent Interrupting Capacity against Short-Circuit Current

The contactor is capable of interrupting short-circuit current of maximum 4kA (CO five times).

High Insulation Strength

The withstand voltage and impulse withstand voltage are 16kV, 50/60Hz (1 minute) and 45kV respectively except the contact gap.

The withstand voltage of the contact gap is 10kV 50/60Hz (1 minute).

Easy inspection and maintenance

Since the vacuum switches are located at the front, checking of contacts for wear can be easily made.

The vacuum switches can be replaced without disconnecting cables.

TYPES AND RATINGS

1. Contact Ratings

Frame Size		V160 BR	V320 BR	V400 BR
Type designation	AC operated	SH – V160 BR	SH – V320 BR	SH – V400 BR
	DC operated	SHD – V160 BR	SHD – V320 BR	SHD – V400 BR
	Mechanically latched	SHL (D) – V160 BR ⁽³⁾	SHL (D) – V320 BR	SHL (D) – V400 BR
Rated operating current (A) IEC Cat. AC3	2.4 kV	160	320	400
	3/3.3 kV	160	320	400
Motor rating (kW) ⁽¹⁾ IEC Cat. AC3	2.4 kV	500	1000	1250
	3/3.3 kV	630	1250	1500
3ph capacitor (kVA) ⁽²⁾ rating	2.4 kV	600	–	–
	3/3.3 kV	750	–	–
Resistance load rating (A) IEC Cat. AC1	2.4 kV	200	350	450
	3/3.3 kV	200	350	450
Continuous current Ith (A)		200	350	450
Short circuit interrupting current (A)		4000		
Withstand current (kA) for short time	2 seconds	4		
	10 milliseconds	33		
Rated operating current of Aux. contacts (A)	IEC Cat. AC 11	240V AC	5	
		480V AC	3	
		660V AC	3	
	IEC Cat. DC 11	110V DC	1.2	
		220V DC	0.2	
Rated insulation voltage (kV)		3.6		

Notes: (1) A surge absorber is required for motors less than 5.5 kW only.

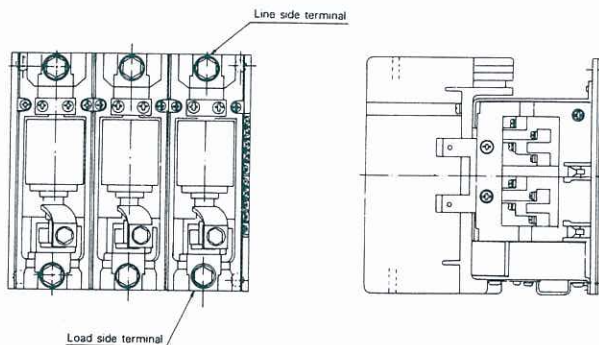
(2) When ordering a contactor for capacitor load, please specify the symbol "FC" in the type designation
-e.g., SH – V 160 FCBR

(3) SHL . . . AC operated SHLD . . . DC operated.

Diversified installation and wiring

Both horizontal and vertical mounting types are available.

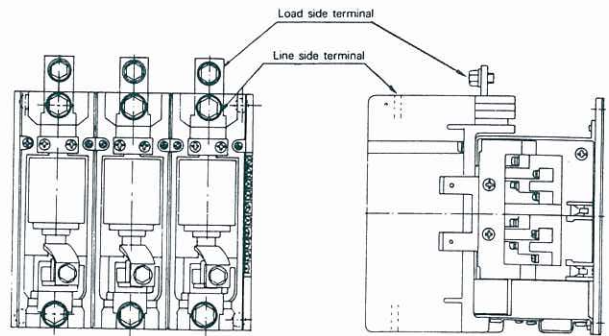
As for wiring method, the contactor is available in two types one is standard wiring, and has main terminals on both sides, and the other has main terminals on one side.



Mounting on vertical surface standard terminal arrangement. Barriers are removed.

Surge absorber is not required. . . .

Since the contacts are made of special material that can suppress current chopping to a minimum level, a surge absorber is not required. (See contact ratings)



Mounting on vertical surface single-side terminal arrangement. Barriers are removed.

2. Coil Ratings

AC Operated

Applicable voltage	Coil designation
100 ~ 127V 50/60 Hz	AC 100V
200 ~ 240V 50/60 Hz	AC 200V
260 ~ 350V 50/60 Hz	AC 300V
380 ~ 440V 50/60 Hz	AC 400V
460 ~ 550V 50/60 Hz	AC 500V

DC Operated

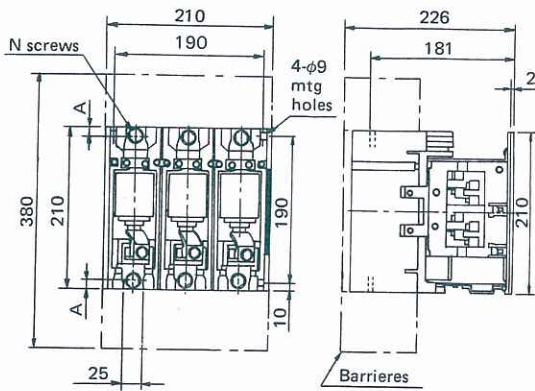
Applicable voltage	Coil designation
100-110 VDC	DC100V
200-220 VDC	DC200V

3. Technical Data

Frame Size		V160 BR	V320 BR	V400 BR
Mechanical life (million operations)		2.5		
Electrical life (million operations)		0.5		
Permissible ambient temperature (°C)		-10 to 55		
Coil voltage fluctuation		0.85 to 1.1 times rated coil voltage		
Coil consumption (1)	AC operated Inrush (VA)	550		
	Sealed (VA)	45		
	Watts	5.2		
	DC operated Inrush (VA)	500		
	Sealed (VA)	40		
	Mechanically latched Inrush (VA)	550		
Operating time (milliseconds)	Make	40		
	Break	130		
Make and break current capacity		Make: 10 times AC 3 rated operating current, Break: 8 times		
Switching frequency (Operations/hour)		1,200		
Vibration & Shock		Vibration: 10-55Hz 2g, Shock 5g (Sine wave pulse)		
Conductor size (mm)	Main terminals	5.5 ~ 100	14 ~ 200	14 ~ 200
	Control terminals	1 ~ 2.5		

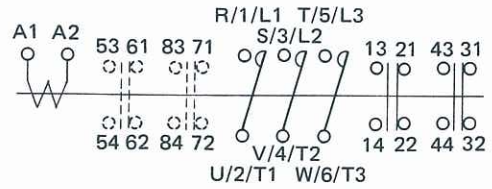
OUTLINE DIMENSIONS

SH - V□BR

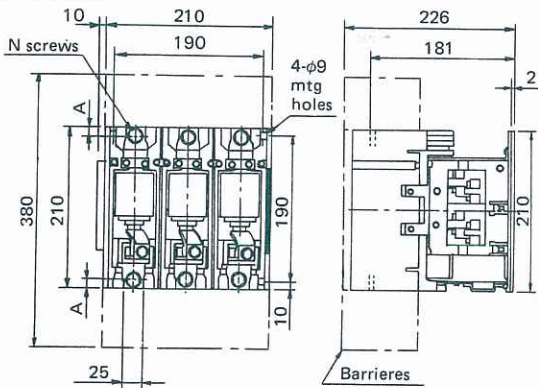


FRAME SIZE	KEYS	N	A
SH-V160	M8	10	
SH-V320	M10	12.5	
SH-V400	M10	12.5	

CONTACT ARRANGEMENTS

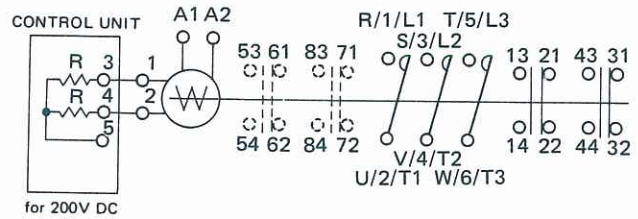
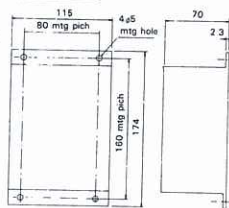


SHD - V□BR



CONTROL UNIT

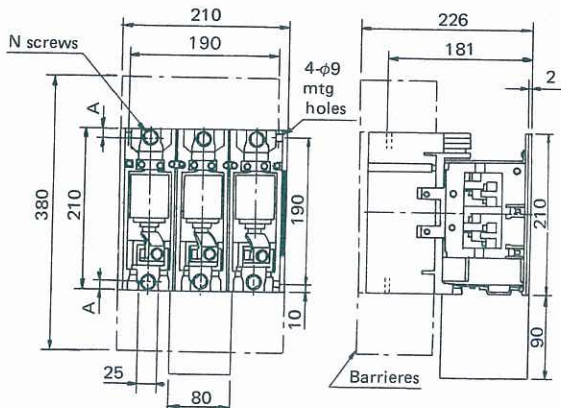
FRAME SIZE	KEYS	N	A
SH-V160	M8	10	
SH-V320	M10	12.5	
SH-V400	M10	12.5	



for 200V DC

Note: Control unit shall be mounted separately.

SHL (D) - V□BR



FRAME SIZE	KEYS	N	A
SH-V160	M8	10	
SH-V320	M10	12.5	
SH-V400	M10	12.5	

