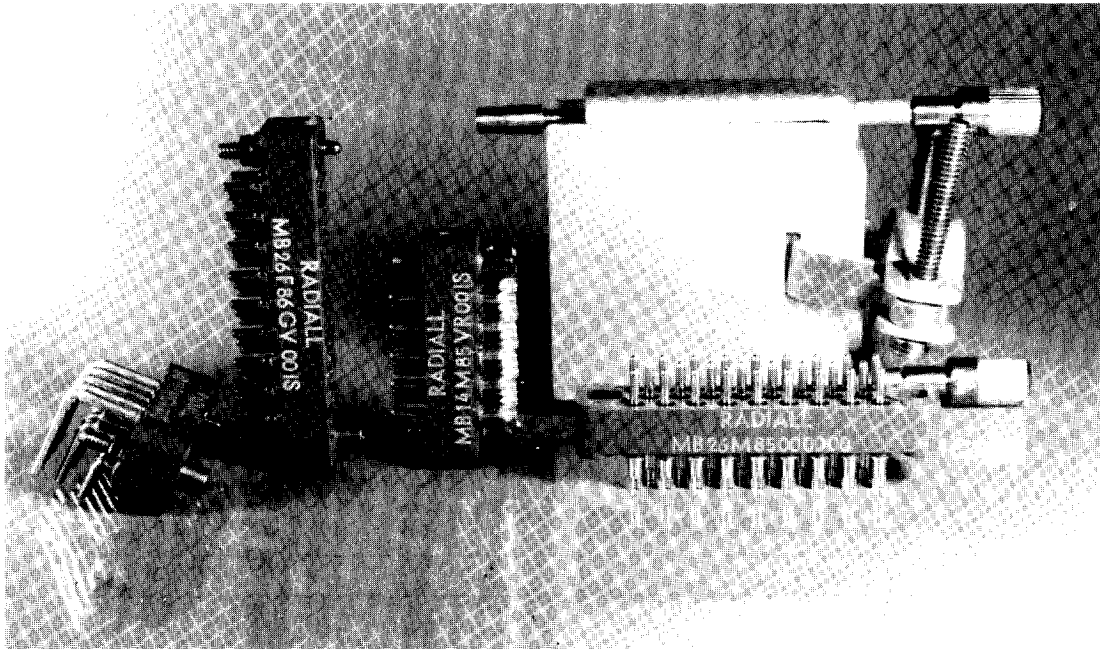


# Miniature rectangular multicontact connectors MB series



This series consists of twelve sizes of connectors with contact arrangements for 2, 3, 5, 7, 11, 14, 20, 26, 34, 42, 50 and 75 size 20 contacts (.039 (1) dia.).

These connectors are characterized by a high density of size 20 contacts in a compact volume.

The **MB series** presents three types of terminations :

- solder pot for wire (AWG 20 max)
- straight solder pin for PCB
- right angle solder pin for PCB

These connectors can be fitted with rack guides or fixed or rotating jackscrews at each end.

Wires and soldered terminations for wire can be protected by either top or side entry hoods or by potting covers for 2 to 14 contacts connectors.

## CHARACTERISTICS

### ELECTRICAL

Conforming to MIL-C-28748 performance requirements

- Current rating : 7.5 A
- Test voltage at sea level : 1500 Vrms / 50 Hz
- Operating voltage (sea level) : 500 Vrms / 50 Hz
- Insulation resistance : > 5000 MΩ
- Contact resistance : < 5 mΩ

### MÉCHANICAL

- Temperature range : -55°C +125°C
- Durability : 500 mating cycles
- Shock : 50 g/11 ms
- Vibration : 20 g / 10-2000 Hz
- Humidity : 21 days
- Contact insertion force : 3 N

## MATERIALS

Insulator :	glass filled diallylphthalate conforming to MIL-M-14SDG-F
Pin contact :	brass copper alloy, plating : gold over nickel
Socket contact :	copper alloy, plating : gold over nickel
Guides and jackscrews:	stainless steel
Hoods :	Yellow anodized aluminum alloy

## CONNECTOR MATED PAIR WEIGHT (g)

Contact arrangement	2	3	5	7	11	14	20	26	34	42	50	75
without guides	2.2	2.3	4	3.7	5.6	6.4	8.6	11	15.2	17.6	20.5	32.7
with rack guides	3.9	4	4.7	5.4	7.3	8.1	10.3	12.7	16.9	19.3	22.2	36.2
with hoods and guides or jackscrews	-	-	-	12.4	17.5	20.4	28	31.5	37.2	-	45.2	62

# MB 34 M 85 VR 00 IS

## SERIES

### Contact arrangement (see page 28)

02 – 03 – 05 – 07 – 11 – 14  
20 – 26 – 34 – 42 – 50 – 75

### Contact type

M : pin  
F : socket

### Termination style (see page 29)

85 : solder pot  
86 : straight solder pin for PCB  
87 : Right angle solder pin for PCB

### Guides and jackscrews (see page 34)

00 : without guides and jackscrews (1)  
G1 : rack guides (2)  
GV : fixed jackscrews (2)  
VR : short rotating jackscrews  
VL : long rotating jackscrews (3)

### Shipment without hoods and accessories

### Thread, guides or jackscrews

00 : without guides and jackscrews  
IS : ISO (M2 x 0.4)  
NC : 2-56 UNC

- (1) connectors to be used with hoods HC and HV (see pages 36–37) or rack guides G1.
- (2) connectors to be used with hood HA and HL (see pages 36–37).  
A spring clip locking system can be fitted (see page 38).
- (3) VL jackscrews assembly is only available for termination style type 85.

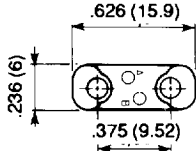
### CONNECTOR IDENTIFICATION

The part number is printed on the insulator side (for MB 05, only the "5" is printed ; for MB 02 and MB 03, part number is printed on a label placed in the package).

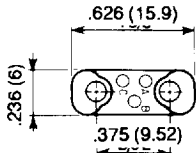
Part number for hoods pages 36–37.

MALE CONNECTOR – WIRING SIDE

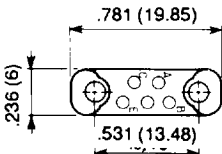
02



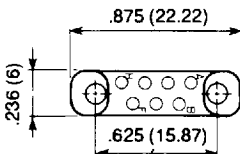
03



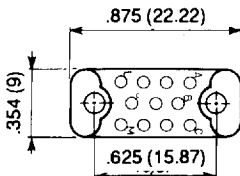
05



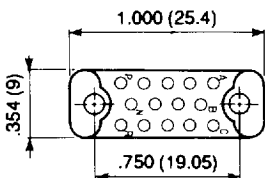
07



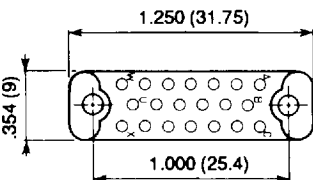
11



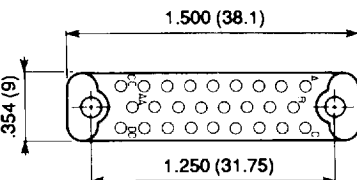
14



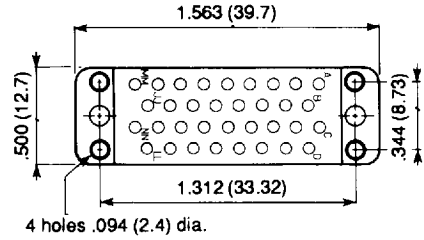
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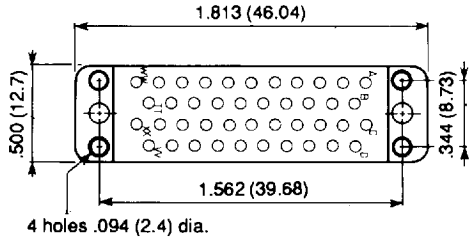
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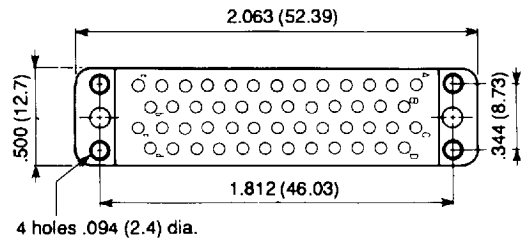
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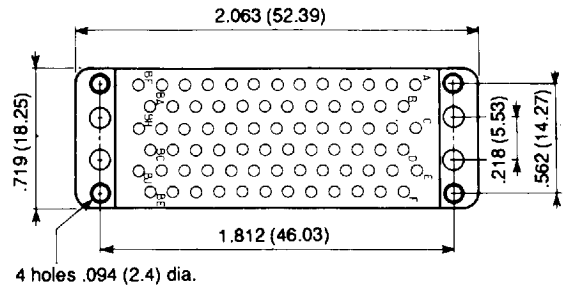
42



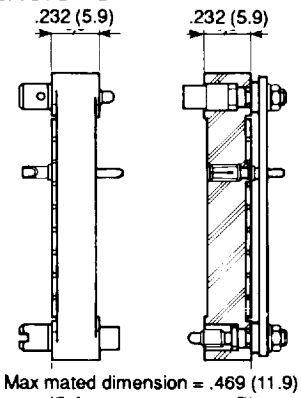
50



75

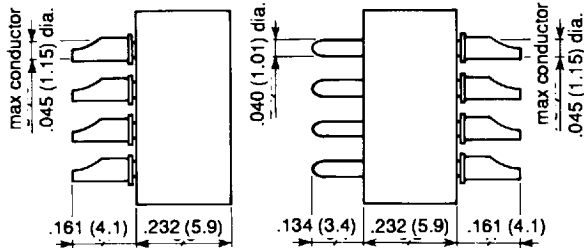


MATING DIMENSIONS



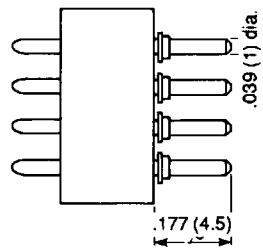
**TYPE 85**

Solder pot



**TYPE 86**

Straight solder pin for PCB

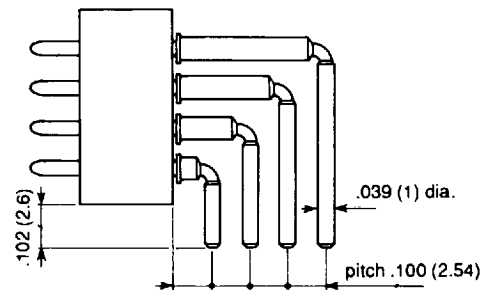


For termination style type 86, the connectors are supplied with insulating washers which act as spacers between the insulator and the PCB.

**TYPE 87**

Right angle solder pin for PCB

(contact arrangement 42 – 50 – 75, consult RADIALL)



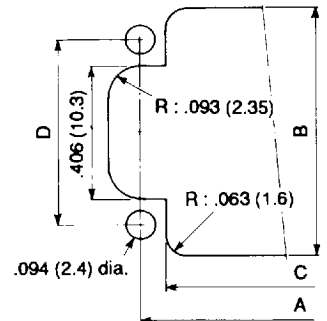
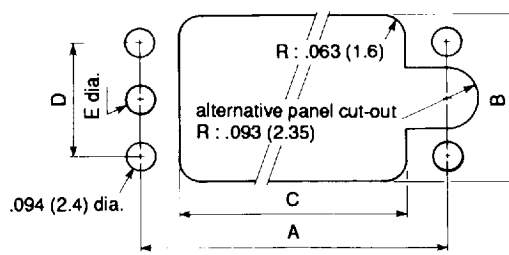
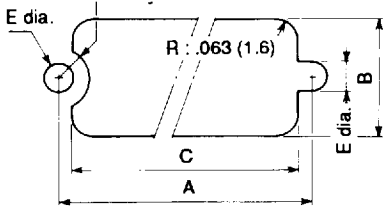
All contact arrangement and termination style have contacts stopped in rotation (except contact arrangement 42, 50 and 75).

02 – 03 – 05 – 07 – 11  
14 – 20 – 26

34 – 42 – 50

75

alternative panel cut-out for contact arrangements 11 to 26 : R = .091 (2.3)

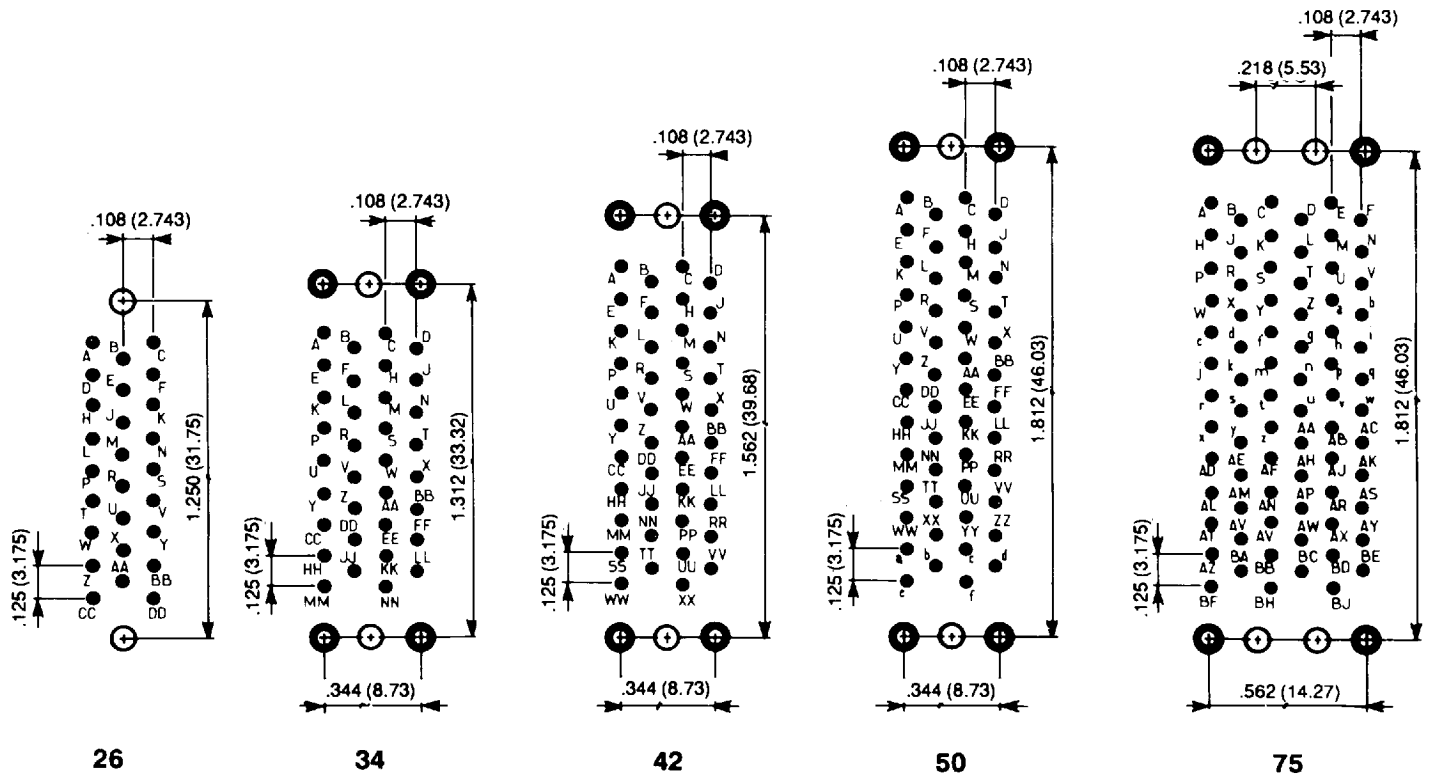
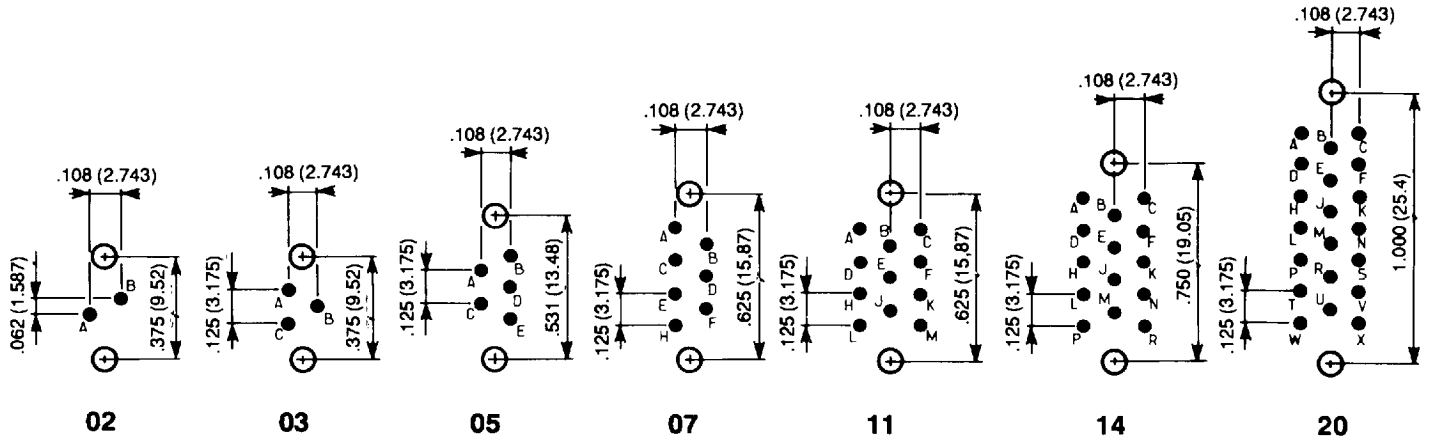


**DIMENSIONS**

	02	03	05	07	11	14	20	26	34	42	50	75
<b>A</b>	.375 (9.52)	.375 (9.52)	.531 (13.48)	.625 (15.87)	.625 (15.87)	.750 (19.05)	1.000 (25.4)	1.250 (31.75)	1.313 (33.34)	1.562 (39.68)	1.812 (46.03)	1.812 (46.03)
<b>B</b>	.236 (6)	.236 (6)	.236 (6)	.236 (6)	.354 (9)	.354 (9)	.354 (9)	.354 (9)	.500 (12.5)	.500 (12.5)	.500 (12.5)	.720 (18.28)
<b>C</b>	.283 (7.2)	.283 (7.2)	.433 (11)	.531 (13.5)	.531 (13.5)	.669 (17)	.925 (23.5)	1.161 (29.5)	1.160 (29.48)	1.410 (35.81)	1.660 (42.16)	1.660 (42.16)
<b>D</b>	-	-	-	-	-	-	-	-	.344 (8.73)	.344 (8.73)	.344 (8.73)	.562 (14.27)
<b>ØE (ISO)</b>	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)	.087 (2.2)
<b>ØE (NC)</b>	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)	.094 (2.4)

TYPE 86 TERMINATION STYLE – Connector with socket contacts

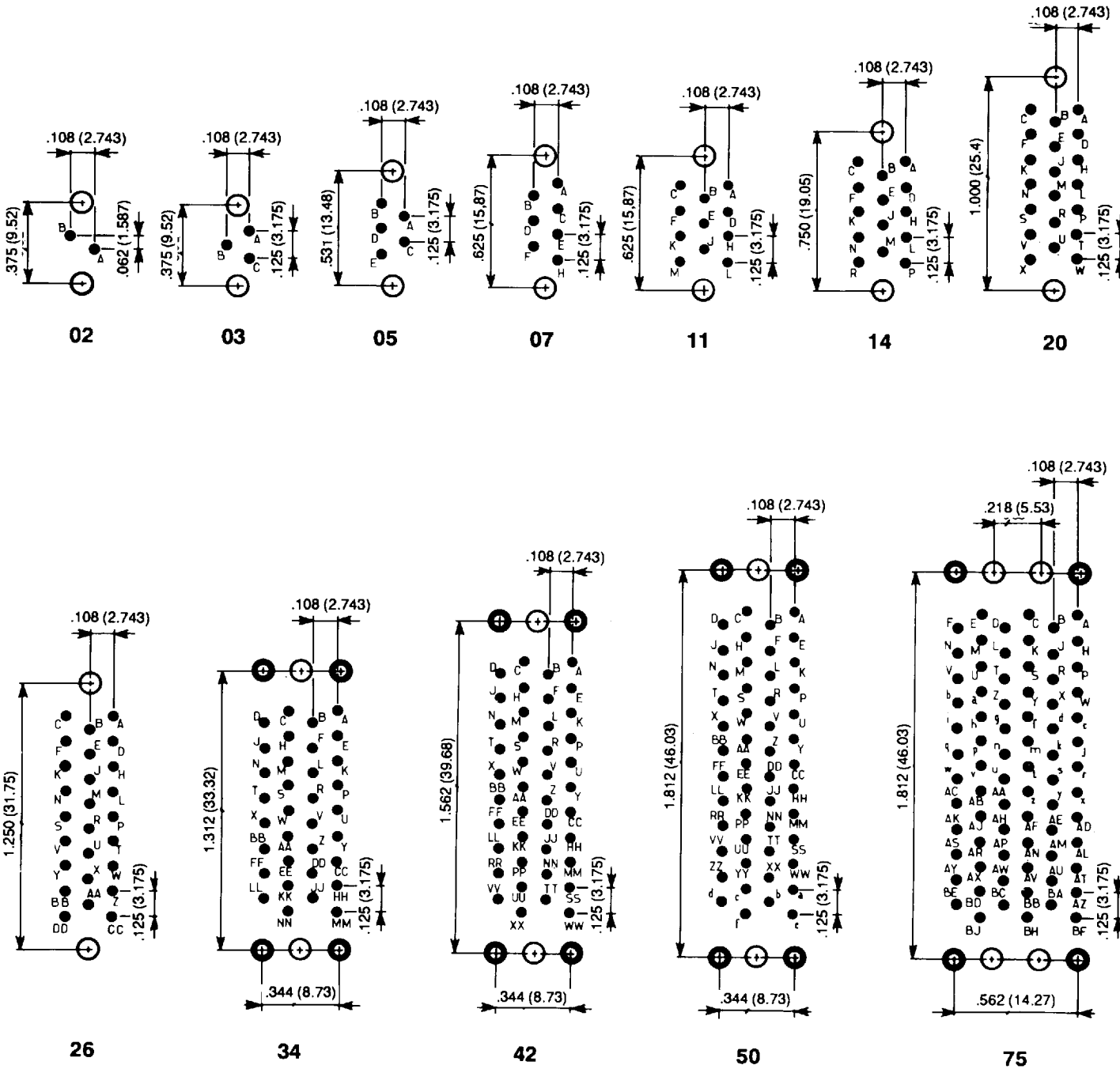
PCB component side view



- Printed circuit drilling  $.043 + .003 (1.1 + 0.1)$
- Drilling to fix the connector  $.094 (2.4)$  dia
- Drilling to fix the connector. Required for guides G1 and GV fixing only :
  - .087 (2.2) dia for ISO guides
  - .094 (2.4) dia for UNC guides

TYPE 86 TERMINATION STYLE – Connector with pin contacts

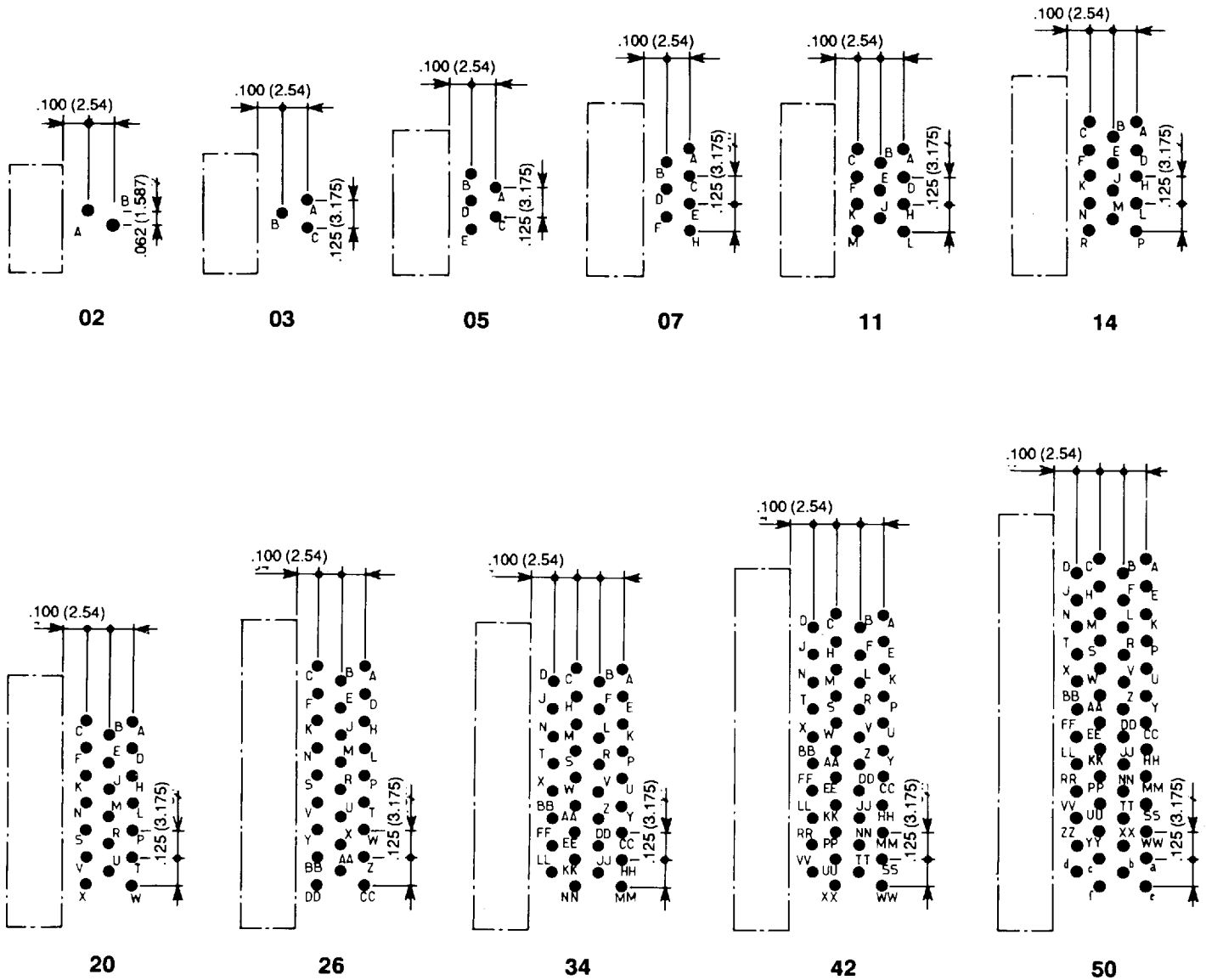
PCB component side view



- Printed circuit drilling  $.043 +.003 (1.1 +0.1)$
- Drilling to fix the connector  $.094 (2.4)$  dia
- Drilling to fix the connector. Required for guides G1 and GV fixing only :  
 $.087 (2.2)$  dia for ISO guides  
 $.094 (2.4)$  dia for UNC guides

TYPE 87 TERMINATION STYLE – Connector with pin contacts

PCB component side view

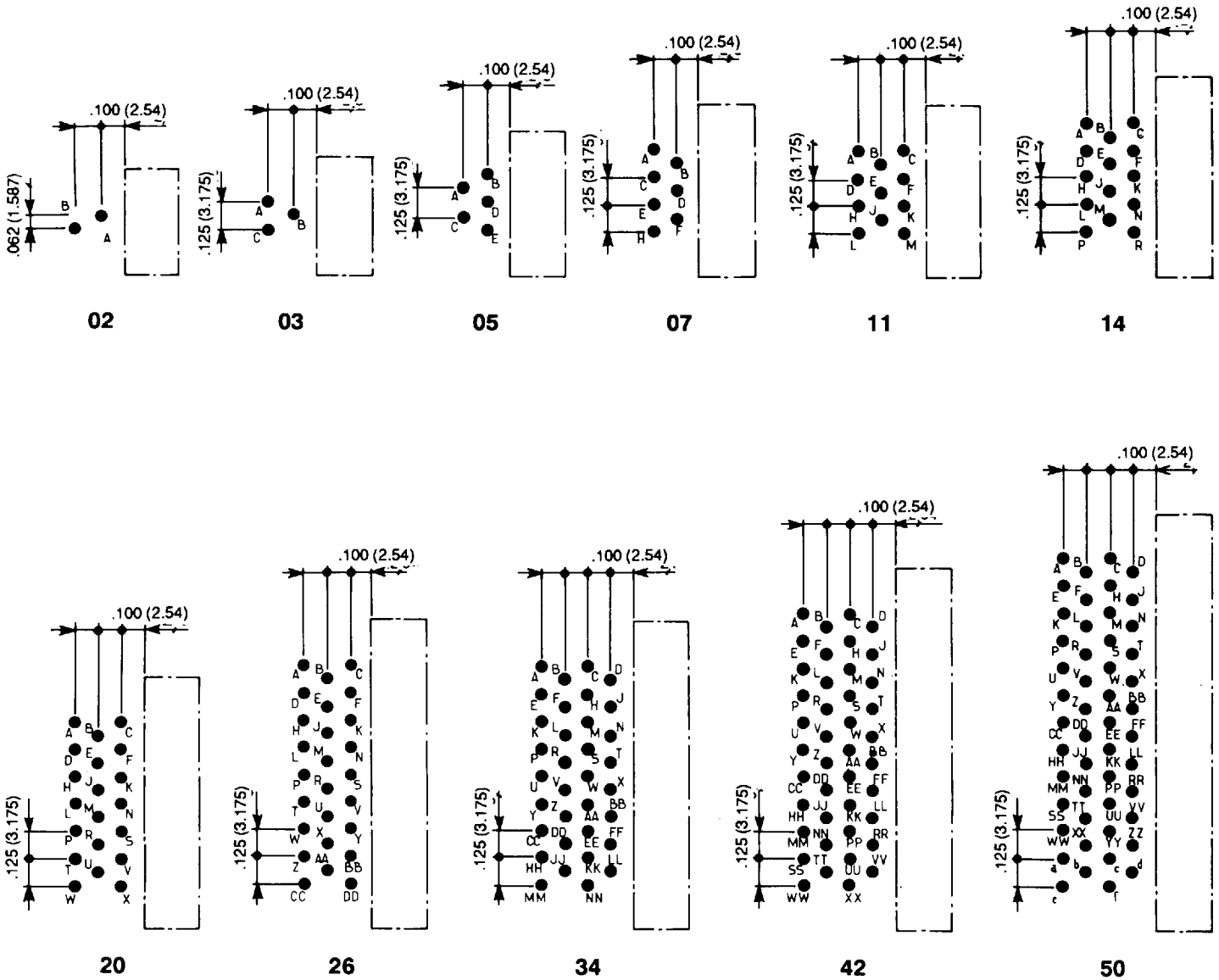


• Printed circuit drilling  $.043 + .003$  (1.1 + 0.1)



TYPE 87 TERMINATION STYLE – Connector with socket contacts

PCB component side view



- Printed circuit drilling  $.043 +.003 (1.1 +0.1)$

Guides and jackscrews are made of stainless steel. The jackscrews can be supplied with either ISO (M2 x 0.4) or UNC (2-56 UNC) thread.

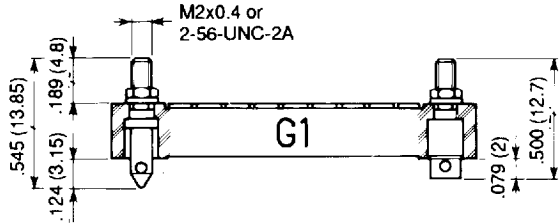
The guides or jackscrews G1 – GV – VL and VR and the type of thread UNC or ISO required are to be defined in the part number (see page 27)

The standard configuration of guides and jackscrews is :

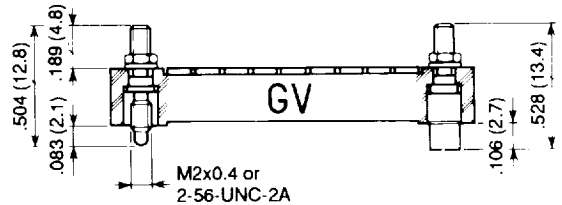
Male guide (or jackscrew) at the end nearest contact A of the female connector.

Female guide (or jackscrew) at the end nearest contact A of the male connector.

**RACK GUIDES TYPE G1**



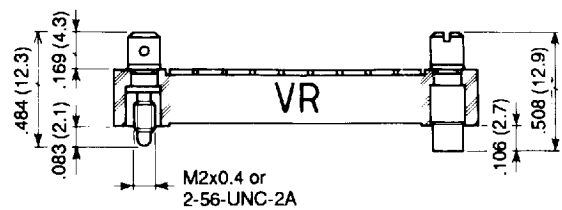
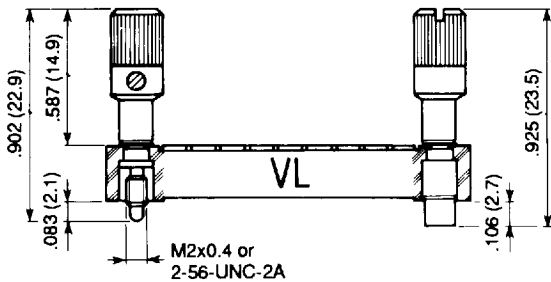
**FIXED JACKSCREWS TYPE GV**



The 2, 3, 5 and 7 way GV jackscrews are held securely in place by two flats on the jackscrews whereas the jackscrews for the other contact arrangements have a square section to avoid rotation.

These guides and jackscrews can be used with hood HA and HL

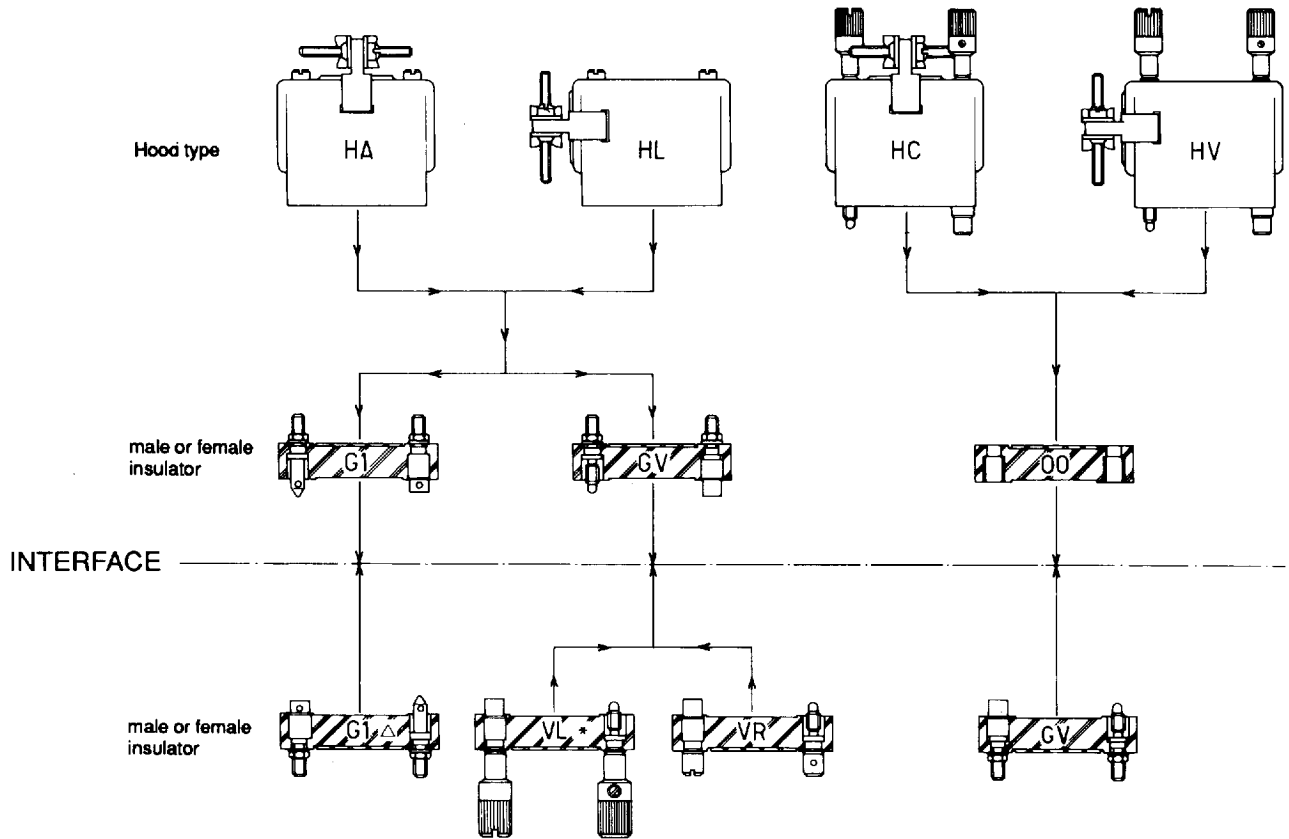
**LONG AND SHORT ROTATING JACKSCREWS TYPE VL-VR**



Mating force : 2cm/daN  
Cannot be used with any hoods

Mating force : 2cm/daN  
Not available for termination style type 87  
Cannot be used with any hoods

USE WITH HOOD (Termination style type 85 only)



USE WITHOUT HOOD (All termination style type)

THREAD		HOOD		THREAD	
NC (2-56 UNC)	ISO (M2 x 0.4)	Top entry	Side entry	ISO (M2 x 0.4)	NC (2-56 UNC)
07	07			11	11
11	11			14	14
14	14			26	26
20	20			34	34
26	26			50	50
34	34			75 (1)	75 (1)
50	50				
75	75				
07	07			11	11
11	11			14	14
14	14			26	26
20	20			34	34
26	26			50	50
34	34			75 (1)	75 (1)
50	50				
75	75				

(1) Available for male contact arrangement only.

Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

**TYPE HA**

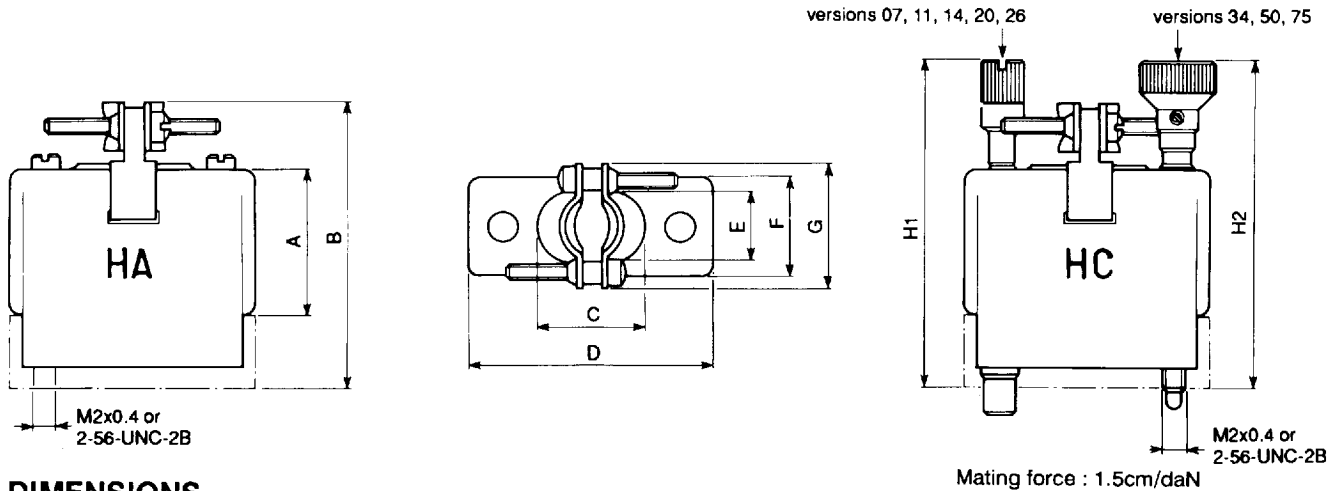
Hoods supplied with two internal threaded posts which are screwed into the guides G1 or jackscrews GV.

**TYPE HC**

Hoods supplied with two long rotating jackscrews. These hoods are mounted on the connectors without guides or jackscrews.

**PART NUMBERS**

Contacts arrangements	Type HA		Type HC	
	with threads M2 x 0.4	with threads 2-56 UNC	with screws M2 x 0.4	with threads 2-56 UNC
07	MB 07 HA IS2	MB 07 HA NC	MB 07 HC IS	MB 07 HC NC
11	MB 11 HA IS2	MB 11 HA NC	MB 11 HC IS	MB 11 HC NC
14	MB 14 HA IS2	MB 14 HA NC	MB 14 HC IS	MB 14 HC NC
20	MB 20 HA IS2	MB 20 HA NC	MB 20 HC IS	MB 20 HC NC
26	MB 26 HA IS2	MB 26 HA NC	MB 26 HC IS	MB 26 HC NC
34	MB 34 HA IS2	MB 34 HA NC	MB 34 HC IS	MB 34 HC NC
50	MB 50 HA IS2	MB 50 HA NC	MB 50 HC IS	MB 50 HC NC
75	MB 75 HA IS2	MB 75 HA NC	MB 75 HC IS	MB 75 HC NC



**DIMENSIONS**

Contacts arrangements	A	B	C	D	E	F	G	H1	H2
07	.375 (9.52)	.902 (22.9)	.359 (9.13)	.874 (22.2)	.234 (5.95)	.295 (7.5)	.531 (13.5)	1.205 (30.62)	-
11	.937 (23.8)	1.465 (37.2)	.468 (11.9)	.874 (22.2)	.342 (8.7)	.405 (10.3)	.625 (15.87)	1.921 (48.8)	-
14	.937 (23.8)	1.465 (37.2)	.500 (12.7)	1.000 (25.4)	.342 (8.7)	.405 (10.3)	.625 (15.87)	1.921 (48.8)	-
20	1.187 (30.16)	1.905 (48.4)	.719 (18.26)	1.248 (31.7)	.342 (8.7)	.405 (10.3)	.937 (23.8)	2.173 (55.2)	-
26	1.187 (30.16)	1.905 (48.4)	.905 (23)	1.500 (38.1)	.342 (8.7)	.405 (10.3)	.937 (23.8)	2.173 (55.2)	-
34	1.187 (30.16)	1.905 (48.4)	.811 (20.6)	1.563 (39.7)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	-	2.189 (55.6)
50	1.187 (30.16)	1.904 (48.4)	.874 (22.2)	2.063 (52.4)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	-	2.189 (55.6)
75	1.187 (30.16)	1.904 (48.4)	.905 (23)	2.063 (52.4)	.716 (18.2)	.779 (19.8)	1.359 (34.52)	-	2.189 (55.6)

Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

Hoods 34,50 and 75 are fitted with 4 screws to be fixed to the connector block.

**TYPE HL**

Hoods supplied with two internal threaded posts which are screwed into the guides G1 or jackscrews GV.

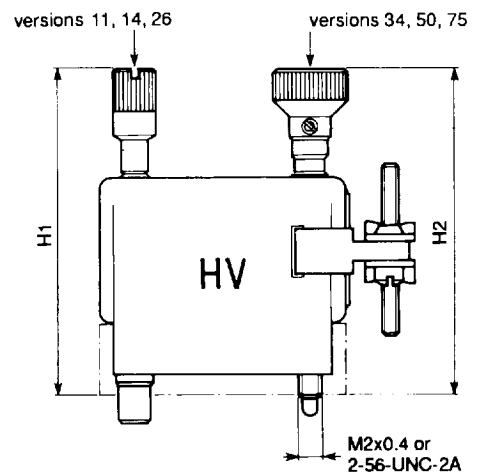
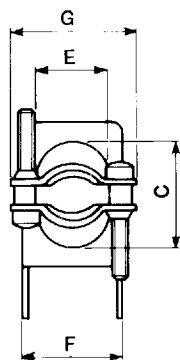
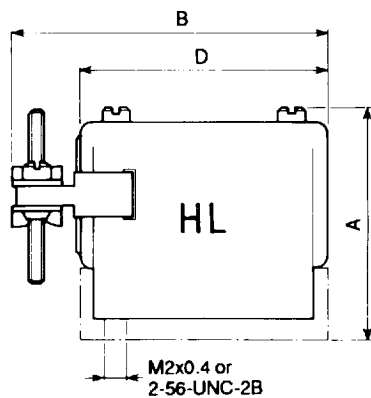
**TYPE HV**

Hoods supplied with two long rotating jackscrews. These hoods are mounted on connectors without guides or jackscrews.

**PART NUMBERS**

Contacts arrangements	Type HL		Type HV	
	with threads M2 x 0.4	with threads 2-56 UNC	with screws M2 x 0.4	with screws 2-56 UNC
11	MB 14 HL IS2	MB 14 HL NC	MB 14 HV IS	MB 14 HV NC
14	MB 18 HL IS2	MB 18 HL NC	MB 18 HV IS	MB 18 HV NC
26	MB 26 HL IS2	MB 26 HL NC	MB 26 HV IS	MB 26 HV NC
34	MB 34 HL IS2	MB 34 HL NC	MB 34 HV IS	MB 34 HV NC
50	MB 50 HL IS2	MB 50 HL NC	MB 50 HV IS	MB 50 HV NC
75	-	MB 75 HL NC (1)	-	MB 75 HV NC (1)

(1) Available for male contact arrangement only.



Mating force : 1.5cm/daN

**DIMENSIONS**

Contacts arrangements	A	B	C	D	E	F	G	H1	H2
11	1.248 (31.7)	1.173 (29.8)	.469 (11.9)	874 (22.2)	.343 (8.7)	.406 (10.3)	.625 (15.87)	1.921 (48.8)	-
14	1.248 (31.7)	1.295 (32.9)	.500 (12.7)	1.000 (25.4)	.343 (8.7)	.406 (10.3)	.625 (15.87)	1.921 (48.8)	-
26	1.484 (37.7)	1.937 (49.2)	.906 (23)	1.500 (38.1)	.343 (8.72)	.406 (10.3)	937 (23.8)	1.921 (48.8)	-
34	1.484 (37.7)	2.031 (51.6)	.811 (20.6)	1.563 (39.7)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	-	1.937 (49.2)
50	1.484 (37.7)	2.531 (64.3)	.874 (22.2)	2.063 (52.4)	.500 (12.7)	.563 (14.3)	1.062 (26.98)	-	1.937 (49.2)
75	1.484 (37.7)	2.579 (65.5)	.906 (23)	2.063 (52.4)	.717 (18.2)	.780 (19.8)	1.359 (34.52)	-	1.937 (49.2)

Fitting of hoods only suitable for insulator with termination style type 85 (solder pot).

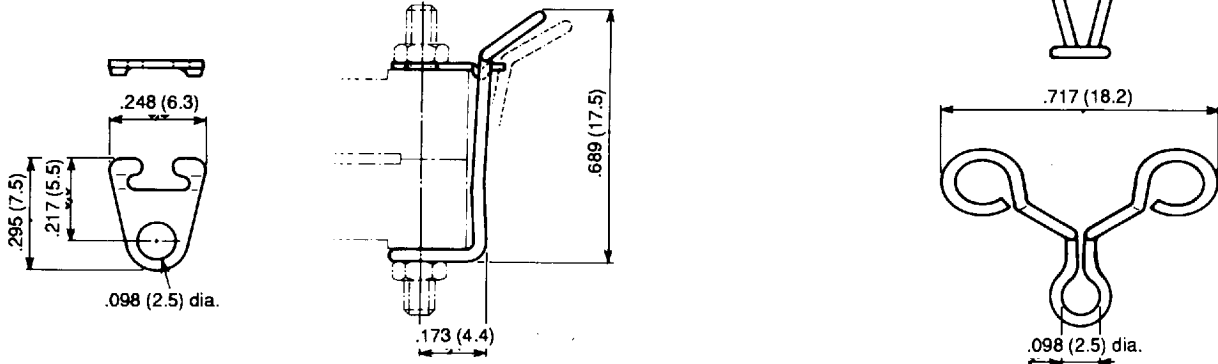
Hoods 34,50 and 75 are fitted with 4 screws to be fixed to the connector block.

**SPRING LEVER CLAMPS**

This simple locking system avoids accidental disconnection of connectors fitted to equipment which may be subjected to severe vibration. This system can be used where connector fitted with G1 guides are used with or without hoods.

Material : stainless steel.

PART NUMBER FOR A PAIR : 624 895



**POTTING MOULDS**

The plastic potting moulds are designed to fit onto the wiring side of the connectors in order that the wiring and back end can be encapsulated. They can be used with connectors fitted with G1 guides and GV and VR jack-screws.

Material : nylon

Contact arrangements	PART NUMBERS	DIMENSIONS	
		A	B
02 - 03	624 994	.232 (5.9)	.374 (9.5)
05	624 992	.232 (5.9)	.531 (13.5)
07	624 981	.232 (5.9)	.626 (15.9)
11	624 993	.354 (9)	.626 (15.9)
14	624 995	.354 (9)	.748 (19)

