

## HIGH WATTAGE TUBULAR VITREOUS ENAMELLED WIREWOUND RESISTORS **V/GW** SERIES



### FEATURES

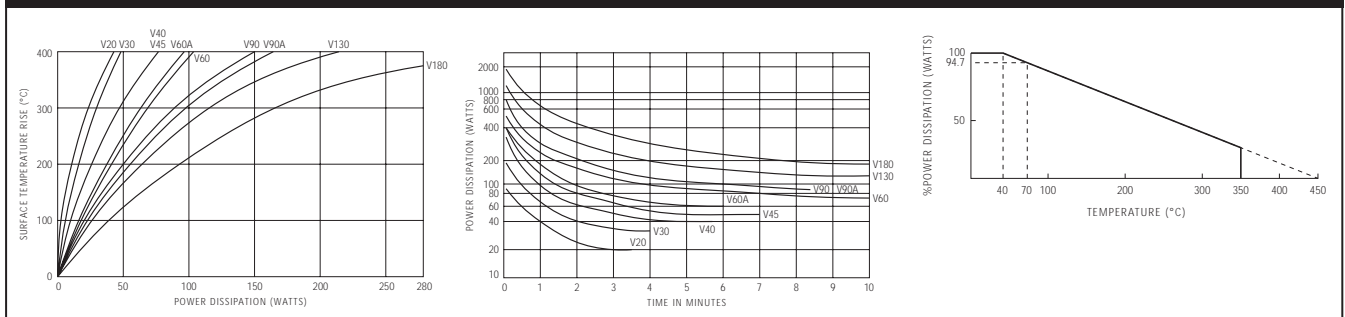
- 19 WATTAGE SIZES FROM 20 TO 250 WATTS
- WIDE SELECTION OF TERMINATION AND MOUNTING STYLES
- LEAD FREE VITREOUS ENAMEL COATING ENSURES MAXIMUM HUMIDITY PROTECTION TO WINDING
- AVAILABLE IN SPECIAL DESIGNS ACCORDING TO ECONOMICS OF QUANTITY

ARCOL Vitreous Enamelled resistors are produced with materials capable of operating at high temperatures enabling them, size for size, to withstand higher power dissipation than any other protected type. The lead free vitreous enamel provides exceptionally good humidity protection to the windings enabling these resistors to be safely used in harsh environmental conditions. A completely welded construction ensures reliable connections throughout.

### CHARACTERISTICS

|   |   |
|---|---|
| Tolerance                               | V ±5% standard, V-GW ±10% standard. Please consult ARCOL for closer tolerances. |
| Temperature coefficients typical values | Typically less than 100ppm/°C depending on type.                                |
| Power dissipation @ 25°C                | 20 watts to 250 watts.  |
| Core                                    | Electrical porcelain.   |
| Element                                 | Copper nickel alloy or nickel chrome alloy.                                     |
| Terminals                               | Silver plated or solder dipped mild steel.                                      |

### TEMPERATURE RISE & POWER DISSIPATION



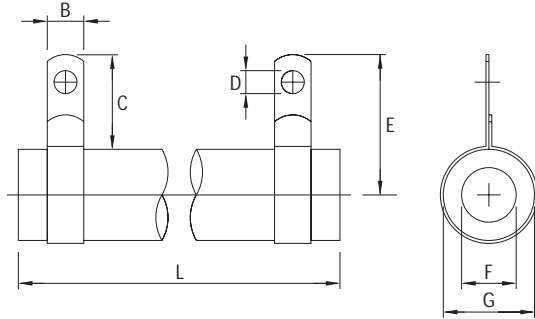
### ELECTRICAL SPECIFICATIONS

| ARCOL TYPE | DISSIPATION (WATTS) FOR SURFACE TEMPERATURE RISE AMBIENT @ 25°C |       | RANGE OF OHMIC VALUES |     | ARCOL TYPE | DISSIPATION (WATTS) FOR SURFACE TEMPERATURE RISE AMBIENT @ 25°C |       | RANGE OF OHMIC VALUES |       |
|------------|---|-------|-----------------------|-----|------------|---|-------|-----------------------|-------|
|            | 300°C   | 350°C | MIN                   | MAX |            | 300°C   | 350°C | MIN                   | MAX   |
| V20        | 20  | 25    | R25                   | 15K | V30GW      | 40  | 50    | R133                  | 1R6   |
| V30        | 30  | 35    | 1R                    | 20K | V40GW      | 50  | 60    | R34                   | 3R95  |
| V40        | 40  | 60    | 3R                    | 50K | V60AGW     | 80  | 85    | R314                  | 3R68  |
| V60A       | 60  | 75    | 3R3                   | 50K | V90AGW     | 120   | 145   | R69                   | 8RL   |
| V90A       | 90  | 100   | 8R                    | 75K | V45GW      | 60  | 80    | R19                   | 2R22  |
| V45        | 45  | 60    | 1R5                   | 40K | V60GW      | 80  | 110   | R37                   | 4R3   |
| V60        | 60  | 80    | 3R3                   | 50K | V90GW      | 120   | 150   | R55                   | 6R4   |
| V90        | 90  | 110   | 4R5                   | 50K | V130GW     | 175   | 195   | R91                   | 10R65 |
| V130       | 130   | 160   | 8R                    | 50K | V180GW     | 250   | 300   | 1R37                  | 16R   |
| V180       | 180   | 240   | 10R                   | 50K |            |   |       |                       |       |

### ORDERING SYSTEM

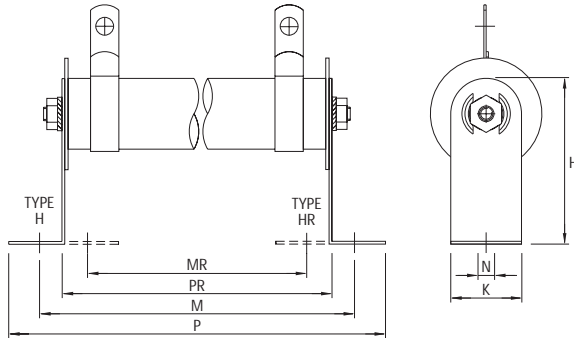
|        |         |   |              |   |            |                      |                   |   |           |         |                |          |  |
|--------|---------|---|--------------|---|------------|----------------------|-------------------|---|-----------|---------|----------------|----------|--|
| V      | 9       | 0 | G            | W | (A)        | U                    | 2                 | R | 2         | J       | TOLERANCE CODE |          |  |
| SERIES | WATTAGE |   | WINDING TYPE |   | ADJUSTABLE | MOUNTING ARRANGEMENT | NOMINAL VALUE (Ω) |   | TOLERANCE | F = ±1% | J = ±5%        | K = ±10% |  |

DIMENSIONS

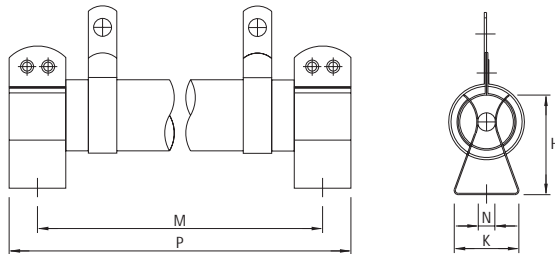


| ARCOL TYPE | DIMENSIONS (MM) |         |         |       |       |       |        |
|------------|-----------------|---------|---------|-------|-------|-------|--------|
|            | B ± 0.2         | C ± 0.2 | D ± MAX | E MAX | F MAX | G MAX | L MAX  |
| V20        | 5.1             | 11.3    | 3.0     | 19.44 | 9.75  | 15.89 | 33.5   |
| V30        | 5.1             | 11.3    | 3.0     | 19.44 | 9.75  | 15.89 | 51.5   |
| V40        | 6.35            | 16.5    | 4.0     | 24.64 | 9.75  | 15.89 | 103.5  |
| V60A       | 6.35            | 16.8    | 4.0     | 26.69 | 12.75 | 19.38 | 90.78  |
| V90A       | 6.35            | 16.8    | 4.0     | 26.4  | 12.75 | 19.38 | 168.3  |
| V45        | 6.35            | 16.0    | 4.0     | 30.78 | 18.36 | 29.17 | 52.02  |
| V60        | 6.35            | 16.0    | 4.0     | 30.78 | 18.36 | 29.17 | 77.52  |
| V90        | 6.35            | 16.0    | 4.0     | 30.78 | 18.36 | 29.17 | 104.04 |
| V130       | 6.35            | 16.0    | 4.0     | 30.78 | 18.36 | 29.17 | 155.04 |
| V180       | 6.35            | 16.0    | 4.0     | 30.78 | 18.36 | 29.17 | 220.32 |

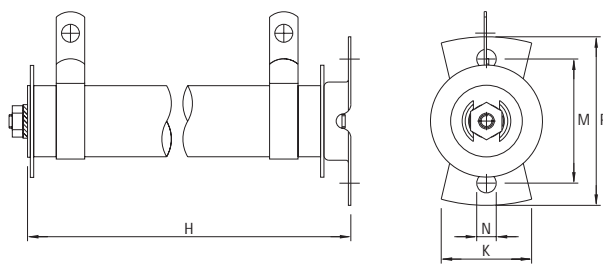
MOUNTING ARRANGEMENTS



| ARCOL TYPE | HORIZONTAL MOUNTING (H & HR) |      |       |       |     |       |       |
|------------|------------------------------|------|-------|-------|-----|-------|-------|
|            | H                            | K    | M     | MR    | N   | P     | PR    |
| V20        | 28.9                         | 15.9 | 44.0  | 23.9  | 3.7 | 54.2  | 34.9  |
| V30        | 28.9                         | 15.9 | 62.0  | 41.9  | 3.7 | 72.2  | 52.9  |
| V40        | 28.9                         | 15.9 | 113.0 | 92.9  | 3.7 | 123.2 | 103.9 |
| V60A       | 35.8                         | 19.0 | 106.4 | 74.3  | 4.7 | 122.0 | 90.9  |
| V90A       | 35.8                         | 19.0 | 182.4 | 150.3 | 4.7 | 198.0 | 166.9 |
| V45        | 46.3                         | 28.6 | 71.1  | 31.0  | 5.1 | 90.9  | 52.9  |
| V60        | 46.3                         | 28.6 | 96.1  | 56.0  | 5.1 | 115.9 | 77.9  |
| V90        | 46.3                         | 28.6 | 122.1 | 82.0  | 5.1 | 141.9 | 103.9 |
| V130       | 46.3                         | 28.6 | 172.1 | 132.0 | 5.1 | 191.9 | 153.9 |
| V180       | 46.3                         | 28.6 | 236.1 | 196.0 | 5.1 | 255.9 | 217.9 |



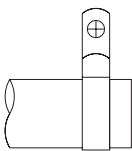
| ARCOL TYPE | FERRULE CLIP MOUNTING (FC & GFC) |      |       |     |       |
|------------|----------------------------------|------|-------|-----|-------|
|            | H                                | K    | M     | N   | P     |
| V20        | 40.0                             | 17.3 | 47.8  | 4.1 | 60.5  |
| V30        | 40.0                             | 17.3 | 65.0  | 4.1 | 76.2  |
| V40        | 40.0                             | 17.3 | 115.8 | 4.1 | 127.0 |
| V60A       | 47.0                             | 25.4 | 108.0 | 4.6 | 120.7 |
| V90A       | 47.0                             | 25.4 | 184.2 | 4.6 | 196.9 |
| V45        | 64.0                             | 31.8 | 69.9  | 6.4 | 82.6  |
| V60        | 64.0                             | 31.8 | 95.3  | 6.4 | 108.0 |
| V90        | 64.0                             | 31.8 | 120.7 | 6.4 | 133.4 |
| V130       | 64.0                             | 31.8 | 171.5 | 6.4 | 184.2 |
| V180       | 64.0                             | 31.8 | 235.0 | 6.4 | 247.7 |



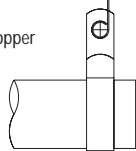
| ARCOL TYPE | UPRIGHT MOUNTING (U) |      |      |     |      |
|------------|----------------------|------|------|-----|------|
|            | H                    | K    | M    | N   | P    |
| V20        | 39.7                 | 19.0 | 25.4 | 4.0 | 34.5 |
| V30        | 57.7                 | 19.0 | 25.4 | 4.0 | 34.5 |
| V40        | 108.7                | 19.0 | 25.4 | 4.0 | 34.5 |
| V60A       | 95.7                 | 19.0 | 25.4 | 4.0 | 34.5 |
| V90A       | 171.7                | 19.0 | 25.4 | 4.0 | 34.5 |
| V45        | 61.7                 | 34.0 | 44.5 | 5.0 | 60.0 |
| V60        | 86.7                 | 34.0 | 44.5 | 5.0 | 60.0 |
| V90        | 112.7                | 34.0 | 44.5 | 5.0 | 60.0 |
| V130       | 162.7                | 34.0 | 44.5 | 5.0 | 60.0 |
| V180       | 226.7                | 34.0 | 44.5 | 5.0 | 60.0 |

TERMINATION DETAILS

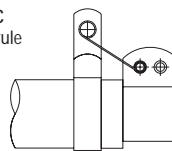
TYPE G  
Tinned Lug



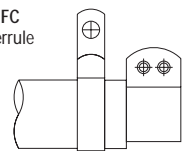
TYPE W  
Flexible Copper Wires



TYPE FC  
Live Ferrule



TYPE GFC  
Dead Ferrule



ARCOL UK LTD

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CERTIFICATE NUMBER FM31218