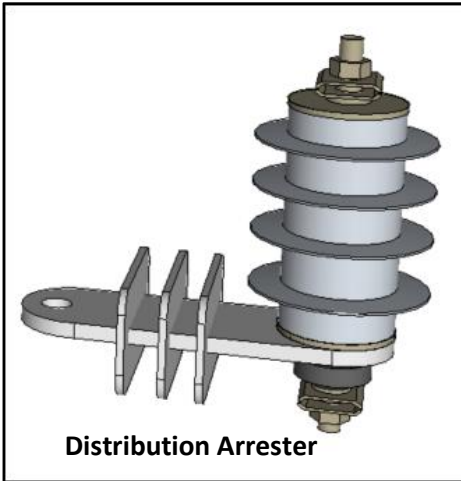


# IEEE Certified Arrester QuickFacts

ArresterFacts 045

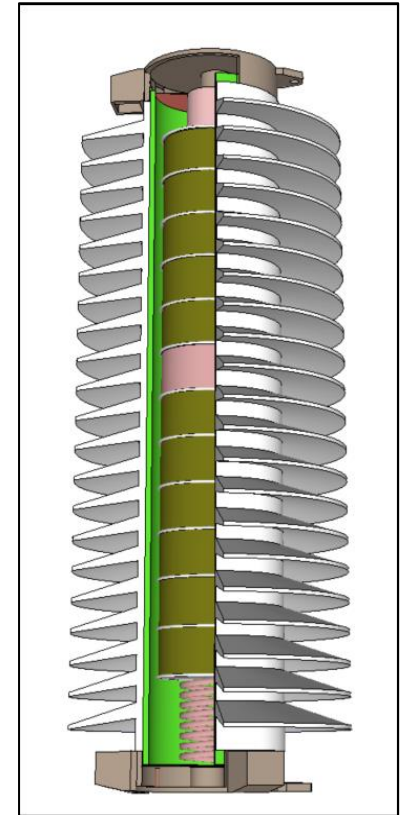
[www.ArresterWorks.com](http://www.ArresterWorks.com)

IEC Version of QuickFacts

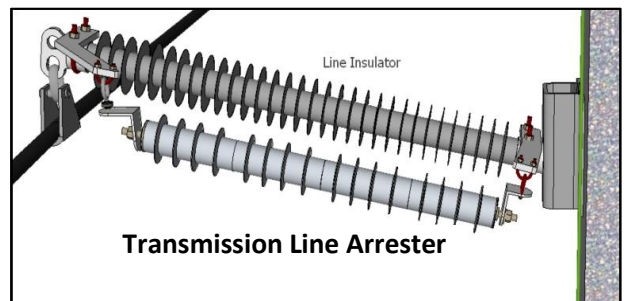
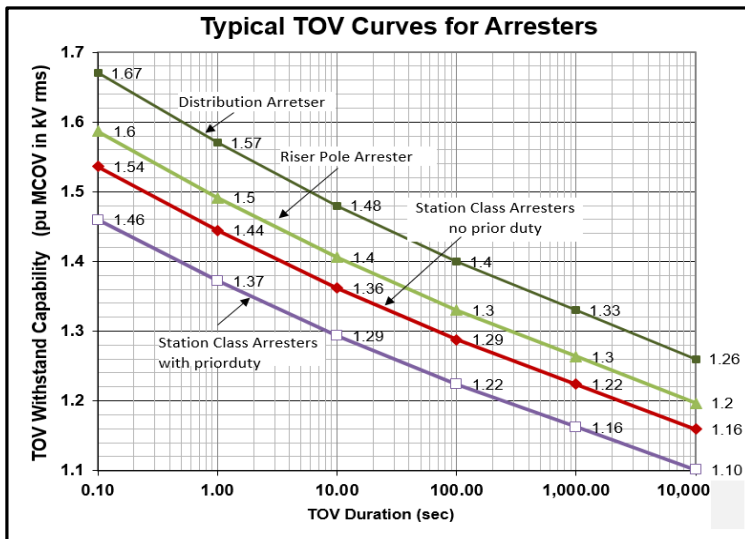


| Arrester Class and Classifying Characteristics |                     |                                   |                                  |                 |
|--|---------------------|-----------------------------------|----------------------------------|-----------------|
| Distribution Arresters                         | Classifying Current | LCLD Current                      | Lightning Impulse Limit          | Pressure Relief |
| Heavy Duty                                     | 10 kA               | 250 A                             | 100 kA                           | 10-20kA         |
| Normal Duty                                    | 5 kA                | 75 A                              | 65 kA                            | 10-20kA         |
| Light Duty                                     | 5 kA                | 75 A                              | 40 kA                            | 10-20kA         |
| Station and Intermediate Arresters             | Classifying Current | Switching Surge Energy kJ/kV MCOV | Switching Impulse Limit Coulombs | Pressure Relief |
| Class A  | 10 kA               | 3.0                               | ~ .8                             | 40-80 kA        |
| Class B  | 10 kA               | 4.5                               | ~ 1                              |                 |
| Class C  | 10 kA               | 6.0                               | ~1.3                             |                 |
| Class D  | 10 kA               | 7.5                               | ~1.6                             |                 |
| Class E  | 10 kA               | 9.0                               | ~ 2.4                            |                 |

| System line-to-line voltages (kV rms) |                 | Recommended Arrester Ratings Rating (MCOV) kV rms |  |                          |
|---------------------------------------|-----------------|---|--|--------------------------|
| Nominal                               | Assumed Maximum | Four-wire wye Multi-grounded Neutral              | Three-wire or Four-wire Wye Solidly Grounded@ Source | Delta and Ungrounded Wye |
| 12.47                                 | 13.1            | 9 (7.65)  | 9 (7.65) or 10 (8.40)                                | 15 (12.7) or 18 (15.3)   |
| 13.2                                  | 13.9            | 10 (8.40)   | 10 (8.40) or 12 (10.2)                               | 15 (12.7)                |
| 13.8                                  | 14.5            | 10 (8.40)   | 10 (8.40) or 12 (10.2)                               | 15 (12.7) or 18 (15.3)   |
| 22.86                                 | 24              | 18 (15.3)   | 18 (15.3) or 21 (17.0)                               | 24 (19.5) or 27 (22.0)   |
| 24.9                                  | 26.2            | 18 (15.3)   | 18 (15.3) or 21 (17.0)                               | 24 (19.5) or 27 (22.0)   |
| 34.5                                  | 36.2            | 27 (22.0)   | 27 (22.0) or 30 (24.4)                               | 36 (29.0) or 39 (31.5)   |
| 46                                    | 48.3            | N/A   | 36 (29.0) or 39 (31.5)                               | 48 (39.0)                |
| 69                                    | 72.5            | N/A   | 54 (42.0) or 60 (48.0)                               | 72 (57.0)                |
| 115                                   | 121             | N/A   | 90 (70.0) or 96 (76.0)                               | 108 (84.0)               |
| 138                                   | 145             | N/A   | 108 (84.0) or 120 (98.0)                             | 132 (106) or 144 (115)   |
| 161                                   | 169             | N/A   | 120 (98.0) or 144 (115)                              | 144 (115) or 168 (131)   |
| 230                                   | 242             | N/A   | 172 (140) or 192 (152)                               | 228 (180) or 240 (190)   |
| 345                                   | 362             | N/A   | 258 (209)  | 276 (220)                |
| 500                                   | 550             | N/A   | 420 (336)  | 444 (353)                |

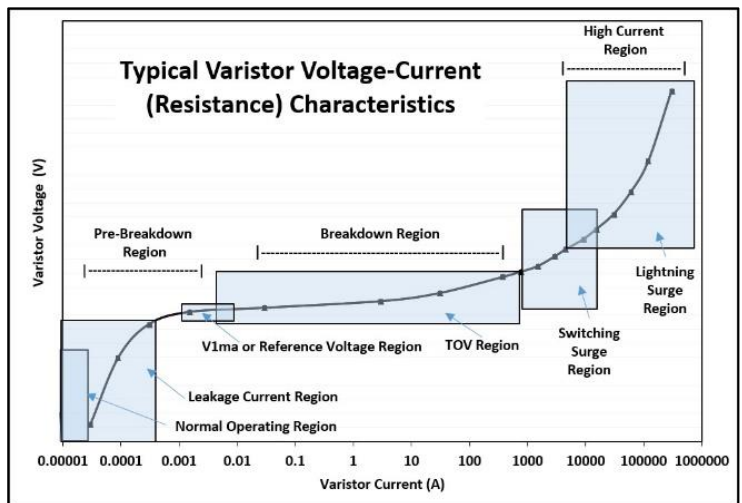
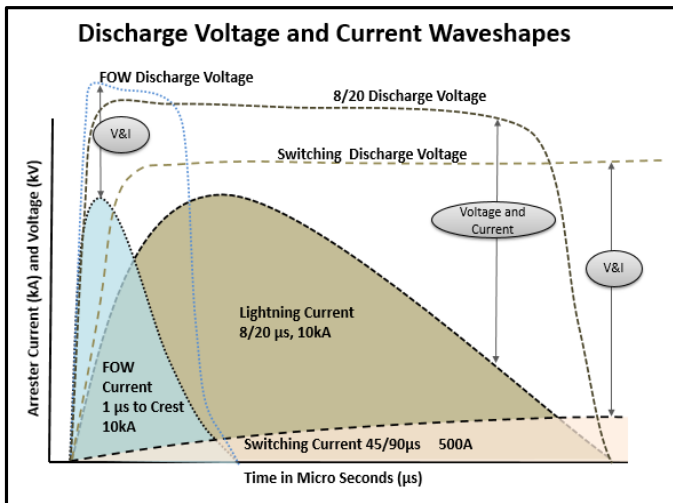


**Hollow Core Polymer Housed Station Arrester**



| Typical Discharge Voltage Table                        |               |              |        |  |   |      |      |      |      |      |  |       |       |       |
|--|---------------|--------------|--------|--|---|------|------|------|------|------|--|-------|-------|-------|
| Arrester Rating  | Arrester MCOV | TOV (kV rms) |        | Front of Wave Protective Level kV peak | Maximum Discharge Voltage (kV peak) 8/20µs Current Wave |      |      |      |      |      | Switching Surge Protective Level (kV peak) 45/90µs |       |       |       |
|  |               | 1 Sec        | 10 Sec |  | 1.5 kA  | 3kA  | 5kA  | 10kA | 20kA | 40kA | 250 A  | 500 A | 1000A | 2000A |
| <b>Heavy Duty Distribution Arresters</b>               |               |              |        |  |   |      |      |      |      |      |  |       |       |       |
| 3  | 2.55          | 4            | 3.75   | 11                                     | 8.2   | 8.7  | 9.1  | 9.9  | 10.9 | 12.3 | 7.5  |       |       |       |
| 6  | 5.1           | 8            | 7.5    | 21.9                                   | 16.3  | 17.4 | 18.2 | 19.8 | 21.9 | 24.7 | 15   |       |       |       |
| 9  | 7.65          | 11.9         | 11.2   | 33                                     | 24.6  | 26.1 | 27.3 | 29.8 | 33   | 37.1 | 22.5   |       |       |       |
| 10   | 8.4           | 13.1         | 12.3   | 35                                     | 26  | 27.7 | 29   | 31.6 | 34.9 | 39.4 | 23.9   |       |       |       |
| 12   | 10.2          | 15.9         | 15     | 43.9                                   | 32.7  | 34.8 | 36.4 | 39.7 | 43.9 | 49.5 | 30   |       |       |       |
| 15   | 12.7          | 19.8         | 18.7   | 53.1                                   | 39.6  | 42.1 | 44   | 48   | 53.1 | 59.8 | 36.3   |       |       |       |
| 18   | 15.3          | 23.9         | 22.5   | 66                                     | 49.1  | 52.3 | 54.7 | 59.6 | 65.9 | 74.2 | 45.1   |       |       |       |
| 21   | 17            | 26.5         | 25     | 70                                     | 52.1  | 55.4 | 58   | 63.2 | 69.9 | 78.7 | 47.8   |       |       |       |
| 24   | 19.5          | 30.4         | 28.7   | 80.9                                   | 60.2  | 64.1 | 67   | 73.1 | 80.8 | 91.1 | 55.3   |       |       |       |
| 27   | 22            | 34.3         | 32.3   | 94                                     | 70  | 74.5 | 77.9 | 84.9 | 93.9 | 106  | 64.2   |       |       |       |
| 30   | 24.4          | 38.1         | 35.9   | 102                                    | 76.1  | 81   | 84.7 | 92.4 | 102  | 115  | 69.9   |       |       |       |
| 33   | 27            | 42.1         | 39.7   | 116                                    | 86.5  | 92.1 | 96.3 | 105  | 116  | 131  | 79.4   |       |       |       |
| 36   | 29            | 45.2         | 42.6   | 123                                    | 91.5  | 97.3 | 102  | 111  | 123  | 138  | 83.9   |       |       |       |
| <b>Station Class Arresters (3.0 and 4.5kJ/kV MCOV)</b> |               |              |        |  |   |      |      |      |      |      |  |       |       |       |
| 54   | 42            | 61.5         | 58.6   | 147                                    | 115   | 121  | 127  | 137  | 151  | 171  |  | 107   | 111   |       |
| 60   | 48            | 70.3         | 67     | 167                                    | 131   | 138  | 145  | 156  | 173  | 196  |  | 123   | 127   |       |
| 72   | 57            | 83.5         | 79.5   | 200                                    | 156   | 164  | 172  | 186  | 205  | 233  |  | 145   | 151   |       |
| 90   | 70            | 102.5        | 97.7   | 245                                    | 191   | 201  | 211  | 228  | 252  | 286  |  | 179   | 185   |       |
| 96   | 76            | 111.3        | 106    | 265                                    | 208   | 219  | 229  | 247  | 274  | 310  |  | 194   | 201   |       |
| 108  | 84            | 123          | 117.2  | 293                                    | 229   | 242  | 253  | 273  | 302  | 343  |  | 214   | 222   |       |
| 120  | 98            | 143.5        | 136.7  | 321                                    | 255   | 269  | 279  | 298  | 328  | 366  |  | 238   | 247   |       |
| 144  | 115           | 168.4        | 160.4  | 378                                    | 300   | 315  | 327  | 350  | 385  | 430  |  | 279   | 290   |       |
| 172  | 140           | 205          | 195.3  | 459                                    | 365   | 384  | 398  | 426  | 468  | 523  |  | 340   | 352   |       |
| 180  | 144           | 210.8        | 200.9  | 472                                    | 375   | 395  | 410  | 438  | 482  | 538  |  | 350   | 362   |       |
| 192  | 152           | 222.5        | 212    | 499                                    | 396   | 417  | 432  | 463  | 509  | 568  |  | 369   | 383   |       |
| 228  | 180           | 263.5        | 251.1  | 591                                    | 469   | 493  | 512  | 548  | 602  | 672  |  | 437   | 453   |       |
| <b>Station Class Arrester (6.0 and 7.5kJ/kV MCOV)</b>  |               |              |        |  |   |      |      |      |      |      |  |       |       |       |
| 258  | 209           | 305          | 292    | 663                                    | 515   | 540  | 563  | 601  | 651  | 724  |  |       | 519   |       |
| 276  | 220           | 321          | 308    | 698                                    | 542   | 568  | 592  | 632  | 685  | 762  |  |       | 546   |       |
| 312  | 245           | 357          | 343    | 777                                    | 603   | 633  | 660  | 704  | 763  | 849  |  |       | 608   |       |
| 396  | 318           | 464          | 445    | 1009                                   | 783   | 821  | 856  | 914  | 991  | 1102 |  |       | 790   |       |
| 420  | 335           | 488          | 468    | 1063                                   | 825   | 865  | 902  | 963  | 1043 | 1161 |  |       | 832   |       |
| 444  | 353           | 515          | 493    | 1120                                   | 869   | 912  | 950  | 1014 | 1100 | 1223 |  |       | 876   |       |

\* Includes the effects of Inductance on all components in the arrester



Arrester Application Support

Insulation Coordination Studies

Arrester Design Support

e-Consulting

Training

Arrester Failure Analysis