



## Capacitors for Power Factor Correction – 50Hz

- ✓ Self-healing metalized polypropylene film
- ✓ Internal over pressure security device
- ✓ Maximum allowed fault current of 10kA
- ✓ Dielectric losses smaller than 0,4 W/kVAr
- ✓ Internal discharge resistors in three-phase units, modules and banks
- ✓ Designed in accordance with standards IEC 60831-1/2 and UL810



- Three-phase capacitor unit is composed by capacitive cells of self-healing metalized film connected in delta and assembled in aluminum can.
- Equipped with internal discharge resistors (30s, 1/10 Un).
- UCW-T design allows vertical or horizontal installation.
- UCW-T capacitors, sizes 4 and 5 have power source terminals M3 type for cables connection and a fireproof cover guarantees degree of protection IP50. Sizes: 6 and 7 have power source terminals “BOX” type for cables connection and a cover guarantees degree of protection IP20.

# THREE-PHASE CAPACITORS UNIT – UCW-T



## UCW-T: 50Hz<sup>(1)</sup>

| Rated Voltage (VAC) <sup>(1)</sup> | Reactive Power (kVAr) | Capacitance (μF)<br>Δ Connection | Type            | Rated Current (A) | Fuse gL/gG (A) <sup>(2)</sup> | Cable (mm <sup>2</sup> ) <sup>(2) (3)</sup> | Size | Weight (kg) |
|------------------------------------|-----------------------|----------------------------------|-----------------|-------------------|-------------------------------|---|------|-------------|
| 230                                | 0,5                   | 10,0 x 3                         | UCW-T 0,50/2,5  | 1,3               | 2                             | 1,5   | 4    | 0,54        |
|                                    | 0,75                  | 15,1 x 3                         | UCW-T 0,75/2,5  | 1,9               | 4                             | 1,5   | 4    | 0,54        |
|                                    | 1                     | 20,1 x 3                         | UCW-T 1,00/2,5  | 2,5               | 4                             | 1,5   | 4    | 0,54        |
|                                    | 1,5                   | 30,1 x 3                         | UCW-T 1,50/2,5  | 3,8               | 6                             | 1,5   | 4    | 0,54        |
|                                    | 2                     | 40,1 x 3                         | UCW-T 2,00/2,5  | 5,0               | 10                            | 1,5   | 4    | 0,54        |
|                                    | 2,5                   | 50,2 x 3                         | UCW-T 2,50/ 2,5 | 6,3               | 10                            | 1,5   | 5    | 0,70        |
|                                    | 3                     | 60,2 x 3                         | UCW-T 3,00/ 2,5 | 7,5               | 16                            | 1,5   | 5    | 0,70        |
|                                    | 5                     | 100,3 x 3                        | UCW-T 5,00/2,5  | 12,6              | 25                            | 2,5   | 6    | 1,40        |
|                                    | 7,5                   | 150,5 x 3                        | UCW-T 7,50/2,5  | 18,8              | 35                            | 4,0   | 7    | 1,79        |
| 10                                 | 200,7 x 3             | UCW-T 10,0/2,5                   | 25,1            | 50                | 6,0                           | 7   | 1,75 |             |
| 400                                | 0,5                   | 3,3 x 3                          | UCW-T 0,50/3,5  | 0,7               | 2                             | 1,5   | 4    | 0,53        |
|                                    | 0,75                  | 5,0 x 3                          | UCW-T 0,75/3,5  | 1,1               | 2                             | 1,5   | 4    | 0,52        |
|                                    | 1                     | 6,6 x 3                          | UCW-T 1,00/3,5  | 1,4               | 4                             | 1,5   | 4    | 0,52        |
|                                    | 1,5                   | 10,0 x 3                         | UCW-T 1,50/3,5  | 2,2               | 4                             | 1,5   | 4    | 0,52        |
|                                    | 2                     | 13,3 x 3                         | UCW-T 2,00 3,5  | 2,9               | 6                             | 1,5   | 4    | 0,53        |
|                                    | 2,5                   | 16,6 x 3                         | UCW-T 2,50/3,5  | 3,6               | 6                             | 1,5   | 4    | 0,52        |
|                                    | 3                     | 19,9 x 3                         | UCW-T 3,00/3,5  | 4,3               | 10                            | 1,5   | 4    | 0,54        |
|                                    | 5                     | 33,2 x 3                         | UCW-T 5,00/3,5  | 7,2               | 16                            | 1,5   | 5    | 0,69        |
|                                    | 7,5                   | 49,8 x 3                         | UCW-T 7,50/3,5  | 10,8              | 20                            | 2,5   | 6    | 1,36        |
|                                    | 10                    | 66,3 x 3                         | UCW-T 10,0/3,5  | 14,4              | 25                            | 2,5   | 6    | 1,36        |
|                                    | 12,5                  | 82,9 x 3                         | UCW-T 12,5/3,5  | 18,0              | 35                            | 4,0   | 7    | 1,69        |
| 15                                 | 99,5 x 3              | UCW-T 15,0/3,5                   | 21,7            | 35                | 6,0                           | 7   | 1,73 |             |
| 440                                | 0,5                   | 2,7 x 3                          | UCW-T 0,50/4,5  | 0,7               | 2                             | 1,5   | 4    | 0,53        |
|                                    | 0,75                  | 4,1 x 3                          | UCW-T 0,75/4,5  | 1,0               | 2                             | 1,5   | 4    | 0,54        |
|                                    | 1                     | 5,5 x 3                          | UCW-T 1,00/4,5  | 1,3               | 2                             | 1,5   | 4    | 0,54        |
|                                    | 1,5                   | 8,2 x 3                          | UCW-T 1,50/4,5  | 2,0               | 4                             | 1,5   | 4    | 0,53        |
|                                    | 2                     | 11,0 x 3                         | UCW-T 2,00/4,5  | 2,6               | 4                             | 1,5   | 4    | 0,53        |
|                                    | 2,5                   | 13,7 x 3                         | UCW-T 2,50/4,5  | 3,3               | 6                             | 1,5   | 4    | 0,53        |
|                                    | 3                     | 16,4 x 3                         | UCW-T 3,00/4,5  | 3,9               | 6                             | 1,5   | 4    | 0,53        |
|                                    | 5                     | 27,4 x 3                         | UCW-T 5,00/4,5  | 6,6               | 10                            | 1,5   | 5    | 0,69        |
|                                    | 7,5                   | 41,1 x 3                         | UCW-T 7,50/4,5  | 9,8               | 16                            | 1,5   | 6    | 1,39        |
|                                    | 10                    | 54,8 x 3                         | UCW-T 10,0/4,5  | 13,1              | 25                            | 2,5   | 6    | 1,40        |
|                                    | 12,5                  | 68,5 x 3                         | UCW-T 12,5/4,5  | 16,4              | 35                            | 4,0   | 7    | 1,73        |
| 15                                 | 82,2 x 3              | UCW-T 15,0/4,5                   | 19,7            | 35                | 4,0                           | 7   | 1,76 |             |
| 480                                | 0,5                   | 2,3 x 3                          | UCW-T 0,50/5,5  | 0,6               | 2                             | 1,5   | 4    | 0,53        |
|                                    | 0,75                  | 3,5 x 3                          | UCW-T 0,75/5,5  | 0,9               | 2                             | 1,5   | 4    | 0,53        |
|                                    | 1                     | 4,6 x 3                          | UCW-T 1,00/5,5  | 1,2               | 2                             | 1,5   | 4    | 0,52        |
|                                    | 1,5                   | 6,9 x 3                          | UCW-T 1,50/5,5  | 1,8               | 4                             | 1,5   | 4    | 0,53        |
|                                    | 2                     | 9,2 x 3                          | UCW-T 2,00/5,5  | 2,4               | 4                             | 1,5   | 4    | 0,53        |
|                                    | 2,5                   | 11,5 x 3                         | UCW-T 2,50/5,5  | 3,0               | 6                             | 1,5   | 4    | 0,53        |
|                                    | 3                     | 13,8 x 3                         | UCW-T 3,00/5,5  | 3,6               | 6                             | 1,5   | 4    | 0,52        |
|                                    | 5                     | 23,0 x 3                         | UCW-T 5,00/5,5  | 6,0               | 10                            | 1,5   | 5    | 0,69        |
|                                    | 7,5                   | 34,6 x 3                         | UCW-T 7,50/5,5  | 9,0               | 16                            | 1,5   | 6    | 1,35        |
|                                    | 10                    | 46,1 x 3                         | UCW-T 10,0/5,5  | 12,0              | 20                            | 2,5   | 6    | 1,40        |
|                                    | 12,5                  | 57,6 x 3                         | UCW-T 12,5/5,5  | 15,0              | 25                            | 2,5   | 7    | 1,76        |
| 15                                 | 69,1 x 3              | UCW-T 15,0/5,5                   | 18,0            | 35                | 4,0                           | 7   | 1,74 |             |

- (1) For others voltages and frequency please contact your local WEG office or Agent.  
 (2) Fuses and power cables not supplied with UCW-T.  
 (3) All cables sized according with I<sub>r</sub>×1,43 and average ambient temperature of 30°C.

- Single-phase capacitors UCW are made of self-healing metalized polypropylene film and used for power factor correction of electrical installations.
- Capacitive cell is assembled in aluminium can and has a security device that disconnects the capacitor from power source circuit and protects against internal faults.



## UCW - 50Hz<sup>(1)</sup>

| Rated Voltage (VAC) <sup>(1)</sup> | Reactive Power (kVAr) | Capacitance (μF) | Type <sup>(2)</sup> | Discharge Resistor 30s, 1/10Un <sup>(2)</sup> | Size | Weight (kg) |
|------------------------------------|-----------------------|------------------|---------------------|---|------|-------------|
| 230                                | 0,83                  | 50,0             | UCW 0,8/2.5         | 180kΩ/3W                                      | 2    | 0,32        |
|                                    | 1,67                  | 100,5            | UCW 1,6/2.5         | 82kΩ/3W                                       | 3    | 0,32        |
|                                    | 2,50                  | 150,5            | UCW 2,5/2.5         | 56kΩ/3W                                       | 4    | 0,46        |
|                                    | 3,33                  | 200,5            | UCW 3,3/2.5         | 56kΩ/3W                                       | 4    | 0,46        |
| 400                                | 0,83                  | 16,5             | UCW 0,8/3.5         | 560kΩ/3W                                      | 1    | 0,28        |
|                                    | 1,67                  | 33,2             | UCW 1,6/3.5         | 270kΩ/3W                                      | 1    | 0,27        |
|                                    | 2,50                  | 49,8             | UCW 2,5/3.5         | 180kΩ/3W                                      | 2    | 0,42        |
|                                    | 3,33                  | 66,3             | UCW 3,3/3.5         | 150kΩ/3W                                      | 3    | 0,42        |
|                                    | 5,00                  | 99,5             | UCW 5,0/3.5         | 82kΩ/3W                                       | 4    | 0,46        |
| 440                                | 0,83                  | 13,7             | UCW 0,8/4.5         | 560kΩ/3W                                      | 1    | 0,27        |
|                                    | 1,67                  | 27,5             | UCW 1,6/4.5         | 390kΩ/3W                                      | 1    | 0,32        |
|                                    | 2,50                  | 41,1             | UCW 2,5/4.5         | 270kΩ/3W                                      | 2    | 0,32        |
|                                    | 3,33                  | 54,8             | UCW 3,3/4.5         | 180kΩ/3W                                      | 3    | 0,42        |
|                                    | 5,00                  | 82,2             | UCW 5,0/4.5         | 120kΩ/3W                                      | 4    | 0,45        |
| 480                                | 0,83                  | 11,5             | UCW 0,8/5.5         | 1MΩ/3W  | 2    | 0,33        |
|                                    | 1,67                  | 23,1             | UCW 1,6/5.5         | 390kΩ/3W                                      | 2    | 0,33        |
|                                    | 2,50                  | 34,6             | UCW 2,5/5.5         | 270kΩ/3W                                      | 2    | 0,33        |
|                                    | 3,33                  | 46,0             | UCW 3,3/5.5         | 180kΩ/3W                                      | 3    | 0,42        |
|                                    | 5,00                  | 69,1             | UCW 5,0/5.5         | 150kΩ/3W                                      | 4    | 0,46        |

(1) For others voltages and frequency please contact your local WEG office or Agent.  
 (2) Discharge resistors and fixation elements not supplied with UCW. Order separately.  
 (3) Contactors, fuses and power cables not supplied with MCW.  
 (4) All cables sized according with  $I_r \times 1,43$  and average ambient temperature of 30°C.

- Three-phase capacitors module MCW is a modular unit composed by three single-phase capacitors connected in delta, equipped with discharge resistors (30s, 1/10 Un) and using an accessory is possible to connect up to four modules MCW in parallel.
- Modular design for quick and easy assembling and maintenance.
- MCW module has degree of protection IP40, allows vertical or horizontal installation, easy changing of the capacitive cells individually and fireproof thermoplastic protection cover on the top and sides.



## MCW - 50Hz<sup>(1)</sup>

| Rated Voltage (VAC) <sup>(1)</sup> | Reactive Power (kVAr) | Type         | Configuration (Qty x kVAr) | Rated Current (A) | Contactor <sup>(3)</sup> | Fuse gL/gG (A) <sup>(3)</sup> | Cable mm <sup>2</sup> <sup>(3) (4)</sup> | Weight (kg) |
|------------------------------------|-----------------------|--------------|----------------------------|-------------------|--------------------------|-------------------------------|--|-------------|
| 230                                | 2,5                   | MCW 2,5/2,5  | 3 x 0,83                   | 6,3               | CWM 25C                  | 10                            | 1,5                                      | 2,15        |
|                                    | 5,0                   | MCW 5,0/2,5  | 3 x 1,67                   | 12,6              | CWM 25C                  | 25                            | 2,5                                      | 2,15        |
|                                    | 7,5                   | MCW 7,5/2,5  | 3 x 2,50                   | 18,8              | CWM 25C                  | 35                            | 4,0                                      | 2,23        |
|                                    | 10,0                  | MCW 10,0/2,5 | 3 x 3,33                   | 25,1              | CWM 25C                  | 50                            | 6,0                                      | 2,23        |
| 400                                | 2,5                   | MCW 2,5/3,5  | 3 x 0,83                   | 3,6               | CWM 25C                  | 6                             | 1,5                                      | 2,00        |
|                                    | 5                     | MCW 5,0/3,5  | 3 x 1,67                   | 7,2               | CWM 25C                  | 16                            | 1,5                                      | 1,97        |
|                                    | 7,5                   | MCW 7,5/3,5  | 3 x 2,50                   | 10,8              | CWM 25C                  | 20                            | 2,5                                      | 2,44        |
|                                    | 10                    | MCW 10,0/3,5 | 3 x 3,33                   | 14,4              | CWM 25C                  | 25                            | 2,5                                      | 2,31        |
| 440                                | 15                    | MCW 15,0/3,5 | 3 x 5,00                   | 21,7              | CWM 25C                  | 35                            | 6,0                                      | 2,19        |
|                                    | 2,5                   | MCW 2,5/4,5  | 3 x 0,83                   | 3,3               | CWM 25C                  | 6                             | 1,5                                      | 1,99        |
|                                    | 5                     | MCW 5,0/4,5  | 3 x 1,67                   | 6,6               | CWM 25C                  | 10                            | 1,5                                      | 2,14        |
|                                    | 7,5                   | MCW 7,5/4,5  | 3 x 2,50                   | 9,8               | CWM 25C                  | 16                            | 1,5                                      | 2,12        |
| 480                                | 10                    | MCW 10,0/4,5 | 3 x 3,33                   | 13,1              | CWM 25C                  | 25                            | 2,5                                      | 2,30        |
|                                    | 15                    | MCW 15,0/4,5 | 3 x 5,00                   | 19,7              | CWM 25C                  | 35                            | 4,0                                      | 2,18        |
|                                    | 2,5                   | MCW 2,5/5,5  | 3 x 0,83                   | 3,0               | CWM 25C                  | 6                             | 1,5                                      | 2,18        |
|                                    | 5                     | MCW 5,0/5,5  | 3 x 1,67                   | 6,0               | CWM 25C                  | 10                            | 1,5                                      | 2,16        |
| 480                                | 7,5                   | MCW 7,5/5,5  | 3 x 2,50                   | 9,0               | CWM 25C                  | 16                            | 1,5                                      | 2,17        |
|                                    | 10                    | MCW 10,0/5,5 | 3 x 3,33                   | 12,0              | CWM 25C                  | 20                            | 2,5                                      | 2,31        |
|                                    | 15                    | MCW 15,0/5,5 | 3 x 5,00                   | 18,0              | CWM 25C                  | 35                            | 4,0                                      | 2,21        |

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 (2) Discharge resistors and fixation elements not supplied with UCW. Order separately.  
 (3) Contactors, fuses and power cables not supplied with MCW.  
 (4) All cables sized according with Ix1,43 and average ambient temperature of 30°C.

- Three-phase capacitors bank BCW composed by capacitive cells assembled in metallic enclosure with degree of protection IP32 and used for power factor correction of duty loads.
- Equipped with discharge resistors (30s, 1/10 Un) and terminal blocks for power source.
- This construction allows vertical or horizontal installation and change capacitive cells individually.



## BCW - 50Hz<sup>(1)</sup>

| Rated Voltage (VAC) <sup>(1)</sup> | Reactive Power (kVAr) | Type                 | Configuration (Qty x kVAr) | Box Size | Rated Current (A) | Fuse gL/gG (A) <sup>(2)</sup> | Cable mm <sup>2</sup> (2/3) | Weight (kg) |
|------------------------------------|-----------------------|----------------------|----------------------------|----------|-------------------|-------------------------------|-----------------------------|-------------|
| 230                                | 10,0                  | BCW 10,0/2,5         | 3 x 3,33                   | 01       | 25,1              | 50                            | 6                           | 4,7         |
|                                    | 12,5                  | BCW 12,5/2,5         | 3 x 3,33 + 3 x 0,83        | 01       | 31,4              | 63                            | 10                          | 5,7         |
|                                    | 15,0                  | BCW 15,0/2,5         | 3 x 3,33 + 3 x 1,67        | 01       | 37,7              | 63                            | 16                          | 5,7         |
|                                    | 17,5                  | BCW 17,5/2,5         | 3 x 3,33 + 3 x 2,5         | 01       | 43,9              | 80                            | 16                          | 6,1         |
|                                    | 20,0                  | BCW 20,0/2,5         | 6 x 3,33                   | 01       | 50,2              | 100                           | 25                          | 6,1         |
|                                    | 22,5                  | BCW 22,5/2,5         | 6 x 3,33 + 3 x 0,83        | 01       | 56,5              | 100                           | 25                          | 7,0         |
|                                    | 25,0                  | BCW 25,0/2,5         | 6 x 3,33 + 3 x 1,67        | 01       | 62,8              | 125                           | 25                          | 7,0         |
|                                    | 27,5                  | BCW 27,5/2,5         | 6 x 3,33 + 3 x 2,5         | 01       | 69,0              | 125                           | 35                          | 7,5         |
|                                    | 30,0                  | BCW 30,0/2,5         | 9 x 3,33                   | 01       | 75,3              | 160                           | 35                          | 7,5         |
|                                    | 35,0                  | BCW 35,0/2,5         | 9 x 3,33 + 3 x 1,67        | 02       | 87,9              | 160                           | 50                          | 9,4         |
|                                    | 37,5                  | BCW 37,5/2,5         | 9 x 3,33 + 3 x 2,5         | 02       | 94,1              | 160                           | 50                          | 9,9         |
| 40,0                               | BCW 40,0/2,5          | 12 x 3,33            | 02                         | 100,4    | 200               | 70                            | 9,9                         |             |
| 45,0                               | BCW 45,0/2,5          | 12 x 3,33 + 3 x 1,67 | 02                         | 113,0    | 200               | 70                            | 10,8                        |             |
| 50,0                               | BCW 50,0/2,5          | 15 x 3,33            | 02                         | 125,5    | 224               | 70                            | 11,2                        |             |
| 400                                | 17,5                  | BCW 17,5/3,5         | 3 x 5,0 + 3 x 0,83         | 01       | 25,3              | 50                            | 6                           | 5,5         |
|                                    | 20,0                  | BCW 20,0/3,5         | 3 x 5,0 + 3 x 1,67         | 01       | 28,9              | 50                            | 10                          | 5,5         |
|                                    | 22,5                  | BCW 22,5/3,5         | 3 x 5,0 + 3 x 2,5          | 01       | 32,5              | 63                            | 10                          | 5,9         |
|                                    | 25,0                  | BCW 25,0/3,5         | 3 x 5,0 + 3 x 3,33         | 01       | 36,1              | 63                            | 16                          | 5,9         |
|                                    | 27,5                  | BCW 27,5/3,5         | 6 x 3,33 + 3 x 2,5         | 01       | 39,7              | 80                            | 16                          | 7,3         |
|                                    | 30,0                  | BCW 30,0/3,5         | 6 x 5,0                    | 01       | 43,3              | 80                            | 16                          | 6,0         |
|                                    | 35,0                  | BCW 35,0/3,5         | 6 x 5,0 + 3 x 1,67         | 01       | 50,5              | 100                           | 25                          | 6,8         |
|                                    | 40,0                  | BCW 40,0/3,5         | 6 x 5,0 + 3 x 3,33         | 01       | 57,7              | 100                           | 25                          | 7,3         |
|                                    | 45,0                  | BCW 45,0/3,5         | 9 x 5,0                    | 01       | 65,0              | 125                           | 35                          | 7,4         |
|                                    | 50,0                  | BCW 50,0/3,5         | 9 x 5,0 + 3 x 1,67         | 02       | 72,2              | 125                           | 35                          | 9,2         |
|                                    | 60,0                  | BCW 60,0/3,5         | 12 x 5,0                   | 02       | 86,6              | 160                           | 50                          | 9,8         |
| 75,0                               | BCW 75,0/3,5          | 15 x 5,0             | 02                         | 108,3    | 200               | 70                            | 11,2                        |             |
| 440                                | 17,5                  | BCW 17,5/4,5         | 3 x 5,0 + 3 x 0,83         | 01       | 23,0              | 35                            | 6                           | 5,5         |
|                                    | 20,0                  | BCW 20,0/4,5         | 3 x 5,0 + 3 x 1,67         | 01       | 26,2              | 50                            | 6                           | 5,6         |
|                                    | 22,5                  | BCW 22,5/4,5         | 3 x 5,0 + 3 x 2,5          | 01       | 29,5              | 50                            | 10                          | 5,6         |
|                                    | 25,0                  | BCW 25,0/4,5         | 3 x 5,0 + 3 x 3,33         | 01       | 32,8              | 63                            | 10                          | 5,9         |
|                                    | 27,5                  | BCW 27,5/4,5         | 6 x 3,33 + 3 x 2,5         | 01       | 36,1              | 63                            | 10                          | 7,0         |
|                                    | 30,0                  | BCW 30,0/4,5         | 6 x 5,0                    | 01       | 39,4              | 63                            | 16                          | 6,1         |
|                                    | 35,0                  | BCW 35,0/4,5         | 6 x 5,0 + 3 x 1,67         | 01       | 45,9              | 80                            | 16                          | 7,0         |
|                                    | 40,0                  | BCW 40,0/4,5         | 6 x 5,0 + 3 x 3,33         | 01       | 52,5              | 100                           | 25                          | 7,3         |
|                                    | 45,0                  | BCW 45,0/4,5         | 9 x 5,0                    | 01       | 59,0              | 100                           | 25                          | 7,4         |
|                                    | 50,0                  | BCW 50,0/4,5         | 9 x 5,0 + 3 x 1,67         | 02       | 65,6              | 125                           | 25                          | 9,4         |
|                                    | 60,0                  | BCW 60,0/4,5         | 12 x 5,0                   | 02       | 78,7              | 125                           | 35                          | 9,8         |
| 75,0                               | BCW 75,0/4,5          | 15 x 5,0             | 02                         | 98,4     | 160               | 50                            | 11,2                        |             |
| 480                                | 17,5                  | BCW 17,5/5,5         | 3 x 5,0 + 3 x 0,83         | 01       | 21,0              | 35                            | 6                           | 5,7         |
|                                    | 20,0                  | BCW 20,0/5,5         | 3 x 5,0 + 3 x 1,67         | 01       | 24,1              | 50                            | 6                           | 5,7         |
|                                    | 22,5                  | BCW 22,5/5,5         | 3 x 5,0 + 3 x 2,5          | 01       | 27,1              | 50                            | 10                          | 5,7         |
|                                    | 25,0                  | BCW 25,0/5,5         | 3 x 5,0 + 3 x 3,33         | 01       | 30,1              | 50                            | 10                          | 5,9         |
|                                    | 27,5                  | BCW 27,5/5,5         | 6 x 3,33 + 3 x 2,5         | 01       | 33,1              | 63                            | 10                          | 7,0         |
|                                    | 30,0                  | BCW 30,0/5,5         | 6 x 5,0                    | 01       | 36,1              | 63                            | 16                          | 6,1         |
|                                    | 35,0                  | BCW 35,0/5,5         | 6 x 5,0 + 3 x 1,67         | 01       | 42,1              | 80                            | 16                          | 7,0         |
|                                    | 40,0                  | BCW 40,0/5,5         | 6 x 5,0 + 3 x 3,33         | 01       | 48,1              | 80                            | 25                          | 7,3         |
|                                    | 45,0                  | BCW 45,0/5,5         | 9 x 5,0                    | 01       | 54,1              | 100                           | 25                          | 7,4         |
|                                    | 50,0                  | BCW 50,0/5,5         | 9 x 5,0 + 3 x 1,67         | 02       | 60,1              | 100                           | 25                          | 9,4         |
|                                    | 60,0                  | BCW 60,0/5,5         | 12 x 5,0                   | 02       | 72,2              | 125                           | 35                          | 9,8         |
| 75,0                               | BCW 75,0/5,5          | 15 x 5,0             | 02                         | 90,2     | 160               | 50                            | 11,2                        |             |

(1) For others voltages and frequency please contact your local WEG office or Agent.  
 (2) Contactors, fuses and power cables not supplied with BCW.  
 (3) All cables sized according with Ir x 1,43 and average ambient temperature of 30°C.



# THREE-PHASE CAPACITORS BANK WITH PROTECTION - BCW-P



Three-phase capacitors bank with protection is built in a metallic enclosure with degree of protection IP32 and epoxy painted RAL7022.

BCW-P is composed basically by capacitors UCW, CWM\_C contactors for switching capacitive loads, electronic timer relay RTW-RE to avoid resetting of capacitors on load and moulded case circuit breaker or retard fuses for short circuit protection.

## Characteristics:

- Discharge resistor incorporated;
- "Open Box" system for easy maintenance;
- Electronic timer relay to protect against resettings;
- Installation on vertical position.

## Applications:

- Power factor correction of individual loads and motors;
- Automatic banks.



## BCW-P - 50Hz<sup>(1)</sup>

| Rated Voltage (VAC) <sup>(1)</sup> | Reactive Power (kVAR) | Rated Current (A) | Configuration (Qty x kVAR) | Contactor       | Protection Type <sup>(4)</sup> |                              | Box Size      | Cable (mm <sup>2</sup> ) <sup>(2)(3)</sup> | Weight (kg)                  |      |
|------------------------------------|-----------------------|-------------------|----------------------------|-----------------|--------------------------------|------------------------------|---------------|--|------------------------------|------|
|                                    |                       |                   |                            |                 | Retard Fuse                    | Moulded Case Circuit Breaker |               |  | Moulded Case Circuit Breaker | Fuse |
| 230                                | 10,0                  | 25,1              | 3 x 3,33                   | CWM32C          | F00NH50                        | DWA160B-40-3                 | 1             | 6  | 10,2                         | 10,4 |
|                                    | 15,0                  | 37,7              | 3 x 3,33 + 3 x 1,67        | CWM32C          | F00NH63                        | DWA160B-63-3                 | 1             | 16   | 11,2                         | 11,4 |
|                                    | 20,0                  | 50,2              | 6 x 3,33                   | CWM50C          | F00NH100                       | DWA160B-80-3                 | 1             | 25   | 12,1                         | 12,4 |
|                                    | 25,0                  | 62,8              | 6 x 3,33 + 3 x 1,67        | CWM65C          | F00NH125                       | DWA160B-100-3                | 2             | 25   | 14,5                         | 14,7 |
|                                    | 30,0                  | 75,3              | 9 x 3,33                   | 2 x CWM32C      | F00NH160                       | DWA160B-125-3                | 2             | 35   | 15,0                         | 15,3 |
|                                    | 35,0                  | 87,9              | 9 x 3,33 + 3 x 1,67        | CWM32C + CWM50C | F00NH100 + F00NH63             | DWA160B-125-3                | 2             | 50   | 16,6                         | 18,0 |
| 400                                | 20,0                  | 28,9              | 3 x 5,0 + 3 x 1,67         | CWM32C          | F00NH50                        | DWA160B-50-3                 | 1             | 10   | 11,0                         | 11,2 |
|                                    | 25,0                  | 36,1              | 3 x 5,0 + 3 x 3,33         | CWM32C          | F00NH63                        | DWA160B-63-3                 | 1             | 16   | 11,4                         | 11,6 |
|                                    | 30,0                  | 43,3              | 6 x 5,0                    | CWM50C          | F00NH80                        | DWA160B-63-3                 | 1             | 16   | 12,0                         | 12,3 |
|                                    | 35,0                  | 50,5              | 6 x 5,0 + 3 x 1,67         | CWM50C          | F00NH100                       | DWA160B-80-3                 | 1             | 25   | 12,8                         | 13,1 |
|                                    | 40,0                  | 57,7              | 6 x 5,0 + 3 x 3,33         | CWM50C          | F00NH100                       | DWA160B-100-3                | 1             | 25   | 13,3                         | 13,6 |
|                                    | 45,0                  | 65,0              | 9 x 5,0                    | CWM65C          | F00NH125                       | DWA160B-100-3                | 1             | 35   | 13,4                         | 13,7 |
|                                    | 50,0                  | 72,2              | 9 x 5,0 + 3 x 1,67         | CWM65C          | F00NH125                       | DWA160B-125-3                | 2             | 35   | 15,7                         | 15,9 |
|                                    | 60,0                  | 86,6              | 12 x 5,0                   | 2 x CWM50C      | F00NH160                       | DWA160B-125-3                | 2             | 50   | 17,5                         | 17,8 |
|                                    | 75,0                  | 108,3             | 15 x 5,0                   | CWM50C + CWM65C | F00NH125 + F00NH80             | DWA160B-160-3                | 2             | 70   | 18,8                         | 20,2 |
| 440                                | 20,0                  | 26,2              | 3 x 5,0 + 3 x 1,67         | CWM32C          | F00NH50                        | DWA160B-40-3                 | 1             | 6  | 11,1                         | 11,3 |
|                                    | 25,0                  | 32,8              | 3 x 5,0 + 3 x 3,33         | CWM32C          | F00NH63                        | DWA160B-50-3                 | 1             | 10   | 11,4                         | 11,6 |
|                                    | 30,0                  | 39,4              | 6 x 5,0                    | CWM50C          | F00NH63                        | DWA160B-63-3                 | 1             | 16   | 12,0                         | 12,3 |
|                                    | 35,0                  | 45,9              | 6 x 5,0 + 3 x 1,67         | CWM50C          | F00NH80                        | DWA160B-63-3                 | 1             | 16   | 13,0                         | 13,3 |
|                                    | 40,0                  | 52,5              | 6 x 5,0 + 3 x 3,33         | CWM50C          | F00NH100                       | DWA160B-80-3                 | 1             | 25   | 13,3                         | 13,6 |
|                                    | 45,0                  | 59,0              | 9 x 5,0                    | CWM50C          | F00NH100                       | DWA160B-80-3                 | 1             | 25   | 13,4                         | 13,7 |
|                                    | 50,0                  | 65,6              | 9 x 5,0 + 3 x 1,67         | CWM65C          | F00NH125                       | DWA160B-100-3                | 2             | 25   | 15,9                         | 16,1 |
|                                    | 60,0                  | 78,7              | 12 x 5,0                   | 2 x CWM50C      | F00NH125                       | DWA160B-125-3                | 2             | 35   | 17,5                         | 17,8 |
|                                    | 75,0                  | 98,4              | 15 x 5,0                   | 2 x CWM50C      | F00NH100 + F00NH63             | DWA160B-160-3                | 2             | 50   | 18,9                         | 20,3 |
| 480                                | 20,0                  | 24,1              | 3 x 5,0 + 3 x 1,67         | CWM32C          | F00NH50                        | DWA160B-40-3                 | 1             | 6  | 11,2                         | 11,4 |
|                                    | 25,0                  | 30,1              | 3 x 5,0 + 3 x 3,33         | CWM32C          | F00NH50                        | DWA160B-50-3                 | 1             | 10   | 11,4                         | 11,6 |
|                                    | 30,0                  | 36,1              | 6 x 5,0                    | CWM32C          | F00NH63                        | DWA160B-50-3                 | 1             | 16   | 11,5                         | 11,7 |
|                                    | 35,0                  | 42,1              | 6 x 5,0 + 3 x 1,67         | CWM50C          | F00NH80                        | DWA160B-63-3                 | 1             | 16   | 13,0                         | 13,3 |
|                                    | 40,0                  | 48,1              | 6 x 5,0 + 3 x 3,33         | CWM50C          | F00NH80                        | DWA160B-70-3                 | 1             | 25   | 13,3                         | 13,6 |
|                                    | 45,0                  | 54,1              | 9 x 5,0                    | CWM50C          | F00NH100                       | DWA160B-80-3                 | 1             | 25   | 13,4                         | 13,7 |
|                                    | 50,0                  | 60,1              | 9 x 5,0 + 3 x 1,67         | CWM65C          | F00NH100                       | DWA160B-100-3                | 2             | 25   | 15,9                         | 16,1 |
|                                    | 60,0                  | 72,2              | 12 x 5,0                   | 2 x CWM32C      | F00NH125                       | DWA160B-100-3                | 2             | 35   | 16,4                         | 16,7 |
|                                    |                       | 75,0              | 90,2                       | 15 x 5,0        | CWM32C + CWM50C                | F00NH100 + F00NH63           | DWA160B-125-3 | 2  | 50                           | 18,4 |

(1) For others voltages and frequency please contact your local WEG office or Agent.

(2) All cables sized according with  $I \times 1,43$  and average ambient temperature of 30°C.

(3) Power cables not supplied with BCW-P.

(4) The Protection type must be selected: F(Retard Fuse) or D(Moulded Case Circuit Breaker)

|                               |   |
|-------------------------------|---|
| <b>Standards:</b>             | IEC 60831 – 1/2 and UL810                                   |
| <b>Capacitance tolerance:</b> | ±5%   |
| <b>Dielectric Losses:</b>     | < 0,4W/kVar   |
| <b>Ambient temperature:</b>   | -25°C up to +55°C   |
| <b>Over current:</b>          | 1,3 x Ir(Rated Current)                                     |
| <b>Over voltage:</b>          | 1,1 Ur(Rated Voltage)<br>During 8h each 24h<br>of operation |

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>Maximum Tolerance dv/dt:</b>      | 30 V/μs                              |
| <b>Rated Voltage:</b>                | 220VAC / 400 VAC<br>440VAC / 480VAC  |
| <b>Voltage Insulation:</b>           | 3kV                                  |
| <b>Maximum permissible altitude:</b> | 2000m                                |
| <b>Terminals:</b>                    | Sized for capacitor<br>rated current |

Single-phase capacitor UCW has two terminals (bolt+washer) and two Fast ON terminals that give reliability and security for power cables and discharge resistor connection.



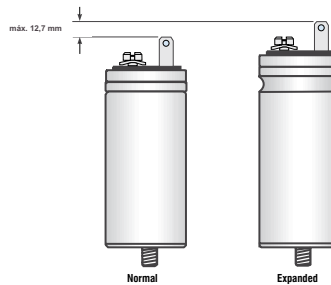
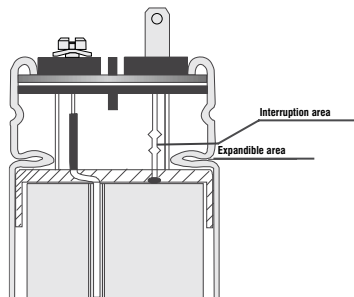
Terminal: Bolt + washer  
Power source connection

Terminal: Fast ON  
Discharge resistor connection

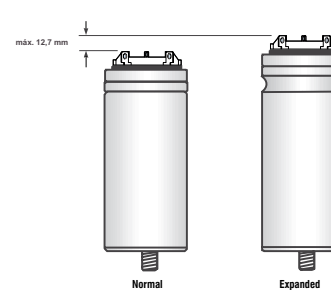
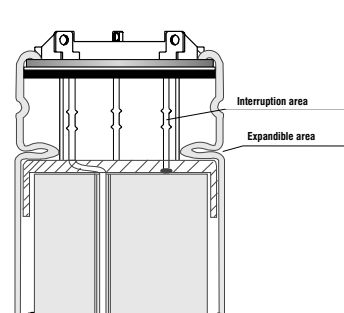
Note: Do not weld power cables pin bushing, use only cables with or without terminals.

## Over pressure disconnecter

### UCW



### UCW-T



The over pressure disconnecter device will disconnect the capacitive element from power source when happen an overload avoiding explosion risks.

## UCW, UCW-T, MCW AND BCW ACCESSORIES

### Discharge resistors for UCW

|                 |   |             |
|-----------------|---|-------------|
| <b>RDC 56K</b>  | - | 56 kΩ / 3W  |
| <b>RDC 82K</b>  | - | 82 kΩ / 3W  |
| <b>RDC 120K</b> | - | 120 kΩ / 3W |
| <b>RDC 150K</b> | - | 150 kΩ / 3W |
| <b>RDC 180K</b> | - | 180 kΩ / 3W |
| <b>RDC 270K</b> | - | 270 kΩ / 3W |
| <b>RDC 390K</b> | - | 390 kΩ / 3W |
| <b>RDC 560K</b> | - | 560 kΩ / 3W |
| <b>RDC 1M</b>   | - | 1MΩ / 3W    |

### Connection bars for MCW

**BI-MCW** - Connection for capacitors module

Note: Connection limited to maximum 4 MCW modules

### BCW Empty Boxes

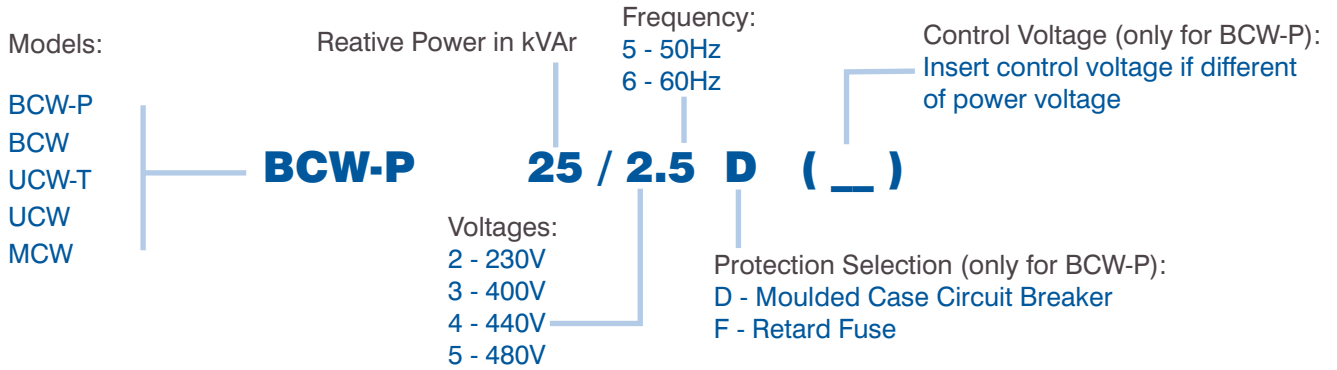
**UMW-01** - Maximum installation of 9 UCW capacitors

**UMW-02** - Maximum installation of 15 UCW capacitors

**Nut and washer for UCW and UCW-T installation**  
PAC M12

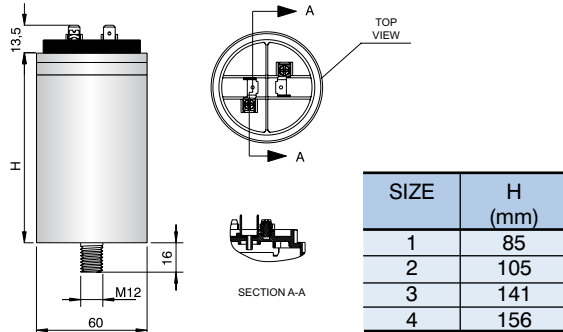


## CATALOGUE NUMBER DECODING SYSTEM

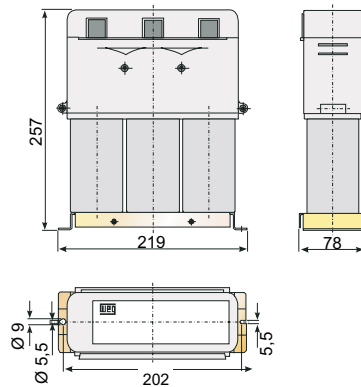


## DIMENSIONS

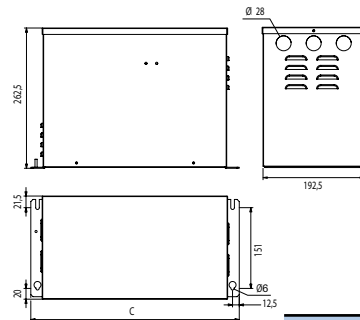
### Single-phase capacitor - UCW



### Three-phase capacitor module - MCW

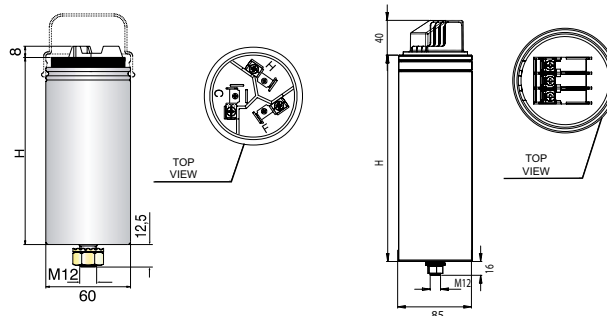


## Three-phase capacitor bank - BCW



| SIZE   | C (mm) |
|--------|--------|
| UMW-01 | 266    |
| UMW-02 | 390    |

## Three-phase capacitor unit - UCW-T

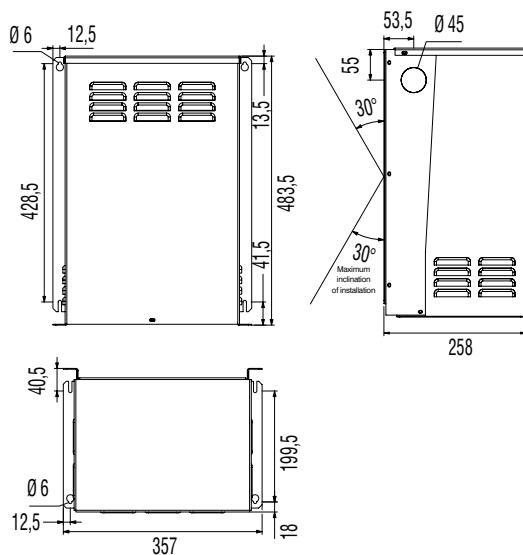


| SIZE | H (mm) |
|------|--------|
| 4    | 156    |
| 5    | 211    |

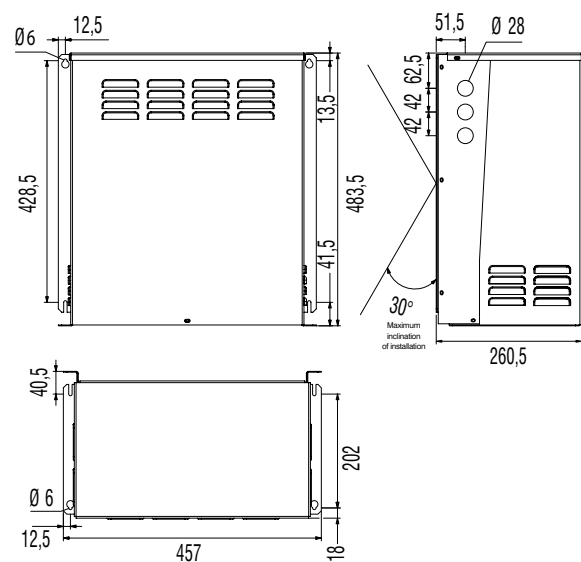
| SIZE | H (mm) |
|------|--------|
| 6    | 221,5  |
| 7    | 281,5  |

## Three-phase capacitor bank with protection - BCW-P

Size 01\*



Size 02\*



\*All dimensions in mm

# CALCULATION FOR POWER FACTOR CORRECTION



| Current power factor | Required power Factor (F) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | 0,85                      | 0,86  | 0,87  | 0,88  | 0,89  | 0,90  | 0,91  | 0,92  | 0,93  | 0,94  | 0,95  | 0,96  | 0,97  | 0,98  | 0,99  |
| 0,50                 | 1,112                     | 1,139 | 1,165 | 1,192 | 1,220 | 1,248 | 1,276 | 1,306 | 1,337 | 1,369 | 1,403 | 1,440 | 1,481 | 1,529 | 1,589 |
| 0,52                 | 1,023                     | 1,050 | 1,076 | 1,103 | 1,131 | 1,159 | 1,187 | 1,217 | 1,248 | 1,280 | 1,314 | 1,351 | 1,392 | 1,440 | 1,500 |
| 0,54                 | 0,939                     | 0,966 | 0,992 | 1,019 | 1,047 | 1,075 | 1,103 | 1,133 | 1,164 | 1,196 | 1,230 | 1,267 | 1,308 | 1,356 | 1,416 |
| 0,56                 | 0,860                     | 0,887 | 0,913 | 0,940 | 0,968 | 0,996 | 1,024 | 1,054 | 1,085 | 1,117 | 1,151 | 1,188 | 1,229 | 1,277 | 1,337 |
| 0,58                 | 0,785                     | 0,812 | 0,838 | 0,865 | 0,893 | 0,921 | 0,949 | 0,979 | 1,010 | 1,042 | 1,076 | 1,113 | 1,154 | 1,202 | 1,262 |
| 0,60                 | 0,713                     | 0,740 | 0,766 | 0,793 | 0,821 | 0,849 | 0,877 | 0,907 | 0,938 | 0,970 | 1,004 | 1,041 | 1,082 | 1,130 | 1,190 |
| 0,62                 | 0,646                     | 0,673 | 0,699 | 0,726 | 0,754 | 0,782 | 0,810 | 0,840 | 0,871 | 0,903 | 0,937 | 0,974 | 1,015 | 1,063 | 1,123 |
| 0,64                 | 0,581                     | 0,608 | 0,634 | 0,661 | 0,689 | 0,717 | 0,745 | 0,775 | 0,806 | 0,838 | 0,872 | 0,909 | 0,950 | 0,998 | 1,068 |
| 0,66                 | 0,518                     | 0,545 | 0,571 | 0,598 | 0,626 | 0,654 | 0,682 | 0,712 | 0,743 | 0,775 | 0,809 | 0,846 | 0,887 | 0,935 | 0,995 |
| 0,68                 | 0,458                     | 0,485 | 0,511 | 0,538 | 0,566 | 0,594 | 0,622 | 0,652 | 0,683 | 0,715 | 0,749 | 0,786 | 0,827 | 0,875 | 0,935 |
| 0,70                 | 0,400                     | 0,427 | 0,453 | 0,480 | 0,508 | 0,536 | 0,564 | 0,594 | 0,625 | 0,657 | 0,691 | 0,728 | 0,769 | 0,817 | 0,877 |
| 0,72                 | 0,344                     | 0,371 | 0,397 | 0,424 | 0,452 | 0,480 | 0,508 | 0,538 | 0,569 | 0,601 | 0,635 | 0,672 | 0,713 | 0,761 | 0,821 |
| 0,74                 | 0,289                     | 0,316 | 0,342 | 0,369 | 0,397 | 0,425 | 0,453 | 0,483 | 0,514 | 0,546 | 0,580 | 0,617 | 0,658 | 0,706 | 0,766 |
| 0,76                 | 0,235                     | 0,262 | 0,288 | 0,315 | 0,343 | 0,371 | 0,399 | 0,429 | 0,460 | 0,492 | 0,526 | 0,563 | 0,604 | 0,652 | 0,712 |
| 0,78                 | 0,182                     | 0,209 | 0,235 | 0,262 | 0,290 | 0,318 | 0,346 | 0,376 | 0,407 | 0,439 | 0,473 | 0,510 | 0,551 | 0,599 | 0,659 |
| 0,80                 | 0,130                     | 0,157 | 0,183 | 0,210 | 0,238 | 0,266 | 0,294 | 0,324 | 0,355 | 0,387 | 0,421 | 0,458 | 0,499 | 0,547 | 0,609 |
| 0,82                 | 0,078                     | 0,105 | 0,131 | 0,158 | 0,186 | 0,214 | 0,242 | 0,272 | 0,303 | 0,335 | 0,369 | 0,406 | 0,447 | 0,495 | 0,555 |
| 0,84                 | 0,026                     | 0,053 | 0,079 | 0,106 | 0,134 | 0,162 | 0,190 | 0,220 | 0,251 | 0,283 | 0,317 | 0,354 | 0,395 | 0,443 | 0,503 |
| 0,86                 |                           |       | 0,026 | 0,053 | 0,081 | 0,109 | 0,137 | 0,167 | 0,198 | 0,230 | 0,264 | 0,301 | 0,342 | 0,390 | 0,450 |
| 0,88                 |                           |       |       |       | 0,028 | 0,056 | 0,084 | 0,114 | 0,145 | 0,177 | 0,211 | 0,248 | 0,289 | 0,337 | 0,397 |
| 0,90                 |                           |       |       |       |       |       | 0,028 | 0,058 | 0,089 | 0,121 | 0,155 | 0,192 | 0,233 | 0,281 | 0,341 |
| 0,92                 |                           |       |       |       |       |       |       |       | 0,031 | 0,063 | 0,097 | 0,134 | 0,175 | 0,223 | 0,283 |
| 0,94                 |                           |       |       |       |       |       |       |       |       |       | 0,034 | 0,071 | 0,112 | 0,160 | 0,229 |
| 0,96                 |                           |       |       |       |       |       |       |       |       |       |       |       | 0,041 | 0,089 | 0,149 |
| 0,98                 |                           |       |       |       |       |       |       |       |       |       |       |       |       |       | 0,060 |

- The motors power factor correction can be calculated through this formula:  $Q_{capm} = \frac{(\%Load) \cdot P \cdot F}{\eta}$

%Load = Power factor according Load factor applied in motor. E.g.: Motor operating at: 50% → P = 0, 5, 75% = 0, 75 and 100% = 1.

P = Active power (W);

F = Multiplication factor according to the table above;

η = Motor efficiency;

Q<sub>capm</sub> = Reactive power necessary to the motor (kVAr)

- To calculate the reactive power using energy bills it is recommended to do an average of consumption over a minimum 12 months billing period. The mean values obtained for power factor and active power calculated must be used with required power Factor (F).

E.g. <sup>(1)</sup>:

Average current power factor (CPF) = 0, 8

Average active power factor (AP) = 1000kW

Required power factor (RPF) = 0, 92

Multiplication factor according to the table above (F) = 0,324

KVAr = AP x F = 1000 x 0,324 = 324kVAr

<sup>(1)</sup> Always analyzes the load types installed and load installation curves.

## Notes:

- If 20% of total loads are not linear (frequency inverters, soft-starters, rectifiers, electronics reactors, etc) inductive reactors anti-harmonics must be installed.

- Harmonics distortions limits: DHV (Voltage) < 5% and DHA (Current) < 15%

- Capacitor use in electrical systems with high level of harmonic distortion can damage internally the capacitive cells.