

## High Voltage AC Power Capacitors 3-Phase Units



### FEATURES

- Latest technology
- High quality materials
- Low losses design
- Dielectric liquid biodegradable

### APPLICATIONS

- Power factor correction
- Harmonic filtering
- Motor compensation
- Industrial converter
- Thermal power station
- Solar
- Wind

### QUICK REFERENCE DATA

|                     |                                                 |
|---------------------|-------------------------------------------------|
| Series              | Pha... HVAC 3-phase                             |
| Description         | High voltage power capacitors, indoor           |
| Type                | High voltage AC power capacitors, 3-phase units |
| Technology          | All-film polypropylene / aluminum foil          |
| Voltage min. (V)    | 1000                                            |
| Voltage max. (V)    | 17 500                                          |
| Frequency min. (Hz) | 50                                              |
| Frequency max. (Hz) | 60                                              |
| Output min. (kvar)  | 25                                              |
| Output max. (kvar)  | 900                                             |

### TECHNICAL DATA

|                       |                                                |
|-----------------------|------------------------------------------------|
| Rated frequency       | 50 Hz or 60 Hz (other frequencies on request)  |
| Insulation class      | 7.2 kV / 12 kV / 17.5 kV                       |
| Internal connection   | Star or delta                                  |
| Average losses        | < 0.15 W/kvar                                  |
| Discharge resistors   | Internal (75 V/10 min)                         |
| Temperature category  | -50 °C to +55 °C                               |
| Capacitance tolerance | -5 % / +10 %                                   |
| Internal connection   | Star or delta                                  |
| Impregnating agent    | Synthetic oil (non-PCB)                        |
| Protection            | Pressure monitoring device                     |
| Inrush current        | 100 x I <sub>N</sub> max.                      |
| Standards             | IEC 60871, ANSI/IEEE 18, CSA C22.2 No. 190     |
| Bushings              | Porcelain, screw or welded type, M12 / M16     |
| Casing                | Stainless steel                                |
| Standard color        | RAL 7033 / other colors available upon request |

## FORMS OF CONSTRUCTION

IP00 3-phase capacitor are provided with three bushings, dead casing with grounding connection point. They are connected either in star or in delta, with pressure monitoring device.



Form 1

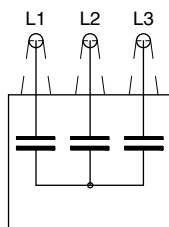


Form 2

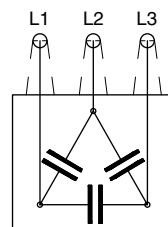


Form 3

## CONNECTIONS



Star



Delta

## CORROSION PROTECTION

Case material: stainless steel case AISI 409 (AISI 304 as option)

Thickness of material 1.5 mm, top cover and bottom 2.0 mm

Standard case dimensions: 345 mm x 110 mm / 135 mm / 175 mm x H mm

Special dimensions on request (replacement market)

**DIMENSION AND WEIGHT**

| <b>3-PHASE CAPACITORS UP TO 7.2 kV, IP00</b>                |                                                                 |                                                                 |                                |                                                 |                                                 |                                                             |                              |             |
|-------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|------------------------------|-------------|
| <b>RATED VOLTAGE</b><br><b>U<sub>N</sub></b><br><b>(kV)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 50 Hz</b><br><b>(kvar)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 60 Hz</b><br><b>(kvar)</b> | <b>IMPULSE</b><br><b>(kVp)</b> | <b>CURRENT</b><br><b>AT 50 Hz</b><br><b>(A)</b> | <b>CURRENT</b><br><b>AT 60 Hz</b><br><b>(A)</b> | <b>CASING DIMENSIONS</b><br><b>L x W x H</b><br><b>(mm)</b> | <b>WEIGHT</b><br><b>(kg)</b> | <b>FORM</b> |
| 7.2                                                         | 25                                                              | 30                                                              | 60                             | 2                                               | 2                                               | 345 x 110 x 300                                             | 22                           | 1           |
| 7.2                                                         | 50                                                              | 60                                                              | 60                             | 4                                               | 5                                               | 345 x 110 x 300                                             | 22                           | 1           |
| 7.2                                                         | 75                                                              | 90                                                              | 60                             | 6                                               | 7                                               | 345 x 110 x 300                                             | 22                           | 1           |
| 7.2                                                         | 100                                                             | 120                                                             | 60                             | 8                                               | 10                                              | 345 x 110 x 330                                             | 24                           | 1           |
| 7.2                                                         | 150                                                             | 180                                                             | 60                             | 12                                              | 14                                              | 345 x 135 x 370                                             | 30                           | 1           |
| 7.2                                                         | 200                                                             | 240                                                             | 60                             | 16                                              | 19                                              | 345 x 135 x 470                                             | 36                           | 1           |
| 7.2                                                         | 300                                                             | 360                                                             | 60                             | 24                                              | 29                                              | 345 x 135 x 630                                             | 47                           | 1           |
| 7.2                                                         | 400                                                             | 480                                                             | 60                             | 32                                              | 39                                              | 345 x 175 x 635                                             | 58                           | 1           |
| 7.2                                                         | 550                                                             | 660                                                             | 60                             | 44                                              | 53                                              | 345 x 175 x 825                                             | 73                           | 1           |
| 7.2                                                         | 700                                                             | 840                                                             | 60                             | 56                                              | 67                                              | 345 x 175 x 1010                                            | 88                           | 1           |
| 7.2                                                         | 800                                                             | 960                                                             | 60                             | 64                                              | 77                                              | 345 x 175 x 1155                                            | 100                          | 1           |

| <b>3-PHASE CAPACITORS UP TO 12 kV, IP00</b>                 |                                                                 |                                                                 |                                |                                                 |                                                 |                                                             |                              |             |
|-------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|------------------------------|-------------|
| <b>RATED VOLTAGE</b><br><b>U<sub>N</sub></b><br><b>(kV)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 50 Hz</b><br><b>(kvar)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 60 Hz</b><br><b>(kvar)</b> | <b>IMPULSE</b><br><b>(kVp)</b> | <b>CURRENT</b><br><b>AT 50 Hz</b><br><b>(A)</b> | <b>CURRENT</b><br><b>AT 60 Hz</b><br><b>(A)</b> | <b>CASING DIMENSIONS</b><br><b>L x W x H</b><br><b>(mm)</b> | <b>WEIGHT</b><br><b>(kg)</b> | <b>FORM</b> |
| 12                                                          | 50                                                              | 60                                                              | 75                             | 2                                               | 3                                               | 450 x 110 x 335                                             | 30                           | 2           |
| 12                                                          | 75                                                              | 90                                                              | 75                             | 4                                               | 4                                               | 450 x 110 x 340                                             | 30                           | 2           |
| 12                                                          | 100                                                             | 120                                                             | 75                             | 5                                               | 6                                               | 450 x 110 x 350                                             | 31                           | 2           |
| 12                                                          | 150                                                             | 180                                                             | 75                             | 7                                               | 9                                               | 450 x 110 x 445                                             | 37                           | 2           |
| 12                                                          | 200                                                             | 240                                                             | 75                             | 10                                              | 12                                              | 450 x 135 x 470                                             | 45                           | 2           |
| 12                                                          | 300                                                             | 360                                                             | 75                             | 14                                              | 17                                              | 450 x 135 x 650                                             | 59                           | 2           |
| 12                                                          | 400                                                             | 480                                                             | 75                             | 19                                              | 23                                              | 450 x 175 x 650                                             | 73                           | 2           |
| 12                                                          | 550                                                             | 660                                                             | 75                             | 26                                              | 32                                              | 450 x 175 x 815                                             | 90                           | 2           |
| 12                                                          | 700                                                             | 840                                                             | 75                             | 34                                              | 40                                              | 450 x 175 x 1015                                            | 110                          | 2           |
| 12                                                          | 800                                                             | 960                                                             | 75                             | 38                                              | 46                                              | 450 x 175 x 1130                                            | 122                          | 2           |

| <b>3-PHASE CAPACITORS UP TO 17.5 kV, IP00</b>               |                                                                 |                                                                 |                                |                                                 |                                                 |                                                             |                              |             |
|-------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|------------------------------|-------------|
| <b>RATED VOLTAGE</b><br><b>U<sub>N</sub></b><br><b>(kV)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 50 Hz</b><br><b>(kvar)</b> | <b>OUTPUT</b><br><b>Q<sub>n</sub> AT 60 Hz</b><br><b>(kvar)</b> | <b>IMPULSE</b><br><b>(kVp)</b> | <b>CURRENT</b><br><b>AT 50 Hz</b><br><b>(A)</b> | <b>CURRENT</b><br><b>AT 60 Hz</b><br><b>(A)</b> | <b>CASING DIMENSIONS</b><br><b>L x W x H</b><br><b>(mm)</b> | <b>WEIGHT</b><br><b>(kg)</b> | <b>FORM</b> |
| 17.5                                                        | 50                                                              | 60                                                              | 95                             | 2                                               | 2                                               | 450 x 110 x 460                                             | 41                           | 3           |
| 17.5                                                        | 75                                                              | 90                                                              | 95                             | 2                                               | 3                                               | 450 x 110 x 475                                             | 43                           | 3           |
| 17.5                                                        | 100                                                             | 120                                                             | 95                             | 3                                               | 4                                               | 450 x 110 x 495                                             | 44                           | 3           |
| 17.5                                                        | 150                                                             | 180                                                             | 95                             | 5                                               | 6                                               | 450 x 110 x 495                                             | 44                           | 3           |
| 17.5                                                        | 200                                                             | 240                                                             | 95                             | 7                                               | 8                                               | 450 x 110 x 560                                             | 48                           | 3           |
| 17.5                                                        | 300                                                             | 360                                                             | 95                             | 10                                              | 12                                              | 450 x 135 x 675                                             | 65                           | 3           |
| 17.5                                                        | 400                                                             | 480                                                             | 95                             | 13                                              | 16                                              | 450 x 135 x 825                                             | 77                           | 3           |
| 17.5                                                        | 550                                                             | 660                                                             | 95                             | 18                                              | 22                                              | 450 x 175 x 825                                             | 95                           | 3           |
| 17.5                                                        | 700                                                             | 840                                                             | 95                             | 23                                              | 28                                              | 450 x 175 x 995                                             | 113                          | 3           |



## TYPE NOMENCLATURE

|                                                                                                                                                                                                                                                                                                   |                         |                             |                                      |                               |                    |                                               |                                                    |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------|--------------------------------------|-------------------------------|--------------------|-----------------------------------------------|----------------------------------------------------|--------------------------|--|
| <div><div><div>P</div><div>h</div><div>a</div><div>f</div><div>s</div><div>o</div><div>6.3</div><div>/</div><div>200</div><div>/</div><div>1</div><div>D</div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div></div></div> |                         |                             |                                      |                               |                    |                                               |                                                    |                          |  |
| 1                                                                                                                                                                                                                                                                                                 | 2                       | 3                           | 4                                    | 5                             | 6                  | 7                                             | 8                                                  | 9                        |  |
| Ph: power capacitor                                                                                                                                                                                                                                                                               | a = all film dielectric | f: outdoor<br>n. E.: indoor | s: live casing<br>n. E.: dead casing | o: non PCB impregnating agent | Rated voltage (kV) | Rated output (kvar)<br>Rated capacitance (μF) | 1 = 1-phase capacitor<br>n. E. = 3-phase capacitor | D = over pressure device |  |

### Note

- n. E. = no entry



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