**VOC (Voice of Customer)**

Three phase variable resistive load bank with 12kW maximum capacity and 10 variable step control.

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| **Sl no** | **Customer requirement** | **Input** | **Output** |
| 1 | Step 1 | 3x 690Ω resistors (90W rating) | 250W, 0.35A |
| 2 | Step 2 | 3x 690Ω resistors (90W rating) | 250W, 0.35A |
| 3 | Step 3 | 3x 344Ω resistors (175W rating) | 500W, 0.70A |
| 4 | Step 4 | 3x 172Ω resistors (500W rating) | 1kW, 1.39A |
| 5 | Step 5 | 3x 172Ω resistors (500W rating) | 1kW, 1.39A |
| 6 | Step 6 | 3x 172Ω resistors (500W rating) | 1kW, 1.39A |
| 7 | Step 7 | 3x 86Ω resistors (750W rating) | 2kW, 2.78A |
| 8 | Step 8 | 3x 86Ω resistors (750W rating) | 2kW, 2.78A |
| 9 | Step 9 | 3x 86Ω resistors (750W rating) | 2kW, 2.78A |
| 10 | Step 10 | 3x 86Ω resistors (750W rating) | 2kW, 2.78A |

Equal steps can also be triggered for the following loads.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Equal Steps** | **Load per Step** | **Step 1** | **Step 2** | **Step 3** | **Step 4** | **Step 5** | **Step 6** |
| 2 | 6000 | 1,2,3,4,5,6,7 | 8,9,10 |  |  |  |  |
| 3 | 4000 | 1,2,3,4,5,6 | 7,8 | 9,10 |  |  |  |
| 4 | 3000 | 1,2,3,7 | 4,8 | 5,9 | 6,10 |  |  |
| 6 | 2000 | 1,2,3,4 | 5,6 | 7 | 8 | 9 | 10 |

Rated 3 phase voltage, VLine = 415V, Vphase = 239.60 V

For star connected circuit,

Vphase = Vline / √3

Iline = IPhase

RPhase = VPhase / Iphase

Sample calculation,

Load, P = 1000W, VLine = 415V

Vphase = Vline / √3 = 415/1.732 = 239.60V

P = Vline Iline x √3

=> Iline = Iphase = P/ (Vline x √3) = **1.39A**

RPhase = VPhase / Iphase = 239.6/1.39 = **172.37Ω (≈172Ω)**