WEIGEL

FULL-WAVE SOFTSTARTER

# VSA 03 VRT-6

## PRODUCT INFORMATION


**Our full wave softstarter VSA is a kind of ‘current brake’ for climate control compressors. It reduces the start-up current in clean and simple ways.**
**This is our contribution for a cleaner power grid with more reserves while maximizing efficiencies and lifespans of compressors around the globe. Will you join us?**

### 100% Clean Power

Thanks to patented NTC technology, the current remains sinusoidal during the entire run-up process. Resistive current limiting is in principle free from flicker, harmonics, and transients.

### Plug & Play

The softstarter is installed directly in the compressor supply line without additional elements. It does not need to be configured or run-in, making it also ideal for retrofitting.
Due to the grid-feedback-free start-up technology, no steep-flank electromagnetic smog is generated. This allows the use of unshielded cables and eliminates the need to install costly line filters or AC/DC-sensitive residual current devices.

### Price Advantage

It is our team’s tradition and conviction to invest in unparalleled value engineering and quality control processes, creating high-quality products with an above-average value factor. The results are lower acquisition costs for our customers by a factor of 1.5 to 4.0 compared to alternative softstarter technologies.

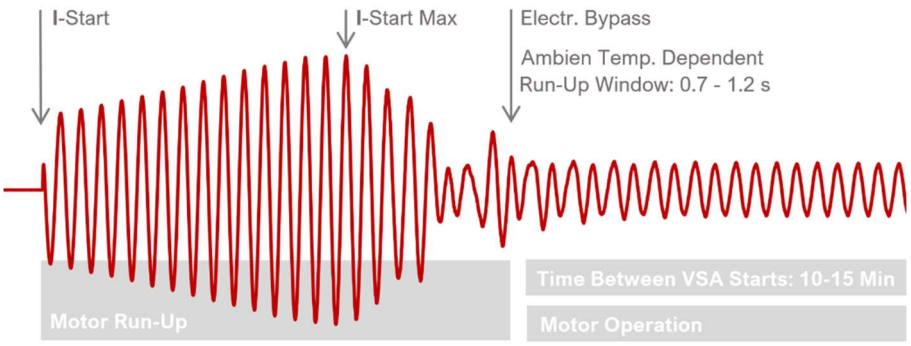

### Longevity

Due to its robust and compact design, the VSA is maintenance-free and durable. We avoided specifying semiconductors susceptible to interference, and our softstarters are protected against external transient burst EN 61000-4-4 and surge EN 61000-4-5, resulting in a 5-year 100% warranty on our entire softstarter product line.

The soft run-up protects the compressor also mechanically. The reduced potentially high- and low- frequency vibrations have a positive effect on the motor itself and its nearby components.

### Patented NTC Technology

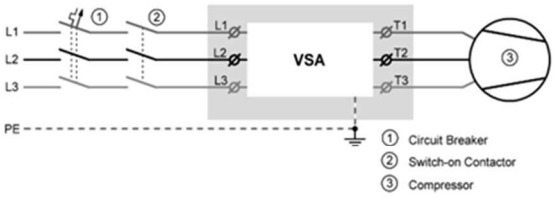
The patented NTC technology reduces the full AC current. This leads to a clean sinusoidal wave throughout the entire run-up phase. After that, the power section of the softstarter is completely bypassed. The result is a lossless on/off type of compressor operation.




**The arrangement of switched NTC thermistors is in its function a full wave softstarter, without any harmonics caused by phase angle control. This allows the softstarter to be integrated into the existing wiring of any on/off climate control compressor setup without additional components such as filters.**

**Mode of operation: An arrangement of temperature-dependent, ohmic resistors (NTCs) reduces the terminal voltage at the air-conditioning compressor to about 20 to 30 % of the nominal voltage at the time of switch-on. Self-heating reduces the resistance value of the NTC thermistors. The voltage increases continuously until the starting torque is reached. The resulting starting current is therefore free of disturbing mains-feedback in the sense of relevant EMC directives and does not require any filters. VSA models equipped with timed bypass do so automatically after the run-up process has been completed.**

| | |
|---|---|
| Model | VSA 03 VRT-6 |
| Supply Voltage | 380-400 VAC |
| Phase / Hertz | 3 Ph / 50 Hz |
| LRA Max | 75 A |
| I-Oper Max. | 15 A |
| Motor Power | 9.3 kW |
| I-Start Max, Starting Current max | 45 A |
| I-Start, Switch-on Current (20°C) | 14 A |
| | |
| Run-up Time | 0.7 … 1.2 s |
| Electr. Bypass Built-In | ✓ |
| Time Between Starts (External) | 10 … 15 Min |
| Relative Humidity | ≤ 75 % |
| Operating Temperature | -20 … +45 °C |
| Storage Temperatur | -25 … +70 °C |
| Terminal Block Wire Size | 4 $mm^2$ |
| Terminal Block Screw Type | ✓ |
| Terminal Block Markers | L1…L3, T1…T3 |
| | |
| Weight | 0.47 kg |
| X Overall Dimension | 198 mm |
| Y Overall Dimension | 107 mm |
| Z Overall Dimension | 62 mm |
| X Mounting Dimension | 191 mm |
| Y Mounting Dimension | 85 mm |
| Mounting Hole Dia. | 4.8 mm |
| Mounting Plate Thickness Max | 2.5 mm |
| Mounting Type: | |
| Snap-In Spacers | ✓ |
| DIN-Rail Adapters | ✓ |
| Mounting Position: | |
| Floor | ✓ |
| Wall | ✓ |
| Ceiling / Overhead | ✕ |
| For Natural Convection Cooling: | |
| Clearance All-Around | 80 mm min. |


| Scope of Delivery: | |
|---|---|
| Softstarter VSA | 1 |
| Cover (Aluminum) | 1 |
| Insulating Foil | 1 |
| Snap-In Spacers | 4 |
| DIN-Rail Adapter Set | 1 |
| Installation Instruction | 1 |