# Product data sheet

Specifications

## medium voltage variable speed drive ATV1200 - 6.3 kV - 7200 kVA

ATV1200A78606363

## Main

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|---|---|
| **Range Of Product** | Altivar 1200 |
| **Product Or Component Type** | Medium voltage variable speed drive |
| **Device Short Name** | ATV1200 |
| **Product Destination** | Asynchronous motors |
| **Product Specific Application** | Fan, pump, compressor, conveyor |
| **Assembly Style** | In floor-standing enclosure with separate air flows |

## Complementary

| | |
|---|---|
| **Product Composition** | 2 x plinth<br>Phase-shifting transformer<br>Medium voltage arrestors<br>Cooling fans<br>Human machine interface<br>18 x power cells |
| **Emc Filter** | Integrated |
| **Network Number Of Phases** | 3 phases |
| **Input Type** | 36 pulse diode rectifier bridge |
| **[Us] Rated Supply Voltage** | 6.3 kV +/- 10 % |
| **Supply Voltage Limits** | 2970…3630 V |
| **[Uc] Control Circuit Voltage** | 220 V |
| **Motor Power Kw** | 6019 kW |
| **Line Current** | 720 A |
| **Drive Efficiency With Transformer (Including Fan Power)** | 96 % (standard efficiency) |
| **Total Losses At 100 % Load Including Fan Power** | 211 kW (standard efficiency) |
| **Apparent Power** | 7200 kVA |
| **Prospective Line Isc** | 31.5 kA for 150 ms |
| **Overload Withstand** | 1.2 In, standard overload, 60 s<br>1.5 In, standard overload, 3 s<br>1.5 In, high overload, 60 s<br>1.85 In, high overload, 3 s |
| **Continuous Output Current** | 660 A (standard overload)<br>528 A (high overload) |
| **Maximum Transient Current** | 793 A for 60 s |
| **Speed Drive Output Frequency** | 0.5…120 Hz voltage/frequency ratio (V/f)<br>0.5…70 Hz vector control with/without speed feedback |
| **Nominal Switching Frequency** | 600 Hz |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

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|---|---|
| **Speed Range** | 20…100 |
| **Asynchronous Motor Control Profile** | Sensorless flux vector control<br>Closed-loop control with encoder<br>Voltage/frequency ratio (V/f)<br>Vector control with sensor, optional |
| **Synchronous Motor Control Profile** | Voltage/frequency ratio (V/f)<br>Closed-loop control with encoder |
| **Overvoltage Category** | II conforming to EN/IEC 61800-5-1 |
| **Output Voltage** | <= power supply voltage |
| **Isolation** | Electrical between power and control |
| **Electrical Connection** | Bar - screw type M10, clamping capacity: 6 x 40 mm² (L1/R, L2/S, L3/T) entry from the bottom or from the top |
| **Supply** | External supply for control at 220 V AC, 3 kVA<br>Internal supply for cooling fan at 380 V AC<br>External supply for control at 220 V AC/DC (optional)<br>External supply for cooling fan at 380 V AC (optional) |
| **Analogue Input Number** | 4 |
| **Analogue Input Type** | software-configurable current: 0...20 mA/4...20 mA, 24 V max, impedance: 250 Ohm |
| **Analogue Output Number** | 2<br>4 (optional) |
| **Analogue Output Type** | software-configurable current: 0...20 mA/4...20 mA DC, impedance: 250 Ohm |
| **Discrete Output Number** | 10<br>14 (optional) |
| **Discrete Input Number** | 6<br>10 (optional) |
| **Acceleration And Deceleration Ramps** | Linear from 0...3200 s |
| **Protection Type** | Ground fault protection: drive |
| **Dielectric Strength** | 20 kV AC between earth and power terminals |
| **Communication Port Protocol** | Human machine interface: Modbus with 2-wire RS485(1) - SUB-D 9<br>Human machine interface: Modbus TCP with (1) - RJ45<br>Human machine interface: EtherNet/IP with (1) - RJ45<br>Human machine interface: Profibus with (1) - SUB-D 9<br>Human machine interface: DeviceNet with (1) - SUB-D 9 |
| **Operating Position** | Vertical +/- 10 degree |
| **Colour Of Enclosure** | Grey (RAL 7032) |
| **Width** | 9770 mm (standard efficiency) |
| **Depth** | 1700 mm (standard efficiency) |
| **Height** | 3040 mm standard efficiency |
| **Net Weight** | 20800 kg (standard efficiency) |

# Environment

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|---|---|
| **Ip Degree Of Protection** | IP42<br>IP31<br>IP41 |
| **Standards** | EN/IEC 60204-11<br>EN/IEC 60529<br>EN/IEC 61800-3<br>EN/IEC 61800-4<br>EN/IEC 61800-5-1 |
| **Marking** | CE |
| **Pollution Degree** | 2 conforming to EN/IEC 61800-5-1 |

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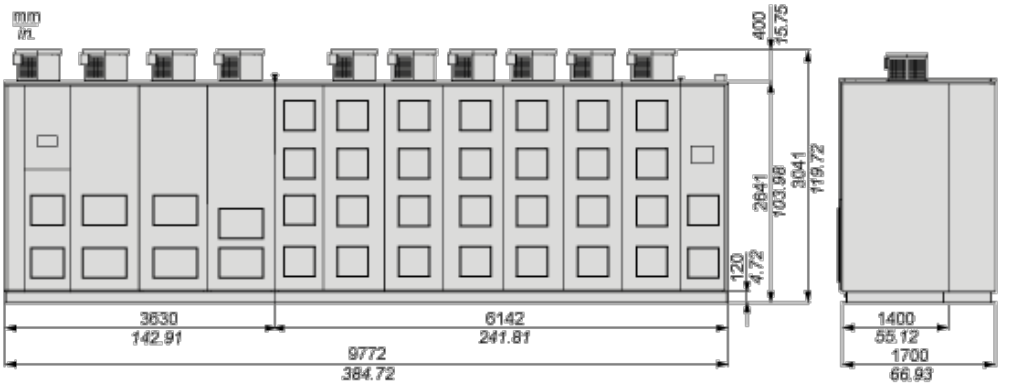
|---|---|
| **Noise Level** | 80 dB |
| **Vibration Resistance** | 4.9 m/s² (f= 10…50 Hz) |
| **Relative Humidity** | 0…90 %<br>0…95 % optional |
| **Ambient Air Temperature For Operation** | 0…40 °C<br>40…50 °C (with current derating of 2 % per °C) |
| **Ambient Air Temperature For Storage** | -10…60 °C |
| **Volume Of Cooling Air** | 100000 m3/h (standard efficiency) |
| **Type Of Cooling** | Forced convection |
| **Operating Altitude** | <= 1000 m without derating<br>1000...2000 m with current derating 0.6 % per 100 m |

Dimensions Drawings

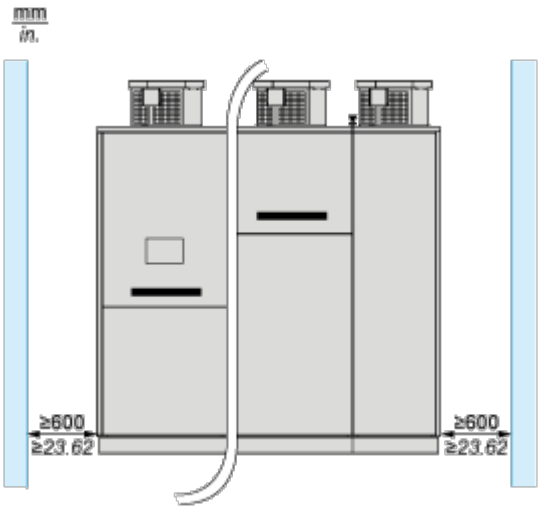
## Dimensions

### Standard Efficiency



Mounting and Clearance

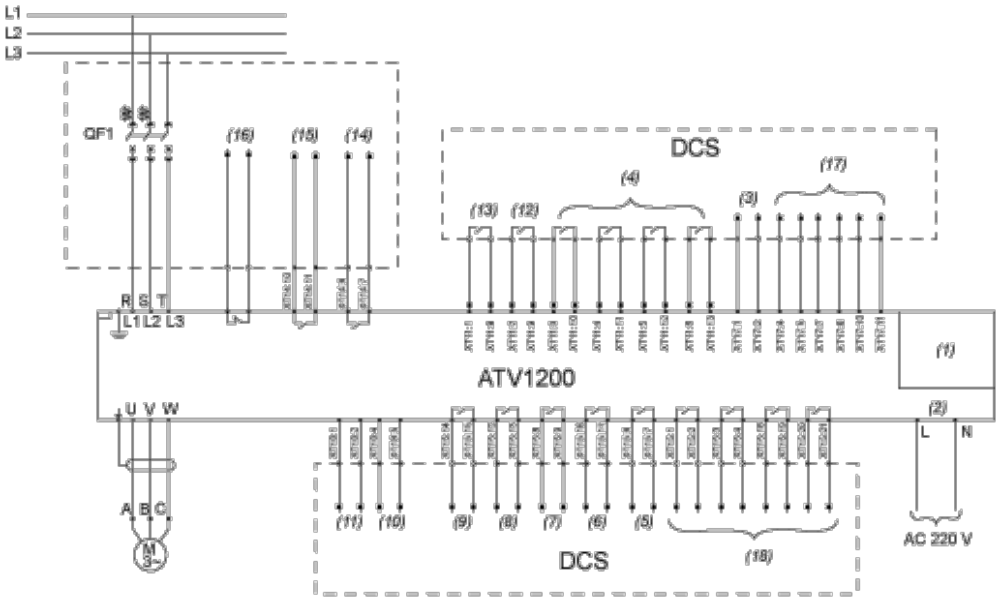
## Clearance



Connections and Schema

## Connections and Schema

### Standard Wiring Diagram




(1) Integrated power supply

(2) Control power supply

(3) 4-20mA speed setpoint

(4) Input reserved

(5) VFD is ready

(6) Local 1 remote control

(7) VFD running

(8) Alarming

(9) Detected fault

(10) 4-20mA Output current

(11) 4-20mA Output speed

(12) Stop

(13) Start

(14) Main circuit breaker enable to close

(15) Trip main circuit breaker

(16) Undervoltage release module of circuit breaker

(17) 4-20mA reserved inputs

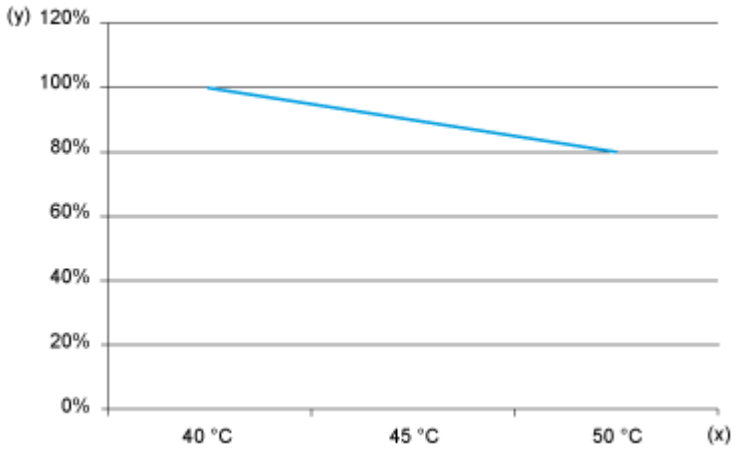
(18) Reserved outputs

(QF1) Main circuit breaker

## Performance Curves

### Power Derating of Output Current

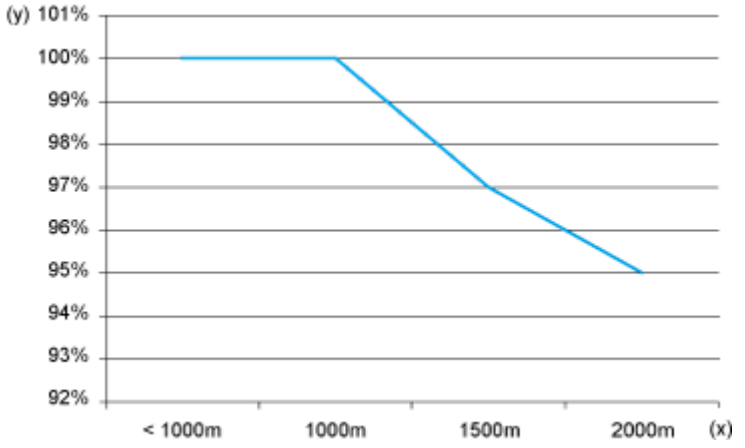
#### Temperature Derating




(x) Ambient temperature

(y) Derating

#### Altitude Derating




(x) Altitude

(y) Derating