

Miller Big Blue 800X Duo Airpak Miller Big Blue 700X DuoPro Standards Compliance

To: Whom it may concern

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The Miller Big Blue 800X Duo Airpak & Miller Big Blue 700X DuoPro welder generators are manufactured by Miller Electric Mfg. LLC, in USA.

The machines are manufactured to conform to the following standards:

IEC60974.1 2021 Arc welding equipment, Part 1 Welding power sources

AS60974.1-2020 Arc welding equipment, Part 1 Welding power sources

IEC60974.10 Ed 2.0 Arc welding equipment –Part 10: Electromagnetic compatibility (EMC) requirements

Clause 6.3.3 Electromagnetic Radiation Disturbance.

AS 60974-1 2020 Clause 3.50 protection class I equipment

The welding output is provided by 3 phase AC generator, full bridge rectified and then controlled by high frequency switching, therefore the DC Voltage ripple is less than 10%.

This complies with the scope of AS1672.2-2007 1.1.

The Machines incorporate a Voltage Reduction Device (VRD) which satisfies all requirements for Category C operation as defined in:

AS1674.2 2007 Safety in welding and allied processes Part 2: Electrical.
Clause 2.3.3 (e) Category C environments
Table 3.2.6 Maximum Permitted Open Circuit Voltages. Category C
3.2.7.2 Voltage Reduction Devices.

- Reference AS60974-1 Clause 13

The VRD operation time is less than 0.3 Seconds

With Regards to Clause IEC60974.1 13.7 Fail to a safe condition.

The VRD function is integral to the fully digital electronic control system, which then controls the output power electronics.

It is not possible to single out and identify the VRD control function. Therefore, it is not possible to simulate a VRD control function fault. If there is a failure of the digital electronic control system, then the most likely outcome is output Voltage of 0Vdc. There is also a possibility of voltage from 0-85Vdc.



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Voltage segregation wiring

Internal wiring is constructed to maintain segregation between 240V auxiliary power circuits and weld circuits and control circuits.
The insulation rating of the 240V auxiliary power wiring is 600V
The insulation rating of Weld control wiring is 300V

Generator output

The Australian supplied machine has two separate auxiliary power generators.

240V 17A single phase 60Hz 4 kW generator is an independent generator and will deliver 4 kW independent of compressor and weld load.

The 4kW is shared across the 2 X 15A socket outlets.

400V 29A three phase 60Hz 20kW generator share the stator with the weld generator and therefore the 20kW must be shared with the weld load.

Voltage segregation auxiliary to weld windings

The 400V 3 phase power auxiliary windings and weld windings are separated by reinforced insulation within the stator assembly.
This meets the requirements of IEC 60974-1, 6.3.2

The 240V auxiliary power windings are wound on entirely separate stators, there is no close proximity to the weld windings. Creepage distance exceed minimum requirement of IEC 60974-1, 6.1.2

Sincerely,

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