

PP-R TO PP-S MANIFOLD UPGRADE

New cooling manifold materials protect against coolant leakage.

Technological innovation and improvements are an integral part of the new feature introduction of Power Conversion & Storage (PCS) - a GE Vernova's business - products. New product feature is developed and incorporated based on customer experience. These new features help increase availability of the products by improving reliability. Customer feedback and continuous improvements are key drivers for our process improvement. Customers can rely upon PCS Services to incorporate improved features available for retrofits into legacy drives.

MV7000 cooling system manifold

The MV7000 cooling system provides de-ionized water for cooling the power electronic components. The cooling circuit piping is routed via manifolds fitted in inverter and filter cubicles. Leakages in the coolant circuit can reduce the coolant pressure and may cause drive trips, disrupting production and process availability. Leakage unfortunately is not visible but is noticed by needs to refill the coolant periodically.

Ensuring equipment availability with the latest PP-S* manifold solution will reduce the risk of leakage, helping customers minimize costly downtime and improve reliability of your system.

PP-R** TO PP-S manifold upgrade

Manifold fitting materials have different expansion properties, e.g., plastic pipes screwed using stainless steel couplings. Torque management of screw fittings to the manifold are difficult to maintain. Over time, flange assembly gaskets deteriorate, and welds fail and lead to coolant leakages. We learnt from these lessons and upgraded to the new PP-S manifold system.



PP-S manifold

PP-S manifolds are manufactured using an extruded polymer thermoplastic that provides a rigid assembly and excellent fluidity for the electronics industry.

Manifold joints are bonded using chemical polymerization techniques avoiding the need for welds. Screw fittings to the manifold are replaced by robust dismantable push fit connectors made using thermally compatible materials providing a perfect seal removing the risk of leakage.

*PP-S: polypropylene sulphide

Melting point: 288°C

Operating temperature: > 140°C

**PP-R: polypropylene ran

Fully Tested - Tightness, Burst, Vibration, Electrical, Life cycling and Field

PCS approved field service engineer will remove the legacy PP-R manifold equipment and install the new PPS manifold assembly in-situ. Existing connectors and pipe fittings will be modified to suit the new push fit connectors. The cooling system is finally tested.

- Implemented on MV7000 drives since 2014 and no leakage were reported.
- Push fit dismantable cooling pipe fittings are developed for durability.

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