



Test Monitoring Center

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Sequence IIIH Information Letter 22-4
Sequence Number 24
December 16, 2022

ASTM consensus has not been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: Sequence III Surveillance Panel

SUBJECT: 1. Alternative Engine Coolant Pump
2. Type K Thermocouples

Recently, the Sequence III Surveillance Panel approved the following changes which have been highlighted in red.

1. Recently, the Sequence III Surveillance panel approved the use of an alternate coolant pump via e-ballot. Table 3 has been updated to allow an alternate pump from Aurora. A Footnote *B* has been added to Table 3 to show Aurora Model 3801 1.5X2X9.5 pump as an acceptable alternative to the current recommended Aurora pump. The panel also agreed that it is not necessary to recommend a pump when a variable frequency drive (VFD) is utilized. This has been included in Table 3 as well.
2. During the November 16, 2022 Sequence III Surveillance Panel meeting, the panel agreed to allow the use of Type K thermocouples in Sequence IIIH applications. Section 10.4.3.2 has been revised to show Type K thermocouples.

Test Method D8111-21a has been revised to incorporate these changes and are effective with the issuance of this letter. The text of the revisions is shown in the attachment.

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Attachment

c: https://www.astmtmc.org/ftp/docs/gas/procedure_and_ils/IIIH/il22-4_IIIH.pdf

Distribution: Email

Revises D8111-21a as amended by Information Letters 22-1, 22-2 and 22-3

TABLE 3 Recommended Control Parts for the FCM

Part Name	Supplier ^A	Part Number	Description
2-way coolant flow control valve	Badger Meter Inc.	9003GCW36SV3A29L36	2 in., 2-way air to close. Alternately, a variable frequency drive (VFD) may be used instead of a 2-way valve to control pump speed and coolant flow. If necessary, a flow restrictor may be incorporated in place of the 2-way valve to achieve the required system pressure. Where a VFD is installed any pump capable of maintaining the required flow rate may be used.
Heat exchanger	Kinetic Engineering Corp.	Elanco M-71	Tube and shell heat exchanger is an acceptable alternative.
Coriolis coolant flow meter	Micro Motion Inc.	R200S418NCAMEZZZ meter, 1700I13ABMEZZZ transmitter	Any other meter used shall meet or exceed a mass flow accuracy of $\pm 0.75\%$ and mass flow repeatability of $\pm 0.50\%$
Fuel temperature heat exchanger	Laboratory determined		
3-way coolant temperature control valve	Badger Meter Inc.	9003TCW36SV3AXXL36	2 in., globe cast 3-way wafer type, NPT 316/316L stainless steel body size 35, actuator, air to close, 3 spring for a 3 to 15 psi signal range. Alternatively, the use of the 3-way valve is not required if control of process water flow through the main engine coolant heat exchanger is maintained using a suitable 2-way valve (see Fig. 2)
Oil temperature control valve	Badger Meter Inc.	1002GCN36SVCSALN36	½ in. 2-way Research valve, A-trim
Coolant pump	Aurora ^B	341A BF 1.5X2X9	

^A Contact information for the suppliers is given in Appendix X3.

^B **Aurora Model 3801 1.5X2X9 with 5 Hp motor has been found to be a suitable replacement.**

10.4.3.2 Temperature Measurements—Use only Type E chromel-constantan \oplus , Type J iron-constantan **or Type K Chromel and Alumel** thermocouples with an accuracy of $\pm 0.5\text{ }^{\circ}\text{C}$ over a range of $0\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$. Refer to Table 4 for a list of controlled and uncontrolled temperatures.