



Cation Conductivity Sample Module

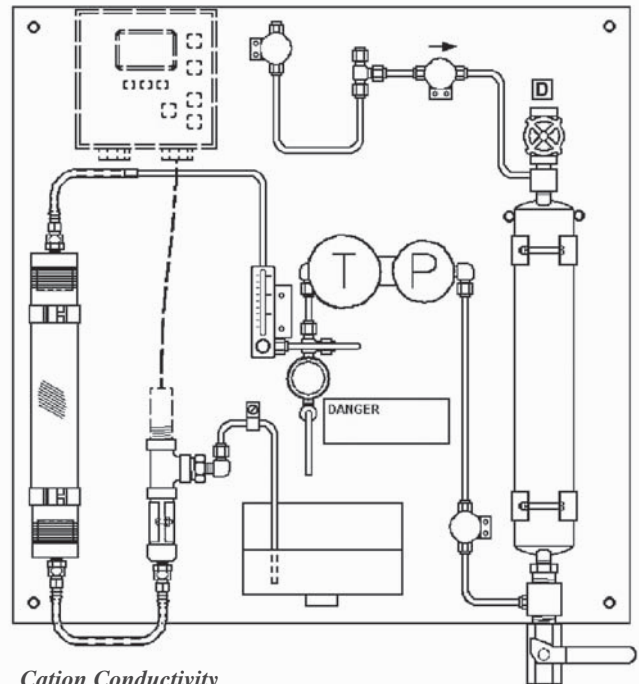
In high pressure steam systems, cation conductivity is a useful tool for monitoring return condensate for low levels of contamination by anions such as Cl^- , SO_4^- , HCO_3^- , etc. In practice, a cooled sample of condensate or high purity water flows through a cation exchanger in the hydrogen form. The cation resin replaces contaminating cations such as Ca^{++} , Mg^{++} , Na^+ , NH_4^+ , and amines in the sample with hydrogen ions. The hydrogen ions exchanged for the other cations in the sample increase the conductivity contributed by the contaminant salts of mineral acid anions listed above by 3 or 4 times. Thus the cation exchange column can be thought of as a “conductivity amplifier” for mineral and organic acid contaminants; increasing the sensitivity of the conductivity analyzer to low levels of contamination. Carbon dioxide passes through the column unaffected and will contribute to “background” conductivity. No provision is made in this module for the removal of gaseous CO_2 .

Features

The Cation Conductivity Sample Module is a panel mounted unit that contains a sample cooler, pressure regulator, temperature and pressure gauges, refillable cation exchange column, sample sink, and conductivity sensor port. The resin in the transparent cation exchange column contains an indicator dye that changes color as the resin becomes exhausted. This module conforms to ASTM D6504-00 “Standard Practice for On-Line Determination of Cation Conductivity in High Purity Water.”

Specifications

Sample Requirement: 700 cc/min
Minimum Sample Pressure: 15 psig (1.0 bar)
Maximum Sample Pressure: 100 psig (6.89 bar)
Maximum Sample Temperature: 200°F (93.3°C)
Weight (without analyzer): Approx 65 lb (29.5 kg)



Cation Conductivity

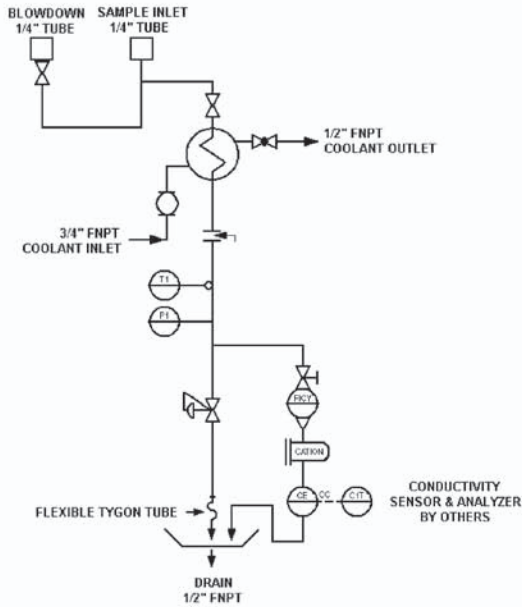
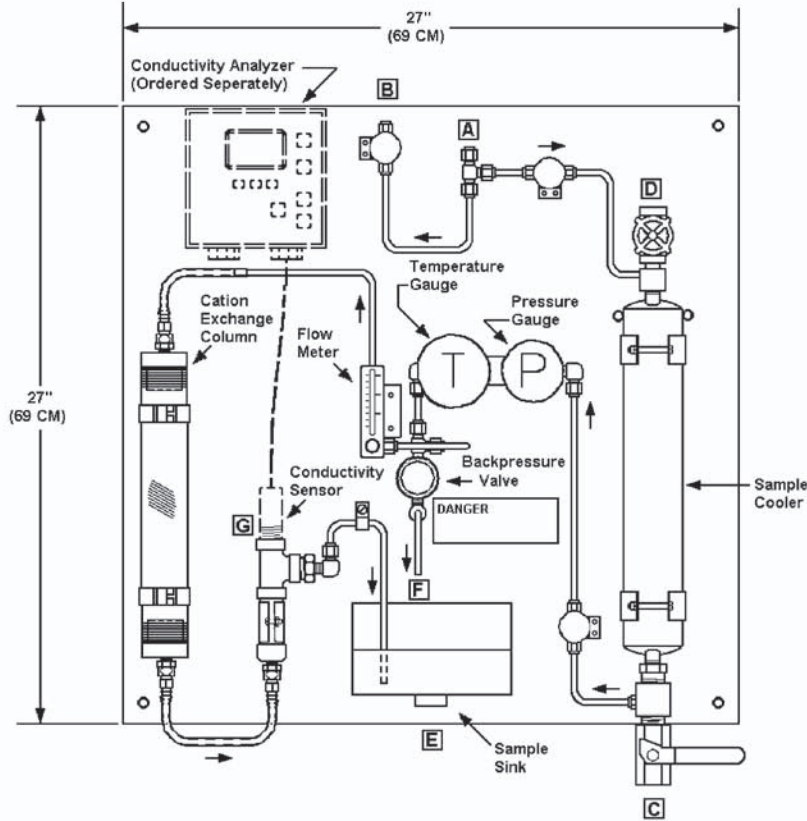
Conductivity Analyzer

Conductivity analyzer must be ordered separately. Any low range conductivity analyzer with $\frac{3}{4}$ " MNPT conductivity probe may be used with the module. The analyzer may be mounted on the module or located elsewhere. GE Betz offers several conductivity analyzers which may be used with the Cation Conductivity Sample Module:

- Aquatrac SAB or SFB multi-function controllers
- Aquatrac S1B Condensate Conductivity Controller, P/N 2043957
- Lakewood 1575 Condensate Conductivity Controller, P/N 2031158
- Walchem WCM300-145 Condensate Conductivity Controller, P/N 2033026

Part Number

Cation Conductivity Sample Module 2044327
(Analyzer must be ordered separately.)



CONNECTIONS

A	Sample Inlet	1/4" Tube
B	Sample Line Blowdown	1/4" Tube
C	Coolant Inlet	3/4" FNPT
D	Coolant Outlet	1/2" FNPT
E	Drain	1/2" FNPT
F	Grab Sample	1/4" Tube
G	Conductivity Sensor	3/4" FNPT

Sample Description: Return Condensate
 Operating Temperature: 100 psig (6.9 bar)
 Operating Temperature: 200° F (93.3° C)
 Recommended Flow Rate: 700 cc/min

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