Model 61 Boiler Blowdown System

ELECTRO-CHEMICAL DEVICES

Features

- Panel Mounted System Plumb and Play Design
- Sample conditioner reduces temperature prior to the conductivity measurement
- Sludge trap for easy removal of sludge build up
- C22 Analyzer Capability

Benefits

- Complete System, Easy Installation, Ready to Use
- Improves the accuracy and the longevity of the conductivity measurement
- Ease of Maintenance
- Local Display, 4-20 mA output, Alarm Relays, XY Graphical Plot

Model 61
Boiler Blowdown System

Description

The ECD Model 61 Boiler Blowdown System provides a reliable solution for the continuous control of the surface blowdown rate for commercial and industrial boilers.
Boilers concentrate dissolved solids in the water as the boiler operates. The increasing concentration of dissolved solids (TDS) may cause damage to piping, steam traps and other process equipment. It can also form sludge in the boiler, which impairs boiler efficiency and heat transfer capability. To avoid these problems the boiler water must be periodically discharged, Blown Down, and replenished with fresh feedwater. There are two types of blowdown, surface blowdown pulls the water from the top to middle of the boiler while bottom blowdown removes the sludge from the bottom of the boiler.
The Model 61 Boiler Blowdown System is a rack mounted modular design that includes: a 316 SS sediment trap, 316 SS sample cooler, temperature gauge, sample control valve and safety relief valve. Tubing and fittings are 316 SS.
The Conductivity (TDS) measurement is made with the Model C22 controller or one of the optional two wire transmitters, the T80 or T28, and the field proven Model CS10 conductivity sensor with 316 SS sensor body and integral preamplifier.
The Model C22 Controller is a line powered instrument with PID control functions, logic functions and timers. The standard instrument is supplied with one 4-20 mA output and two alarm relays, options include up to 4 outputs and 8 relays.
The Model C22 4-20 mA Output can be configured as a PID control output. The proportional/integral signal can modulate a control valve to keep the surface blowdown rate uniformly close to the maximum allowable dissolved solids level, regardless of load conditions. This lowers the operating costs of the boiler when compared to manual blowdown by minimizing the blowdown rate which lowers the fuel and make up water consumption. Timers in the C22 can be configured to periodically trigger a relay for bottom blowdown which may only be needed on a weekly or monthly basis.
If a controller is not needed, the General Purpose NEMA 4X Model T80 two wire transmitter can provide a 4-20 mA signal to the DCS or PLC. The FM and CSA approved intrinsically safe and/or explosion proof Model T28 two wire transmitter and sensor can be used in hazardous locations.

Model 61 Boiler Blowdown System

Specifications

Measurement range

Conductivity Range:
0-10,000 µS (standard range)
use sensor CS10-C22-CBL-5mS-75
0-1,000 µS (optional)
use sensor CS10-C22-CBL-500µS-75
0-100 mS (optional)
use sensor CS10-C22-CBL-50mS-75

Process Connection:
Compression fitting, ¾" NPT to fit CS10

Temperature Range:
0-100˚C

Pressure Range:
0-75psig

Wetted materials:
316 SS, Ryton, VITON

Sample Assembly

Part#: Model 6122-SA
Includes Sludge trap, Sample Cooler*, Temperature Gauge, Sample control valve, 75 psi Pressure Relief Valve, Tubing and Piping, all parts are 316 SS, U-Channel Rack is carbon steel
*Sample cooler requires 3-5 gpm water for cooling

Part#: Model 6122-SA-PH
Includes all features of the Model 6122-SA plus an addition port for a PHS10 pH sensor

Model C22 Controller

(see C22 Data Sheet for detailed specifications)

Part#: C22-CDH-1mA-C/2-UM
C22 conductivity controller, line powered 110 VAC, ½ DIN NEMA 4X, backlit display, (1) 4-20 mA output, (2) Form C relay contacts, universal mounting bracket

Part#: C22-CDH/pH-2mA-C/2-UM
Same as above with a 2nd channel for pH measurement and an additional 4-20 mA output for the pH signal

Model T80 Transmitter

(see T80 Data Sheet for detailed specifications)

Part#: T80-01-100-01
T80 conductivity transmitter, 24V loop powered, ½ DIN NEMA 4X, (1) 4-20 mA output, universal mounting bracket

Part#: T80-01-100-01
T80 pH transmitter, 24V loop powered, ½ DIN NEMA 4X, (1) 4-20 mA output, universal mounting bracket

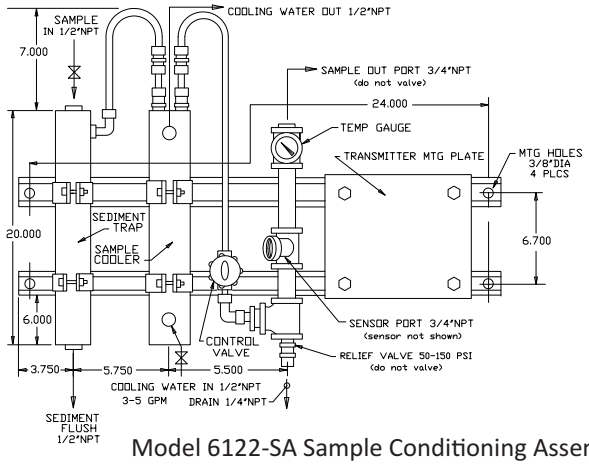
Model T28 Transmitter

(see T28 Data Sheet for detailed specifications)

Part#: T28-CDH/MA-UM
T28 conductivity transmitter, 24V loop powered, NEMA 7C, CSA & FM approved Explosion Proof for use in Class I, Division I, Groups C through G, CSA & FM approved intrinsically safe in Class I, II and III Division I Groups A-G

Part#: T28-pH/MA-UM
T28 pH transmitter, specifications are the same as above

Part #	Description
Model 6122-SA	Rack mounted assembly, conductivity only
Model 6122-SA-PH	Rack mounted assembly, conductivity & pH
C22-CDH-1mA-C/2-UM	Model C22 controller conductivity only
C22-CDH/pH-2mA-C/2-UM	Model C22 controller conductivity & pH
T80-01-100-01	Model T80 Transmitter conductivity only
T80-01-100-01	Model T80 Transmitter pH only
T28-CDH/MA-UM	Model T28 controller conductivity only
T28-PH/MA-UM	Model T28 controller pH only
CS10-C22-CBL-5mS	Conductivity Sensor, 0-10,000 µS range
CS10-C22-CBL-500µS	Conductivity Sensor, 0-1000 µS range
CS10-C22-CBL-50mS	Conductivity Sensor, 0-100 mS range
PHS10-C22-CBL-EG	pH Sensor, 0-14 pH, 5˚-90˚C, 0-75 psig



Model 6122-SA Sample Conditioning Assembly

Specifications subject to change without notice.

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CERTIFIED ISO9001 QUALITY SYSTEM