INSTRUMENT FUNCTION OUTLINE | DEPARTMENT 246

TITLE #3 Still Absolute Pressure Control | LOOP NUMBER 024

SHEET 1 OF 4 | CLASSIFICATION PIC-24

WRITTEN BY Brawley DATE 4/28/69 REV. BY _____ DATE _____ REV. NO. _____

1.0 NEED FOR LOOP

This loop is needed to maintain the constant pressure desirable for optimum distillation conditions.

1.1 DESCRIPTION OF LOOP

1.1.1 Function

The function of this loop is to control the pressure in the distillation system.

1.1.2 System Performance Required

The pressure should be maintained ± 1 mm Hg. Abs. of set point.

1.1.3 Accomplishment of Function

The absolute pressure in the still pot is sensed by an absolute pressure transmitter which sends a 3-15 psig air signal to a pressure indicating controller. The controller compares this signal to a set point and sends a 3-15 psig air signal to a control valve to compensate for variation from set point. The control valve controls an air bleed into the still ejector and thus controls the pressure in the system.

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INSTRUMENT FUNCTION OUTLINE

TITLE Air to #3 Still Ejector, Abs. Press. Contr.

SHEET 2 OF 4

DEPARTMENT 246

LOOP NUMBER 024

CLASSIFICATION PIC-24

2.0 COMPONENT AND CALIBRATION DATA

OPERATING DATA

A. PT-24 Abs. Press. Transmitter
Location: 14' level, East of tank 502
Output: 3-15 psig
Air Supply: 20 psig
Span: 0-100 mm Hg Abs.

B. PIC-24 Pressure Indicating Controller
Location: Panel
Input: 3-15 psig
Output: 3-15 psig
Action: Inc. input
Inc. output
Air Supply: 20# IAS

C. PV-24 Control Valve
Location: 28' level, NE of tank 523
Input: 3-15 psig
Action: Air to close
Fails open

MECHANICAL DATA

A. Foxboro Abs. Press. Trans.
#11AM-MS2
W/Piped & Mtd. Air Set & Gage
Range: 0 to 400 mm Hg.
316 SS Body
Gauge: 3-15 psig Calib.
0-100 Lin. Scale
Accuracy: 1%
Serial CO.: 1947917
IMO: IPMO: 001

B. Fischer & Porter Press. Ind. Contr.
#tl-1351ABFC
Range: 0-100 Unif.
Prop. Band: 2-500%
Reset Rate: .2 to 30 min.
Accuracy: 1/2%
Serial No.: 4797A15
IMO: None IPMO: 165

C. Fisher Gov. Control Valve #657A
Actuator Size 30 Travel 3/4"
1" 150# flg. carbon steel body
3/8" 316 SS Micro-Flute Trim
Teflon Packing; Skirt-Top Guiding
Packing: 1R2900-0101
St. Code: 41-61908
IMO: 45 IPMO: 126
Valve Plug: 2N5492-000A
Store Code: 41-60413
Seat Ring: 1A5106-3507
Serial: 4219080

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INSTRUMENT FUNCTION OUTLINE

DEPARTMENT 246

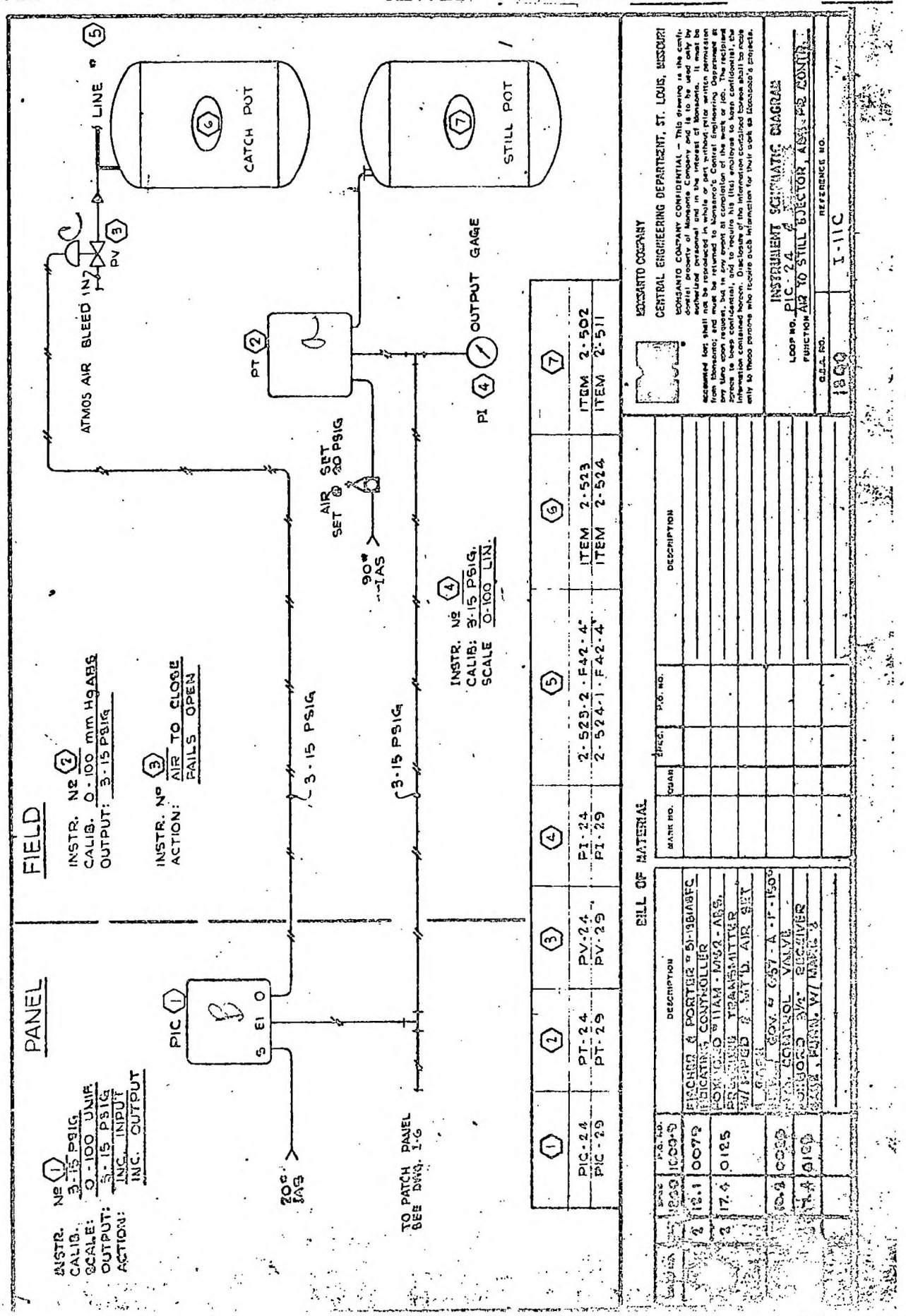
TITLE #3 Still Absolute Pressure Control

LOOP NUMBER 024

SHEET 3 OF 4

CLASSIFICATION

WRITTEN BY DATE REV. BY DATE REV. NO.



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INSTRUMENT FUNCTION OUTLINE

DEPARTMENT 246

TITLE #3 Still Absolute Pressure Control

LOOP NUMBER 024

SHEET 4 OF 4

CLASSIFICATION PIC-24

WRITTEN BY _____ DATE _____ REV. BY _____ DATE _____ REV. NO. _____

3.0 OPERATION OF LOOP

3.1 NORMAL OPERATION

Set vacuum controllers to maintain 40 mm Hg. absolute pressure at the still pot. Observe the scheduled start of the stills to insure that operating temperature is reached before the boiling temperature is reached. If vacuum is lowered too quickly the Aroclor will flash and belch over crude material.

3.1.1 Start Up Instructions

Open main valve to jet in the vacuum line just above the catch tank, start steam to first and second stages, open water valve to after condensor, vacuum should pull down to 40 mm Hg. and hold steady.

3.1.2 Shut Down Instructions

Release vacuum by re-adjusting the vacuum controller to 760 mm Hg. Abs. (100% on instrument).

3.1.3 Manual Operating Instructions

Set pressure controller on manual, regulate air pressure to control valve, as per operating instructions.

3.2 INTERLOCKS

None

3.3 ABNORMAL OPERATIONS

3.3.1 Air Failure

Loss of air to loop will cause loss of vacuum. Control valve will open and let atmospheric air bleed in.

3.3.2 Power Failure

No affect on this loop.

REVIEW

James E Rolestock

GW 8/5

R M McCutcheon 11/20/69

P S Neuhoff 9/20/69