ABB

TOTALFLOW
Technical Bulletin 89

AP location parameter change required when using code BYS version AMU

Totalflow Technical Bulletin

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ABB Automation Inc.

1. **Purpose**

   To describe a required configuration change when ordering a Flow Computer or AMU with the AP (static pressure) cell located on the upstream side of the orifice plate.

2. **Description**

   Our standard AMU configuration includes an AP (static pressure) cell located on the downstream side of the orifice plate. This is accomplished by installing the AP cell on the DP cell's low side flange. The AP cell is physically located inside the AMU aluminum enclosure.

   ABB offers several options where the AP cell is installed on the DP cell's high side flange. These options are described by the letter "B" within the AMU code. Example:

   402AYC – 100"/100# .2% accuracy, AP cell located on DP low side
   402BYC – 100"/100#, .2% accuracy, AP cell located on DP high side ("B" designates that the AP cell is located on the upstream side of orifice plate)
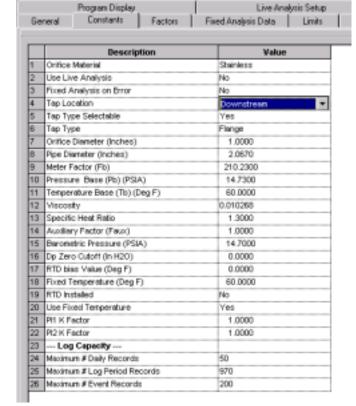
   The AP high side combinations include BYC, BYS, and BZC
   BYC - .2%, AP on high side (Part# 2015332-xxx)
   BYS - .2%, AP on high side, stainless steel (Part# 2017311-xxx)
   BZC - .05%, AP on high side, stainless steel (Part# 2015318-xxx)

   The AP tap location parameter must be programmed for "**upstream**" when installing any of the "B" versions of the AMU. This parameter is settable using ABB's PCCU32 software, laptop software, or Husky FS2. This parameter allows the software to compensate the AGA equation based on the AP's physical location. Failing to make this change could cause a slight error in the computed volumes. Below is screen shot using PCCU32 software. (The parameter is located within PCCU32's Entry mode constants tab)

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	Description	Value
1	Orifice Material	Stainless
2	Use Live Analysis	No
3	Fixed Analysis on Error	No
4	Tap Location	Downstream
5	Tap Type Selectable	Yes
6	Tap Type	Flange
7	Orifice Diameter (Inches)	1.0000
8	Pipe Diameter (Inches)	2.0670
9	Meter Factor (Fb)	210.2300
10	Pressure Base (Pb) (PSIA)	14.7300
11	Temperature Base (Tb) (Deg F)	60.0000
12	Viscosity	0.010268
13	Specific Heat Ratio	1.3000
14	Auxiliary Factor (Faux)	1.0000
15	Barometric Pressure (PSIA)	14.7000
16	Dp Zero Cutoff (In H2O)	0.0000
17	RTD bias Value (Deg F)	0.0000
18	Fixed Temperature (Deg F)	60.0000
19	RTD Installed	No
20	Use Fixed Temperature	Yes
21	Pt1 K Factor	1.0000
22	Pt2 K Factor	1.0000
23	--- Log Capacity ---	
24	Maximum # Daily Records	50
25	Maximum # Log Period Records	970
26	Maximum # Event Records	200

3. **Conclusion**

Standard AMU selections including:

AYC, CYC, AZC, AYS, CYS, and AZS require the FCU's tap location setting to be "Downstream" for proper volume calculations.

Optional AMU selections including:

BYS, BYC, and BZC require the FCU's tap location setting to be "Upstream" for proper volume calculations.

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