

Note: 000078

Overview

Number	000078
Description	AGA Report No. 7 - Atmospheric Pressure Calculation
Version	1 from 30.05.2018
Status	Released to Customer
Language	EN
Responsible	Markus Seng
Product	BCG
Category	Correction - Calculations

Symptom

The pressure multiplier for the gas volume correction from flowing to base metering conditions is defined as:

P_f / P_b (Flowing pressure, absolute / Base pressure, absolute)

where $P_f = P_g + P_a$ (P_a : atmospheric pressure, absolute units, P_g : flowing pressure, gauge units).

You have two options to enter a flowing pressure for a quantity conversion calculation using BCG conversion groups:

Option 1: You already know P_f and enter it directly (e.g. with unit PSI, identical to base unit PSI) - the system uses this value for the volume correction pressure multiplier

Option 2: You only know the gauge pressure P_g and enter the gauge pressure P_g e.g. with unit PSA (and set the relevant switch in the conversion group configuration) - then the system calculates the atmospheric pressure and replaces your PSA gauge value with the calculated value $P_g + P_a$ in unit PSI. This calculation can be configured to utilize AGA Report No. 7 formulas (B.7 and B.8), to calculate P_a , depending on the elevation (height above mean sea level) of the pressure metering device.

Equations B.7 and B.8 contain an exponent of 5.2554. This exponent has been mistyped to be 5.224. This leads to a relative deviation of the P_a values (in PSI) between 10^{-4} and 10^{-3} (between 200 feet and 5000

feet elevation).

Cause

Coding error - constant incorrectly defined in source code.

Solution

Source code correction in ABAP Function /QTYW/CALC_FLOW_PRESS_FR_GAUGE.

Transport Reference

SAP Release	Transport	File Name	Notes
ECC600	QOIK900309	NOTE-00078-30x.SAR	
S/4 HANA	QOIK900309	NOTE-00078-30x.SAR	

Validity

SAP Release	From SP	To SP	In SP Shipment
ECC600	CSP01	CSP01	CSP02
S/4 HANA	CSP00	CSP00	CSP01