

# TOTALFLOW *Technical Bulletin127*

### Testing the stream pressure on a BTU 8000

## **Totalflow Technical Bulletin**

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#### Purpose

The BTU 8000 will be more repeatable and un-normalized totals between sample streams will be more consistent when the sample pressures on all of the incoming steams are matched. These pressures should be around 15psig when no gas is flowing through the sample loops. The following procedure will show how to test that the pressures from each of the stream are balanced.

#### Description

Scan Delayed Values		Current Status	Current Status	
Cycle Clock	89	Current Mode	Run	Run
Mod. Temp.	140.7	Next Mode	Hold	1
Amb. Temp.	84.4	Acti∨e Stream	1	Hold
Carrier Press.	27.5	Next Stream	1	- Rinala O ala
Detector 1	-5489	Alarms	NO	Single Cycle
Detector 2	-20	- Streem Skin		Calibrate
Sample Press.	0.2	Stream 1	🔽 Stream 3	
Batt. Voltage	14.1	Stream 2	🗖 Stream 4	Abort
_		🗖 Disable Stream	n Select	
		Set Next St	ream	

2. Place the GC in Hold mode



💄 Manual - NO4					
Digital Outputs	Trans	mitter Must b	e in Hold Mode to Ma	inually Operate	
□ SV1	-Balance Detector-			Digital Inp	outs
E RV1	Detector 1	41708	BALANCE 1	C Low C	arrier
□ SV2				🗆 🗆 Low C	al Blend
E RV2	Detector 2	50991	BALANCE 2	Mada	Hold
				Mode	
🗖 STRM 2 🧏		Value	Setpoint	Cycle Clk	0
🗖 STRM 3	GC Module Temp	140.64	140.00	Send S	Set Points
🗖 STRM 4	Carrier Pressure	27.47	27.51	-	
🗖 SSO		0.23		Scale Ana	alog Chrom
Rel Pulse Blk 💌	Sample Pressure	0.23			
<u> </u>	-				
				Close	Help

3. Once the GC has entered hold, open the Manual Operations screen

4. To test a streams flowing pressure, check digital output that controls the Stream. (i.e Stream 1) and observe the Sample Pressure. Normally you will see this pressure between 9 and 12 psig.

📕 Manual - NO4				
Digital Outputs	Trans	mitter Must be	e in Hold Mode to Ma	nually Operate
□ SV1	-Balance Detector-			Digital Inputs
E RV1	Detector 1	41720	BALANCE 1	Low Carrier
□ SV2				Low Cal Blend
E RV2	Detector 2	51033	BALANCE 2	
STRM 1				
STRM 2		Value	Setpoint	Cycle Clk 0
STRM 3	GC Module Temp	140.77	140.00	Send Set Points
STRM 4	Carrier Pressure	27.53	27.51	
SSO	Convolo Duo convo	0.2.0	<u> </u>	Scale Analog Chrom
Blk Strm Pulse 💌	Sample Pressure	3.00		
<u> </u>				
				Close Help



5. To test a streams' blocked in pressure; with the stream turned on, select the SSO check box. You will observe that the stream pressure will jump up. This is the pressure that should be set to about 15psig. Adjust this pressure at the sample probe/regulator or at the calibration gas bottle regulator.

💄 Manual - NO4					. 🗆 🗙
Digital Outputs	Trans	smitter Must b	e in Hold Mode to M	anually Operate	[
□ SV1	Balance Detector			Digital Inputs	_ ∥
E RV1	Detector 1	41830	BALANCE 1	Low Carrier	
□ SV2				🗖 Low Cal Blend	
E RV2	Detector 2	51188	BALANCE 2		_
STRM 1					_
STRM 2		Value	Setpoint	Cycle Clk 0	
STRM 3	GC Module Temp	140.72	140.00	 Send Set Points	
STRM 4	Carrier Pressure	27.54	27.51	_	_
SSO	Sample Pressure	15.23		Scale Analog Chron	
	•	,	$\sim$		
				Close Help	,

- 6. Repeat this procedure for each stream that you have connected to the GC including the calibration stream.
- 7. When finished, uncheck any checked digital outputs and place the GC back into run mode.
- 8. Remember that sample streams that go through a sample conditioning system will show higher pressures at the regulator than in the Manual screen of the MMI software. Calibration bottle regulators should show similar pressures to those you observe on the MMI Manual operations screen.

#### Conclusion

Manipulating the stream solenoids and the sample shut off solenoid can help you balance pressures between streams. This method can also help you determine if you have a bad regulator in your sample probe or calibration gas bottle. Compare your regulator pressure to the Sample Pressure shown on the Manual Operations screen.

Also see Technical bulletin 128 for information on using these tests to determine if you have sufficient sample flow for proper operation.