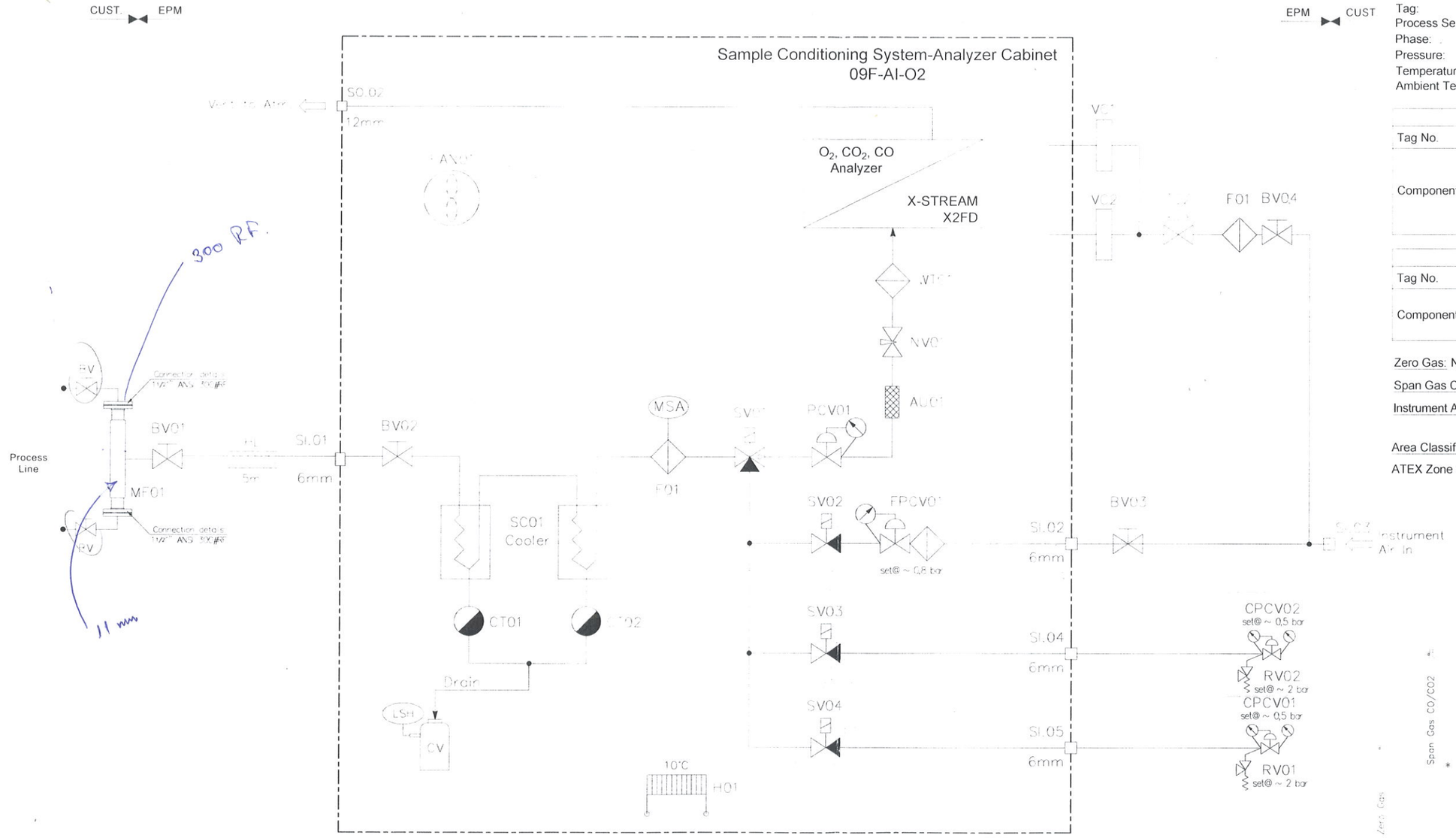

NOTES:

1. All tubings shall be 6mm OD or 12mm OD, and seamless unless otherwise stated.
2. Drain at atmospheric pressure.
3. *Gas cylinders shown in this drawings are not in EMERSON scope of supply.

SAMPLE TAKE-OFF

Tag:	09F-AI-O2
Process Service:	Flue Gas from FCC Regenerator
Phase:	Gas
Pressure:	Normal 1.6 - Max 2.0 kg/cm^2 (g)
Temperature:	Max 780° C
Ambient Temperature	-20° ÷ 50° C

Sample Conditions		
Tag No.	09F-AI-O2	
Component	CO2 = 14 ÷ 17 %vol	SO2 = 0.08÷0.13 (2400÷3900 mg/Nm3)*
	CO = 0 ÷ 3000 ppm	
	O2 = 2 ÷ 3 %vol	SO3 = 0.003÷0.004 (94÷140 mg/Nm3)*
	H2O = 8 ÷ 9 %vol	
	N2 = 70 ÷ 72 %vol	* At 0°C and 0 barg

Process Gas Analyzer	
Tag No.	09F-AI-O2
Component	CO2 = 0 - 18 %
	CO = 0 - 3000 ppm
	O2 = 0 - 5%

Zero Gas: N2

Span Gas CO/CO2: 15% CO_2/2500 ppm CO/N_2 balance

Instrument Air: Span gas O_2

Area Classification of Location:

ATEX Zone 2, IIB+H2 T3

Tag NO.	Description	Connection Size
SI.01	Sample IN	HL Bulkhead Entry - 6mm
SI.02	Instrument Air IN (in cabinet)	6mm Bulkhead Union
SI.03	Instrument Air IN	6mm Bulkhead Union
SI.04	Span Gas IN	6mm Bulkhead Union
SI.05	Zero Gas IN	6mm Bulkhead Union
SO.02	Vent to Atm.	12mm Bulkhead Union

REV.	DATE	NAME	NAME	NAME	DESCRIPTION		
	PREPARED/CHANGED		CHECKED	APPROVED			
01	07.11.2016	O. Lupu	C. Man	S. Remete	Final Issue	=	
00	22.09.2016	O. Popa	C. Man	S. Remete	First Issue	+	
						PAGES	4 of 4
						SCALE	%
						REVISION	00

EMERSON Process Management

LUKOIL OIL COMPANY

PETROTEL LUKOIL SA
Sistem CO, CO2, O2 in FCC
Customer Reference: Poz. 63 RT 2016

Analyzing system for CO, CO2 and O2
Flow Diagram - 09F-AI-O2

EMERSON Drawing No.
3237 - 344 - 1001