	
DOC NUMBER: 569-DB7A-AIC-714-003		CLIENT NUMBER: PRD-AIC-DSH-057	
CLIENT: TAKEDA/BAXALTA			
PROJECT: BURITI EPCVM PROJECT			

DRUG PRODUCT - BMS - DATA SHEET LEVEL TRANSMITTER

0	29JUL2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
A	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

NUMBER: 569-DB7A-AIC-714-003

CLIENT NR: PRD-AIC-DSH-057

TITLE

LEVEL TRANSMITTER

SHEET:
2 de 5

REV.:
0





DOCUMENT REVIEW CONTROL

Revision	A	B	0	1	2	3	Revision	A	B	0	1	2	3	Revision	A	B	0	1	2	3
Page							Page							Page						
1	X		X				26							51						
2	X		X				27							52						
3	X		X				28							53						
4	X		X				29							54						
5	X		X				30							55						
6	/		/				31							56						
7							32							57						
8							33							58						
9							34							59						
10							35							60						
11							36							61						
12							37							62						
13							38							63						
14							39							64						
15							40							65						
16							41							66						
17							42							67						
18							43							68						
19							44							69						
20							45							70						
21							46							71						
22							47							72						
23							48							73						
24							49							74						
25							50							75						

REVISION 0 NOTES:

- 1- UPDATE ACCORDING TO P&ID (HVAC AND PROCESS).
- 2- INSERTION OF PROCESS DATA.
- 3- INSERTION OF INSTRUMENT REFERENCE MODELS.

The information contained in this document is the property of TESSLER Engenharia and is provided to the customer under the condition that they are not used for other purposes other than those contractually established.

 		 	
NUMBER: 569-DB7A-AIC-714-003		CLIENT NR: PRD-AIC-DSH-057	
TITLE LEVEL TRANSMITTER			SHEET: 3 de 5 REV.: 0
REFERENCE DOCUMENTS			
7A-M-0-5-45 PRD-AIC-LIS-014 PRD-PIP-TSP-501 PRD-AIC-LIS-046		P&I DIAGRAM - DRUG PRODUCT - CHILLED GLYCOL GENERATION SYSTEM DRUG PRODUCT - BMS - INSTRUMENT INDEX PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST	

GENERAL NOTES
<p>1- The transmitters must have the following characteristics:</p> <ul style="list-style-type: none"> a) They must be electronic, intelligent and programmable, with the transmission of the signal in the same physical medium as the power supply; b) Support the respective maximum static design pressures; c) They must be capable of identifying internal failures; d) Be capable of setting the value of the output signal, programmable in 0% or 100% of the range, in case of sensor element failure; <p>2- All transmitters must have enclosures, whose parts exposed to the atmosphere are resistant to environmental conditions, including those generated by the process condition.</p> <p>3- All electronic or electrical components that are subject to fungal and moisture attacks must be tropicalized, i.e., treated with polyurethane coating or equivalent to inhibit this attack.</p> <p>4- All transmitters must be provided with protection type certificates compatible with the respective area classification. If the enclosure requires certificates regarding type and degree of protection, both proofs must be explicit in the same certificate. The certificates must be issued by INMETRO or an accredited body.</p> <p>5- All transmitters must have a calibration certificate with traceability according to ISO 9000.</p> <p>6- The identification plates must be made of AISI 304 stainless steel permanently attached to the instruments with a tag and serial number. The serial number of the instrument, when possible, can be recorded on the body itself.</p> <p>7- All electronic instruments must be provided with software asset management feature, with zero adjustment function, span adjustment and other remote settings via digital data communication. The software must be supplied with the instruments and when necessary the connecting cables must also be provided.</p> <p>8- The instrument display must be at least 2 lines with 5 characters on each line.</p>

NUMBER: **569-DB7A-AIC-714-003**

CLIENT NR: **PRD-AIC-DSH-057**

TITLE

LEVEL TRANSMITTER

SHEET:

4 de 5

REV.:

0

GENERAL	1	INSTRUMENT TAG NUMBER		LIT-980051					
	2	SERVICE		LEVEL BUFFER TANK - HOT SIDE					
	3	P&ID		7A-M-0-5-45					
	4	PIPE LINE	EQUIPMENT NUMBER	-		7A-BT-7A-1			
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL					
	6	AREA CLASSIFICATION		NOT CLASSIFIED					
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529					
	8	CERTIFICATES		(SEE GENERAL NOTES 4)					
	9								
TRANSMITTER	10	TYPE		MICROPROCESSED					
	11	MOUNTING		FULL					
	12	BODY MATERIAL		316SS					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	METER CASING		ALUMINIO (COPPER FREE)					
	15	POWER SUPPLY		24 Vcc - 2 FIOS					
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)					
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		± 0.075% F.E.					
	19	REPEATABILITY		BY MANUFACTURER					
	20	ELEMENT TYPE		DIAPHRAGM (CAPACITIVE)					
	21	SENSOR ELEMENT MATERIAL		316LSS					
	22	CALIBRATION RANGE		BY MANUFACTURER					
	23	CALIBRATED RANGE		100 @ 2790 mm					
	24	CONNECTION TO PROCESS (HIGH / LOW)		1.1/2" 150# FR	BY MANUFACTURER				
	25	ELECTRICAL CONNECTION		1/2" NPT (F)					
	26								
	27	ADJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES					
DIAPHRAGM SEAL	28	DIAPHRAGM SEAL		NOT REQUIRED					
	29	SEAL MATERIAL		NOT REQUIRED					
	30	CONNECTION TO PROCESS		NOT REQUIRED					
	31	FLANGE FACE FINISH		NOT REQUIRED					
	32	FILLING FLUID		NOT REQUIRED					
	33	CAPILLARY MATERIAL		NOT REQUIRED					
	34	CAPILLARY LENGTH		NOT REQUIRED					
	35								
ACCESSORIES	36	MOUNTING ACCESSORIES		NOT REQUIRED					
	37	MANIFOLD		NOT					
	38	LOCAL INDICATION		SIM, TIPO LCD (VER NOTAS GERAIS 8)					
	39	TAGGING		YES (SEE GENERAL NOTES 6)					
	40	SURGE PROTECTOR		YES					
OPERATING CONDITIONS	41	FLUID	PHYSICAL STATE		CHILLED WATER (NOTE 1)		LIQUID		
	42	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	5	-	11	°C	
	43	MINIMUM PRESSURE	NORMAL	MAXIMUM	0	-	0.27	bar-g	
	44	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g		41 °C		
	45	VISCOSITY @ OPERATING CONDITION		1.3 cP					
	46	DENSITY @ OPERATING CONDITION		999.64 kg/m³					
	47	SUSPENDED SOLIDS (%)		NO					
	48	M.M. / Z / Cp/Cv		... / ... / ...					
	49								
	50	MANUFACTURER		Endress + Hauser (E+H) or Similar					
	51	MODEL		FMD77					

NOTES:

1- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLYCOL 10% IF REQUIRED.

NUMBER: **569-DB7A-AIC-714-003**

CLIENT NR: **PRD-AIC-DSH-057**

TITLE

LEVEL TRANSMITTER

SHEET:

5 de 5

REV.:

0

GENERAL	1	INSTRUMENT TAG NUMBER		LIT-980052					
	2	SERVICE		LEVEL BUFFER TANK - COLD SIDE					
	3	P&ID		7A-M-0-5-45					
	4	PIPE LINE	EQUIPMENT NUMBER	-		7A-BT-7A-1			
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL					
	6	AREA CLASSIFICATION		NOT CLASSIFIED					
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529					
	8	CERTIFICATES		(SEE GENERAL NOTES 4)					
	9								
TRANSMITTER	10	TYPE		MICROPROCESSED					
	11	MOUNTING		FULL					
	12	BODY MATERIAL		316SS					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	METER CASING		ALUMINIO (COPPER FREE)					
	15	POWER SUPPLY		24 Vcc - 2 FIOS					
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)					
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		± 0.075% F.E.					
	19	REPEATABILITY		BY MANUFACTURER					
	20	ELEMENT TYPE		DIAPHRAGM (CAPACITIVE)					
	21	SENSOR ELEMENT MATERIAL		316LSS					
	22	CALIBRATION RANGE		BY MANUFACTURER					
	23	CALIBRATED RANGE		1200 @ 2790 mm					
	24	CONNECTION TO PROCESS (HIGH / LOW)		1.1/2" 150# FR		BY MANUFACTURER			
	25	ELECTRICAL CONNECTION		1/2" NPT (F)					
	26								
27	ADJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES						
DIAPHRAGM SEAL	28	DIAPHRAGM SEAL		NOT REQUIRED					
	29	SEAL MATERIAL		NOT REQUIRED					
	30	CONNECTION TO PROCESS		NOT REQUIRED					
	31	FLANGE FACE FINISH		NOT REQUIRED					
	32	FILLING FLUID		NOT REQUIRED					
	33	CAPILLARY MATERIAL		NOT REQUIRED					
	34	CAPILLARY LENGTH		NOT REQUIRED					
	35								
ACCESSORIES	36	MOUNTING ACCESSORIES		NOT REQUIRED					
	37	MANIFOLD		NOT					
	38	LOCAL INDICATION		SIM, TIPO LCD (VER NOTAS GERAIS 8)					
	39	TAGGING		YES (SEE GENERAL NOTES 6)					
	40	SURGE PROTECTOR		YES					
OPERATING CONDITIONS	41	FLUID	PHYSICAL STATE		CHILLED WATER (NOTE 1)		LIQUID		
	42	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	5	-	°C	
	43	MINIMUM PRESSURE	NORMAL	MAXIMUM	0	-	0.27	bar-g	
	44	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g		41 °C		
	45	VISCOSITY @ OPERATING CONDITION		1.52 cP					
	46	DENSITY @ OPERATING CONDITION		1000 kg/m³					
	47	SUSPENDED SOLIDS (%)		-					
	48	M.M. / Z / Cp/Cv		-					
	49								
	50	MANUFACTURER		Endress + Hauser (E+H) or Similar					
	51	MODEL		FMD77					

NOTES:

1- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLYCOL 10% IF REQUIRED.