





CLIENT NUMBER:



DOC NUMBER:

569-DB7B-AIC-714-003

PRD-AIC-DSH-068

CLIENT:

TAKEDA/BAXALTA

PROJECT:

BURITI EPCVM PROJECT

DRUG SUBSTANCE - BMS - DATA SHEET LEVEL TRANSMITTER

0	04AUG2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
Α	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV









PRD-AIC-DSH-068 NUMBER: 569-DB7B-AIC-714-003 CLIENT NR:

TITLE

2 de 5 LEVEL TRANSMITTER REV.:

DOCUMENT REVIEW CONTROL

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REVISION 0 NOTES:

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

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NUMBER: 569-DB7B-AIC-714-003 CLIENT NR: PRD-AIC-DSH-068

TITLE SHEET:

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LEVEL TRANSMITTER

REV:
0

REFERENCE DOCUMENTS

7B-M-0-5-44 PRD-AIC-LIS-015 PRD-PIP-TSP-501 PRD-AIC-LIS-046 P&I DIAGRAM - DRUG SUBSTANCE - CHILLED GLYCOL GENERATION SYSTEM DRUG SUBSTANCE - BMS - INSTRUMENT INDEX

PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION

INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST

GENERAL NOTES

- 1- The transmitters must have the following characteristics:
 - 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;
- 2- All transmitters must have enclosures, whose parts exposed to the atmosphere are resistant to environmental conditions, including those generated by the process condition.
- 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.
- 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.
- 5- All transmitters must have a calibration certificate with traceability according to ISO 9000.
- 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.
- 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.
- 8- The instrument display must be at least 2 lines with 5 characters on each line.









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TITLE

FMD77

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LEVEL TRANSMITTER

INSTRUMENT TAG NUMBER 1 IT-980005 SERVIÇE LEVEL BUFFER TANK - BT-7B-1 P&ID 7B-M-0-5-44 3 4 PIPE LINE EQUIPMENT NUMBER BT-7B-1 **GENERAL** EQUIPMENT MATERIAL / PIPE 5 CARBON STEEL ASTM-A106 Gr.B AREA CLASSIFICATION NOT CLASSIFIED ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 60529 CERTIFICATES (SEE GENERAL NOTES 4) 8 10 TYPE MICROPROCESSED MOUNTING FULL 11 BODY MATERIAL 316SS **BODY PRESSURE CLASS** BY MANUFACTURER 13 ALUMINIO (COPPER FREE) METER CASING 14 15 POWER SUPPLY 24 Vcc - 2 FIOS 16 **OUTPUT SIGNAL** 4 - 20 mA (500 ohms @ 24 Vcc) **TRANSMITTER** COMMUNICATION PROTOCOL 17 HART PRECISION ± 0.075% F.E. REPEATABILITY BY MANUFACTURER 19 20 ELEMENT TYPE DIAPHRAGM (CAPACITIVE) 21 SENSOR ELEMENT MATERIAL 316LSS CALIBRATION RANGE BY MANUFACTURER 22 CALIBRATED RANGE 100 @ 2790 mm 24 CONNECTION TO PROCESS (HIGH / LOW) 1.1/2" 150# FR BY MANUFACTURER ELECTRICAL CONNECTION 1/2" NPT (F) 25 26 27 ADJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN YES / YES DIAPHRAGM SEAL NOT REQUIRED 28 SEAL MATERIAL NOT REQUIRED 29 DIAPHRAGM SEAL CONNECTION TO PROCESS 30 NOT REQUIRED FLANGE FACE FINISH 31 NOT REQUIRED 32 FILLING FLUID NOT REQUIRED CAPILLARY MATERIAL 33 NOT REQUIRED CAPILLARY LENGTH 34 NOT REQUIRED 36 MOUNTING ACCESSORIES NOT REQUIRED ACCESSORIES 37 MANIFOLD NOT LOCAL INDICATION SIM, TIPO LCD (VER NOTAS GERAIS 8) 38 YES (SEE GENERAL NOTES 6) TAGGING 39 40 SURGE PROTECTOR CHILLED WATER (NOTE 1) 41 FI UID PHYSICAL STATUS LIQUID OPERATING CONDITIONS 42 MINIMUM TEMPERATURE NORMAL MAXIMUM °C 11 43 MINIMUM PRESSURE NORMAL MAXIMUM 0.27 bar-g 44 DESIGN PRESSURE DESIGN TEMPERATURE 2 bar-a 41 °C 45 VISCOSITY @ OPERATING CONDITION 1.3 cP 46 DENSITY @ OPERATING CONDITION 999,64 kg/m3 SUSPENDED SOLIDS (%) 47 NO 48 M.M. / Z / Cp/Cv ... / ... / ... 49 MANUFACTURER Endress + Hauser (E+H) or Similar

NOTES:

MODEL









NUMBER: 569-DB7B-AIC-714-003 CLIENT NR: PRD-AIC-DSH-068

TITLE

LEVEL TRANSMITTER

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								0				
	1	INSTRUMENT TAG NUMBER	₹			LI7	T-980006					
GENERAL	2	SERVIÇE			LEVEL BUFFER TANK - BT-7B-1							
	3	P&ID			7B-M-0-5-44							
	4	PIPE LINE	EQUIPMENT NUM	1BER	- BT-7B-1							
		EQUIPMENT MATERIAL / PI			CARBON STEEL ASTM-A106 Gr.B							
SEN	_	AREA CLASSIFICATION			NOT CLASSIFIED							
٥		ENCLOSURE CLASSIFICATI	ION		IP 65 (MÍN.) CONF. NBR IEC 60529							
		CERTIFICATES			(SEE GENERAL NOTES 4)							
	9	02			, , , , , , , , , , , , , , , , , , , ,							
\vdash	<u> </u>	TYPE				MICRO	PROCESSED					
		MOUNTING			FULL							
		BODY MATERIAL			316SS							
		BODY PRESSURE CLASS			316SS BY MANUFACTURER							
	_	METER CASING					(COPPER FREE)					
		POWER SUPPLY					cc - 2 FIOS					
		OUTPUT SIGNAL					00 ohms @ 24 Vcc)					
æ		COMMUNICATION PROTOC	201			•	HART					
TRANSMITTER		PRECISION	-OL				775% F.E.					
SMI		REPEATABILITY					IUFACTURER					
AN.		ELEMENT TYPE										
7.			141			DIAPHRAGM (CAPACITIVE)						
		SENSOR ELEMENT MATER	IAL			316LSS						
		CALIBRATION RANGE				BY MANUFACTURER						
		CALIBRATED RANGE	0 // 110 / 1 / 1 / 1 / 1		1200 @ 2790 mm							
		CONNECTION TO PROCES			1.1/2" 150# FR BY MANUFACTURER							
		ELECTRICAL CONNECTION				1/2	" NPT (F)					
	26				YES / YES							
		ADJUSTABLE RANGE / AJ. L	LOCAL ZERO AND SPA	IN .								
		DIAPHRAGM SEAL			NOT REQUIRED							
EAL		SEAL MATERIAL	•		NOT REQUIRED							
1 SE		CONNECTION TO PROCESS	S		NOT REQUIRED							
DIAPHRAGM SEAL		FLANGE FACE FINISH			NOT REQUIRED							
HR		FILLING FLUID			NOT REQUIRED							
JAF		CAPILLARY MATERIAL			NOT REQUIRED							
7		CAPILLARY LENGTH			NOT REQUIRED							
	35	MOUNTING 40050000150			NOT REQUIRED							
IES		MOUNTING ACCESSORIES			NOT REQUIRED							
SOR		MANIFOLD			NOT							
ESS		LOCAL INDICATION			SIM, TIPO LCD (VER NOTAS GERAIS 8)							
ACCESSORIES		TAGGING			YES (SEE GENERAL NOTES 6)							
		SURGE PROTECTOR	DUVOICAL OTATUO		YES CHILLED WATER (NOTE 1) LIQUID							
S			PHYSICAL STATUS	IAAAXIAAI IAA			LIQUI					
NO!		MINIMUM TEMPERATURE		MAXIMUM	-	5	- 0.27	°C				
TIQI			NORMAL	MAXIMUM	0	-	0,27	bar-g				
OPERATING CONDITIONS		DESIGN PRESSURE	DESIGN TEMPER	AIURE	2 bar-g 41 °C							
) <u>9</u> /		VISCOSITY @ OPERATING			1,52 cP							
ATII	_	DENSITY @ OPERATING CO	JINDITION		1000 kg/m³							
ER,		SUSPENDED SOLIDS (%)			-							
Q	48	M.M. / Z / Cp/Cv			-							
	49	NAANUUEA OTUUDED										
		MANUFACTURER					user (E+H) or Similar					
	51	MODEL				F	FMD77					