	
DOC NUMBER: <b>569-DB7B-AIC-711-001</b>		CLIENT NUMBER: <b>PRD-AIC-DSH-031</b>	
CLIENT: <b>TAKEDA/BAXALTA</b>			
PROJECT: <b>BURITI EPCVM PROJECT</b>			

## DATA SHEET

### TEMPERATURE INDICATING TRANSMITTER-SANITARY

2	26JAN2022	ISSUED FOR CONSTRUCTION UPDATED AS PER NOTES	MAB	MAF	RSP
1	17NOV2021	ISSUED FOR CONSTRUCTION UPDATED AS PER NOTES	MAB	MAF	RSP
0	13SEP2021	ISSUED FOR CONSTRUCTION	MAB	MAF	RSP
A	31MAR2021	60% DD ISSUE	MAB	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

SHEET: 2 de 13





TEMPERATURE INDICATING TRANSMITTER-SANITARY

REV.: 2

### DOCUMENT REVIEW CONTROL

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

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NUMBER: <b>569-DB7B-AIC-711-001</b>	CLIENT NR: <b>PRD-AIC-DSH-031</b>
TITLE	
<b>TEMPERATURE INDICATING TRANSMITTER-SANITARY</b>	
SHEET: <b>3 de 13</b>	
REV.: <b>2</b>	

### REFERENCE DOCUMENTS

7B-Z-0-2-01	DRUG SUBSTANCE - 250L MEDIA PREP TANK - TQ-5101 & MEDIA DIST.
7B-Z-0-2-02	DRUG SUBSTANCE - 4500L MEDIA PREP TANK - TQ-5102
7B-Z-0-2-03	DRUG SUBSTANCE - 3800L MEDIA HOLD TANK - TQ-5201
7B-Z-0-2-04	DRUG SUBSTANCE - 3800L MEDIA HOLD TANK - TQ-5202
7B-Z-0-2-10	DRUG SUBSTANCE - 320L BIOREACTOR, BRE-5501 VESSEL
7B-Z-0-2-12	DRUG SUBSTANCE - 2500L BIOREACTOR BRE-5601 - VESSEL
7B-Z-0-2-14	DRUG SUBSTANCE - 2500L BIOREACTOR N°2, BRE-5602 - VESSEL
7B-Z-0-2-20	DRUG SUBSTANCE - COLLECTION VESSEL FEED PIPING DISTRIBUTION
7B-Z-0-2-21	DRUG SUBSTANCE - 3400L COLLECTION - TANK N°1, TQ-5701
7B-Z-0-2-22	DRUG SUBSTANCE - 3400L COLLECTION - TANK N°2, TQ-5702
7B-Z-0-2-24	DRUG SUBSTANCE - 4200L HARVEST TANK N°1, TQ-5901
7B-Z-0-2-25	DRUG SUBSTANCE - 4200L HARVEST TANK N°2, TQ-5902
7B-Z-0-2-27	DRUG SUBSTANCE - MAB CHROMATOGRAPHY - N°1, CRM-3401
7B-Z-0-2-33	DRUG SUBSTANCE - 500L BUFFER PREP TANK N°1, TQ-3701
7B-Z-0-2-34	DRUG SUBSTANCE - 3000L BUFFER PREP N°2 TANK, TQ-3702
7B-Z-0-2-35	DRUG SUBSTANCE - 3000L BUFFER PREP N°3 TANK, TQ-3703
7B-Z-0-2-37	DRUG SUBSTANCE - BUFFER DOCKING SMALL & SMALL BUFFER HOLD
7B-Z-0-2-39	DRUG SUBSTANCE - BUFFER DOCKING LARGE & BUFFER HOLD LARGE
7B-Z-0-2-40	DRUG SUBSTANCE - DILUTION BUFFER HOLD
7B-Z-0-2-55	DRUG SUBSTANCE - PORTABLE VESSEL CIP/SIP STATION, STA-4701
7B-Z-0-2-57	DRUG SUBSTANCE - PURIFIED WATER STORAGE TANK, TQ-6302
7B-Z-0-2-60	DRUG SUBSTANCE - HOT WFI STORAGE TANK TQ-6401
PRD-AIC-LIS-010	DRUG SUBSTANCE - PCS - INSTRUMENT INDEX
PRD-AIC-LIS-046	INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST
PRD-PIP-TSP-501	PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION

### GENERAL NOTES

- Transmitters must have the following characteristics:
  - They must be electronic, intelligent and programmable, with signal transmission from 4 to 20mA to two galvanically isolated wires from the power supply;
  - Withstand the respective maximum static design pressures;
  - They must be able to identify internal failures;
  - Be able to define the output signal value, programmable in 0% or 100% of the range, in case of failure of the sensor element;
- All transmitters must have enclosures, whose parts exposed to the atmosphere are resistant to environmental conditions, including those generated by the condition of the process, enabling light external cleaning.
- The identification plates must be manufactured in stainless steel AISI 304, permanently attached to the instruments with tag and serial number. The serial number of the instrument, when possible, can be engraved on the body itself.
- The identification plates must be manufactured in stainless steel AISI 304, permanently attached to the instruments with tag and serial number. The serial number of the instrument, when possible, can be engraved on the body itself.
- The manufacturer must inform in the catalog of the transmitter the dimensions of the same for installation in the place indicated in the project.
- The liquid crystal instrument display with internal illumination for all the information that is necessary for its calibration and indication of necessary variables.
- 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
- Grounding rings must be provided in compatible material, with the instrument box and easy access for assembly, being at least AISI 316.
- According to the internal length of the thermowell
- As partes em contato com o fluido de processo devem ter lixamento mecânico internamente padrão ASME BPE SF4 com  $Ra \leq 0,38 \mu m$  de acordo com tabela SF-2.4-1 - ASME BPE-2019 e externo  $Ra \leq 0,8 \mu m$ .

REVISION 0 - NOTES
1- REVISED AS PER INSTRUMENT LIST NUMBER PRD-AIC-LIS-010_B_PCS_INSTRUMENT_INDEX AND BACKLOG NUMBER 99000-184.0 2021.03.30 - A&IC DOCUMENTS - COMMENTS_REV.01
REVISION 1 - NOTES
1 - ACCORDING NEW ARQUITECTURE UPDATED
REVISION 2 - NOTES
1 - ACCORDING TO LINE SPECIFICATION - SS3 TO SS10 2 - ADDED INSTRUMENTS: TIT-330113 / TIT-330014 / TIT-570125A / TIT-570225A

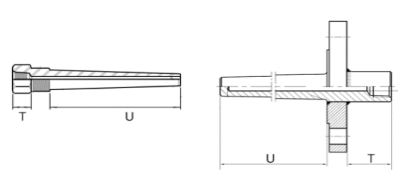
NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

TEMPERATURE INDICATING TRANSMITTER-SANITARY

SHEET:  
4 de 13  
REV.:  
2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-330013	
	2	SERVICE		FROM LOAD FILTER PRODUCT SUPPLY	
	3	P&ID		7B-Z-0-2-27	
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-330013-SS10-PP	-
	5	EQUIPMENT MATERIAL / PIPE		316L SS	
	6	AREA CLASSIFICATION		NOT CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		FULL	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	METER CASING		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
SENSOR	23	ADJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES	
	24	MOUNTING		FULL	
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)	PLATINUM
	26	ROD LENGTH (L)	ROD DIAMETER	(NOTE 9, PAGE 3)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
WELL	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"			mm
	35	EXTENSION LENGTH "T"			mm
	36				
	37				
	38				
	39				
	40				
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	PRODUCT	LIQUID
	43	MINIMUM TEMPERATURE	NORMAL MAXIMUM	°C	°C
	44	MINIMUM PRESSURE	NORMAL MAXIMUM	4 bar-g	4 bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)			
	49				
	50				
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar	
	52	MODEL			

NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

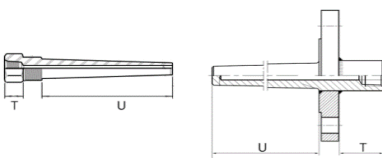
TEMPERATURE INDICATING TRANSMITTER-SANITARY

SHEET:

5 de 13

REV.:

2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-330014	
	2	SERVICE		FROM LOAD FILTER PRODUCT SUPPLY	
	3	P&ID		7B-Z-0-2-28	
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-330014-SS10-PP	-
	5	EQUIPMENT MATERIAL / PIPE		316L SS	
	6	AREA CLASSIFICATION		NOT CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		FULL	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	METER CASING		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
SENSOR	23	ADJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES	
	24	MOUNTING		FULL	
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)	PLATINUM
	26	ROD LENGTH (L)	ROD DIAMETER	(NOTE 9, PAGE 3)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
WELL	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"			mm
	35	EXTENSION LENGTH "T"			mm
	36				
	37				
	38				
	39				
	40				
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	PRODUCT	LIQUID
	43	MINIMUM TEMPERATURE	NORMAL MAXIMUM	°C	°C
	44	MINIMUM PRESSURE	NORMAL MAXIMUM	4 bar-g	4 bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)			
	49				
	50				
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar	
	52	MODEL			

NUMBER: **569-DB7B-AIC-711-001**

CLIENT NR: **PRD-AIC-DSH-031**

TITLE

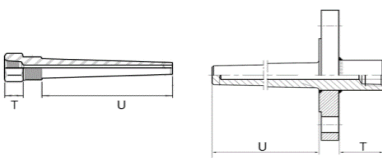
SHEET:

6 de 13

**TEMPERATURE INDICATING TRANSMITTER-SANITARY**

REV.:

**2**

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-570125A	
	2	SERVICE			
	3	P&ID		7B-Z-0-2-20	
	4	PIPE LINE	EQUIPMENT NUMBER		
	5	EQUIPMENT MATERIAL / PIPE		316L SS	
	6	AREA CLASSIFICATION		NOT CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		FULL	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	METER CASING		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
SENSOR	23	ADJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES	
	24	MOUNTING		FULL	
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)	PLATINUM
	26	ROD LENGTH (L)	ROD DIAMETER	(NOTE 9, PAGE 3)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
WELL	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"			mm
	35	EXTENSION LENGTH "T"			mm
	36				
	37				
	38				
	39				
	40				
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	PRODUCT	LIQUID
	43	MINIMUM TEMPERATURE	NORMAL MAXIMUM	°C	°C
	44	MINIMUM PRESSURE	NORMAL MAXIMUM	4 bar-g	4 bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)			
	49				
	50				
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar	
	52	MODEL			

NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

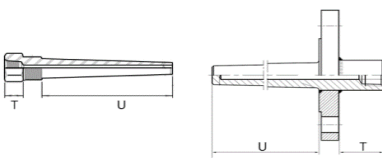
SHEET:

7 de 13

TEMPERATURE INDICATING TRANSMITTER-SANITARY

REV.:

2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-570225A	
	2	SERVICE			
	3	P&ID		7B-Z-0-2-20	
	4	PIPE LINE	EQUIPMENT NUMBER		
	5	EQUIPMENT MATERIAL / PIPE		316L SS	
	6	AREA CLASSIFICATION		NOT CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		FULL	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	METER CASING		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
SENSOR	23	ADJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES	
	24	MOUNTING		FULL	
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)	PLATINUM
	26	ROD LENGTH (L)	ROD DIAMETER	(NOTE 9, PAGE 3)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
WELL	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"			mm
	35	EXTENSION LENGTH "T"			mm
	36				
	37				
	38				
	39				
	40				
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	PRODUCT	LIQUID
	43	MINIMUM TEMPERATURE	NORMAL MAXIMUM	°C	°C
	44	MINIMUM PRESSURE	NORMAL MAXIMUM	4 bar-g	4 bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)			
	49				
	50				
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar	
	52	MODEL			

NUMBER: **569-DB7B-AIC-711-001**

CLIENT NR: **PRD-AIC-DSH-031**

TITLE

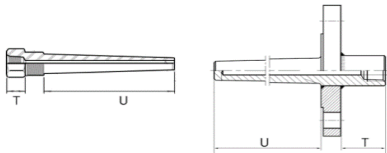
SHEET:

8 de 13

**TEMPERATURE INDICATING TRANSMITTER-SANITARY**

REV.:

**2**

GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-370111			
	2	SERVICE		RETURN CIP SYSTEM N°3			
	3	P&ID		7B-Z-0-2-37			
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-370137-SS10-PP		-	
	5	EQUIPMENT MATERIAL / PIPE		316L SS			
	6	AREA CLASSIFICATION		NOT CLASSIFIED			
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529			
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)			
	9						
TRANSMITTER	10	TYPE		MICROPROCESSED			
	11	MOUNTING		FULL			
	12	BODY MATERIAL		ALUMINUM			
	13	BODY PRESSURE CLASS		BY MANUFACTURER			
	14	METER CASING		ALUMINIO (COPPER FREE)			
	15	POWER SUPPLY		24 Vcc - 2 WIRE			
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)			
	17	COMMUNICATION PROTOCOL		HART			
	18	PRECISION		±0,25% F.E			
	19	REPEATABILITY		BY MANUFACTURER			
	20	CALIBRATION RANGE		BY MANUFACTURER			
	21	CALIBRATED RANGE		-			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)			
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES			
SENSOR	24	MOUNTING		FULL			
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)		PLATINUM	
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER		6 mm	
	27	SENSOR CONNECTION TO WELL		1/2" NPT			
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		1/2" NPT (F)	
WELL	29	MOUNTING		-			
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L		CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.			
	32	FLANGE FACE FINISH		-			
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)			
	34	INSERTION LENGTH "U"		220 mm			
	35	EXTENSION LENGTH "T"		BY MANUFACTURER			
	36						
	37						
	38						
	39						
	40						
	41						
42	FLUID						
43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	°C	20	°C
44	MINIMUM PRESSURE	NORMAL	MAXIMUM	-	bar-g	4	bar-g
45	DESIGN PRESSURE	DESIGN TEMPERATURE		-	bar-g	-	°C
46	VISCOSITY @ OPERATING CONDITION			-		Cp	
47	DENSITY @ OPERATING CONDITION			-		kg/m³	
48	SUSPENDED SOLIDS (%)			-			
49				-			
50				-			
OPERATING CONDITIONS	51	MANUFACTURER		Endress + Hauser (E+H) or Similar			
	52	MODEL					



NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

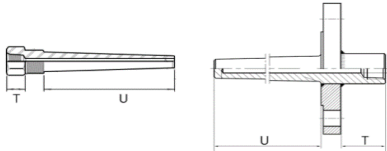
TEMPERATURE INDICATING TRANSMITTER-SANITARY

SHEET:

9 de 13

REV.:

2

GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-370113			
	2	SERVICE		CHROMATOGRAPHY TO CATION EXCHANGE			
	3	P&ID		7B-Z-0-2-37			
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-370136-SS10-PP		-	
	5	EQUIPMENT MATERIAL / PIPE		316L SS			
	6	AREA CLASSIFICATION		NOT CLASSIFIED			
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529			
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)			
	9						
TRANSMITTER	10	TYPE		MICROPROCESSED			
	11	MOUNTING		FULL			
	12	BODY MATERIAL		ALUMINUM			
	13	BODY PRESSURE CLASS		BY MANUFACTURER			
	14	METER CASING		ALUMINIO (COPPER FREE)			
	15	POWER SUPPLY		24 Vcc - 2 WIRE			
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)			
	17	COMMUNICATION PROTOCOL		HART			
	18	PRECISION		±0,25% F.E			
	19	REPEATABILITY		BY MANUFACTURER			
	20	CALIBRATION RANGE		BY MANUFACTURER			
	21	CALIBRATED RANGE		-			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)			
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES			
SENSOR	24	MOUNTING		FULL			
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)		PLATINUM	
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER		6 mm	
	27	SENSOR CONNECTION TO WELL		1/2" NPT			
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		1/2" NPT (F)	
WELL	29	MOUNTING		-			
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L		CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.			
	32	FLANGE FACE FINISH		-			
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)			
	34	INSERTION LENGTH "U"		220 mm			
	35	EXTENSION LENGTH "T"		BY MANUFACTURER			
	36						
	37						
	38						
	39						
	40						
	41						
42	FLUID						
43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	°C	20	°C
44	MINIMUM PRESSURE	NORMAL	MAXIMUM	-	bar-g	4	bar-g
45	DESIGN PRESSURE	DESIGN TEMPERATURE		-	bar-g	-	°C
46	VISCOSITY @ OPERATING CONDITION			-		Cp	
47	DENSITY @ OPERATING CONDITION			-		kg/m³	
48	SUSPENDED SOLIDS (%)			-			
49				-			
50				-			
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar			
	52	MODEL					

NUMBER: **569-DB7B-AIC-711-001**

CLIENT NR: **PRD-AIC-DSH-031**

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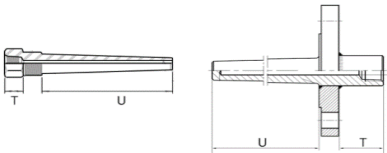
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**TEMPERATURE INDICATING TRANSMITTER-SANITARY**

REV.:

**2**

GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-370211				
	2	SERVICE		RETURN CIP SYSTEM Nº3				
	3	P&ID		7B-Z-0-2-39				
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-370240-SS10-PP		-		
	5	EQUIPMENT MATERIAL / PIPE		316L SS				
	6	AREA CLASSIFICATION		NOT CLASSIFIED				
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529				
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)				
	9							
TRANSMITTER	10	TYPE		MICROPROCESSED				
	11	MOUNTING		FULL				
	12	BODY MATERIAL		ALUMINUM				
	13	BODY PRESSURE CLASS		BY MANUFACTURER				
	14	METER CASING		ALUMINIO (COPPER FREE)				
	15	POWER SUPPLY		24 Vcc - 2 WIRE				
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)				
	17	COMMUNICATION PROTOCOL		HART				
	18	PRECISION		±0,25% F.E				
	19	REPEATABILITY		BY MANUFACTURER				
	20	CALIBRATION RANGE		BY MANUFACTURER				
	21	CALIBRATED RANGE		-				
	22	ELECTRICAL CONNECTION		1/2" NPT (F)				
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES				
SENSOR	24	MOUNTING		FULL				
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)		PLATINUM		
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER		6 mm		
	27	SENSOR CONNECTION TO WELL		1/2" NPT				
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		1/2" NPT (F)		
WELL	29	MOUNTING		-				
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L		CONICAL MACHINED FROM A BAR		
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.				
	32	FLANGE FACE FINISH		-				
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)				
	34	INSERTION LENGTH "U"		220 mm				
	35	EXTENSION LENGTH "T"		BY MANUFACTURER				
	36							
	37							
	38							
	39							
	40							
	41							
	OPERATING CONDITIONS							42
43		MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	°C	20	°C
44		MINIMUM PRESSURE	NORMAL	MAXIMUM	-	bar-g	4	bar-g
45		DESIGN PRESSURE	DESIGN TEMPERATURE		-	bar-g	-	°C
46		VISCOSITY @ OPERATING CONDITION			-		Cp	
47		DENSITY @ OPERATING CONDITION			-		kg/m³	
48		SUSPENDED SOLIDS (%)					-	
49							-	
50							-	
		51	MANUFACTURER		Endress + Hauser (E+H) or Similar			
	52	MODEL						

NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

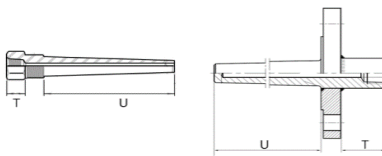
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TEMPERATURE INDICATING TRANSMITTER-SANITARY

REV.:

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GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-370213			
	2	SERVICE		RETURN CIP SYSTEM Nº3			
	3	P&ID		7B-Z-0-2-39			
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-SFIC-370239-SS10-PP		-	
	5	EQUIPMENT MATERIAL / PIPE		316L SS			
	6	AREA CLASSIFICATION		NOT CLASSIFIED			
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529			
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)			
	9						
TRANSMITTER	10	TYPE		MICROPROCESSED			
	11	MOUNTING		FULL			
	12	BODY MATERIAL		ALUMINUM			
	13	BODY PRESSURE CLASS		BY MANUFACTURER			
	14	METER CASING		ALUMINIO (COPPER FREE)			
	15	POWER SUPPLY		24 Vcc - 2 WIRE			
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)			
	17	COMMUNICATION PROTOCOL		HART			
	18	PRECISION		±0,25% F.E			
	19	REPEATABILITY		BY MANUFACTURER			
	20	CALIBRATION RANGE		BY MANUFACTURER			
	21	CALIBRATED RANGE		-			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)			
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES			
SENSOR	24	MOUNTING		FULL			
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)		PLATINUM	
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER		6 mm	
	27	SENSOR CONNECTION TO WELL		1/2" NPT			
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		1/2" NPT (F)	
WELL	29	MOUNTING		-			
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L		CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.			
	32	FLANGE FACE FINISH		-			
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)			
	34	INSERTION LENGTH "U"		220 mm			
	35	EXTENSION LENGTH "T"		BY MANUFACTURER			
	36						
	37						
	38						
	39						
	40						
	41						
	42						
43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	°C	20	°C
44	MINIMUM PRESSURE	NORMAL	MAXIMUM	-	bar-g	4	bar-g
45	DESIGN PRESSURE	DESIGN TEMPERATURE		-	bar-g	-	°C
46	VISCOSITY @ OPERATING CONDITION			-		Cp	
47	DENSITY @ OPERATING CONDITION			-		kg/m³	
48	SUSPENDED SOLIDS (%)			-			
49				-			
50				-			
	51	MANUFACTURER		Endress + Hauser (E+H) or Similar			
	52	MODEL					

NUMBER: **569-DB7B-AIC-711-001**

CLIENT NR: **PRD-AIC-DSH-031**

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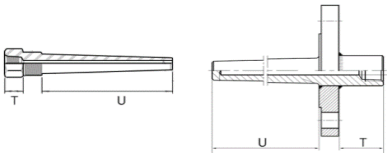
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**TEMPERATURE INDICATING TRANSMITTER-SANITARY**

REV.:

**2**

GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-371002			
	2	SERVICE		HARVEST TANK N°1, TQ-5701 DILUTION (DO2) BUFFER			
	3	P&ID		7B-Z-0-2-40			
	4	PIPE LINE	EQUIPMENT NUMBER	1"-SFIC-371002-SS10-PP		-	
	5	EQUIPMENT MATERIAL / PIPE		316L SS			
	6	AREA CLASSIFICATION		NOT CLASSIFIED			
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529			
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)			
	9						
TRANSMITTER	10	TYPE		MICROPROCESSED			
	11	MOUNTING		FULL			
	12	BODY MATERIAL		ALUMINUM			
	13	BODY PRESSURE CLASS		BY MANUFACTURER			
	14	METER CASING		ALUMINIO (COPPER FREE)			
	15	POWER SUPPLY		24 Vcc - 2 WIRE			
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)			
	17	COMMUNICATION PROTOCOL		HART			
	18	PRECISION		±0,25% F.E			
	19	REPEATABILITY		BY MANUFACTURER			
	20	CALIBRATION RANGE		BY MANUFACTURER			
	21	CALIBRATED RANGE		-			
	22	ELECTRICAL CONNECTION		1/2" NPT (F)			
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES			
SENSOR	24	MOUNTING		FULL			
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)		PLATINUM	
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER		6 mm	
	27	SENSOR CONNECTION TO WELL		1/2" NPT			
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		1/2" NPT (F)	
WELL	29	MOUNTING		-			
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L		CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.			
	32	FLANGE FACE FINISH		-			
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)			
	34	INSERTION LENGTH "U"		220 mm			
	35	EXTENSION LENGTH "T"		BY MANUFACTURER			
	36						
	37						
	38						
	39						
	40						
	41						
42	FLUID						
43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	-	°C	20	°C
44	MINIMUM PRESSURE	NORMAL	MAXIMUM	-	bar-g	4	bar-g
45	DESIGN PRESSURE	DESIGN TEMPERATURE		-	bar-g	-	°C
46	VISCOSITY @ OPERATING CONDITION			-		Cp	
47	DENSITY @ OPERATING CONDITION			-		kg/m³	
48	SUSPENDED SOLIDS (%)			-			
49				-			
50				-			
OPERATING CONDITIONS	51	MANUFACTURER		Endress + Hauser (E+H) or Similar			
	52	MODEL					

NUMBER: 569-DB7B-AIC-711-001

CLIENT NR: PRD-AIC-DSH-031

TITLE

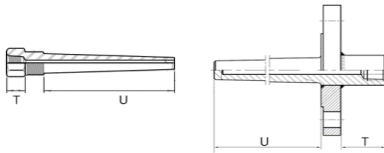
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13 de 13

TEMPERATURE INDICATING TRANSMITTER-SANITARY

REV.:

2

GENERAL	1	INSTRUMENT TAG NUMBER		7B-TIT-371102	
	2	SERVICE		HARVEST TANK N°1, TQ-5701 DILUTION (DO2) BUFFER	
	3	P&ID		7B-Z-0-2-40	
	4	PIPE LINE	EQUIPMENT NUMBER	1"-SFIC-371102-SS10-PP	-
	5	EQUIPMENT MATERIAL / PIPE		316L SS	
	6	AREA CLASSIFICATION		NOT CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 7 - PAGE 3)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		FULL	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	METER CASING		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		-	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	MOUNTING		FULL	
	25	ELEMENT TYPE	ELEMENT MATERIAL	PT100Ω (3 Wire)	PLATINUM
	26	ROD LENGTH (L)	ROD DIAMETER	BY MANUFACTURER	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		-	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS1016L	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASTM A270 Gr.TP316L, SEAMLESS, TRI-CLAMP CONNECTION.	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"		220 mm	
	35	EXTENSION LENGTH "T"		BY MANUFACTURER	
	36				
	37				
	38				
	39				
	40				
	41				
OPERATING CONDITIONS	42				
	43	MINIMUM TEMPERATURE	NORMAL MAXIMUM	- °C	20 °C
	44	MINIMUM PRESSURE	NORMAL MAXIMUM	- bar-g	4 bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	- bar-g	- °C
	46	VISCOSITY @ OPERATING CONDITION		-	Cp
	47	DENSITY @ OPERATING CONDITION		-	kg/m³
	48	SUSPENDED SOLIDS (%)		-	
	49			-	
	50			-	
		51	MANUFACTURER		Endress + Hauser (E+H) or Similar
52		MODEL			