DOC NUMBER: **569-DB7A-AIC-711-005**	CLIENT NUMBER: **PRD-AIC-DSH-055**
CLIENT: **TAKEDA/BAXALTA**	
PROJECT: **BURITI EPCVM PROJECT**	

DRUG PRODUCT - BMS - DATA SHEET
TEMPERATURE TRANSMITTER

2	29APR2022	ISSUE FOR CONSTRUCTION AS PER NOTE	ACC	MAF	RSP
1	29OCT2021	ISSUE FOR CONSTRUCTION CONSIDERING COMMENTS	JHA	MAF	RSP
0	29JUL2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
A	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

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	X	X		36	X		X	X	X		71	X		X	X	X	
2	X		X	X	X		37	X		X	X	X		72	X		X	X	X	
3	X		X	X	X		38	X		X	X	X		73	X		X	X	X	
4	X		X	X	X		39	X		X	X	X		74	X		X	X	X	
5	X		X	X	X		40	X		X	X	X		75	X		X	X	X	
6	X		X	X	X		41	X		X	X	X		76	X		X	X	X	
7	X		X	X	X		42	X		X	X	X		77	X		X	X	X	
8	X		X	X	X		43	X		X	X	X		78	X		X	X	X	
9	X		X	X	X		44	X		X	X	X		79	X		X	X	X	
10	X		X	X	X		45	X		X	X	X		80	X		X	X	X	
11	X		X	X	X		46	X		X	X	X		81	X		X	X	X	
12	X		X	X	X		47	X		X	X	X		82	X		X	X	X	
13	X		X	X	X		48	X		X	X	X		83	X		X	X	X	
14	X		X	X	X		49	X		X	X	X		84	X		X	X	X	
15	X		X	X	X		50	X		X	X	X		85	X		X	X	X	
16	X		X	X	X		51	X		X	X	X		86	X		X	X	X	
17	X		X	X	X		52	X		X	X	X		87	X		X	X	X	
18	X		X	X	X		53	X		X	X	X		88	X		X	X	X	
19	X		X	X	X		54	X		X	X	X		89	X		X	X	X	
20	X		X	X	X		55	X		X	X	X		90	X		X	X	X	
21	X		X	X	X		56	X		X	X	X		91	X		X	X	X	
22	X		X	X	X		57	X		X	X	X		92	X		X	X	X	
23	X		X	X	X		58	X		X	X	X		93	X		X	X	X	
24	X		X	X	X		59	X		X	X	X		94	X		X	X	X	
25	X		X	X	X		60	X		X	X	X		95	X		X	X	X	
26	X		X	X	X		61	X		X	X	X		96	/		X	X	X	
27	X		X	X	X		62	X		X	X	X		97	/		X	X	X	
28	X		X	X	X		63	X		X	X	X		98	/		X	X	X	
29	X		X	X	X		64	X		X	X	X		99	/		X	X	X	
30	X		X	X	X		65	X		X	X	X		100	/		X	X	X	
31	X		X	X	X		66	X		X	X	X		101	/		X	X	X	
32	X		X	X	X		67	X		X	X	X		102	/		X	X	X	
33	X		X	X	X		68	X		X	X	X		103	/		X	X	X	
34	X		X	X	X		69	X		X	X	X		104	/		X	X	X	
35	X		X	X	X		70	X		X	X	X		105	/		X	X	X	

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DOCUMENT REVIEW CONTROL

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107	/		X	X	X		142							177						
108	/		X	X	X		143							178						
109	/		X	X	X		144							179						
110	/		X	X	X		145							180						
111	/		X	X	X		146							181						
112	/		X	X	X		147							182						
113	/		X	X	X		148							183						
114	/		X	X	X		149							184						
115	/		X	X	X		150							185						
116	/		X	X	X		151							186						
117	/		X	X	X		152							187						
118	/		X	X	X		153							188						
119	/		X	X	X		154							189						
120	/		X	X	X		155							190						
121	/		X	X	X		156							191						
122	/		X	X	X		157							192						
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125	/		X	X	X		160							195						
126	/		X	X	X		161							196						
127	/		X	X	X		162							197						
128	/		X	/	/		163							198						
129	/		X	/	/		164							199						
130	/		X	/	/		165							200						
131	/		X	/	/		166							201						
132	/		X	/	/		167							202						
133	/		X	/	/		168							203						
134	/		X	/	/		169							204						
135	/		X	/	/		170							205						
136	/		X	/	/		171							206						
137	/		X	/	/		172							207						
138	/		X	/	/		173							208						
139	/		X	/	/		174							209						
140	/		X	/	/		175							210						

REVISION 0 NOTES:

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

REVISION 1 NOTES:

1- CANCELLED TT-790312, TIT-940054, TIT-940069, TIT-940070, TIT-9700XX01, TT-AHU-7A-5-002, TT-RH-A-20XX-1; TT-RH-A-2002-2; TT-RH-A-2003-2; TT-RH-A-2036-2; TT-RH-A-2037-2, TT-RH-A-2044-2; TT-RH-A-2044-3

REVISION 2 NOTES AS PER N+1 UPDATE:

1- INDICATED FUTURE INSTRUMENTS: TIT-960066, TIT-960077, TIT-960065, TIT-9600150,TIT-980057, TIT-980077, TIT-980053, TIT-980083.

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REFERENCE DOCUMENTS

7A-M-4-5-21	DRUG PRODUCT - AFD - AHU-7A-1
7A-M-4-5-22	DRUG PRODUCT - AFD - AHU-7A-2
7A-M-4-5-23	DRUG PRODUCT - AFD - AHU-7A-3
7A-M-4-5-24	DRUG PRODUCT - AFD - AHU-7A-4
7A-M-4-5-25	DRUG PRODUCT - AFD - AHU-7A-5
7A-M-4-5-26	DRUG PRODUCT - AFD - AHU-7A-6
7A-M-4-5-28	DRUG PRODUCT - AFD - DOAS-7A-1
7A-M-4-5-29	DRUG PRODUCT - AFD - FCU´s
7A-M-0-5-42	P&I DIAGRAM - DRUG PRODUCT - COOLING WATER SYSTEM
7A-M-0-5-43	P&I DIAGRAM - DRUG PRODUCT - CHILLED WATER GENERATION SYSTEM (HVAC)
7A-M-0-5-45	P&I DIAGRAM - DRUG PRODUCT - CHILLED GLYCOL GENERATION SYSTEM
7A-M-0-5-47	P&I DIAGRAM - DRUG PRODUCT - HEATING HOT WATER SYSTEM (HVAC)
7A-M-0-5-61	P&I DIAGRAM - DRUG PRODUCT - PLANT STEAM DISTRIBUTION SYSTEM (PROCESS + HVAC)
PRD-AIC-LIS-014	DRUG PRODUCT - BMS - INSTRUMENT INDEX
PRD-PIP-TSP-501	PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION
PRD-AIC-LIS-046	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.

9- The manufacturer, arsing from the process data finds it possibile the not use of well, please inform!

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 5 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-790314	
	2	SERVIÇE		PLANT STEAM PC-7A-1 / CSG-6501 / MÊS-6401	
	3	P&ID		7A-M-0-5-61	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-21/2"-IS8B-790312-CS2-HC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 200 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 300#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	150 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
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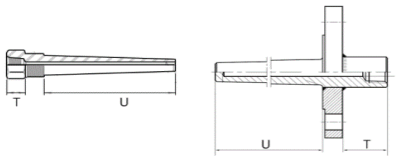
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		HIGH PRESSURE STEAM	STEAM	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		181	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		9,3	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		11,7 bar-g	200 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			5,1 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

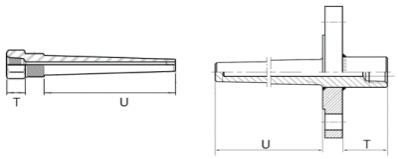
TITLE

TEMPERATURE TRANSMITTER

SHEET: 6 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-790315	
	2	SERVIÇE		PLANT STEAM RE-HEATED WATER FOR SKID	
	3	P&ID		7A-M-0-5-61	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-11/2"-IS8B-790315-CS2-HC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 200 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 300#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	150 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		HIGH PRESSURE STEAM	STEAM	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		182	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		9,3	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		11,7 bar-g	200 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			5,21 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

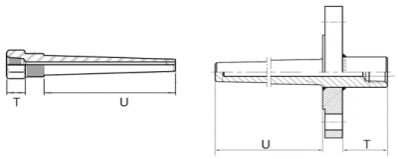
NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-790317	
	2	SERVIÇE		PLANT STEAM RE-HEATED WATER-HX-7A-1	
	3	P&ID		7A-M-0-5-61	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-2"-IS8B-790317-CS2-HC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 200 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 300#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	150 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		HIGH PRESSURE STEAM	STEAM	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		181	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		9,3	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		11,7 bar-g	200 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			5,1 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

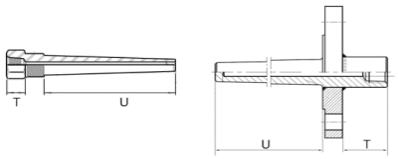
TITLE

TEMPERATURE TRANSMITTER

SHEET: 8 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-940020	
	2	SERVIÇE		COOLING WATER - PROC.WASTER / AIR GENERATION / CHILLER GENER. (PRC/HVAC)	
	3	P&ID		7A-M-0-5-42	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-16"-TWR-940069-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	438 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,58	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 9 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-940053	
	2	SERVIÇE		COOLING WATER - CHILLED WATER GEN. (PROC./ HVAC)	
	3	P&ID		7A-M-0-5-42	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-16"-TWS-940053-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	438 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
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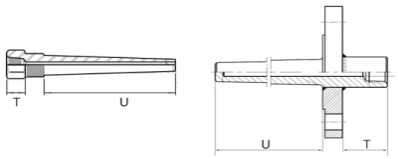
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	31,5		ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	2,13		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 10 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960006	
	2	SERVIÇE		CHILLED WATER - SUPPLY BUILDING 7B	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1S-960006-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
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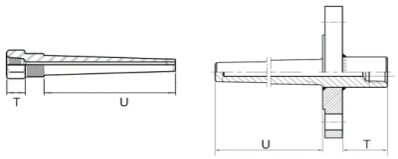
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		5,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 11 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960041	
	2	SERVIÇE		OUTPUT CH-7A-1 - CHILLED WATER - SUPPLY BUILDING 7A/B	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-8"-CW1S-960001-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	280 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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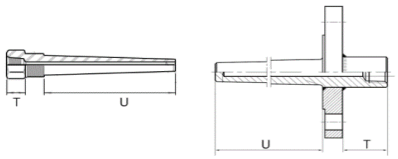
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		5,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,4	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960061	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-1	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-12"-TWS-960061-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	367 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
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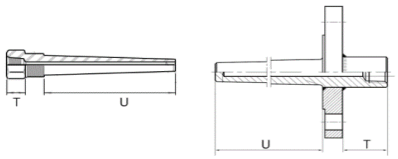
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER RETURN	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

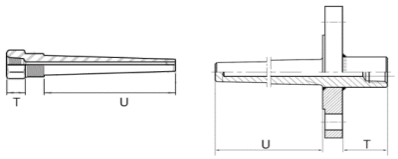
TITLE

TEMPERATURE TRANSMITTER

SHEET: 13 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960062	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-1	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-12"-TWR-960062-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	367 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,16	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960063	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-2	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-12"-TWS-960063-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	367 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
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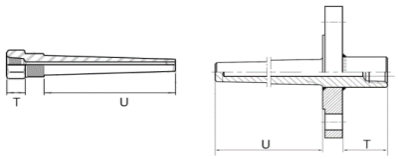
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960064	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-2	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-12"-TWR-960064-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	367 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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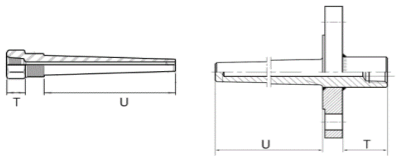
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,16	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960065	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-3	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-TWS-960065-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
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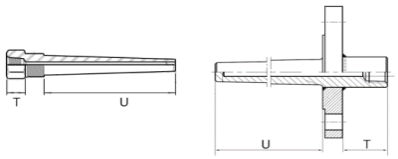
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

FUTURE

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 17 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960066	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-3	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-12"-TWR-960066-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 80 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	367 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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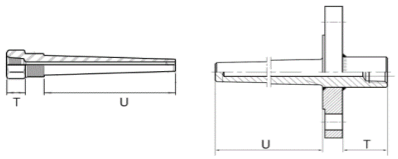
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,16	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

FUTURE

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 18 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960075	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-1	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1R-960075-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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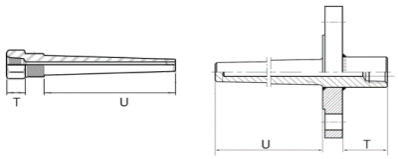
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER RETURN	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		12,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

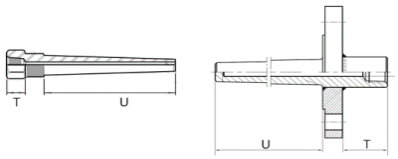
TITLE

TEMPERATURE TRANSMITTER

SHEET: 19 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960076	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-2	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1R-960076-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		12,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

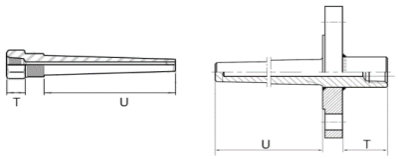
TITLE

TEMPERATURE TRANSMITTER

REV.: 2

FUTURE

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-960077	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS - CH-7A-3	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1R-960077-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		12,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,8	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 21 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960085	
	2	SERVIÇE		CHILLED WATER - RETURN BUILDING 7A	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-8"-CW1R-960005-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	280 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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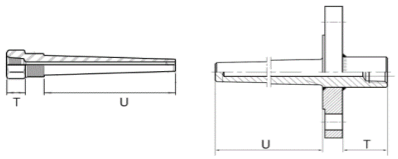

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	12,5		ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	1,5		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,2 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 22 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960088	
	2	SERVIÇE		CHILLED WATER - RETURN BUILDING 7B FOR 7A	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1R-960008-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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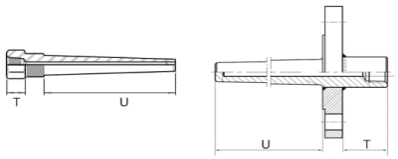
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		INDUSTRIAL WATER	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	12,5		ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	1,5		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,2 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 23 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-9600120	
	2	SERVIÇE		CHILLED WATER - SUPPLY BUILDING 7A	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1S-960001-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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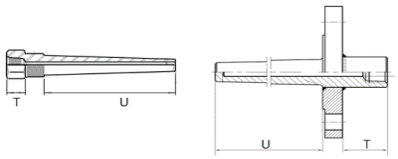
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		5,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,4	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 24 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-9600135	
	2	SERVIÇE		OUTPUT CH-7A-2 - CHILLED WATER - SUPPLY BUILDING 7A/B	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1S-960002-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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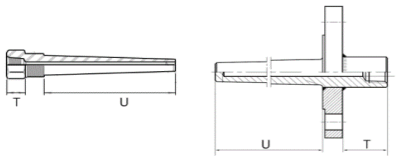

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		5,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,5 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,9 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-9600150	
	2	SERVIÇE		OUTPUT CH-7A-3 - CHILLED WATER - SUPPLY BUILDING 7A/B	
	3	P&ID		7A-M-0-5-43	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-10"-CW1S-960003-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	315 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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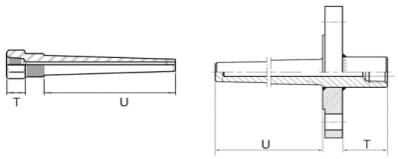

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		5,5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,7 bar-g	42,7 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			999,99 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

FUTURE

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 26 de 127

REV.: 2

	1	INSTRUMENT TAG NUMBER		TIT-980052	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS PCH-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-TWS-980052-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
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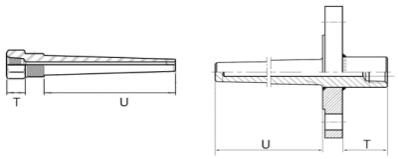


OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,17	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

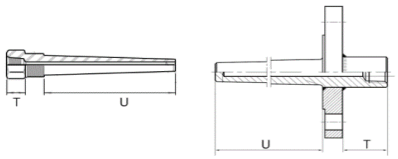
TITLE

TEMPERATURE TRANSMITTER

SHEET: 27 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980053	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS PCH-7A-2	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-TWS-980053-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER SUPPLY	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,13	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			995,3 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

FUTURE

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 28 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980056	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS PCH-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-TWR-980056-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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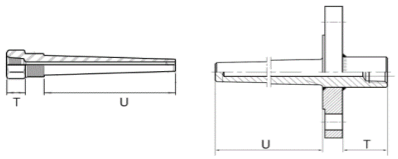
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER RETURN	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,11	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 29 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980057	
	2	SERVIÇE		COOLING WATER - COOLING TOWERS PCH-7A-2	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-TWR-980057-CS1-NI	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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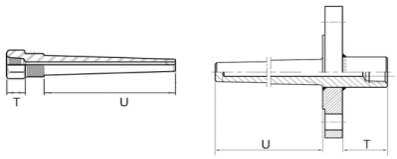
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		CHILLED WATER RETURN	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		37	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,11	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		4,6 bar-g	67 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			993 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

FUTURE

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

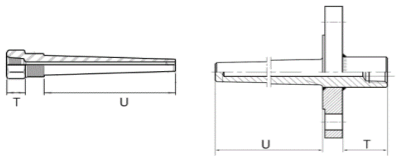
TITLE

TEMPERATURE TRANSMITTER

SHEET: 30 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980060	
	2	SERVIÇE		DISTRIBUTION SYSTEM - CHILLED GLYCOL FOR BT-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0R-980060-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	5,1	9,1	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	1,9		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g	39,1 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

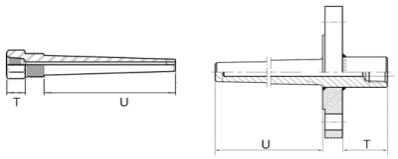
TITLE

TEMPERATURE TRANSMITTER

SHEET: 31 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980061	
	2	SERVIÇE		DISTRIBUTION SYSTEM - CHILLED GLYCOL BT-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0R-980061-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	5,1	9,1	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	0,1		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g	39,1 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 32 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980075	
	2	SERVIÇE		GLYCOL FOR PCH-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0R-980075-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
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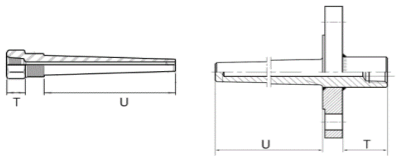
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	5,1	9,1	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	2		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,2 bar-g	39,1 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

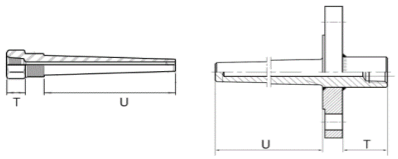
TEMPERATURE TRANSMITTER

SHEET: 33 de 127

REV.: 2

FUTURE

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980077	
	2	SERVIÇE		GLYCOL FOR PCH-7A-2	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0R-980077-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL	LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	5,1	9,1	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	1,4		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2,2 bar-g	39,1 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar		
	52	MODEL			TM411 (E+H)		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

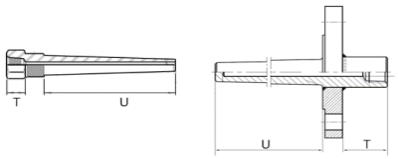
TITLE

TEMPERATURE TRANSMITTER

SHEET: 34 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980080	
	2	SERVIÇE		GLYCOL CHILLED PCH-7A-1	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0S-980080-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL		LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		1	5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,6		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g		35 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar			
	52	MODEL			TM411 (E+H)			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

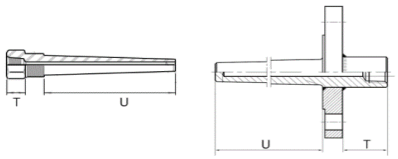
TITLE

TEMPERATURE TRANSMITTER

SHEET: 35 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		PIT-980083	
	2	SERVIÇE		GLYCOL CHILLED PCH-7A-2	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0S-980083-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL		LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		1	5	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,6		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g		35 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar			
	52	MODEL			TM411 (E+H)			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

FUTURE

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

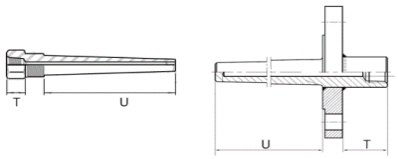
TITLE

TEMPERATURE TRANSMITTER

SHEET: 36 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TIT-980086	
	2	SERVIÇE		DISTRIBUTION SYSTEM - CHILLED GLYCOL 1ºC	
	3	P&ID		7A-M-0-5-45	
	4	PIPE LINE	EQUIPMENT NUMBER	7A-6"-GW0S-980086-CS1-CC	-
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B	
	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		INTEGRAL ELEMENT	
	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	PRECISION	HART	±0,25% F.E
	18	DISPLAY		YES (SEE GERNERAL NOTES 8)	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 50 ºC	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		1/2" NPT	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	1/2" NPT (F)
WELL	29	MOUNTING		SUPPLIED WITH SENSOR	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		1.1/2", 150#, FR, ASME B16.5	
	32	FLANGE FACE FINISH		MSS SP-6	
	33	CONNECTION TO THERMOMETER		1/2" NPT(F)	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	235 mm	35 mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
	37				
	38				
	39				
	40				
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		PROPYLENE GLYCOL		LIQUID	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		1	5	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,1		bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		2 bar-g		35 ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			1000 kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			Endress + Hauser (E+H) or Similar			
	52	MODEL			TM411 (E+H)			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

2- THE INSTRUMENT SHALL BE PREPARED TO OPERATE WITH PROPYLENE GLICOL 10% IF REQUIRED. MEASUREMENTS OF THE WELL

NUMBER: 569-DB7A-AIC-711-005	CLIENT NR: PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 37 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-960001	
	2	SERVIÇE			TEMPERATURE AIR SUPPLY	
	3	P&ID			7A-M-4-5-21	
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-AHU-7A-1
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL	
	6	AREA CLASSIFICATION			NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES			(SEE GENERAL NOTES 4)	
	9					
TRANSMITTER	10	TYPE			MICROPROCESSED	
	11	MOUNTING			INTEGRAL ELEMENT	
	12	BODY MATERIAL			ALUMINUM	
	13	BODY PRESSURE CLASS			BY MANUFACTURER	
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY			24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E
	18	DISPLAY			NO	
	19	PRECISION			±0,25% F.E	
	20	REPEATABILITY			BY MANUFACTURER	
	21	CALIBRATION RANGE			BY MANUFACTURER	
	22	CALIBRATED RANGE			0 @ 60 ºC	
	23	ELECTRICAL CONNECTION			BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT	
	32	FLANGE FACE FINISH			-	
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)	
	36					
ACCESSORY	37	ASSEMBLY KIT			YES	
	38	DISPLAY			NO	
	39	FIXING FLANGE IN DUCT			YES - EQUIPMENT	
	40	CABLE GLAND			YES	
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION			Cp	
	47	DENSITY @ OPERATING CONDITION			kg/m³	
	48	SUSPENDED SOLIDS (%)			NO	
	49	M.M. / Z / Cp/Cv			... / ... / ...	
	50					
	51	MANUFACTURER			VECTUS	
	52	MODEL			VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960002		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-AHU-7A-2	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER: 569-DB7A-AIC-711-005	CLIENT NR: PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960003		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-AHU-7A-3	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960004		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-4-5-24		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-AHU-7A-4	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-960005	
	2	SERVIÇE			CONTROL VALVE HEATING COIL	
	3	P&ID			7A-M-4-5-25	
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-AHU-7A-5
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL	
	6	AREA CLASSIFICATION			NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES			(SEE GENERAL NOTES 4)	
	9					
TRANSMITTER	10	TYPE			MICROPROCESSED	
	11	MOUNTING			INTEGRAL ELEMENT	
	12	BODY MATERIAL			ALUMINUM	
	13	BODY PRESSURE CLASS			BY MANUFACTURER	
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY			24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E
	18	DISPLAY			NO	
	19	PRECISION			±0,25% F.E	
	20	REPEATABILITY			BY MANUFACTURER	
	21	CALIBRATION RANGE			BY MANUFACTURER	
	22	CALIBRATED RANGE			0 @ 60 ºC	
	23	ELECTRICAL CONNECTION			BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT	
	32	FLANGE FACE FINISH			-	
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)	
	36					
ACCESSORY	37	ASSEMBLY KIT			YES	
	38	DISPLAY			NO	
	39	FIXING FLANGE IN DUCT			YES - EQUIPMENT	
	40	CABLE GLAND			YES	
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION			Cp	
	47	DENSITY @ OPERATING CONDITION			kg/m³	
	48	SUSPENDED SOLIDS (%)			NO	
	49	M.M. / Z / Cp/Cv			... / ... / ...	
	50					
	51	MANUFACTURER			VECTUS	
	52	MODEL			VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005			CLIENT NR:	PRD-AIC-DSH-055	
TITLE	TEMPERATURE TRANSMITTER				SHEET: 42 de 127	REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-960006		
	2	SERVIÇE			TEMPERATURE AIR SUPPLY		
	3	P&ID			7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-AHU-7A-6	
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL		
	6	AREA CLASSIFICATION			NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES			(SEE GENERAL NOTES 4)		
	9						
TRANSMITTER	10	TYPE			MICROPROCESSED		
	11	MOUNTING			INTEGRAL ELEMENT		
	12	BODY MATERIAL			ALUMINUM		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E	
	18	DISPLAY			NO		
	19	PRECISION			±0,25% F.E		
	20	REPEATABILITY			BY MANUFACTURER		
	21	CALIBRATION RANGE			BY MANUFACTURER		
	22	CALIBRATED RANGE			0 @ 60 ºC		
	23	ELECTRICAL CONNECTION			BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT		
	32	FLANGE FACE FINISH			-		
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm	
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)		
	36						
ACCESSORY	37	ASSEMBLY KIT			YES		
	38	DISPLAY			NO		
	39	FIXING FLANGE IN DUCT			YES - EQUIPMENT		
	40	CABLE GLAND			YES		
	41						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			VECTUS		
	52	MODEL			VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-960020		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1043-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-DOAS-7A-002	
	2	SERVIÇE		TEMPERATURE AIR SUPPLY	
	3	P&ID		7A-M-0-5-28	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-DOAS-7A-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT	
	40	CABLE GLAND		YES	
	41				

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600187			
	2	SERVIÇE		TEMPERATURE AIR SUPPLY			
	3	P&ID		7A-M-0-5-29			
	4	PIPE LINE	EQUIPMENT NUMBER	-		7A-FCU-A1043-2	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL			
	6	AREA CLASSIFICATION		NO CLASSIFIED			
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529			
	8	CERTIFICATES		(SEE GENERAL NOTES 4)			
	9						
TRANSMITTER	10	TYPE		MICROPROCESSED			
	11	MOUNTING		INTEGRAL ELEMENT			
	12	BODY MATERIAL		ALUMINUM			
	13	BODY PRESSURE CLASS		BY MANUFACTURER			
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)			
	15	POWER SUPPLY		24 Vcc - 2 WIRE			
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)			
	17	COMMUNICATION PROTOCOL	PRECISION	HART		±0,25% F.E	
	18	DISPLAY		NO			
	19	PRECISION		±0,25% F.E			
	20	REPEATABILITY		BY MANUFACTURER			
	21	CALIBRATION RANGE		BY MANUFACTURER			
	22	CALIBRATED RANGE		0 @ 60 ºC			
	23	ELECTRICAL CONNECTION		BY MANUFACTURER			
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)		6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER			
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM		BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)			
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316		CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT			
	32	FLANGE FACE FINISH		-			
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER			
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm		mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)			
	36						
ACCESSORY	37	ASSEMBLY KIT		YES			
	38	DISPLAY		NO			
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT			
	40	CABLE GLAND		YES			
	41						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp			
	47	DENSITY @ OPERATING CONDITION		kg/m³			
	48	SUSPENDED SOLIDS (%)		NO			
	49	M.M. / Z / Cp/Cv		... / ... / ...			
	50						
	51	MANUFACTURER		VECTUS			
	52	MODEL		VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600191	
	2	SERVIÇE		TEMPERATURE AIR SUPPLY	
	3	P&ID		7A-M-0-5-29	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1043-3
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT	
	40	CABLE GLAND		YES	
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VECTUS	
	52	MODEL		VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600193		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1043-4	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600213		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1027-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600215		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1027-2	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600217		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1027-3	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600221		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1041-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 52 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600223	
	2	SERVIÇE		TEMPERATURE AIR SUPPLY	
	3	P&ID		7A-M-0-5-29	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1041-2
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT	
	40	CABLE GLAND		YES	
	41				

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600225		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1030-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 54 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600227		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A3003-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600229		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1026-2	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600231		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A2024-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600237		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1026-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600239		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1026-2	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-9600241		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A1026-3	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 60 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-FCU-A3002-001		
	2	SERVIÇE		TEMPERATURE AIR SUPPLY		
	3	P&ID		7A-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-FCU-A3002-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - EQUIPMENT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1001-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-25	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1001-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1002-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1002-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21	°C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION		Cp		
	47	DENSITY @ OPERATING CONDITION		kg/m³		
	48	SUSPENDED SOLIDS (%)		NO		
	49	M.M. / Z / Cp/Cv		... / ... / ...		
	50					
	51	MANUFACTURER		VECTUS		
	52	MODEL		VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1003-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1003-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1004-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1004-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1005-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1005-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005			CLIENT NR:	PRD-AIC-DSH-055	
TITLE						SHEET: 66 de 127
TEMPERATURE TRANSMITTER						REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-RH-A-1014-1		
	2	SERVIÇE			CONTROL VALVE HEATING COIL		
	3	P&ID			7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-RH-A-1014-1	
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL		
	6	AREA CLASSIFICATION			NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES			(SEE GENERAL NOTES 4)		
	9						
TRANSMITTER	10	TYPE			MICROPROCESSED		
	11	MOUNTING			INTEGRAL ELEMENT		
	12	BODY MATERIAL			ALUMINUM		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E	
	18	DISPLAY			NO		
	19	PRECISION			±0,25% F.E		
	20	REPEATABILITY			BY MANUFACTURER		
	21	CALIBRATION RANGE			BY MANUFACTURER		
	22	CALIBRATED RANGE			0 @ 60 ºC		
	23	ELECTRICAL CONNECTION			BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT		
	32	FLANGE FACE FINISH			-		
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm	
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)		
	36						
ACCESSORY	37	ASSEMBLY KIT			YES		
	38	DISPLAY			NO		
	39	FIXING FLANGE IN DUCT			YES - DUCT		
	40	CABLE GLAND			YES		
	41						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			VECTUS		
	52	MODEL			VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1017-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1017-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1018-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1018-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1019-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1019-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1023-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1023-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1025-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1025-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1029-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-25		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1029-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1032-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1032-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1034-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1034-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1037-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1037-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1038-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1038-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1039-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1039-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 78 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1040-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1040-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-1062-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-1062-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2001-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2001	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2002-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-24		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2002-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2003-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2003-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2004-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2004	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2005-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2005	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2006-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2006	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2007-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2007	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
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ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2008-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2008	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2009-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2009-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2010-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2010-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2011-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-		
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2012-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2012-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2013-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2013-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2014-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2014-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VECTUS	
	52	MODEL		VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2015-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2015-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005			CLIENT NR:	PRD-AIC-DSH-055	
TITLE						SHEET: 95 de 127
TEMPERATURE TRANSMITTER						REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-RH-A-2016-1		
	2	SERVIÇE			CONTROL VALVE HEATING COIL		
	3	P&ID			7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-RH-A-2016-1	
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL		
	6	AREA CLASSIFICATION			NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES			(SEE GENERAL NOTES 4)		
	9						
TRANSMITTER	10	TYPE			MICROPROCESSED		
	11	MOUNTING			INTEGRAL ELEMENT		
	12	BODY MATERIAL			ALUMINUM		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E	
	18	DISPLAY			NO		
	19	PRECISION			±0,25% F.E		
	20	REPEATABILITY			BY MANUFACTURER		
	21	CALIBRATION RANGE			BY MANUFACTURER		
	22	CALIBRATED RANGE			0 @ 60 ºC		
	23	ELECTRICAL CONNECTION			BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT		
	32	FLANGE FACE FINISH			-		
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm	
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)		
	36						
ACCESSORY	37	ASSEMBLY KIT			YES		
	38	DISPLAY			NO		
	39	FIXING FLANGE IN DUCT			YES - DUCT		
	40	CABLE GLAND			YES		
	41						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR	AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g	ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	51	MANUFACTURER			VECTUS		
	52	MODEL			VVT-P		

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2017-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2017-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2012-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2012-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2013-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2013-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VECTUS	
	52	MODEL		VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2014-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2014-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE	AIR	AIR
	43	MINIMUM TEMPERATURE	NORMAL / MAXIMUM	10 / 15	21 / °C
	44	MINIMUM PRESSURE	NORMAL / MAXIMUM	/ 80	250 / Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	ºC
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VECTUS	
	52	MODEL		VVT-P	

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER: 569-DB7A-AIC-711-005	CLIENT NR: PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 100 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER			TT-RH-A-2015-1	
	2	SERVIÇE			CONTROL VALVE HEATING COIL	
	3	P&ID			7A-M-4-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER		-	7A-RH-A-2015-1
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL	
	6	AREA CLASSIFICATION			NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES			(SEE GENERAL NOTES 4)	
	9					
TRANSMITTER	10	TYPE			MICROPROCESSED	
	11	MOUNTING			INTEGRAL ELEMENT	
	12	BODY MATERIAL			ALUMINUM	
	13	BODY PRESSURE CLASS			BY MANUFACTURER	
	14	HOUSING MATERIAL			ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY			24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL			4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION		HART	±0,25% F.E
	18	DISPLAY			NO	
	19	PRECISION			±0,25% F.E	
	20	REPEATABILITY			BY MANUFACTURER	
	21	CALIBRATION RANGE			BY MANUFACTURER	
	22	CALIBRATED RANGE			0 @ 60 ºC	
	23	ELECTRICAL CONNECTION			BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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		(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION		ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING			SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION		SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS			ASSEMBLY KIT	
	32	FLANGE FACE FINISH			-	
	33	CONNECTION TO THERMOMETER			BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"		300 mm	mm
	35	CALCULATION MEMORY			YES (ASME PTC-19.3 TW)	
	36					
ACCESSORY	37	ASSEMBLY KIT			YES	
	38	DISPLAY			NO	
	39	FIXING FLANGE IN DUCT			YES - DUCT	
	40	CABLE GLAND			YES	
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 101 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2022-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A2022-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2023-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2023-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2024-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A2024-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

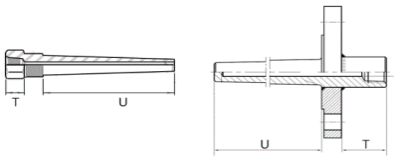
TITLE

TEMPERATURE TRANSMITTER

SHEET: 104 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2025-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2025-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

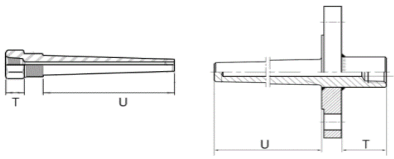
TITLE

TEMPERATURE TRANSMITTER

SHEET: 105 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2026-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2026-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

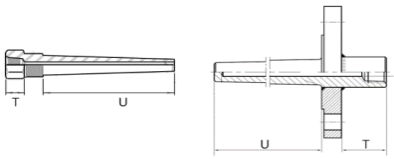
NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2027-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2027-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2028-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-23	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2028-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 108 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2029-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2028	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2030-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2030-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

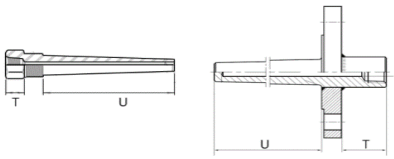
TITLE

TEMPERATURE TRANSMITTER

SHEET: 110 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2031-1	
	2	SERVIÇE		CONTROL VALVE HEATING COIL	
	3	P&ID		7A-M-4-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2031-1
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL	
	6	AREA CLASSIFICATION		NO CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529	
	8	CERTIFICATES		(SEE GENERAL NOTES 4)	
	9				
TRANSMITTER	10	TYPE		MICROPROCESSED	
	11	MOUNTING		INTEGRAL ELEMENT	
	12	BODY MATERIAL		ALUMINUM	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)	
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E
	18	DISPLAY		NO	
	19	PRECISION		±0,25% F.E	
	20	REPEATABILITY		BY MANUFACTURER	
	21	CALIBRATION RANGE		BY MANUFACTURER	
	22	CALIBRATED RANGE		0 @ 60 ºC	
	23	ELECTRICAL CONNECTION		BY MANUFACTURER	
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)	
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT	
	32	FLANGE FACE FINISH		-	
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER	
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)	
	36				
ACCESSORY	37	ASSEMBLY KIT		YES	
	38	DISPLAY		NO	
	39	FIXING FLANGE IN DUCT		YES - DUCT	
	40	CABLE GLAND		YES	
	41				



OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2032-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-24		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2032-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2033-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2033-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2034-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2034-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER: 569-DB7A-AIC-711-005	CLIENT NR: PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 114 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2035-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2035-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2036-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2036-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2037-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2037-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2038-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2038-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2039-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-23		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2039-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2040-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2040-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2041-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2041-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2042-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2042-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2044-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2044-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2046-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-21		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2044-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2049-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2049-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2050-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2050-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2051-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A-2051-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	°C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL

NUMBER:	569-DB7A-AIC-711-005	CLIENT NR:	PRD-AIC-DSH-055

TITLE

TEMPERATURE TRANSMITTER

SHEET: 127 de 127

REV.: 2

GENERAL	1	INSTRUMENT TAG NUMBER		TT-RH-A-2052-1		
	2	SERVIÇE		CONTROL VALVE HEATING COIL		
	3	P&ID		7A-M-4-5-22		
	4	PIPE LINE	EQUIPMENT NUMBER	-	7A-RH-A2052-1	
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL		
	6	AREA CLASSIFICATION		NO CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION		IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES		(SEE GENERAL NOTES 4)		
	9					
TRANSMITTER	10	TYPE		MICROPROCESSED		
	11	MOUNTING		INTEGRAL ELEMENT		
	12	BODY MATERIAL		ALUMINUM		
	13	BODY PRESSURE CLASS		BY MANUFACTURER		
	14	HOUSING MATERIAL		ALUMINIO (COPPER FREE)		
	15	POWER SUPPLY		24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL		4 - 20 mA (500 ohms @ 24 Vcc)		
	17	COMMUNICATION PROTOCOL	PRECISION	HART	±0,25% F.E	
	18	DISPLAY		NO		
	19	PRECISION		±0,25% F.E		
	20	REPEATABILITY		BY MANUFACTURER		
	21	CALIBRATION RANGE		BY MANUFACTURER		
	22	CALIBRATED RANGE		0 @ 60 ºC		
	23	ELECTRICAL CONNECTION		BY MANUFACTURER		
	24	DJUSTABLE RANGE / AJ. 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	(NOTE 1)	6 mm	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER		
	28	HEAD MATERIAL	ELECTRICAL CONNECTION	ALUMINUM	BY MANUFACTURER	
WELL	29	MOUNTING		SUPPLIED WITH SENSOR (SEE GENERAL NOTES 9)		
	30	MATERIAL	TYPE OF CONSTRUCTION	SS316	CONICAL MACHINED FROM A BAR	
	31	CONNECTION TO THE PROCESS		ASSEMBLY KIT		
	32	FLANGE FACE FINISH		-		
	33	CONNECTION TO THERMOMETER		BY MANUFACTURER		
	34	INSERTION LENGTH "U"	EXTENSION LENGTH "T"	300 mm	mm	
	35	CALCULATION MEMORY		YES (ASME PTC-19.3 TW)		
	36					
ACCESSORY	37	ASSEMBLY KIT		YES		
	38	DISPLAY		NO		
	39	FIXING FLANGE IN DUCT		YES - DUCT		
	40	CABLE GLAND		YES		
	41					

OPERATING CONDITIONS	42	FLUID	PHYSICAL STATE		AIR		AIR	
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	10	15	21	ºC
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		80	250	Pa
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		bar-g		ºC	
	46	VISCOSITY @ OPERATING CONDITION			Cp			
	47	DENSITY @ OPERATING CONDITION			kg/m³			
	48	SUSPENDED SOLIDS (%)			NO			
	49	M.M. / Z / Cp/Cv			... / ... / ...			
	50							
	51	MANUFACTURER			VECTUS			
	52	MODEL			VVT-P			

NOTES:

1- THE SENSOR MUST BE MOUNTED IN CONJUNCTION WITH THE WELL, THE SAME MUST MEET THE MEASUREMENTS OF THE WELL