	
DOC NUMBER: <b>569-DB7B-AIC-711-006</b>		CLIENT NUMBER: <b>PRD-AIC-DSH-079</b>	
CLIENT: <b>TAKEDA/BAXALTA</b>			
PROJECT: <b>BURITI EPCVM PROJECT</b>			

## DRUG SUBSTANCE - BMS - DATA SHEET TEMPERATURE AND HUMIDITY TRANSMITTER

1	27JAN2022	ISSUE FOR CONSTRUCTION CONSIDERING COMMENTS	MAV	MAF	RSP
0	31AUG2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
A	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

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SHEET:  
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TEMPERATURE AND HUMIDITY TRANSMITTER

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### DOCUMENT REVIEW CONTROL




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

### REVISION 0 NOTES:

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

### REVISION 1 NOTES:

- 1- CANCELLED TT/MT-AHU-7B-6-002

   					
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<b>REFERENCE DOCUMENTS</b>					

7A-M-0-5-21	DRUG PRODUCT - AFD - AHU-7B-1
7A-M-0-5-22	DRUG PRODUCT - AFD - AHU-7B-2
7A-M-0-5-23	DRUG PRODUCT - AFD - AHU-7B-3
7A-M-0-5-24	DRUG PRODUCT - AFD - AHU-7B-4
7A-M-0-5-25	DRUG PRODUCT - AFD - AHU-7B-5
7A-M-0-5-26	DRUG PRODUCT - AFD - AHU-7B-6
7A-M-0-5-27	DRUG PRODUCT - AFD - AHU-7B-7
7A-M-0-5-28	DRUG PRODUCT - AFD - AHU-7B-8
7A-M-0-5-29	DRUG PRODUCT - AFD - AHU-7B-9
7A-M-0-5-31	DRUG PRODUCT - AFD - DOAS-7A-1
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

<b>GENERAL NOTES</b>
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- 1- The transmitters must have the following characteristics:
  - a) They must be electronic, intelligent and programmable, with the transmission of the signal in the same physical medium as the power supply;
  - b) Support the respective maximum static design pressures;
  - c) They must be capable of identifying internal failures;
  - d) Be capable of setting the value of the output signal, programmable in 0% or 100% of the range, in case of sensor element failure;
- 2- All transmitters must have enclosures, whose parts exposed to the atmosphere are resistant to environmental conditions, including those generated by the process condition.
- 3- All electronic or electrical components that are subject to fungal and moisture attacks must be tropicalized, i.e., treated with polyurethane coating or equivalent to inhibit this attack.
- 4- All transmitters must be provided with protection type certificates compatible with the respective area classification. If the enclosure requires certificates regarding type and degree of protection, both proofs must be explicit in the same certificate. The certificates must be issued by INMETRO or an accredited body.
- 5- All transmitters must have a calibration certificate with traceability according to ISO 9000.
- 6- The identification plates must be made of AISI 304 stainless steel permanently attached to the instruments with a tag and serial number. The serial number of the instrument, when possible, can be recorded on the body itself.
- 7- All electronic instruments must be provided with software asset management feature, with zero adjustment function, span adjustment and other remote settings via digital data communication. The software must be supplied with the instruments and when necessary the connecting cables must also be provided.
- 8- The instrument display must be at least 2 lines with 5 characters on each line.

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-1-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-21	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-1
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 65 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-1-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-21	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-1
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-2-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-2
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-2-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-22	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-2
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-3-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-23	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-3
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

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REV.:

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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-3-002					
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT					
	3	P&ID		7B-M-0-5-23					
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT		AHU-7B-3			
	5	EQUIPMENT MATERIAL / PIPE		-					
	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					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	HOUSING MATERIAL		POLYCARBONATE / ABS					
	15	POWER SUPPLY		24 Vcc - 2 WIRE					
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)		(2x) CONFIGURABLE			
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		±0,25% F.E					
	19	REPEATABILITY		BY MANUFACTURER					
	20	CALIBRATION RANGE		BY MANUFACTURER					
	21	CALIBRATED RANGE		0 @ 22 °C					
	22	ELECTRICAL CONNECTION		1/2" NPT (F)					
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES					
	SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY				
33		MOUNTING		DUCT					
25		ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER		SS316L			
26		LENGTH (L)	DIAMETER	300 mm		BY MANUFACTURER			
27		HUMIDITY		0~100%					
27		SENSOR CONNECTION TO WELL		BY MANUFACTURER					
31		CONNECTION TO THE PROCESS		FLANGES FOR DUCT					
35									
ACCESSORY	29	CONFIGURATOR CABLE		YES					
	30	DISPLAY		NO					
	32	FIXING FLANGE IN DUCT		YES					
	34	CABLE GLAND		YES					
	35								
	OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR	
43		MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22	°C	
44		MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5		Pa	
45		MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH		
46		VISCOSITY @ OPERATING CONDITION		Cp					
47		DENSITY @ OPERATING CONDITION		kg/m³					
48		SUSPENDED SOLIDS (%)		NO					
49		M.M. / Z / Cp/Cv		... / ... / ...					
50									
		51	MANUFACTURER		VAISALA				
	52	MODEL		HTM330					

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10 de 24  
REV.:  
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GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-4-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-4
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE

TEMPERATURE AND HUMIDITY TRANSMITTER

SHEET:

11 de 24

REV.:

1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-4-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-24	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-4
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE  
**TEMPERATURE AND HUMIDITY TRANSMITTER**

SHEET:  
12 de 24  
REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-5-001					
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT					
	3	P&ID		7B-M-0-5-25					
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT		AHU-7B-5			
	5	EQUIPMENT MATERIAL / PIPE		-					
	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					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	HOUSING MATERIAL		POLYCARBONATE / ABS					
	15	POWER SUPPLY		24 Vcc - 2 WIRE					
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)		(2x) CONFIGURABLE			
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		±0,25% F.E					
	19	REPEATABILITY		BY MANUFACTURER					
	20	CALIBRATION RANGE		BY MANUFACTURER					
	21	CALIBRATED RANGE		0 @ 22 °C					
	22	ELECTRICAL CONNECTION		1/2" NPT (F)					
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES					
	SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY				
33		MOUNTING		DUCT					
25		ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER		SS316L			
26		LENGTH (L)	DIAMETER	300 mm		BY MANUFACTURER			
27		HUMIDITY		0~100%					
27		SENSOR CONNECTION TO WELL		BY MANUFACTURER					
31		CONNECTION TO THE PROCESS		FLANGES FOR DUCT					
35									
ACCESSORY	29	CONFIGURATOR CABLE		YES					
	30	DISPLAY		NO					
	32	FIXING FLANGE IN DUCT		YES					
	34	CABLE GLAND		YES					
	35								
	OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR	
43		MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22	°C	
44		MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5		Pa	
45		MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH		
46		VISCOSITY @ OPERATING CONDITION		Cp					
47		DENSITY @ OPERATING CONDITION		kg/m³					
48		SUSPENDED SOLIDS (%)		NO					
49		M.M. / Z / Cp/Cv		... / ... / ...					
50									
		51	MANUFACTURER		VAISALA				
	52	MODEL		HTM330					

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE

TEMPERATURE AND HUMIDITY TRANSMITTER

SHEET:

13 de 24

REV.:

1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-5-002					
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT					
	3	P&ID		7B-M-0-5-25					
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT		AHU-7B-5			
	5	EQUIPMENT MATERIAL / PIPE		-					
	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					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	HOUSING MATERIAL		POLYCARBONATE / ABS					
	15	POWER SUPPLY		24 Vcc - 2 WIRE					
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)		(2x) CONFIGURABLE			
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		±0,25% F.E					
	19	REPEATABILITY		BY MANUFACTURER					
	20	CALIBRATION RANGE		BY MANUFACTURER					
	21	CALIBRATED RANGE		0 @ 22 °C					
	22	ELECTRICAL CONNECTION		1/2" NPT (F)					
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES					
	SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY				
33		MOUNTING		DUCT					
25		ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER		SS316L			
26		LENGTH (L)	DIAMETER	300 mm		BY MANUFACTURER			
27		HUMIDITY		0~100%					
27		SENSOR CONNECTION TO WELL		BY MANUFACTURER					
31		CONNECTION TO THE PROCESS		FLANGES FOR DUCT					
35									
ACCESSORY		29	CONFIGURATOR CABLE		YES				
	30	DISPLAY		NO					
	32	FIXING FLANGE IN DUCT		YES					
	34	CABLE GLAND		YES					
	35								
	OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR	
43		MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22	°C	
44		MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5		Pa	
45		MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH		
46		VISCOSITY @ OPERATING CONDITION		Cp					
47		DENSITY @ OPERATING CONDITION		kg/m³					
48		SUSPENDED SOLIDS (%)		NO					
49		M.M. / Z / Cp/Cv		... / ... / ...					
50									
		51	MANUFACTURER		VAISALA				
	52	MODEL		HTM330					

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE

TEMPERATURE AND HUMIDITY TRANSMITTER

SHEET:

14 de 24

REV.:

1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-6-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-26	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-6
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE

TEMPERATURE AND HUMIDITY TRANSMITTER

SHEET:

15 de 24

REV.:

1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-7-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-27	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-7
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE  
**TEMPERATURE AND HUMIDITY TRANSMITTER**

SHEET:  
16 de 24  
REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-7-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-27	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-7
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:



NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE  
**TEMPERATURE AND HUMIDITY TRANSMITTER**

SHEET:  
17 de 24  
REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-8-001	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-28	
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT	AHU-7B-8
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE  
**TEMPERATURE AND HUMIDITY TRANSMITTER**

SHEET:  
18 de 24  
REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-8-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-28	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-8
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE  
**TEMPERATURE AND HUMIDITY TRANSMITTER**

SHEET:  
19 de 24  
REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-9-001					
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT					
	3	P&ID		7B-M-0-5-29					
	4	PIPE LINE	EQUIPMENT NUMBER	RETURN DUCT		AHU-7B-9			
	5	EQUIPMENT MATERIAL / PIPE		-					
	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					
	13	BODY PRESSURE CLASS		BY MANUFACTURER					
	14	HOUSING MATERIAL		POLYCARBONATE / ABS					
	15	POWER SUPPLY		24 Vcc - 2 WIRE					
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)		(2x) CONFIGURABLE			
	17	COMMUNICATION PROTOCOL		HART					
	18	PRECISION		±0,25% F.E					
	19	REPEATABILITY		BY MANUFACTURER					
	20	CALIBRATION RANGE		BY MANUFACTURER					
	21	CALIBRATED RANGE		0 @ 22 °C					
	22	ELECTRICAL CONNECTION		1/2" NPT (F)					
	23	DJUSTABLE RANGE / A.J. LOCAL ZERO AND SPAN		YES / YES					
	SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY				
33		MOUNTING		DUCT					
25		ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER		SS316L			
26		LENGTH (L)	DIAMETER	300 mm		BY MANUFACTURER			
27		HUMIDITY		0~100%					
27		SENSOR CONNECTION TO WELL		BY MANUFACTURER					
31		CONNECTION TO THE PROCESS		FLANGES FOR DUCT					
35									
ACCESSORY		29	CONFIGURATOR CABLE		YES				
	30	DISPLAY		NO					
	32	FIXING FLANGE IN DUCT		YES					
	34	CABLE GLAND		YES					
	35								
	OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR	
43		MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22	°C	
44		MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5		Pa	
45		MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH		
46		VISCOSITY @ OPERATING CONDITION		Cp					
47		DENSITY @ OPERATING CONDITION		kg/m³					
48		SUSPENDED SOLIDS (%)		NO					
49		M.M. / Z / Cp/Cv		... / ... / ...					
50									
		51	MANUFACTURER		VAISALA				
	52	MODEL		HTM330					

NOTES:

NUMBER: 569-DB7B-AIC-711-006

CLIENT NR: PRD-AIC-DSH-079

TITLE





TEMPERATURE AND HUMIDITY TRANSMITTER

SHEET:  
20 de 24





REV.:  
1

GENERAL	1	INSTRUMENT TAG NUMBER		TT/MT-AHU-7B-9-002	
	2	SERVICE		RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT	
	3	P&ID		7B-M-0-5-29	
	4	PIPE LINE	EQUIPMENT NUMBER	SUPPLY DUCT	AHU-7B-9
	5	EQUIPMENT MATERIAL / PIPE		-	
	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	
	13	BODY PRESSURE CLASS		BY MANUFACTURER	
	14	HOUSING MATERIAL		POLYCARBONATE / ABS	
	15	POWER SUPPLY		24 Vcc - 2 WIRE	
	16	OUTPUT SIGNAL	QUANTITY	4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE
	17	COMMUNICATION PROTOCOL		HART	
	18	PRECISION		±0,25% F.E	
	19	REPEATABILITY		BY MANUFACTURER	
	20	CALIBRATION RANGE		BY MANUFACTURER	
	21	CALIBRATED RANGE		0 @ 22 °C	
	22	ELECTRICAL CONNECTION		1/2" NPT (F)	
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN		YES / YES	
SENSOR	24	TYPE		TEMPERATURE AND HUMIDITY	
	33	MOUNTING		DUCT	
	25	ELEMENT TYPE	ELEMENT MATERIAL	BY MANUFACTURER	SS316L
	26	LENGTH (L)	DIAMETER	300 mm	BY MANUFACTURER
	27	HUMIDITY		0~100%	
	27	SENSOR CONNECTION TO WELL		BY MANUFACTURER	
	31	CONNECTION TO THE PROCESS		FLANGES FOR DUCT	
	35				
ACCESSORY	29	CONFIGURATOR CABLE		YES	
	30	DISPLAY		NO	
	32	FIXING FLANGE IN DUCT		YES	
	34	CABLE GLAND		YES	
	35				
	35				
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18 20 22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM	12.5 Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH 60 %RH
	46	VISCOSITY @ OPERATING CONDITION		Cp	
	47	DENSITY @ OPERATING CONDITION		kg/m³	
	48	SUSPENDED SOLIDS (%)		NO	
	49	M.M. / Z / Cp/Cv		... / ... / ...	
	50				
	50				
	51	MANUFACTURER		VAISALA	
	52	MODEL		HTM330	





NOTES:

 				 			
NUMBER: 569-DB7B-AIC-711-006				CLIENT NR: PRD-AIC-DSH-079			
TITLE						SHEET: 21 de 24	
TEMPERATURE AND HUMIDITY TRANSMITTER						REV.: 1	
GENERAL	1	INSTRUMENT TAG NUMBER			TT/MT-DOAS-7B-001		
	2	SERVICE			RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT		
	3	P&ID			7B-M-0-5-31		
	4	PIPE LINE	EQUIPMENT NUMBER		RETURN DUCT	AHU-7B-9	
	5	EQUIPMENT MATERIAL / PIPE			-		
	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		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			POLYCARBONATE / ABS		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL	QUANTITY		4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE	
	17	COMMUNICATION PROTOCOL			HART		
	18	PRECISION			±0,25% F.E		
	19	REPEATABILITY			BY MANUFACTURER		
	20	CALIBRATION RANGE			BY MANUFACTURER		
	21	CALIBRATED RANGE			0 @ 22 °C		
	22	ELECTRICAL CONNECTION			1/2" NPT (F)		
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN			YES / YES		
SENSOR	24	TYPE			TEMPERATURE AND HUMIDITY		
	33	MOUNTING			DUCT		
	25	ELEMENT TYPE	ELEMENT MATERIAL		BY MANUFACTURER	SS316L	
	26	LENGTH (L)	DIAMETER		300 mm	BY MANUFACTURER	
	27	HUMIDITY			0~100%		
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	31	CONNECTION TO THE PROCESS			FLANGES FOR DUCT		
	35						
ACCESSORY	29	CONFIGURATOR CABLE			YES		
	30	DISPLAY			NO		
	32	FIXING FLANGE IN DUCT			YES		
	34	CABLE GLAND			YES		
	35						
	35						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5	Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	50						
	51	MANUFACTURER			VAISALA		
	52	MODEL			HTM330		





NOTES:

 				 			
NUMBER: 569-DB7B-AIC-711-006				CLIENT NR: PRD-AIC-DSH-079			
TITLE						SHEET: 22 de 24	
TEMPERATURE AND HUMIDITY TRANSMITTER						REV.: 1	
GENERAL	1	INSTRUMENT TAG NUMBER			TT/MT-EF-7B-6A-001		
	2	SERVICE			FROM EF-7B-6A - HUMIDITY AND TEMPERATURE AIR IN THE DUCT		
	3	P&ID			7B-M-0-5-26		
	4	PIPE LINE	EQUIPMENT NUMBER		RETURN DUCT	EF-7B-6A	
	5	EQUIPMENT MATERIAL / PIPE			-		
	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		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			POLYCARBONATE / ABS		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL	QUANTITY		4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE	
	17	COMMUNICATION PROTOCOL			HART		
	18	PRECISION			±0,25% F.E		
	19	REPEATABILITY			BY MANUFACTURER		
	20	CALIBRATION RANGE			BY MANUFACTURER		
	21	CALIBRATED RANGE			0 @ 22 °C		
	22	ELECTRICAL CONNECTION			1/2" NPT (F)		
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN			YES / YES		
SENSOR	24	TYPE			TEMPERATURE AND HUMIDITY		
	33	MOUNTING			DUCT		
	25	ELEMENT TYPE	ELEMENT MATERIAL		BY MANUFACTURER	SS316L	
	26	LENGTH (L)	DIAMETER		300 mm	BY MANUFACTURER	
	27	HUMIDITY			0~100%		
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	31	CONNECTION TO THE PROCESS			FLANGES FOR DUCT		
	35						
ACCESSORY	29	CONFIGURATOR CABLE			YES		
	30	DISPLAY			NO		
	32	FIXING FLANGE IN DUCT			YES		
	34	CABLE GLAND			YES		
	35						
	35						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5	Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	50						
	51	MANUFACTURER			VAISALA		
	52	MODEL			HTM330		

NOTES:

 				 			
NUMBER: 569-DB7B-AIC-711-006				CLIENT NR: PRD-AIC-DSH-079			
TITLE						SHEET: 23 de 24	
TEMPERATURE AND HUMIDITY TRANSMITTER						REV.: 1	
GENERAL	1	INSTRUMENT TAG NUMBER			TT/MT-EF-7B-9A-001		
	2	SERVICE			RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT		
	3	P&ID			7B-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER		RETURN DUCT	EF-7B-9A	
	5	EQUIPMENT MATERIAL / PIPE			-		
	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		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			POLYCARBONATE / ABS		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL	QUANTITY		4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE	
	17	COMMUNICATION PROTOCOL			HART		
	18	PRECISION			±0,25% F.E		
	19	REPEATABILITY			BY MANUFACTURER		
	20	CALIBRATION RANGE			BY MANUFACTURER		
	21	CALIBRATED RANGE			0 @ 22 °C		
	22	ELECTRICAL CONNECTION			1/2" NPT (F)		
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN			YES / YES		
SENSOR	24	TYPE			TEMPERATURE AND HUMIDITY		
	33	MOUNTING			DUCT		
	25	ELEMENT TYPE	ELEMENT MATERIAL		BY MANUFACTURER	SS316L	
	26	LENGTH (L)	DIAMETER		300 mm	BY MANUFACTURER	
	27	HUMIDITY			0~100%		
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	31	CONNECTION TO THE PROCESS			FLANGES FOR DUCT		
	35						
ACCESSORY	29	CONFIGURATOR CABLE			YES		
	30	DISPLAY			NO		
	32	FIXING FLANGE IN DUCT			YES		
	34	CABLE GLAND			YES		
	35						
	35						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5	Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	50						
	51	MANUFACTURER			VAISALA		
	52	MODEL			HTM330		

NOTES:

 				 			
NUMBER: 569-DB7B-AIC-711-006				CLIENT NR: PRD-AIC-DSH-079			
TITLE						SHEET: 24 de 24	
TEMPERATURE AND HUMIDITY TRANSMITTER						REV.: 1	
GENERAL	1	INSTRUMENT TAG NUMBER			TT/MT-EF-7B-9B-001		
	2	SERVICE			RETURN HUMIDITY AND TEMPERATURE AIR IN THE DUCT		
	3	P&ID			7B-M-0-5-29		
	4	PIPE LINE	EQUIPMENT NUMBER		RETURN DUCT	EF-7B-9B	
	5	EQUIPMENT MATERIAL / PIPE			-		
	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		
	13	BODY PRESSURE CLASS			BY MANUFACTURER		
	14	HOUSING MATERIAL			POLYCARBONATE / ABS		
	15	POWER SUPPLY			24 Vcc - 2 WIRE		
	16	OUTPUT SIGNAL	QUANTITY		4 - 20 mA (500 ohms @ 24 Vcc)	(2x) CONFIGURABLE	
	17	COMMUNICATION PROTOCOL			HART		
	18	PRECISION			±0,25% F.E		
	19	REPEATABILITY			BY MANUFACTURER		
	20	CALIBRATION RANGE			BY MANUFACTURER		
	21	CALIBRATED RANGE			0 @ 22 °C		
	22	ELECTRICAL CONNECTION			1/2" NPT (F)		
	23	DJUSTABLE RANGE / AJ. LOCAL ZERO AND SPAN			YES / YES		
SENSOR	24	TYPE			TEMPERATURE AND HUMIDITY		
	33	MOUNTING			DUCT		
	25	ELEMENT TYPE	ELEMENT MATERIAL		BY MANUFACTURER	SS316L	
	26	LENGTH (L)	DIAMETER		300 mm	BY MANUFACTURER	
	27	HUMIDITY			0~100%		
	27	SENSOR CONNECTION TO WELL			BY MANUFACTURER		
	31	CONNECTION TO THE PROCESS			FLANGES FOR DUCT		
	35						
ACCESSORY	29	CONFIGURATOR CABLE			YES		
	30	DISPLAY			NO		
	32	FIXING FLANGE IN DUCT			YES		
	34	CABLE GLAND			YES		
	35						
	35						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		AIR		AIR
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	18	20	22 °C
	44	MINIMUM PRESSURE	NORMAL	MAXIMUM		12.5	Pa
	45	MINIMUM HUMIDITY	MAXIMUM HUMIDITY		30 %RH		60 %RH
	46	VISCOSITY @ OPERATING CONDITION			Cp		
	47	DENSITY @ OPERATING CONDITION			kg/m³		
	48	SUSPENDED SOLIDS (%)			NO		
	49	M.M. / Z / Cp/Cv			... / ... / ...		
	50						
	50						
	51	MANUFACTURER			VAISALA		
	52	MODEL			HTM330		

NOTES: