







DOC NUMBER:

569-DB7B-AIC-712-008

CLIENT NUMBER: PRD-AIC-DSH-0063

CLIENT:

TAKEDA/BAXALTA

PROJECT:

BURITI EPCVM PROJECT

DRUG SUBSTANCE - BMS – DATA SHEET PRESSURE GAUGE

2	02MAY2022	ISSUE FOR CONSTRUCTION AS PER NOTE	ACC	MAF	RSP
1	27JAN2022	ISSUE FOR CONSTRUCTION CONSIDERING COMMENTS	MAV	MAF	RSP
0	04AUG2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
Α	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV









PRD-AIC-DSH-0063 NUMBER: 569-DB7B-AIC-712-008 CLIENT NR:

TITLE

MANOMETER

2 de 19

REV.:

DOCUMENT REVIEW CONTROL

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

REVISION 0 NOTES:

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

REVISION 1 NOTES:

1- UPDATED SHEET 10 AND SHEET 11.

REVISION 2 NOTES AS PER N+1 UPDATE:

1- INDICATED FUTURE INSTRUMENTS: PI-940006, PI-980025, PI-980027, PI-980008, PI-980009, PI-070004, PI-070005

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NUMBER: PRD-AIC-DSH-0063 569-DB7B-AIC-712-008 CLIENT NR:

TITLE

3 de 19 **MANOMETER** REV.: 2

REFERENCE DOCUMENTS

P&I DIAGRAM - DRUG SUBSTANCE - INDUSTRIAL WATER DISTRIBUTION SYSTEM 7B-M-0-5-41 7B-M-0-5-42 P&I DIAGRAM - DRUG SUBSTANCE - COOLING WATER SYSTEM 7B-M-0-5-44 P&I DIAGRAM - DRUG SUBSTANCE - CHILLED GLYCOL GENERATION SYSTEM P&I DIAGRAM - DRUG SUBSTANCE - CHILLED GLYCOL DISTRIBUTION SYSTEM 7B-M-0-5-45 7B-M-0-5-53 P&I DIAGRAM - DRUG SUBSTANCE - CHILLED WATER DISTRIBUTION SYSTEM LOOP 2PROCESS PRD-AIC-LIS-015 DRUG SUBSTANCE - BMS - INSTRUMENT INDEX PRD-PIP-TSP-501 PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION

INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST PRD-AIC-LIS-046

GENERAL NOTES

- Provide calibration certificate issued by INMETRO or by organ accredited by it.
- 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.
- 3- The manufacturer must provide rear protection disc.









PRD-AIC-DSH-0063 NUMBER: 569-DB7B-AIC-712-008 CLIENT NR:

TITLE

4 de 19

MANOMETER

								2	
	1	INSTRUMENT TAG NUMBER				PI-	070002		
	2	SERVIÇE			INDUS	STRIAL WATER	R UPSTREAM P-PC	H-7B-5	
	3	P&ID				7B-	M-0-5-53		
AL	4	PIPE LINE	EQUIPMENT NUN	1BER	8"-CW1R-070	0004-CS1-CC		-	
GENERAL	5	EQUIPMENT MATERIAL / PIPE				CARBON STEE	EL ASTM-A106 Gr.B		
GEN	6	AREA CLASSIFICATION			NOT CLASSIFIED				
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529				
	8	CERTIFICATES					ERAL NOTES 6)		
	9								
	10	TYPE OF MEASUREMENT				D	IRECT		
	11	MOUNTING				L	OCAL		
	12	DIAL DIAMETER				1	14 mm		
	13	SCALE COLOR	BACKGROUND C	OLOR	BLACK WHITE				
	14	PRECISION			1	1% OF THE FIN	AL VALUE "RANGE	"	
	15	MATERIAL CASE				304SS	POLISHED		
EN1	16	RANGE	RESOLUTION		0 @ 4 ba	ar-g	0,0	D5	
UM		RING TYPE	RING MATERIAL		BAYON		304	SS	
INSTRUMENT		CONEX. PROCES. / ACESS.	CONNECTION PC	SITION	1/2" NPT	- (M)	ВОТ	TOM	
N/	19	SENSOR TYPE	MATERIAL SENSO	OR .	BOURD		316	SS	
	20	MATERIAL SOQUETE	MECHANISM MAT	ERIAL	316S	S	316	SS	
	21	BALANCED POINTER					YES		
	22	MICROMETRIC ADJUSTMENT C	F ZERO				YES		
	23	FRONT TYPE	WINDOWS		SOLII	D	GLASS SEG. TRANSP. MIN. 75%		
	24	FILLING	FLUID		YES		GLYC	ERIN	
	25	SEAL DIAPHRAGM	I			NOT F	REQUIRED		
	26	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	JIRED	NOT RE	QUIRED	
	27	SEAL FILLING FLUID				NOT F	REQUIRED		
	28	WET PART MATERIAL		NOT F	REQUIRED				
	29					NOT F	REQUIRED		
	30	CAPILLARY MATERIAL	NOT REQUIRED						
S	31	PULSATION DAMPER			NOT REQUIRED				
ACCESSORIES	32	MATERIAL			NOT REQUIRED				
SSC	33	CONNECTION INSTRUMENT	PROCESS CONNI	ECTION	NOT REQUIRED NOT REQUIRED				
CE	34	SIPHON TUBE				NOT F	REQUIRED		
AC	35	MATERIAL				NOT F	REQUIRED		
	36	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	JIRED	NOT RE	QUIRED	
	37	OVERPRESSURE PROTECTOR					YES		
	38	MATERIAL				3	316SS		
	39	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	1/2"NPT	(F)	1/2"NF	PT (M)	
	46	TAGGING				YES (SEE GE	NERAL NOTES 2)		
	40								
	36	FLUID	PHYSICAL STATU	IS	INDUSTRIAL	WATER	LIQ	UID	
SNC	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	8,7	10,7	°C	
OPERATING CONDITIONS	38	MINIMUM PRESSURE	NORMAL	MAXIMUM		1,5		bar-g	
JNC	39	DESIGN PRESSURE	DESIGN TEMPER	ATURE	4,6	bar-g	40,7	°C	
3 C	40	VISCOSITY @ OPERATING CON	IDITION				cP		
TIN	41	DENSITY @ OPERATING COND	ITION			999,9	kg/m³		
∃RA	42	SUSPENDED SOLIDS (%)					NOT		
OPŁ	43	SOLIDIFIES AT ROOM TEMPERA	ATURE		NOT				
	44	M.M. / Z / Cp/Cv			/				
	49	MANUFACTURER					WIKA		
	50	MODEL				232.	5 (WIKA)		

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE

MANOMETER

5 de 19

2 INSTRUMENT TAG NUMBER PI-070003 SERVIÇE CHILLED WATER - DOWNSTREAM P-PCH-7B-5 2 P&ID 7B-M-0-5-53 .3 PIPE LINE **EQUIPMENT NUMBER** 8"-CW1R-070003-CS1-CC 4 GENERAL EQUIPMENT MATERIAL / PIPE 5 CARBON STEEL ASTM-A106 Gr.B AREA CLASSIFICATION 6 NOT CLASSIFIED ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 60529 **CERTIFICATES** (SEE GENERAL NOTES 6) 8 9 10 TYPE OF MEASUREMENT DIRECT MOUNTING LOCAL 11 12 DIAL DIAMETER 114 mm SCALE COLOR BACKGROUND COLOR WHITE 13 BLACK PRECISION 1% OF THE FINAL VALUE "RANGE" 14 15 MATERIAL CASE 304SS POLISHED NSTRUMENT RESOLUTION 16 RANGE 0 @ 6 bar-g 0,1 RING TYPE RING MATERIAL 30455 17 **BAYONET** CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) воттом SENSOR TYPE MATERIAL SENSOR **BOURDON** 316SS 19 MATERIAL SOQUETE MECHANISM MATERIAL 31655 31655 20 BALANCED POINTER YES MICROMETRIC ADJUSTMENT OF ZERO YES 22 GLASS SEG. TRANSP. MIN. 75% 23 FRONT TYPE WINDOWS SOLID. 24 **FILLING** YES **GLYCERIN** SEAL DIAPHRAGM NOT REQUIRED 25 PROCESS CONNECTION 26 CONNECTION INSTRUMENT NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED WET PART MATERIAL NOT REQUIRED 28 CAPILLARY LENGTH NOT REQUIRED 29 CAPILLARY MATERIAL NOT REQUIRED 30 PULSATION DAMPER NOT REQUIRED 31 **ACCESSORIES** 32 MATERIAL NOT REQUIRED CONNECTION INSTRUMENT PROCESS CONNECTION **NOT REQUIRED NOT REQUIRED** 33 SIPHON TUBE 34 NOT REQUIRED 35 MATERIAL NOT REQUIRED CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 36 OVERPRESSURE PROTECTOR 37 NOT REQUIRED NOT REQUIRED 38 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 39 46 **TAGGING** YES (SEE GENERAL NOTES 2) 40 PHYSICAL STATUS INDUSTRIAL WATER FLUID LIQUID 36 OPERATING CONDITIONS 37 MINIMUM TEMPERATURE NORMAL MAXIMUM °C 10.7 38 MINIMUM PRESSURE NORMAL MAXIMUM 3.5 bar-a DESIGN PRESSURE DESIGN TEMPERATURE 39 4,6 bar-g 40.7 °C VISCOSITY @ OPERATING CONDITION 40 DENSITY @ OPERATING CONDITION 41 999,9 kg/m³ 42 SUSPENDED SOLIDS (%) NOT SOLIDIFIES AT ROOM TEMPERATURE 43 NOT 44 M.M. / Z / Cp/Cv / / 49 MANUFACTURER WIKA 50 MODEL 232.5 (WIKA)

NOTES.

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE S03-DB7B-A(C-712-000 SEET WILL TITLE

MANOMETER

6 de 19

MA	ANC	DMETER						REV.: 2		
	1	INSTRUMENT TAG NUMBER			T	DI	-070004	2		
	2	SERVIÇE			INDLIS		-070004 R UPSTREAM P-PCI	H-7R-6		
	3	P&ID			INDUS		M-0-5-53	H-7B-0		
7			EQUIDATENT NUM	ADED	011 0144 17 07		101-0-3-33			
BA	4	PIPE LINE EQUIPMENT MATERIAL / PIPE	EQUIPMENT NUN	IDER		0004-CS1-CC	FL ACTM A100 C* B			
GENERAL					CARBON STEEL ASTM-A106 Gr.B NOT CLASSIFIED					
В	_	AREA CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529					
	7	ENCLOSURE CLASSIFICATION			(SEE GENERAL NOTES 6)					
	8	CERTIFICATES				(SEE GEN	ERAL NOTES 6)			
	9	TYPE OF MEASUREMENT				-	DIRECT			
	_	MOUNTING					OCAL			
		DIAL DIAMETER					14 mm			
		SCALE COLOR	BACKGROUND C	OLOR	BLAC			UTE		
		PRECISION	BACKGHOOND C	OLOH			 AL VALUE "RANGE			
		MATERIAL CASE					POLISHED	-		
INT		RANGE	RESOLUTION		0 @ 4 b		0.0	10		
ME		RING TYPE	RING MATERIAL		BAYON		304			
INSTRUMENT		CONEX. PROCES. / ACESS.	CONNECTION PC	DOLTION			BOT			
INS		SENSOR TYPE	MATERIAL SENS		1/2" NPT BOURD		316			
	_	MATERIAL SOQUETE	MECHANISM MAT		316S		316			
	_	BALANCED POINTER	meer wat went must		0700		YES			
		MICROMETRIC ADJUSTMENT C	DF ZFRO				YES			
	23	FRONT TYPE	WINDOWS		SOLI	D	GLASS SEG. TR.	ANSP MIN 75%		
	24	FILLING	FLUID		YES		GLYC			
		SEAL DIAPHRAGM					REQUIRED			
	26	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQI	JIRED	NOT RE	QUIRED		
	27	SEAL FILLING FLUID	l			NOT	REQUIRED			
	28	WET PART MATERIAL		10000		NOT	REQUIRED			
	29	CAPILLARY LENGTH	RE	NOT	REQUIRED					
	30	CAPILLARY MATERIAL	1			NOT	REQUIRED			
S	31	PULSATION DAMPER			NOT REQUIRED					
RIE	32	MATERIAL				NOT	REQUIRED			
SSC	33	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ	JIRED	NOT RE	QUIRED		
ACCESSORIES	34	SIPHON TUBE				NOT	REQUIRED			
AC	35	MATERIAL				NOT	REQUIRED			
	36	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ	JIRED	NOT RE	QUIRED		
	37	OVERPRESSURE PROTECTOR					YES			
	38	MATERIAL				,	316SS			
	39	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	1/2"NP1	• ,	1/2"NF	PT (M)		
	46	TAGGING				YES (SEE GI	ENERAL NOTES 2)			
	40		I							
S	36	FLUID	PHYSICAL STATU		INDUSTRIAL		LIQ			
ION	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	8,7	10,7	℃		
OPERATING CONDITIONS	38	MINIMUM PRESSURE	NORMAL	MAXIMUM		0,2	40 =	bar-g		
201	39	DESIGN PRESSURE	DESIGN TEMPER	AIUHE	4,6	bar-g	40,7	-U		
VG (40	VISCOSITY @ OPERATING COND				000.0	CP			
ATII	41	DENSITY @ OPERATING COND	ITION			999,9	kg/m³			
PER.	42	SUSPENDED SOLIDS (%) SOLIDIFIES AT ROOM TEMPER	ATLIRE		NOT NOT					
10	43		TIUNL		NOT / /					
	44	MANUFACTURER	M.M. / Z / Cp/Cv				/ WIKA			
	50	MODEL								
	30	MODEL			232.5 (WIKA)					









TITLE SHEET

7 de 19 | REV: | 2

								2	
	1	INSTRUMENT TAG NUMBER				PI	-070005		
	2	SERVIÇE			CHILLE	ED WATER - D	OWNSTREAM P-PC	CH-7B-6	
	3	P&ID				7B-	M-0-5-53		
AL	4	PIPE LINE	EQUIPMENT NUN	1BER	4"-CW1R-070	0005-CS1-CC		-	
GENERAL	5	EQUIPMENT MATERIAL / PIPE	•			CARBON STE	EL ASTM-A106 Gr.B		
GEN	6	AREA CLASSIFICATION			NOT CLASSIFIED				
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529				
	8	CERTIFICATES					ERAL NOTES 6)		
	9						- -		
	10	TYPE OF MEASUREMENT				E	DIRECT		
	11	MOUNTING				L	.OCAL		
	12	DIAL DIAMETER				1	14 mm		
	13	SCALE COLOR	BACKGROUND C	OLOR	BLAC	K	WH	ITE	
	14	PRECISION			1	1% OF THE FIN	I IAL VALUE "RANGE		
١. ا	15	MATERIAL CASE				304SS	S POLISHED		
EN1	16	RANGE	RESOLUTION		0 @ 6 ba	ar-g	0,	1	
INSTRUMENT		RING TYPE	RING MATERIAL		BAYON		304		
STR		CONEX. PROCES. / ACESS.	CONNECTION PC	SITION	1/2" NPT		ВОТ		
Ň		SENSOR TYPE	MATERIAL SENSO		BOURD		316		
	20	MATERIAL SOQUETE	MECHANISM MAT	ERIAL	316S	S	316	iss	
	21	BALANCED POINTER					YES		
	22	MICROMETRIC ADJUSTMENT C)F ZERO				YES		
	23	FRONT TYPE	WINDOWS		SOLII	D	GLASS SEG. TR.	ANSP. MIN. 75%	
	24	FILLING	FLUID		YES		GLYC	ERIN	
	25	SEAL DIAPHRAGM				NOT	REQUIRED		
	26	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	JIRED	NOT RE	QUIRED	
	27	SEAL FILLING FLUID				NOT	REQUIRED		
	28	WET PART MATERIAL	JTUI		NOT	REQUIRED			
	29	CAPILLARY LENGTH	\exists \vdash	NOT	REQUIRED				
	30	CAPILLARY MATERIAL				NOT	REQUIRED		
S	31	PULSATION DAMPER				NOT	REQUIRED		
ACCESSORIES	32	MATERIAL			NOT REQUIRED				
SSC	33	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQUIRED NOT REQUIRED				
CE	34	SIPHON TUBE	•			NOT	REQUIRED		
AC	35	MATERIAL			NOT REQUIRED				
	36	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	JIRED	NOT RE	QUIRED	
	37	OVERPRESSURE PROTECTOR				NOT	REQUIRED		
	38	MATERIAL				NOT	REQUIRED		
	39	CONNECTION INSTRUMENT	PROCESS CONNI	ECTION	NOT REQU	JIRED	NOT RE	QUIRED	
	46	TAGGING				YES (SEE GE	ENERAL NOTES 2)		
	40								
,	36	FLUID	PHYSICAL STATU	IS	INDUSTRIAL	WATER	LIQ	UID	
OPERATING CONDITIONS	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	8,7	10,7	°C	
JITIC		MINIMUM PRESSURE	NORMAL	MAXIMUM		3,5		bar-g	
NO.		DESIGN PRESSURE	DESIGN TEMPER	ATURE	4,6	bar-g	40,7	℃	
G C	40	VISCOSITY @ OPERATING CON	IDITION				cP		
N/L	41	DENSITY @ OPERATING COND	ITION			999,9	kg/m³		
ERA		SUSPENDED SOLIDS (%)					NOT		
OPi	43	SOLIDIFIES AT ROOM TEMPER.	ATURE		NOT				
	_	M.M. / Z / Cp/Cv			/				
		MANUFACTURER					WIKA		
	50	MODEL				232	.5 (WIKA)		









TITLE

MANOMETER

8 de 19

1 INSTRUMENT TAG NUMBER	MA	ANC	OMETER						REV.: 2
SERVICE ADDITIONAL WATER - DISTRIBUTION SYSTEM UPSTREAM PCV-610056 FALLOW TP-M-0-5-41 TP-M		1	INSTRUMENT TAG NUMBER				P	I-610050	2
Part		-				INDUSTRIAL WAT			
Pipe Line			,			IIVBOOTTIIAE VVAT			1274011 0 0 0 10030
Second Comment Comme	7			EOLIIPMENT NI IN	/RER	3"-DW-6100F		-101-0-3-41	
Formation Page Pa	ERA			EQUIT WENT NON	NDL11			OLÍMERO CONE NE	
Formation Page Pa	ENE								
S CERTIFICATES SEE GENERAL NOTES 6)	В	_							
10 TYPE OF MEASUREMENT									
10 TYPE OF MEASUREMENT			CENTIFICATES				(SEE GEN	ENAL NOTES 6)	
11 MOUNTING			TVDE OF MEASUREMENT				-	NIDECT	
12 DIAL DIAMETER 114 mm									
13 SCALE COLOR BACKGROUND COLOR BLACK WHITE									
14 PRECISION				PACKCBOUND C	OLOB	PLAC			ITE
15 MATERIAL CASE				BACKGHOUND	OLOH				
RANGE									
19 SENSON TYPE	.NT			DESCULITION.		0,000		I	1
19 SENSON TYPE	ME								
19 SENSON TYPE	TRL				DOLLION				
20 MATERIAL SOQUETE MECHANISM MATERIAL 3168S 3168S 21 3168S 21 3168S 21 3168S 22 3168S 22 3168S 22 3168C 22 3168C 22 3168C 22 3168C 23 3168S 3168S	INS								
21 BALANCED POINTER YES 22 MIGROMETRIC ADJUSTMENT OF ZERO									
22 MICROMETRIC ADJUSTMENT OF ZERO YES 3 FRONT TYPE WINDOWS SOLID GLASS SEG. TRANSP. MIN. 75% 24 FILLING FLUID YES GLYCERIN 25 SEAL DIAPHRAGM NOT REQUIRED NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED NOT REQUIRED 28 WET PART MATERIAL NOT REQUIRED NOT REQUIRED 30 CAPILLARY LENGTH NOT REQUIRED NOT REQUIRED 31 PULSATION DAMPER NOT REQUIRED NOT REQUIRED 32 MATERIAL NOT REQUIRED NOT REQUIRED 33 SOLONECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 34 SIPHON TUBE NOT REQUIRED NOT REQUIRED 35 MATERIAL NOT REQUIRED NOT REQUIRED 36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 37 OVERPRESSURE PROTECTOR NOT REQUIRED NOT REQUIRED 38 MATERIAL NOT REQUIRED NOT REQUIRED 39 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 40 VISCOSITY @ OPERATING CONDITION 997.17 kg/m³ 39 DESIGN PRESSURE DESIGN TEMPERATURE 4.5 barg 55 °C 40 VISCOSITY @ OPERATING CONDITION 997.17 kg/m³ 41 DENSITY @ OPERATING CONDITION 997.17 kg/m³ 42 SUSPENDED SOLIDS (%) NOT 44 MM. / Z / OpCV		_		WILOTH WINDWIND	7 L 7 117 LL	0700			
23 FRONT TYPE				DE ZERO					
24 FILLING						SOLI	D		ANSP MINI 75%
25 SEAL DIAPHRAGM									
26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED 28 WET PART MATERIAL NOT REQUIRED 30 CAPILLARY LENGTH NOT REQUIRED 31 PULSATION DAMPER NOT REQUIRED 32 MATERIAL NOT REQUIRED 33 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED 34 SIPHON TUBE NOT REQUIRED 35 MATERIAL NOT REQUIRED NOT REQUIRED 36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 37 OVERPPESSURE PROTECTOR NOT REQUIRED NOT REQUIRED 38 MATERIAL NOT REQUIRED NOT REQUIRED 39 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 40 A				I LOID		720			Limv
27 SEAL FILLING FLUID NOT REQUIRED				PROCESS CONN	IECTION	NOT REO		I	OLUBED
NOT REQUIRED NOT REQUIRED				THOOLOG CONIV	2011014	NOTTIEG]	ZOTTLED
29 CAPILLARY LENGTH NOT REQUIRED									
30 CAPILLARY MATERIAL NOT REQUIRED									
31 PULSATION DAMPER									
32 MATERIAL NOT REQUIRED NOT REQUIRED									
36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	3IE						NOT	REQUIRED	
36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	SOI			PROCESS CONN	IECTION	NOT REQ			QUIRED
36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	SES						NOT	I REQUIRED	
36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	AC	_							
37 OVERPRESSURE PROTECTOR NOT REQUIRED				PROCESS CONN	IECTION	NOT REQ			QUIRED
38 MATERIAL NOT REQUIRED NOT REQUIRED									
39 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED									
40			CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ	UIRED	NOT RE	QUIRED
36 FLUID PHYSICAL STATUS INDUSTRIAL WATER LIQUID 37 MINIMUM TEMPERATURE NORMAL MAXIMUM , 25 © C 38 MINIMUM PRESSURE NORMAL MAXIMUM 4 bar-g 39 DESIGN PRESSURE DESIGN TEMPERATURE 4,5 bar-g 55 °C 40 VISCOSITY @ OPERATING CONDITION OPERATING CONDITION 997,17 kg/m³ 41 DENSITY @ OPERATING CONDITION 997,17 kg/m³ 42 SUSPENDED SOLIDS (%) NOT 43 SOLIDIFIES AT ROOM TEMPERATURE NOT 44 M.M. / Z / Cp/Cv / / 49 MANUFACTURER WIKA		46	TAGGING				YES (SEE G	ENERAL NOTES 2)	
STATE STAT		40						-	
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA		36	FLUID	PHYSICAL STATE	JS .	INDUSTRIAL	. WATER	LIQ	UID
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	SN	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	25		°C
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	ITIC	38	MINIMUM PRESSURE	NORMAL	MAXIMUM		4		bar-g
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	DNC	39	DESIGN PRESSURE	DESIGN TEMPER	RATURE	4,5	bar-g	55	°C
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA) CC	40	VISCOSITY @ OPERATING CON	IDITION				сР	
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	TINC	41	DENSITY @ OPERATING COND	ITION			997,17	kg/m³	
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	PA	42	SUSPENDED SOLIDS (%)			-			
44 M.M. / Z / Cp/Cv / 49 MANUFACTURER WIKA	OPE	43	SOLIDIFIES AT ROOM TEMPERA	ATURE					
		44	M.M. / Z / Cp/Cv			/			
50 MODEL 232.5 (WIKA)		49	MANUFACTURER					WIKA	
		50	MODEL				232	2.5 (WIKA)	

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE

SHEET:

9 de 19 REV.:

MANOMETER

REV.: **2**

14 PRECISION 1% OF THE FINAL VALUE "RANCE 304SS POLISHED 15 MATERIAL CASE 304SS POLISHED 16 RANGE RESOLUTION 0 @ 6.0 bar-g 17 RING TYPE RING MATERIAL BAYONET 30 18 CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) BOURDON 19 SENSOR TYPE MATERIAL SENSOR BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY	- NBR EN 15494 1529 WHITE GE" 0,1 04SS			
10 TYPE OF MEASUREMENT DIRECT 11 MOUNTING LOCAL 12 DIAL DIAMETER LOCAL 14 PRECISION 15 CALE COLOR BACKGROUND COLOR BLACK W. 14 PRECISION 16 RANGE RESOLUTION 16 RANGE RESOLUTION 17 RING TYPE RING MATERIAL BAYONET 30 SENSOR TYPE MATERIAL SENSOR BOURDON 3 BALANCED POINTER 22 MICROMETRIC ADJUSTMENT OF ZERO 25 SEAL DIAPHRAGM NOT REQUIRED NOT REQUIRED	- NBR EN 15494 1529 VHITE GE" 0,1 04SS			
1	/HITE GE" 0,1 04SS			
T ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 605	VHITE GE" 0,1 04SS DTTOM			
T ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 605	VHITE GE" 0,1 04SS DTTOM			
T ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 605	/HITE GE" 0,1 04SS DTTOM			
SEE GENERAL NOTES 6 9	/HITE GE" 0,1 04SS DTTOM			
10 TYPE OF MEASUREMENT DIRECT	0,1 04SS 0TTOM			
10 TYPE OF MEASUREMENT DIRECT	0,1 04SS 0TTOM			
11 MOUNTING	0,1 04SS 0TTOM			
12 DIAL DIAMETER	0,1 04SS 0TTOM			
13 SCALE COLOR BACKGROUND COLOR BLACK W. 14 PRECISION 1% OF THE FINAL VALUE "RANCE 15 MATERIAL CASE 304SS POLISHED 16 RANGE RESOLUTION 0 @ 6.0 bar-g 17 RING TYPE RING MATERIAL BAYONET 304 18 CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) BOURDON 19 SENSOR TYPE MATERIAL SENSOR BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED NOT REQUIRED 18 CONEX. PROCES. / ACESS. CONNECTION NOT REQUIRED NOT REQUIRED 19 SENSOR TYPE WINDOWS SOLID GLASS SEG. T 10 SENSOR TYPE WINDOWS SOLID GLASS SEG. T 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED NOT REQUIRED 10 NOT REQUIRED NOT REQUIRED NOT REQUIRED 10 NOT REQUIRED NOT REQUIRED NOT REQUIRED 11 NOT REQUIRED NOT REQUIRED NOT REQUIRED 12 SEAL FILLING FLUID NOT REQUIRED NOT REQUIRED 13 CONEX. PROCESS CONECTION NOT REQUIRED NOT REQUIRED 14 PRECISION NOT REQUIRED NOT REQUIRED 15 NOT REQUIRED NOT REQUIRED NOT REQUIRED 16 PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 17 PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 18 PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 19 PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 19 PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 19 PROCESS CONNECTION N	0,1 04SS 0TTOM			
14 PRECISION 1% OF THE FINAL VALUE "RANCE 304SS POLISHED 16 RANGE RESOLUTION 0 @ 6.0 bar-g 17 RING TYPE RING MATERIAL BAYONET 30 18 CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. TOLID YES GLY FILLING FLUID YES GLY SEAL DIAPHRAGM NOT REQUIRED NO	0,1 04SS 0TTOM			
15 MATERIAL CASE 304SS POLISHED 16 RANGE RESOLUTION 0 @ 6.0 bar-g 17 RING TYPE RING MATERIAL BAYONET 31 18 CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. TOLID GLASS SEG. TOLID THE CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R	0,1 04SS DTTOM			
16 RANGE	04SS DTTOM			
19 SENSOH TYPE MATERIAL SENSOH BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	04SS DTTOM			
19 SENSOH TYPE MATERIAL SENSOH BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED	TTOM			
19 SENSOH TYPE MATERIAL SENSOH BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED				
19 SENSOH TYPE MATERIAL SENSOH BOURDON 3 20 MATERIAL SOQUETE MECHANISM MATERIAL 316SS 3 21 BALANCED POINTER YES 22 MICROMETRIC ADJUSTMENT OF ZERO YES 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED				
21 BALANCED POINTER 22 MICROMETRIC ADJUSTMENT OF ZERO 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED NOT REQUIRED	16SS			
22 MICROMETRIC ADJUSTMENT OF ZERO 23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED NOT REQUIRED	16SS			
23 FRONT TYPE WINDOWS SOLID GLASS SEG. T 24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R 27 SEAL FILLING FLUID NOT REQUIRED				
24 FILLING FLUID YES GLY 25 SEAL DIAPHRAGM NOT REQUIRED 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED				
25 SEAL DIAPHRAGM 26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED NOT REQUIRED	RANSP. MIN. 75%			
26 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R 27 SEAL FILLING FLUID NOT REQUIRED	/CERIN			
27 SEAL FILLING FLUID NOT REQUIRED				
	REQUIRED			
28 WET PART MATERIAL NOT BEGLIBED				
101 112 doll 120				
29 CAPILLARY LENGTH NOT REQUIRED				
30 CAPILLARY MATERIAL NOT REQUIRED				
(5) 31 PULSATION DAMPER NOT REQUIRED				
32 MATERIAL 33 CONNECTION INSTRUMENT PROCESS CONNECTION 34 SIPHON TUBE NOT REQUIRED NOT REQUIRED NOT REQUIRED NOT REQUIRED				
33 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R	REQUIRED			
34 SIPHON TUBE NOT REQUIRED				
35 MATERIAL NOT REQUIRED				
36 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R	REQUIRED			
37 OVERPRESSURE PROTECTOR NOT REQUIRED				
38 MATERIAL NOT REQUIRED				
39 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT R	REQUIRED			
46 TAGGING YES (SEE GENERAL NOTES 2)			
40				
	QUID			
37 MINIMUM TEMPERATURE NORMAL MAXIMUM , 25	℃			
38 MINIMUM PRESSURE NORMAL MAXIMUM 2,7	bar-g			
	55 °C			
40 VISCOSITY @ OPERATING CONDITION CP				
41 DENSITY @ OPERATING CONDITION 997,17 kg/m³				
42 SUSPENDED SOLIDS (%) NOT				
43 SOLIDIFIES AT ROOM TEMPERATURE NOT				
44 M.M. / Z / Cp/Cv /				
49 MANUFACTURER WIKA				
50 MODEL 232.5 (WIKA)				

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE

MANOMETER

10 de 19 REV.:

MÆ	MC	DMETER						REV.: 2	
	1	INSTRUMENT TAG NUMBER				PI	-940006	2	
	2	SERVIÇE			COOL	ING WATER - I	DOWNSTREAM P-PO	C-7B-2	
	3	P&ID				7B-	-M-0-5-42	·	
7		PIPE LINE	EQUIPMENT NUM	/BFR	8"-TWS-940006-CS1-NI -				
3ENERAL		EQUIPMENT MATERIAL / PIPE	Egon men non	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CARBON STEEL ASTM-A106 Gr.B				
ËN		AREA CLASSIFICATION							
G		ENCLOSURE CLASSIFICATION	ı		NOT CLASSIFIED				
		CERTIFICATES	1		IP 65 (MÍN.) CONF. NBR IEC 60529 (SEE GENERAL NOTES 6)				
	8	CENTIFICATES				(SEE GEN	ENAL NOTES 6)		
	9	TYPE OF MEASUREMENT					NDECT		
							DIRECT		
		MOUNTING					LOCAL		
		DIAL DIAMETER	In a composition of	201.00	5/46		14 mm		
		SCALE COLOR	BACKGROUND C	OLOR	BLAC		WHI		
		PRECISION					NAL VALUE "RANGE"	,	
5		MATERIAL CASE	_				POLISHED		
INSTRUMENT		RANGE	RESOLUTION		0 @ 6 b		0,1		
Ä	17	RING TYPE	RING MATERIAL		BAYON	IET	3048	SS	
VS7	18	CONEX. PROCES. / ACESS.	CONNECTION PO	DSITION	1/2" NP	T (M)	ВОТТ	ОМ	
=	19	SENSOR TYPE	MATERIAL SENS	OR	BOURE	OON	3168	SS	
	20	MATERIAL SOQUETE	MECHANISM MA	TERIAL	316S	S	3168	SS	
	21	BALANCED POINTER	YES						
	22	MICROMETRIC ADJUSTMENT	OF ZERO				YES		
	23	FRONT TYPE	WINDOWS		SOLI	D	GLASS SEG. TRA	NSP. MIN. 759	
	24	FILLING	FLUID		YES	}	GLYCI	ERIN	
	25	SEAL DIAPHRAGM	-			NOT	REQUIRED		
	26	CONNECTION INSTRUMENT	PROCESS CONN	IECTION	NOT REQ	UIRED	NOT REC	QUIRED	
	27	SEAL FILLING FLUID				NOT	REQUIRED		
	28	WET PART MATERIAL		JTU		NOT	REQUIRED		
	29	CAPILLARY LENGTH	\bowtie	NOT	REQUIRED				
	30	CAPILLARY MATERIAL	1 6	NOT REQUIRED					
ſΛ	31	PULSATION DAMPER		l	NOT	REQUIRED			
ACCESSORIES	32	MATERIAL				NOT	REQUIRED		
SOS	33	CONNECTION INSTRUMENT	PROCESS CONN	IECTION	NOT REQ	UIRED	NOT REC	QUIRED	
SES		SIPHON TUBE				NOT	REQUIRED		
ΑČ	•	MATERIAL					REQUIRED		
		CONNECTION INSTRUMENT	PROCESS CONN	IECTION	NOT REQ		NOT REC	DURED	
		OVERPRESSURE PROTECTOR			7.077.24		REQUIRED		
		MATERIAL	•				REQUIRED		
	39	CONNECTION INSTRUMENT	PROCESS CONN	IECTION	NOT REQ		NOT REC	DURED	
		TAGGING	77100200 007117	2071011	71077120		ENERAL NOTES 2)	(OII ILD	
	40	maanva				TEO (OLL GI	INCIDIC NOTES 2)		
		FLUID	PHYSICAL STATE	IS	INDUSTRIAL	WATER	LIQU	IID	
S		MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	1.00	°C	
OPERATING CONDITIONS	_	MINIMUM PRESSURE	NORMAL	MAXIMUM	,	2,94			
		DESIGN PRESSURE	DESIGN TEMPER		15	bar-g	67	bar-g ℃	
3				IATURL	4,5	vai-y	cP		
Š		VISCOSITY @ OPERATING CON				005.0			
4 / E		DENSITY @ OPERATING CON	ION			995,3	kg/m³		
'nER,		SUSPENDED SOLIDS (%)	247/105		NOT				
9		SOLIDIFIES AT ROOM TEMPER	RA I URE		NOT				
	_	M.M. / Z / Cp/Cv			/				
		MANUFACTURER	WIKA						
	50	MODEL				232	.5 (WIKA)		









TITLE

SHEET:

MANOMETER 11 de 19 REV: 2

								2
	1	INSTRUMENT TAG NUMBER				PI	-940008	
	2	SERVIÇE			COOLING	G WATER - I	DOWNSTREAM P-PC	-7B-1
	3	P&ID				7B-	M-0-5-42	
AL	4	PIPE LINE	EQUIPMENT NU	IMBER	8"-TWS-940008-	CS1-NI	-	
JER.	5	EQUIPMENT MATERIAL / PIPE			CA	ARBON STE	EL ASTM-A106 Gr.B	
GENERAL	6	AREA CLASSIFICATION				NOT	CLASSIFIED	
	7	ENCLOSURE CLASSIFICATION			IP	65 (MÍN.) CO	ONF. NBR IEC 60529	
	8	CERTIFICATES					ERAL NOTES 6)	
	9					•	•	
	10	TYPE OF MEASUREMENT				D	IRECT	
		MOUNTING				L	.OCAL	
		DIAL DIAMETER					14 mm	
		SCALE COLOR	BACKGROUND	COLOB	BLACK	•	WHI7	F
	_	PRECISION	Briomarioonib	002011		OF THE FIN	IAL VALUE "RANGE"	
		MATERIAL CASE			176		POLISHED	
INT		RANGE	RESOLUTION		0 @ 6 bar-		0.1	
INSTRUMENT		RING TYPE	RING MATERIAL		BAYONET		304\$	
TRL								
INS		CONEX. PROCES. / ACESS.	CONNECTION F		1/2" NPT (N	•	BOTTO	
	_	SENSOR TYPE	MATERIAL SEN		BOURDON	V	316S	
	_	MATERIAL SOQUETE	MECHANISM MA	AIERIAL	316SS		316S	S
		BALANCED POINTER					YES	
		MICROMETRIC ADJUSTMENT C				1	YES	
		FRONT TYPE	WINDOWS		SOLID		GLASS SEG. TRAI	
		FILLING	FLUID		YES		GLYCERIN	
		SEAL DIAPHRAGM	1				REQUIRED	
		CONNECTION INSTRUMENT	PROCESS CON	NECTION	NOT REQUIP		NOT REQ	UIRED
		SEAL FILLING FLUID					REQUIRED	
		WET PART MATERIAL		NOT	REQUIRED			
	_	CAPILLARY LENGTH					REQUIRED	
		CAPILLARY MATERIAL				NOT	REQUIRED	
ES		PULSATION DAMPER					REQUIRED	
ACCESSORIES		MATERIAL					REQUIRED	
SS		CONNECTION INSTRUMENT	PROCESS CON	NECTION	NOT REQUIF		NOT REQ	UIRED
CCE	34	SIPHON TUBE				NOT	REQUIRED	
Ā	35	MATERIAL				NOT	REQUIRED	
	36	CONNECTION INSTRUMENT	PROCESS CON	NECTION	NOT REQUIF	RED	NOT REQ	UIRED
	37	OVERPRESSURE PROTECTOR					REQUIRED	
	38	MATERIAL				NOT	REQUIRED	
	39	CONNECTION INSTRUMENT	PROCESS CON	NECTION	NOT REQUIF		NOT REQ	UIRED
	46	TAGGING			У	'ES (SEE GE	ENERAL NOTES 2)	
	40							
,,	36	FLUID	PHYSICAL STAT	rus	INDUSTRIAL W	/ATER	LIQU	ID
SNC	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	31,5		°C
JITK	38	MINIMUM PRESSURE	NORMAL	MAXIMUM		2,94		bar-g
OPERATING CONDITIONS	39	DESIGN PRESSURE	DESIGN TEMPE	RATURE	4,5 ba	ar-g	67 °	С
90	40	VISCOSITY @ OPERATING CON	NDITION				cP	
TIN	41	DENSITY @ OPERATING COND	ITION			995,3	kg/m³	
ERA:		SUSPENDED SOLIDS (%)					NOT	
OPE	43	SOLIDIFIES AT ROOM TEMPER.	ATURE				NOT	
Ĺ	44	M.M. / Z / Cp/Cv				/	·/	
	49	MANUFACTURER	MANUFACTURER				WIKA	
	50	MODEL				232	5 (WIKA)	
NOT								

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE

MANOMETER

12 de 19

2

INSTRUMENT TAG NUMBER PI-980006 SERVIÇE CHILLED WATER LOOP1 UPSTREAM P-PCH-7B-3 2 P&ID 7B-M-0-5-45 .3 PIPE LINE **EQUIPMENT NUMBER** 10"-GW0R-980006-CS1-CC 4 GENERAL EQUIPMENT MATERIAL / PIPE 5 CARBON STEEL ASTM-A106 Gr.B AREA CLASSIFICATION 6 NOT CLASSIFIED ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 60529 **CERTIFICATES** (SEE GENERAL NOTES 6) 8 9 10 TYPE OF MEASUREMENT DIRECT MOUNTING LOCAL 11 12 DIAL DIAMETER 114 mm SCALE COLOR BACKGROUND COLOR WHITE 13 BLACK PRECISION 1% OF THE FINAL VALUE "RANGE" 14 15 MATERIAL CASE 304SS POLISHED NSTRUMENT RESOLUTION 16 RANGE 0 @ 4 bar-g 0,05 RING TYPE RING MATERIAL 30455 17 **BAYONET** CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) воттом SENSOR TYPE MATERIAL SENSOR **BOURDON** 316SS 19 MATERIAL SOQUETE MECHANISM MATERIAL 31655 31655 20 BALANCED POINTER YES MICROMETRIC ADJUSTMENT OF ZERO YES 22 GLASS SEG. TRANSP. MIN. 75% 23 FRONT TYPE WINDOWS SOLID. 24 **FILLING** YES **GLYCERIN** SEAL DIAPHRAGM NOT REQUIRED 25 PROCESS CONNECTION 26 CONNECTION INSTRUMENT NOT REQUIRED NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED WET PART MATERIAL NOT REQUIRED 28 CAPILLARY LENGTH NOT REQUIRED 29 CAPILLARY MATERIAL NOT REQUIRED 30 PULSATION DAMPER NOT REQUIRED 31 **ACCESSORIES** 32 MATERIAL NOT REQUIRED CONNECTION INSTRUMENT PROCESS CONNECTION **NOT REQUIRED NOT REQUIRED** 33 SIPHON TUBE 34 NOT REQUIRED NOT REQUIRED 35 MATERIAL CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 36 OVERPRESSURE PROTECTOR 37 YES 38 316SS CONNECTION INSTRUMENT PROCESS CONNECTION 1/2"NPT (F) 1/2"NPT (M) 39 46 **TAGGING** YES (SEE GENERAL NOTES 2) 40 PHYSICAL STATUS PROPYLENE GLYCOL LIQUID FLUID 36 OPERATING CONDITIONS MINIMUM TEMPERATURE NORMAL MAXIMUM °C 37 7,2 38 MINIMUM PRESSURE NORMAL MAXIMUM 1.6 bar-a

4,5 bar-g

NOT

NOT

.... / /

WIKA

232.5 (WIKA)

67 °C

NOTES.

39

40

41 42

43

44

49

50

VISCOSITY @ OPERATING CONDITION

DENSITY @ OPERATING CONDITION

SOLIDIFIES AT ROOM TEMPERATURE

DESIGN TEMPERATURE

DESIGN PRESSURE

M.M. / Z / Cp/Cv

MODEL

MANUFACTURER

SUSPENDED SOLIDS (%)









TITLE

ND-AIC-D3II-0003

MANOMETER

13 de 19 REV.:

	1110	VIVIE LEIX						2	
	1	INSTRUMENT TAG NUMBER				Pi	-980007	_	
	2	SERVIÇE			CHILLED	WATER LOOP	1 DOWNSTREAM P	'-PCH-7B-3	
		P&ID				7B-	-M-0-5-45		
47	4	PIPE LINE	EQUIPMENT N	UMBER	10"-GW0R-98	0007-CS1-CC		-	
GENERAL	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B				
3EV	6	AREA CLASSIFICATION				NOT	CLASSIFIED		
_	7	ENCLOSURE CLASSIFICATION	1			IP 65 (MÍN.) C	ONF. NBR IEC 6052	9	
		CERTIFICATES				. ,	ERAL NOTES 6)	-	
	9						,		
		TYPE OF MEASUREMENT					DIRECT		
		MOUNTING					LOCAL		
	12	DIAL DIAMETER				1	14 mm		
	13	SCALE COLOR	BACKGROUND	COLOR	BLAC	K	Wh	IITE	
		PRECISION				% OF THE FII	L VAL VALUE "RANGE	="	
	15	MATERIAL CASE				30488	S POLISHED		
INSTRUMENT		RANGE	RESOLUTION		0 @ 4 ba		0.0	05	
Š		RING TYPE	RING MATERIA	L	BAYON		304	ISS	
Z .		CONEX. PROCES. / ACESS.	CONNECTION	POSITION	1/2" NPT		ВОТ		
Š		SENSOR TYPE	MATERIAL SEN		BOURD	• ,	316		
		MATERIAL SOQUETE	MECHANISM M		3168			SSS	
		BALANCED POINTER				-	YES		
		MICROMETRIC ADJUSTMENT (OF ZERO				YES		
					SOLI	SOLID GLASS SEG. TRA		ANSP MIN 75%	
		FILLING	FLUID		YES			CERIN	
		SEAL DIAPHRAGM	7 2015		720		REQUIRED		
		CONNECTION INSTRUMENT	PROCESS CON	INECTION	NOT REQU		NOT RE	OUBED	
		SEAL FILLING FLUID	77.00200 007		NOTTIE		REQUIRED	QUITED	
		WET PART MATERIAL					REQUIRED		
		CAPILLARY LENGTH					REQUIRED		
	-	CAPILLARY MATERIAL					REQUIRED		
•		PULSATION DAMPER					REQUIRED		
Ĭ		MATERIAL					REQUIRED		
ACCESSORIES		CONNECTION INSTRUMENT	PROCESS CON	INECTION	NOT REQU		NOT RE	QUIRED	
Š		SIPHON TUBE				NOT	REQUIRED		
Š		MATERIAL					REQUIRED		
		CONNECTION INSTRUMENT	PROCESS CON	INECTION	NOT REQU		NOT RE	QUIRED	
		OVERPRESSURE PROTECTOR					YES		
		MATERIAL					316SS		
	39	CONNECTION INSTRUMENT	PROCESS CON	INECTION	1/2"NPT			PT (M)	
	46	TAGGING				YES (SEE GI	ENERAL NOTES 2)	. ,	
	40					,			
	36	FLUID	PHYSICAL STA	TUS	PROPYLENE	GLYCOL	LIQ	UID	
S	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	3,2	7,2	°C	
5		MINIMUM PRESSURE	NORMAL	MAXIMUM	1	1,6		bar-g	
Š	39	DESIGN PRESSURE	DESIGN TEMP	ERATURE	4,5	bar-g	67	℃	
3	40	VISCOSITY @ OPERATING CO	NDITION				cР		
Š		DENSITY @ OPERATING COND	DITION		1	1000	kg/m³		
Ĭ		SUSPENDED SOLIDS (%)			1		NOT		
OPERATING CONDITIONS		SOLIDIFIES AT ROOM TEMPER	RATURE		1		NOT		
J		M.M. / Z / Cp/Cv				//			
	_	MANUFACTURER			1		WIKA		
	50	MODEL			1	232	7.5 (WIKA)		









TITLE SIGNATURE SIGNATURE

MANOMETER

14 de 19 REV.:

MA	MC	DMETER						REV.: 2	
	1	INSTRUMENT TAG NUMBER				Pi	1-980008		
	2	SERVIÇE			CHILLED	WATER LOC	P1 UPSTREAM P-P	CH-7B-4	
	3	P&ID				7B:	-M-0-5-45		
7		PIPE LINE	EQUIPMENT NUM	MRER	10"-GW0R-980008-CS1-CC -				
3ENERAL		EQUIPMENT MATERIAL / PIPE	EQUIT WENT NOW	IDEN	CARBON STEEL ASTM-A106 Gr.B				
EN		AREA CLASSIFICATION							
В			1		NOT CLASSIFIED IP 65 (MÍN.) CONF. NBR IEC 60529				
		ENCLOSURE CLASSIFICATION CERTIFICATES	V		"	, ,		<u>'</u>	
	8	CERTIFICATES				(SEE GEN	ERAL NOTES 6)		
	9	TVDE OF MEACUREMENT					NDEOT.		
		TYPE OF MEASUREMENT					DIRECT		
		MOUNTING					LOCAL		
		DIAL DIAMETER	T= . = = =				114 mm		
		SCALE COLOR	BACKGROUND C	OLOR	BLACK		WH		
		PRECISION			1		NAL VALUE "RANGE	"	
77		MATERIAL CASE				30488	POLISHED		
ИΕΛ		RANGE	RESOLUTION		0 @ 4 ba	r-g	0,0	5	
RUI	17	RING TYPE	RING MATERIAL		BAYONI	ΞT	304	SS	
INSTRUMENT	18	CONEX. PROCES. / ACESS.	CONNECTION PC	SITION	1/2" NPT	(M)	BOT	ГОМ	
"	19	SENSOR TYPE	MATERIAL SENS	OR	BOURDO	ON	316	SS	
	20	MATERIAL SOQUETE	MECHANISM MAT	TERIAL	316SS	;	316	SS	
	21	BALANCED POINTER			YES				
	22	MICROMETRIC ADJUSTMENT	OF ZERO				YES		
	23	FRONT TYPE	WINDOWS		SOLID)	GLASS SEG. TRA	ANSP. MIN. 759	
	24	FILLING	FLUID		YES		GLYC	ERIN	
	25	SEAL DIAPHRAGM				NOT	REQUIRED		
	26	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	IRED	NOT REC	QUIRED	
	27	SEAL FILLING FLUID	<u> </u>			NOT	REQUIRED		
	28	WET PART MATERIAL		TUF		NOT	REQUIRED		
	29	CAPILLARY LENGTH	\prec \vdash	NOT	REQUIRED				
	30	CAPILLARY MATERIAL			-	NOT	REQUIRED		
S	31	PULSATION DAMPER				NOT	REQUIRED		
RIE	32	MATERIAL			NOT REQUIRED				
SO	33	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU	IRED	NOT REC	QUIRED	
ACCESSORIES		SIPHON TUBE				NOT	REQUIRED		
AC		MATERIAL			NOT REQUIRED				
		CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQU		NOT REC	QUIRED	
		OVERPRESSURE PROTECTO					YES		
		MATERIAL					316SS		
	39	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	1/2"NPT		1/2"NF	PT (M)	
		TAGGING	1		,,	• •	ENERAL NOTES 2)	. ()	
	40	,,,dan,d				720 (022 0.			
		FLUID	PHYSICAL STATU	JS	PROPYLENE (GLYCOI	LIQI	JID	
S		MINIMUM TEMPERATURE	NORMAL	MAXIMUM		31,5	2700	°C	
01		MINIMUM PRESSURE	NORMAL	MAXIMUM	,	2.94		bar-g	
OPERATING CONDITIONS		DESIGN PRESSURE	DESIGN TEMPER		45	bar-g	67		
Ô		VISCOSITY @ OPERATING CO			4,5	~~i y	cP		
NG		DENSITY @ OPERATING CON				005 2	kg/m³		
AI			DITION			330,3			
2EF		SUSPENDED SOLIDS (%)	DATUDE		NOT				
Ó		SOLIDIFIES AT ROOM TEMPE	1A I UNE		NOT / /				
	_	M.M. / Z / Cp/Cv			/				
		MANUFACTURER				222	WIKA		
	50	MODEL				232	2.5 (WIKA)		



MANOMETER







NUMBER: 569-DB7B-AIC-712-008 CLIENT NR: PRD-AIC-DSH-0063

TITLE

15 de 19

2 INSTRUMENT TAG NUMBER PI-980009 SERVIÇE CHILLED WATER LOOP1 DOWNSTREAM P-PCH-7B-4 2 P&ID 7B-M-0-5-45 .3 PIPE LINE **EQUIPMENT NUMBER** 10"-GW0R-980009-CS1-CC 4 GENERAL EQUIPMENT MATERIAL / PIPE CARBON STEEL ASTM-A106 Gr.B 5 AREA CLASSIFICATION 6 NOT CLASSIFIED ENCLOSURE CLASSIFICATION IP 65 (MÍN.) CONF. NBR IEC 60529 **CERTIFICATES** (SEE GENERAL NOTES 6) 8 9 10 TYPE OF MEASUREMENT DIRECT MOUNTING LOCAL 11 12 DIAL DIAMETER 114 mm SCALE COLOR BACKGROUND COLOR WHITE 13 BLACK PRECISION 1% OF THE FINAL VALUE "RANGE" 14 15 MATERIAL CASE 304SS POLISHED NSTRUMENT RESOLUTION 16 RANGE 0 @ 4 bar-g 0,05 RING TYPE RING MATERIAL 30455 17 **BAYONET** CONEX. PROCES. / ACESS. CONNECTION POSITION 1/2" NPT (M) воттом SENSOR TYPE MATERIAL SENSOR **BOURDON** 316SS 19 MATERIAL SOQUETE MECHANISM MATERIAL 31655 31655 20 BALANCED POINTER YES MICROMETRIC ADJUSTMENT OF ZERO YES 22 GLASS SEG. TRANSP. MIN. 75% **WINDOWS** 23 FRONT TYPE SOLID. 24 **FILLING** YES **GLYCERIN** SEAL DIAPHRAGM NOT REQUIRED 25 PROCESS CONNECTION NOT REQUIRED 26 CONNECTION INSTRUMENT NOT REQUIRED 27 SEAL FILLING FLUID NOT REQUIRED WET PART MATERIAL NOT REQUIRED 28 CAPILLARY LENGTH NOT REQUIRED 29 CAPILLARY MATERIAL NOT REQUIRED 30 PULSATION DAMPER NOT REQUIRED 31 **ACCESSORIES** 32 MATERIAL NOT REQUIRED CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED **NOT REQUIRED** 33 SIPHON TUBE 34 NOT REQUIRED MATERIAL NOT REQUIRED 35 CONNECTION INSTRUMENT PROCESS CONNECTION NOT REQUIRED NOT REQUIRED 36 OVERPRESSURE PROTECTOR 37 YES 38 316SS CONNECTION INSTRUMENT PROCESS CONNECTION 1/2"NPT (F) 1/2"NPT (M) 39 46 **TAGGING** YES (SEE GENERAL NOTES 2) 40 PHYSICAL STATUS PROPYLENE GLYCOL LIQUID FLUID 36 OPERATING CONDITIONS 37 MINIMUM TEMPERATURE NORMAL MAXIMUM °C 38 MINIMUM PRESSURE NORMAL MAXIMUM 2,94 bar-a DESIGN PRESSURE DESIGN TEMPERATURE 39 4,5 bar-g 67 °C VISCOSITY @ OPERATING CONDITION 40 DENSITY @ OPERATING CONDITION 41 995,3 kg/m³ SUSPENDED SOLIDS (%) 42 NOT SOLIDIFIES AT ROOM TEMPERATURE 43 NOT 44 M.M. / Z / Cp/Cv / / 49 MANUFACTURER WIKA 50 MODEL 232.5 (WIKA)

NOTES.









TITLE

ND-AIC-D3H-0003

MANOMETER

16 de 19 REV.:

								2	
	1	INSTRUMENT TAG NUMBER				PI	1-980023	-	
	2	SERVIÇE				GLYCOL UPS	TREAM P-PCH-7B-2		
	3	P&ID				7A-	-M-0-5-44		
AL	4	PIPE LINE	EQUIPMENT NUN	1BER	10"-GW0R-98	30023-CS1-CC		-	
IER	5	EQUIPMENT MATERIAL / PIPE				CARBON STE	EL ASTM-A106 Gr.B		
GENERAL	6	AREA CLASSIFICATION			NOT CLASSIFIED				
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529				
	8	CERTIFICATES			(SEE GENERAL NOTES 6)				
	9				1	,			
	10	TYPE OF MEASUREMENT			†	E	DIRECT		
	11	MOUNTING					LOCAL		
	12	DIAL DIAMETER				1	114 mm		
	13	SCALE COLOR	BACKGROUND C	OLOR	BLAC	rK	WH	ITE	
		PRECISION				1% OF THE FIN	I VAL VALUE "RANGE	·"	
		MATERIAL CASE			1		S POLISHED		
ENT	-	RANGE	RESOLUTION		-0,6 @ 1		0,0	2	
UMI		RING TYPE	RING MATERIAL		BAYON		304		
INSTRUMENT	18	CONEX. PROCES. / ACESS.	CONNECTION PO	SITION	1/2" NP7		ВОТ		
Ñ	19	SENSOR TYPE	MATERIAL SENS		BOURD		316	SS	
		MATERIAL SOQUETE	MECHANISM MA		316S		316		
	_	BALANCED POINTER					YES		
	22	MICROMETRIC ADJUSTMENT C	PF ZERO		1		YES		
	23	FRONT TYPE	WINDOWS		SOLI	D	GLASS SEG. TRA	ANSP. MIN. 75%	
	24	FILLING	FLUID		YES	<u> </u>	GLYC	ERIN	
		SEAL DIAPHRAGM	-			NOT	REQUIRED		
	26	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ	UIRED	NOT REG	QUIRED	
	27	SEAL FILLING FLUID	<u>!</u>		1	NOT	REQUIRED		
	28	WET PART MATERIAL	1		REQUIRED				
	29	CAPILLARY LENGTH				NOT	REQUIRED		
	30	CAPILLARY MATERIAL				NOT	REQUIRED		
S	31	PULSATION DAMPER				NOT	REQUIRED		
RIE	32	MATERIAL				NOT	REQUIRED		
SSO	33	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ		NOT REG	QUIRED	
ACCESSORIES		SIPHON TUBE				NOT	REQUIRED		
AC	35	MATERIAL				NOT	REQUIRED		
	36	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	NOT REQ	UIRED	NOT REG	QUIRED	
		OVERPRESSURE PROTECTOR					YES		
		MATERIAL			1		316SS		
	39	CONNECTION INSTRUMENT	PROCESS CONN	ECTION	1/2"NP7		1/2"NF	PT (M)	
	46	TAGGING	1				L ENERAL NOTES 2)		
	40					•	,		
	36	FLUID	PHYSICAL STATE	JS	PROPYLENE	GLYCOL	LIQI	UID	
SN	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	,	3,2	7,2	°C	
OLLI	38	MINIMUM PRESSURE	NORMAL	MAXIMUM	1	0,3		bar-g	
JVD	39	DESIGN PRESSURE	DESIGN TEMPER	ATURE	2,0	bar-g	37,2	℃	
) CC	40	VISCOSITY @ OPERATING CON	IDITION				cР		
ING	41	DENSITY @ OPERATING COND	ITION		1	1000	kg/m³		
RAI	42	SUSPENDED SOLIDS (%)			NOT				
OPERATING CONDITIONS	43	SOLIDIFIES AT ROOM TEMPERA	ATURE		NOT				
3		M.M. / Z / Cp/Cv			/				
	49	MANUFACTURER					WIKA		
	50	MODEL					2.5 (WIKA)		
\perp		I.			1				

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









232.5 (WIKA)

NUMBER: 569-DB7B-AIC-712-008 CLIENT NR: PRD-AIC-DSH-0063

TITLE

17 de 19

MANOMETER

IVI	VIA C	NIETEK						2		
	1	INSTRUMENT TAG NUMBER	PI-980024							
GENERAL	2	SERVIÇE			GLYCOL DOWNSTREAM P-PCH-7B-2					
	3	3			7A-M-0-5-44					
	4	PIPE LINE EQUIPMENT NUMBER		10"-GW0R-980024-CS1-CC						
	5	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B			<u> </u>			
	6				NOT CLASSIFIED					
0	7	ENCLOSURE CLASSIFICATION					ONF. NBR IEC 60529	2		
	8	CERTIFICATES			,			,		
	9				(SEE GENERAL NOTES 6)					
	10	TYPE OF MEASUREMENT	DIRECT							
	_	MOUNTING			LOCAL					
					LOCAL 114 mm					
	13				BLACK WHITE					
	14				1% OF THE FINAL VALUE "RANGE"					
					1% OF THE FINAL VALUE "HANGE" 304SS POLISHED					
INT	_				0 @ 4 bar-g 0,05					
JME	17	RING TYPE	RING MATERIAL		BAYON		304			
INSTRUMENT		CONEX. PROCES. / ACESS.	CONNECTION PO	ISITION			BOT			
INS		SENSOR TYPE	MATERIAL SENSO			1/2" NPT (M) BOURDON				
	_	MATERIAL SOQUETE	MECHANISM MAT				316SS 316SS			
		BALANCED POINTER	WECHANISW WAT	LNIAL	316SS		YES 31655			
			DE ZEDO		YES					
				SOLID GLASS SEG. TRANSP. M		ANCD MIN 75%				
	23				YES					
		<u> </u>			YES GLYCERIN NOT REQUIRED					
	26		DDOCESS CONNI	ECTION	NOT PEOL	NOT REQUIRED NOT REQUIRED				
					NOT REQUIRED					
	27 28									
	29				NOT REQUIRED NOT REQUIRED					
	30				NOT REQUIRED					
	31				NOT REQUIRED					
ACCESSORIES		MATERIAL MATERIAL			NOT REQUIRED					
SOF					NOT REQUIRED NOT REQUIRED					
ES	34				NOT REQUIRED					
4CC	35				NOT REQUIRED					
		CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT REQUIRED			OLUBED		
	37	<u> </u>			NOT REQUIRED					
	38	MATERIAL			NOT REQUIRED					
	39	CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT REQUIRED			OLUBED		
	46	TAGGING	77100200 0071112	2077074	YES (SEE GENERAL NOTES 2)			QUII ILD		
	40				- (OLL GLINLING ILO 2)					
	36	FLUID	PHYSICAL STATU	IS	PROPYLENE	GI YCOI	LIQ	חווח		
SN	37	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		3,2	7,2	℃		
OPERATING CONDITIONS	38	MINIMUM PRESSURE	NORMAL	MAXIMUM	,	1,6	,,_	bar-g		
	39	DESIGN PRESSURE	DESIGN TEMPER		27	bar-g	37,2			
	40	VISCOSITY @ OPERATING CONDITION			cP					
		DENSITY @ OPERATING CONDITION			1000 kg/m³					
					NOT					
		1 1			NOT					
					/					
	49				/ WIKA					
		4005			+	WIKA				

NOTES:

50 MODEL

¹⁻ PROVIDE REAR PROTECTION DISC IN NEOPRENE.









TITLE S09-DB7B-AIC-712-008 CLIENT NR. FRD-AIC-DSH-0003

MANOMETER

18 de 19

MΑ	NC	METER						REV.:	
		INOTOLINGAT TAO AH MADED			T		000005	2	
		INSTRUMENT TAG NUMBER			PI-980025				
GENERAL		SERVIÇE			GLYCOL UPSTREAM P-PCH-7B-1				
		P&ID			7A-M-0-5-44				
		PIPE LINE EQUIPMENT NUMBER			10"-GW0R-980025-CS1-CC -				
		EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B				
	6				NOT CLASSIFIED				
	7				ı	P 65 (MÍN.) CO	ONF. NBR IEC 60529	9	
	8	CERTIFICATES			(SEE GENERAL NOTES 6)				
	9								
	10	TYPE OF MEASUREMENT	DIRECT						
	11	MOUNTING			LOCAL				
	12	DIAL DIAMETER			114 mm				
	13	SCALE COLOR BACKGROUND COLOR			BLACK WHITE				
	14	PRECISION			1% OF THE FINAL VALUE "RANGE"				
	15	MATERIAL CASE			304SS POLISHED				
2	16	RANGE RESOLUTION			-0,6 @ 1 bar-g		0,02		
INSTRUMENT	17	RING TYPE	RING MATERIAL		BAYON	ET	304	ISS	
	18	CONEX. PROCES. / ACESS.	CONNECTION PO	OSITION	1/2" NPT	(M)	ВОТ	ТОМ	
	19	SENSOR TYPE	MATERIAL SENS	SOR	BOURD	ON	316SS		
	20	MATERIAL SOQUETE	MECHANISM MA	TERIAL	316SS	3	316	SS	
	21	BALANCED POINTER			YES				
	22	MICROMETRIC ADJUSTMENT OF ZERO			YES				
	23	FRONT TYPE	WINDOWS		SOLID GLASS S		GLASS SEG. TR.	ANSP. MIN. 75%	
	24	FILLING	FLUID		YES GLYCERIN			ERIN	
	25	SEAL DIAPHRAGM			NOT REQUIRED				
	26	CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQU	IIRED	NOT RE	QUIRED	
	27	SEAL FILLING FLUID				NOT	REQUIRED		
	28	WET PART MATERIAL CAPILLARY LENGTH CAPILLARY MATERIAL PULSATION DAMPER				NOT	REQUIRED		
	29				NOT REQUIRED				
	30				NOT REQUIRED NOT REQUIRED				
n	31								
į		MATERIAL MATERIAL			NOT REQUIRED				
ACCESSOONES		CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT REQUIRED			QUIRED	
j		SIPHON TUBE					REQUIRED		
Š	-	MATERIAL			NOT REQUIRED				
					NOT REQU		NOT RE	QUIRED	
	37	OVERPRESSURE PROTECTOR			YES				
		MATERIAL			316SS				
		CONNECTION INSTRUMENT PROCESS CONNECTION			1/2"NPT (F) 1/2"NPT (M)				
	46	TAGGING			YES (SEE GENERAL NOTES 2)				
	40	TAGGING			TEO (OLL GLIVE IVOTEO Z)				
	_	FLUID	PHYSICAL STATUS		PROPYLENE	GLYCOL	LIQ	LIID	
OPERATING CONDITIONS		MINIMUM TEMPERATURE	NORMAL	MAXIMUM		3,2	7,2	°C	
		MINIMUM PRESSURE	NORMAL	MAXIMUM	,	0,3	7,2	_	
		DESIGN PRESSURE	DESIGN TEMPER		20		37,2	bar-g ℃	
		VISCOSITY @ OPERATING CONDITION			2,0 bar-g 37,2 °C cP				
		-			·				
		DENSITY @ OPERATING CONDITION			1000 kg/m³				
		SUSPENDED SOLIDS (%)			NOT				
		SOLIDIFIES AT ROOM TEMPERATURE			NOT				
		M.M. / Z / Cp/Cv			/				
		MANUFACTURER			WIKA				
	50	MODEL	232.5 (WIKA)						









TITLE Standard Superior Standard Standa

MANOMETER

19 de 19

MA	NC	METER						REV.:	
	1	INSTRUMENT TAG NUMBER			T	DI	090027	2	
GENERAL		INSTRUMENT TAG NUMBER			PI-980027				
		SERVIÇE Davio			GLYCOL DOWNSTREAM P-PCH-7B-1				
		P&ID			7B-M-0-5-44				
		PIPE LINE EQUIPMENT NUMBER			10"-GW0R-980026-CS1-CC -				
		EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B				
					NOT CLASSIFIED				
	7				IP 65 (MÍN.) CONF. NBR IEC 60529				
	8	CERTIFICATES			(SEE GENERAL NOTES 6)				
	9								
	10	TYPE OF MEASUREMENT	DIRECT						
	11	MOUNTING			LOCAL				
	12	DIAL DIAMETER			114 mm				
	13	SCALE COLOR BACKGROUND COLOR			BLACK WHITE				
	14	PRECISION			1% OF THE FINAL VALUE "RANGE"				
_	15	MATERIAL CASE			304SS POLISHED				
INSTRUMENT	16	RANGE	0 @ 4 bar-g		0,05				
	17	RING TYPE	RING MATERIAL		BAYONET			SS	
	18	CONEX. PROCES. / ACESS.	CONNECTION PO	OSITION	1/2" NPT	(M)	BOT	ГОМ	
	19	SENSOR TYPE	MATERIAL SENS	OR	BOURDO	ON	316	SS	
	20	MATERIAL SOQUETE	MECHANISM MA	TERIAL	316SS		316SS		
	21	BALANCED POINTER			YES		YES		
	22	MICROMETRIC ADJUSTMENT	YES						
	23	FRONT TYPE	WINDOWS	SOLID		GLASS SEG. TRANSP. MIN. 759			
	24	FILLING	FLUID			YES GLYCERIN			
	25	SEAL DIAPHRAGM			NOT REQUIRED				
	26	CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT REQUIRED			QUIRED	
	27	SEAL FILLING FLUID				NOT	REQUIRED		
	28	WET PART MATERIAL CAPILLARY LENGTH CAPILLARY MATERIAL FUTUF				NOT	REQUIRED		
	29					NOT	REQUIRED		
	30	CAPILLARY MATERIAL	NOT REQUIRED						
^	31	PULSATION DAMPER	NOT REQUIRED						
ĺ		MATERIAL MATERIAL			NOT REQUIRED				
400E330DH		CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT R			QUIRED	
j		SIPHON TUBE					REQUIRED		
Š	-	MATERIAL			NOT REQUIRED				
					NOT REQU		NOT REG	QUIRED	
	37	OVERPRESSURE PROTECTOR			NOT REQUIRED				
		MATERIAL			NOT REQUIRED				
		CONNECTION INSTRUMENT PROCESS CONNECTION			NOT REQUIRED NOT REQUIRED				
	46	TAGGING			YES (SEE GENERAL NOTES 2)				
	40	manua							
\dashv	_	FLUID	PHYSICAL STAT	US	PROPYLENE (GLYCOL	LIQI	' IID	
OPERATING CONDITIONS		MINIMUM TEMPERATURE	NORMAL	MAXIMUM		3,2	7,2		
		MINIMUM PRESSURE	NORMAL	MAXIMUM	,	1,6	. , <u>-</u>	bar-g	
		DESIGN PRESSURE	DESIGN TEMPER		2,7	-	37,2	_	
		VISCOSITY @ OPERATING CONDITION			cP				
		DENSITY @ OPERATING CONDITION DENSITY @ OPERATING CONDITION			1000 kg/m³				
		SUSPENDED SOLIDS (%)			NOT				
		SOLIDIFIES AT ROOM TEMPERATURE			NOT				
		M.M. / Z / Cp/Cv							
		·	/ WIKA						
		MANUFACTURER MODEL							
	20	INIODEL	232.5 (WIKA)						