







PRD-AIC-DSH-051

DOC NUMBER:

CLIENT NUMBER: 569-DB7B-AIC-741-001

CLIENT:

TAKEDA/BAXALTA

PROJECT:

**BURITI EPCVM PROJECT** 

# DRUG PRODUCT - PCS - DATA SHEET PRESSURE RELIEF VALVE - SANITARY

2	28JAN2022	ISSUED FOR CONSTRUCTION CONSIDERING COMMENTS	MAB	MAF	RSP
1	17NOV2021	ISSUED FOR CONSTRUCTION UPDATED AS PER NOTES	MAB	MAF	RSP
0	13SEP2021	ISSUED FOR CONSTRUCTION	MAB	MAF	RSP
Α	31MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV









2 de 11 REV.:

SHEET:

#### PRESSURE RELIEF VALVE - SANITARY

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

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TITLE

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#### PRESSURE RELIEF VALVE - SANITARY

#### **REFERENCE DOCUMENTS**

7B-Z-0-2-01	P&I DIAGRAM - DRUG SUBSTANCE - 250L MEDIA PREP TANK, TQ-5101 & MEDIA DIST.
7B-Z-0-2-02	P&I DIAGRAM - DRUG SUBSTANCE - 4500L MEDIA PREP TANK TQ-5102
7B-Z-0-2-03	P&I DIAGRAM - DRUG SUBSTANCE -3800L MEDIA HOLD TANK, №1, TQ-5201
7B-Z-0-2-04	P&I DIAGRAM - DRUG SUBSTANCE -3800L MEDIA HOLD TANK, №2, TQ-5202
7B-Z-0-2-08	P&I DIAGRAM - DRUG SUBSTANCE - 40L BIOREACTOR, BRE-5401 VESSEL
7B-Z-0-2-10	P&I DIAGRAM - DRUG SUBSTANCE - 320L BIOREACTOR, BRE-5501 VESSEL
7B-Z-0-2-21	P&I DIAGRAM - DRUG SUBSTANCE -3400L COLLECTION TANK, N°1, TQ-5701
7B-Z-0-2-22	P&I DIAGRAM - DRUG SUBSTANCE -3400L COLLECTION TANK, N°2, TQ-5702
7B-Z-0-2-24	P&I DIAGRAM - DRUG SUBSTANCE -4200L HARVEST TANK, N°1, TQ-5901
7B-Z-0-2-25	P&I DIAGRAM - DRUG SUBSTANCE -4200L HARVEST TANK, №2, TQ-5902
7B-Z-0-2-33	P&I DIAGRAM - DRUG SUBSTANCE -500L BUFFER PREP TANK, Nº1, TQ-3701
7B-Z-0-2-34	P&I DIAGRAM - DRUG SUBSTANCE -3000L BUFFER PREP TANK, N°2, TQ-3702
7B-Z-0-2-35	P&I DIAGRAM - DRUG SUBSTANCE -3000L BUFFER PREP TANK, Nº3, TQ-3703
7B-Z-0-2-71	P&I DIAGRAM - DRUG SUBSTANCE -CLEAN COMPRESSED AIR DISTRIBUTION
PRD-AIC-LIS-010	DRUG SUBSTANCE - PCS - INSTRUMENT INDEX
PRD-PIP-TSP-501	PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION
PRD-AIC-LIS-046	INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST

#### **GENERAL NOTES**

- 1- The identification plates must be supplied in AISI 304 stainless steel, permanently attached to the valve body, with engraving of the respective "TAGs", model, body material, manufacturer, diameter, type, pressure class, Cv and serial number. The serial number of the instrument, when possible, can be recorded on the body itself.
- 2- In the certified drawings of the relief and safety valves, the spring pressure range shall be included. The valve shall allow adjustments of: ± 10 % at the specified relief pressure, for pressures ≤ 18 kgf/cm2, and ± 5 % at the specified relief pressure, for pressures > 18 kgf/cm2.
- 3- The spring adjustment screw must be protected by a (threaded) hood.
- 4- The sizing of relief and safety valves will be in accordance with ASME section I and section VIII for industrial valve and ASME BPE for sanitary valves in its latest edition.
- 5- The manufacturer must send the valve calculation memory.
- 6- The parts in contact with the process fluid must have mechanical sanding internally standard ASME BPE SF4 with Max Ra. 0.38 μm according to table SF-2.4-1 ASME BPE-2019 and external. Ra max. 0.8 μm.

REVISION 0 - NOTES
1- REVISED AS PER INSTRUMENT LIST NUMBER PRD-AIC-LIS- 010_B_PCS_INSTRUMENT_INDEX AND BACKLOG NUMBER 99000-184.0 2021.03.30 - A&IC DOCUMENTS - COMMENTS_REV.01
REVISION 1 - NOTES
1 - ACCORDING NEW ARCHITECTURE UPDATED
REVISION 2 - NOTES
1 - ADDED INSTRUMENTS: PSV-700041 / PSV-240001 / PSV-230001 / PSV-430001 2- INSTRUMENT CANCELED: PSV-520226 / PSV-570209









SHEET:

1	1	INSTRUMENT TAG NUMBER		PSV-240001		
2	2	SERVICE		GASEOUS NITROGEN		
3	3	P&ID		7A-Z-	0-2-70	
	4	PIPE LINE	EQUIPMENT NUMBER	1/2"-GO2-240002-SS10-NI	-	
18 15 E	5	SAFETY / RELIEF		SAF	ETY	
1 6	6	NOZZLE (TOTAL / REDUCED)		то	TAL	
7	7	TYPE		AN	GLE	
8	8	CASTLE (OPEN / CLOSED)		OF	PEN	
9	9	CERTIFICATES		(SEE GENEF	RAL NOTES 4)	
1	0					
1	11	ENTRY DIAMETER	CLASS	1/2"	150LBS	
1.	12	OUTPUT DIAMETER	CLASS	1"	150LBS	
1.	13	FLANGE FACE FINISH			-	
1.	14					
1.	15					
1	16	BODY	CASTLE	SS316L	SS316L	
$\perp$	-	SEAT	DISC	SS316L	SS316L	
i	-	GUIDES	RING	SS316L	SS316L	
1	-	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER.		
2	-	ROD		,	<u>^1</u>	
-	21	NOD		BY MANUFACTURER		
+	-	HOOD (THREADED / SCREWED)		THREADED		
2	-	HOOD (THREADED / SCREWED)  LEVER: SIMPLE / EASED		SIMPLE		
2	-	LOCK FOR HYDROSTATIC TEST		YES		
	-	IDENTIFICATION PLATE	·		ERAL NOTES 1)	
	26	IDENTIFICATION FLATE		TES (SEE GEN	ENAL NOTES 1)	
-	-	SIZING CODE		(SEE SENE	DAL NOTES ()	
۲ ا	-			·	RAL NOTES 4) DCK	
՝ ⊢	-	SIZING CRITERION				
-	29	ELLID	DUVEICAL STATE	NITDOCEN	CAS	
	-	FLUID	PHYSICAL STATE	NITROGEN	GAS	
_	-	FLOW CAPACITY	DELIEF DDECCUDE	3 Nm³/h	h	
	-	OPERATING PRESSURE	RELIEF PRESSURE	7,0 bar-g	bar-g	
2   3	-	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C	
3	-	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C	
:  -	-	CONSTANT COUNTERPRESSUI		bar-g		
3	_	VARIABLE COUNTERPRESSUR		bar-g		
3	_	COUNTERPRESSURE DEVELOR	PED	bar-g		
3	_	OVERPRESSURE	I	10 %		
: ⊢	-		VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср	
4	-	MOLECULAR WEIGHT	1			
-	-	Cp/Cv	FACTOR Z			
$\vdash$	-	ATMOSPHERIC PRESSURE		1 atm		
_	13					
4	14	PRESSÃO DE AJUSTE DA MOLA	A	``	SEE GENERAL NOTES 2)	
4	_	FAIXA DA MOLA	T	BY MANUFACTURER (S	SEE GENERAL NOTES 2)	
4	16	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER	
4	17	DENOMINAÇÃO DO ORIFÍCIO		BY MANUF	FACTURER	
4	18					
4	19	MANUFACTURER		PENTAIR SÜDMO (TE	TRALON) OU SIMILAR	
	50	MODEL			-	









REV.:

					2
	1	INSTRUMENT TAG NUMBER		PSV-700031	
	2	SERVICE		AIR SUPPLY COMP. (INSTRUMENT	
	3	P&ID		7A-Z-0-2-52	
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-CA-710011-SS5-NI	-
GENERAL	5	SAFETY / RELIEF		SAFE	ETY
	6	NOZZLE (TOTAL / REDUCED)		тот	AL
	7	TYPE		ANG	LE
	8	CASTLE (OPEN / CLOSED)		OPE	EN
	9	CERTIFICATES		(SEE GENERA	AL NOTES 4)
	10				
٠,	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)
NOV	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)
ECT	13	FLANGE FACE FINISH		-	•
CONNECTIONS	14				
O	15				
	16	BODY	CASTLE	SS316L	SS316L
S	17	SEAT	DISC	SS316L	SS316L
RIAL	18	GUIDES	RING	SS316L	SS316L
MATERIALS	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2	)
Ň	20	ROD		BY MANUFA	ACTURER
	21				
٠,	22	HOOD (THREADED / SCREWED)		THREADED	
ACCESSORIES	23	LEVER: SIMPLE / EASED		SIMF	LE
SSO	24	LOCK FOR HYDROSTATIC TEST		YE	S
CCE	25	IDENTIFICATION PLATE		YES (SEE GENE	RAL NOTES 1)
A	26				
=	27	SIZING CODE		(SEE GENERA	AL NOTES 4)
BASE	28	SIZING CRITERION		LOC	CK
E	29				
	30	FLUID	PHYSICAL STATE	CLEAN AIR	AIR
	31	FLOW CAPACITY		16,8 m³/h	
	32	OPERATING PRESSURE	RELIEF PRESSURE	3,0 bar-g	3,5 bar-g
S	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C
707	34	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C
CONDITIONS	35	CONSTANT COUNTERPRESSU	RE	bar-g	
00	36	VARIABLE COUNTERPRESSUR	E	bar-g	
ING	37	COUNTERPRESSURE DEVELO	PED	bar-g	
SAT		OVERPRESSURE		%	
OPERATING	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср
O	40	MOLECULAR WEIGHT			
	41	Cp/Cv	FACTOR Z		
		ATMOSPHERIC PRESSURE		1 atm	
	43	~			
		PRESSÃO DE AJUSTE DA MOLA	4	BY MANUFACTURER (SEE GENERAL NOTES 2)	
/E		FAIXA DA MOLA	I,	BY MANUFACTURER (SE	· ·
VALVE		ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER
_		DENOMINAÇÃO DO ORIFÍCIO		BY MANUFA	ACTURER
	48				
		MANUFACTURER		PENTAIR SÜDMO (TET	RALON) OU SIMILAR
	50	MODEL		-	









6 de 11

REV.:

					2	
	1	INSTRUMENT TAG NUMBER		PSV-700034		
	2	SERVICE		CLEAN COMPRESSED	AIR FOR HEADER	
	3	P&ID		7A-Z-0-2	2-71	
	4	PIPE LINE	EQUIPMENT NUMBER	7B-2"-CAP-700019-SS10-NI	-	
RA	5	SAFETY / RELIEF		SAFE	ſΥ	
GENERAL	6	NOZZLE (TOTAL / REDUCED)		ТОТА	L	
Э	7	TYPE		ANGL	E	
	8	CASTLE (OPEN / CLOSED)		OPEN	N	
	9	CERTIFICATES		(SEE GENERAL	NOTES 4)	
	10					
<b></b>	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)	
ONS	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)	
CONNECTIONS	13	FLANGE FACE FINISH	•	-		
ONN	14					
Ö	15					
	16	BODY	CASTLE	SS316L	SS316L	
S	17	SEAT	DISC	SS316L	SS316L	
SIAL	18	GUIDES	RING	SS316L	SS316L	
MATERIALS	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)		
M	20	ROD	•	BY MANUFA	CTURER	
	21					
	22	HOOD (THREADED / SCREWED)		THREADED		
ACCESSORIES	23	LEVER: SIMPLE / EASED		SIMPL	E	
SSO	24	LOCK FOR HYDROSTATIC TEST		YES		
CE	25	IDENTIFICATION PLATE		YES (SEE GENER	AL NOTES 1)	
Ă	26					
	27	SIZING CODE		(SEE GENERAL	NOTES 4)	
BASE	28	SIZING CRITERION		LOC	<	
B	29					
	30	FLUID	PHYSICAL STATE	CLEAN AIR	AIR	
	31	FLOW CAPACITY	1	m³/h		
	32	OPERATING PRESSURE	RELIEF PRESSURE	bar-g	3,5 bar-g	
	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C	
ONS	34	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C	
ITIO	35	CONSTANT COUNTERPRESSU	RE	bar-g		
CONDITIONS	36	VARIABLE COUNTERPRESSUR	RE	bar-g		
	37	COUNTERPRESSURE DEVELO	PED	bar-g		
471	38	OVERPRESSURE		%		
OPERATING	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср	
Ò	40	MOLECULAR WEIGHT	•			
	41	Cp/Cv	FACTOR Z			
	42	ATMOSPHERIC PRESSURE	•	1 atm		
	43					
	44	PRESSÃO DE AJUSTE DA MOL	A	BY MANUFACTURER (SEE	GENERAL NOTES 2)	
,, l	45	FAIXA DA MOLA		BY MANUFACTURER (SEE	GENERAL NOTES 2)	
VALVE	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER	
*	47	DENOMINAÇÃO DO ORIFÍCIO	•	BY MANUFAC	CTURER	
	48					
	49	MANUFACTURER		PENTAIR SÜDMO (TETR	ALON) OU SIMILAR	
	50	MODEL		-		
NOT		•				









REV.:

## PRESSURE RELIEF VALVE - SANITARY

					2	
	1	INSTRUMENT TAG NUMBER		PSV-700035		
	2	SERVICE		CLEAN COMPRESSED AIR FOR HEADER		
	3	P&ID		7A-Z-0-2	2-71	
١	4	PIPE LINE	EQUIPMENT NUMBER	7B-2"-CAP-700015-SS10-NI	-	
RAL	5	SAFETY / RELIEF		SAFE	ΓΥ	
GENERAL	6	NOZZLE (TOTAL / REDUCED)		TOTA	L	
15	7	TYPE		ANGL	E	
	8	CASTLE (OPEN / CLOSED)		OPE	N	
	9	CERTIFICATES		(SEE GENERAL	NOTES 4)	
	10				·	
	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)	
ONS	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)	
CONNECTIONS	13	FLANGE FACE FINISH		-		
ONNE	14					
S	15					
	_	BODY	CASTLE	SS316L	SS316L	
S	17	SEAT	DISC	SS316L	SS316L	
MATERIALS	18	GUIDES	RING	SS316L	SS316L	
TER		SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)		
MA		ROD	-	BY MANUFA	CTURER	
	21					
		HOOD (THREADED / SCREWED)		THREADED		
SIES		LEVER: SIMPLE / EASED	,	SIMPL		
ACCESSORIES		LOCK FOR HYDROSTATIC TEST		YES		
CES				YES (SEE GENER		
AC	26					
	_	SIZING CODE		(SEE GENERAL	NOTES 4)	
BASE	28	SIZING CRITERION		LOCK		
B	29					
	30	FLUID	PHYSICAL STATE	CLEAN AIR	AIR	
	31	FLOW CAPACITY		m³/h		
	32	OPERATING PRESSURE	RELIEF PRESSURE	bar-g	3,5 bar-g	
, ,	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C	
ONS	34	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C	
CONDITIONS	35	CONSTANT COUNTERPRESSU	RE	bar-g		
ΝΟί	36	VARIABLE COUNTERPRESSUR	 E	bar-g		
(D	37	COUNTERPRESSURE DEVELO	PED	bar-g		
471/		OVERPRESSURE		%		
OPERATIN(		DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср	
Q		MOLECULAR WEIGHT	-	-		
	41	Cp/Cv	FACTOR Z			
	42	ATMOSPHERIC PRESSURE	1	1 atm		
	43					
	44	PRESSÃO DE AJUSTE DA MOLA	P	BY MANUFACTURER (SEE GENERAL NOTES 2)		
<sub> </sub>	45	FAIXA DA MOLA		BY MANUFACTURER (SEE	E GENERAL NOTES 2)	
VALVE	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER	
X		DENOMINAÇÃO DO ORIFÍCIO		BY MANUFAC		
	48					
	49	MANUFACTURER		PENTAIR SÜDMO (TETF	RALON) OU SIMILAR	
ı	l	Lucas I		,		

50 MODEL









SHEET:

REV.:

					2	
	1	INSTRUMENT TAG NUMBER		PSV-700036		
	2	SERVICE		CLEAN AIR FOR HEADER LVR-460	1 / AT-9001 / CIP/SIP STATION	
	3	P&ID		7A-Z-0-2	2-71	
. 1	4	PIPE LINE	EQUIPMENT NUMBER	7B-1"-CAP-700005-SS10-NI	-	
GENERAL	5	SAFETY / RELIEF		SAFET	ΓΥ	
≡NE	6	NOZZLE (TOTAL / REDUCED)		TOTA	L	
9	7	TYPE		ANGL	E	
	8	CASTLE (OPEN / CLOSED)		OPEN	V	
	9	CERTIFICATES		(SEE GENERAL	NOTES 4)	
	10			,	,	
	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER. 6)	
SNC	12	OUTPUT DIAMETER	CLASS	· · · · · · · · · · · · · · · · · · ·	TC - ASME BPE (NOTE GER. 6)	
CONNECTIONS	13	FLANGE FACE FINISH	I	-	,	
NNE	14					
S	15					
	16	BODY	CASTLE	SS316L	SS316L	
۲۵		SEAT	DISC	SS316L	SS316L	
IAL §		GUIDES	RING	SS316L	SS316L	
MATERIALS		SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)	000.02	
MA	20	ROD	102220110	ļ	CTURER	
	21	KOD		BY MANUFACTURER		
	22	HOOD (TUDE A DED / SCREWED)		THREADED		
IES	23	HOOD (THREADED / SCREWED)  LEVER: SIMPLE / EASED		SIMPLE		
ACCESSORIES		<u> </u>		YES		
CES			ı	YES (SEE GENER		
AC	25 26	IDENTIFICATION PLATE		TES (SEE GENER	AL NOTES 1)	
	_			(SEE CENEDAL	NOTEC 4)	
SE		SIZING CODE		(SEE GENERAL	<u> </u>	
BASE	28	SIZING CRITERION		LOCK	\	
	29	FLUID	DUVEICAL STATE	CLEANAID	AID	
		FLUID	PHYSICAL STATE	CLEAN AIR	AIR	
		FLOW CAPACITY	DELIEF DESCUDE	m³/h	2.5 han a	
		OPERATING PRESSURE	RELIEF PRESSURE	bar-g	3,5 bar-g	
NS		NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C	
017		DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C	
CONDITIONS		CONSTANT COUNTERPRESSU		bar-g		
		VARIABLE COUNTERPRESSUR		bar-g		
OPERATING		COUNTERPRESSURE DEVELO	PEU	bar-g		
RA	38	OVERPRESSURE	husasam o pri in accini	%		
3PE			VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср	
-	40	MOLECULAR WEIGHT	Inverse 7			
	41	Cp/Cv	FACTOR Z			
	42	ATMOSPHERIC PRESSURE		1 atm		
	43		_			
	44	PRESSÃO DE AJUSTE DA MOL	A	BY MANUFACTURER (SEE	,	
J/	45	FAIXA DA MOLA	1.	BY MANUFACTURER (SEE		
VALVE	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER	
_	47	DENOMINAÇÃO DO ORIFÍCIO		BY MANUFAC	CTURER	
	48					
	49	MANUFACTURER		PENTAIR SÜDMO (TETR	ALON) OU SIMILAR	
	50	MODEL		-		









SHEET:

## PRESSURE RELIEF VALVE - SANITARY

9 de 11 REV.:

		SORE RELIEF VALVE			2	
	1	INSTRUMENT TAG NUMBER		PSV-700041		
	2	SERVICE		GAS SUPPLY CLEAN COMPRESSED AIR		
	3	P&ID		7A-Z-0-2-07		
	4	PIPE LINE EQUIPMENT NUMBER		1/2"-CAP-700037-SS10-NI	-	
<b>SENERAL</b>	5	SAFETY / RELIEF		SAFE	TY	
	6	NOZZLE (TOTAL / REDUCED)		тот	AL	
GE	7	TYPE		ANG		
	8	CASTLE (OPEN / CLOSED)		OPE		
	9	CERTIFICATES		(SEE GENERA		
	10	02.11.11.10.11.20		(322 32.12.3		
	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	TC - ASME BPE (NOTE GER 6)	
SNC		OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)		
CONNECTIONS		FLANGE FACE FINISH	CLASS	BT WAND ACTORER (NOTE CER. 4, 5)	TO - AGIVIL BI E (NOTE GEN. 0)	
NNE	14	I LANGET AGET INIGHT		_		
00						
	15	BODY	CASTLE	\$\$24£I	SS316L	
				SS316L		
MATERIALS		SEAT	DISC	SS316L	SS316L	
ER!		GUIDES	RING	SS316L	SS316L	
1AT		SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)		
~	20	ROD		BY MANUFACTURER		
	21					
ည	22	HOOD (THREADED / SCREWE	D)	THREADED		
ACCESSORIES	23	LEVER: SIMPLE / EASED		SIMP	LE	
ESS	24	LOCK FOR HYDROSTATIC TES	ST	YES	5	
1CC/	25	IDENTIFICATION PLATE		YES (SEE GENE	RAL NOTES 1)	
	26					
ш	27	SIZING CODE		(SEE GENERA	L NOTES 4)	
BASE	28	SIZING CRITERION		LOCK		
E	29					
	30	FLUID	PHYSICAL STATE	CLEAN AIR	AIR	
	31	FLOW CAPACITY		m³/h		
	32	OPERATING PRESSURE	RELIEF PRESSURE	bar-g	3,5 bar-g	
S	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C	°C	
NO.	34	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g	°C	
ONDITIONS	35	CONSTANT COUNTERPRESSU	JRE	bar-g		
S S	36	VARIABLE COUNTERPRESSUR	RE	bar-g		
NG	37	COUNTERPRESSURE DEVELO	PED	bar-g		
OPERATING	38	OVERPRESSURE		%		
PER	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	kg/m³	Ср	
ō	40	MOLECULAR WEIGHT	•		•	
	41	Cp/Cv	FACTOR Z			
	42	ATMOSPHERIC PRESSURE	•	1 atm		
	43				1	
	44	PRESSÃO DE AJUSTE DA MOL	.A	BY MANUFACTURER (SE	E GENERAL NOTES 2)	
<sub></sub>	45	FAIXA DA MOLA		BY MANUFACTURER (SE		
VALVE	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in <sup>2</sup>	BY MANUFACTURER	
X	47	DENOMINAÇÃO DO ORIFÍCIO		BY MANUFA		
	48	, , , , , , , , , , , , , , , , , , , ,				
_	49	MANUFACTURER		PENTAIR SÜDMO (TET	RALON) OU SIMILAR	
	50	MODEL		- 2.1.7 1 GODING (TET)	-:-,:	
NOT		mobile and a second		<u>-</u>		









						2
	1	INSTRUMENT TAG NUMBER		PSV-230001		
	2	SERVICE		BIOREACTOR, BR	E-5401 O2 GAS TO 4	0L
	3	P&ID		7A-Z-0-2-70		
	4	PIPE LINE	EQUIPMENT NUMBER	3/4"-GOP-240001-SS10-NI	1"-VEP-24000	)1-SS5-NI
GENERAL	5	SAFETY / RELIEF		S	AFETY	
ENE	6	NOZZLE (TOTAL / REDUCED)		т	OTAL	
GF	7	TYPE		A	NGLE	
	8	CASTLE (OPEN / CLOSED)		(	DPEN	
	9	CERTIFICATES		(SEE GENE	ERAL NOTES 4)	
	10			, -	- ,	
	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4	1, 5) TC - ASME BPE	(NOTE GER. 6)
CONNECTIONS		OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4		(NOTE GER. 6)
C 7/(	13	FLANGE FACE FINISH	<u> </u>		-	(
NNE	14					
S	15					
-		BODY	CASTLE	SS316L	SS	316L
,		SEAT	DISC	SS316L		316L
ALS		GUIDES	RING	SS316L		316L
MATERIALS		SPRING	BELLOWS	BY MANUFACTURER (NOTE GEF		7102
MA	20	ROD	BEELOWO	·		
	21	1100		BY MANUFACTURER		
	22	HOOD (TUBEADED / SCREWED)		THREADED		
ES	23	HOOD (THREADED / SCREWED) LEVER: SIMPLE / EASED		SIMPLE		
SOR	24	LOCK FOR HYDROSTATIC TES	т		YES	
ACCESSORIES	25				NERAL NOTES 1)	
ACC	26	IDENTIFICATION PLATE		TEG (GEE GE	NEIVAL NOTES 1)	
_	27	SIZING CODE		(SEE GENE	ERAL NOTES 4)	
BASE	28			·	OCK	
BA	29	SIZING CRITERION		<u>'</u>	LOOK	
	30	FLUID	PHYSICAL STATE	CLEAN AIR	Δ	.IR
	31	FLOW CAPACITY	THE STATE STATE	m³/h		
	32	OPERATING PRESSURE	RELIEF PRESSURE	bar-g		3,5 bar-g
	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C		°C
SNC		DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g		°C
)TI		CONSTANT COUNTERPRESSU		bar-g		
CONDITIONS		VARIABLE COUNTERPRESSUR		bar-g		
		COUNTERPRESSURE DEVELO		bar-g		
NL		OVERPRESSURE		%		
OPERATING			VISCOSITY @ RELIEF CONDITIONS	kg/m³		Ср
0P		MOLECULAR WEIGHT	The second of th	Ng/III		~r
		Cp/Cv	FACTOR Z			
		ATMOSPHERIC PRESSURE	1	1 atm		
	43			, aun		
		PRESSÃO DE AJUSTE DA MOL	A	BY MANUFACTURER	(SEE GENERAL NOT	ES 2)
		FAIXA DA MOLA		BY MANUFACTURER		
VALVE		ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in		
VAI		DENOMINAÇÃO DO ORIFÍCIO	, at the second		JFACTURER	J. JIKEIK
	48	22		DI WAN		
$\dashv$	_	MANUFACTURER		PENTAIR SÜDMO (1	ETRALON) OU SIMIL	.AR
	<del>4</del> 9	MODEL		. 2.47/( 000///00		
NOT		III OPEL		l .		









SHEET: 11 de 11

	II de II
	REV.:
	2
PSV-240001	
ACTOR, BRE-5401 O2 GAS TO 4	.0L

L						2
	1	INSTRUMENT TAG NUMBER		PSV-240001		
	2	SERVICE		BIOREACTOR, BRE-5401 O2 GAS TO 40L		
	3	P&ID		7A-Z-0-2-70		
	-	PIPE LINE	EQUIPMENT NUMBER	3/4"-GOP-240001-SS10-NI	1"-VEP-24000	)1-SS5-NI
SAL	5	SAFETY / RELIEF	ı	S	AFETY	
SENERAL		NOZZLE (TOTAL / REDUCED)			TOTAL	
GEI	-	TYPE		,	ANGLE	
	_	CASTLE (OPEN / CLOSED)			OPEN	
	_	CERTIFICATES			ERAL NOTES 4)	
	10			, -		
	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER.	4, 5) TC - ASME BPE	(NOTE GER. 6)
CONNECTIONS	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER.	4, 5) TC - ASME BPE	(NOTE GER. 6)
EC 7/	13	FLANGE FACE FINISH			-	
INNC	14					
ŏ	15					
	16	BODY	CASTLE	SS316L	SSS	316L
S	17	SEAT	DISC	SS316L	SSS	316L
SIAL	18	GUIDES	RING	SS316L	SSS	316L
MATERIALS	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GE	R. 2)	
M	20	ROD		BY MAN	IUFACTURER	
	21					
<b>.</b>	22	HOOD (THREADED / SCREWED	)	THREADED		
ACCESSORIES	23	LEVER: SIMPLE / EASED		SIMPLE		
SSO	24	LOCK FOR HYDROSTATIC TEST	Г		YES	
CCE	25	IDENTIFICATION PLATE		YES (SEE G	ENERAL NOTES 1)	
A	26					
lu	27	SIZING CODE		(SEE GEN	ERAL NOTES 4)	
BASE	28	SIZING CRITERION			LOCK	
	29					
	30	FLUID	PHYSICAL STATE	CLEAN AIR	A	IR
	31	FLOW CAPACITY		m³/h		
	_	OPERATING PRESSURE	RELIEF PRESSURE	bar-g	;	3,5 bar-g
Sy	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	°C		°C
1017	_	DESIGN PRESSURE	DESIGN TEMPERATURE	bar-g		°C
CONDITIONS		CONSTANT COUNTERPRESSUI		bar-g		
		VARIABLE COUNTERPRESSUR		bar-g		
OPERATING	_	COUNTERPRESSURE DEVELOR	PED	bar-g		
RA1	_	OVERPRESSURE	I	%		
)PE			VISCOSITY @ RELIEF CONDITIONS	kg/m³		Ср
	40	MOLECULAR WEIGHT	I			
		Cp/Cv	FACTOR Z			
		ATMOSPHERIC PRESSURE		1 atm		
	43	DDE003 0 DE A		D./		== 0 0\
	44	PRESSÃO DE AJUSTE DA MOLA	4		(SEE GENERAL NOT	
VE		FAIXA DA MOLA	Lines on Follows:		(SEE GENERAL NOT	
VALVE	_	ÁREA CALCULADA	ÁREA SELECIONADA		n² BY MANUFA	JIURER
1 1	47	DENOMINAÇÃO DO ORIFÍCIO		BY MAN	UFACTURER	
	4.					
	48	MANUEACTURER		DENITAD CODAG	TETRAL ONLY OUT OF THE	AD
	49	MANUFACTURER MODEL		PENTAIR SÜDMO (	TETRALON) OU SIMIL	.AR