	
DOC NUMBER: <b>569-DB7B-AIC-741-002</b>		CLIENT NUMBER: <b>PRD-AIC-DSH-072</b>	
CLIENT: <b>TAKEDA/BAXALTA</b>			
PROJECT: <b>BURITI EPCVM PROJECT</b>			

## DRUG SUBSTANCE - BMS – DATA SHEET SAFETY VALVE

0	30AUG2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
A	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

NUMBER: 569-DB7B-AIC-741-002

CLIENT NR: PRD-AIC-DSH-072

TITLE

SAFETY VALVE

SHEET:  
2 de 6





REV.:  
0

### DOCUMENT REVIEW CONTROL

Revision	A	0	1	2	3	4	Revision	A	0	1	2	3	4	Revision	A	0	1	2	3	4
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2	X	X					27							52						
3	X	X					28							53						
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5	X	X					30							55						
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### REVISION 0 NOTES:

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

 		 	
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TITLE			SHEET:
SAFETY VALVE			3 de 6
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REFERENCE DOCUMENTS			
7B-M-0-5-41	P&I DIAGRAM - DRUG SUBSTANCE - INDUSTRIAL WATER DISTRIBUTION SYSTEM		
7B-M-0-5-61	P&I DIAGRAM - DRUG SUBSTANCE - PLANT STEAM DISTRIBUTION SYSTEM (PROCESS + HVAC)		
PRD-AIC-LIS-015	DRUG SUBSTANCE - BMS - INSTRUMENT INDEX		
PRD-PIP-TSP-501	PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION		
PRD-AIC-LIS-046	INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST		

GENERAL NOTES
<p>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.</p> <p>2- In the certified drawings of the relief and safety valves, the spring pressure range shall be included. The valve shall allow adjustments of: <math>\pm 10\%</math> at the specified relief pressure, for pressures <math>\leq 18 \text{ kgf/cm}^2</math>, and <math>\pm 5\%</math> at the specified relief pressure, for pressures <math>&gt; 18 \text{ kgf/cm}^2</math>.</p> <p>3- The spring adjustment screw must be protected by a (threaded) hood.</p> <p>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.</p> <p>5- The manufacturer must send the valve calculation memory.</p>

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CLIENT NR: PRD-AIC-DSH-072

TITLE

SHEET: 4 de 6

SAFETY VALVE

REV: 0

GENERAL	1	INSTRUMENT TAG NUMBER		PSV-610051	
	2	SERVICE		INDUSTRIAL WATER - DISTRIBUTION SYSTEM	
	3	P&ID		7B-M-0-5-41	
	4	PIPE LINE	EQUIPMENT NUMBER	3"-DW-610050-PP1-NI	-
	5	SAFETY / RELIEF		SAFETY	
	6	NOZZLE (TOTAL / REDUCED)		TOTAL	
	7	TYPE		ANGLE	
	8	CASTLE (OPEN / CLOSED)		OPEN	
	9	CERTIFICATES		(SEE GENERAL NOTES 4)	
	10				
CONNECTIONS	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	13	FLANGE FACE FINISH		SLOTTED ACCORDING to MSS SP-6.	
	14				
	15				
MATERIALS	16	BODY	CASTLE	AC ASTM A216 Gr. WCB	AC ASTM A216 Gr. WCB
	17	SEAT	DISC	ASTM A182 F304	ASTM A182 F304
	18	GUIDES	RING	ASTM A182 F304	ASTM A182 F304
	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)	
	20	ROD		ASTM A182 F304	
	21				
ACCESSORIES	22	HOOD (THREADED / SCREWED)		THREADED	
	23	LEVER: SIMPLE / EASED		SIMPLE	
	24	LOCK FOR HYDROSTATIC TEST		YES	
	25	IDENTIFICATION PLATE		YES (SEE GENERAL NOTES 1)	
	26				
BASE	27	SIZING CODE		(SEE GENERAL NOTES 4)	
	28	SIZING CRITERION		LOCK	
	29				
OPERATING CONDITIONS	30	FLUID	PHYSICAL STATUS	INDUSTRIAL WATER	LIQUID
	31	FLOW CAPACITY		31,44 m³/h	(NOTE 1)
	32	OPERATING PRESSURE	RELIEF PRESSURE	2,0 bar-g	3,0 bar-g
	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	25,0 °C	25,0 °C
	34	DESIGN PRESSURE	DESIGN TEMPERATURE	5,3 bar-g	55,0 °C
	35	CONSTANT COUNTERPRESSURE		0 bar-g	
	36	VARIABLE COUNTERPRESSURE		- bar-g	
	37	COUNTERPRESSURE DEVELOPED		- bar-g	
	38	OVERPRESSURE		10 %	
	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	997,2 kg/m³	0,89 Cp
	40	MOLECULAR WEIGHT			
	41	Cp/Cv	FACTOR Z		
	42	ATMOSPHERIC PRESSURE		1 atm	
	43				
VALVE	44	PRESSÃO DE AJUSTE DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	45	FAIXA DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in²	BY MANUFACTURER
	47	DENOMINAÇÃO DO ORIFÍCIO		BY MANUFACTURER	
	48				
	49	MANUFACTURER		CROSBY OR SIMILAR	
	50	MODEL		SV80H	

NOTES:

1- CALCULATED FLOW FOR PCV-610050 FULLY OPEN. THIS FLOW RATE MUST BE CONFIRMED AFTER THE PCV VENDOR IS DEFINED

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CLIENT NR: PRD-AIC-DSH-072

TITLE

SHEET: 5 de 6

SAFETY VALVE

REV: 0

GENERAL	1	INSTRUMENT TAG NUMBER		PSV-79104	
	2	SERVICE		PLANT STEAM RE-HEATED WATER HX-7A-1	
	3	P&ID		7B-M-0-5-61	
	4	PIPE LINE	EQUIPMENT NUMBER	4"-IS1B-790104-CS1-HC	-
	5	SAFETY / RELIEF		SAFETY	
	6	NOZZLE (TOTAL / REDUCED)		TOTAL	
	7	TYPE		ANGLE	
	8	CASTLE (OPEN / CLOSED)		OPEN	
	9	CERTIFICATES		(SEE GENERAL NOTES 4)	
	10				
CONNECTIONS	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	13	FLANGE FACE FINISH		SLOTTED ACCORDING to MSS SP-6.	
	14				
	15				
MATERIALS	16	BODY	CASTLE	AC ASTM A216 Gr. WCB	AC ASTM A216 Gr. WCB
	17	SEAT	DISC	ASTM A182 F304	ASTM A182 F304
	18	GUIDES	RING	ASTM A182 F304	ASTM A182 F304
	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)	
	20	ROD		ASTM A182 F304	
	21				
ACCESSORIES	22	HOOD (THREADED / SCREWED)		THREADED	
	23	LEVER: SIMPLE / EASED		SIMPLE	
	24	LOCK FOR HYDROSTATIC TEST		YES	
	25	IDENTIFICATION PLATE		YES (SEE GENERAL NOTES 1)	
	26				
BASE	27	SIZING CODE		(SEE GENERAL NOTES 4)	
	28	SIZING CRITERION		LOCK	
	29				
OPERATING CONDITIONS	30	FLUID	PHYSICAL STATUS	STEAM LOW PRESSURE	STEAM
	31	FLOW CAPACITY		2339 kg/h (NOTE 1)	
	32	OPERATING PRESSURE	RELIEF PRESSURE	2,1 bar-g	6,0 bar-g
	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	166,0 °C	166,0 °C
	34	DESIGN PRESSURE	DESIGN TEMPERATURE	6,0 bar-g	192,0 °C
	35	CONSTANT COUNTERPRESSURE		0 bar-g	
	36	VARIABLE COUNTERPRESSURE		- bar-g	
	37	COUNTERPRESSURE DEVELOPED		- bar-g	
	38	OVERPRESSURE		10 %	
	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	3,7 kg/m³	0,014 Cp
	40	MOLECULAR WEIGHT			
	41	Cp/Cv	FACTOR Z		
	42	ATMOSPHERIC PRESSURE		1 atm	
	43				
VALVE	44	PRESSÃO DE AJUSTE DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	45	FAIXA DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in²	BY MANUFACTURER
	47	DENOMINAÇÃO DO ORIFÍCIO		BY MANUFACTURER	
	48				
	49	MANUFACTURER		CROSBY OR SIMILAR	
	50	MODEL		SV80H (CROSBY)	

NOTES:

1- CALCULATED FLOW FOR PCV-790104 FULLY OPEN. THIS FLOW RATE MUST BE CONFIRMED AFTER THE PCV VENDOR IS DEFINED

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CLIENT NR: PRD-AIC-DSH-072

TITLE

SAFETY VALVE

SHEET:  
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GENERAL	1	INSTRUMENT TAG NUMBER		PSV-790212	
	2	SERVICE		PLANT STEAM	
	3	P&ID		7B-M-0-5-61	
	4	PIPE LINE	EQUIPMENT NUMBER	3"-IS4B-790212-CS1-HC	-
	5	SAFETY / RELIEF		SAFETY	
	6	NOZZLE (TOTAL / REDUCED)		TOTAL	
	7	TYPE		ANGLE	
	8	CASTLE (OPEN / CLOSED)		OPEN	
	9	CERTIFICATES		(SEE GENERAL NOTES 4)	
	10				
CONNECTIONS	11	ENTRY DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	12	OUTPUT DIAMETER	CLASS	BY MANUFACTURER (NOTE GER. 4, 5)	150# FR, ASME B.16.5
	13	FLANGE FACE FINISH		SLOTTED ACCORDING to MSS SP-6.	
	14				
	15				
MATERIALS	16	BODY	CASTLE	AC ASTM A216 Gr. WCB	AC ASTM A216 Gr. WCB
	17	SEAT	DISC	ASTM A182 F304	ASTM A182 F304
	18	GUIDES	RING	ASTM A182 F304	ASTM A182 F304
	19	SPRING	BELLOWS	BY MANUFACTURER (NOTE GER. 2)	
	20	ROD		ASTM A182 F304	
	21				
ACCESSORIES	22	HOOD (THREADED / SCREWED)		THREADED	
	23	LEVER: SIMPLE / EASED		SIMPLE	
	24	LOCK FOR HYDROSTATIC TEST		YES	
	25	IDENTIFICATION PLATE		YES (SEE GENERAL NOTES 1)	
	26				
BASE	27	SIZING CODE		(SEE GENERAL NOTES 4)	
	28	SIZING CRITERION		LOCK	
	29				
OPERATING CONDITIONS	30	FLUID	PHYSICAL STATUS	STEAM MEDIUM PRESSURE	STEAM
	31	FLOW CAPACITY		1409 kg/h (NOTE 1)	
	32	OPERATING PRESSURE	RELIEF PRESSURE	4,0 bar-g	5,0 bar-g
	33	NORMAL TEMPERATURE	RELIEF TEMPERATURE	170,0 °C	170,0 °C
	34	DESIGN PRESSURE	DESIGN TEMPERATURE	(NOTE 2) bar-g	(NOTE 2) °C
	35	CONSTANT COUNTERPRESSURE		0 bar-g	
	36	VARIABLE COUNTERPRESSURE		- bar-g	
	37	COUNTERPRESSURE DEVELOPED		- bar-g	
	38	OVERPRESSURE		10 %	
	39	DENSITY @ RELIEF CONDITIONS	VISCOSITY @ RELIEF CONDITIONS	3,1 kg/m³	0,014 Cp
	40	MOLECULAR WEIGHT			
	41	Cp/Cv	FACTOR Z		
	42	ATMOSPHERIC PRESSURE		1 atm	
	43				
VALVE	44	PRESSÃO DE AJUSTE DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	45	FAIXA DA MOLA		BY MANUFACTURER (SEE GENERAL NOTES 2)	
	46	ÁREA CALCULADA	ÁREA SELECIONADA	BY MANUFACTURER in²	BY MANUFACTURER
	47	DENOMINAÇÃO DO ORIFÍCIO		BY MANUFACTURER	
	48				
	49	MANUFACTURER		CROSBY OR SIMILAR	
	50	MODEL		SV80H (CROSBY)	

NOTES:

1- CALCULATED FLOW FOR PV-790212A/B FULLY OPEN. THIS FLOW RATE MUST BE CONFIRMED AFTER THE PCV VENDOR IS DEFINED