	
DOC NUMBER: 569-DB7A-AIC-732-003		CLIENT NUMBER: PRD-AIC-DSH-058	
CLIENT: TAKEDA/BAXALTA			
PROJECT: BURITI EPCVM PROJECT			

DRUG PRODUCT - BMS - DATA SHEET

PRESSURE REDUCING VALVE

0	29JUL2021	ISSUE FOR CONSTRUCTION	JHA	MAF	RSP
A	24MAR2021	60% DD ISSUE	JHA	MAF	RSP
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

NUMBER: 569-DB7A-AIC-732-003

CLIENT NR: PRD-AIC-DSH-058

TITLE

PRESSURE REDUCING VALVE

SHEET:
2 de 7

REV.:
0





DOCUMENT REVIEW CONTROL

Revision	A	B	0	1	2	3	Revision	A	B	0	1	2	3	Revision	A	B	0	1	2	3
Page							Page							Page						
1	X		X				26							51						
2	X		X				27							52						
3	X		X				28							53						
4	X		X				29							54						
5	X		X				30							55						
6	X		X				31							56						
7	/		X				32							57						
8	/		/				33							58						
9							34							59						
10							35							60						
11							36							61						
12							37							62						
13							38							63						
14							39							64						
15							40							65						
16							41							66						
17							42							67						
18							43							68						
19							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.

The information contained in this document is the property of TESSLER Engenharia and is provided to the customer under the condition that they are not used for other purposes other than those contractually established.

 		 	
NUMBER: 569-DB7A-AIC-732-003		CLIENT NR: PRD-AIC-DSH-058	
TITLE			SHEET:
PRESSURE REDUCING VALVE			3 de 7
			REV.: 0
REFERENCE DOCUMENTS			
7A-M-0-5-41	P&I DIAGRAM - DRUG PRODUCT - INDUSTRIAL WATER DISTRIBUTION SYSTEM		
7A-M-0-5-61	P&I DIAGRAM - DRUG PRODUCT - PLANT STEAM DISTRIBUTION SYSTEM (PROCESS + HVAC)		
PRD-AIC-LIS-014	DRUG PRODUCT - BMS - INSTRUMENT INDEX		
PRD-PIP-TSP-501	PIPE CLASS AND SPECIFICATION - TECHNICAL SPECIFICATION		
PRD-AIC-LIS-046	INTEGRATED PROJECT SERVICES - INSTRUMENT SUGGESTED SUPPLIER LIST		

GENERAL NOTES	
1-	The 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-	The manufacturer must send the valve calculation memory.
3-	The maximum permissible noise level is 82 dbA to 1 mt from the valve and must comply with ISA 75.17 and IEC 60534-8-4 standards.
4-	If necessary the manufacturer should offer silencer along with the valve.
5-	The maximum and minimum flow rates to be controlled should be limited to 90 % and 10%, respectively, of the available stroke of the control valve.

NUMBER: **569-DB7A-AIC-732-003**

CLIENT NR: **PRD-AIC-DSH-058**

TITLE

PRESSURE REDUCING VALVE

SHEET:

4 de 7





REV.:

0

GENERAL	1	INSTRUMENT TAG NUMBER		PCV-610001			
	2	SERVICE		INDUSTRIAL WATER - DISTRIBUTION SYSTEM			
	3	P&ID		7A-M-0-5-41			
	4	PIPE LINE	EQUIPMENT NUMBER	7A-4"-DW-610001-PP1-NI		-	
	5	EQUIPMENT MATERIAL / PIPE		PP-H			
	6	INNER DIAMETER LINE	LINE THICKNESS	90 mm		10 mm	
	7	FUNCTION		PRESSURE REGULATING VALVE			
	8	CERTIFICATES		ISA 75.17 e IEC 60534-8-4.			
	9						
BODY AND INTERNAL	10	BODY TYPE		GLOBE / SELF OPERATED			
	11	BODY MATERIAL + COATING		SS316L			
	12	PLUG MATERIAL + COATING		SS316L			
	13	SEED MATERIAL + COATING		SS316L			
	14	CHARACTERISTIC		=%			
	15	ENTRY DIAMETER	OUTPUT DIAMETER	4" (NOTE 1)		4" (NOTE 1)	
	16	NORM / CLASS / FACE		ASME B16.5 / ISO 15494			
	17	LEAKAGE CLASS		IV			
	18	CASTLE TYPE		STANDARD			
	19	RANGEABILITY		(SEE GENERAL NOTES 5)			
	20						
ACTUATOR	19	TYPE		SPRING / DIAPHRAGM			
	20	PILOT		YES			
	21	AIR SUPPLY AVAILABLE		-			
	22	TYPE OF PRESSURE OUTLET		EXTERNAL TO THE DOWNSTREAM			
	23	DIAPHRAGM MATERIAL		PTFE			
	24	SPRING ACTUATION BAND		BY MANUFACTURER			
	25	CONTROL POINT		3,5 bar-g			
	26	FAILURE CONDITION		OPEN			
	27						
ACCESSORIES	30	TAGGING		YES (SEE GENERAL NOTES 1)			
	31	REGULATOR FILTER		NOT REQUIRED			
	32						
	33						
OPERATING CONDITIONS	34						
	35	FLUID	PHYSICAL STATE	INDUSTRIAL WATER		LIQUID	
	36	MINIMUM FLOW	NORMAL MAXIMUM	1.8	-	50	m³/h
	37	MINIMUM PRESSURE	NORMAL MAXIMUM	3.9		3.8	bar-g
	38	MINIMUM TEMPERATURE	NORMAL MAXIMUM	,	25	-	°C
	39	DESIGN PRESSURE	DESIGN TEMPERATURE	6.8	bar-g	55	°C
	40	MINIMUM DP	NORMAL MAXIMUM	0.4	-	0.3	bar
	41	CV CALCULATED MINIMUM	NORMAL MAXIMUM	NOTE 3		NOTE 3	
	42	CV SELECTED	% ABERTURA DA VÁLVULA	NOT2 2		NOTE 2	
	43	MAXIMUM PERMISSIBLE DIN		NOT			
	44	DENSITY @ OPERATING CONDITION		997.17 kg/m³			
	45	VISCOSITY @ OPERATING CONDITION		0.9 cP			
	46	MOLECULAR MASS	FACTOR k=Cp/Cv				
	47						
	48						
		49	MANUFACTURER		SPIRAX SARCO		
50		MODEL		SRV 461-463			

NOTES:

- 1- THE MANUFACTURER MUST CONFIRM THE NOMINAL DIAMETER OF THE VALVE.
- 2- The SELECTED CV AND THE OPENING PERCENTAGE MUST BE SUPPLIED BY THE VALVE MANUFACTURER.
- 3- THE SUPPLIER SHALL PROVIDE THE VALVE CALCULATION REPORT.

   							
NUMBER: 569-DB7A-AIC-732-003				CLIENT NR: PRD-AIC-DSH-058			
TITLE							SHEET:
PRESSURE REDUCING VALVE							5 de 7
							REV.: 0
GENERAL	1	INSTRUMENT TAG NUMBER			PCV-790101		
	2	SERVICE			PLANT STEAM RE-HEATED WATER HX-7A-1		
	3	P&ID			7A-M-0-5-61		
	4	PIPE LINE ENTRY	PIPE LINE OUTPUT		2"-IS8B-790317-CS2-HC	3"-IS1B-790101-CS1-HC	
	5	EQUIPMENT NUMBER			-		
	6	EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B		
	7	INNER DIAMETER LINE	LINE THICKNESS		52.48 mm	3.91 mm	
	8	FUNCTION			PRESSURE REGULATING VALVE		
	9	CERTIFICATES			ISA 75.17 e IEC 60534-8-4.		
BODY AND INTERVAL	10	BODY TYPE			GLOBE / SELF OPERATED		
	11	BODY MATERIAL + COATING			CARBON STEEL (ASTM A216 Gr. WCB)		
	12	PLUG MATERIAL + COATING			SS410		
	13	SEED MATERIAL + COATING			SS410		
	14	CHARACTERISTIC			= %		
	15	ENTRY DIAMETER	OUTPUT DIAMETER		2" (NOTE 1)	3" (NOTE 1)	
	16	NORM / CLASS / FACE			ASME B16.5 / FLANGE 300# FR / MSS SP-6		
	17	LEAKAGE CLASS			IV		
	18	CASTLE TYPE			STANDARD		
	19	RANGEABILITY			(SEE GENERAL NOTES 5)		
	20						
ACTUATOR	19	TYPE			SPRING / DIAPHRAGM		
	20	PILOT			YES		
	21	AIR SUPPLY AVAILABLE			-		
	22	TYPE OF PRESSURE OUTLET			EXTERNAL TO THE DOWNSTREAM		
	23	DIAPHRAGM MATERIAL			PTFE		
	24	SPRING ACTUATION BAND			BY MANUFACTURER		
	25	CONTROL POINT			2,1 bar-g		
	26	FAILURE CONDITION			CLOSED		
ACCESSORIES	27						
	30	TAGGING			YES (SEE GENERAL NOTES 1)		
	31	REGULATOR FILTER			NOT REQUIRED		
	32						
	33						
OPERATING CONDITIONS	34						
	35	FLUID	PHYSICAL STATE		HIGH PRESSURE STEAM		STEAM
	36	MINIMUM FLOW	NORMAL	MAXIMUM	110.35	-	1103.5 kg/h
	37	MINIMUM PRESSURE	NORMAL	MAXIMUM	9.1	-	8.5 bar-g
	38	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	181	-	180 °C
	39	DESIGN PRESSURE	DESIGN TEMPERATURE		11.7 bar-g		200 °C
	40	MINIMUM DP	NORMAL	MAXIMUM	7	-	6.4 bar
	41	CV CALCULATED MINIMUM	NORMAL	MAXIMUM	NOTE 3	NOTE 3	NOTE 3
	42	CV SELECTED	% ABERTURA DA VÁLVULA		NOTE 2		NOTE 2
	43	MAXIMUM PERMISSIBLE DIN			NOT		
	44	DENSITY @ OPERATING CONDITION			4.74 kg/m³		
	45	VISCOSITY @ OPERATING CONDITION			0.015 cP		
	46	MOLECULAR MASS	FACTOR k=Cp/Cv		18 g/mol		
	47						
	48						
	49	MANUFACTURER			SPIRAX SARCO		
	50	MODEL			SRV 461-463		

NOTES:

- 1- THE MANUFACTURER MUST CONFIRM THE NOMINAL DIAMETER OF THE VALVE.
- 2- The SELECTED CV AND THE OPENING PERCENTAGE MUST BE SUPPLIED BY THE VALVE MANUFACTURER.
- 3- THE SUPPLIER SHALL PROVIDE THE VALVE CALCULATION REPORT.

NUMBER: **569-DB7A-AIC-732-003**

CLIENT NR: **PRD-AIC-DSH-058**

TITLE

PRESSURE REDUCING VALVE

SHEET:

6 de 7

REV.:

0

GENERAL	1	INSTRUMENT TAG NUMBER		PCV-790201					
	2	SERVICE		PLANT STEAM					
	3	P&ID		7A-M-0-5-61					
	4	PIPE LINE ENTRY	PIPE LINE OUTPUT	11/2"-IS8B-790315-CS2-HC		11/2"-IS4B-790201-CS1-HC			
	5	EQUIPMENT NUMBER		-					
	6	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B					
	7	INNER DIAMETER LINE	LINE THICKNESS	38.14 mm		5.08 mm			
	8	FUNCTION		PRESSURE REGULATING VALVE					
	9	CERTIFICATES		ISA 75.17 e IEC 60534-8-4.					
BODY AND INTERNAL	10	BODY TYPE		GLOBE / SELF OPERATED					
	11	BODY MATERIAL + COATING		CARBON STEEL (ASTM A216 Gr. WCB)					
	12	PLUG MATERIAL + COATING		SS410					
	13	SEED MATERIAL + COATING		SS410					
	14	CHARACTERISTIC		=%					
	15	ENTRY DIAMETER	OUTPUT DIAMETER	11/2" (NOTE 1)		11/2" (NOTE 1)			
	16	NORM / CLASS / FACE		ASME B16.5 / FLANGE 300# FR / MSS SP-6					
	17	LEAKAGE CLASS		IV					
	18	CASTLE TYPE		STANDARD					
	19	RANGEABILITY		(SEE GENERAL NOTES 5)					
	20								
ACTUATOR	19	TYPE		SPRING / DIAPHRAGM					
	20	PILOT		YES					
	21	AIR SUPPLY AVAILABLE		-					
	22	TYPE OF PRESSURE OUTLET		EXTERNAL TO THE DOWNSTREAM					
	23	DIAPHRAGM MATERIAL		PTFE					
	24	SPRING ACTUATION BAND		BY MANUFACTURER					
	25	CONTROL POINT		4,7 bar-g					
	26	FAILURE CONDITION		CLOSED					
27									
ACCESSORIES	30	TAGGING		YES (SEE GENERAL NOTES 1)					
	31	REGULATOR FILTER		NOT REQUIRED					
	32								
	33								
34									
OPERATING CONDITIONS	35	FLUID	PHYSICAL STATE		HIGH PRESSURE STEAM		STEAM		
	36	MINIMUM FLOW	NORMAL	MAXIMUM	HOLD 1	-	288	kg/h	
	37	MINIMUM PRESSURE	NORMAL	MAXIMUM	HOLD 1	-	8.9	bar-g	
	38	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	HOLD 1	-	181	°C	
	39	DESIGN PRESSURE	DESIGN TEMPERATURE		11.7 bar-g		200 °C		
	40	MINIMUM DP	NORMAL	MAXIMUM	4.4	-	4.2	bar	
	41	CV CALCULATED MINIMUM	NORMAL	MAXIMUM	NOTE 3		NOTE 3		
	42	CV SELECTED	% ABERTURA DA VÁLVULA		NOTE 2		NOTE 2		
	43	MAXIMUM PERMISSIBLE DIN		NOT					
	44	DENSITY @ OPERATING CONDITION		5 kg/m³					
	45	VISCOSITY @ OPERATING CONDITION		0.015 cP					
	46	MOLECULAR MASS	FACTOR k=Cp/Cv		18 g/mol				
	47								
	48								
	49	MANUFACTURER		SPIRAX SARCO					
	50	MODEL		SRV 461-463					

NOTES:

- 1- THE MANUFACTURER MUST CONFIRM THE NOMINAL DIAMETER OF THE VALVE.
- 2- The SELECTED CV AND THE OPENING PERCENTAGE MUST BE SUPPLIED BY THE VALVE MANUFACTURER.
- 3- THE SUPPLIER SHALL PROVIDE THE VALVE CALCULATION REPORT.

NUMBER: **569-DB7A-AIC-732-003**

CLIENT NR: **PRD-AIC-DSH-058**

TITLE

PRESSURE REDUCING VALVE

SHEET:

7 de 7

REV.:

0

GENERAL	1	INSTRUMENT TAG NUMBER		PCV-790314					
	2	SERVICE		PLANT STEAM PC-7A-1 / CSG-6501 / MÊS-6401					
	3	P&ID		7A-M-0-5-61					
	4	PIPE LINE ENTRY	PIPE LINE OUTPUT	21/2"-IS8B-790312-CS2-HC	21/2"-IS8B-790332-CS2-HC				
	5	EQUIPMENT NUMBER		-					
	6	EQUIPMENT MATERIAL / PIPE		CARBON STEEL ASTM-A106 Gr.B					
	7	INNER DIAMETER LINE	LINE THICKNESS	62.68 mm	5.16 mm				
	8	FUNCTION		PRESSURE REGULATING VALVE					
	9	CERTIFICATES		ISA 75.17 e IEC 60534-8-4.					
BODY AND INTERNAL	10	BODY TYPE		GLOBE / SELF OPERATED					
	11	BODY MATERIAL + COATING		CARBON STEEL (ASTM A216 Gr. WCB)					
	12	PLUG MATERIAL + COATING		SS410					
	13	SEED MATERIAL + COATING		SS410					
	14	CHARACTERISTIC		=%					
	15	ENTRY DIAMETER	OUTPUT DIAMETER	21/2" (NOTE 1)	21/2" (NOTE 1)				
	16	NORM / CLASS / FACE		ASME B16.5 / FLANGE 300# FR / MSS SP-6					
	17	LEAKAGE CLASS		IV					
	18	CASTLE TYPE		STANDARD					
	19	RANGEABILITY		(SEE GENERAL NOTES 5)					
	20								
ACTUATOR	19	TYPE		SPRING / DIAPHRAGM					
	20	PILOT		YES					
	21	AIR SUPPLY AVAILABLE		-					
	22	TYPE OF PRESSURE OUTLET		EXTERNAL TO THE DOWNSTREAM					
	23	DIAPHRAGM MATERIAL		PTFE					
	24	SPRING ACTUATION BAND		BY MANUFACTURER					
	25	CONTROL POINT		8,3 bar-g					
	26	FAILURE CONDITION		CLOSED					
27									
ACCESSORIES	30	TAGGING		YES (SEE GENERAL NOTES 1)					
	31	REGULATOR FILTER		NOT REQUIRED					
	32								
	33								
OPERATING CONDITIONS	34								
	35	FLUID	PHYSICAL STATE	HIGH PRESSURE STEAM		STEAM			
	36	MINIMUM FLOW	NORMAL MAXIMUM	HOLD 1	-	1373	kg/h		
	37	MINIMUM PRESSURE	NORMAL MAXIMUM	HOLD 1	-	8.6	bar-g		
	38	MINIMUM TEMPERATURE	NORMAL MAXIMUM	HOLD 1	-	180	°C		
	39	DESIGN PRESSURE	DESIGN TEMPERATURE		11.7 bar-g		200 °C		
	40	MINIMUM DP	NORMAL MAXIMUM	-	-	0.34	bar		
	41	CV CALCULATED MINIMUM	NORMAL MAXIMUM	NOTE 3		NOTE 3		NOTE 3	
	42	CV SELECTED	% ABERTURA DA VÁLVULA		NOTE 2		NOTE 2		
	43	MAXIMUM PERMISSIBLE DIN		NOT					
	44	DENSITY @ OPERATING CONDITION		4.8 kg/m³					
	45	VISCOSITY @ OPERATING CONDITION		0.015 cP					
	46	MOLECULAR MASS	FACTOR k=Cp/Cv		18 g/mol				
	47								
	48								
		49	MANUFACTURER		SPIRAX SARCO				
		50	MODEL		SRV 461-463				

NOTES:

- 1- THE MANUFACTURER MUST CONFIRM THE NOMINAL DIAMETER OF THE VALVE.
- 2- The SELECTED CV AND THE OPENING PERCENTAGE MUST BE SUPPLIED BY THE VALVE MANUFACTURER.
- 3- THE SUPPLIER SHALL PROVIDE THE VALVE CALCULATION REPORT.