DOC NUMBER: **569-DB7B-AIC-731-005**	CLIENT NUMBER: **PRD-AIC-DSH-070**
CLIENT: **TAKEDA/BAXALTA**	
PROJECT: **BURITI EPCVM PROJECT**	

DRUG SUBSTANCE - BMS – DATA SHEET
CONTROL VALVE

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

NUMBER:	569-DB7B-AIC-731-005	CLIENT NR:	PRD-AIC-DSH-070

TITLE

CONTROL 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
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					30							55						
6	/	X					31							56						
7	/	/					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.

REFERENCE DOCUMENTS

7B-M-0-5-53	P&I DIAGRAM - DRUG SUBSTANCE - CHILLED WATER DISTRIBUTION SYSTEM LOOP 2 PROCESS
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

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 regulator filter is a mandatory accessory and its material must be suitable for fluid and local environmental conditions. The regulator filter must be provided with a manometer and coalescing filter.

3- For all valves must be presented type and degree of protection certificates, both proofs must be explained in the same certificate. Certificates must be issued by INMETRO or accredited body.

4- The shutter guides must be made of material of greater hardness than those of the shutters.

5- The maximum permissible noise level is 82 dM to 1 m from the valve and must comply with ISA 75.17 and IEC 60534-8-4.

6- The manufacturer must send the valve calculation memory.

7- The maximum and minimum flow rates to be controlled should be limited to 20% and 85%, respectively, of the available stroke of the control valve.

8- The PV-790212A valve is sized for 1/3 of the maximum flow, while the PV-790212B valv is sized for 2/3 of maximum flow.

NUMBER:	569-DB7B-AIC-731-005	CLIENT NR:	PRD-AIC-DSH-070

TITLE

CONTROL VALVE

SHEET: 4 de 6

REV.: 0

GENERAL	1	INSTRUMENT TAG NUMBER			PV-790212A (SEE GENERAL NOTES 8)		
	2	SERVIÇE			PLANT STEAM DISTRIBUTION		
	3	P&ID			7B-M-0-5-61		
	4	PIPE LINE INLET	PIPE LINE OUTLET OR EQ. NUMBER		11/2"-IS8B-790321-CS2-HC	2"-IS4B-790212-CS1-HC	
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B		
	6	AREA CLASSIFICATION			NOT CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES			(SEE GENERAL NOTES 3)		
	9						
BODY AND INTERNAL	9	BODY TYPE			GLOBE		
	10	BODY / CAP MATERIAL			ASTM A-216 Gr. WCB		
	11	CONNECTION TO PROCESS: DIAMETER, CLASS, FLANGE			11/2" 300# FR, ASME B.16.5 (NOTE 1)		
	12	FLANGE FACE FINISH			MSS SP-6		
	13	CASTLE TYPE			BY MANUFACTURER		
	14	GASKET MATERIAL			PTFE		
	15	LUBRICATION	VALVE. PLUG		NO	YES	
	16	CARACTERISTIC			=%		
	17	GUIDE TYPE			(SEE GENERAL NOTES 4)		
	18	FAILURE ACTION			CLOSE		
	19	SEAL CLASS			IV		
	20						
ACTUATOR	21	TYPE OF ACTUATOR			DIAPHRAGM + SPRING		
	22	OPENING /CLOSING			DIRECT ACTION		
	23	AIR FAILURE ACTION			CLOSE		
	24	PNEUMATIC CONNECTION	STEERING WHEEL / POSITION		1/4" NPT (F)	NO	
	25	AIR SUPPLY			3~15 PSI		
	26						
POSITIONER	21	TYPE			ELECTROPNEUMATIC (I/P)		
	28	INPUT SIGN	OUTPUT SIGNAL		4~20 mA + HART	3~15 PSI	
	28	OUTLINE	MANOMETER		NO	YES	
	22	AVAILABLE AIR SUPPLY			6.0 bar(g)		
	28	ELECTRICAL CONNECTION	PNEUMATIC CONNECTION		1/2" NPT(F)	1/4" NPT (F)	
ACESSORIES	29	IDENTIFICATION PLATE			YES (SEE GENERAL NOTES 1)		
	30	REGULATOR FILTER WITH MANOMETER			YES (SEE GENERAL NOTES 2)		
	31	SOLENOID VALVE			NO		
	33	POSITION SWITCH			NO		
	34						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		HIGH PRESSURE STEAM	STEAM	
		MINIMUM FLOW	NORMAL	MAXIMUM	384,0	384,0	kg/h
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	179	179	°C
	44	MINIMUM UPSTREAM PRESSURE	NORMAL	MAXIMUM	8,5	8,5	bar-g
	43	MINIMUM DOWNSTREAM PRESSURE	NORMAL	MAXIMUM	4,1	4,1	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		11,7 bar-g	200 °C	
	46	dP SHUT OFF			17,6 bar-g		
	47	DENSITY / VISCOSITY @ OPERATING CONDITION			2,6 kg/m³	0,014 Cp	
	48	SUSPENDED SOLIDS (%)			NO		
	49	SPECIAL FLUID CONDITIONS			NO		
	40	MAXIMUM NOISE ADMISSIVEL			(SEE GENERAL NOTES 5)		
	41	CV CALCULATED COND. MÍN / NOR / MAX			NOTE 2	NOTE 2	NOTE 2
	50	CV SELECTED			NOTE 2		
	51	MANUFACTURER			FISHER		
	52	MODEL			easy-e ED Control		

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.

NUMBER:	569-DB7B-AIC-731-005	CLIENT NR:	PRD-AIC-DSH-070

TITLE

CONTROL VALVE

SHEET: 5 de 6

REV.: 0

GENERAL	1	INSTRUMENT TAG NUMBER			PV-790212B (SEE GENERAL NOTES 8)		
	2	SERVIÇE			PLANT STEAM DISTRIBUTION		
	3	P&ID			7B-M-0-5-61		
	4	PIPE LINE INLET	PIPE LINE OUTLET OR EQ. NUMBER		2"-IS8B-790306-CS2-HC	21/2"-IS4B-790206-CS1-HC	
	5	EQUIPMENT MATERIAL / PIPE			CARBON STEEL ASTM-A106 Gr.B		
	6	AREA CLASSIFICATION			NOT CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION			IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES			(SEE GENERAL NOTES 3)		
	9						
BODY AND INTERNAL	9	BODY TYPE			GLOBE		
	10	BODY / CAP MATERIAL			ASTM A-216 Gr. WCB		
	11	CONNECTION TO PROCESS: DIAMETER, CLASS, FLANGE			2" 300# FR, ASME B.16.5 (NOTE 1)		
	12	FLANGE FACE FINISH			MSS SP-6		
	13	CASTLE TYPE			BY MANUFACTURER		
	14	GASKET MATERIAL			PTFE		
	15	LUBRICATION	VALVE. PLUG		NO	YES	
	16	CARACTERISTIC			=%		
	17	GUIDE TYPE			(SEE GENERAL NOTES 4)		
	18	FAILURE ACTION			CLOSE		
	19	SEAL CLASS			IV		
	20						
ACTUATOR	21	TYPE OF ACTUATOR			DIAPHRAGM + SPRING		
	22	OPENING /CLOSING			DIRECT ACTION		
	23	AIR FAILURE ACTION			CLOSE		
	24	PNEUMATIC CONNECTION	STEERING WHEEL / POSITION		1/4" NPT (F)	NO	
	25	AIR SUPPLY			3~15 PSI		
	26						
POSITIONER	21	TYPE			ELECTROPNEUMATIC (I/P)		
	28	INPUT SIGN	OUTPUT SIGNAL		4~20 mA + HART	3~15 PSI	
	28	OUTLINE	MANOMETER		NO	YES	
	22	AVAILABLE AIR SUPPLY			6.0 bar(g)		
	28	ELECTRICAL CONNECTION	PNEUMATIC CONNECTION		1/2" NPT(F)	1/4" NPT (F)	
ACESSORIES	29	IDENTIFICATION PLATE			YES (SEE GENERAL NOTES 1)		
	30	REGULATOR FILTER WITH MANOMETER			YES (SEE GENERAL NOTES 2)		
	31	SOLENOID VALVE			NO		
	33	POSITION SWITCH			NO		
	34						
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS		HIGH PRESSURE STEAM	STEAM	
		MINIMUM FLOW	NORMAL	MAXIMUM	769,0	769,0	kg/h
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM	179	179	°C
	44	MINIMUM UPSTREAM PRESSURE	NORMAL	MAXIMUM	8,4	8,4	bar-g
	43	MINIMUM DOWNSTREAM PRESSURE	NORMAL	MAXIMUM	4,0	4,0	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE		11,7 bar-g	200 °C	
	46	dP SHUT OFF			17,6 bar-g		
	47	DENSITY / VISCOSITY @ OPERATING CONDITION			4,83 kg/m³	0,015 Cp	
	48	SUSPENDED SOLIDS (%)			NO		
	49	SPECIAL FLUID CONDITIONS			NO		
	40	MAXIMUM NOISE ADMISSIVEL			(SEE GENERAL NOTES 5)		
	41	CV CALCULATED COND. MÍN / NOR / MAX			NOTE 2	NOTE 2	NOTE 2
	50	CV SELECTED			NOTE 2		
	51	MANUFACTURER			FISHER		
	52	MODEL			easy-e ED Control		

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.

NUMBER:	569-DB7B-AIC-731-005	CLIENT NR:	PRD-AIC-DSH-070

TITLE

CONTROL VALVE

SHEET: 6 de 6

REV.: 0

GENERAL	1	INSTRUMENT TAG NUMBER				TV-070001		
	2	SERVIÇE				CHILLED WATER - LOOP 1 - RETURN - EXIT FROM HX-7B-2		
	3	P&ID				7B-M-0-5-53		
	4	PIPE LINE INLET	PIPE LINE OUTLET OR EQ. NUMBER			6"-GW0R-070066-CS1-NI	-	
	5	EQUIPMENT MATERIAL / PIPE				CARBON STEEL ASTM-A106 Gr.B		
	6	AREA CLASSIFICATION				NOT CLASSIFIED		
	7	ENCLOSURE CLASSIFICATION				IP 65 (MÍN.) CONF. NBR IEC 60529		
	8	CERTIFICATES				(SEE GENERAL NOTES 3)		
	9							
BODY AND INTERNAL	9	BODY TYPE				GLOBE		
	10	BODY / CAP MATERIAL				ASTM A-216 Gr. WCB		
	11	CONNECTION TO PROCESS: DIAMETER, CLASS, FLANGE				6" 150# FR, ASME B.16.5 (NOTE 1)		
	12	FLANGE FACE FINISH				MSS SP-6		
	13	CASTLE TYPE				BY MANUFACTURER		
	14	GASKET MATERIAL				GRAPHITE		
	15	LUBRICATION	VALVE. PLUG			NO	YES	
	16	CARACTERISTIC				=%		
	17	GUIDE TYPE				(SEE GENERAL NOTES 4)		
	18	FAILURE ACTION				OPEN		
	19	SEAL CLASS				IV		
	20							
ACTUATOR	21	TYPE OF ACTUATOR				DIAPHRAGM + SPRING		
	22	OPENING /CLOSING				DIRECT ACTION		
	23	AIR FAILURE ACTION				OPEN		
	24	PNEUMATIC CONNECTION	STEERING WHEEL / POSITION			1/4" NPT (F)	NO	
	25	AIR SUPPLY				3~15 PSI		
	26							
POSITIONER	21	TYPE				ELECTROPNEUMATIC (I/P)		
	28	INPUT SIGN	OUTPUT SIGNAL			4~20 mA + HART	3~15 PSI	
	28	OUTLINE	MANOMETER			NO	YES	
	22	AVAILABLE AIR SUPPLY				6.0 bar(g)		
	28	ELECTRICAL CONNECTION	PNEUMATIC CONNECTION			1/2" NPT(F)	1/4" NPT (F)	
ACESSORIES	29	IDENTIFICATION PLATE				YES (SEE GENERAL NOTES 1)		
	30	REGULATOR FILTER WITH MANOMETER				YES (SEE GENERAL NOTES 2)		
	31	SOLENOID VALVE				NO		
	33	POSITION SWITCH				NO		
	34							
OPERATING CONDITIONS	42	FLUID	PHYSICAL STATUS			CHILLED WATER	LIQUID	
		MINIMUM FLOW	NORMAL	MAXIMUM		0 / 81	81	m³/h
	43	MINIMUM TEMPERATURE	NORMAL	MAXIMUM		- / 11	11	°C
	44	MINIMUM UPSTREAM PRESSURE	NORMAL	MAXIMUM		- / 1,4	1,4	bar-g
	43	MINIMUM DOWNSTREAM PRESSURE	NORMAL	MAXIMUM		- / 0,34	0,36	bar-g
	45	DESIGN PRESSURE	DESIGN TEMPERATURE			3,4 bar-g	40,7 °C	
	46	dP SHUT OFF				3,4 bar-g		
	47	DENSITY / VISCOSITY @ OPERATING CONDITION				1000,0 kg/m³	1,57 Cp	
	48	SUSPENDED SOLIDS (%)				NO		
	49	SPECIAL FLUID CONDITIONS				NO		
	40	MAXIMUM NOISE ADMISSIVEL				(SEE GENERAL NOTES 5)		
	41	CV CALCULATED COND. MÍN / NOR / MAX				NOTE 2	NOTE 2	NOTE 2
	50	CV SELECTED				NOTE 2		
	51	MANUFACTURER				FISHER		
	52	MODEL				easy-e ED Control		

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.