DOC NUMBER: **569-DB7B-PRO-500-003**	CLIENT NUMBER: **PRD-PRO-MDE-007**
CLIENT: **TAKEDA**	
PROJECT **BURITI EPCMV**	

INDUSTRIAL WATER DISTRIBUTION SYSTEM DESCRIPTION REPORT

0	13AUG2021	ISSUED FOR CONSTRUCTION	JRM	LFF	MSS
A	17JUN2021	90% DD ISSUE	MSN	CCO	MSS
RE	DATE	DESCRIPTION	EXEC	CHECK	APPROV

1. REVISION HISTORY

Rev	Reason For Change
A	90% DD ISSUE
0	UPDATED ACCORDING TO CALCULATION REPORT, REVISION 0

2. PURPOSE

This document is intended to describe the process characteristics for the Industrial Water Distribution System, Building 7B – Bulk Drug Substance – BDS, intended to Buriti Project, located at Hemobrás site in Goiania – Pernambuco state, Brazil.

3. REFERENCE

The following documents were used as reference:

Item	Number	Title
01	PRD-MEC-CLC-008	INDUSTRIAL WATER DISTRIBUTION SYSTEM CALCULATION REPORT
02	7B-M-0-5-41	P&I DIAGRAM DRUG PRODUCT INDUSTRIAL WATER – DISTRIBUTION SYSTEM

4. PROCESS DESCRIPTION

The Industrial Water Distribution System for the Building 7B.

The existing pressurized distribution system for industrial use will provide industrial water through the Tie-in M-1-02. The Tie-in M-1-02 is located underground (El. -0,452 m) near Building 7B and supply Building 7A and 7B. The pressure available at the Tie-in M-1-02 is 6.0 barG and an ambient temperature. There is a manual battery limit valve with a diameter of 4” (line 4"-DW-610081-PP1-NI).

On the second floor, after the manual battery limit valve, there is a pressure reducing station, composed of one pressure reducing valve (PCV-610050) and two pressure indicators: upstream (PI-610050) and downstream (PI-610051).

After the pressure reducing station, there is a pressure safety valve (PSV-610051) that is sized for a relief pressure of 3.0 barG, preserving the distribution system lines. The relief of this valve should be directed to the drain.

The industrial water system is monitored via BMS through a magnetic flow meter (FIT-610050) installed on line 4”-DW-610049-PP1-NI downstream of PSV-610051.

The PCV-610051 is a pilot-operated valve and it was sized for the following condition:

TAG	Vol. Flow Rate (lpm)	P in (barG)	P out (barG)	ΔP (bar)
PCV-610050	674.00	4.19	2.00	2.19

For this distribution, the consumers below are being supply with their respective operating conditions available:

EQUIPMENT	TAG	VOLUMETRIC FLOWRATE		PRESSURE AVAILABLE
		(m³/h)	(lpm)	(barG)
Reverse Osmosis	RO-6302	2.58	43	2.90
Quench - WFI	CC-6401	3.3	55	2.92
Quench - Clean Steam	CC-6501	3.3	55	3.01
Quench - Cooler CIP	CC-7703	3.3	55	2.96
Cooling Tower - Make-up	CT-7B-1/ 2	4.11	68.5	1.48
Re-heated Water System - Make-up	HX-7B-1	4.02	67	1.26
Expansion Tank (Process) - Make-up	TK-7B-2	3	50	1.49
Buffer tank - make-up	BT-7B-1	9	150	1.04
Autoclave	AT-9001	1.2	20	2.33
Utility Station - Building 7F	-	1.5	25	2.65
Emergency Eye Wash Shower	EWS-7B-1	4.65	77.5	3.1 - 4.1
Emergency Eye Wash Shower	EWS-7B-2	4.65	77.5	3.0 - 4.0
Emergency Eye Wash Shower	EWS-7B-3	4.65	77.5	2.3 - 3.4
Emergency Eye Wash Shower	EWS-7B-4	4.65	77.5	2.4 - 3.4
Emergency Eye Wash Shower	EWS-7B-5	4.65	77.5	2.4 - 3.4
Emergency Eye Wash Shower	EWS-7B-6	4.71	78.5	2.4 - 3.4
Waste Water Treatment	WWT	9	150	2.54
TOTAL		**72.3**	**1,204.5**	**-**

Upstream of each point of use there is a manual block valve to ensure partial blocking of the systems in case of maintenance.

The header that serves the emergency eyewash and safety showers originates upstream of two check valves (CV-610060 and CV-610064) thus ensuring that there is no back flow at the points of use of the showers and eye washers.

In addition to the two check valves on line 4”-DW-610049-PP1-NI, there is a manual valve downstream (HV-610065) for manually blocking consumers of the system in the event of maintenance, thus keeping showers and eyewash from emergency in operation.