



PHARMA DEVILS

**INSTALLATION QUALIFICATION REPORT
FOR
IBC WASHING & DRYING SYSTEM**

PROTOCOL No.:

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1.0 PROTOCOL APPROVAL:

Signing of this approval page of Protocol indicates agreement with the qualification approach described in this document. If modification to the qualification approach becomes necessary, an addendum shall be prepared and approved. The protocol cannot be used for execution unless approved by the following authorities.

This Installation Qualification protocol of has been reviewed and approved by the following persons:

FUNCTION	NAME	DESIGNATION	DEPARTMENT	SIGNATURE	DATE
PREPARED BY			QUALITY ASSURANCE		
REVIEWED BY			QUALITY ASSURANCE		
			ENGINEERING		
			PRODUCTION		
APPROVED BY			HEAD OPERATION		
			QUALITY ASSURANCE		



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2.0 OVERVIEW:

2.1 OBJECTIVE:

The objective of developing and executing this protocol is to collect sufficient data pertaining to the IBC Washing and Drying System and define the installation qualification requirements and acceptance criteria for the IBC Washing and Drying System. Successful completion of these installation qualification requirements will provide assurance that the IBC Washing and Drying System was installed as required in the manufacturing area.

2.2 PURPOSE:

The purpose of this protocol is to establish documentary evidence to ensure that the IBC Washing and Drying System received matches the Design specification and also to ensure that it is properly and safely installed.

2.3 SCOPE:

This Protocol is applicable to installation of IBC Washing and Drying System in manufacturing facility.

2.4 RESPONSIBILITY:

In accordance with protocol, following functions shall be responsible for the qualification of system.

Execution Team (Comprising members from Production, Engineering and Quality Assurance) and their responsibilities are following:

- Prepares the qualification protocol.
- Ensures that the protocol is in compliance with current policies and procedures on system Qualification.
- Distributes the finalized protocol for review and approval signatures.
- Execution of Qualification protocol.
- Review of protocol, the completed qualification data package, and the final report.
- The installation checks, operational checks, component for calibration, SOP identification, identification of safety features, identification of supporting utility supply shall be carried out by engineering persons
- The production operator / supervisor shall carry out the cleaning and operation of machine.

Head – Production/ Engineering:



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- Review of protocol, the completed qualification data package, and the final report.
- Assist in the resolution of validation deficiencies.

Head – Operation and Quality Assurance:

- Review and approval of protocol, the completed qualification data package, and the final report.



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3.0 ACCEPTANCE CRITERIA:

- 3.1 The IBC Washing and Drying System shall meet the system description given in design qualification.
- 3.2 The IBC Washing and Drying System shall meet with the acceptance criteria mentioned under the topic "Identification of major components"
- 3.3 The IBC Washing and Drying System shall be operated by PLC.
- 3.4 All material of constructions of the contact parts to be checked as per the specifications.
- 3.5 All the related drawing and documents shall be checked and complied for availability and authenticity.
- 3.6 All Standard Operating Procedure to be identified.
- 3.7 All the safety feature and utility to be identified.
- 3.8 All measuring component for calibration to be identified.

4.0 REQUALIFICATION CRITERIA:

The machine shall be requalified if

- There are any major changes in system components which affect the performance of the system
- After major breakdown maintenance is carried out.
- As per revalidation date and schedule



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5.0 INSTALLATION QUALIFICATION PROCEDURE:

5.1 SYSTEM DESCRIPTION:

1	Equipment Name	:	IBC Washing and Drying System
2	Supplier/Manufacturer	:	Cybernetik Technologies Pvt. Ltd.
3	Model	:	KCPR
4	Serial no.	:	
5	Capacity	:	Up to 600 L
6	Location	:	Drier area

5.1.1 System description:

Brief description:

The system is designed to wash and dry Bins without manual interventions. It is designed to avoid contamination during washing and drying of single IPC at a time, with flexibility in adjustment of time for each washing and drying cycle.

Main advantages of the system are it saves time required for washing and saves the space occupied by washed drums kept for drying overnight. All these operations are carried out in an isolated environment to avoid contamination due to manual interventions.

At a time single IPC up to 600 litre can be washed.

Location:

The system is located at the interface of unclean & clean area. The technical area associated with the system is located exactly above the washing & drying booth.

The system consist of main four sub assemblies,

- Washing and drying booth
- Water-skid
- Air-skid
- Limpet type hot water tank



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5.2 INSTRUCTION FOR FILLING THE CHECKLIST:

- 5.2.1 In case of identification of major component actual observation should be written in specified location.
- 5.2.2 In case of the compliance of the test actual observation should be written in specified location.
- 5.2.3 For identification of utilities actual observation should be written in specified location.
- 5.2.4 Give the detailed information in the summary and conclusion part of the installation Qualification report.
- 5.2.5 Whichever column is blank or not used 'NA' shall be used.



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5.3 INSTALLATION CHECKLIST:

Installation checklist is as follows:

S.No.	Statement	Method of Verification	Actual Observation	Checked By Sign/Date
1	Verify purchase order copy and write down P.O. number	Physically		
2	Verify that there is no observable physical damage	Physically		
3	Examine All access ports are cleared of any debris.	Physically		
4	Verify that all components are properly assembled, securely anchored and shock proof.	Physically		
5	Verify that all electrical connections are properly done and safe	Physically		
6	Verify that The equipment is properly earthed	Physically		
7	Verify that utility line is properly connected	Physically		
8	Verify the proper leveling of equipment	Physically		
9	Verify that there is sufficient space provided for operation, cleaning, preventive maintenance	Physically		



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S.No.	Statement	Method of Verification	Actual Observation	Checked By Sign/Date
10	Equipment/system identification no. Is visible	Physically		

Remark: -----

Reviewed by (Sign/Date)



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5.4 IDENTIFICATION OF MAJOR COMPONENTS:

Describe each critical component and check them and fill the inspection checklist.

System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
Equipment Description	Name	IBC Washing and Drying System	Visually /physically		
	Make	Cybernetik Technologies Pvt. Ltd.	Visually /physically		
	Model	KCPR	Visually /physically		
	Sr. No.	285	Visually /physically		
	Location	Drier area	Visually /physically		
Mechanical Components					
Water Pump	Make	Grundfos	Visually /physically		
	Model	CRN-5-26-A-FGJ-G-V-HQQV	Visually /physically		
	Motor	2 Pole/415 VAC/ 3 phase/ 50 Hz, 4 KW/ 2900	Visually /physically		
	Sr. No.	To be recorded	Physically		
	Capacity	5.8 m ³ /Hr @ 14 bar	Physically/ Technical Specification		
	Head	177 meters	Visually /physically		
	Liquid	Water at 60°C	Physically/ Technical Specification		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
F.D. Blower	Make	Vishwakarma Air systems	Visually /physically		
	Model	ECHB-1-20-SPL	Physically/ Technical Specification		
	Capacity	1500 CFM	Physically/ Technical Specification		
	Static pressure	12 inch WC	Physically/ Technical Specification		
	Blower speed	2880 RPM	Visually /physically		
	Blower Sr. No.	To be recorded	Physically		
	Motor	Make: Crompton 7.5 HP/2 poles	Visually /physically		
	Motor Sr. No.	To be recorded	Physically		
	Drive arrangement	Direct driven by motor	Visually /physically		
	Accessories	Inlet damper, Access window, Drain plug, Rubber pads	Visually /physically		
I.D. Blower	Make	Vishwakarma Air Systems	Visually /physically		
	Model	ECLL-1-30-SPL	Physically/ Technical Specification		
	Capacity	1600 CFM	Physically/ Technical Specification		
	Static pressure	4 inch WC	Physically/ Technical Specification		
	Blower speed	2880 RPM	Visually /physically		
	Temp.	60°C	Physically/ Technical Specification		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
	Blower Sr. No.	To be recorded	Physically		
	Motor	Make: Crompton 2 HP/ 2 poles	Visually /physically		
	Motor Sr. No.	To be recorded	Physically		
	Drive arrangement	Direct driven by motor	Visually /physically		
	Accessories	Inlet damper, Access window, Drain plug, Rubber pads	Visually /physically		
Actuated Diaphragm valves	Make	Crane process flow technologies	Visually /physically		
	Type	Actuated Diaphragm valves	Visually /physically		
	Size	25 mm OD (Internal wash, external wash, hand wash)	Physically/ Technical Specification		
	Rating	16 bar max.	Visually /physically		
	Characteristic	On/off type	Visually /physically		
	End connection	Flange connections	Visually /physically		
	Fasteners	SS 316	Physically/ Technical Specification		
	Method of operation	Pneumatically operated, spring closing actuator, failsafe arrangement with manual override facility	Visually /physically		
	Leakage rate	100% leak tight	Visually /physically		
Manual Valves	Make	Crane process flow technologies	Visually /physically		
	Type	'A' weir type diaphragm valve	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
	Size	25 mm OD	Physically/ Technical Specification		
	Rating	16 bar	Visually /physically		
	End connection	SMS connections	Visually /physically		
Ball Valves	Make	Micro pneumatics	Visually /physically		
	Type	Actuated	Visually /physically		
	Size	40 NB	Physically/ Technical Specification		
	Rating	6 bar	Visually /physically		
	End connection	Flanged end-40 NB ASA 150	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
Steam Trap (Thermodynamic Type)	Make	Pennent	Visually /physically		
	Size	25 NB	Physically/ Technical Specification		
	End Connection	25 NB ASA 150 Flanges	Visually /physically		
Filters					
HEPA Filter (0.3 μ)	Make	Cybernetik Technologies Pvt. Ltd.	Visually /physically		
	Model	EU-13 box type	Visually /physically		
	Size	610 X762 X295 mm	Physically		
	Sr. No.	To be recorded	Physically		
	Media	Non woven synthetic media	Physically/ Technical Specification		
	Efficiency	99.99% down to 0.3 micron	Test certificate		
	Capacity	2500 CFM at 25 mm WC	Physically/ Technical Specification		
	Max temp.	110°C	Physically/ Technical Specification		
Pre filter (3 μ)	Make	Cybernetik Technologies Pvt. Ltd	Visually /physically		
	Model	EU-7 box type	Visually /physically		
	Size	610 X762 X144 mm	Physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
	Sr. No.	To be recorded	Physically		
	Media	Felt + Aluminium mesh	Physically/ Technical Specification		
	Efficiency	99% down to 3 micron	Test certificate		
	Max temp.	110 ⁰ C to 130 ⁰ C	Physically/ Technical Specification		
Pre filter (10 μ)	Make	Cybernetik Technologies Pvt. Ltd	Visually /physically		
	Model	EU-4 box type	Visually /physically		
	Size	610 X610 mm flange size 550X550X150 mm box size	Physically		
	Sr. No.	To be recorded	Physically		
	Media	Felt + Aluminium mesh	Physically/ Technical Specification		
	Efficiency	95% down to 10 micron	Test certificate		
Clip on gasket	Make	Dirak	Visually /physically		
	Model	Self-gripping (Part no- 209-0201)	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
Spray Nozzle (External Washing)	Make	Deep and Deep	Visually /physically		
	Type	Solid cone spray	Visually /physically		
	Spray angle	55 ⁰	Physically/ Technical Specification		
	Capacity	7.6 lpm@8 bar	Physically/ Technical Specification		
Soap dosing pump	Make	Grundfos	Visually /physically		
	Model	A-97516526-P1-1425	Visually /physically		
	Type	CM3-5-A-R-A-V-AVBV-FAAN	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
Spray ball (Internal Washing)	Make	Spraying Systems	Visually /physically		
	Type	D26984-B1/2- /SS316/SS-9.9 fluid driven rotating pipe	Visually /physically		
	Capacity	73 lpm @ 16 bar	Physically/ Technical Specification		
	End connection	½ inch BSPT female	Visually /physically		
Non return valve	Make	Alfa laval	Visually /physically		
	Size	25 mm OD	Physically/ Technical Specification		
Inline conical filter	Make	Kumar	Visually /physically		
	End connection	½ inch BSP (F)	Physically/ Technical Specification		
	Membrane disc	47 mm dia	Physically/ Technical Specification		
3 way valve	Make	Cipriani	Visually /physically		
	End connection	25 mm OD Triclover	Physically/ Technical Specification		
Magnehelic gauge	Make	Dwyer	Visually /physically		
	Range	0 to 100 mm WC	Visually /physically		
	Qty.	03 Nos	Visually /physically		
Pressure switches & gauges					
Pressure switch in instrument air line	Make	Festo	Visually /physically		
	Model	PEV-1/4 SC-OD	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
Pressure gauge in water line	Make	Boumer	Visually /physically		
	Range	0 to 28 kg/cm ²	Visually /physically		
	Dial Size	2 ½" (Glycerin filled)	Physically/ Technical Specification		
	End connection	¼" B.S.P.- Male (Bottom entry)	Physically/ Technical Specification		
Pressure gauge in water line	Make	Boumer	Visually /physically		
	Range	0 to 7 kg/cm ²	Visually /physically		
	Dial Size	2 ½" (Glycerin filled)	Physically/ Technical Specification		
	End connection	¼" B.S.P.- Male (Bottom entry)	Physically/ Technical Specification		
Pressure transmitter	Make	Wika	Visually /physically		
	Model	S11G1/2B 0-25 bar 1/2" BSP threaded	Physically/ Technical Specification		
	Sr. No.	To be recorded	Physically		
DP transmitter	Make	Dwyer	Visually /physically		
	Model	616C-3	Physically/ Technical Specification		
Pneumatic components (Festo Make)					
Air service unit (Filter regulator)	Type	LFR-D-MINI E-743	Visually /physically		
	Part No.	ES43LOD-E-MINI	Physically/ Technical Specification		
Pneumatic cylinders: (For door locking) (For lance &	Type	ADVU-32-25-P-A	Visually /physically		
	Part No.	156534	Physically/ Technical Specification		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
hood lifting)	Type	DNC-40-1330-PPV-A	Visually /physically		
	Part No.	163336	Physically/ Technical Specification		
Flow control valve	Type	GRL 1/4	Visually /physically		
	Part No.	E443	Physically/ Technical Specification		
Hand spray gun	Make	Deep & Deep	Visually /physically		
Straight connector	Type	QS-1/4-8	Visually /physically		
	Part No.	153005	Physically/ Technical Specification		
Tee	Type	QST-1/4-8	Visually /physically		
	Part No.	153110	Physically/ Technical Specification		
PU tubing	Type	PUN-8 x 1.25	Visually /physically		
	Part No.	159666	Physically/ Technical Specification		



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System Components	Design Specification	Method of verification	Observation	Verified By Sign/Date
Fabricated Items				
Washing booth	Size	1750 (L) x 2105 (W) x 2510 (H) mm	Physically/ Technical specification	
	Door size	1390 (L) x 2290 (W) mm	Physically/ Technical specification	
Hot air ducting	Size	200 NB	Physically/ Technical specification	
Air heater	Size	1000 (L) x 710 (W) x 862 (H) mm	Physically/ Technical specification	
	Heating media	Steam @ 3 bar	Physically/ Technical specification	
Exhaust ducting	Size	200 NB	Physically/ Technical specification	
Inlet piping of water pump	Size	40 OD pipe, 14 SWG	Physically/ Technical specification	
Internal spray piping	Size	25 mm OD pipe, 14 SWG	Physically/ Technical specification	
Internal spray lance	Size	40 NB, Sch 10 pipe	Physically/ Technical specification	
High pressure hose	Size	1" ID x 2000 mm LG	Physically/ Technical specification	
	End connections	Hydraulic SS 316 (F), Swivel ends	Physically/ Technical specification	
External spray piping	Size	25 mm OD	Physically/ Technical specification	



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Pipe fittings (Sanitary type) SMS unions	Make	Deepjot Engineering	Visually /physically		
	Size	25 (For 25 OD pipe)	Physically/ Technical specification		
	Seal	Nitrile rubber	Physically/ Technical specification		
Air-skid	Dimensions	2500 (L) x 1000 (W) x 2200 (H) mm	Physically/ Technical specification		
Water-skid	Dimensions	1600 (L) x 1000 (W) x 2200 (H) mm	Physically/ Technical specification		
Electrical components					
PLC	Make	Mitsubishi	Visually /physically		
	Type	FX3U-64MR-ES-UL	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
	Qty.	01 no	Visually /physically		
PLC-HMI cable	Make	Mitsubishi	Visually /physically		
	Type	MITSU CAB 14 A	Physically/ Technical specification		
	Qty.	01 no	Visually /physically		
PLC analog module	Make	Mitsubishi	Visually /physically		
	Type	FX3U-4AD-ADP	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
	Qty.	01 no	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
	Make	Type			
Converter port	Make	Mitsubishi	Visually /physically		
	Type	FX3U-CNV-BD	Physically/ Technical specification		
	Location	Inside control panel on water skid	Visually /physically		
	Qty.	01 no	Visually /physically		
HMI	Make	Mitsubishi	Visually /physically		
	Type	E1061	Visually /physically		
	Location	Inside the junction box	Visually /physically		
	Qty.	01 no	Visually /physically		
MPCB	Make	Siemens	Visually /physically		
	Type	3RV20111JA10 one no	Visually /physically		
		3RV20114AA10 one no	Visually /physically		
		3RV20111EA10 one no	Visually /physically		
		3RV20110KA10 one no	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
Contactors	Make	Siemens	Visually /physically		
	Type	3RT20171BB41 one no	Visually /physically		



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System Components	Design Specification		Method of verification	Observation	Verified By Sign/Date
		3RT20181BB41 one no	Visually /physically		
		3RT20161BB41 two nos	Visually /physically		
		3RH21401AP00 one no	Visually /physically		
Auxiliary contact	Type	3TH29111AA10 Four nos	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
MCB	Make	Siemens	Visually /physically		
	Type	5SL62047RC	Visually /physically		
	Quantity	Three nos	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
Isolator (MCCB)	Make	Siemens	Visually /physically		
	Rating	63A,3VT1706-2DM36-0AA0 One no	Visually /physically		
	Location	On control panel on water skid	Visually /physically		



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Transformer	Make	Sai trans X	Visually /physically		
	Rating	415/230VAC,20 0VA one unit	Visually /physically		
		415/230VAC,25 0VA one unit	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
Barrier	Make	P&F	Visually /physically		
	Type	KFD2-SR2-EX2-W24VDC One no	Visually /physically		
	Location	Inside control panel	Visually /physically		
Solenoid bank	Make	Metal works	Visually /physically		
	Type	M51389XV8-4XI8-6-5-16-2.5M	Visually /physically		
	Location	On frame on water skid	Visually /physically		



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Panel	Make	Rittal	Visually /physically		
	Size	1000X800X300 One no	Physically/ Technical Specification		
	Location	On water skid	Visually /physically		
Power supply	Make	Omron	Visually /physically		
	Type	230 VAC/ 24VDC, 4.5A Two nos	Visually /physically		
	Location	Inside control panel on water skid	Visually /physically		
Link module	Make	Siemens	Physically/ Technical Specification		
	Rating	3RA1921-1DA00	Physically/ Technical Specification		
	Location	Inside control panel	Visually /physically		
Level sensor	Make	Pune tectrol	Visually /physically		
	Type	FGSOJ1DO1WW W	Visually /physically		
	Quantity	One no	Visually /physically		
	Location	Inside water tank	Visually /physically		
Door sensor	Make	P&F	Visually /physically		
	Sensing distance	10 mm	Physically/ Technical Specification		
	Spec.	NJ10-30GM-N	Visually /physically		
	Quantity	2 Nos.	Visually /physically		



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Reed switch for cylinder	Make	Festo	Visually /physically		
	Type	E-813	Visually /physically		
	Quantity	8 nos	Visually /physically		
Position sensor	Make	Virgo	Visually /physically		
	Type	LSB2SPDT	Physically/ Technical Specification		
	Rating	24 VDC	Visually /physically		
	Quantity	2 nos	Visually /physically		
Temperature sensor	Make	Wika	Visually /physically		
	Rating	200°c	Visually /physically		
	Spec.	T19, 101P0-Z, 4-20 ma	Visually /physically		
	Quantity	2 units	Visually /physically		

Remark: -----

Reviewed by (Sign/Date)



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5.5 Verification of Material of Construction:

S.No.	Component	MOC	Method of verification	Observation	Verified By Sign / Date
1.	Water pump	SS 316/CI	Molybdenum kit/ Test Certificate		
2.	F.D. blower	MS PU painted	Visually/Physically		
3.	I.D. blower	MS PU painted	Visually/Physically		
4.	Actuated diaphragm valves	SS 316/ EPDM	Molybdenum kit/ Test Certificate		
5.	Manual valves	SS 316/ EPDM	Molybdenum kit/ Test Certificate		
6.	Ball valves	SS 316/ PTFE	Molybdenum kit/ Test Certificate		
7.	HEPA filter casing	SS 304	Molybdenum kit/ Test Certificate		
8.	Pre-filter (For 3 μ & 10 μ) casing	Al	Visually/Physically		
9.	Clip on gasket	EPDM	Test Certificate		
10.	Spray nozzle (External washing)	SS 316	Molybdenum kit/ Test Certificate		
11.	Spray ball (Internal washing)	SS 316	Molybdenum kit/ Test Certificate		
12.	Non-return valve	SS 316L	Molybdenum kit/ Test Certificate		



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S.No.	Component	MOC	Method of verification	Observation	Verified By Sign / Date
13.	Inline conical filter housing	SS 316/ PTFE	Molybdenum kit/ Test Certificate		
14.	3 way valve	SS 316	Molybdenum kit/ Test Certificate		
15.	Washing booth	SS 304	Molybdenum kit/ Test Certificate		
16.	Hot air ducting	SS 304	Molybdenum kit/ Test Certificate		
17.	Air heater	SS 304	Molybdenum kit/ Test Certificate		
18.	Exhaust ducting	MS PU painted	Visually/Physically		
19.	Inlet piping water pump	SS 316	Molybdenum kit/ Test Certificate		
20.	Internal spray piping	SS 316	Molybdenum kit/ Test Certificate		
21.	Internal spray lance	SS 316	Molybdenum kit/ Test Certificate		
22.	High pressure hose	SS 304	Molybdenum kit/ Test Certificate		
23.	External spray piping	SS 316	Molybdenum kit/ Test Certificate		
24.	Spray ball	SS 316	Molybdenum kit/ Test Certificate		
25.	SMS unions	SS 316L/SS 304	Molybdenum kit/ Test Certificate		



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S.No.	Component	MOC	Method of verification	Observation	Verified By Sign / Date
26.	Air-skid	MS PU painted-VIP blue	Visually/Physically		
27.	Water-skid	MS PU painted-VIP blue	Visually/Physically		
28.	Hand spray gun	SS 316	Molybdenum kit/ Test Certificate		
29.	Soap dosing pump	SS 316	Molybdenum kit/ Test Certificate		
30.	Panel	MS	Visually/Physically		

Remark: -----

Reviewed by (Sign/Date)



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5.6 IDENTIFICATION OF SUPPORTING UTILITIES:

Utility	Required	Method of Verification	Observation	Identified by (sign & Date)
Electricity	415 VAC, 3 phase, 50Hz	Physically with clamp meter		
Compressed air	6 bar	On supply gauge		
Purified water	2-4 bar	On supply gauge		
Soft water	2-4 bar	On supply gauge		
Steam	2-4 bar	On supply gauge		

Remark: -----

Reviewed by (Sign/Date)



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5.7 IDENTIFICATION OF SAFETY FEATURES:

Identify and record the safety features (if any) and their function in following tables:

S.No.	Required safety feature	Identified safety components	Observation	Identified by sign & date
1.	Emergency stop of machine	Emergency stop button should be provided		
2.	Wash pump overload	MCB should be provided for wash pump over load		
3.	Process water pressure high / low	Pressure switch should be provided for sensing process water pressure		
4.	Process water temperature high / low	Temperature sensor should be provided for sensing process water temperature		
5.	Air pressure low	Pressure switch should be provided for sensing air pressure		
6.	HEPA filter choked	Differential pressure switch should provide for sensing pressure across HEPA filter		
7.	HEPA filter damaged	Differential pressure switch should be provide for sensing pressure across HEPA filter		
8.	Hot process water tank level low	Level sensor should provide for sensing tank water level		
9.	FD blower motor overload	MCB should be provided for FD blower motor over load		
10.	ID blower motor overload	MCB should be provided for ID blower motor over load		
11.	Hot Air temperature low	Temperature sensor should be provided for sensing hot air temperature		



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S.No.	Required safety feature	Identified safety components	Observation	Identified by sign & date
12.	Purified water tank level low	Level sensor should be provide for sensing tank water level		

Remark: -----

Reviewed by (Sign/Date)

5.8 IDENTIFICATION OF STANDARD OPERATING PROCEDURE (SOP)

The following Standard Operating Procedures were identified as important for effective performance of IBC washing and drying System.

S.No.	SOP Title	Verified By Sign/ Date

Remark: -----

Reviewed by (Sign/Date)



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Name Of Components	Make	ID	Range	Location	Identified By Sign/Date

Remark: -----

Reviewed by (Sign/Date)



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5.10 VERIFICATION OF DRAWING AND DOCUMENTS:

Following documents are reviewed and attached as listed below:

S.No.	DRAWING AND DOCUMENT DETAIL	VERIFIED BY (SIGN/DATE)

Remark: -----

Reviewed by (Sign/Date)



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5.11 ABBREVIATIONS:

Following Abbreviations are used in the installation qualification protocol of equipment.

MOC: Material of construction

RPM: Rotation per minute

GMP: Good Manufacturing practices

HP: Horse Power

K.w: Kilowatt

Hz: Hertz

V: Volts

Ph: Phase

Kg : kilogram

Amp. Ampere

IQ: Installation qualification

IPC: Inprocess container



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5.12 DEFICIENCY AND CORRECTIVE ACTION (S) REPORT (S):

Following deficiency was verified and corrective actions taken in consultation with the Engineering Department.

Description of deficiency:

Corrective action(s) taken:

**Deviation accepted by
(Sign/Date)**

**Deviation Approved by
(Sign/Date)**



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**INSTALLATION QUALIFICATION REPORT
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6.0 INSTALLATION QUALIFICATION FINAL REPORT:

6.1 SUMMARY:

6.2 CONCLUSION:

**Prepared By
Sign/ Date**

**Checked By
Sign/ Date**



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6.3 FINAL REPORT APPROVAL

It has been verified that all tests required by this protocol are completed, reconciled and attached to this protocol or included in the qualification summary report. All amendments and discrepancies are documented, approved and attached to this protocol. If applicable signatures in the block below indicate that all items in this qualification report of IBC Washing and Drying System has been reviewed and found to be acceptable and that all variations or discrepancies have been satisfactorily resolved. After the successful installation qualification of the IBC Washing and Drying System the equipment can be taken for operational qualification.

FUNCTION	NAME	DESIGNATION	DEPARTMENT	SIGNATURE	DATE
REVIEWED BY			QUALITY ASSURANCE		
			ENGINEERING		
			PRODUCTION		
APPROVED BY			HEAD OPERATION		
			QUALITY ASSURANCE		