



INSTALLATION QUALIFICATION PROTOCOL FOR HOT WATER GENERATOR

CUSTOMER:

EQUIPMENT: HOT WATER GENERATOR

Nominal Flow Rate: 165 m³/hr

Nominal Heating Capacity: 960 kw

SUBMITTED BY:

PHARMA ENGINEERS

PLOT NO. 113/A/1, LANE 8, PHASE II,
IDA CHERLAPALLI, HYDERABAD- 500051.

Tel No.91-40 27261113, 27261114

INSTALLATION QUALIFICATION PROTOCOL APPROVAL

This document is prepared by the documentation team of **M/S. PHARMA ENGINEERS** for

EQUIPMENT : HOT WATER GENERATOR

PLANT /PROJECT :

CLIENT :

Hence this document before being effective shall be approved by **Client / Customer**

M/s. PHARMA ENGINEERS:

	Name	Designation	Signature	Date
Prepared By				
Reviewed By				

CLIENT / CUSTOMER:

	Name	Designation	Signature	Date
Reviewed By				
Approved By				

Client:

Supplier/ Manufacturer: PHARMA ENGINEERS, HYDERABAD

Equipment: HOT WATER GENERATOR

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INSTALLATION QUALIFICATION (IQ)

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Client:

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Equipment: **HOT WATER GENERATOR**

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INSTALLATION QUALIFICATION (IQ)

1. OBJECTIVE

The objective of this document is to verify that the Hot Water Generator (Tag No): _____ is installed with due considerations specified in DQ.

2. RESPONSIBILITIES

M/s. Pharma Engineers:

1. To install the system as per the specifications.
2. To provide the necessary test certificates as per technical specifications specified in DQ.
3. To Complete the equipment qualification.



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3. SCOPE OF SUPPLY OF COMPONENTS:**PURPOSE**

This test is to verify that the equipment dimensions, position and sizes of utility connections are in compliance with the design qualification and also with as-built drawing.

PRE-REQUISITES

1. As built drawing
2. Measuring tape
3. Approved Design Qualification Document

TEST METHOD

1. Physically check the dimension of the Equipment in length, width, and height and confirm with design document.
2. Physically check and confirm that the dampers are marked with air flow direction and marking was mentioned for the quantity adjustment.
3. Physically check and confirm that required indications are mentioned on the Equipment like blower section, filter section, coil section.
4. Physically check and confirm the drain slope being maintained.
5. Deviations or remarks may be documented along with summary of all test results

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INSTALLATION QUALIFICATION (IQ)**COMPONENT VERIFICATION:**

SR.NO.	DESCRIPTION	SPECIFICATIONS AS PER DESIGN QUALIFICATION	CRITERIA FULFILLED (YES / NO)
1.	CONSTRUCTION DETAILS:		
	Equipment TAG Number		
	Manufacturers name	M/s Pharma Engineers	
	Qty	01 No.	
	Overall Dimensions (L X W)	2500 x 1500 mm	
	Type	Skid mounted	
	Construction	M.S	
2.	VERTICAL IN LINE PUMP		
	Make	ARMSTRONG	
	Model Number	4300-100-200	
	Pump Flow rate	165 m ³ /hr	
	Quantity	2no's	
	Type	Centrifugal Split Coupled Type Vertical Pump	
	Fluid	Hot Water	
	Pump RPM / MOTOR RPM	2985 / 2920 RPM	
	Motor Capacity	18.5 KW	
	Serial Number	8218110020 8218110019	
3.	HEAT EXCHANGER		
	Make	Kelvion India Pvt. Ltd	
	Type	Plate Type	
	Model	VT20 HV CPS-7	
	Heat Exchanged	811508 kcal/hr (or) 960 kw	
	Quantity	01 No's	

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SR.NO.	DESCRIPTION	SPECIFICATIONS AS PER DESIGN QUALIFICATION	CRITERIA FULFILLED (YES / NO)
	Serial Number	IN-170/84934	
4.	MANUAL BUTTERFLY VALVES FOR HOT WATER LINE		
	Make	L&T	
	Size	150mm	
	Qty	4 Nos.	
	Location	At Suction and Discharge Line of Pumps	
5.	STRAINER		
	Make	CREATIVE / SM INDUSTRIES	
	Size	150mm	
	Qty	2 Nos.	
	Location	At Suction Line of Pumps	
6.	NON-RETURN BALL VALVE		
	Make	NVR / IHM	
	Size	150mm	
	Location	After pump	
	Qty	02 No's	
7.	STEAM CONTROL VALVE		
	Make	Siemens	
	Size	50mm	
	Model	VVF-32	
	Qty	1 No's	
8.	AIR VENT VALVE		
	Make	TBS / ZOLOTO	
	Size	25mm	
	Quantity	1 Nos.	

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SR.NO.	DESCRIPTION	SPECIFICATIONS AS PER DESIGN QUALIFICATION	CRITERIA FULFILLED (YES / NO)
	Location	Across Pipeline	
9.	PISTON VALVE		
	Make	PRIME	
	Size	50mm	
	Qty	1 Nos.	
	Location	Entry of Heat exchanger	
10.	BALL FLOAT STEAM TRAP		
	Make	ARI/AWH	
	Type	Ball Float	
	Size	25 mm	
	Qty	01 No's	
11.	VFD		
	Make	DANFOSS	
	Model	VLTFC-101P18K	
	Motor Rating	18.5 KW	
	Location	Control Panel	
12.	PID CONTROLLER		
	Make	Honey well	
	Model	DC 1040	
	Out put	4-20mA / 0-10 V	
	Control mode	PID	
	Mounting	Panel	
	Location	Control Panel Door	
13.	ENCLOSURE-CONTROL PANEL		
	Make	RITTAL	
	Protection	IP56 / IP 55	

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SR.NO.	DESCRIPTION	SPECIFICATIONS AS PER DESIGN QUALIFICATION	CRITERIA FULFILLED (YES / NO)
	Material	Sheet steel	
14.	INSTRUMENTATION		
	PRESSURE GAUGES		
	Make	BAUMER®	
	Range	0 to 7kg/cm ²	
	Quantity	4 Nos.	
	Location	Across Pipeline	
15.	PRESSURE SWITCH		
	Make	DANFOSS	
	Model	KP36	
	Range	0-7bar	
	Quantity	01 No's	
	Location	Across the out let of Heat Exchanger	
16.	TEMPERATURE SENSOR		
	Make	Radix	
	Model	PT 100	
	Type	RTD Out put	
	Range	0-250°c	
	Location	Across the out let of Heat Exchanger	
	Qty	01 No's	

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INSTALLATION QUALIFICATION (IQ)

ACCEPTANCE CRITERIA

Dimensions and supply connections of the system should comply with DQ document and as built drawings.

However, the acceptance is up to the judgment of experts if any deviations in the readings

REMARKS (IF ANY):



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Test Conducted By

Test Witnessed By

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INSTALLATION QUALIFICATION (IQ)

4. VERIFICATION OF CALIBRATION OF INSTRUMENTS

S.no.	Instrument Type	Location	Instrument Tag Number	Calibrated on	Calibration Due
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

REMARKS (IF ANY):

Submitted By

Checked By

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INSTALLATION QUALIFICATION (IQ)

5. LIST OF DRAWINGS AND DOCUMENTS ENCLOSED

S.No	Drawing Name	Enclosed (Yes/ No)
1.	Testing Certificate For Hot Water Generator	
2.	Testing Certificate For Vertical Inline Pump	
3.	Testing Certificates For Heat Exchanger	
4.	Testing Certificate For Valves and Fittings	
5.	Testing Certificate For Instruments	
6.	Testing Cetificate For PID Panel	

REMARKS (IF ANY):

Submitted By

Checked By