

Commissioning of SALINO Pressure Center - Technician -

Permeate/Day: m3/day:

Date:

High Pressure Feed: bar:

Place:

#	Item	Action	Check	Action	Check	Action	Check
1	LOW PRESSURE IN of SALINO high pressure flexible hose	sight inspection of flange connection - any leakage?		high pressure flexible hose softly bended?		high pressure flexible hose in touch with sharp edges?	
2	HIGH PRESSURE OUT of SALINO high pressure flexible hose	sight inspection of flange connection - any leakage?		high pressure flexible hose softly bended?		high pressure flexible hose in touch with sharp edges?	
3	HIGH PRESSURE IN of SALINO high pressure flexible hose	sight inspection of flange connection - any leakage?		high pressure flexible hose softly bended?		high pressure flexible hose in touch with sharp edges?	
4	LOW PRESSURE OUT of SALINO high pressure flexible hose	sight inspection of flange connection - any leakage?		high pressure flexible hose softly bended?		high pressure flexible hose in touch with sharp edges?	
5	By pass valve	mode of operation: power cut = opened; stop of RO plant = opened ?		Material at least 316L?		connected to controller?	
6	Valve in ERD outline line for back pressure	back pressure adjusted to 2 to 3 bar at any flow ?		Material at least 316L or polymere?		connected to controller?	
7	LOW PRESSURE IN of SALINO Pressure Indicator	Working? Connected to controller or VFD?		Suction pressure 2 to 3 bar ?		faillure signal?	
8	HIGH PRESSURE OUT of SALINO pressure indicator	Working? Connected to controller or VFD?		Discharge pressure as per start up procedure 30 to 60 bar?		faillure signal?	
9	LOW PRESSURE OUT of SALINO Pressure Indicator	Working? Connected to controller or VFD?		Discharge pressure as per start up procedure 2 to 3 bar?		faillure signal?	
10	leakage line HIGH PRESSUE PUMP of SALINO	sight inspection of flange connection - free outflow?		flexible hose softly bended?		separatly connected to drain?	
11	leakage line ERD of SALINO	sight inspection of flange connection - free outflow?		flexible hose softly bended?		separatly connected to drain?	
12	SALINO Pressure Center	earthing connected?		cooling air available?		PTC connected?	
13	Controller	connected ?		auto mode?		emergency stop?	
14	flow switch raw water	connected ?		working?		faillure signal?	
15	flow switch product water	connected ?		working?		faillure signal?	

Installation Check List



Commissioning of SALINO Pressure Center - Engineer -

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Inspect for	Description	Check
Auxiliary equipment	<ul style="list-style-type: none"> Look for auxiliary equipment switches, disconnects or input fuses/ circuit breakers, residing on the input power side of the frequency converter, or output side to the motor. Ensure that they are ready for fullspeed operation. Check the function and installation of any sensor used for feedback to the frequency converter. Remove any power factor correction caps on the motor. Adjust any power correction caps on the main side and ensure that they are dampened 	
Cable routing	<ul style="list-style-type: none"> Ensure that the motor wiring and control wiring are separated, screened, or in 3 separate metallic conduits for high-frequency interference isolation. 	
Control wiring	<ul style="list-style-type: none"> Check for broken or damaged wires and loose connections. Check that the control wiring is isolated from power and motor wiring for noise immunity. Check the voltage source of the signals, if necessary. The use of screened cable or twisted pair is recommended. Ensure that the screen is terminated correctly. 	
Cooling clearance	<ul style="list-style-type: none"> Ensure that the top and bottom clearance is adequate to ensure proper air flow for cooling. 	
Ambient conditions	<ul style="list-style-type: none"> Check that requirements for ambient conditions are met. 	
Fusing and circuit breakers	<ul style="list-style-type: none"> Check for proper fusing or circuit breakers. Check that all fuses are inserted firmly and are in operational condition, and that all circuit breakers are in the open position. 	
Grounding	<ul style="list-style-type: none"> Check for sufficient ground connections and ensure that those connections are tight and free of oxidation. Grounding to conduit, or mounting the back panel to a metal surface, is not a suitable grounding . 	
Input and ouput power wiring	<ul style="list-style-type: none"> Check for loose connections. Check that the motor and main cables are in separate conduit or separated screened cables. 	
Panel interior	<ul style="list-style-type: none"> Inspect that the unit interior is free of dirt, metal chips, moisture, and corrosion. Check that the unit is mounted on an unpainted, metal surface. 	
Switches	<ul style="list-style-type: none"> Ensure that all switch and disconnect settings are in the proper positions. 	
Vibration	<ul style="list-style-type: none"> Check that the unit is mounted solidly, or that shock mounts are used, as necessary. Check for an unusual amount of vibration. 	

Start Procedure

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#	Item	Action	Check
1	By pass valve	If system full of water keep bypass valve closed. If system empty and full of air open bypass valve	
2	Feed Pump	Start feed pump	
3	SALINO, by pass valve	After 1 minute start SALINO at 100 rpm, close bypass valve after 1 minute	
4	VFD	Increase speed of SALINO to 200 rpm, within 30 sec.	
5	SALINO	Check pressure at inlet of SALINO (min. 2,5 bar), at the membrane approx. 3-4 bar, after 1 minute	
6	VFD	Increase speed of SALINO to 600 rpm within 1.5 minutes,	
7	SALINO	Check the inlet pressure at SALINO (min. 2,5 bar), at the membrane approx. 10 bar, check back pressure of ERD (approx. 2 bar)	
8	FVD	Increase speed of SALINO within 2 minutes to rated speed (eg 1300 - 1500 rpm)	
9	SALINO	Check on ERD outlet back pressure should be adjusted between (2-3 bar)	
10	SALINO	Check pressure at inlet of SALINO (refer to data sheet: min 2,5 bar), at membrane approx. 40 bar after 1 minute	
11	SALINO	Check on ERD outlet back pressure should be adjusted between (2-3 bar)	
12	SALINO	Check the inlet pressure of SALINO (refer to data sheet min. 2,5 bar), at membrane (e g 50 bar)	

Stop Procedure

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#	Item	Action	Check
1	SALINO	Check the inlet pressure of SALINO (min. 2,5 bar), at membrane (e g 50 bar)	
2	SALINO	Check on ERD outlet back pressure should be adjusted between (2-3 bar)	
3	VFD	Decrease speed of SALINO within 2 minutes from rated speed (e g 1500 rpm) to 600 rpm	
4	SALINO	Check pressure inlet of SALINO (min. 2,5 bar), at membrane approx. 40 bar after 1 minute	
5	SALINO	Check the inlet pressure at SALINO (min. 2,5 bar), at the membrane approx. 40 bar, check back pressure of SALINO (2-3 bar)	
6	VFD	Decrease speed from SALINO 600 rpm to 200 rpm within 0.5 min	
7	VFD	After 1 minute decrease SALINO from 200 rpm to 100 rpm	
9	SALINO	Switch off SALINO, Switch off Feed pump	
10	By Pass Valve	Keep system switched off, keep bypass valve closed, it will take approx. 30 minutes to decrease system to 1 bar. As an option, open bypass valve for 30 sec. In order to relief pressure of system. Close bypass valve again.	