General Pump Checklist

This checklist should be used and completed throughout the project and its different stages, delivery, storage, installation & pre-commissioning, prior to the functional testing taking place.

Project Name:	
Date:	
Equipment ID.	

Contents

Delivery Inspection

Once the Pump arrives at site, usually delivered by a transport company, and before being accepted into storage, the following should be checked with the driver.

Any damage that is noted should be reported to the manufacturer/supplier within 3 days in writing supported with photographs.

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	Supplier's consolidated delivery ticket is available, showing all equipment and ancillaries for inspection and being used to check against.		
2	A copy of the order that was sent to the supplier is available for reference and is being used to check against		
3	Equipment is packaged and crated in separate boxes, for maximum protection		
4	The pump & pump motor nameplate and details match the purchase order		
5	Delivery protection is dry		
6	Pump/s are dry internally		
7	The external casing of the pump/s are undamaged		
8	All base frames, if ordered are included		

Ref	Inspection/Task	Yes/No /[n/a]	Notes
9	All pipework connections are the correct size.		
10	Flanges and Pipework connections are undamaged		
11	All ancillaries are included in delivery as per the order and delivery note		
12	Spin the pump impeller to ensure it is not damaged and out of line		
13	Replace and protection that has been removed		

Storage Inspection

Storage Area

If the pumps are to be placed into storage on site prior to installation there will be an inspection completed checking the following.

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	The area is internal and will not be affected by weather. [if the pump is not rated for external use]		
2	The surface where the equipment is to be placed is flat.		
3	The area is well covered and protected.		
4	The area is well ventilated and no risk of high humidity.		
5	The area is clean & dust free.		

Storage of the Pump

Prior to the pump/s being placed into storage the following should be checked.

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	Pumps will not be stacked.		
2	Pumps will not have materials stacked on them.		
3	All ancillaries will be placed in a safe and secure location so items do not go missing or get damaged.		
4	All original packaging is intact and not removed.		
5	Pipework/connection caps protecting the flanges are not removed.		
6	The pumps will be raised from the floor to allow airflow and stop risk of water ingress.		

Pre-Installation Inspection

Prior to the pumps being installed the following should be checked.

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	The plinth/base is ready, flat and level & can bear the weight of the installation.		
2	The room/area is dry and watertight.		
3	Area being installed is not prone to flooding or ponding of water.		
4	The room/area the pumps will be installed into is clean and dust free. If there is dust/construction work, then the pumps should be protected.		
5	If the pumps are installed externally, if there is a buildup of snow it will not affect the pump/s operation or maintenance requirements.		
6	All pipework connections, can be independently supported and not supported by the pump/s. Best practice is to install self-supporting brackets prior to the connection.		
7	Check to ensure that all connection kits containing - gaskets, bolts, are available to		

Ref	Inspection/Task	Yes/No /[n/a]	Notes
	allow bolting up of the pumps to the system.		
8	Remove all transport feet and bolts.		

Maintenance/Access

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	There is enough space allowed around and above the pumps once installed to perform maintenance and remove components. [check the manufacturers maintenance instructions for requirements]		

Pre-Commissioning Inspection

Once the pumps have been installed and prior to functional testing and commissioning phase taking place, the following will be checked.

General

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	Document the information of the pump from its name plates and cross reference with the specified information to ensure correct.		
	Check that all transport bolts and feet are removed.		
2	Ensure pump/s are level.		
3	Ensure all gaskets are installed and sealed.		
4	Ensure that all bolts are installed as per manufacturer's instructions.		
5	Ensure pumps are aligned in accordance with the manufacturer's instructions.		
8	All vibration mounts installed		
9	Seismic restraints, where required, installed.		
10	All components including valves and controls are labeled in line with the project naming convention.		

Ref	Inspection/Task	Yes/No /[n/a]	Notes
11	Operation and startup manual for the Pumps available.		

Electrical General

Ref	Inspection/Task	Yes/No/[n/a]	Notes
1	Pump/s and components are fully earthed in line with the manufacturer's instructions.		
2	Earthing has been tested.		
3	Emergency disconnect installed for each pump in line with NFPA/local code requirements.		
4	Electrical voltage from site matches the pump required voltages.		
5	All cabling is installed and connected on the correct containment and not damaged.		
6	All cabling has been tested/torque tested.		
7	Local motor control panel [LMCP] has been installed.		
8	Local motor control panel has been electrically tested.		

Ref	Inspection/Task	Yes/No/[n/a]	Notes
9	All electrical cabling is labelled inline with project naming convention.		

Variable Speed Drive

Ref	Inspection/Task	Yes/No/[n/a]	Notes
1	Variable speed drive has been installed.		
2	Variable Speed Drive [VSD] has been electrically tested		
3	Variable speed drive has been functionally tested		

Controls System Interlocks

Ref	Inspection/Task	Yes/No/[n/a]	Notes
1	Control's system installed as per the drawings and control logics and interlocked with other cooling/heating plant.		

Pumps/Pipework

Ref	Inspection/Task	Yes/No /[n/a]	Notes
1	Ensure that the pump is installed in the correct orientation to the system pipework and the impeller rotates in the correct direction.		

Ref	Inspection/Task	Yes/No /[n/a]	Notes
2	Ensure that the pipework and connections are the correct size and in line with the drawing.		
3	Check that the pipework installation is in line with the manufacturer's information. There is usually a requirement of the straight length, connecting to the inlet side of the pump, be at least 10x the pipework diameter.		
4	Ensure the installation of the pipework will not put stress on the Pump connections or create vibrations.		
5	The materials used between the pump/s and the chilled water system will not cause Electrolysis.		
6	Pipework that is to connect to the pump/s has been weld tested.		
7	Pipework that is connected to the pump/s has been pressure tested.		
8	Pumps have been primed in line with the manufacturer's requirements.		
9	Pipework that is connected to the pump/s has been cleaned and flushed.		
10	System has been bled and air removed.		

Ref	Inspection/Task	Yes/No /[n/a]	Notes
11	Pipework is insulated and vapor sealed		
12	Insulation is labelled		
13	All pressure gauges installed, and display scale as per design requirements.		
14	All valves/control valves are installed and in correct direction		
15	All commissioning devices are installed		
16	All Strainers are installed and inspected to ensure the mesh is clean.		
17	All expansion / rubber bellows are installed at least 1.5x the pipe diameter away from the pump for the inlet and the outlet.		

Controls

Ref	Inspection/Task	Yes/No/[n/a]	Notes
1	Ensure all sensors and instruments are installed as per the control logic/pipework schematic drawings [pressure sensors, flow sensors etc]		
2	All sensors are calibrated		