

## **1. Strip Out Works**

Isolate and make safe electrical supplies and controls wiring to enable the strip out works.

Isolate and make safe gas supply.

Isolate drain and safely strip out 3no. floor standing boilers, associated redundant primary heating pipework, flues, pumps, and controls.

Isolate, drain, strip out and remove from site 1no. gas fired water heater.

---

## **2. Heating Mechanical Installation Works**

Supply and install 3no. frame mounted Lochinvar cascade boilers, complete with manufactures header pipe kit and flue.

Supply and install 2no. 40-120 Lowara Eco

---

Circ XL Plus 1 D Heating Circulation Pumps to serve each of the 50mm heating circuit.

Supply and install a suitable sized plate heat exchanger to protect the boilers.

Supply and install line strainers and a magnetic filter to the secondary heating system to protect the plate heat exchanger.

Supply and install dosing pots to the primary and secondary sides of the heating system.

Supply and install 2no. Mikrofill 3 pressurisation units to serve primary and secondary sides of the plate heat exchanger.

Carry out the installation of new heating pipework within the boiler room, install a new low loss header to serve 2no. heating zones, install all associated primary and secondary heating pipework.

Carry out the installation of new 3" gas pipework within the boiler room, including a gas safety shut off solenoid valve to be linked to the new gas safety system.

Carry out the installation of expansion vessels to serve primary and secondary sides of the plate heat exchanger. Carry out the installation of expansion pipework and mains cold water pipework to feed the pressurisation units and vessels.

Install new waste condense pipework from the boilers, flues and water heater and to terminate to a drain.

Instruct a specialist to carry design, supply and install a combined flue system using the existing route through the chimney to the roof. A flue liner will be passed through the existing flue and a new combined flue header will be installed in the boiler room. The new flue system to be made of suitable 316 stainless steel.

Employ a scaffolding company to provide access the top of the chimney for the flue installation.

To employ a specialist to thermally insulate newly installed pipework. Pipework to be insulated in 30mm foil faced mineral wool insulation, isgenapak finish and directional arrows.

---

### **3. Domestic Hot Water Heater - Mechanical Installation**

To supply and install 1no. 300ltr Lochinvar Ecocharger Gas Fired Water Heater, complete with suitably sized unvented kit.

Carry out modifications to existing domestic hot, cold and secondary return pipework to suit new heater.

To supply and install a new 20-45n domestic hot water secondary pump.

To supply and install Life Science WK1 & WK2 electronic scale reducers to the mains cold water feed and the secondary hot water

---

### **4. Controls Installation Works**

To employ a controls specialist to design, supply and install a BMS system complete with a new control panel and carry out controls and power wiring of all new plant.

Supply, design and install, Keiback and Peter controller and BMS software.

Extend existing power supply to the new control panel location.

Carry out the installation of the new Flame Fast Gas Safety system and interlocks with necessary plant.

---

### **5. Builders Works and Making Good**

Fit closure plate and make good opening into chimney for flue installation.

Paint plant room floor and walls with two coats of suitable floor and wall paint.

Fill all holes and fire stop where necessary.

---

### **6. Commissioning and Testing**

Fill and test newly installed heating pipework and check for leaks.

Test and purge newly installed gas pipework.

Flush Boiler Room pipework and employ a water treatment specialist dose system with heating corrosion inhibitor.

---

Commission boiler and check for correct operation.

Carry out demonstration of the newly installed plant.

Issue O&M Manual, Installed drawings and warranty information.

---