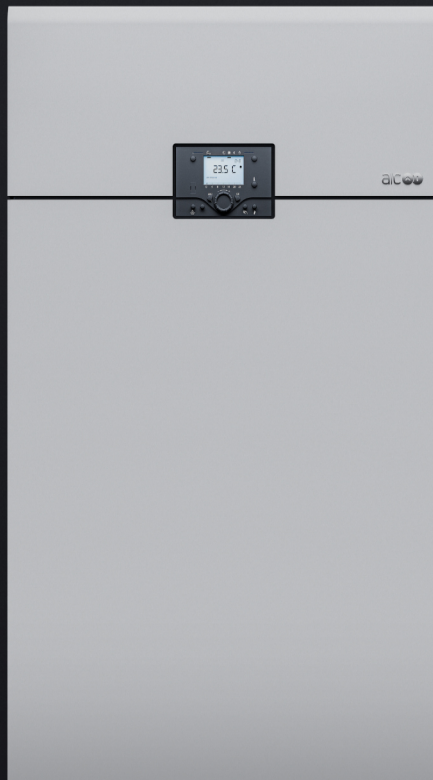


Wentworth Hotel

Boiler room upgrade



Installation reference

■ Wentworth Hotel

Boiler room upgrade

Client:

Wentworth Hotel

Specifier:

Columbus Heating

Project Outline:

Heating and hot water for 28 bedrooms with 100% standby
Upgrade of heating and DHW



Product Specified:

2 x

NESTA 120Kw Floor Standing Boiler

3 x

Silox 400 Litre cylinders

Specified products deliver 120 kW of heating plus 100% standby power and 3687 Ltrs of water at peak hour of DHW @ 60°C

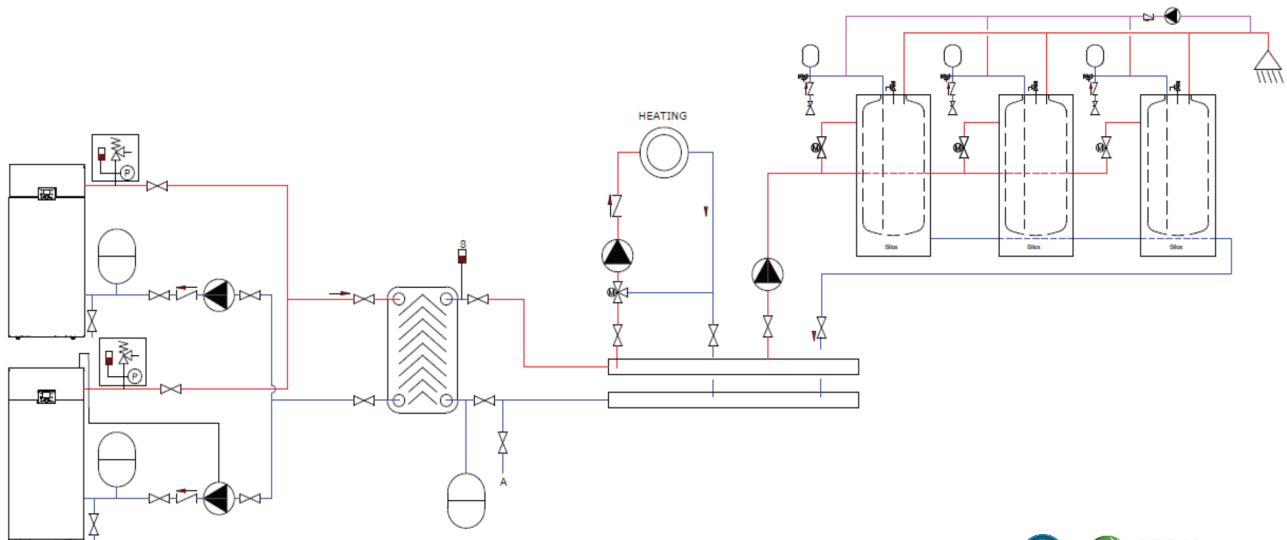
■ When the owners of Wentworth Hotel in the historic town of Aldeburgh were ready to upgrade their heating and hot water system, they had no hesitation in installing the Nesta boiler from AIC. The Wentworth Hotel is a long-established hotel with an excellent rating and has recently celebrated being under Pritt family ownership for 100 years in 2020. The hotel prides itself on traditional values and guests enjoy stylish comfort and sea views, with many clientele returning to the 'Country house by the sea'.

In testament to the hotels exacting guest considerations, The owner of the hotel wanted 100% standby on the heating system to ensure there would be no break in supply should the boiler ever breakdown or during maintenance and so enlisted the help of installer Columbus Heating to deliver a reliable heating and hot water solution.

Serving 28 of the hotels 35 bedrooms and all kitchen service, and working within the constraints of a very small plantroom, the installer opted for a combination of two AIC NESTA Floor standing 120kW boilers and three 400 litre cylinders. ■



System Schematic



■ The boilers are manufactured in stainless steel and offer a 5 year boiler warranty and 10 year Fire Tube heat exchanger warranty. The boilers have a modulation ratio of **10:1** and are controlled on this occasion via BMS on a 0-10 volt signal to meet the varying heating and hot water demands of the hotel dependant on occupancy.



On this installation the boilers are protected by a plate heat exchanger fitted onto the system to ensure no dirt or sludge passes through the boilers. With a footprint of just 0.51m², the NESTA boiler was the natural choice to overcome the small plantroom issue. The NESTA boiler range chosen in this installation is available in 4 outputs from 120 to 250kW. All NESTA boilers are powered by state-of-the-art stainless steel heat exchangers and Ultra-low NOx premix burners.

The 3no Silox 400 litre cylinders have been installed in parallel to ensure the ample hot water supply to all the guests is covered when the hotel is at 100% hotel capacity. The slim design of the cylinder ensured maximum hot water storage could be achieved from the small space. ■



5

year boiler warranty

10

year fire tube heat exchanger warranty

■ Nesta boilers

This floor-standing series of Nesta boilers consists of compact, low-emission condensing appliances with a premix burner, a stainless-steel heat exchanger and an aluminium casing. The fully radial burner ensures a high modulation ratio, combustion stability and very low NOx emissions. The stainless-steel heat exchanger offers a large water capacity and heat exchange surface to optimize energy and heating efficiency. The boiler is equipped with a Siemens LMS controller with LCD display on the user interface which provides control of boiler operation and safety. The system can also provide control of up to 3 heating circuits, a DHW circuit and up to 16 boilers in cascade. Boiler range turndown ratio up to 12:1. ■

Specifications		N120	N160	N200	N250
Heat Input	kW	11.2 – 115.5	190 – 151.4	25.0 – 190.0	17.1 – 232.0
Heat Output 80/60° C	kW	10.2 – 112.8	16.8 – 148.0	23.6 – 185.6	18.3 – 249.7
Useful efficiency @30%	kW	12.0 – 124.0	20.1 – 162.7	27.5 – 204.2	15.6 – 226.7
Heat Output 50/30° C	kW	108.7	108.3	108.0	108.0
Seasonal Efficiency	%	93	93	93	93
NOx Class		6	6	6	6
Footprint	m ²	0.51	0.51	0.56	0.56
Height	mm	1524	1524	1524	1524
Weight	kg	185	199	224	236

■ Silox cylinders

Twin wall stainless steel cylinder has a corrugated DHW inner storage cylinder which provides a higher heat transfer surface area and a self-cleaning effect as the fluctuations cause expansion and contraction of the cylinder walls which help detach any scale. The cylinders are thermally insulated by direct mould injection with CFC and HCFC-free PU material. This offers a uniform thickness with consistent material density. Because of this, the heat losses are much lower than those specified by DIN 4753/8. Silox control panels are integrated, fully wired and mounted on the cylinder. The panels include all the necessary control and safety components for DHW production. There is an immersion connection in all cylinders and various options on immersion heater output. ■

Specifications		SX180	SX215	SX260	SX400	SX600	SX1000
Capacity Total	Ltr	176	214	252	355	574	955
Capacity Primary	Ltr	49	53	57	90	141	243
Potable water connection sizes	øm	3/4"	3/4"	1"	1"	1"	1.25"
Primary circuit connection size	øf	1"	1"	1"	1.5"	1.5"	1.5"
Immersion heater connection	øm	2"	2"	2"	2"	2"	2"
DHW performance data 60° C	L/60	630	907	1012	1635	1635	2645
DHW performance data 60° C	L/hr	517	773	881	1283	1283	2070
Heat time 10° C to 60° C	Min.	25	22	22	32	32	55
Standing heat loss	W	53	56	61	103	103	113
Energy efficiency class		B	B	B	C	C	C