



PROJECT... Plot G9 Zone 5 - Bristol

DATE... 12/12/2007

SYSTEM... Constant Temperature Circuit P3/P4

ENGINEER... P.Higgins

INTRODUCTION REPORT

Terms Of Reference:

Commission Plot G5, Zone 5 Constant Temp Circuit, which consists recording equipment design data, proportionally balancing, setting all commissioning stations throughout system.

Method Of Approach:

Test and set system to CIBSE Codes of practice, code W and BSRIA application guides 3/89.

Instruments used to commission system: Grundfos R100 handheld controller
Water Manometer Gauge, range 0 - 4.5kpa (0 - 450mm/h²o)
Water Manometer Gauge, range 0 - 65kpa (0 - 6500mm/h²o)

General Comments & Observations:

Water manometer used to test and set commissioning stations 1 - 17 Plot G9, Zone 5. Valves have been proportionally balanced throughout, settings recorded and valves locked off.

Total measured flowrate is achieved via commissioning station No1. Please refer to test sheets 1, 2 & 3 of 4.



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PUMP TEST

DESIGN DATA	PUMP 1	PUMP 2	MEAS PLANT DATA	PUMP 1	PUMP 2
Manufacturer	Grundfos Pump	Grundfos Pump	Pump Speed	D/D rpm	D/D rpm
Pump Type	MGE 112MC2-FF215-D1	MGE 112MC2-FF215-D1	Motor Speed	D/D rpm	D/D rpm
Pump Serial No	A96096343P207420001-1	A96096343P207420001-2	Run Current	Inverter amps	Inverter amps
Motor Serial No	5312	5313	MEASURED DATA		
Motor Speed	2860	2860	Main Cs	CS1	CS1
Pump Speed	2860	2860	Valve Type	Crane DM940	Crane DM940
Motor Flc	8.10	8.10	Valve Size	65 mm	65 mm
Motor Kw	4.00	4.00	Design l/s	8.181 l/s	8.181 l/s
Overload Range	Inverter	Inverter	Design p/d	179 p/d	179 p/d
Overload Setting	Inverter	Inverter	Meas p/d	200 p/d	200 p/d
Volts	415	415	Meas Flow	8.642 l/s	8.642 l/s
Motor Pulley	Direct Drive	Direct Drive	Valve Setting	f/o	f/o
Bush / Shaft	Direct Drive	Direct Drive	% of Design	106 %	106 %
Pump Pulley	Direct Drive	Direct Drive	Total Meas Flow	8.642 l/s	8.642 l/s
Bush / Shaft	Direct Drive	Direct Drive	Closed Head kpa	120 kpa	120 kpa
Belt Type	Direct Drive	Direct Drive	Suction kpa	100 kpa	100 kpa
No of belts	Direct Drive	Direct Drive	Discharge kpa	180 kpa	180 kpa
Centres	Direct Drive	Direct Drive	Total Meas kpa	80 kpa	80 kpa

COMMENTS... VALVE SCHEDULE TOTALS 8.181 l/s, % OF DESIGN BASED ON THIS FIGURE.

Constant temp pump speed is set @ 60%, speed No4.



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FLOW TEST

DESIGN DATA						MEASURED DATA								
CS REF	VALVE TYPE	VALVE SIZE	KVS VALUE	DESIGN FLOW	DESIGN PD	INITIAL PD	INITIAL FLOW	% OF DESIGN	FINAL PD	FINAL FLOW	% OF DESIGN	DRV SETTING	BYPASS SETTING	COMMENTS
ROOFTOP														
CS1	DM940	65	220.00	8.181	179	400	12.222	149	200	8.642	106	f/o	n/a	Main Valve
CS2	D931	50	46.10	1.900	220	420	2.624	138	225	1.921	101	2.10	n/a	Sub Main Serving CS3 - 4
CS3	D931	25	8.60	0.450	355	600	0.585	130	355	0.450	100	1.90	1.60	AHU No 1 Frost Coil
CS4	D931	40	24.50	1.450	454	400	1.361	94	455	1.452	100	f/o	1.80	AHU No 1 Re Heat Coil
CS5	D931	32	16.60	0.900	381	480	1.010	112	380	0.899	100	2.60	2.00	AHU No 2 Re Heat Coil
CS6	D931	50	46.10	2.300	323	270	2.104	91	325	2.309	100	2.30	2.20	AHU No 2 Frost Coil
CS7	D931	50	46.10	3.081	579	700	3.388	110	580	3.084	100	1.90	n/a	Sub Main Serving 1st-Grd
FIRST FLOOR														
CS8	D931	20	4.70	0.230	310	220	0.194	84	310	0.230	100	f/o	n/a	FCU 01
CS9	D931	20	4.70	0.230	310	320	0.234	102	315	0.232	101	2.20	n/a	FCU 02
CS10	D931	20	4.70	0.245	352	445	0.275	112	355	0.246	100	1.90	n/a	FCU 03
CS11	D931	20	4.70	0.245	352	450	0.277	113	360	0.248	101	2.10	n/a	FCU 04
CS12	D931	25	8.60	0.300	158	260	0.385	128	160	0.302	101	1.80	n/a	HB 2 Battery in duct
CS13	D931	40	24.40	1.250	340	600	1.660	133	380	1.321	106	2.30	n/a	Sub Main Serving CS8-12
GROUND FLOOR														
CS14	D931	15	2.20	0.125	418	220	0.091	73	420	0.125	100	f/o	n/a	FCU 05
CS15	D931	15	2.20	0.128	439	340	0.113	88	440	0.128	100	3.40	n/a	FCU 06
CS16	D931	15	2.20	0.128	439	300	0.106	83	445	0.129	101	2.50	n/a	FCU 07
CS17	D931	40	24.50	1.450	454	290	1.159	80	455	1.452	100	2.00	n/a	HB 1 Battery in duct



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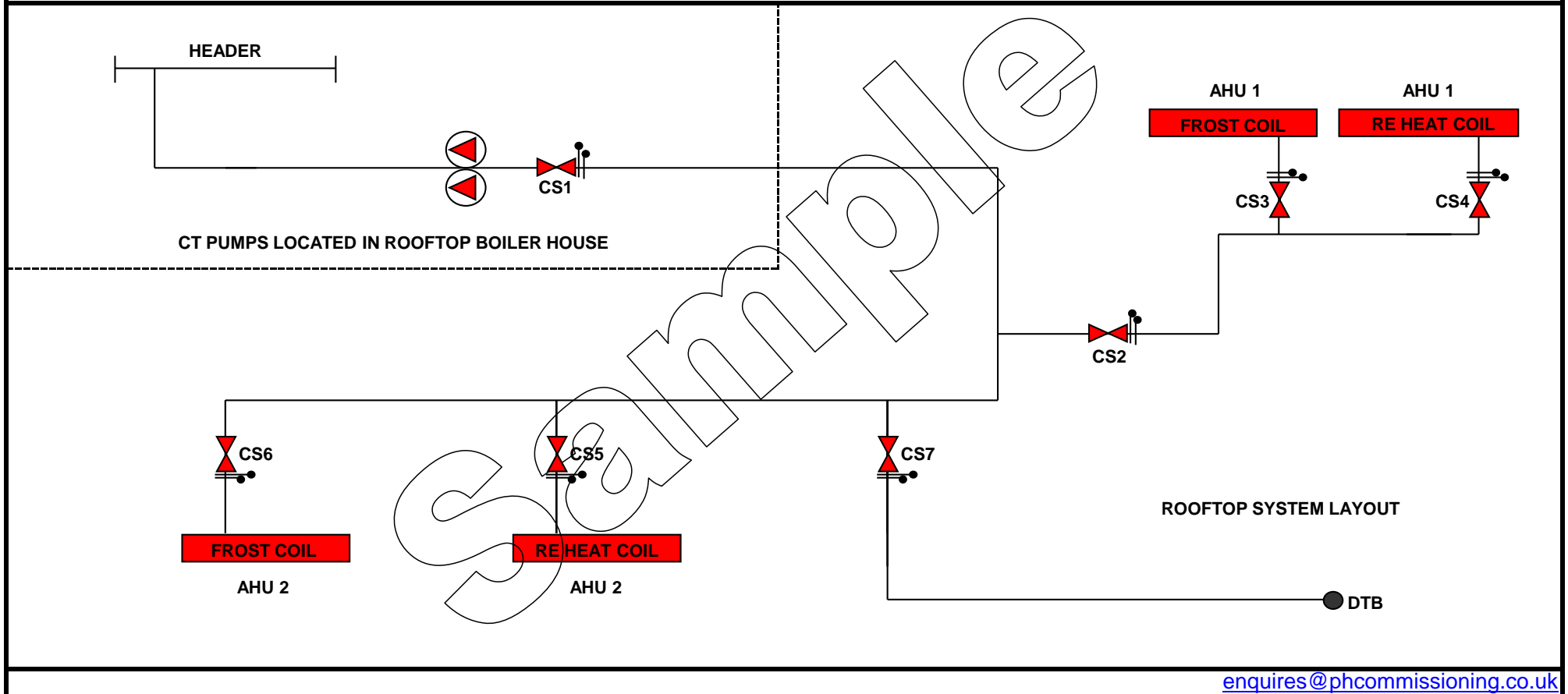
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SCHEMATIC





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