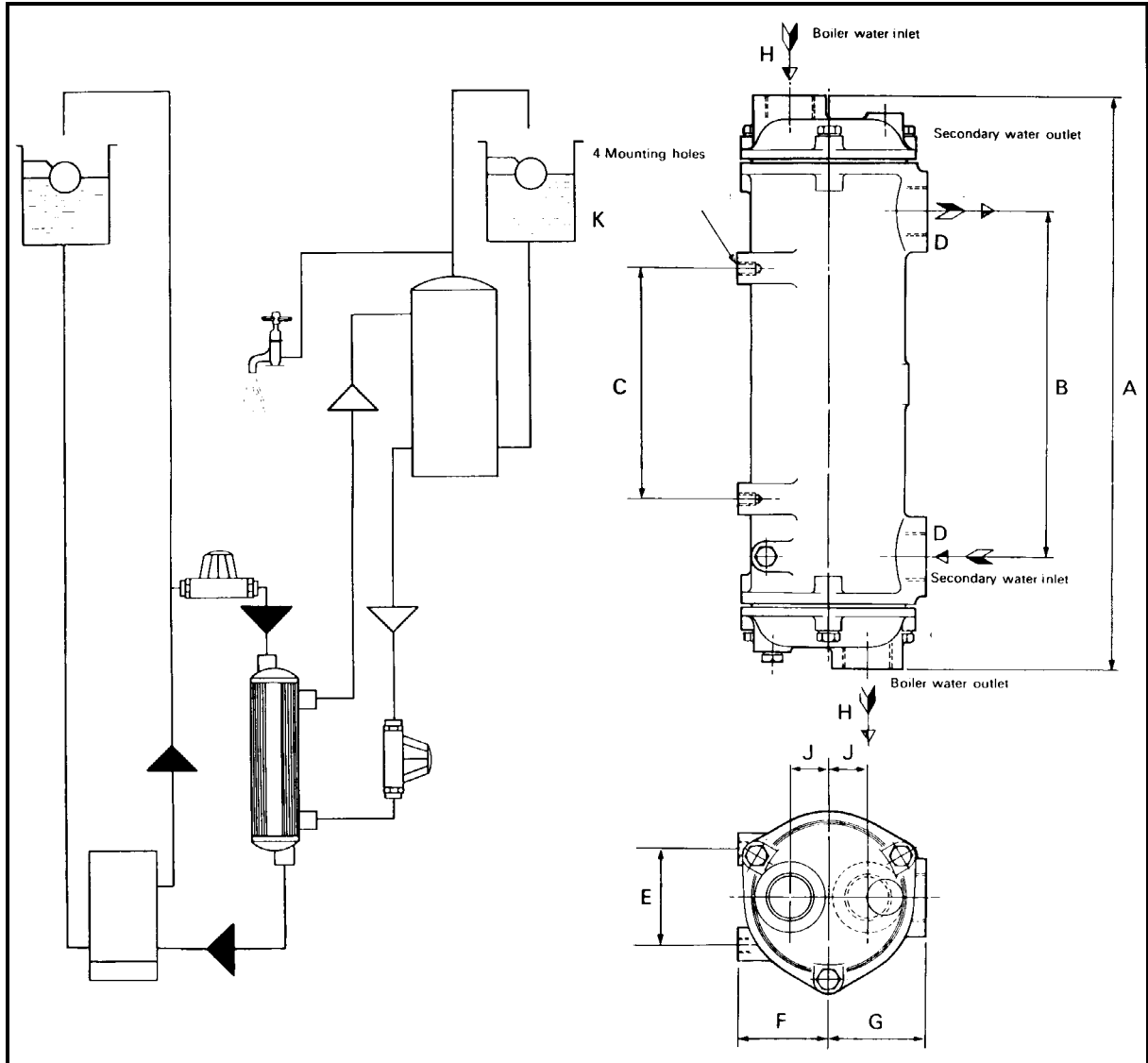


11. NON-STORAGE CALORIFIERS

These calorifiers provide a simple method of heating water indirectly from a low pressure primary supply. Because both circuits can be pump assisted the surface area required is only about 25% of that required in conventional storage calorifiers. With new installations their compact modern design will result in a substantial cost and space saving. They also enable an indirect system to be installed replacing a direct system using existing storage tanks. They are of all non-ferrous construction on the secondary side and the construction is such that the tube stack can easily be removed from the shell should cleaning be necessary.

The calorifier should be installed vertically as shown on the drawings, both the boiler and the secondary water must be pump assisted. Indicated below are the ratings of the various units.



	kg	A	B	C	D	E	F	G	H	J	K
		mm	mm	mm	BSP	mm	mm	mm	BSP	mm	
EC160-3345-5	10	572	452	416	G $\frac{3}{4}$ "	52	50	55	G $\frac{3}{4}$ "	20	M 6 x 10
FC160-3346-5	21	730	574	434	G1"	76	63	67	G1"	25	M 8 x 12
FG160-3347-5	31	924	746	642	G1 $\frac{1}{4}$ "	76	70	80	G1 $\frac{1}{4}$ "	32	M 8 x 12
GL320-3348-5	36	954	724	560	G1 $\frac{1}{2}$ "	120	90	100	G1 $\frac{1}{2}$ "	38	M10 x 15
GK400-3349-6	61	1200	896	762	G2"	120	110	120	G2"	50	M12 x 18
JK400-3351-6	100	1230	866	762	G2 $\frac{1}{2}$ "	150	130	140	G2 $\frac{1}{2}$ "	60	M16 x 24
PK400-3350-6	136	1280	856	762	G3"	180	155	170	G3"	70	M16 x 24

Typical performance of non-storage calorifiers based on a boiler water flow of 82°C (180°F) and return of 65°C (150°F) with a cold water inlet of 10°C (50°F) heated to 60°C (140°F).

Type	Boiler water pump flow		Head loss		Secondary water pump flow		Head loss		Heat transfer		Volume of water heated from 50°F to 140°F per hour	
	m ³ /h	gal/h	m	ft	m ³ /h	gal/h	m	ft	kcal/h	Btu/h	m ³	gal
EC160-3345-5	1.0	220	0.3	1.0	1.0	220	0.4	1.3	17 000	66 000	0.34	73
	2.0	440	1.2	3.9	2.0	440	1.6	5.2	34 000	132 000	0.68	147
FC160-3346-5	2.5	550	0.8	2.6	2.5	550	1.6	5.2	42 500	165 000	0.85	183
	3.5	780	1.6	5.2	3.5	780	3.2	10.5	59 500	234 000	1.19	260
FG160-3347-5	4.5	1 000	1.3	4.3	4.5	1 000	2.6	8.5	76 500	300 000	1.53	333
	6.0	1 320	2.3	7.5	6.0	1 320	4.6	15.0	102 000	396 000	2.04	440
GL320-3348-5	7.2	1 600	1.1	3.6	7.2	1 600	2.4	7.9	122 400	480 000	2.49	533
	9.0	2 000	1.7	5.6	9.0	2 000	4.5	14.8	153 000	600 000	3.06	667
GK400-3349-6	14.5	3 200	1.8	5.9	14.5	3 200	2.7	8.9	246 500	960 000	4.93	1 067
	18.2	4 000	2.9	9.5	18.2	4 000	4.7	15.4	309 400	1 200 000	6.19	1 333
JK400-3351-6	21.8	4 800	1.6	5.2	21.8	4 800	2.6	8.5	370 600	1 440 000	7.42	1 600
	27.3	6 000	2.5	8.2	27.3	6 000	4.8	15.7	464 100	1 800 000	9.25	2 000
PK400-3350-6	29.0	6 400	1.5	4.9	29.0	6 400	2.6	8.5	493 000	1 920 000	9.86	2 133
	36.4	8 000	2.4	7.9	36.4	8 000	4.8	15.7	618 800	2 400 000	12.38	2 667

Maximum working pressure 20 bar (290lbs/in²)
 Maximum working temperature 100°C (212°F)