YFQE
QUIET EUROVENT FAN COIL UNITS

COOLING CAPACITIES 1.32 to 8.75 kW

HEATING CAPACITIES 2.38 to 14.98 kW

The YFQE range of low noise centrifugal fan coil units can be applied to two and four pipe systems to satisfy the requirements of a wide variety of air conditioning and heating applications.

All models have a narrow profile of 225 mm and can be floor, wall or ceiling mounted as chassis units, or with cabinets.

Units can be supplied with a variety of control and valve pack options.

FEATURES	BENEFITS
Fifteen sizes for 2 and 4 pipe systems.	Perfectly match load requirements and provide required dehumidification.
Low noise levels.	Satisfied building occupants.
Compact dimensions.	Fits minimum ceiling space and unobtrusive in exposed locations.
Cabinet design stylish and modern.	Aesthetically pleasing.
Components selected for reliability.	Long life and dependable operation.
Manufactured to ISO 9001 EN 29001.	High standard of quality control.
Eurovent certified.	True and reliable thermal capacity and sound power data.

CONTENTS

EUROVENT CERTIFIED PERFORMANCE

SPECIFICATION

Base Unit
Made of 1.0 mm thick galvanised steel panels. Cold panels are insulated with 3 mm thick, closed cell, polyurethane foam. With 4 fixing holes to the rear for wall or ceiling mounting of the unit.

Fan Section
Fan impellers are centrifugal, forward curved, airfoil type moulded from high impact, high temperature resistant ABS plastic. Fan housings are moulded from polystyrene. The fan motor is a 3-speed, drip-proof (IP 23), with permanent split capacitor and automatically resetting thermal overload protection.

Air Filter
The washable filter is made from class G1 polypropylene mesh.

2 and 4 Pipe Coils
Models are available with unique combination coils 2 pipe connection (cooling/heating circuit of 2, 3 or 4 rows) or 4 pipe connection (cooling circuit of 2 or 3 rows and heating circuit of 1 or 2 rows up to a maximum of 4 rows total).

All coils have copper tube of 3/8" diameter and plain aluminium fin construction for maximum efficiency of heat exchange in the minimum space. Coils are factory leaked tested at 2,8 MPa, and suitable for working conditions of 1,4 MPa and 95 °C.

Drain Pans
Double drain pans suitable for both vertical and horizontal mounting units. Both pans are constructed from 1 mm thick galvanized steel. The horizontal pan is painted white. The condensate water passes via a field connected drain tube to the building's drain system. Both right and left drain connections are available as standard.

Water Connections
The water connections, on the left side (facing the airflow), have a ¾" female gas coupling. The coil can be supplied with water connections on the right side.

Air Vent Valve
Coil assemblies are provided with manual air vents, internal to the coil connection, suitable for venting on vertical and horizontal models.

Packing
The base unit is shipped in carton box with plastic film protection. An installation template is included in the base unit carton, for positioning and easy wall or ceiling mounting.

ACCESSORIES

Base Cabinet
The cabinet design combines a modern line with a functional system of installation. The cabinet is shipped in a separate carton, which eliminates the need to disassemble the unit before installation and allows the cabinet to be fitted after the building works have been completed to minimise the risk of damage and to protect the cabinet surface against accidental impact.

The special design high impact, high temperature UV resistant ABS plastic cabinet air grille ensures laminar airflow discharge without turbulence or noise. The unit controller is mounted behind a blind hinged section of grille in a strong ABS support housing.

The detachable ABS plastic cabinet sides allow full accessibility to the unit components such as valves and piping connections.

The cabinet front panel is manufactured from 1 mm thick galvanised steel and painted white with a durable baked polyester powder coating (RAL 9001). The front panel is protected with a plastic film to avoid the risk of damage during the cabinet handling.

Horizontal Cabinet Kit
A complete aesthetic cabinet solution is available for ceiling installations when the distance between the bottom of the unit and the wall is more than 100 mm. The horizontal cabinet kit is a combination of Base Cabinet, Feet and Feet Closure Panel and Front Air Grille.

Feet
Unit feet are manufactured from high impact, high temperature, UV resistant ABS plastic. They can be used to enclose supply piping from below, together with condensate drain line and electric cables. Shipped separately or as part of the Horizontal Cabinet Kit.

Front Air Grille
A fixed sheet metal grille to close the base of the unit, with a sub-frame, for horizontal or vertical installation. The feet are required for this option. Shipped separately or as part of the Horizontal Cabinet Kit.

Back Panel
For floor installations where glass walls are used or where the unit is visible from the rear, an optional painted back panel makes the unit more aesthetically pleasing. Shipped separately.

Fresh Air Damper
For the introduction of fresh air to the space an air damper can be fitted where there is a vertical installation against an outside wall. Shipped separately.

Inlet and Outlet Flanges
To be fitted when the base unit is connected to a ducted air system.

Auxiliary Condensate Drain Pans
Additional drain pans to catch the condensate dripping from piping and control or stop valves. There are two versions, one for horizontal and one for vertical installations. Factory mounted or shipped separately.

Controls
Four types of controls are available as standard:

- YORK BASE CONTROL providing an ON-OFF switch and a three speed fan switch.
- YORK 2 PIPE ON-OFF CONTROL provided with:
  - ON-OFF switch,
  - Electronic ambient thermostat,
  - ON - OFF valve output,
  - 3 speed fan switch, plus auto-fan speed regulation,
  - Air temperature sensor in the control module for wall mounted control, or remote air temperature probe for control from the fan coil,
  - Automatic SUMMER-WINTER changeover with water temperature sensor,
  - LED for high-medium-low fan speed and autofan,
  - LED for thermostat demand,
  - Wiring harness with plug for an easy electrical connection with base unit.
- YORK 4 PIPE ON-OFF CONTROL with the same options of 2 PIPE ON-OFF CONTROL plus a second ON-OFF valve output or electric heater control.
- YORK 2-4 PIPE MODULATING CONTROL provided with an electronic ambient thermostat to control a modulating valve (0 to 10 Vdc signal (Johnson Controls) or PWM signal (Cazzaniga)). The controller is that of the valve manufacturer and is wall mounted. All the controls are available factory mounted or shipped separately, except the modulating controller, which is shipped separately for wall mounting.

4 Port Valve Kit
Electric four port control valves with internal by-pass are available from two manufacturers (Cazzaniga and Johnson Controls). Complete with either an electric two position ON-OFF actuator, or an electric modulating actuator (0 to 10 Vdc signal (Johnson Controls) or PWM signal (Cazzaniga) from an electronic thermostat).

The kit also includes shut-off valves and flexible stainless steel tubes to connect all components with the fan coil. They are available factory mounted or shipped separately.

Electric Heater
Armoured electrical resistance heater is offered complete with all necessary safety thermostats. Available in two capacities per unit size. Factory mounted.

Control Transformer 230/24 V
The control transformer is necessary with all 2-4 PIPE MODULATING CONTROL and VALVE kits. Factory mounted or shipped separately.

Auto Changeover Switch
To be fitted on the inlet pipe when 2 Pipe Modulating Control with an automatic changeover function is required.

Condensate Drain Pump Kit
To be installed in cases where the condensate drain line must be routed upwards. Full installation instructions are provided with the kit.

SELECTION GUIDE

The Eurovent Ratings (tables 1 and 2) detail the air flow, cooling and heating capacities, pressure drops and power input for each model at high, medium and low fan speeds at standard Eurovent conditions.

Refer to tables 3 to 10, for details of total and sensible cooling capacities at high fan speed for a range of dry (DB) and wet bulb (WB) entering air temperatures at various entering water temperatures and water temperature increases. The fan speed correction factors (tables 11 to 14) should be applied for medium and low fan speeds. Refer to table 19 for altitude and external static pressure correction factors.

Refer to tables 15 (2 pipe models) and 17 (4 pipe models), for details of heating capacities at high fan speed for 20°C DB entering air temperatures at 50/70°C entering water temperatures and various water flow rates. The heating capacity correction factors (tables 16 or 18) should be applied for different entering air temperatures and entering water temperatures. The fan speed correction factors (tables 11 to 14) should be applied for medium and low fan speeds.

Water pressure drop, physical data and sound data is given in tables 20 to 24 and accessory data is given in tables 25 to 28.

EUROVENT RATINGS 2 PIPE MODELS

TABLE 1

YFQE Model	Air Flow m^3/h	Total Capacity Cooling W	Total Capacity Heating W	Pressure Drop Cooling kPa	Pressure Drop Heating kPa	Power Input W
HIGH FAN SPEED						
12	275	1320	1801	7.8	7.0	30
13	***252***	***1454***	***1867***	***9.6***	***8.6***	***30***
14	332	2232	2686	10.5	9.5	40
22	***432***	***2088***	***2744***	***13.5***	***12.2***	***42***
23	427	2298	2948	14.0	12.6	42
24	***406***	***2812***	***3346***	***16.4***	***14.8***	***42***
32	762	3567	4582	18.0	16.2	90
33	***717***	***4346***	***5455***	***16.1***	***14.5***	***90***
34	717	5023	6115	16.2	14.6	90
42	***993***	***4644***	***6933***	***29.0***	***26.1***	***100***
43	944	5860	7177	18.0	16.2	100
44	***1060***	***6848***	***9850***	***29.0***	***26.1***	***110***
52	1392	6600	9266	33.0	29.7	170
53	***1380***	***8242***	***10182***	***25.0***	***22.5***	***170***
54	1368	8755	11302	31.5	28.4	170
MEDIUM FAN SPEED						
12	223	1093	1490	6.4	5.8	26
13	***191***	***1113***	***1514***	***7.9***	***7.1***	***26***
14	261	1753	2152	6.8	6.1	33
22	***309***	***1637***	***2142***	***9.7***	***8.8***	***33***
23	307	1690	2227	9.0	8.1	33
24	***283***	***2043***	***2459***	***12.0***	***10.8***	***33***
32	518	2579	3355	13.2	11.8	70
33	***488***	***3009***	***3815***	***11.8***	***10.6***	***70***
34	477	3824	4295	9.2	8.3	70
42	***699***	***3758***	***5619***	***23.7***	***21.4***	***84***
43	696	4446	5362	12.3	11.1	84
44	***902***	***6222***	***8739***	***20.7***	***18.6***	***97***
52	1045	5122	7222	25.3	22.8	144
53	***1015***	***6341***	***7946***	***15.7***	***14.2***	***144***
54	1015	6113	8523	20.3	18.3	144
LOW FAN SPEED						
12	180	864	1183	3.6	3.2	24
13	***170***	***864***	***1174***	***4.2***	***3.7***	***24***
14	164	1050	1347	2.1	1.9	27
22	***247***	***1193***	***1645***	***9.4***	***8.4***	***27***
23	245	1209	1619	3.9	3.5	27
24	***225***	***1361***	***1659***	***6.9***	***6.2***	***27***
32	404	1741	2405	8.8	7.9	59
33	***372***	***1965***	***2716***	***7.8***	***7.0***	***59***
34	357	2525	3016	5.0	4.5	59
42	***529***	***2940***	***4555***	***17.5***	***15.8***	***61***
43	504	3194	3870	8.1	7.3	61
44	***513***	***3218***	***5685***	***9.7***	***8.7***	***61***
52	702	3680	5073	16.0	14.4	107
53	***688***	***4071***	***5343***	***11.3***	***10.2***	***107***
54	649	3751	5217	10.7	9.7	107

Capacity, Pressure Drop and Power Input are Eurovent Certified.
Cooling Capacities Based On 27°C DB / 19°C Wb Entering Air Temperature, 7°C Entering Water Temperature and 5°K Water Temperature Increase
Heating Capacities based on 20°C Entering Air Temperature and 50°C Entering Water Temperature, at the same Water Flow Rate as Cooling Capacities

EUROVENT RATINGS 4 PIPE MODELS

TABLE 2

YFQE Model	Air Flow m^3/h	Total Capacity Cooling W	Total Capacity Heating W	Pressure Drop Cooling kPa	Pressure Drop Heating kPa	Power Input W
HIGH FAN SPEED						
121	252	1278	2382	7.0	12.0	30
131	***245***	***1409***	***2382***	***8.6***	***12.0***	***30***
122	245	1278	3016	7.0	9.0	40
221	***427***	***2036***	***3740***	***12.2***	***29.0***	***42***
231	406	2256	3740	12.7	29.0	42
222	***406***	***2036***	***4712***	***12.2***	***19.0***	***42***
321	717	3377	6259	17.2	23.0	90
331	***717***	***3856***	***6259***	***14.5***	***23.0***	***90***
322	717	3377	8392	17.2	23.0	90
421	***944***	***4549***	***7642***	***28.0***	***32.0***	***100***
431	900	5618	7642	18.0	32.0	100
422	***900***	***4549***	***10726***	***28.0***	***45.0***	***110***
521	1413	6058	10655	31.0	35.0	170
531	***1368***	***7882***	***10655***	***22.5***	***35.0***	***170***
522	1368	6058	14980	31.0	55.0	170
MEDIUM FAN SPEED						
121	191	1040	1979	5.8	10.0	26
131	***185***	***1090***	***1979***	***7.1***	***10.0***	***26***
122	185	1040	2410	5.8	8.2	33
221	***307***	***1585***	***2984***	***8.8***	***21.0***	***33***
231	283	1656	2984	8.6	21.0	33
222	***283***	***1585***	***3525***	***8.8***	***14.0***	***33***
321	488	2519	4921	12.0	15.8	70
331	***477***	***2878***	***4921***	***10.6***	***15.8***	***70***
322	477	2519	6103	12.0	15.8	70
421	***696***	***3559***	***6026***	***21.4***	***19.6***	***84***
431	680	4263	6026	11.1	19.6	84
422	***680***	***3559***	***8291***	***21.4***	***28.6***	***97***
521	1015	4963	8557	22.8	25.3	144
531	***1015***	***6014***	***8557***	***14.2***	***25.3***	***144***
522	1015	4963	10931	22.8	31.2	144
LOW FAN SPEED						
121	170	830	1561	3.2	7.0	24
131	***165***	***846***	***1561***	***3.8***	***7.0***	***24***
122	165	830	1909	3.2	4.5	27
221	***245***	***1160***	***2277***	***8.5***	***17.1***	***27***
231	225	1182	2277	3.5	17.1	27
222	***225***	***1160***	***2537***	***8.5***	***11.6***	***27***
321	372	1702	3770	8.0	9.5	59
331	***357***	***1897***	***3770***	***7.1***	***9.5***	***59***
322	357	1702	4909	8.0	12.7	59
421	***504***	***2740***	***4612***	***15.9***	***15.5***	***61***
431	490	2968	4612	7.4	15.5	61
422	***490***	***2740***	***6947***	***15.9***	***22.0***	***61***
521	688	3368	5735	14.6	15.9	107
531	***649***	***3736***	***5735***	***10.3***	***15.9***	***107***
522	649	3368	7867	14.6	20.3	107

Capacity, Pressure Drop and Power Input are Eurovent Certified.
Cooling Capacities Based On 27°C DB / 19°C Wb Entering Air Temperature, 7°C Entering Water Temperature and 5°K Water Temperature Increase
Heating Capacities based on 20°C Entering Air Temperature and 70°C Entering Water Temperature, 10°K Water Temperature decrease.

TABLE 3 COOLING CAPACITIES (20°C DB, 15°C WB AIR ENTERING TEMP. HIGH SPEED)

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	1203	921	345	846	749	243	578	578	166	436	436	125	-	-	-
	4.0	***990***	***817***	***213***	***668***	***650***	***144***	***519***	***519***	***112***	***393***	***393***	***85***	***-***	***-***	***-***
	5.0	809	727	139	601	601	103	477	477	82	-	-	-	-	-	-
	6.0	***732***	***686***	***105***	***560***	***560***	***80***	***439***	***439***	***63***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8.0	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
13	3.0	1301	936	373	948	773	272	648	633	186	493	493	141	-	-	-
	4.0	***1092***	***837***	***235***	***816***	***712***	***175***	***588***	***588***	***126***	***450***	***450***	***97***	***-***	***-***	***-***
	5.0	996	793	171	731	672	126	545	545	94	-	-	-	-	-	-
	6.0	***906***	***752***	***130***	***661***	***638***	***95***	***504***	***504***	***72***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8.0	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
14	3.0	1913	1306	548	1457	1093	418	1014	892	291	702	702	201	-	-	-
	4.0	***1714***	***1211***	***369***	***1248***	***997***	***268***	***879***	***821***	***189***	***652***	***652***	***140***	***-***	***-***	***-***
	5.0	1489	1106	256	1101	926	189	811	778	140	-	-	-	-	-	-
	6.0	***1341***	***1037***	***192***	***1014***	***883***	***145***	***747***	***732***	***107***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	1239	987	152	930	836	114	-	-	-	-	-	-	-	-	-
	8.0	***1142***	***940***	***123***	***853***	***791***	***92***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
22	3.0	1862	1280	534	1327	1071	380	880	880	252	665	665	191	-	-	-
	4.0	***1595***	***1187***	***343***	***1060***	***977***	***228***	***763***	***763***	***164***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	1294	1084	223	851	851	146	675	675	116	-	-	-	-	-	-
	6.0	***1018***	***981***	***146***	***792***	***792***	***114***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	926	917	114	736	736	90	-	-	-	-	-	-	-	-	-
	8.0	***853***	***853***	***92***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
23	3.0	2045	1486	586	1504	1236	431	976	968	280	716	716	205	-	-	-
	4.0	***1772***	***1358***	***381***	***1195***	***1087***	***257***	***850***	***850***	***183***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	1426	1196	245	1026	995	176	786	786	135	-	-	-	-	-	-
	6.0	***1269***	***1122***	***182***	***923***	***923***	***132***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	1145	1059	141	861	861	106	-	-	-	-	-	-	-	-	-
	8.0	***1042***	***1003***	***112***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
24	3.0	2343	1589	672	1810	1339	519	1253	1086	359	853	853	245	-	-	-
	4.0	***2139***	***1492***	***460***	***1579***	***1233***	***339***	***1065***	***989***	***229***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	1896	1377	326	1328	1114	228	967	926	166	-	-	-	-	-	-
	6.0	***1630***	***1253***	***234***	***1214***	***1055***	***174***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	1489	1184	183	1112	998	137	-	-	-	-	-	-	-	-	-
	8.0	***1367***	***1123***	***147***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
32	3.0	3103	2361	889	2286	1950	655	1513	1490	434	1112	1112	319	-	-	-
	4.0	***2676***	***2143***	***575***	***1866***	***1710***	***401***	***1263***	***1263***	***272***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	2220	1902	382	1440	1419	248	1061	1061	182	-	-	-	-	-	-
	6.0	***1675***	***1581***	***240***	***1245***	***1245***	***178***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	1518	1434	187	1145	1145	141	-	-	-	-	-	-	-	-	-
	8.0	***1394***	***1330***	***150***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
33	3.0	3794	2684	1088	2811	2218	806	1910	1779	547	1314	1314	377	-	-	-
	4.0	***3268***	***2431***	***703***	***2284***	***1961***	***491***	***1522***	***1514***	***327***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	2617	2118	450	1847	1723	318	1397	1397	240	-	-	-	-	-	-
	6.0	***2229***	***1922***	***319***	***1695***	***1622***	***243***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	2041	1818	251	1550	1515	190	-	-	-	-	-	-	-	-	-
	8.0	***1875***	***1719***	***202***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
34	3.0	4513	3020	1294	3516	2544	1008	2477	2075	710	1660	1660	476	-	-	-
	4.0	***4030***	***2754***	***866***	***3002***	***2273***	***645***	***2027***	***1830***	***436***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	3446	2440	593	2399	1958	413	1645	1588	283	-	-	-	-	-	-
	6.0	***2659***	***2007***	***381***	***1888***	***1650***	***271***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	2194	1854	270	1659	1546	204	-	-	-	-	-	-	-	-	-
	8.0	***1979***	***1753***	***213***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
42	3.0	4076	2959	1169	2965	2515	850	2027	1969	581	1461	1461	419	-	-	-
	4.0	***3554***	***2699***	***764***	***2510***	***2259***	***540***	***1688***	***1688***	***363***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	2974	2391	512	2046	1919	352	1408	1408	242	-	-	-	-	-	-
	6.0	***2433***	***1967***	***349***	***1572***	***1572***	***225***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	1853	1808	228	1408	1408	173	-	-	-	-	-	-	-	-	-
	8.0	***1650***	***1636***	***177***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
43	3.0	5000	3525	1433	3777	2943	1083	2581	2364	740	1791	1791	513	-	-	-
	4.0	***4434***	***3252***	***953***	***3192***	***2660***	***686***	***2115***	***2074***	***455***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	3759	2927	646	2499	2299	430	1750	1750	301	-	-	-	-	-	-
	6.0	***2864***	***2486***	***410***	***2106***	***2043***	***302***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	2517	2287	309	1923	1899	236	-	-	-	-	-	-	-	-	-
	8.0	***2316***	***2160***	***249***	***1750***	***1745***	***188***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
44	3.0	5694	3898	1632	4341	3272	1245	2978	2646	854	2036	2036	584	-	-	-
	4.0	***5141***	***3638***	***1105***	***3706***	***2979***	***797***	***2456***	***2352***	***528***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	4423	3306	761	2927	2597	503	2066	2057	355	-	-	-	-	-	-
	6.0	***3460***	***2852***	***496***	***2528***	***2363***	***362***	***1892***	***1892***	***271***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	3050	2635	375	2312	2218	284	-	-	-	-	-	-	-	-	-
	8.0	***2794***	***2491***	***300***	***2107***	***2057***	***227***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
52	3.0	5684	3820	1629	4164	3207	1194	2846	2593	816	1995	1995	572	-	-	-
	4.0	***4864***	***3565***	***1046***	***3438***	***2920***	***739***	***2362***	***2305***	***508***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	4097	3239	705	2766	2545	476	1885	1885	324	-	-	-	-	-	-
	6.0	***3250***	***2795***	***466***	***2053***	***2053***	***294***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	2322	2314	285	1824	1824	224	-	-	-	-	-	-	-	-	-
	8.0	***2120***	***2120***	***228***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
53	3.0	7122	5085	2042	5265	4205	1509	3613	3387	1036	2514	2514	721	-	-	-
	4.0	***6166***	***4626***	***1326***	***4309***	***3733***	***927***	***2808***	***2808***	***604***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	4965	4046	854	3053	2995	525	2316	2316	398	-	-	-	-	-	-
	6.0	***3518***	***3278***	***504***	***2726***	***2717***	***391***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	3231	3085	397	2494	2494	306	-	-	-	-	-	-	-	-	-
	8.0	***2944***	***2872***	***316***	***2261***	***2261***	***243***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
54	3.0	7453	5111	2137	5628	4267	1613	3870	3459	1109	2640	2640	757	-	-	-
	4.0	***6633***	***4726***	***1426***	***4729***	***3853***	***1017***	***3063***	***2991***	***659***	***-***	***-***	***-***	***-***	***-***	***-***
	5.0	5549	4222	954	3539	3258	609	2613	2613	450	-	-	-	-	-	-
	6.0	***4147***	***3555***	***594***	***3156***	***3010***	***452***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	3777	3351	464	2878	2809	354	-	-	-	-	-	-	-	-	-
	8.0	***3460***	***3163***	***372***	***2627***	***2602***	***282***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***

COOLING CAPACITIES (22°C DB, 15°C WB AIR ENTERING TEMP. HIGH SPEED) TABLE 4

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	1171	1058	336	876	876	251	729	729	209	582	582	167	435	435	125
	4.0	***995***	***958***	***214***	***788***	***788***	***169***	***642***	***642***	***138***	***516***	***516***	***111***	***393***	***393***	***85***
	5.0	852	852	146	724	724	124	598	598	103	476	476	82	-	-	-
	6.0	***806***	***806***	***116***	***681***	***681***	***98***	***558***	***558***	***80***	***437***	***437***	***63***	***-***	***-***	***-***
	7.0	764	764	94	641	641	79	519	519	64	400	400	49	-	-	-
	8.0	***724***	***724***	***78***	***601***	***601***	***65***	***483***	***483***	***52***	***-***	***-***	***-***	***-***	***-***	***-***
13	3.0	1294	1086	371	979	935	281	776	776	222	631	631	181	490	490	141
	4.0	***1106***	***995***	***238***	***866***	***866***	***186***	***726***	***726***	***156***	***586***	***586***	***126***	***448***	***448***	***96***
	5.0	1021	952	176	821	821	141	681	681	117	543	543	93	-	-	-
	6.0	***945***	***912***	***135***	***777***	***777***	***111***	***638***	***638***	***91***	***503***	***503***	***72***	***-***	***-***	***-***
	7.0	879	872	108	733	733	90	598	598	73	462	462	57	-	-	-
	8.0	***829***	***829***	***89***	***693***	***693***	***74***	***558***	***558***	***60***	***-***	***-***	***-***	***-***	***-***	***-***
14	3.0	1903	1501	546	1483	1300	425	1126	1113	323	911	911	261	704	704	202
	4.0	***1727***	***1415***	***371***	***1329***	***1220***	***286***	***1030***	***1030***	***221***	***837***	***837***	***180***	***651***	***651***	***140***
	5.0	1541	1322	265	1203	1147	207	978	978	168	789	789	136	-	-	-
	6.0	***1418***	***1258***	***203***	***1142***	***1107***	***164***	***929***	***929***	***133***	***738***	***738***	***106***	***-***	***-***	***-***
	7.0	1341	1216	165	1078	1060	132	876	876	108	680	680	84	-	-	-
	8.0	***1264***	***1170***	***136***	***1020***	***1012***	***110***	***818***	***818***	***88***	***-***	***-***	***-***	***-***	***-***	***-***
22	3.0	1795	1471	515	1311	1274	376	1097	1097	315	884	884	254	669	669	192
	4.0	***1549***	***1386***	***333***	***1202***	***1202***	***258***	***989***	***989***	***213***	***772***	***772***	***166***	***556***	***556***	***120***
	5.0	1319	1312	227	1085	1085	187	868	868	149	673	673	116	-	-	-
	6.0	***1169***	***1169***	***167***	***964***	***964***	***138***	***790***	***790***	***113***	***617***	***617***	***88***	***-***	***-***	***-***
	7.0	1081	1081	133	905	905	111	734	734	90	565	565	69	-	-	-
	8.0	***1022***	***1022***	***110***	***851***	***851***	***91***	***682***	***682***	***73***	***-***	***-***	***-***	***-***	***-***	***-***
23	3.0	2003	1712	574	1496	1451	429	1193	1193	342	960	960	275	722	722	207
	4.0	***1731***	***1573***	***372***	***1302***	***1302***	***280***	***1067***	***1067***	***229***	***848***	***848***	***182***	***646***	***646***	***139***
	5.0	1467	1425	252	1187	1187	204	984	984	169	782	782	135	-	-	-
	6.0	***1323***	***1323***	***190***	***1121***	***1121***	***161***	***920***	***920***	***132***	***722***	***722***	***103***	***-***	***-***	***-***
	7.0	1257	1257	154	1059	1059	130	859	859	105	665	665	82	-	-	-
	8.0	***1195***	***1195***	***128***	***997***	***997***	***107***	***801***	***801***	***86***	***-***	***-***	***-***	***-***	***-***	***-***
24	3.0	2328	1822	667	1818	1577	521	1367	1344	392	1100	1100	315	857	857	246
	4.0	***2132***	***1725***	***458***	***1638***	***1485***	***352***	***1253***	***1253***	***269***	***1006***	***1006***	***216***	***771***	***771***	***166***
	5.0	1928	1624	332	1477	1393	254	1159	1159	199	936	936	161	-	-	-
	6.0	***1716***	***1516***	***246***	***1355***	***1313***	***194***	***1100***	***1100***	***158***	***873***	***873***	***125***	***-***	***-***	***-***
	7.0	1598	1448	196	1285	1259	158	1038	1038	127	806	806	99	-	-	-
	8.0	***1508***	***1394***	***162***	***1214***	***1202***	***131***	***971***	***971***	***104***	***-***	***-***	***-***	***-***	***-***	***-***
32	3.0	3000	2667	860	2301	2241	659	1830	1830	524	1484	1484	425	1123	1123	322
	4.0	***2661***	***2463***	***572***	***2043***	***2034***	***439***	***1653***	***1653***	***355***	***1285***	***1285***	***276***	***887***	***887***	***191***
	5.0	2278	2207	392	1807	1807	311	1432	1432	246	1061	1061	182	-	-	-
	6.0	***1925***	***1925***	***276***	***1550***	***1550***	***222***	***1241***	***1241***	***178***	***961***	***961***	***138***	***-***	***-***	***-***
	7.0	1712	1712	210	1425	1425	175	1145	1145	141	857	857	105	-	-	-
	8.0	***1609***	***1609***	***173***	***1322***	***1322***	***142***	***1039***	***1039***	***112***	***-***	***-***	***-***	***-***	***-***	***-***
33	3.0	3739	3074	1072	2866	2632	822	2194	2194	629	1775	1775	509	1335	1335	383
	4.0	***3296***	***2845***	***709***	***2492***	***2409***	***536***	***1958***	***1958***	***421***	***1508***	***1508***	***324***	***1151***	***1151***	***247***
	5.0	2811	2584	483	2118	2118	364	1750	1750	301	1394	1394	240	-	-	-
	6.0	***2416***	***2336***	***346***	***1993***	***1993***	***286***	***1633***	***1633***	***234***	***1279***	***1279***	***183***	***-***	***-***	***-***
	7.0	2284	2237	281	1875	1875	230	1522	1522	187	1155	1155	142	-	-	-
	8.0	***2145***	***2125***	***231***	***1757***	***1757***	***189***	***1397***	***1397***	***150***	***-***	***-***	***-***	***-***	***-***	***-***
34	3.0	4485	3443	1286	3537	2986	1014	2652	2565	760	2127	2127	610	1664	1664	477
	4.0	***4055***	***3195***	***872***	***3141***	***2758***	***675***	***2382***	***2361***	***512***	***1899***	***1899***	***408***	***1401***	***1401***	***301***
	5.0	3621	2960	623	2751	2538	473	2112	2112	363	1664	1664	286	-	-	-
	6.0	***3063***	***2641***	***439***	***2316***	***2251***	***332***	***1879***	***1879***	***269***	***1493***	***1493***	***214***	***-***	***-***	***-***
	7.0	2564	2331	315	2070	2041	254	1684	1684	207	1305	1305	160	-	-	-
	8.0	***2278***	***2168***	***245***	***1841***	***1834***	***198***	***1478***	***1478***	***159***	***-***	***-***	***-***	***-***	***-***	***-***
42	3.0	3864	3430	1108	2965	2881	850	2365	2365	678	1920	1920	551	1471	1471	422
	4.0	***3458***	***3182***	***743***	***2655***	***2636***	***571***	***2162***	***2162***	***465***	***1708***	***1708***	***367***	***1233***	***1233***	***265***
	5.0	3052	2915	525	2394	2394	412	1930	1930	332	1447	1447	249	-	-	-
	6.0	***2665***	***2630***	***382***	***2133***	***2133***	***306***	***1630***	***1630***	***234***	***1180***	***1180***	***169***	***-***	***-***	***-***
	7.0	2307	2307	283	1804	1804	222	1408	1408	173	-	-	-	-	-	-
	8.0	***1998***	***1998***	***215***	***1630***	***1630***	***175***	***1277***	***1277***	***137***	***-***	***-***	***-***	***-***	***-***	***-***
43	3.0	4909	4025	1407	3777	3451	1083	2900	2900	831	2362	2362	677	1805	1805	517
	4.0	***4453***	***3788***	***957***	***3393***	***3224***	***730***	***2645***	***2645***	***569***	***2079***	***2079***	***447***	***1448***	***1448***	***311***
	5.0	3905	3496	672	2937	2910	505	2316	2316	398	1745	1745	300	-	-	-
	6.0	***3302***	***3146***	***473***	***2517***	***2517***	***361***	***2051***	***2051***	***294***	***1595***	***1595***	***229***	***-***	***-***	***-***
	7.0	2836	2805	348	2352	2352	289	1896	1896	233	-	-	-	-	-	-
	8.0	***2663***	***2655***	***286***	***2197***	***2197***	***236***	***1741***	***1741***	***187***	***-***	***-***	***-***	***-***	***-***	***-***
44	3.0	5653	4485	1621	4341	3854	1245	3306	3278	948	2661	2661	763	2046	2046	586
	4.0	***5100***	***4212***	***1096***	***3901***	***3614***	***839***	***3009***	***3009***	***647***	***2374***	***2374***	***510***	***1697***	***1697***	***365***
	5.0	4546	3935	782	3419	3315	588	2651	2651	456	2051	2051	353	-	-	-
	6.0	***3891***	***3582***	***558***	***2937***	***2937***	***421***	***2405***	***2405***	***345***	***1887***	***1887***	***270***	***-***	***-***	***-***
	7.0	3378	3253	415	2763	2763	339	2241	2241	275	-	-	-	-	-	-
	8.0	***3183***	***3105***	***342***	***2599***	***2599***	***279***	***2066***	***2066***	***222***	***-***	***-***	***-***	***-***	***-***	***-***
52	3.0	5455	4395	1564	4205	3777	1205	3240	3213	929	2608	2608	747	2005	2005	575
	4.0	***4864***	***4128***	***1046***	***3747***	***3542***	***806***	***2949***	***2949***	***634***	***2326***	***2326***	***500***	***-***	***-***	***-***
	5.0	4272	3856	735	3344	3249	575	2598	2598	447	1959	1959	337	-	-	-
	6.0	***3707***	***3510***	***531***	***2927***	***2927***	***420***	***2174***	***2174***	***312***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	3142	3142	386	2349	2349	289	1824	1824	224	-	-	-	-	-	-
	8.0	***2604***	***2604***	***280***	***2120***	***2120***	***228***	***0***	***0***	***0***	***-***	***-***	***-***	***-***	***-***	***-***
53	3.0	7013	5833	2010	5402	5006	1549	4187	4187	1200	3381	3381	969	2548	2548	730
	4.0	***6221***	***5421***	***1338***	***4733***	***4591***	***1018***	***3750***	***3750***	***806***	***2876***	***2876***	***618***	***-***	***-***	***-***
	5.0	5320	4920	915	4036	4036	694	3081	3081	530	2316	2316	398	-	-	-
	6.0	***4255***	***4224***	***610***	***3340***	***3340***	***479***	***2712***	***2712***	***389***	***-***	***-***	***-***	***-***	***-***	***-***
	7.0	3736	3736	459	3108	3108	382	2487	2487	306	-	-	-	-	-	-
	8.0	***3504***	***3504***	***377***	***2890***	***2890***	***311***	***2261***	***2261***	***243***	***-***	***-***	***-***	***-***	***-***	***-***
54	3.0	7387	5877	2118	5708	5067	1636	4346	4316	1246	3499	3499	1003	2673	2673	766
	4.0	***6660***	***5519***	***1432***	***5073***	***4725***	***1091***	***3923***	***3923***	***843***	***3050***	***3050***	***656***	***2151***	***2151***	***462***
	5.0	5814	5092	1000	4359	4277	750	3328	3328	572	2600	2600	447	-	-	-
	6.0	***4756***	***4513***	***682***	***3724***	***3724***	***534***	***3050***	***3050***	***437***	***2382***	***2382***	***341***	***-***	***-***	***-***
	7.0	4253	4156	523	3513	3513	432	2838	2838	349	-	-	-	-	-	-
	8.0	***3989***	***3946***	***429***	***3288***	***3288***	***353***	***2600***	***2600***	***280***	***-***	***-***	***-***	***-***	***-***	***-***

TABLE 5 COOLING CAPACITIES (24°C DB, 16°C WB AIR ENTERING TEMP. HIGH SPEED)

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	1384	1218	397	1057	1038	303	878	878	252	732	732	210	585	585	168
	4.0	***1193***	***1115***	***256***	***939***	***939***	***202***	***793***	***793***	***170***	***649***	***649***	***140***	***516***	***516***	***111***
	5.0	1011	1002	174	849	849	146	724	724	124	598	598	103	475	475	82
	6.0	***929***	***929***	***133***	***804***	***804***	***115***	***681***	***681***	***98***	***557***	***557***	***80***	-	-	-
	7.0	886	886	109	764	764	94	640	640	79	519	519	64	-	-	-
	8.0	***844***	***844***	***91***	***721***	***721***	***78***	***601***	***601***	***65***	***481***	***481***	***52***	-	-	-
13	3.0	1504	1238	431	1184	1087	339	931	931	267	777	777	223	628	628	180
	4.0	***1323***	***1151***	***284***	***1021***	***1002***	***219***	***862***	***862***	***185***	***722***	***722***	***155***	***583***	***583***	***125***
	5.0	1179	1081	203	957	957	165	817	817	141	678	678	117	542	542	93
	6.0	***1104***	***1043***	***158***	***911***	***911***	***131***	***773***	***773***	***111***	***637***	***637***	***91***	***500***	***500***	***72***
	7.0	1033	1006	127	868	868	107	731	731	90	595	595	73	461	461	57
	8.0	***970***	***965***	***104***	***826***	***826***	***89***	***690***	***690***	***74***	***556***	***556***	***60***	-	-	-
14	3.0	2182	1699	625	1759	1498	504	1367	1309	392	1113	1113	319	913	913	262
	4.0	***2016***	***1618***	***433***	***1602***	***1421***	***344***	***1255***	***1237***	***270***	***1036***	***1036***	***223***	***836***	***836***	***180***
	5.0	1830	1527	315	1444	1339	248	1162	1162	200	975	975	168	787	787	135
	6.0	***1656***	***1441***	***237***	***1348***	***1281***	***193***	***1113***	***1113***	***160***	***927***	***927***	***133***	***734***	***734***	***105***
	7.0	1560	1390	192	1280	1238	157	1065	1065	131	876	876	108	678	678	83
	8.0	***1483***	***1347***	***159***	***1223***	***1195***	***131***	***1014***	***1014***	***109***	***818***	***818***	***88***	-	-	-
22	3.0	2105	1665	603	1611	1468	462	1315	1283	377	1102	1102	316	889	889	255
	4.0	***1837***	***1586***	***395***	***1419***	***1419***	***305***	***1206***	***1206***	***259***	***993***	***993***	***213***	***780***	***780***	***168***
	5.0	1599	1496	275	1306	1306	225	1093	1093	188	-	-	-	-	-	-
	6.0	***1394***	***1394***	***200***	***1185***	***1185***	***170***	-	-	-	-	-	-	-	-	-
	7.0	1269	1269	156	1081	1081	133	-	-	-	-	-	-	-	-	-
	8.0	***1194***	***1194***	***128***	***1022***	***1022***	***110***	-	-	-	-	-	-	-	-	-
23	3.0	2333	1952	669	1805	1694	518	1426	1426	409	1195	1195	342	964	964	276
	4.0	***2073***	***1825***	***446***	***1570***	***1554***	***338***	***1310***	***1310***	***282***	***1075***	***1075***	***231***	***844***	***844***	***181***
	5.0	1797	1682	309	1413	1413	243	1182	1182	203	-	-	-	-	-	-
	6.0	***1550***	***1531***	***222***	***1319***	***1319***	***189***	-	-	-	-	-	-	-	-	-
	7.0	1455	1455	179	1253	1253	154	-	-	-	-	-	-	-	-	-
	8.0	***1389***	***1389***	***149***	***1191***	***1191***	***128***	-	-	-	-	-	-	-	-	-
24	3.0	2658	2056	762	2135	1809	612	1657	1577	475	1340	1340	384	1100	1100	315
	4.0	***2477***	***1968***	***532***	***1975***	***1729***	***425***	***1539***	***1503***	***331***	***1257***	***1257***	***270***	***1014***	***1014***	***218***
	5.0	2281	1872	392	1794	1635	309	1418	1411	244	-	-	-	-	-	-
	6.0	***2077***	***1771***	***298***	***1622***	***1537***	***232***	-	-	-	-	-	-	-	-	-
	7.0	1873	1666	230	1528	1473	188	-	-	-	-	-	-	-	-	-
	8.0	***1767***	***1604***	***190***	***1449***	***1416***	***156***	-	-	-	-	-	-	-	-	-
32	3.0	3515	3063	1008	2764	2634	792	2183	2183	626	1837	1837	527	1491	1491	427
	4.0	***3147***	***2849***	***677***	***2462***	***2416***	***529***	***2021***	***2021***	***434***	***1668***	***1668***	***359***	***1307***	***1307***	***281***
	5.0	2779	2619	478	2183	2183	375	1830	1830	315	-	-	-	-	-	-
	6.0	***2426***	***2373***	***348***	***1969***	***1969***	***282***	-	-	-	-	-	-	-	-	-
	7.0	2080	2080	256	1719	1719	211	-	-	-	-	-	-	-	-	-
	8.0	***1888***	***1888***	***203***	***1609***	***1609***	***173***	-	-	-	-	-	-	-	-	-
33	3.0	4335	3502	1243	3441	3061	986	2672	2635	766	2204	2204	632	1785	1785	512
	4.0	***3905***	***3284***	***840***	***3074***	***2859***	***661***	***2416***	***2416***	***519***	***1986***	***1986***	***427***	***1529***	***1529***	***329***
	5.0	3420	3033	588	2665	2606	458	2145	2145	369	-	-	-	-	-	-
	6.0	***2894***	***2741***	***415***	***2339***	***2339***	***335***	-	-	-	-	-	-	-	-	-
	7.0	2665	2581	327	2229	2229	274	-	-	-	-	-	-	-	-	-
	8.0	***2520***	***2473***	***271***	***2118***	***2118***	***228***	-	-	-	-	-	-	-	-	-
34	3.0	5142	3907	1474	4179	3446	1198	3240	3010	929	2596	2596	744	2141	2141	614
	4.0	***4744***	***3680***	***1020***	***3803***	***3231***	***818***	***2947***	***2822***	***634***	***2396***	***2396***	***515***	***1934***	***1934***	***416***
	5.0	4332	3456	745	3409	3019	586	2666	2631	459	-	-	-	-	-	-
	6.0	***3881***	***3217***	***556***	***3025***	***2803***	***434***	-	-	-	-	-	-	-	-	-
	7.0	3384	2951	416	2647	2563	325	-	-	-	-	-	-	-	-	-
	8.0	***2912***	***2652***	***313***	***2394***	***2354***	***257***	-	-	-	-	-	-	-	-	-
42	3.0	4502	3829	1291	3545	3372	1016	2800	2800	803	2365	2365	678	1930	1930	553
	4.0	***4076***	***3674***	***876***	***3187***	***3117***	***685***	***2617***	***2617***	***563***	***2172***	***2172***	***467***	***1727***	***1727***	***371***
	5.0	3690	3434	635	2897	2882	498	2413	2413	415	-	-	-	-	-	-
	6.0	***3303***	***3175***	***473***	***2626***	***2626***	***376***	-	-	-	-	-	-	-	-	-
	7.0	2897	2869	356	2365	2365	291	-	-	-	-	-	-	-	-	-
	8.0	***2529***	***2529***	***272***	***2036***	***2036***	***219***	-	-	-	-	-	-	-	-	-
43	3.0	5694	4587	1632	4516	4004	1295	3512	3452	1007	2900	2900	831	2366	2366	678
	4.0	***5183***	***4327***	***1114***	***4106***	***3779***	***883***	***3211***	***3211***	***690***	***2672***	***2672***	***574***	***2106***	***2106***	***453***
	5.0	4672	4061	804	3667	3517	631	2937	2937	505	2362	2362	406	1750	1750	301
	6.0	***4124***	***3766***	***591***	***3211***	***3190***	***460***	***2572***	***2572***	***369***	***2042***	***2042***	***293***	-	-	-
	7.0	3521	3400	433	2809	2809	345	2343	2343	288	1896	1896	233	-	-	-
	8.0	***3138***	***3106***	***337***	***2645***	***2645***	***284***	***2197***	***2197***	***236***	***1741***	***1741***	***187***	-	-	-
44	3.0	6494	5076	1861	5161	4448	1480	4014	3873	1151	3265	3265	936	2671	2671	766
	4.0	***5981***	***4833***	***1286***	***4710***	***4221***	***1013***	***3675***	***3637***	***790***	***3030***	***3030***	***651***	***2405***	***2405***	***517***
	5.0	5407	4549	930	4218	3950	726	3347	3347	576	2702	2702	465	2046	2046	352
	6.0	***4813***	***4247***	***690***	***3727***	***3635***	***534***	***2968***	***2968***	***425***	***2405***	***2405***	***345***	-	-	-
	7.0	4136	3875	508	3296	3287	405	2763	2763	339	2241	2241	275	-	-	-
	8.0	***3747***	***3610***	***403***	***3122***	***3122***	***336***	***2599***	***2599***	***279***	***2066***	***2066***	***222***	-	-	-
52	3.0	6343	4974	1818	5025	4359	1441	3990	3795	1144	3200	3200	917	2618	2618	750
	4.0	***5724***	***4736***	***1231***	***4514***	***4137***	***971***	***3602***	***3564***	***774***	***2969***	***2969***	***638***	***2356***	***2356***	***507***
	5.0	5106	4458	878	4030	3871	693	3280	3280	564	2648	2648	455	-	-	-
	6.0	***4554***	***4162***	***653***	***3680***	***3563***	***527***	***2909***	***2909***	***417***	**2281**	**2281**	**327**	-	-	-
	7.0	3949	3798	485	3250	3250	399	2470	2470	303	1824	1824	224	-	-	-
	8.0	***3411***	***3411***	***367***	***2658***	***2658***	***286***	***2120***	***2120***	***228***	-	-	-	-	-	-
53	3.0	8160	6660	2339	6467	5816	1854	5074	5021	1455	4200	4200	1204	3395	3395	973
	4.0	***7341***	***6241***	***1578***	***5757***	***5418***	***1238***	***4596***	***4596***	***988***	***3791***	***3791***	***815***	***2944***	***2944***	***633***
	5.0	6467	5782	1112	5074	4970	873	4118	4118	708	3217	3217	553	-	-	-
	6.0	***5593***	***5283***	***802***	***4337***	***4337***	***622***	***3395***	***3395***	***487***	***2712***	***2712***	***389***	-	-	-
	7.0	4446	4446	546	3736	3736	459	3108	3108	382	2487	2487	306	-	-	-
	8.0	***4118***	***4118***	***443***	***3504***	***3504***	***377***	***2890***	***2890***	***311***	-	-	-	-	-	-
54	3.0	8511	6666	2440	6805	5860	1951	5285	5102	1515	4319	4319	1238	3519	3519	1009
	4.0	***7771***	***6309***	***1671***	***6157***	***5532***	***1324***	***4822***	***4780***	***1037***	***3962***	***3962***	***852***	***3103***	***3103***	***667***
	5.0	7004	5934	1205	5470	5156	941	4333	4333	745	3433	3433	591	2600	2600	447
	6.0	***6105***	***5475***	***875***	***4703***	***4649***	***674***	***3751***	***3751***	***538***	***3050***	***3050***	***437***	-	-	-
	7.0	5073	4879	623	4174	4174	513	3499	3499	430	2825	2825	347	-	-	-
	8.0	***4690***	***4595***	***504***	***3949***	***3949***	***425***	***3275***	***3275***	***352***	-	-	-	-	-	-

COOLING CAPACITIES (25°C DB, 17°C WB AIR ENTERING TEMP. HIGH SPEED) TABLE 6

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	1613	1304	463	1264	1135	362	953	953	273	808	808	232	662	662	190
	4.0	***1411***	***1204***	***303***	***1086***	***1039***	***233***	***870***	***870***	***187***	***724***	***724***	***156***	***577***	***577***	***124***
	5.0	1214	1105	209	926	926	159	785	785	135	660	660	113	536	536	92
	6.0	***1030***	***1001***	***148***	***868***	***868***	***124***	***742***	***742***	***106***	***617***	***617***	***88***	***496***	***496***	***71***
	7.0	958	952	118	825	825	101	700	700	86	578	578	71	459	459	56
	8.0	***905***	***905***	***97***	***782***	***782***	***84***	***661***	***661***	***71***	***540***	***540***	***58***	-	-	-
13	3.0	1734	1319	497	1394	1161	400	1062	1011	305	855	855	245	703	703	201
	4.0	***1555***	***1234***	***334***	***1204***	***1074***	***259***	***932***	***932***	***200***	***792***	***792***	***170***	***653***	***653***	***140***
	5.0	1350	1139	232	1079	1015	186	885	885	152	747	747	128	609	609	105
	6.0	***1255***	***1095***	***180***	***1004***	***976***	***144***	***842***	***842***	***121***	***704***	***704***	***101***	***567***	***567***	***81***
	7.0	1170	1056	144	943	938	116	799	799	98	662	662	81	528	528	65
	8.0	***1092***	***1019***	***117***	***894***	***894***	***96***	***757***	***757***	***81***	***622***	***622***	***67***	-	-	-
14	3.0	2485	1803	712	2042	1595	585	1598	1395	458	1232	1216	353	1014	1014	291
	4.0	***2313***	***1721***	***497***	***1865***	***1513***	***401***	***1451***	***1323***	***312***	***1142***	***1142***	***246***	***937***	***937***	***201***
	5.0	2112	1626	363	1682	1427	289	1309	1247	225	1068	1068	184	881	881	151
	6.0	***1920***	***1535***	***275***	***1521***	***1349***	***218***	***1232***	***1196***	***177***	***1020***	***1020***	***146***	***831***	***831***	***119***
	7.0	1746	1452	215	1435	1302	176	1171	1152	144	969	969	119	776	776	95
	8.0	***1656***	***1407***	***178***	***1357***	***1259***	***146***	***1113***	***1106***	***120***	***914***	***914***	***98***	-	-	-
22	3.0	2447	1767	702	1929	1563	553	1419	1367	407	1210	1210	347	997	997	286
	4.0	***2196***	***1686***	***472***	***1678***	***1483***	***361***	***1315***	***1315***	***283***	***1106***	***1106***	***238***	***893***	***893***	***192***
	5.0	1921	1593	330	1440	1399	248	1206	1206	207	993	993	171	-	-	-
	6.0	***1662***	***1505***	***238***	***1302***	***1302***	***187***	***1085***	***1085***	***156***	***876***	***876***	***126***	-	-	-
	7.0	1403	1397	172	1173	1173	144	993	993	122	818	818	100	-	-	-
	8.0	***1281***	***1281***	***138***	***1110***	***1110***	***119***	***935***	***935***	***100***	-	-	-	-	-	-
23	3.0	2700	2081	774	2152	1827	617	1624	1572	465	1312	1312	376	1081	1081	310
	4.0	***2432***	***1955***	***523***	***1875***	***1695***	***403***	***1426***	***1426***	***307***	***1197***	***1197***	***257***	***964***	***964***	***207***
	5.0	2144	1820	369	1616	1558	278	1302	1302	224	1079	1079	186	-	-	-
	6.0	***1838***	***1672***	***263***	***1418***	***1418***	***203***	***1215***	***1215***	***174***	***1017***	***1017***	***146***	-	-	-
	7.0	1636	1564	201	1352	1352	166	1154	1154	142	956	956	117	-	-	-
	8.0	***1525***	***1497***	***164***	***1290***	***1290***	***139***	***1092***	***1092***	***117***	-	-	-	-	-	-
24	3.0	3011	2176	863	2492	1932	714	1959	1692	562	1485	1459	426	1222	1222	350
	4.0	***2840***	***2094***	***611***	***2304***	***1846***	***495***	***1779***	***1604***	***382***	***1383***	***1383***	***297***	***1140***	***1140***	***245***
	5.0	2641	2000	454	2100	1750	361	1630	1524	280	1289	1289	222	-	-	-
	6.0	***2414***	***1892***	***346***	***1904***	***1655***	***273***	***1473***	***1428***	***211***	***1210***	***1210***	***173***	-	-	-
	7.0	2179	1781	268	1716	1556	211	1390	1367	171	1151	1151	141	-	-	-
	8.0	***1983***	***1684***	***213***	***1622***	***1501***	***174***	***1324***	***1312***	***142***	-	-	-	-	-	-
32	3.0	4089	3291	1172	3235	2855	927	2499	2427	716	2014	2014	577	1668	1668	478
	4.0	***3647***	***3058***	***784***	***2882***	***2649***	***620***	***2234***	***2220***	***480***	***1852***	***1852***	***398***	***1498***	***1498***	***322***
	5.0	3250	2843	559	2543	2433	437	2014	2014	346	1660	1660	286	-	-	-
	6.0	***2852***	***2615***	***409***	***2220***	***2195***	***318***	***1807***	***1807***	***259***	***1417***	***1417***	***203***	-	-	-
	7.0	2455	2361	302	1925	1925	237	1572	1572	193	1285	1285	158	-	-	-
	8.0	***2072***	***2064***	***223***	***1749***	***1749***	***188***	***1469***	***1469***	***158***	-	-	-	-	-	-
33	3.0	4948	3717	1419	4030	3281	1155	3115	2844	893	2416	2416	692	2000	2000	573
	4.0	***4535***	***3516***	***975***	***3600***	***3070***	***774***	***2783***	***2656***	***598***	***2215***	***2215***	***476***	***1778***	***1778***	***382***
	5.0	4044	3277	696	3129	2831	538	2423	2406	417	1938	1938	333	-	-	-
	6.0	***3517***	***3019***	***504***	***2630***	***2541***	***377***	***2166***	***2166***	***310***	***1813***	***1813***	***260***	-	-	-
	7.0	2977	2731	366	2443	2404	300	2048	2048	252	1695	1695	208	-	-	-
	8.0	***2783***	***2612***	***299***	***2319***	***2300***	***249***	***1938***	***1938***	***208***	-	-	-	-	-	-
34	3.0	5765	4110	1653	4807	3652	1378	3815	3203	1094	2887	2788	828	2360	2360	677
	4.0	***5427***	***3926***	***1167***	***4453***	***3468***	***957***	***3469***	***3023***	***746***	***2669***	***2635***	***574***	***2184***	***2184***	***470***
	5.0	5001	3699	860	4020	3243	691	3100	2825	533	2428	2428	418	-	-	-
	6.0	***4527***	***3450***	***649***	***3572***	***3011***	***512***	***2727***	***2607***	***391***	***2167***	***2167***	***311***	-	-	-
	7.0	4023	3193	494	3088	2761	379	2426	2393	298	2010	2010	247	-	-	-
	8.0	***3464***	***2923***	***372***	***2781***	***2588***	***299***	***2285***	***2275***	***246***	-	-	-	-	-	-
42	3.0	5217	4028	1496	4134	3650	1185	3206	3109	919	2588	2588	742	2152	2152	617
	4.0	***4792***	***3848***	***1030***	***3728***	***3411***	***802***	***2897***	***2871***	***623***	***2404***	***2404***	***517***	***1959***	***1959***	***421***
	5.0	4308	3625	741	3380	3192	581	2646	2646	455	2201	2201	379	-	-	-
	6.0	***3864***	***3381***	***554***	***2994***	***2923***	***429***	***2413***	***2413***	***346***	***1949***	***1949***	***279***	-	-	-
	7.0	3400	3185	418	2646	2637	325	2152	2152	264	1630	1630	200	-	-	-
	8.0	***2936***	***2866***	***316***	***2317***	***2317***	***249***	***1833***	***1833***	***197***	-	-	-	-	-	-
43	3.0	6508	4870	1866	5274	4285	1512	4142	3746	1187	3165	3165	907	2635	2635	756
	4.0	***6030***	***4639***	***1296***	***4818***	***4061***	***1036***	***3713***	***3506***	***798***	***2955***	***2955***	***635***	***2407***	***2407***	***518***
	5.0	5457	4360	939	4288	3794	738	3320	3251	571	2681	2681	461	2079	2079	358
	6.0	***4873***	***4072***	***698***	***3759***	***3504***	***539***	***2919***	***2919***	***418***	***2298***	***2298***	***329***	***1818***	***1818***	***261***
	7.0	4233	3747	520	3174	3129	390	2572	2572	316	2124	2124	261	1668	1668	205
	8.0	***3539***	***3353***	***380***	***2882***	***2874***	***310***	***2425***	***2425***	***261***	***1969***	***1969***	***212***	-	-	-
44	3.0	7364	5365	2111	6063	4766	1738	4690	4146	1344	3614	3580	1036	2978	2978	854
	4.0	***6902***	***5148***	***1484***	***5530***	***4521***	***1189***	***4259***	***3922***	***916***	***3337***	***3337***	***717***	***2733***	***2733***	***587***
	5.0	6309	4873	1085	4977	4256	856	3829	3674	659	3050	3050	525	2394	2394	412
	6.0	***5674***	***4574***	***813***	***4382***	***3954***	***628***	***3358***	***3337***	***481***	***2681***	***2681***	***384***	***2148***	***2148***	***308***
	7.0	4977	4239	611	3727	3580	458	3019	3019	371	2507	2507	308	1974	1974	243
	8.0	***4218***	***3844***	***453***	***3429***	***3357***	***369***	***2855***	***2855***	***307***	***2333***	***2333***	***251***	-	-	-
52	3.0	7311	5258	2096	5832	4670	1672	4541	4063	1302	3542	3508	1015	2919	2919	837
	4.0	***6720***	***5045***	***1445***	***5267***	***4431***	***1132***	***4111***	***3843***	***884***	***3270***	***3270***	***703***	***2678***	***2678***	***576***
	5.0	6020	4776	1036	4675	4171	804	3721	3600	640	2989	2989	514	2346	2346	404
	6.0	***5321***	***4482***	***763***	***4164***	***3875***	***597***	***3290***	***3271***	***472***	**2628**	**2628**	***377***	***1905***	***1905***	***273***
	7.0	4649	4154	571	3626	3508	446	2927	2927	360	2120	2120	260	-	-	-
	8.0	***3922***	***3768***	***422***	***3115***	***3115***	***335***	***2376***	***2376***	***255***	***1885***	***1885***	***203***	-	-	-
53	3.0	9294	7051	2664	7559	6228	2167	5866	5409	1682	4596	4596	1318	3804	3804	1091
	4.0	***8487***	***6658***	***1825***	***6767***	***5837***	***1455***	***5211***	***5024***	***1120***	***4214***	***4214***	***906***	***3395***	***3395***	***730***
	5.0	7586	6221	1305	5921	5396	1018	4610	4582	793	3722	3722	640	2753	2753	474
	6.0	***6658***	***5758***	***954***	***5047***	***4878***	***723***	***3954***	***3954***	***567***	***3026***	***3026***	***434***	***2398***	***2398***	***344***
	7.0	5456	5109	670	4118	4118	506	3408	3408	419	2794	2794	343	-	-	-
	8.0	***4501***	***4450***	***484***	***3818***	***3818***	***410***	***3190***	***3190***	***343***	***2576***	***2576***	***277***	-	-	-
54	3.0	9675	7055	2773	7929	6249	2273	6184	5461	1773	4769	4727	1367	3923	3923	1124
	4.0	***9002***	***6739***	***1935***	***7215***	***5917***	***1551***	***5576***	***5149***	***1199***	***4385***	***4385***	***943***	***3552***	***3552***	***764***
	5.0	8167	6350	1405	6422	5543	1105	4941	4778	850	3936	3936	677	2984	2984	513
	6.0	***7242***	***5914***	***1038***	***5576***	***5112***	***799***	***4227***	***4227***	***606***	***3394***	***3394***	***486***	2719	2719	390
	7.0	6157	5391	756	4623	4522	568	3830	3830	471	3169	3169	389	2494	2494	306
	8.0	***5205***	***4861***	***560***	***4319***	***4279***	***464***	***3618***	***3618***	***389***	***2944***	***2944***	***316***	-	-	-

TABLE 7 COOLING CAPACITIES (26°C DB, 18°C WB AIR ENTERING TEMP. HIGH SPEED)

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	1856	1388	532	1507	1226	432	1139	1054	327	881	881	253	737	737	211
	4.0	*1656*	*1293*	*356*	*1294*	*1126*	*278*	*966*	*954*	*208*	*801*	*801*	*172*	*654*	*654*	*141*
	5.0	1448	1196	249	1091	1024	188	860	860	148	721	721	124	597	597	103
	6.0	*1225*	*1089*	*176*	*947*	*936*	*136*	*804*	*804*	*115*	*678*	*678*	*97*	*556*	*556*	*80*
	7.0	1086	1018	133	886	886	109	761	761	93	638	638	78	519	519	64
	8.0	*1011*	*975*	*109*	*844*	*844*	*91*	*721*	*721*	*78*	*601*	*601*	*65*	*481*	*481*	*52*
13	3.0	1976	1400	566	1628	1240	467	1265	1082	363	946	939	271	779	779	223
	4.0	*1791*	*1313*	*385*	*1433*	*1153*	*308*	*1082*	*1001*	*233*	*860*	*860*	*185*	*721*	*721*	*155*
	5.0	1589	1222	273	1238	1068	213	979	951	168	815	815	140	677	677	116
	6.0	*1428*	*1150*	*205*	*1150*	*1029*	*165*	*916*	*912*	*131*	*772*	*772*	*111*	*636*	*636*	*91*
	7.0	1331	1107	163	1065	990	131	867	867	107	729	729	90	594	594	73
	8.0	*1243*	*1069*	*134*	*994*	*956*	*107*	*826*	*826*	*89*	*689*	*689*	*74*	*555*	*555*	*60*
14	3.0	2784	1901	798	2350	1697	674	1881	1490	539	1435	1298	411	1117	1117	320
	4.0	*2626*	*1824*	*565*	*2168*	*1616*	*466*	*1701*	*1411*	*366*	*1303*	*1231*	*280*	*1043*	*1043*	*224*
	5.0	2439	1738	419	1971	1527	339	1528	1332	263	1184	1159	204	972	972	167
	6.0	*2224*	*1639*	*319*	*1765*	*1435*	*253*	*1380*	*1259*	*198*	*1120*	*1110*	*161*	*924*	*924*	*132*
	7.0	1997	1536	245	1611	1363	198	1306	1217	160	1062	1062	130	872	872	107
	8.0	*1849*	*1468*	*199*	*1528*	*1322*	*164*	*1239*	*1175*	*133*	*1011*	*1011*	*109*	*818*	*818*	*88*
22	3.0	2784	1863	798	2297	1663	658	1741	1461	499	1315	1272	377	1106	1106	317
	4.0	*2564*	*1788*	*551*	*2021*	*1583*	*435*	*1490*	*1383*	*320*	*1214*	*1214*	*261*	*1001*	*1001*	*215*
	5.0	2288	1703	394	1754	1497	302	1315	1315	226	1106	1106	190	889	889	153
	6.0	*1996*	*1606*	*286*	*1478*	*1406*	*212*	*1202*	*1202*	*172*	*989*	*989*	*142*	*-*	*-*	*-*
	7.0	1703	1506	209	1290	1290	158	1081	1081	133	905	905	111	-	-	-
	8.0	*1419*	*1396*	*153*	*1194*	*1194*	*128*	*1022*	*1022*	*110*	*851*	*851*	*91*	*-*	*-*	*-*
23	3.0	3048	2194	874	2540	1962	728	1954	1704	560	1430	1430	410	1199	1199	344
	4.0	*2808*	*2081*	*604*	*2251*	*1832*	*484*	*1690*	*1578*	*363*	*1314*	*1314*	*283*	*1083*	*1083*	*233*
	5.0	2540	1959	437	1954	1698	336	1442	1432	248	1195	1195	205	980	980	169
	6.0	*2234*	*1823*	*320*	*1653*	*1553*	*237*	*1319*	*1319*	*189*	*1116*	*1116*	*160*	*-*	*-*	*-*
	7.0	1888	1664	232	1492	1461	183	1253	1253	154	1055	1055	130	-	-	-
	8.0	*1739*	*1593*	*187*	*1397*	*1393*	*150*	*1191*	*1191*	*128*	*993*	*993*	*107*	*-*	*-*	*-*
24	3.0	3365	2290	965	2857	2052	819	2304	1809	660	1739	1564	499	1340	1340	384
	4.0	*3211*	*2216*	*690*	*2675*	*1970*	*575*	*2108*	*1722*	*453*	*1598*	*1492*	*344*	*1263*	*1263*	*272*
	5.0	3023	2128	520	2461	1874	423	1912	1632	329	1453	1408	250	1167	1167	201
	6.0	*2795*	*2023*	*401*	*2233*	*1772*	*320*	*1712*	*1535*	*245*	*1332*	*1320*	*191*	*-*	*-*	*-*
	7.0	2547	1910	313	1990	1660	245	1563	1452	192	1265	1261	155	-	-	-
	8.0	*2288*	*1792*	*246*	*1826*	*1579*	*196*	*1477*	*1399*	*159*	*1198*	*1198*	*129*	*-*	*-*	*-*
32	3.0	4648	3483	1332	3794	3075	1088	2926	2640	839	2249	2227	645	1844	1844	529
	4.0	*4295*	*3310*	*923*	*3426*	*2889*	*737*	*2617*	*2456*	*563*	*2028*	*2028*	*436*	*1682*	*1682*	*362*
	5.0	3824	3076	658	3029	2676	521	2323	2259	399	1852	1852	318	1484	1484	255
	6.0	*3397*	*2860*	*487*	*2617*	*2438*	*375*	*1999*	*1999*	*286*	*1631*	*1631*	*234*	*-*	*-*	*-*
	7.0	2955	2624	363	2249	2193	276	1756	1756	216	1425	1425	175	-	-	-
	8.0	*2470*	*2337*	*265*	*1903*	*1903*	*205*	*1609*	*1609*	*173*	*1322*	*1322*	*142*	*-*	*-*	*-*
33	3.0	5593	3933	1603	4676	3503	1341	3684	3056	1056	2783	2631	798	2215	2215	635
	4.0	*5200*	*3745*	*1118*	*4238*	*3300*	*911*	*3268*	*2857*	*703*	*2478*	*2440*	*533*	*2007*	*2007*	*431*
	5.0	4727	3522	813	3753	3075	645	2838	2636	488	2187	2187	376	1750	1750	301
	6.0	*4182*	*3269*	*599*	*3185*	*2803*	*456*	*2395*	*2355*	*343*	*1986*	*1986*	*285*	*-*	*-*	*-*
	7.0	3517	2957	432	2714	2545	333	2242	2231	275	1875	1875	230	-	-	-
	8.0	*3088*	*2736*	*332*	*2561*	*2445*	*275*	*2118*	*2118*	*228*	*1757*	*1757*	*189*	*-*	*-*	*-*
34	3.0	6430	4332	1843	5483	3874	1572	4466	3418	1280	3427	2975	982	2585	2585	741
	4.0	*6188*	*4211*	*1330*	*5190*	*3741*	*1116*	*4141*	*3276*	*890*	*3157*	*2854*	*679*	*2454*	*2454*	*528*
	5.0	5772	3989	993	4752	3518	817	3714	3063	639	2816	2662	484	2234	2234	384
	6.0	*5261*	*3718*	*754*	*4240*	*3256*	*608*	*3256*	*2826*	*467*	*2471*	*2434*	*354*	*-*	*-*	*-*
	7.0	4776	3483	587	3729	3018	458	2806	2600	345	2239	2239	275	-	-	-
	8.0	*4205*	*3209*	*452*	*3202*	*2764*	*344*	*2564*	*2446*	*276*	*2101*	*2101*	*226*	*-*	*-*	*-*
42	3.0	5933	4245	1701	4927	3797	1412	3825	3350	1097	2887	2853	828	2375	2375	681
	4.0	*5527*	*4127*	*1188*	*4424*	*3716*	*951*	*3448*	*3201*	*741*	*2626*	*2626*	*565*	*2191*	*2191*	*471*
	5.0	5043	3909	867	3960	3468	681	3071	2953	528	2433	2433	418	1978	1978	340
	6.0	*4521*	*3644*	*648*	*3554*	*3236*	*509*	*2723*	*2693*	*390*	*2201*	*2201*	*315*	*-*	*-*	*-*
	7.0	4038	3413	496	3110	2957	382	2413	2413	297	1930	1930	237	-	-	-
	8.0	*3516*	*3197*	*378*	*2684*	*2649*	*289*	*2104*	*2104*	*226*	*1640*	*1640*	*176*	*-*	*-*	*-*
43	3.0	7278	5119	2086	6123	4578	1755	4873	4012	1397	3713	3471	1064	2909	2909	834
	4.0	*6880*	*4927*	*1479*	*5621*	*4345*	*1209*	*4398*	*3787*	*946*	*3339*	*3243*	*718*	*2690*	*2690*	*578*
	5.0	6348	4678	1092	5055	4082	869	3886	3528	668	3001	2989	516	2407	2407	414
	6.0	*5713*	*4379*	*819*	*4489*	*3812*	*643*	*3412*	*3258*	*489*	*2645*	*2645*	*379*	*2051*	*2051*	*294*
	7.0	5073	4081	623	3832	3480	471	2864	2856	352	2343	2343	288	1896	1896	233
	8.0	*4270*	*3693*	*459*	*3211*	*3104*	*345*	*2645*	*2645*	*284*	*2197*	*2197*	*236*	*1736*	*1736*	*187*
44	3.0	8228	5635	2359	6976	5061	2000	5571	4449	1597	4208	3853	1206	3276	3276	939
	4.0	*7811*	*5442*	*1679*	*6453*	*4830*	*1387*	*5038*	*4212*	*1083*	*3829*	*3642*	*823*	*3040*	*3040*	*654*
	5.0	7289	5203	1254	5858	4567	1008	4505	3959	775	3440	3386	592	2753	2753	474
	6.0	*6637*	*4909*	*951*	*5223*	*4278*	*749*	*3952*	*3674*	*566*	*3030*	*3030*	*434*	*2405*	*2405*	*345*
	7.0	5920	4585	727	4505	3938	554	3378	3307	415	2763	2763	339	2241	2241	275
	8.0	*5079*	*4200*	*546*	*3850*	*3580*	*414*	*3142*	*3115*	*338*	*2599*	*2599*	*279*	*2066*	*2066*	*222*
52	3.0	8064	5522	2312	6800	4960	1949	5294	4360	1518	4097	3776	1175	3210	3210	920
	4.0	*7742*	*5333*	*1664*	*6209*	*4733*	*1335*	*4783*	*4128*	*1028*	*3734*	*3570*	*803*	*2979*	*2979*	*641*
	5.0	7043	5099	1211	5536	4475	952	4272	3880	735	3425	3318	589	2698	2698	464
	6.0	*6289*	*4811*	*901*	*4891*	*4192*	*701*	*3761*	*3601*	*539*	**2969**	**2969**	**426**	*2362*	*2362*	*339*
	7.0	5536	4493	680	4245	3859	522	3331	3241	409	2604	2604	320	1831	1831	225
	8.0	*4756*	*4116*	*511*	*3600*	*3508*	*387*	*2793*	*2793*	*300*	*2120*	*2120*	*228*	*-*	*-*	*-*
53	3.0	10486	7441	3006	8760	6638	2511	6904	5802	1979	5265	5012	1509	4214	4214	1208
	4.0	*9771*	*7103*	*2101*	*7941*	*6259*	*1707*	*6139*	*5427*	*1320*	*4705*	*4643*	*1012*	*3832*	*3832*	*824*
	5.0	8842	6667	1521	7040	5838	1211	5374	5023	924	4187	4187	720	3313	3313	570
	6.0	*7859*	*6212*	*1127*	*6084*	*5371*	*872*	*4583*	*4513*	*657*	*3545*	*3545*	*508*	*2712*	*2712*	*389*
	7.0	6712	5667	825	4910	4718	603	3763	3763	462	3108	3108	382	2487	2487	306
	8.0	*5183*	*4873*	*557*	*4146*	*4130*	*446*	*3504*	*3504*	*377*	*2890*	*2890*	*311*	*-*	*-*	*-*
54	3.0	10848	7590	3110	9156	6648	2625	7321	5849	2099	5549	5077	1591	4326	4326	1240
	4.0	*10233*	*7142*	*2200*	*8405*	*6317*	*1807*	*6581*	*5519*	*1415*	*4967*	*4764*	*1068*	*3989*	*3989*	*858*
	5.0	9463	6790	1628	7559	5941	1300	5814	5158	1000	4438	4401	763	3526	3526	606
	6.0	*8511*	*6358*	*1220*	*6660*	*5534*	*955*	*4994*	*4728*	*716*	*3817*	*3817*	*547*	3050	3050	437
	7.0	7453	5884	916	5602	5029	688	4200	4175	516	3499	3499	430	2825	2825	347
	8.0	*6078*	*5249*	*653*	*4782*	*4553*	*514*	*3949*	*3949*	*425*	*3275*	*3275*	*352*	*-*	*-*	*-*

COOLING CAPACITY (27°C DB, 19°C WB AIR ENTERING TEMP. HIGH SPEED) TABLE 8

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	2085	1460	598	1759	1311	504	1379	1144	395	1017	975	291	812	812	233
	4.0	***1907***	***1376***	***410***	***1539***	***1212***	***331***	***1171***	***1049***	***252***	***876***	***876***	***188***	***732***	***732***	***157***
	5.0	1699	1282	292	1320	1120	227	985	951	169	790	790	136	660	660	113
	6.0	***1470***	***1180***	***211***	***1118***	***1020***	***160***	***865***	***865***	***124***	***740***	***740***	***106***	***617***	***617***	***88***
	7.0	1240	1076	152	990	952	122	822	822	101	700	700	86	577	577	71
	8.0	***1150***	***1033***	***124***	***926***	***912***	***100***	***782***	***782***	***84***	***660***	***660***	***71***	***540***	***540***	***58***
13	3.0	2213	1477	634	1873	1319	537	1501	1159	430	1128	1006	323	857	857	246
	4.0	***2043***	***1395***	***439***	***1685***	***1236***	***362***	***1304***	***1076***	***280***	***965***	***932***	***207***	***789***	***789***	***170***
	5.0	1848	1307	318	1454	1143	250	1126	1001	194	884	884	152	745	745	128
	6.0	***1632***	***1213***	***234***	***1316***	***1080***	***189***	***1038***	***963***	***149***	***840***	***840***	***120***	***703***	***703***	***101***
	7.0	1511	1161	186	1223	1041	150	962	927	118	796	796	98	661	661	81
	8.0	***1418***	***1122***	***152***	***1133***	***1003***	***122***	***899***	***892***	***97***	***756***	***756***	***81***	***621***	***621***	***67***
14	3.0	3093	1998	887	2663	1796	763	2196	1590	629	1708	1388	490	1274	1205	365
	4.0	***2943***	***1926***	***633***	***2490***	***1719***	***535***	***2009***	***1512***	***432***	***1534***	***1314***	***330***	***1162***	***1140***	***250***
	5.0	2775	1847	477	2232	1630	384	1804	1424	310	1374	1240	236	1067	1067	183
	6.0	***2560***	***1749***	***367***	***2067***	***1534***	***296***	***1598***	***1335***	***229***	***1251***	***1175***	***179***	***1017***	***1017***	***146***
	7.0	2327	1646	286	1842	1438	226	1473	1277	181	1187	1136	146	969	969	119
	8.0	***2102***	***1547***	***226***	***1714***	***1380***	***184***	***1393***	***1237***	***150***	***1123***	***1093***	***121***	***914***	***914***	***98***
22	3.0	3031	1958	869	2639	1760	757	2105	1559	603	1553	1361	445	1210	1181	347
	4.0	***2905***	***1887***	***625***	***2414***	***1684***	***519***	***1837***	***1481***	***395***	***1323***	***1288***	***284***	***1110***	***1110***	***239***
	5.0	2673	1810	460	2088	1598	359	1570	1396	270	1214	1214	209	1001	1001	172
	6.0	***2397***	***1714***	***344***	***1829***	***1504***	***262***	***1331***	***1325***	***191***	***1102***	***1102***	***158***	***884***	***884***	***127***
	7.0	2096	1613	258	1536	1409	189	1194	1194	147	993	993	122	818	818	100
	8.0	***1779***	***1516***	***191***	***1281***	***1281***	***138***	***1106***	***1106***	***119***	***935***	***935***	***100***	-	-	-
23	3.0	3408	2305	977	2898	2073	831	2354	1839	675	1739	1579	499	1314	1314	377
	4.0	***3180***	***2198***	***684***	***2647***	***1962***	***569***	***2053***	***1711***	***441***	***1492***	***1454***	***321***	***1203***	***1203***	***259***
	5.0	2928	2085	504	2298	1839	395	1748	1576	301	1314	1314	226	1079	1079	186
	6.0	***2655***	***1966***	***381***	***2036***	***1701***	***292***	***1475***	***1436***	***211***	***1215***	***1215***	***174***	***1015***	***1015***	***146***
	7.0	2309	1816	284	1706	1552	210	1352	1352	166	1149	1149	141	953	953	117
	8.0	***1995***	***1681***	***214***	***1583***	***1491***	***170***	***1286***	***1286***	***138***	***1092***	***1092***	***117***	-	-	-
24	3.0	3730	2403	1069	3228	2168	925	2686	1929	770	2092	1683	600	1543	1450	442
	4.0	***3582***	***2331***	***770***	***3063***	***2093***	***658***	***2484***	***1844***	***534***	***1900***	***1600***	***409***	***1426***	***1382***	***307***
	5.0	3410	2251	587	2812	2003	484	2265	1751	390	1716	1516	295	1308	1299	225
	6.0	***3205***	***2157***	***459***	***2612***	***1896***	***374***	***2037***	***1652***	***292***	***1536***	***1425***	***220***	***1206***	***1206***	***173***
	7.0	2954	2044	363	2359	1786	290	1802	1545	221	1414	1351	174	1147	1147	141
	8.0	***2680***	***1923***	***288***	***2092***	***1670***	***225***	***1665***	***1475***	***179***	***1340***	***1299***	***144***	-	-	-
32	3.0	5180	3643	1485	4427	3298	1269	3544	2895	1016	2690	2476	771	2021	2021	579
	4.0	***4902***	***3512***	***1054***	***4015***	***3104***	***863***	***3132***	***2689***	***673***	***2367***	***2273***	***509***	***1866***	***1866***	***401***
	5.0	4501	3326	774	3567	2909	614	2720	2466	468	2072	2056	356	1682	1682	289
	6.0	***4000***	***3089***	***573***	***3132***	***2674***	***449***	***2381***	***2262***	***341***	***1837***	***1837***	***263***	***1454***	***1454***	***208***
	7.0	3529	2863	434	2705	2444	332	2021	2002	248	1594	1594	196	1285	1285	158
	8.0	***3029***	***2611***	***326***	***2234***	***2157***	***240***	***1756***	***1756***	***189***	***1469***	***1469***	***158***	-	-	-
33	3.0	6228	4133	1785	5341	3717	1531	4335	3274	1243	3351	2850	961	2485	2433	712
	4.0	***5886***	***3968***	***1265***	***4928***	***3531***	***1060***	***3905***	***3084***	***840***	***2935***	***2653***	***631***	***2235***	***2235***	***481***
	5.0	5442	3762	936	4346	3298	748	3420	2867	588	2547	2440	438	1979	1979	340
	6.0	***4918***	***3525***	***705***	***3850***	***3052***	***552***	***2880***	***2608***	***413***	***2187***	***2179***	***313***	***1806***	***1806***	***259***
	7.0	4266	3234	524	3185	2748	391	2492	2382	306	2048	2048	252	1695	1695	208
	8.0	***3517***	***2896***	***378***	***2852***	***2572***	***307***	***2353***	***2285***	***253***	***1938***	***1938***	***208***	-	-	-
34	3.0	7100	4543	2035	6168	4092	1768	5165	3639	1481	4078	3184	1169	3032	2760	869
	4.0	***6893***	***4440***	***1482***	***5916***	***3975***	***1272***	***4838***	***3500***	***1040***	***3753***	***3049***	***807***	***2790***	***2645***	***600***
	5.0	6611	4302	1137	5023	3821	864	4460	3338	767	3393	2896	584	2554	2512	439
	6.0	***6060***	***4005***	***869***	***5004***	***3528***	***717***	***3908***	***3061***	***560***	***2927***	***2647***	***420***	***2228***	***2228***	***319***
	7.0	5550	3753	682	4471	3277	549	3390	2821	416	2528	2425	311	2048	2048	252
	8.0	***5040***	***3520***	***542***	***3912***	***3036***	***421***	***2947***	***2619***	***317***	***2365***	***2311***	***254***	-	-	-
42	3.0	6609	4452	1895	5643	4010	1618	4521	3566	1296	3448	3166	988	2597	2597	745
	4.0	***6261***	***4351***	***1346***	***5237***	***3896***	***1126***	***4115***	***3495***	***885***	***3061***	***2925***	***658***	***2413***	***2413***	***519***
	5.0	5894	4216	1014	4644	3750	799	3612	3224	621	2742	2695	472	2220	2220	382
	6.0	***5295***	***3925***	***759***	***4173***	***3501***	***598***	***3187***	***2973***	***457***	***2452***	***2452***	***351***	***1988***	***1988***	***285***
	7.0	4734	3678	582	3670	3236	451	2800	2717	344	2201	2201	270	1698	1698	209
	8.0	***4212***	***3509***	***453***	***3226***	***2981***	***347***	***2413***	***2408***	***259***	***1872***	***1872***	***201***	-	-	-
43	3.0	8075	5363	2315	6959	4843	1995	5731	4301	1643	4416	3735	1266	3266	3186	936
	4.0	***7716***	***5190***	***1659***	***6495***	***4632***	***1396***	***5165***	***4050***	***1110***	***3950***	***3511***	***849***	***3001***	***2984***	***645***
	5.0	7252	4974	1247	5860	4382	1008	4617	3804	794	3494	3272	601	2709	2709	466
	6.0	***6641***	***4696***	***952***	***5293***	***4096***	***759***	***4069***	***3546***	***583***	***3037***	***2984***	***435***	***2371***	***2371***	***340***
	7.0	5977	4398	734	4653	3808	572	3466	3234	426	2599	2599	319	2115	2115	260
	8.0	***5183***	***4041***	***557***	***3868***	***3434***	***416***	***2937***	***2882***	***316***	***2425***	***2425***	***261***	***1969***	***1969***	***212***
44	3.0	9123	5903	2615	7885	5338	2260	6535	4755	1873	5049	4143	1447	3737	3565	1071
	4.0	***8735***	***5723***	***1878***	***7423***	***5134***	***1596***	***5981***	***4525***	***1286***	***4546***	***3921***	***977***	***3399***	***3350***	***731***
	5.0	8258	5505	1420	6848	4892	1178	5366	4261	923	4034	3673	694	3091	3091	532
	6.0	***7692***	***5254***	***1102***	***6186***	***4604***	***887***	***4710***	***3969***	***675***	***3542***	***3397***	***508***	***2722***	***2722***	***390***
	7.0	6946	4926	853	5428	4276	667	4055	3654	498	3050	3035	375	2497	2497	307
	8.0	***6145***	***4579***	***661***	***4628***	***3918***	***498***	***3501***	***3332***	***376***	***2855***	***2855***	***307***	***2333***	***2333***	***251***
52	3.0	8940	5785	2563	7728	5231	2215	6343	4659	1818	4864	4060	1394	3694	3494	1059
	4.0	***8560***	***5608***	***1840***	***7204***	***5031***	***1549***	***5671***	***4434***	***1219***	***4326***	***3843***	***930***	***3331***	***3283***	***716***
	5.0	8145	5395	1401	6600	4794	1135	5052	4176	869	3868	3600	665	3029	3029	521
	6.0	***7365***	***5149***	***1056***	***5805***	***4512***	***832***	***4460***	***3890***	***639***	***3425***	***3329***	***491***	***2668***	***2668***	***382***
	7.0	6558	4828	806	5079	4190	624	3842	3581	472	3021	3021	371	2255	2255	277
	8.0	***5698***	***4487***	***612***	***4299***	***3839***	***462***	***3250***	***3250***	***349***	***2443***	***2443***	***263***	***1885***	***1885***	***203***
53	3.0	11657	7799	3342	9969	7017	2858	8132	6215	2331	6276	5410	1799	4705	4625	1349
	4.0	***11042***	***7506***	***2374***	***9215***	***6680***	***1981***	***7286***	***5838***	***1566***	***5525***	***5040***	***1188***	***4255***	***4255***	***915***
	5.0	10208	7126	1756	8242	6249	1418	6412	5439	1103	4828	4643	830	3791	3791	652
	6.0	***9215***	***6679***	***1321***	***7259***	***5812***	***1040***	***5456***	***4968***	***782***	***4091***	***4091***	***586***	***3108***	***3108***	***445***
	7.0	8078	6171	992	6057	5251	744	4419	4341	543	3436	3436	422	2794	2794	343
	8.0	***6712***	***5552***	***722***	***4692***	***4502***	***504***	***3818***	***3818***	***410***	***3190***	***3190***	***343***	***2576***	***2576***	***277***
54	3.0	12041	7955	3452	10367	7022	2972	8564	6239	2455	6633	5444	1902	4928	4702	1413
	4.0	***11464***	***7523***	***2465***	***9733***	***6744***	***2093***	***7771***	***5909***	***1671***	***5893***	***5122***	***1267***	***4465***	***4406***	***960***
	5.0	10771	7205	1853	8755	6378	1506	6924	5548	1191	5205	4785	895	4002	4002	688
	6.0	***9925***	***6829***	***1423***	***7929***	***5968***	***1137***	***5999***	***5138***	***860***	***4438***	***4342***	***636***	3420	3420	490
	7.0	8848	6357	1087	6819	5487	838	4967	4629	610	3830	3830	471	3169	3169	389
	8.0	***7612***	***5823***	***818***	***5496***	***4882***	***591***	***4372***	***4241***	***470***	***3618***	***3618***	***389***	***2944***	***2944***	***316***

TABLE 9 COOLING CAPACITIES (28°C DB, 20°C WB AIR ENTERING TEMP. HIGH SPEED)

TH_20 (°C)		5			7			9			11			13		
YFQE	ΔTH_20	Total	Sensible	Flow H_20	Total	Sensible	Flow H_20	Total	Sensible	Flow H_20	Total	Sensible	Flow H_20	Total	Sensible	Flow H_20
Model	K	W	W	l/s	W	W	l/s	W	W	l/s	W	W	l/s	W	W	l/s
12	3.0	2325	1533	667	1996	1383	572	1635	1228	469	1240	1063	356	905	899	259
	4.0	***2147***	***1449***	***462***	***1814***	***1303***	***390***	***1427***	***1140***	***307***	***1049***	***974***	***225***	***806***	***806***	***173***
	5.0	1961	1366	337	1587	1206	273	1193	1038	205	878	873	151	724	724	124
	6.0	***1752***	***1276***	***251***	***1352***	***1106***	***194***	***990***	***940***	***142***	***804***	***804***	***115***	***678***	***678***	***97***
	7.0	1512	1173	186	1139	1012	140	902	888	111	761	761	93	638	638	78
	8.0	***1310***	***1086***	***141***	***1054***	***971***	***113***	***844***	***844***	***91***	***721***	***721***	***78***	***600***	***600***	***64***
13	3.0	2458	1552	705	2121	1396	608	1759	1240	504	1370	1082	393	992	933	284
	4.0	***2295***	***1474***	***493***	***1944***	***1317***	***418***	***1560***	***1157***	***335***	***1165***	***1000***	***250***	***857***	***857***	***184***
	5.0	2114	1392	364	1734	1228	298	1340	1069	231	1014	938	174	814	814	140
	6.0	***1908***	***1302***	***274***	***1511***	***1137***	***217***	***1201***	***1013***	***172***	***935***	***902***	***134***	***770***	***770***	***110***
	7.0	1713	1219	210	1399	1091	172	1111	977	137	870	865	107	728	728	89
	8.0	***1610***	***1177***	***173***	***1306***	***1054***	***140***	***1023***	***940***	***110***	***823***	***823***	***89***	***688***	***688***	***74***
14	3.0	3410	2093	978	2985	1893	856	2527	1692	725	2022	1485	580	1521	1288	436
	4.0	***3270***	***2025***	***703***	***2831***	***1824***	***609***	***2345***	***1616***	***504***	***1830***	***1407***	***393***	***1367***	***1221***	***294***
	5.0	3111	1951	535	2635	1738	453	2121	1523	365	1630	1326	280	1219	1149	210
	6.0	***2915***	***1861***	***418***	***2411***	***1642***	***346***	***1900***	***1433***	***272***	***1438***	***1243***	***206***	***1133***	***1096***	***162***
	7.0	2691	1762	331	2168	1541	266	1682	1342	207	1341	1196	165	1072	1053	132
	8.0	***2429***	***1649***	***261***	***1945***	***1448***	***209***	***1573***	***1294***	***169***	***1264***	***1156***	***136***	***1014***	***1007***	***109***
22	3.0	3342	2051	958	2978	1855	854	2481	1658	711	1900	1455	545	1352	1262	388
	4.0	***3246***	***1985***	***698***	***2759***	***1787***	***593***	***2230***	***1583***	***479***	***1624***	***1379***	***349***	***1219***	***1219***	***262***
	5.0	3015	1912	519	2522	1703	434	1929	1493	332	1373	1299	236	1114	1114	192
	6.0	***2784***	***1824***	***399***	***2222***	***1609***	***318***	***1637***	***1404***	***235***	***1214***	***1214***	***174***	***1001***	***1001***	***144***
	7.0	2514	1727	309	1904	1510	234	1361	1333	167	1097	1097	135	905	905	111
	8.0	***2196***	***1616***	***236***	***1586***	***1419***	***171***	***1194***	***1194***	***128***	***1022***	***1022***	***110***	***849***	***849***	***91***
23	3.0	3780	2414	1084	3276	2187	939	2730	1953	783	2127	1709	610	1512	1450	434
	4.0	***3552***	***2308***	***764***	***3030***	***2078***	***651***	***2465***	***1843***	***530***	***1838***	***1590***	***395***	***1323***	***1323***	***284***
	5.0	3312	2200	570	2772	1969	477	2152	1717	370	1541	1456	265	1203	1203	207
	6.0	***3048***	***2085***	***437***	***2465***	***1843***	***353***	***1822***	***1579***	***261***	***1314***	***1314***	***188***	***1112***	***1112***	***159***
	7.0	2760	1964	339	2127	1705	261	1550	1455	190	1248	1248	153	1050	1050	129
	8.0	***2408***	***1819***	***259***	***1822***	***1577***	***196***	***1434***	***1394***	***154***	***1187***	***1187***	***128***	***993***	***993***	***107***
24	3.0	4106	2514	1177	3604	2279	1033	3068	2044	880	2481	1802	711	1869	1561	536
	4.0	***3969***	***2448***	***853***	***3450***	***2210***	***742***	***2886***	***1966***	***620***	***2273***	***1719***	***489***	***1692***	***1485***	***364***
	5.0	3810	2373	655	3262	2127	561	2663	1875	458	2053	1629	353	1520	1403	261
	6.0	***3616***	***2284***	***518***	***3040***	***2031***	***436***	***2414***	***1772***	***346***	***1826***	***1532***	***262***	***1363***	***1314***	***195***
	7.0	3399	2187	418	2772	1918	341	2155	1665	265	1614	1435	198	1277	1253	157
	8.0	***3125***	***2068***	***336***	***2492***	***1802***	***268***	***1904***	***1558***	***205***	***1508***	***1376***	***162***	***1206***	***1194***	***130***
32	3.0	5737	3803	1645	4988	3465	1430	4177	3113	1197	3220	2689	923	2396	2277	687
	4.0	***5459***	***3671***	***1174***	***4677***	***3324***	***1006***	***3765***	***2927***	***809***	***2823***	***2487***	***607***	***2087***	***2062***	***449***
	5.0	5138	3528	884	4265	3143	734	3294	2705	567	2455	2282	422	1874	1874	322
	6.0	***4707***	***3336***	***675***	***3765***	***2916***	***540***	***2852***	***2486***	***409***	***2131***	***2074***	***305***	***1668***	***1668***	***239***
	7.0	4206	3111	517	3264	2682	401	2426	2250	298	1807	1807	222	1432	1432	176
	8.0	***3647***	***2854***	***392***	***2794***	***2447***	***300***	***1999***	***1967***	***215***	***1609***	***1609***	***173***	***1322***	***1322***	***142***
33	3.0	6873	4324	1970	6007	3920	1722	5059	3503	1450	4002	3064	1147	2984	2641	855
	4.0	***6551***	***4168***	***1408***	***5644***	***3756***	***1213***	***4596***	***3306***	***988***	***3545***	***2871***	***762***	***2617***	***2457***	***563***
	5.0	6168	3991	1061	5180	3555	891	4072	3086	700	3046	2649	524	2256	2232	388
	6.0	***5684***	***3775***	***815***	***4596***	***3304***	***659***	***3517***	***2848***	***504***	***2547***	***2400***	***365***	***1986***	***1986***	***285***
	7.0	5079	3510	624	3933	3022	483	2880	2559	354	2277	2220	280	1875	1875	230
	8.0	***4349***	***3196***	***467***	***3240***	***2717***	***348***	***2617***	***2411***	***281***	***2138***	***2113***	***230***	***1757***	***1757***	***189***
34	3.0	7790	4750	2233	6873	4307	1970	5886	3860	1687	4797	3403	1375	3656	2954	1048
	4.0	***7609***	***4660***	***1636***	***6641***	***4199***	***1428***	***5593***	***3734***	***1203***	***4460***	***3267***	***959***	***3337***	***2826***	***717***
	5.0	7357	4536	1265	6339	4061	1090	5220	3578	898	4058	3105	698	3011	2688	518
	6.0	***6983***	***4349***	***1001***	***5902***	***3858***	***846***	***4742***	***3368***	***680***	***3601***	***2910***	***516***	***2652***	***2510***	***380***
	7.0	6510	4117	800	5382	3619	661	4188	3125	514	3099	2687	381	2337	2303	287
	8.0	***5950***	***3850***	***640***	***4768***	***3343***	***513***	***3598***	***2868***	***387***	***2698***	***2479***	***290***	***2174***	***2165***	***234***
42	3.0	7313	4655	2096	6342	4221	1818	5333	3783	1529	4096	3335	1174	3071	2909	880
	4.0	***6975***	***4567***	***1500***	***5991***	***4115***	***1288***	***4830***	***3659***	***1039***	***3651***	***3200***	***785***	***2742***	***2682***	***590***
	5.0	6609	4526	1137	5527	4049	951	4366	3534	751	3264	2986	561	2481	2470	427
	6.0	***6184***	***4339***	***886***	***4985***	***3806***	***715***	***3825***	***3265***	***548***	***2897***	***2759***	***415***	***2230***	***2230***	***320***
	7.0	5604	4079	688	4444	3555	546	3342	3006	411	2510	2481	308	1978	1978	243
	8.0	***5004***	***3807***	***538***	***3864***	***3268***	***415***	***2897***	***2741***	***311***	***2181***	***2181***	***235***	***1659***	***1659***	***178***
43	3.0	8925	5619	2559	7783	5086	2231	6588	4561	1888	5256	4008	1507	3923	3452	1125
	4.0	***8580***	***5450***	***1845***	***7411***	***4918***	***1593***	***6109***	***4358***	***1314***	***4690***	***3767***	***1008***	***3521***	***3253***	***757***
	5.0	8128	5240	1398	6880	4686	1183	5493	4097	945	4160	3532	716	3092	3004	532
	6.0	***7623***	***5013***	***1093***	***6242***	***4411***	***895***	***4854***	***3823***	***696***	***3613***	***3269***	***518***	***2699***	***2699***	***387***
	7.0	6959	4720	855	5548	4114	682	4197	3533	516	3028	2937	372	2352	2352	289
	8.0	***6216***	***4398***	***668***	***4781***	***3784***	***514***	***3430***	***3159***	***369***	***2663***	***2650***	***286***	***2197***	***2197***	***236***
44	3.0	10062	6174	2884	8810	5603	2525	7483	5033	2145	6002	4433	1720	4505	3846	1292
	4.0	***9689***	***5999***	***2083***	***8407***	***5428***	***1808***	***6976***	***4823***	***1500***	***5448***	***4214***	***1171***	***4014***	***3623***	***863***
	5.0	9242	5797	1590	7870	5196	1354	6350	4570	1092	4833	3957	831	3563	3385	613
	6.0	***8705***	***5558***	***1248***	***7244***	***4935***	***1038***	***5674***	***4294***	***813***	***4239***	***3694***	***608***	***3132***	***3096***	***449***
	7.0	8079	5287	993	6473	4614	795	4936	3985	606	3604	3372	443	2763	2763	339
	8.0	***7274***	***4945***	***782***	***5653***	***4277***	***608***	***4136***	***3627***	***445***	***3183***	***3093***	***342***	***2599***	***2599***	***279***
52	3.0	9860	6050	2827	8633	5491	2475	7419	4932	2127	5751	4345	1649	4353	3769	1248
	4.0	***9495***	***5879***	***2041***	***8334***	***5319***	***1792***	***6747***	***4727***	***1451***	***5133***	***4130***	***1104***	***3882***	***3551***	***835***
	5.0	9234	5681	1588	7688	5092	1322	5993	4478	1031	4568	3878	786	3452	3318	594
	6.0	***8603***	***5447***	***1233***	***6854***	***4837***	***982***	***5294***	***4208***	***759***	***3976***	***3620***	***570***	***3115***	***3034***	***447***
	7.0	7688	5181	945	6047	4522	743	4568	3905	561	3438	3305	422	2698	2698	332
	8.0	***6800***	***4846***	***731***	***5187***	***4191***	***558***	***3868***	***3554***	***416***	***2927***	***2927***	***315***	***2147***	***2147***	***231***
53	3.0	12869	8152	3689	11201	7384	3211	9413	6605	2698	7477	5805	2143	5593	5013	1603
	4.0	***12313***	***7886***	***2647***	***10565***	***7100***	***2272***	***8569***	***6250***	***1842***	***6603***	***5429***	***1420***	***4938***	***4670***	***1062***
	5.0	11558	7542	1988	9652	6705	1660	7586	5835	1305	5729	5033	985	4296	4253	739
	6.0	***10605***	***7119***	***1520***	***8569***	***6244***	***1228***	***6603***	***5409***	***946***	***4856***	***4583***	***696***	***3681***	***3681***	***528***
	7.0	9533	6655	1171	7450	5766	915	5484	4889	674	3873	3873	476	3108	3108	382
	8.0	***8187***	***6077***	***880***	***6057***	***5152***	***651***	***4255***	***4164***	***457***	***3504***	***3504***	***377***	***2890***	***2890***	***311***
54	3.0	13252	8315	3799	11598	7532	3325	9829	6616	2818	7876	5823	2258	5866	5035	1682
	4.0	***12772***	***7918***	***2746***	***11002***	***7118***	***2365***	***9117***	***6321***	***1960***	***7083***	***5509***	***1523***	***5245***	***4751***	***1128***
	5.0	12118	7617	2084	10271	6804	1767	8220	5958	1414	6237	5156	1073	4623	4423	795
	6.0	***11310***	***7254***	***1621***	***9348***	***6419***	***1340***	***7242***	***5557***	***1038***	***5364***	***4765***	***769***	3936	3936	564
	7.0	10387	6857	1276	8247	5962	1013	6184	5114	760	4359	4226	536	3499	3499	430
	8.0	***9194***	***6352***	***988***	***6977***	***5438***	***750***	***4941***	***4525***	***531***	***3989***	***3939***	***429***	***3275***	***3275***	***352***

COOLING CAPACITIES (29°C DB, 21°C WB AIR ENTERING TEMP. HIGH SPEED) TABLE 10

TH_20 (°C)		5			7			9			11			13		
YFQE Model	ΔTH_20 K	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s	Total W	Sensible W	Flow H_20 l/s
12	3.0	2573	1605	738	2240	1455	642	1891	1306	542	1507	1150	432	1097	984	314
	4.0	*2395*	*1522*	*515*	*2062*	*1376*	*443*	*1683*	*1219*	*362*	*1272*	*1054*	*274*	*915*	*893*	*197*
	5.0	2217	1442	381	1868	1294	321	1459	1129	251	1054	960	181	798	798	137
	6.0	*2023*	*1359*	*290*	*1629*	*1197*	*234*	*1230*	*1035*	*176*	*884*	*868*	*127*	*740*	*740*	*106*
	7.0	1798	1266	221	1390	1100	171	1033	947	127	822	822	101	700	700	86
	8.0	*1544*	*1162*	*166*	*1198*	*1019*	*129*	*958*	*910*	*103*	*782*	*782*	*84*	*660*	*660*	*71*
13	3.0	2710	1627	777	2376	1472	681	2018	1317	579	1628	1160	467	1218	1005	349
	4.0	*2550*	*1551*	*548*	*2203*	*1395*	*474*	*1823*	*1237*	*392*	*1418*	*1079*	*305*	*1016*	*926*	*218*
	5.0	2376	1472	409	2015	1315	347	1603	1149	276	1199	995	206	904	877	155
	6.0	*2185*	*1388*	*313*	*1788*	*1222*	*256*	*1384*	*1065*	*198*	*1079*	*949*	*155*	*838*	*838*	*120*
	7.0	1965	1295	241	1596	1146	196	1282	1026	157	994	915	122	795	795	98
	8.0	*1816*	*1234*	*195*	*1491*	*1105*	*160*	*1184*	*988*	*127*	*921*	*883*	*99*	*755*	*755*	*81*
14	3.0	3738	2188	1071	3317	1991	951	2859	1789	820	2364	1585	678	1830	1381	524
	4.0	*3607*	*2125*	*775*	*3168*	*1923*	*681*	*2691*	*1718*	*579*	*2168*	*1509*	*466*	*1637*	*1306*	*352*
	5.0	3448	2050	593	2990	1845	514	2481	1632	427	1939	1420	333	1451	1232	250
	6.0	*3270*	*1969*	*469*	*2775*	*1753*	*398*	*2243*	*1537*	*321*	*1720*	*1334*	*247*	*1284*	*1158*	*184*
	7.0	3065	1878	377	2532	1653	311	1990	1437	245	1528	1256	188	1207	1117	148
	8.0	*2812*	*1769*	*302*	*2271*	*1547*	*244*	*1785*	*1355*	*192*	*1431*	*1213*	*154*	*1139*	*1077*	*122*
22	3.0	3663	2144	1050	3251	1951	932	2826	1753	810	2305	1553	661	1687	1353	484
	4.0	*3598*	*2082*	*774*	*3118*	*1885*	*670*	*2606*	*1684*	*560*	*2021*	*1479*	*435*	*1419*	*1280*	*305*
	5.0	3379	2009	581	2881	1808	496	2347	1600	404	1712	1391	294	1223	1223	210
	6.0	*3148*	*1929*	*451*	*2631*	*1718*	*377*	*2038*	*1506*	*292*	*1436*	*1308*	*206*	*1114*	*1114*	*160*
	7.0	2893	1840	355	2339	1620	287	1712	1409	210	1210	1210	149	997	997	123
	8.0	*2639*	*1734*	*284*	*2004*	*1516*	*215*	*1403*	*1342*	*151*	*1106*	*1106*	*119*	*935*	*935*	*100*
23	3.0	4164	2523	1194	3660	2297	1049	3114	2064	893	2535	1832	727	1888	1584	541
	4.0	*3936*	*2417*	*846*	*3420*	*2191*	*735*	*2856*	*1957*	*614*	*2251*	*1722*	*484*	*1587*	*1460*	*341*
	5.0	3702	2312	637	3168	2085	545	2589	1852	445	1929	1597	332	1343	1332	231
	6.0	*3444*	*2201*	*494*	*2892*	*1972*	*415*	*2259*	*1724*	*324*	*1607*	*1464*	*230*	*1211*	*1211*	*174*
	7.0	3180	2090	391	2581	1849	317	1896	1581	233	1389	1354	171	1149	1149	141
	8.0	*2880*	*1968*	*310*	*2210*	*1704*	*238*	*1653*	*1479*	*178*	*1294*	*1290*	*139*	*1088*	*1088*	*117*
24	3.0	4494	2625	1288	3992	2390	1144	3462	2158	992	2886	1921	827	2249	1676	645
	4.0	*4363*	*2561*	*938*	*3850*	*2326*	*828*	*3296*	*2088*	*709*	*2680*	*1840*	*576*	*2030*	*1592*	*436*
	5.0	4209	2489	724	3673	2248	632	3091	2004	532	2445	1749	421	1818	1506	313
	6.0	*4026*	*2405*	*577*	*3468*	*2160*	*497*	*2840*	*1903*	*407*	*2194*	*1650*	*315*	*1622*	*1422*	*232*
	7.0	3821	2313	469	3217	2054	395	2566	1794	315	1935	1546	238	1449	1335	178
	8.0	*3582*	*2208*	*385*	*2931*	*1938*	*315*	*2273*	*1677*	*244*	*1716*	*1451*	*184*	*1355*	*1279*	*146*
32	3.0	6293	3951	1804	5544	3618	1589	4736	3272	1358	3838	2901	1100	2867	2478	822
	4.0	*6037*	*3833*	*1298*	*5266*	*3495*	*1132*	*4427*	*3142*	*952*	*3426*	*2720*	*737*	*2529*	*2302*	*544*
	5.0	5715	3687	983	4902	3338	843	3941	2934	678	2985	2514	513	2205	2108	379
	6.0	*5352*	*3529*	*767*	*4471*	*3158*	*641*	*3456*	*2720*	*495*	*2573*	*2305*	*369*	*1896*	*1885*	*272*
	7.0	4945	3358	608	3927	2922	482	2970	2495	365	2161	2064	265	1631	1631	200
	8.0	*4383*	*3116*	*471*	*3382*	*2680*	*364*	*2499*	*2255*	*269*	*1793*	*1786*	*193*	*1469*	*1469*	*158*
33	3.0	7538	4515	2161	6672	4112	1913	5745	3707	1647	4717	3282	1352	3600	2844	1032
	4.0	*7236*	*4369*	*1556*	*6329*	*3957*	*1361*	*5341*	*3536*	*1148*	*4224*	*3086*	*908*	*3157*	*2659*	*679*
	5.0	6873	4201	1182	5926	3782	1019	4838	3330	832	3684	2866	634	2714	2458	467
	6.0	*6450*	*4011*	*925*	*5362*	*3544*	*768*	*4238*	*3086*	*607*	*3129*	*2635*	*449*	*2242*	*2193*	*321*
	7.0	5906	3775	726	4757	3295	584	3573	2815	439	2575	2369	316	2062	2049	253
	8.0	*5220*	*3486*	*561*	*4016*	*2994*	*432*	*2963*	*2546*	*319*	*2381*	*2253*	*256*	*1938*	*1938*	*208*
34	3.0	8506	4960	2438	7589	4518	2175	6601	4070	1892	5543	3623	1589	4376	3167	1255
	4.0	*8345*	*4879*	*1794*	*7387*	*4423*	*1588*	*6349*	*3961*	*1365*	*5220*	*3494*	*1122*	*4016*	*3031*	*863*
	5.0	8103	4760	1394	7115	4298	1224	6007	3815	1033	4817	3336	829	3614	2877	622
	6.0	*7811*	*4619*	*1120*	*6752*	*4135*	*968*	*5583*	*3640*	*800*	*4349*	*3152*	*623*	*3199*	*2712*	*458*
	7.0	7458	4453	916	6309	3943	775	5079	3437	624	3836	2954	471	2769	2529	340
	8.0	*7014*	*4251*	*754*	*5805*	*3731*	*624*	*4515*	*3213*	*485*	*3268*	*2730*	*351*	*2506*	*2386*	*269*
42	3.0	8016	4861	2298	7059	4427	2024	6029	3989	1728	4888	3551	1401	3670	3104	1052
	4.0	*7678*	*4763*	*1651*	*6694*	*4335*	*1439*	*5662*	*3881*	*1217*	*4405*	*3483*	*947*	*3264*	*2954*	*702*
	5.0	7341	4729	1263	6328	4293	1088	5140	3794	884	3902	3251	671	2887	2733	497
	6.0	*6947*	*4556*	*996*	*5875*	*4103*	*842*	*4598*	*3557*	*659*	*3458*	*3030*	*496*	*2568*	*2512*	*368*
	7.0	6497	4367	798	5256	3838	646	4018	3289	494	2994	2771	368	2239	2239	275
	8.0	*5875*	*4099*	*632*	*4637*	*3564*	*498*	*3496*	*3032*	*376*	*2588*	*2509*	*278*	*1949*	*1949*	*210*
43	3.0	9775	5858	2802	8633	5328	2475	7438	4807	2132	6163	4281	1767	4726	3716	1355
	4.0	*9456*	*5704*	*2033*	*8288*	*5172*	*1782*	*7039*	*4638*	*1513*	*5621*	*4065*	*1209*	*4197*	*3495*	*902*
	5.0	9031	5505	1553	7809	4963	1343	6455	4397	1110	5000	3813	860	3704	3273	637
	6.0	*8553*	*5289*	*1226*	*7278*	*4739*	*1043*	*5786*	*4124*	*829*	*4379*	*3553*	*628*	*3192*	*3011*	*458*
	7.0	7995	5046	982	6561	4441	806	5073	3833	623	3759	3279	462	2681	2668	329
	8.0	*7278*	*4740*	*782*	*5767*	*4113*	*620*	*4325*	*3519*	*465*	*3046*	*2903*	*327*	*2416*	*2416*	*260*
44	3.0	11016	6436	3158	9778	5877	2803	8437	5301	2419	7006	4723	2008	5428	4126	1556
	4.0	*10673*	*6276*	*2295*	*9391*	*5705*	*2019*	*7990*	*5116*	*1718*	*6453*	*4512*	*1387*	*4833*	*3893*	*1039*
	5.0	10256	6088	1764	8914	5502	1533	7423	4889	1277	5797	4257	997	4280	3662	736
	6.0	*9749*	*5862*	*1397*	*8318*	*5252*	*1192*	*6738*	*4621*	*966*	*5100*	*3982*	*731*	*3727*	*3402*	*534*
	7.0	9182	5618	1128	7632	4974	938	5961	4314	732	4382	3683	538	3153	3072	387
	8.0	*8467*	*5314*	*910*	*6797*	*4641*	*731*	*5120*	*3978*	*550*	*3624*	*3323*	*390*	*2876*	*2848*	*309*
52	3.0	10795	6307	3095	9583	5759	2747	8268	5195	2370	6827	4628	1957	5133	4044	1471
	4.0	*10459*	*6150*	*2249*	*9351*	*5591*	*2010*	*7876*	*5014*	*1693*	*6155*	*4421*	*1323*	*4595*	*3815*	*988*
	5.0	10251	5966	1763	8803	5392	1514	7150	4791	1230	5429	4172	934	4057	3589	698
	6.0	*9664*	*5745*	*1385*	*8065*	*5147*	*1156*	*6289*	*4529*	*901*	*4729*	*3903*	*678*	*3546*	*3334*	*508*
	7.0	8960	5506	1101	7150	4875	878	5536	4228	680	4084	3610	502	3088	3011	379
	8.0	*8011*	*5208*	*861*	*6289*	*4548*	*676*	*4729*	*3898*	*508*	*3465*	*3257*	*372*	*2604*	*2604*	*280*
53	3.0	14140	8513	4053	12472	7750	3575	10684	6976	3063	8760	6188	2511	6712	5384	1924
	4.0	*13584*	*8248*	*2921*	*11876*	*7483*	*2553*	*9969*	*6674*	*2143*	*7859*	*5830*	*1690*	*5893*	*5035*	*1267*
	5.0	12909	7941	2220	11042	7122	1899	9016	6290	1551	6876	5428	1183	5101	4661	877
	6.0	*12075*	*7571*	*1731*	*10089*	*6727*	*1446*	*7914*	*5843*	*1134*	*5921*	*5018*	*849*	*4337*	*4222*	*622*
	7.0	11082	7144	1361	8897	6237	1093	6712	5344	825	4856	4505	597	3490	3490	429
	8.0	*9850*	*6631*	*1059*	*7586*	*5703*	*816*	*5402*	*4765*	*581*	*3873*	*3843*	*416*	*3190*	*3190*	*343*
54	3.0	14503	8683	4157	12849	7905	3683	11079	7115	3176	9194	6203	2636	7110	5412	2038
	4.0	*14041*	*8271*	*3019*	*12348*	*7513*	*2655*	*10464*	*6714*	*2250*	*8405*	*5899*	*1807*	*6316*	*5105*	*1358*
	5.0	13426	7989	2309	11656	7215	2005	9656	6388	1661	7506	5554	1291	5523	4779	950
	6.0	*12733*	*7682*	*1825*	*10810*	*6859*	*1549*	*8655*	*5996*	*1241*	*6501*	*5158*	*932*	4729	4399	678
	7.0	11848	7295	1456	9771	6438	1200	7559	5566	929	5443	4712	669	3909	3871	480
	8.0	*10810*	*6861*	*1162*	*8564*	*5957*	*921*	*6237*	*5035*	*670*	*4465*	*4206*	*480*	*3618*	*3618*	*389*

TABLE 11 2 PIPE MODELS FAN SPEED CAPACITY CORRECTION FACTORS FOR EQUAL WATER TEMPERATURE CHANGE

YFQE Model	Fan Speed	Air Flow	Cooling Capacity		Heating Capacity
			Total	Sensible	
12	High	1.00	1.00	1.00	1.00
	Medium	*0.81*	*0.83*	*0.81*	*0.83*
	Low	0.65	0.65	0.64	0.66
13	High	1.00	1.00	1.00	1.00
	Medium	*0.76*	*0.77*	*0.76*	*0.81*
	Low	0.67	0.59	0.59	0.63
14	High	1.00	1.00	1.00	1.00
	Medium	*0.79*	*0.79*	*0.78*	*0.80*
	Low	0.49	0.47	0.47	0.50
22	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.78*	*0.78*	*0.78*
	Low	0.57	0.57	0.56	0.60
23	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.74*	*0.73*	*0.76*
	Low	0.57	0.53	0.51	0.55
24	High	1.00	1.00	1.00	1.00
	Medium	*0.70*	*0.73*	*0.70*	*0.73*
	Low	0.55	0.48	0.44	0.50
32	High	1.00	1.00	1.00	1.00
	Medium	*0.68*	*0.72*	*0.70*	*0.73*
	Low	0.53	0.49	0.47	0.52
33	High	1.00	1.00	1.00	1.00
	Medium	*0.68*	*0.69*	*0.68*	*0.70*
	Low	0.52	0.45	0.45	0.50
34	High	1.00	1.00	1.00	1.00
	Medium	*0.66*	*0.76*	*0.76*	*0.70*
	Low	0.50	0.50	0.50	0.49
42	High	1.00	1.00	1.00	1.00
	Medium	*0.70*	*0.81*	*0.78*	*0.81*
	Low	0.53	0.63	0.59	0.66
43	High	1.00	1.00	1.00	1.00
	Medium	*0.74*	*0.76*	*0.74*	*0.75*
	Low	0.53	0.54	0.54	0.54
44	High	1.00	1.00	1.00	1.00
	Medium	*0.85*	*0.91*	*0.91*	*0.89*
	Low	0.48	0.47	0.44	0.58
52	High	1.00	1.00	1.00	1.00
	Medium	*0.75*	*0.78*	*0.75*	*0.78*
	Low	0.50	0.56	0.52	0.55
53	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.77*	*0.75*	*0.78*
	Low	0.49	0.49	0.48	0.52
54	High	1.00	1.00	1.00	1.00
	Medium	*0.74*	*0.70*	*0.68*	*0.75*
	Low	0.47	0.43	0.41	0.46

TABLE 12 2 PIPE MODELS FAN SPEED CAPACITY CORRECTION FACTORS FOR EQUAL WATER FLOW RATES

YFQE Model	Fan Speed	Air Flow	Cooling Capacity		Heating Capacity
			Total	Sensible	
12	High	1.00	1.00	1.00	1.00
	Medium	*0.81*	*0.90*	*0.89*	*0.86*
	Low	0.65	0.80	0.78	0.69
13	High	1.00	1.00	1.00	1.00
	Medium	*0.76*	*0.85*	*0.84*	*0.85*
	Low	0.67	0.73	0.72	0.66
14	High	1.00	1.00	1.00	1.00
	Medium	*0.79*	*0.82*	*0.81*	*0.83*
	Low	0.49	0.57	0.56	0.54
22	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.85*	*0.84*	*0.81*
	Low	0.57	0.70	0.69	0.64
23	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.79*	*0.78*	*0.78*
	Low	0.57	0.65	0.64	0.59
24	High	1.00	1.00	1.00	1.00
	Medium	*0.70*	*0.79*	*0.76*	*0.75*
	Low	0.55	0.58	0.53	0.53
32	High	1.00	1.00	1.00	1.00
	Medium	*0.68*	*0.81*	*0.78*	*0.76*
	Low	0.53	0.63	0.60	0.57
33	High	1.00	1.00	1.00	1.00
	Medium	*0.68*	*0.79*	*0.77*	*0.74*
	Low	0.52	0.60	0.60	0.53
34	High	1.00	1.00	1.00	1.00
	Medium	*0.66*	*0.81*	*0.81*	*0.72*
	Low	0.50	0.59	0.59	0.52
42	High	1.00	1.00	1.00	1.00
	Medium	*0.70*	*0.86*	*0.83*	*0.84*
	Low	0.53	0.72	0.67	0.70
43	High	1.00	1.00	1.00	1.00
	Medium	*0.74*	*0.83*	*0.82*	*0.79*
	Low	0.53	0.65	0.64	0.62
44	High	1.00	1.00	1.00	1.00
	Medium	*0.85*	*0.93*	*0.93*	*0.91*
	Low	0.48	0.57	0.54	0.61
52	High	1.00	1.00	1.00	1.00
	Medium	*0.75*	*0.84*	*0.81*	*0.81*
	Low	0.50	0.67	0.62	0.58
53	High	1.00	1.00	1.00	1.00
	Medium	*0.72*	*0.84*	*0.81*	*0.80*
	Low	0.49	0.63	0.61	0.55
54	High	1.00	1.00	1.00	1.00
	Medium	*0.74*	*0.80*	*0.78*	*0.78*
	Low	0.47	0.55	0.53	0.50

4 PIPE MODELS FAN SPEED CAPACITY CORRECTION FACTORS FOR EQUAL WATER TEMPERATURE CHANGE

TABLE 13

YFQE Model	Fan Speed	Air Flow	Cooling Capacity		Heating Capacity
			Total	Sensible	
	High	1.00	0.97	0.97	1.00
121	***Medium***	***0.76***	***0.79***	***0.78***	***0.83***
	Low	0.67	0.63	0.61	0.66
	High	1.00	0.97	0.97	1.00
131	***Medium***	***0.76***	***0.75***	***0.74***	***0.83***
	Low	0.67	0.58	0.58	0.66
	High	1.00	0.97	0.97	1.00
122	***Medium***	***0.76***	***0.79***	***0.78***	***0.80***
	Low	0.67	0.63	0.61	0.63
	High	1.00	0.98	0.98	1.00
221	***Medium***	***0.72***	***0.76***	***0.75***	***0.80***
	Low	0.57	0.56	0.55	0.61
	High	1.00	0.98	0.98	1.00
231	***Medium***	***0.70***	***0.72***	***0.71***	***0.80***
	Low	0.55	0.51	0.50	0.61
	High	1.00	0.98	0.98	1.00
222	***Medium***	***0.70***	***0.76***	***0.75***	***0.75***
	Low	0.55	0.56	0.55	0.54
	High	1.00	0.95	0.95	1.00
321	***Medium***	***0.68***	***0.71***	***0.68***	***0.79***
	Low	0.52	0.48	0.46	0.60
	High	1.00	0.89	0.89	1.00
331	***Medium***	***0.67***	***0.66***	***0.65***	***0.79***
	Low	0.50	0.44	0.44	0.60
	High	1.00	0.95	0.95	1.00
322	***Medium***	***0.67***	***0.71***	***0.68***	***0.73***
	Low	0.50	0.48	0.46	0.59
	High	1.00	0.98	0.98	1.00
421	***Medium***	***0.74***	***0.77***	***0.74***	***0.79***
	Low	0.53	0.59	0.55	0.60
	High	1.00	0.96	0.96	1.00
431	***Medium***	***0.76***	***0.73***	***0.71***	***0.79***
	Low	0.54	0.51	0.50	0.60
	High	1.00	0.98	0.98	1.00
422	***Medium***	***0.76***	***0.77***	***0.74***	***0.77***
	Low	0.54	0.59	0.55	0.65
	High	1.00	0.92	0.92	1.00
521	***Medium***	***0.72***	***0.75***	***0.72***	***0.80***
	Low	0.49	0.51	0.47	0.54
	High	1.00	0.96	0.96	1.00
531	***Medium***	***0.74***	***0.73***	***0.71***	***0.80***
	Low	0.47	0.45	0.44	0.54
	High	1.00	0.92	0.92	1.00
522	***Medium***	***0.74***	***0.75***	***0.72***	***0.73***
	Low	0.47	0.51	0.47	0.53

4 PIPE MODELS FAN SPEED CAPACITY CORRECTION FACTORS FOR EQUAL WATER FLOW RATES

TABLE 14

YFQE Model	Fan Speed	Air Flow	Cooling Capacity		Heating Capacity
			Total	Sensible	
	High	1.00	0.97	0.97	1.00
121	***Medium***	***0.76***	***0.86***	***0.85***	***0.84***
	Low	0.67	0.77	0.75	0.68
	High	1.00	0.97	0.97	1.00
131	***Medium***	***0.76***	***0.83***	***0.82***	***0.84***
	Low	0.67	0.71	0.70	0.68
	High	1.00	0.97	0.97	1.00
122	***Medium***	***0.76***	***0.86***	***0.85***	***0.81***
	Low	0.67	0.77	0.75	0.65
	High	1.00	0.98	0.98	1.00
221	***Medium***	***0.72***	***0.82***	***0.81***	***0.81***
	Low	0.57	0.68	0.67	0.64
	High	1.00	0.98	0.98	1.00
231	***Medium***	***0.70***	***0.77***	***0.76***	***0.81***
	Low	0.55	0.64	0.62	0.64
	High	1.00	0.98	0.98	1.00
222	***Medium***	***0.70***	***0.82***	***0.81***	***0.76***
	Low	0.55	0.68	0.67	0.56
	High	1.00	0.95	0.95	1.00
321	***Medium***	***0.68***	***0.79***	***0.77***	***0.81***
	Low	0.52	0.61	0.59	0.63
	High	1.00	0.89	0.89	1.00
331	***Medium***	***0.67***	***0.75***	***0.74***	***0.81***
	Low	0.50	0.58	0.58	0.63
	High	1.00	0.95	0.95	1.00
322	***Medium***	***0.67***	***0.79***	***0.77***	***0.74***
	Low	0.50	0.61	0.59	0.61
	High	1.00	0.98	0.98	1.00
421	***Medium***	***0.74***	***0.82***	***0.79***	***0.81***
	Low	0.53	0.67	0.63	0.63
	High	1.00	0.96	0.96	1.00
431	***Medium***	***0.76***	***0.82***	***0.80***	***0.81***
	Low	0.54	0.62	0.61	0.63
	High	1.00	0.98	0.98	1.00
422	***Medium***	***0.76***	***0.82***	***0.79***	***0.78***
	Low	0.54	0.67	0.63	0.67
	High	1.00	0.92	0.92	1.00
521	***Medium***	***0.72***	***0.82***	***0.79***	***0.82***
	Low	0.49	0.61	0.57	0.56
	High	1.00	0.96	0.96	1.00
531	***Medium***	***0.74***	***0.79***	***0.77***	***0.82***
	Low	0.47	0.58	0.56	0.56
	High	1.00	0.92	0.92	1.00
522	***Medium***	***0.74***	***0.82***	***0.79***	***0.74***
	Low	0.47	0.61	0.57	0.54

TABLE 15 2 PIPE MODELS HEATING CAPACITIES

YFQE	Water Flow (l/h)															
Model	50	100	200	300	400	500	600	700	800	900	1000	1250	1500	1750	2000	2250
12	1442	1606	1771	1867	1935	-	-	-	-	-	-	-	-	-	-	-
13	*1476*	*1651*	*1836*	*1936*	*2046*	*2130*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
14	-	2100	2402	2578	2704	2801	2880	2948	-	-	-	-	-	-	-	-
22	*-*	*2123*	*2421*	*2645*	*2803*	*2927*	*3027*	*3112*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
23	-	2143	2549	2787	2955	3086	3192	3283	-	-	-	-	-	-	-	-
24	*-*	*-*	*2955*	*3135*	*3262*	*3361*	*3442*	*3511*	*3570*	*3622*	*-*	*-*	*-*	*-*	*-*	*-*
32	-	-	3599	3955	4207	4403	4563	4698	4815	4918	5010	-	-	-	-	-
33	*-*	*-*	*-*	*4553*	*4837*	*5058*	*5238*	*5390*	*5522*	*5638*	*5742*	*5962*	*-*	*-*	*-*	*-*
34	-	-	-	5250	5485	5667	5816	5942	6052	6148	6234	6417	6566	-	-	-
42	*-*	*-*	*-*	*5782*	*6100*	*6346*	*6548*	*6718*	*6935*	*6960*	*6968*	*7209*	*7483*	*-*	*-*	*-*
43	-	-	-	-	6305	6545	6767	6919	7081	7114	7168	7431	7723	-	-	-
44	*-*	*-*	*-*	*-*	*-*	*8335*	*8654*	*8959*	*9156*	*9344*	*9523*	*9898*	*10045*	*10271*	*-*	*-*
52	-	-	-	-	-	7988	8272	8512	8721	8904	9068	9416	9701	9941	-	-
53	*-*	*-*	*-*	*-*	*-*	*-*	*9007*	*9275*	*9490*	*9663*	*9805*	*10102*	*10306*	*10646*	*10941*	*11200*
54	-	-	-	-	-	-	9807	10057	10274	10465	10637	10999	11296	11546	11763	11954

20°C DB Entering Air Temperature, 50°C Entering Water Temperature

TABLE 16 2 PIPE MODELS HEATING CAPACITY - CORRECTION FACTORS

Entering	Entering Water Temperature (°C)									
Air Temp. (°C)	35	40	45	50	55	60	65	70	75	80
16	0.629	0.818	0.991	1.143	1.347	1.538	1.651	1.802	1.948	2.113
19	*0.532*	*0.707*	*0.877*	*1.036*	*1.221*	*1.394*	*1.544*	*1.703*	*1.861*	*2.042*
20	0.500	0.670	0.839	1.000	1.179	1.346	1.508	1.670	1.832	2.018
22	*0.432*	*0.595*	*0.765*	*0.936*	*1.103*	*1.259*	*1.441*	*1.607*	*1.776*	*1.969*
25	0.331	0.483	0.654	0.839	0.989	1.129	1.341	1.513	1.690	1.896

TABLE 17 4 PIPE MODELS HEATING CAPACITIES

YFQE	Water Flow (l/h)															
Model	50	100	200	300	400	500	600	700	800	900	1000	1250	1500	1750	2000	2250
121, 131	*1963*	*2169*	*2374*	*2495*	*2580*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
122	-	2691	2927	3066	3164	3240	-	-	-	-	-	-	-	-	-	-
221, 231	*-*	*3247*	*3540*	*3711*	*3832*	*3927*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
222	-	4021	4363	4564	4706	4816	4906	4983	-	-	-	-	-	-	-	-
321, 331	*-*	*-*	*5632*	*5889*	*6071*	*6212*	*6328*	*6425*	*6510*	*6584*	*-*	*-*	*-*	*-*	*-*	*-*
322	-	-	7384	7702	7928	8103	8247	8368	8472	8565	8648	8823	-	-	-	-
421, 431	*-*	*-*	*6600*	*6955*	*7207*	*7402*	*7562*	*7697*	*7814*	*7917*	*8009*	*8205*	*-*	*-*	*-*	*-*
422	-	-	-	9779	10022	10210	10363	10493	10606	10705	10794	11256	11414	-	-	-
521, 531	*-*	*-*	*-*	*9331*	*9672*	*9936*	*10153*	*10336*	*10494*	*10634*	*10759*	*11023*	*11240*	*-*	*-*	*-*
522	-	-	-	-	13466	13755	13991	14190	14363	14516	14652	14941	15177	15376	15549	-

20°C DB Entering Air Temperature, 70°C Entering Water Temperature

TABLE 18 4 PIPE MODELS HEATING CAPACITY - CORRECTION FACTORS

Entering	Entering Water Temperature (°C)									
Air Temp. (°C)	35	40	45	50	55	60	65	70	75	80
16	0.377	0.490	0.594	0.684	0.807	0.921	0.989	1.079	1.166	1.266
19	*0.319*	*0.423*	*0.525*	*0.620*	*0.731*	*0.835*	*0.924*	*1.020*	*1.114*	*1.223*
20	0.299	0.401	0.502	0.599	0.706	0.806	0.903	1.000	1.097	1.209
22	*0.259*	*0.357*	*0.458*	*0.560*	*0.660*	*0.754*	*0.863*	*0.962*	*1.063*	*1.179*
25	0.198	0.289	0.392	0.503	0.592	0.676	0.803	0.906	1.012	1.135

ALTITUDE & EXTERNAL STATIC PRESSURE CAPACITY CORRECTION FACTORS TABLE 19

Metres Above Sea Level	Cooling Capacity		Heating Capacity
	Total	Sensible	
0	1.00	1.00	1.00
300	***0.99***	***0.96***	***0.96***
600	0.98	0.93	0.93
900	***0.97***	***0.89***	***0.89***
1200	0.96	0.86	0.86
1500	***0.94***	***0.83***	***0.83***
1800	0.93	0.80	0.80

E.S.P. (Pa)	Airflow		Capacity	
	High	Medium	High	Medium
0	1.00	1.00	1.00	1.00
10	***0.96***	***0.90***	***0.98***	***0.92***
20	0.90	0.80	0.92	0.82
30	***0.85***	***0.69***	***0.87***	***0.67***
40	0.82	—	0.84	—

2/4 PIPE MODELS COOLING COIL WATER PRESSURE DROP (kPA) TABLE 20

YFQE Model	Water Flow (l/h)																
	50	**100**	**150**	**200**	**250**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1,000**	**1,250**	**1,500**	**1,750**	**2000**
12, 121, 122	0.55	1.93	4.03	6.80	10.2	14.2	23.9	35.9	49.9	66.1	84.2	104.3	126.3	189.3	263.6	348.8	444.4
13, 131	***0.73***	***2.30***	***4.10***	***8.20***	***9.6***	***14.2***	***23.0***	***33.2***	***45.0***	***58.1***	***72.4***	***88.1***	***104.9***	***151.8***	***205.4***	***265.3***	***331.0***
14	0.18	0.72	1.62	2.89	4.5	7.0	11.6	18.2	26.3	35.8	46.9	59.4	73.4	114.9	165.8	226.0	295.6
22, 221, 222	***0.95***	***2.50***	***4.40***	***8.60***	***9.0***	***11.6***	***17.3***	***23.6***	***30.4***	***37.7***	***45.4***	***53.5***	***62.0***	***84.6***	***109.1***	***135.2***	***162.8***
23, 231	0.33	1.19	2.49	4.20	6.3	8.8	14.9	22.4	31.2	41.4	52.8	65.4	79.3	119.2	166.2	220.3	281.0
24	***0.75***	***1.98***	***3.50***	***5.23***	***7.1***	***9.2***	***13.8***	***18.9***	***24.3***	***30.2***	***36.4***	***42.9***	***49.8***	***68.0***	***87.8***	***108.9***	***131.3***
32, 321, 322	0.60	1.58	2.77	4.13	5.6	9.0	10.8	14.8	17.4	23.6	28.5	33.5	38.8	53.0	68.3	84.6	101.9
33, 331	***0.38***	***1.01***	***1.80***	***2.70***	***3.7***	***4.8***	***8.8***	***11.5***	***12.8***	***15.9***	***19.2***	***22.7***	***26.4***	***36.2***	***46.9***	***58.3***	***70.5***
34	0.11	0.37	0.76	1.25	1.9	2.5	4.2	6.2	8.5	11.2	14.1	17.3	20.8	30.7	42.2	55.3	69.8
42, 421, 422	***0.58***	***1.58***	***2.84***	***4.30***	***5.9***	***7.7***	***11.7***	***17.8***	***21.0***	***26.2***	***29.0***	***37.7***	***43.9***	***60.5***	***78.7***	***98.3***	119.2
43, 431	0.27	0.72	1.28	1.92	2.6	3.4	5.1	7.0	9.1	11.3	13.6	16.1	18.0	25.6	33.2	41.3	49.8
44	***0.27***	***0.76***	***1.37***	***2.09***	***2.9***	***3.8***	***5.8***	***8.0***	***10.4***	***13.1***	***15.9***	***18.9***	***20.0***	***30.5***	***39.9***	***50.0***	***60.8***
52, 521, 522	0.44	1.17	2.07	3.10	4.3	5.5	8.3	11.3	14.6	18.2	22.0	26.0	30.1	41.3	53.4	66.4	80.2
53, 531	***0.22***	***0.58***	***1.04***	***1.57***	***2.2***	***2.8***	***4.3***	***5.9***	***7.6***	***12.0***	***12.8***	***13.7***	***15.0***	***21.9***	***28.5***	***35.5***	***43.0***
54	0.30	0.79	1.39	2.07	2.8	3.6	5.4	7.4	10.5	11.9	14.3	16.9	20.0	26.7	31.0	42.7	51.4

The data refers to an average water temperature of 10 °C in cooling mode the correction factors for a different average water temperature are:

TH_2O mean (°C)	5	10	15	20	50	60	70	80
Factor	1.03	1	0.98	0.95	0.9	0.87	0.83	0.79

Flow too high

4 PIPE MODELS HEATING COIL WATER PRESSURE DROP (kPA) TABLE 21

YFQE Model	Water Flow (l/h)																
	50	**100**	**150**	**200**	**250**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1250**	**1500**	**1750**	**2000**
121, 131	1.7	4.6	8.2	12.0	16.8	21.7	32.5	44.4	57.4	71.3	86.1	101.6	117.8	161.2	208.4	258.8	312.3
122	***0.9***	***2.5***	***4.3***	***8.0***	***8.8***	***12.1***	***18.2***	***25.0***	***32.4***	***40.4***	***48.8***	***57.7***	***67.0***	***92.0***	***119.2***	***148.5***	***179.5***
221, 231	3.3	7.6	17.0	19.0	23.3	28.0	41.2	54.1	67.5	81.4	95.8	110.5	125.6	164.8	205.7	248.1	291.8
222	***1.6***	***3.8***	***6.2***	***11.0***	***12.5***	***14.5***	***19.0***	***27.0***	***33.7***	***40.6***	***47.8***	***55.2***	***62.7***	***82.3***	***102.7***	***123.9***	***145.8***
321, 331	0.5	1.4	2.8	4.5	6.6	8.9	14.3	20.8	28.1	36.3	45.3	55.1	65.6	95.0	128.6	166.1	207.3
322	***0.6***	***1.5***	***2.7***	***4.1***	***5.6***	***7.3***	***11.0***	***15.1***	***19.5***	***21.0***	***29.4***	***34.8***	***40.4***	***55.4***	***71.8***	***89.5***	108.2
421, 431	0.7	2.0	3.7	5.6	7.7	10.0	16.0	19.0	27.3	34.1	41.3	49.0	57.1	78.9	102.7	128.3	155.6
422	***0.5***	***1.4***	***2.6***	***4.1***	***5.8***	***7.7***	***12.1***	***17.2***	***22.9***	***29.2***	***36.0***	***43.3***	***51.1***	***72.6***	***96.6***	***123.1***	***151.9***
521, 531	0.6	1.6	2.9	4.3	5.9	7.6	11.5	17.0	20.3	24.0	30.5	34.0	41.9	57.4	74.3	92.3	111.5
522	***0.5***	***1.4***	***2.4***	***3.7***	***5.1***	***6.6***	***10.0***	***13.8***	***18.0***	***22.4***	***27.2***	***31.0***	***37.5***	***51.7***	***67.3***	***84.0***	***101.9***

The data refer to an average water temperature of 65 °C in heating mode the correction factor for a different average water temperature is :

TH_2O mean (°C)	50	55	60	65	70	75
Factor	1.06	1.04	1.02	1	0.98	0.96

Flow too high

TABLE 22 PHYSICAL DATA

YFQE Model	2 Pipe coil 4 Pipe Coil	12, 13, 14 121, 122 , 131			22, 23, 24 221, 222, 231			32, 33, 34 321, 322, 331			42, 43, 44 421, 422, 431			52, 53, 54 521, 522, 531		
Dimensions (excluding feet)	Width mm	768			902			1236			1370			1537		
	Depth mm	225			225			225			225			225		
	Height mm	570			570			570			570			570		
Total Unit	Model	**12**	**13**	**14**	**22**	**23**	**24**	**32**	**33**	**34**	**42**	**43**	**44**	**52**	**53**	**54**
Weight (2 Pipe)	Weight kg	18	18.5	19	22	23	24	27	28.5	30	33	34.8	36.5	38	40	42
Total Unit	Model	**121**	**122**	**131**	**221**	**222**	**231**	**321**	**322**	**331**	**421**	**422**	**431**	**521**	**522**	**531**
Weight (4 Pipe)	Weight kg	19	19.5	19.5	23.5	24.5	24.5	29	30.5	30.5	35.3	37	37	40.5	42.5	42.5
Water Volume	Model	**12**	**13**	**14**	**22**	**23**	**24**	**32**	**33**	**34**	**42**	**43**	**44**	**52**	**53**	**54**
	Cooling Coil l	0.4	0.81	1.08	0.74	1.11	1.48	1.24	1.86	2.48	1.44	2.16	2.88	1.69	2.54	3.39
	Model	**121**	**122**	**131**	**221**	**222**	**231**	**321**	**322**	**331**	**421**	**422**	**431**	**521**	**522**	**531**
	Cooling Coil l	0.4	0.81	1.08	0.74	1.11	1.48	1.24	1.86	2.48	1.44	2.16	2.88	1.69	2.54	3.39
	Heating Coil l	0.27	0.54	0.27	0.37	0.74	0.37	0.62	1.24	0.62	0.72	1.44	0.72	0.85	1.69	0.85
Fans		1			1			2			2			3		
Power Supply		230 V (+/-10%) - 1 Ø - 50 Hz														
	Model	**12**	**13**	**14**	**22**	**23**	**24**	**32**	**33**	**34**	**42**	**43**	**44**	**52**	**53**	**54**
Max. Power Consumption	W	30	30	40	42	42	42	90	90	90	100	100	110	170	170	170
Maximum Current	A	0.13	0.13	0.17	0.18	0.18	0.18	0.4	0.4	0.4	0.45	0.45	0.5	0.75	0.75	0.75
Water Connection Sizes		¾" Gas Female														
Max. Water Temperature	°C	95														
Maximum Water Pressure	MPa	1.4 (1.0 with optional control valve kit)														

TABLE 23 SOUND POWER (LW) & PRESSURE (LP)

YFQE Model	High Speed		Medium Speed		Low Speed	
	Lw	Lp	Lw	Lp	Lw	Lp
12 - 13 - 121 - 131 - 122	47	39	41	33	37	29
14	***51***	***43***	***46***	***38***	***37***	***29***
22 - 23 - 24 - 221 - 231 - 222	52	44	44	36	38	30
32 - 33 - 34 - 321 - 331 - 322	***55***	***47***	***46***	***38***	***39***	***31***
42 - 43 - 421 - 431 - 422	57	49	51	43	44	36
44	***60***	***52***	***57***	***49***	***44***	***36***
52 - 53 - 54 - 521 - 531 - 522	63	55	56	48	51	43

Lp = Sound Pressure - Levels measured in room with a volume of 100 m³ and reverberation time of 0.5 seconds.

Lw = Sound Power - Levels according to Eurovent Specification 8/2 (ISO 3741/88) and Eurovent Certified

ACCESSORY DATA

CONTROL VALVE WATER PRESSURE DROPS (KPA) TABLE 24

Valve Manufacturer		WATER FLOW (l/h)												
		50	100	200	300	400	500	600	700	800	900	1,000	1250	1500
Cazzaniga	Direct	0.1	0.4	1.6	3.5	6.3	9.8	14.1	19.1	25.0	31.6	39.1	61.0	87.9
	By-pass	0.2	0.7	2.8	6.3	11.1	17.4	25.0	34.0	44.4	56.3	69.4	108.5	156.3
Johnson	Direct	0.1	0.4	1.6	3.5	6.3	9.8	14.1	19.1	25.0	31.6	39.1	61.0	-
	By-pass	0.3	1.0	4.0	9.0	16.0	25.0	36.0	49.0	64.0	81.0	100	156	-

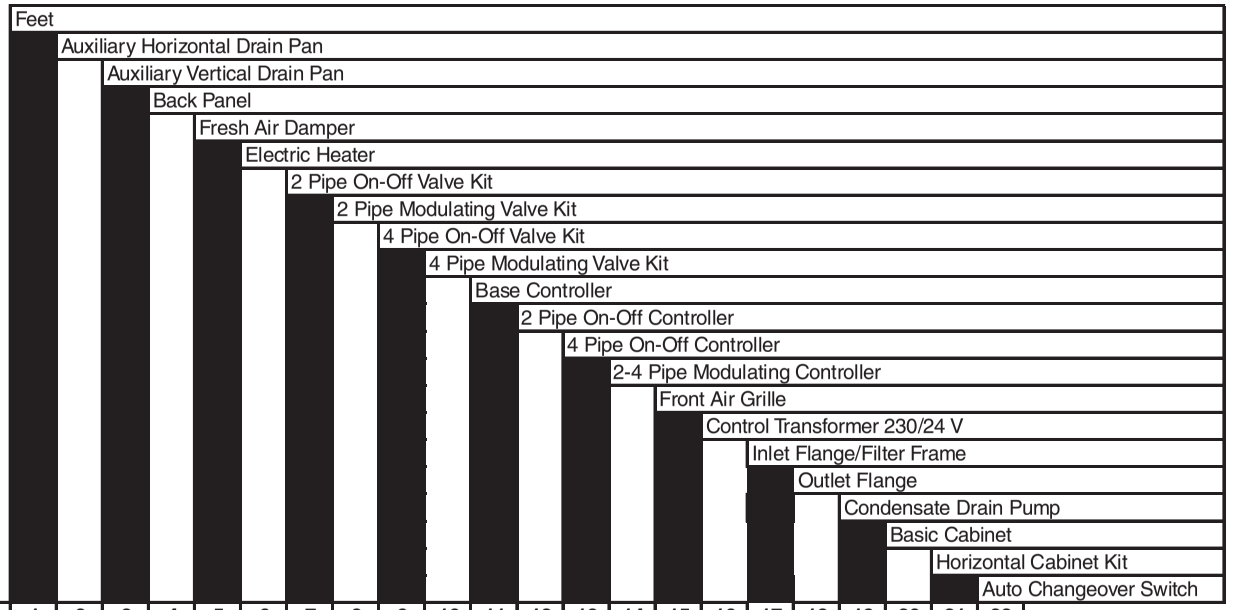
Flow too high

ELECTRIC HEATER DATA TABLE 25

YFQE Model	12		13, 14 121, 122 , 131		22, 23, 24 221, 222, 231		32, 33, 34 321, 322, 331		42, 43, 44 421, 422, 431		52, 53, 54 521, 522, 531	
Power level	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Heating Capacity (W)	500	1000	1000	1500	1000	2000	1500	3000	2000	3000	2000	3000
Absorbed Current (A)	2.2	4.3	4.3	6.5	4.3	8.7	6.5	13.0	8.7	13.0	8.7	13.0
Minimum Fan Speed	MEDIUM											

ACCESSORY USAGE TABLE 26

	ACCESSORIES BY VERSION			
	Vertical Exposed	Horizontal Exposed	Vertical Recessed	Horizontal Recessed
Feet	Option	Option	Not Required	Not Required
Auxiliary Horizontal Drain Pan	Not Required	Option	Not Required	Option
Auxiliary Vertical Drain Pan	Option	Not Required	Option	Not Required
Back Panel	Option	Not Required	Not Required	Not Required
Fresh Air Damper	Option	Not Required	Option	Not Required
Electric Heater	Option	Option	Option	Option
2 Pipe On-Off Valve Kit	Option	Option	Option	Option
2 Pipe Modulating Valve Kit	Option	Option	Option	Option
4 Pipe On-Off Valve Kit	Option	Option	Option	Option
4 Pipe Modulating Valve Kit	Option	Option	Option	Option
Base Controller	Option	Option	Option	Option
2 Pipe On-Off Controller	Option	Option	Option	Option
4 Pipe On-Off Controller	Option	Option	Option	Option
2-4 Pipe Modulating Controller	Option	Option	Option	Option
Front Air Grille	Option	Option	Not Required	Not Required
Control Transformer 230/24 V	Option	Option	Option	Option
Inlet Flange/Filter Frame	Not Required	Not Required	Option	Option
Outlet Flange	Not Required	Not Required	Option	Option
Condensate Drain Pump	Option	Option	Option	Option
Basic Cabinet	Option	Option	Not Required	Not Required
Horizontal Cabinet Kit	Not Required	Option	Not Required	Not Required
Auto Changeover Switch	Option	Option	Option	Option



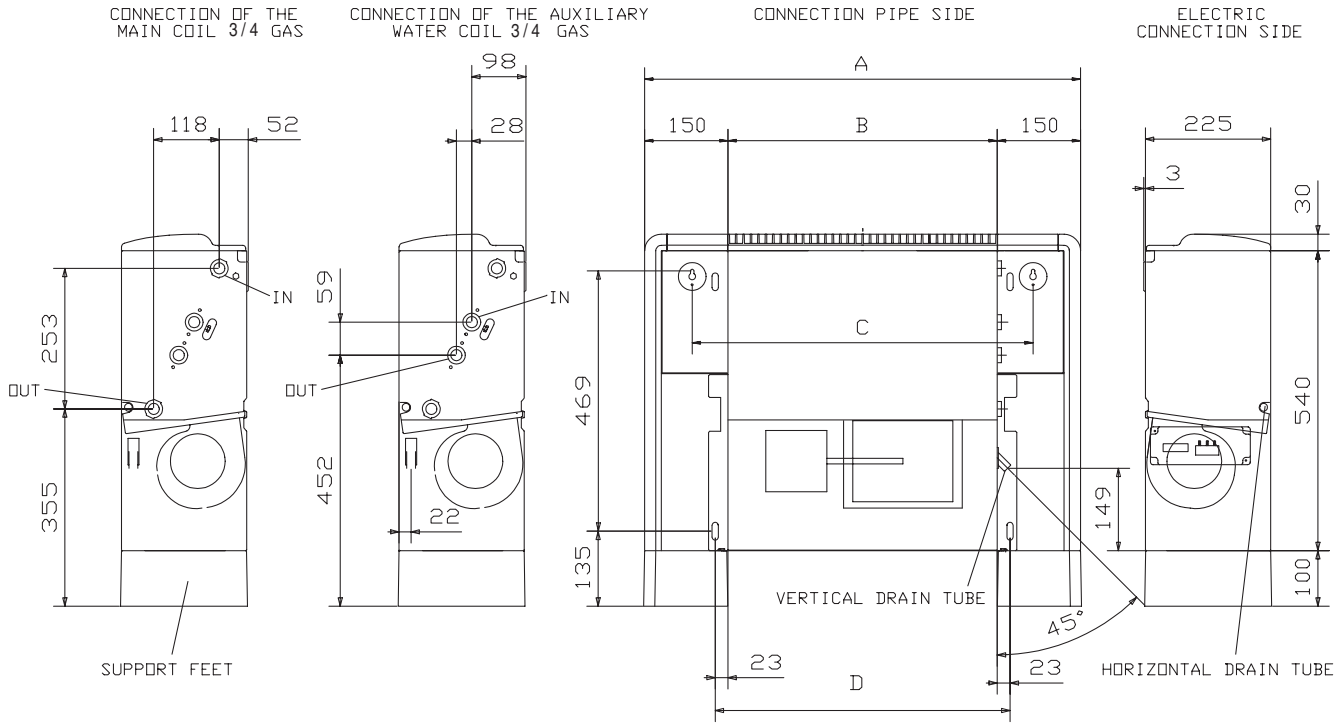
IF YOU SELECT THIS ITEM ➤		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
YOU NEED THIS ITEM ▼																							
Feet	1	❍	❑	❑	❍	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❍	❑	●	●	❑	❑	❍(1)	❑
Auxiliary Horizontal Drain Pan	2	❑	❍	●	●	❑	❑	✢	✢	✢	✢	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Auxiliary Vertical Drain Pan	3	❑	●	❍	❑	❑	❑	✢	✢	✢	✢	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Back Panel	4	❑	❑	❑	❍	●	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	●	●	❑	❑	❑	❑
Fresh Air Damper	5	❑	❑	❑	●	❍	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	●	●	❑	❑	❑	❑
Electric Heater	6	❑	❑	❑	❑	❑	❍	❑	●	●	●	●	●	●	●	❑	●	❑	❑	❑	❑	❑	●
2 Pipe On-Off Valve Kit	7	❑	❑	❑	❑	❑	❑	❍	●	●	●	●	❑	●	●	❑	●	❑	❑	❑	❑	❑	●
2 Pipe Modulating Valve Kit	8	❑	❑	❑	❑	❑	●	●	❍	●	●	❑	●	❑	✢	❑	✢	❑	❑	❑	❑	❑	❑
4 Pipe On-Off Valve Kit	9	❑	❑	❑	❑	❑	●	●	●	❍	●	●	●	❑	●	❑	●	❑	❑	❑	❑	❑	●
4 Pipe Modulating Valve Kit	10	❑	❑	❑	❑	❑	●	●	●	●	❍	❑	●	●	✢	❑	✢	❑	❑	❑	❑	❑	❑
Base Controller	11	❑	❑	❑	❑	❑	●	●	❍	●	❍	❍	●	●	❍	❑	❍	❑	❑	❑	❑	❑	❑
2 Pipe On-Off Controller	12	❑	❑	❑	❑	❑	●	❍	●	●	●	●	❍	●	●	❑	●	❑	❑	❑	❑	❑	●
4 Pipe On-Off Controller	13	❑	❑	❑	❑	❑	❍	●	●	❍	●	●	●	❍	●	❑	●	❑	❑	❑	❑	❑	●
2-4 Pipe Modulating Controller	14	❑	❑	❑	❑	❑	●	●	❍	●	❍	❑	●	●	❍	❑	❍	❑	❑	❑	❑	❑	❍
Front Air Grille	15	❑	❑	❑	❍	❍	❑	❑	❑	❑	❑	❑	❑	❑	❑	❍	❑	❑	❑	❑	❑	❍(1)	❑
Control Transformer 230/24 V	16	❑	❑	❑	❑	❑	●	●	❍	●	❍	❑	●	●	❍	❑	❍	❑	❑	❑	❑	❑	❍
Inlet Flange/Filter Frame	17	●	❑	❑	●	●	❑	❑	❑	❑	❑	❑	❑	❑	❑	●	❑	❍	❑	❑	●	❑	❑
Outlet Flange	18	❑	❑	❑	●	●	❑	❑	❑	❑	❑	❑	❑	❑	❑	●	❑	❑	❍	❑	●	❑	❑
Condensate Drain Pump	19	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❍	❑	❑	❑
Basic Cabinet	20	❍	❑	❑	❍	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❍	❑	●	●	❑	❍	❍(1)	❑
Horizontal Cabinet Kit	21	●	❑	●	●	●	❑	❑	❑	❑	❑	❑	❑	❑	❑	●	❑	●	●	❑	●	❍	
Auto Changeover Switch	22	❑	❑	❑	❑	❑	●	●	❑	●	●	●	●	●	❑	❑	❑	❑	❑	❑	❑	❑	❍

(1) Included in the horizontal cabinet set

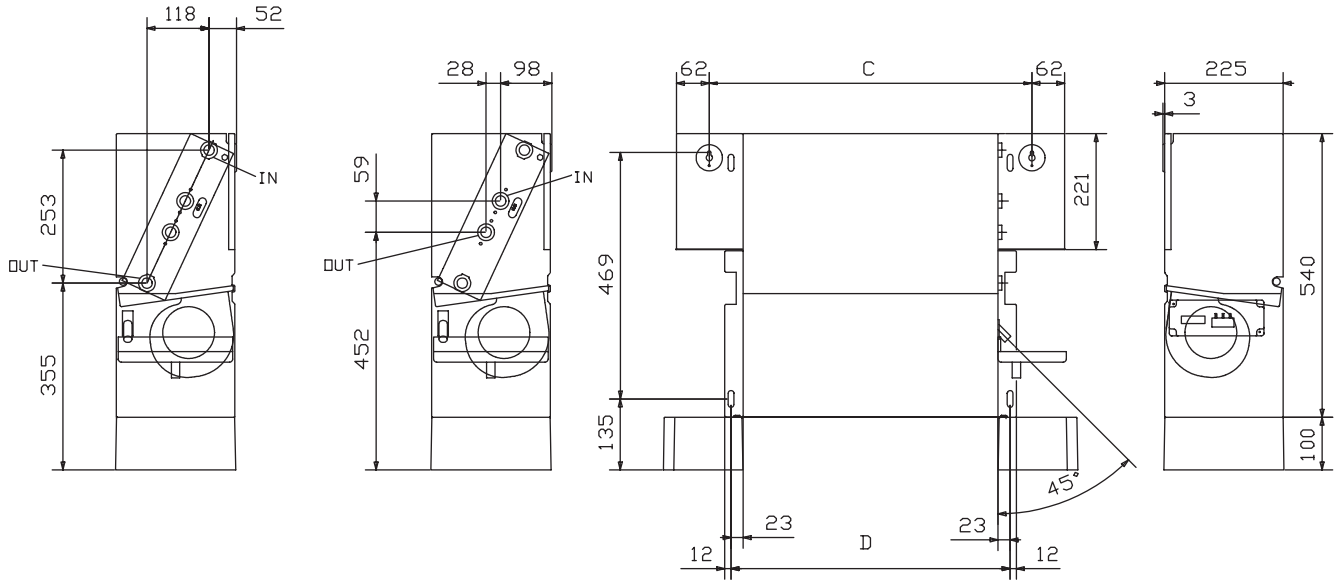
❑ Compatible but not Necessary
● Incompatible
❍ Necessary
✢ Necessary to use alternative

DIMENSIONS

All dimensions in mm.



Dimensions with Cabinet



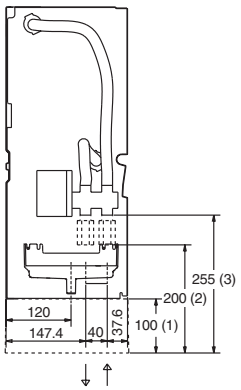
Dimensions without Cabinet

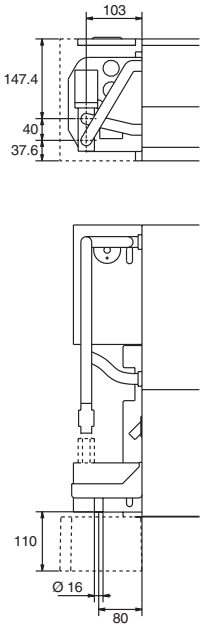
	DIMENSIONS (mm)			
MODEL	**A**	**B**	**C**	**D**
12 - 13 - 14 - 121 - 122 -131	768	468	596.8	514
22 - 23 - 24 - 221 - 222 - 231	902	602	730.8	648
32 - 33 - 34 - 321 - 322 - 331	1236	936	1064.8	982
42 - 43 - 44 - 421 - 422 - 431	1370	1070	1198.8	1116
52 - 53 - 54 - 521 - 522 - 531	1537	1237	1365.8	1283

CONTROL VALVE CONNECTIONS

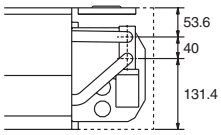
2 PIPE MODELS - VERTICAL MOUNTING

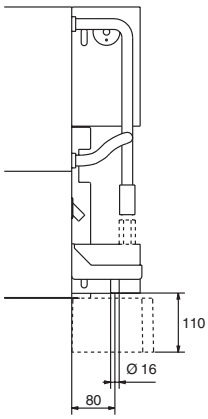
Left Hand Side Connection

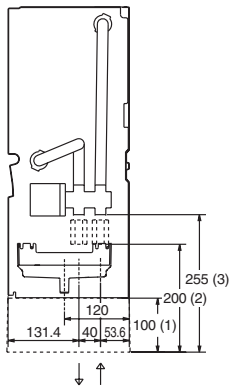




Right Hand Side Connection



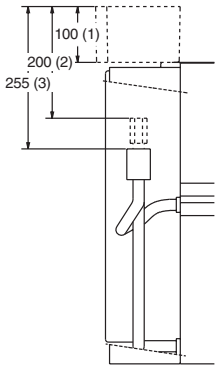


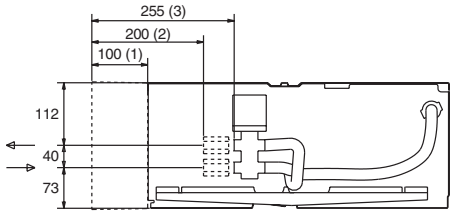


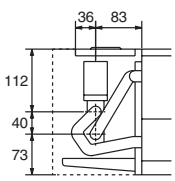
Notes: 1. Minimum distance of unit from floor. 2. Minimum distance of stop valve (optional) from floor.
3. Minimum distance of control valve from floor. 4. Internal diameter of the auxiliary drain pan holes is 28 mm.
5. Water connection sizes are 1/2 " male gas coupling or 1/2 " female gas coupling when optional stop valve is fitted.

2 PIPE MODELS - HORIZONTAL MOUNTING

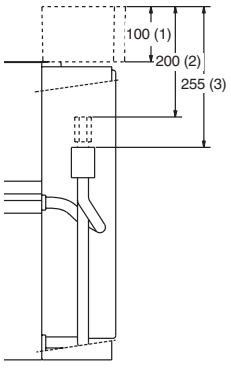
Left Hand Side Connection

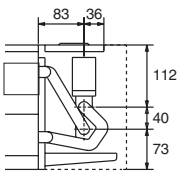


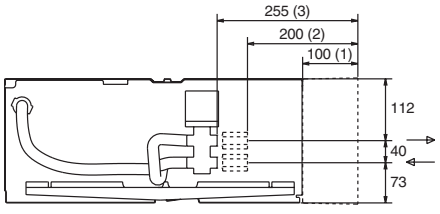




Right Hand Side Connection



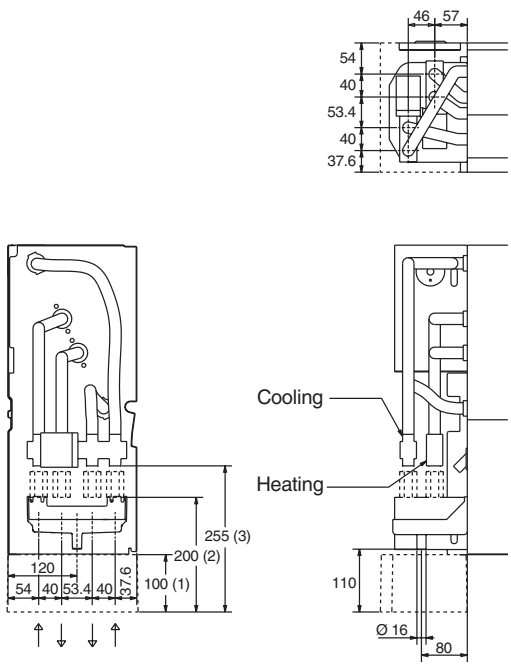




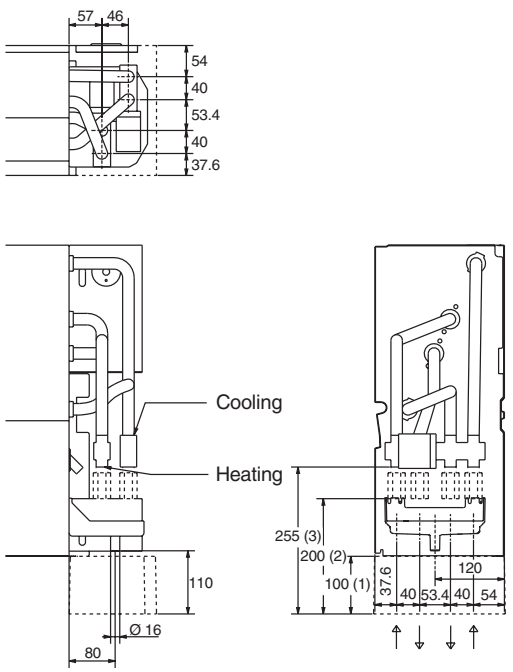
Notes: 1. Minimum distance of unit from wall. 2. Minimum distance of stop valve (optional) from wall.
3. Minimum distance of control valve from wall.
4. Water connection sizes are 1/2 " male gas coupling or 1/2 " female gas coupling when optional stop valve is fitted.

4 PIPE MODELS - VERTICAL MOUNTING

Left Hand Side Connection



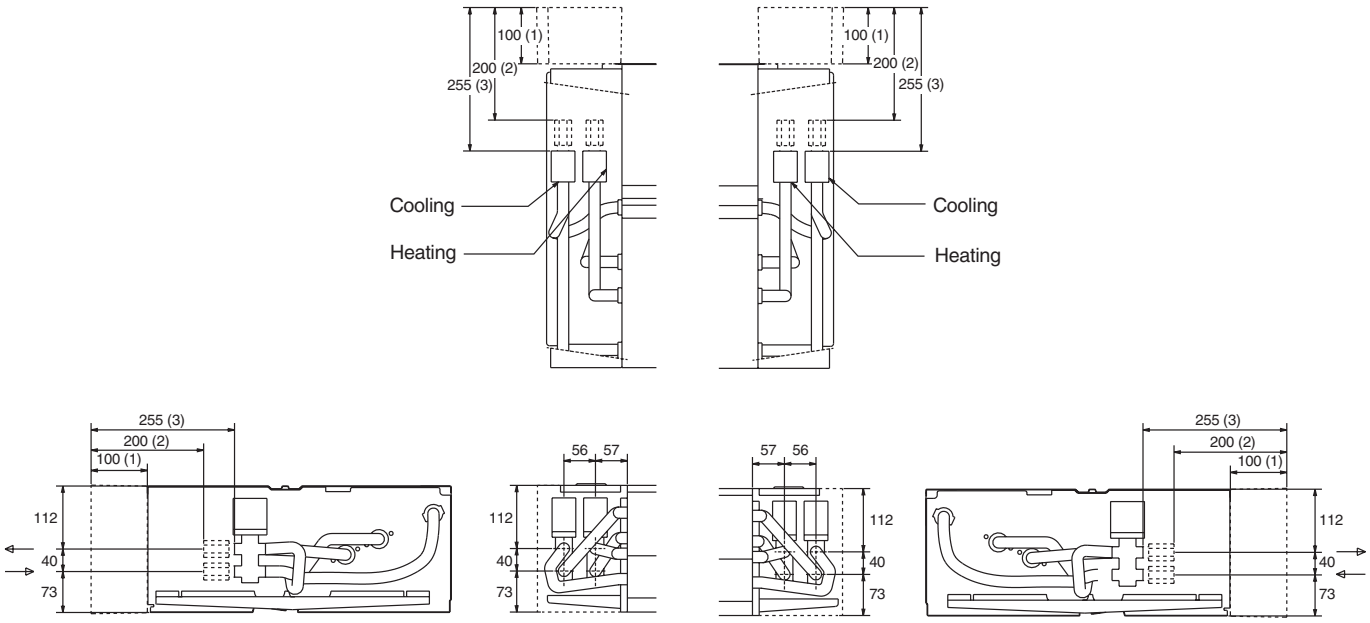
Right Hand Side Connection



Notes: 1. Minimum distance of unit from floor. 2. Minimum distance of stop valve (optional) from floor.
3. Minimum distance of control valve from floor. 4. Internal diameter of the auxiliary drain pan holes is 28 mm.
5. Water connection sizes are 1/2 " male gas coupling or 1/2 " female gas coupling when optional stop valve is fitted.

4 PIPE MODELS - HORIZONTAL MOUNTING

Left Hand Side Connection

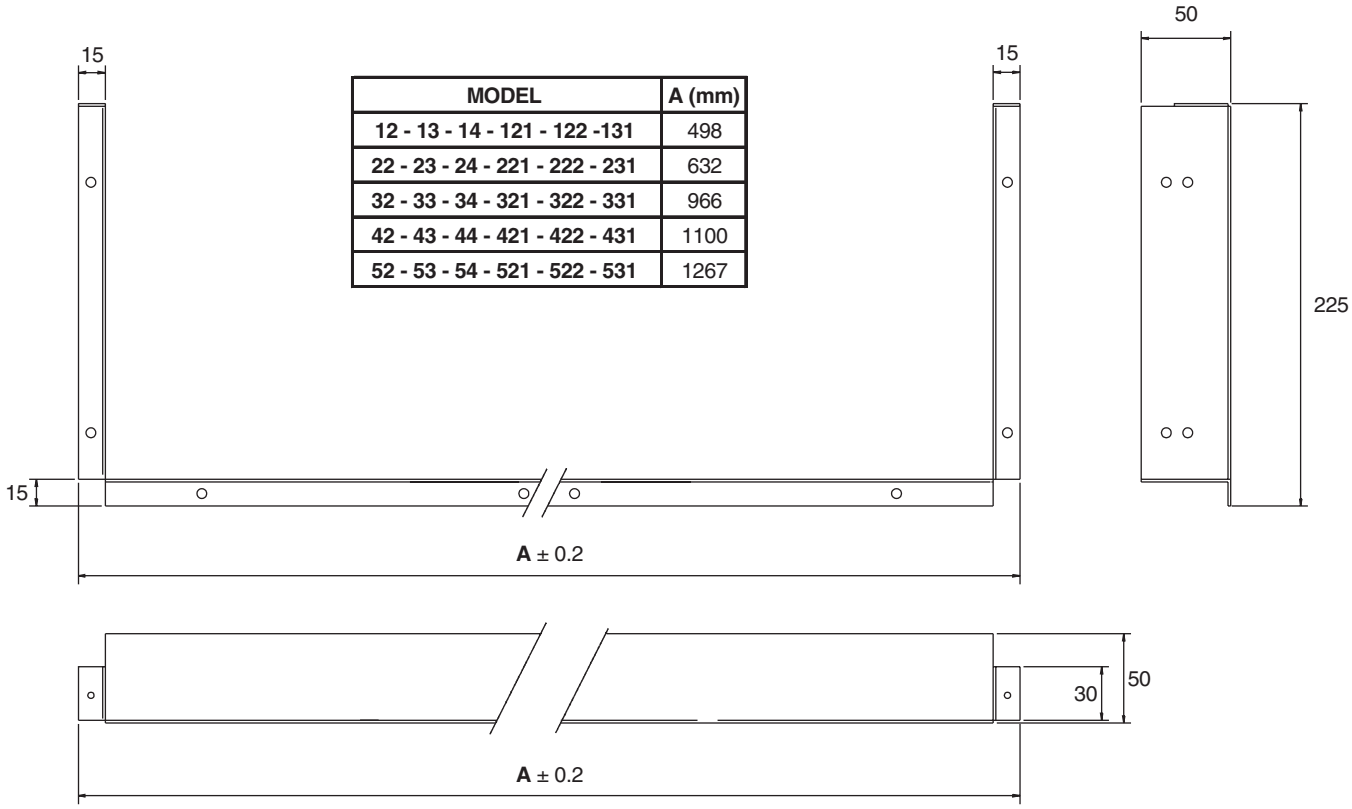


Right Hand Side Connection

Notes: 1. Minimum distance of unit from wall. 2. Minimum distance of stop valve (optional) from wall.
3. Minimum distance of control valve from wall.
4. Water connection sizes are 1/2 " male gas coupling or 1/2 " female gas coupling when optional stop valve is fitted.

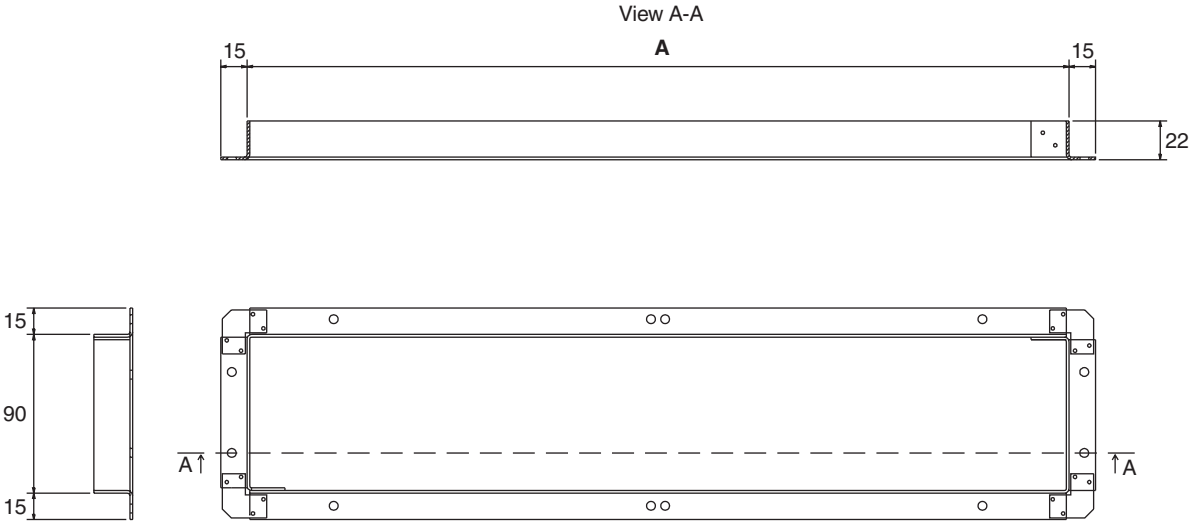
INLET AND OUTLET FLANGE DIMENSIONS

INLET FLANGE/FILTER FRAME DIMENSIONS



MODEL	A (mm)
12 - 13 - 14 - 121 - 122 -131	498
22 - 23 - 24 - 221 - 222 - 231	632
32 - 33 - 34 - 321 - 322 - 331	966
42 - 43 - 44 - 421 - 422 - 431	1100
52 - 53 - 54 - 521 - 522 - 531	1267

OUTLET FLANGE DIMENSIONS



MODEL	A (mm)
12 - 13 - 14 - 121 - 122 -131	466
22 - 23 - 24 - 221 - 222 - 231	600
32 - 33 - 34 - 321 - 322 - 331	934
42 - 43 - 44 - 421 - 422 - 431	1068
52 - 53 - 54 - 521 - 522 - 531	1235