

Quik-Sizer Instructions

The Quik-Sizer form, along with the following instructions, is designed to complete a system bid in no more than 1 hour after the Survey is completed. If the bid results in a sale, a more detailed room-by-room heat loss/gain and system layout should be completed using the more detailed instructions included in *Bulletin 40-40, System Sizing and Layout Procedure*. If needed, information on the climatic conditions of your area can be obtained from your local weather bureau, the ASHRAE Fundamentals Handbook, or the ACCA Manual J.

STEP 1:

- 1) Complete the Job Survey Form, paying close attention to the following:
 - a) Direction the Structure faces.
 - b) Number of Occupants.
 - c) Insulation.
 - d) Type Windows.
 - e) Available Electric Service.
 - f) Location of Main Box.

STEP 2:

- 1) Make a rough sketch of the structure. It is important to obtain whole house and individual room dimensions as you will need them in later steps.

STEP 3:

- 1) Using the information collected in Step 1, calculate the Whole House Heat Gain using *ACCA Manual J* or *ASHRAE Cooling and Heating Load Calculation Manual*.
- 2) Geographical Wet Bulb can be obtained from the local Weather Bureau, from the ACCA Manual J booklet, or from the ASHRAE Climate tables.
- 3) Once you obtain this factor, it will generally remain the same for you Geographical area.

STEP 4:

- 1) Refer back to the sketch you made in Step 2.
- 2) Determine the number of outlets required for each room by using the Quik-Sizer Form page 2 of this bulletin.
- 3) Position the outlets on the sketch using the following guidelines:
 - a) Outlets should be positioned so they do not discharge directly over large pieces of furniture or where people normally sit, walk, or stand.
 - b) Generally, it is best to place outlets near high heat gain areas such as sliding glass doors or large glass areas.
 - c) Most often, outlets can be placed in corners of rooms, directly above light switches, in soffits or next to windows and doors.
 - d) If using floor outlets, positioning should be in the corners of the room or out of the normal traffic pattern.

STEP 5:

- 1) You can now sketch in the Air Handler selected by using the Heat Gain calculated in Step 3.
- 2) In positioning the Air Handler and Return Air Filter/Grille, the following guidelines should be followed:
- 3) When possible, first look for an available area inside the conditioned space. A closet, utility room or basement is commonly used.
- 4) As an alternate, the unit may be placed in the attic over normally non-occupied areas such as a closet, bathroom, or hallway. **Never** position the unit over a bedroom or sleeping area.

STEP 6:

- 1) You can now sketch in the Plenum Duct System using the following guidelines: (also see *Bulletin 30-01, Installation Guide*)
 - a) Tees and Elbows should be kept to a minimum.
 - b) It is best to lay out the plenum system to keep the 2 inch (50 mm) supply runs as short as possible.

STEP 7:

- 1) You now have all the information necessary to calculate your job estimate using the Quik-Pricing Section page 4 of this bulletin.

UNICO SYSTEM[®] QUIK-SIZER[®]

The following chart can be used in estimating the number of runs for a given room. *This is for estimating purposes only and should not be a substitute for an accurate room-by-room heat gain calculation and layout.* Considerations used for this estimate sheet are as follows:

- a) Designed for 95°F (35°C) outdoor air and 75°F (24°C) indoor air temperatures.
- b) 20% of exposed wall is considered window area.
- c) 6" (150 mm) insulation in attic; 3" (75 mm) insulation in walls.

INSTRUCTIONS:

1. Measure room size and length of exposed wall.
2. Figure corner rooms as west exposure.
3. Read across chart relative to direction for number of terminators required per room.
4. Do material take-off in length of tubing and number of runs.

Number of Terminators (Outlets)

ROOM SIZE w/8 ft (2440 mm) ceiling, ft (mm)	EXPOSED WALL			
	NORTH	EAST	SOUTH	WEST
10 × 10 (3050 x 3050)	1	1½	1½	1½
10 × 12 (3050 x 3660)	1½	1½	1½	2
10 × 14 (3050 x 4270)	2	2	2	2
10 × 16 (3050 x 4880)	2	2	2	2
12 × 10 (3660 x 3050)	1½	1½	1½	2
12 × 12 (3660 x 3660)	2	2	2	2
12 × 14 (3660 x 4270)	2	2	2	2
12 × 16 (3660 x 4880)	2	2	2	2½
12 × 18 (3660 x 5490)	2½	2½	2½	3
12 × 20 (3660 x 6100)	2½	2½	2½	3
14 × 10 (4270 x 3050)	2	2	2	2
14 × 12 (4270 x 3660)	2	2	2	2½
14 × 14 (4270 x 4270)	2	2½	2½	3
14 × 16 (4270 x 4880)	2½	3	3	3
14 × 18 (4270 x 5490)	2½	3	3	3
14 × 20 (4270 x 6100)	2½	3½	3½	3½
14 × 22 (4270 x 6710)	3	3½	3½	3½
16 × 12 (4880 x 3660)	2	2½	2½	3
16 × 14 (4880 x 4270)	2½	2½	2½	3
16 × 16 (4880 x 4880)	3	3	3	3
16 × 18 (4880 x 5490)	3	3	3	3½
16 × 20 (4880 x 6100)	3½	3½	3½	4
16 × 22 (4880 x 6710)	4	4	4	4
18 × 12 (5490 x 3660)	3	3	3	3
18 × 14 (5490 x 4270)	3	3	3	3
18 × 16 (5490 x 4880)	3	3	3	3½
18 × 18 (5490 x 5490)	3	3½	4	4
18 × 20 (5490 x 6100)	3½	4	4	4
18 × 22 (5490 x 6710)	3½	4	4	4
20 × 12 (6100 x 3660)	3	3	3	4
20 × 14 (6100 x 4270)	3	3	3	4
20 × 16 (6100 x 4880)	3	4	4	4
20 × 18 (6100 x 5490)	3½	4	4	4
20 × 20 (6100 x 6100)	4	4	4	5
20 × 22 (6100 x 6710)	4	4	4	5

Job Survey and Quik-Price Form

SECTION ONE

Customer Name _____ Salesman _____

Address _____ City _____

Telephone _____ Date Sold _____ Date Installed _____

Design Conditions: circle unit of measure °F °C

Winter: _____ Outdoors _____ Indoors _____ Temp. Diff.

Summer: _____ Outdoors _____ Indoors _____ Temp. Diff.

Remarks: _____

SECTION TWO — CONSTRUCTION DETAILS

Building Style: () Single Story () Two Story () Other _____

Direction House Faces: _____ Number of Occupants: _____

Building Situated Over: () Basement () Slab () Other _____

Attic: () Vented () Non-Vented () Average Height _____ ft. (mm).

Roof: () Pitched () Flat () Other _____

Type Wall Construction: (Specify) _____

Insulation: Walls _____ inches (mm) Ceiling _____ inches (mm) Floors _____ inches (mm)

Windows: () Single Pane () Storm Sash () Other _____

Ceiling Height: First Floor _____ ft. (mm) Second Floor _____ ft. (mm)

Existing Electrical Service: _____ Amps. Main Box Location: _____

Proposed Condensing Unit Location: _____

Shrubs to move? _____ Pipe Condensate to: _____

Length Refrigerant Lines _____ ft. (mm) Type: _____

Electronic Air Cleaner (Model): _____

Central Humidifier (Model): _____

Remarks: _____

SECTION THREE — UNICO SYSTEM® RESIDENTIAL QUIK PRICER FORM

(Not recommended for Homes Under 1000 Sq. Ft. (93 Sq. m))

- A. PEOPLE — Use actual number in household, plus at least two. Allow for larger groups if common to entertain.
- B. Single Story Homes — Use lineal feet (mm) of outside wall for space to be conditioned.
- C. Story and a Half — List lineal feet (mm) of first floor outside wall, plus lineal feet (mm) of inside wall (ignore dormers) at floor line of second floor. For item three, enter area of first floor only, but add area of any overhang on second floor, areas over unheated rooms, porches, etc.
- D. Two Story — Use lineal feet (mm) of outside dimension for both first and second floors. For item three, use area of first floor, adding areas of overhangs, and floors over unconditioned rooms on second floor.

Item One: Number of People _____ × 400 BTUH BTUH
 (Number of People _____ × 117 Watts Watts)

Item Two: Outside Wall, Total Lineal Feet, Times Appropriate Factor From Table Below.
 _____ Ft. × _____ (Factor) BTUH
 (_____ m. × _____ (Factor) × 0.962 (multiplier) Watts)

TYPE OF WALL	VENETIAN BLINDS SHADES OR DRAPES		OUTSIDE AWNINGS	
	Single Windows	Storm Sash	Single Windows	Storm Sash
Ordinary Wall	100	82	72	62
Insulated Wall	82	65	55	44
Insulated for Elec. Heat	60	48	41	32

Item Three: Total Living Area (Square Feet), Times Factor Selected From Table Below.
 _____ Sq. Ft. × _____ (Factor) BTUH
 (_____ Sq. m × _____ (Factor) × 3.15 (multiplier) Watts)

FLOOR CONDITION	CEILING CONDITION		
	Uninsulated Attic	2" to 4" Insulation	Insulated for Electric Heat
Over Basement or Slab on Ground	22	10	7
Vented Crawl Space	23	11	8
Open Crawl Space	26	14	11

Item Four: Multiply floor area (from item three above) times Factor selected from table below. (Refer to either the local weather bureau, the ASHRAE Fundamentals Handbook, or the ACCA Manual J for your area wet bulb design temperature.)
 _____ Sq. Ft. × _____ (Factor) BTUH
 (_____ Sq. m × _____ (Factor) × 3.15 (multiplier) Watts)

GEOGRAPHICAL WET BULB CORRECTION	FACTOR
For 75°F (24°C) Wet Bulb Design Area	1.0
For 78°F (26°C) Wet Bulb Design Area	1.7
For 80°F (27°C) Wet Bulb Design Area	2.7

Item Five: Add All Above Items for Total Heat Gain _____ BTUH (Watts)

SECTION FOUR — QUIK-PRICING (See Instructions on Price Sheet)

- (1) _____ Basic System(s), _____ Capacity, at \$ _____ : \$ _____
- (2) _____ Heat, Model _____, at \$ _____ : \$ _____
- (3) _____ ft., Pre-Charged Tubing, at \$ _____ /ft. : \$ _____
- (4A) _____ Single Story Terminators at \$ _____ : \$ _____
- (4B) _____ Two Story Terminators, at \$ _____ : \$ _____
- (4C) _____ Special Terminators, at \$ _____ : \$ _____
- (5) _____ Electrical Service : \$ _____
- (6) _____ Electronic Air Service : \$ _____
- Other _____ : \$ _____

SUB TOTAL: \$ _____

Add Applicable Sales Tax: \$ _____

TOTAL EST. SELLING PRICE: \$ _____