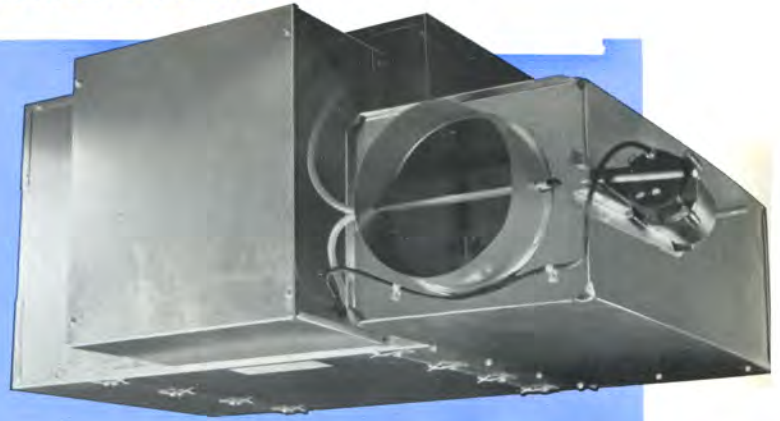


Models ASFC/ASFE 1:1 Ratio w/o coil
 Models ATFC/ATFE 2:1 Ratio w/o coil

Models ASWC/ASWE 1:1 Ratio w/Hot Water Coil
 Models ATWC/ATWE 2:1 Ratio w/Hot Water Coil

Models ASEC/ASEE 1:1 Ratio w/Electric Coil
 Models ATEC/ATEE 2:1 Ratio w/Electric Coil



The Carnes intermittent fan terminal unit provides constant air volume to the space for reheat applications while retaining a variable air volume system during normal cooling operation.

The primary air control assembly operates independently as a standard throttling control valve for cooling loads. As cooling loads diminish, the secondary air supply fan(s) is energized to induce warm ceiling plenum air. A wide variety of control sequences makes this fan powered unit compatible with the most energy efficient system design.

Typical Sequence of Operation

Central fan on — Day (occupied) operation.

When the central system fan is “on”, the intermittent fan unit operates as a standard throttling control unit for cooling loads. As the cooling load diminishes and the control valve throttles to a minimum or closed position, the fan is energized by the P/E switch for pneumatic controls or an electric contactor for electronic controls to draw in warm plenum air or hydronically or electrically reheated air.

Central fan off — Night (unoccupied) operation.

When the central system fan is “off”, the primary air supply valve is closed. The unit fan is then turned on and off by the P/E switch for pneumatic controls or an electric contactor for electronic controls on demands for heat and no heat respectively.

Note: For electronically controlled units, minimum CFM must be zero. A minimum setting other than zero may cause the damper to throttle open when central system is off.

Features Include:

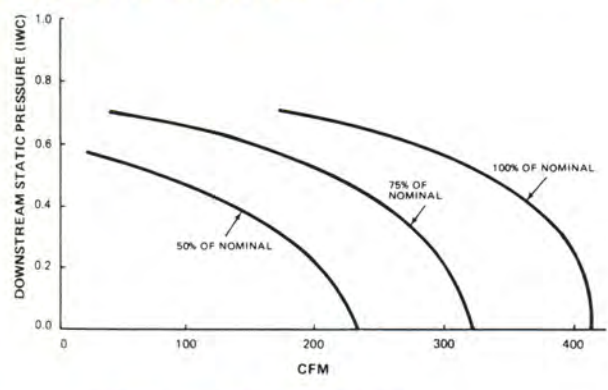
- Air flow capacities from full shut-off to 8000 CFM primary air and 3200 CFM secondary air.
- Two primary to secondary air ratio configurations are available.
- Access panel for internal fan and control components.
- Forward curved centrifugal type fan assembly(s).
- 115, 208 or 277 volt, single phase SCR speed controller.
- Permanent split capacitor type fractional horsepower motor(s).
- Fan/motor assemblies are isolated from the casing using rubber isolators to minimize vibration transmission.
- All units are equipped with pneumatic or electronic pressure independent controls.
- Field adjustable P/E switch with pneumatic controls.
- Insulation is 1½ lb. density fiberglass with surface treated to prevent erosion, meets NFPA 90A requirements.
- Velocity sensor and calibration chart for measuring air flow through the primary air damper.
- Optional ETL listing (Models ASFE/ATFE/ASWE/ATWE/ASEE/ATEE).
- Optional one or two row hot water coils (Models ASWC/ASWE/ATWC/ATWE). Coil is attached to primary air discharge.
- Optional one, two or three stage electric reheat coils (Models ASEC/ASEE/ATEC/ATEE). Coil is attached to primary air discharge.
- Optional filter rack.
- Optional quick release access panel.
- Optional fire rated tubing.
- Optional foil coated insulation (hospital, laboratory, etc. applications).

Available Modules:

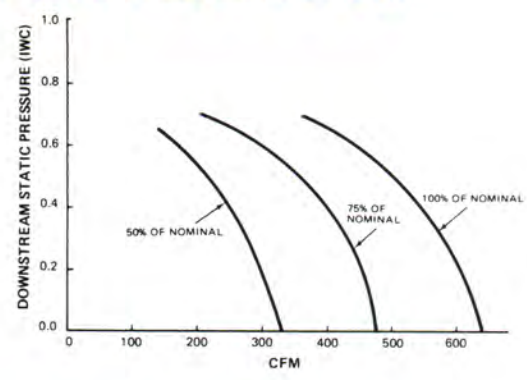
- Basic control unit—Models ASFC/ASFE/ATFC/ATFE.
- Basic control unit with hot water coil—Models ASWC/ASWE/ATWC/ATWE.
- Basic control unit with or without electric coil—Models ASEC/ASEE/ATEC/ATEE.
- Discharge sound attenuator—Model AXAA (See Section 5-Accessories).
- Multi-discharge adaptor—Model AXMA (See Section 5-Accessories).

Performance Data—Models ASFC/ATFC/ASWC/ATWC/ASEC/ATEC ASFE/ATFE/ASWE/ATWE/ASEE/ATEE CFM vs External Static Pressure

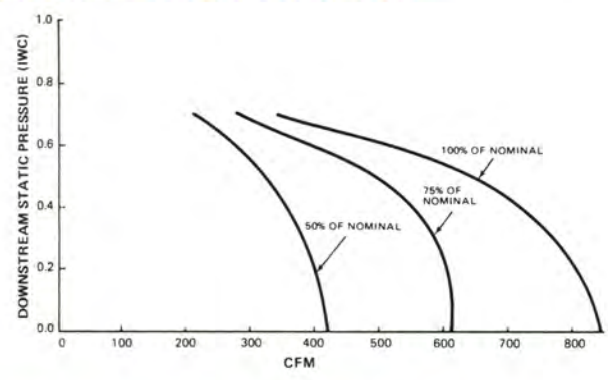
UNIT SIZE 04 1:1 and UNIT SIZE 08 2:1



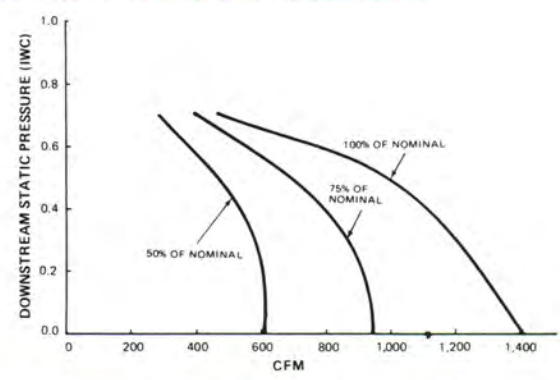
UNIT SIZE 06 1:1 and UNIT SIZE 12 2:1



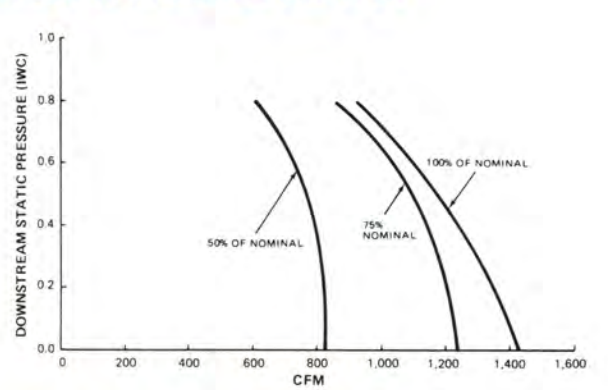
UNIT SIZE 08 1:1 and UNIT SIZE 16 2:1



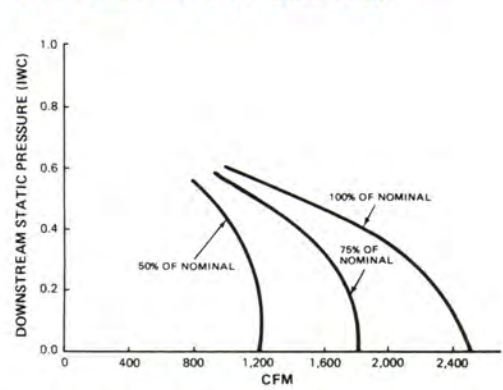
UNIT SIZE 12 1:1 and UNIT SIZE 24 2:1



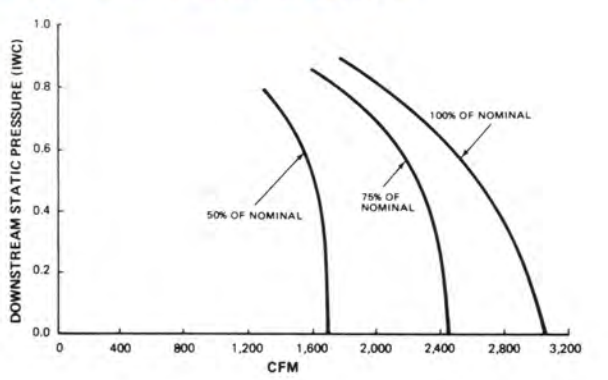
UNIT SIZE 16 1:1 and UNIT SIZE 32 2:1



UNIT SIZE 24 1:1 and UNIT SIZE 45 2:1



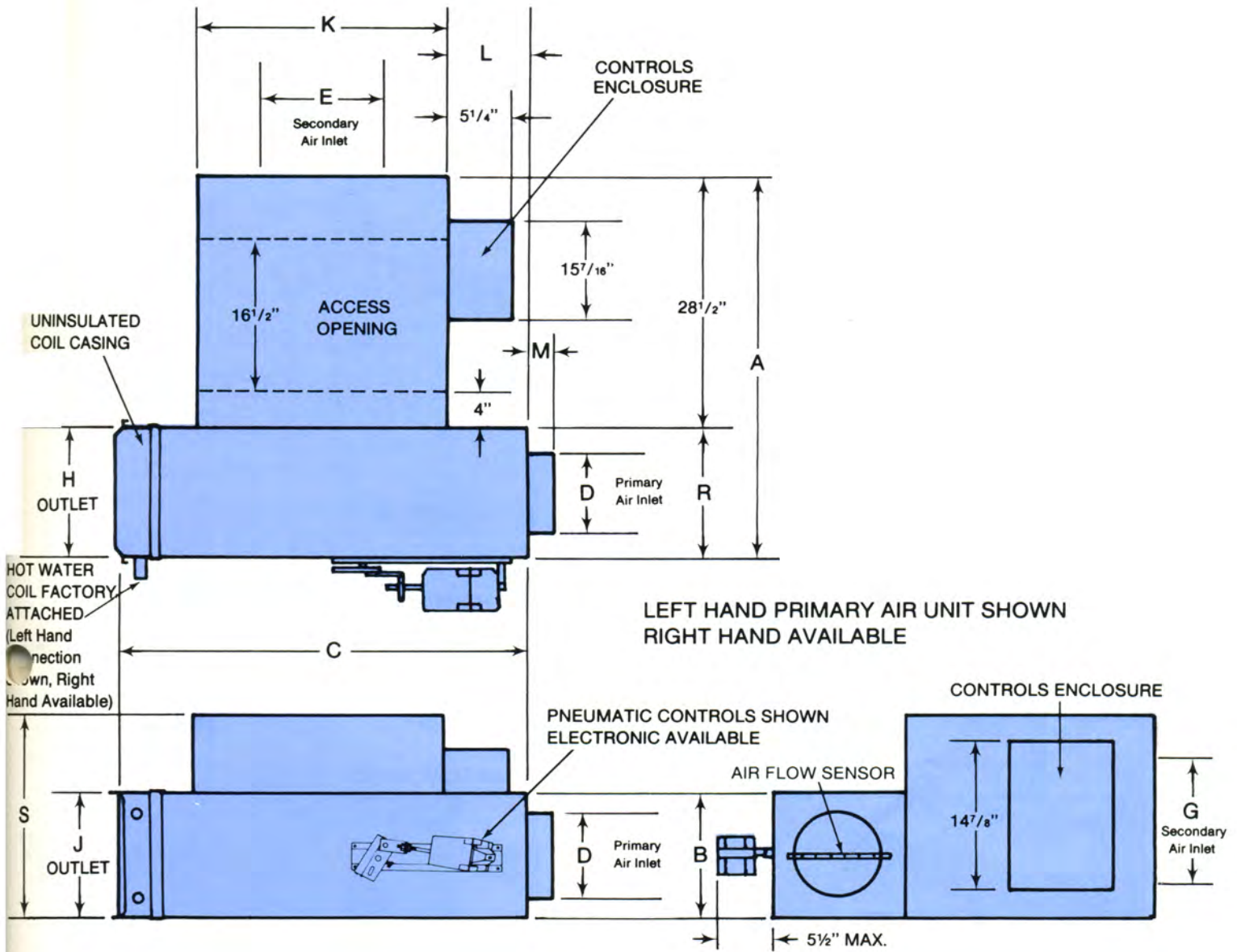
UNIT SIZE 32 1:1 and UNIT SIZE 60 2:1



MOTOR FULL LOAD AMPS

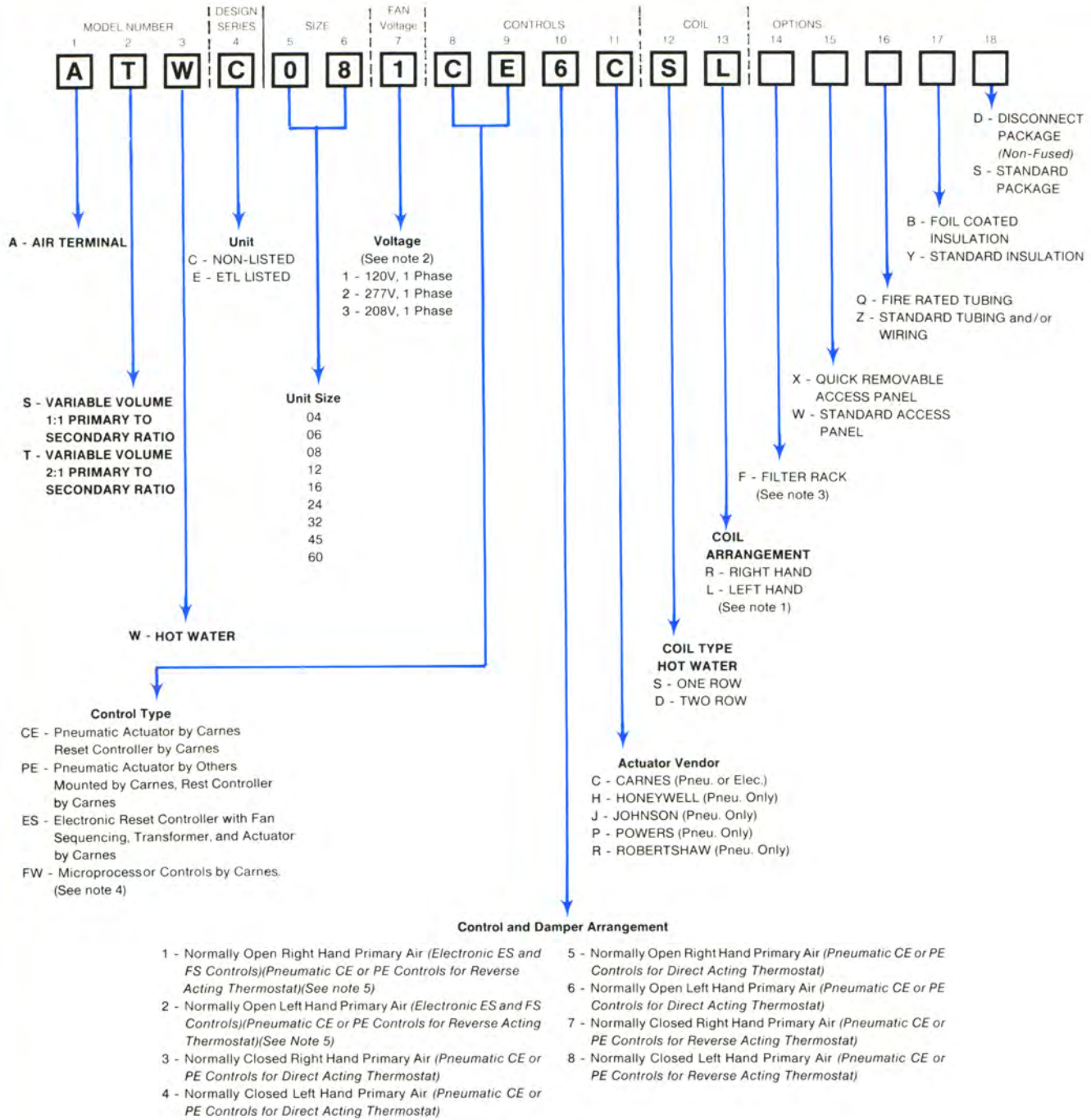
| Unit Size 2:1 | Unit Size 1:1 | HP | Volts | Full Load Amps |
|---------------|---------------|--------|---------|----------------|
| 08 | 04 | 1/8 | 115 | 2.1 |
| | | | 208/277 | 1.1 |
| 12 | 06 | 1/6 | 115 | 3.0 |
| | | | 208/277 | 1.5 |
| 16 | 08 | 1/4 | 115 | 4.2 |
| | | | 208/277 | 2.1 |
| 24 | 12 | 1/3 | 115 | 6.4 |
| | | | 208/277 | 3.2 |
| 32 | 16 | 1/2 | 115 | 8.2 |
| | | | 208/277 | 4.1 |
| 45 | 24 | (2)1/3 | 115 | 12.8 |
| | | | 208/277 | 6.4 |
| 60 | 32 | (2)1/2 | 115 | 16.4 |
| | | | 208/277 | 8.2 |

Dimensional Data—Models ASWC/ATWC/ASWE/ATWE-Intermittent Volume Fan Powered Units with Hot Water Coil



| DIMENSION IN INCHES | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------|----------------|---------------|----------|--------|----|--------|--------|---------|---------------------|----|------------------|----|--------|--------|-------|----|----|
| Unit Type | Unit Size | Prim. Nom. CFM | Sec. Nom. CFM | Fan H.P. | A | B | 1 Row | | D | Secondary Air Inlet | | S & Drive Outlet | | K | L | M | R | S |
| | | | | | | | C | C | | E | G | H | J | | | | | |
| ASWC ASWE 1:1 Ratio | 04 | 400 | 400 | 1/8 | 38 1/2 | 8 | 30 1/8 | 31 1/2 | 6 | 10 | 8 | 10 | 8 | 19 1/2 | 5 7/8 | 2 3/8 | 10 | 18 |
| | 06 | 600 | 600 | 1/6 | 40 1/2 | 10 | 33 1/2 | 34 3/8 | 7 | 12 | 10 | 12 | 10 | 24 | 5 1/2 | 2 3/8 | 12 | 18 |
| | 08 | 800 | 800 | 1/4 | 40 1/2 | 10 | 36 1/4 | 37 3/8 | 8 | 14 | 12 | 12 | 10 | 26 | 5 1/2 | 2 3/8 | 12 | 18 |
| | 12 | 1200 | 1200 | 1/3 | 42 1/2 | 12 | 42 5/8 | 44 | 10 | 16 | 14 | 14 | 12 | 31 | 6 3/4 | 2 3/8 | 14 | 18 |
| | 16 | 1600 | 1600 | 1/2 | 44 1/2 | 14 | 44 1/8 | 45 1/2 | 12 | 18 | 16 | 16 | 14 | 33 1/2 | 6 1/8 | 2 3/8 | 16 | 18 |
| | 24 | 2400 | 2400 | (2) 1/3 | 46 1/2 | 16 | 60 1/4 | 61 1/8 | 14 | 20 | 18 | 18 | 16 | 42 | 13 3/4 | 2 5/8 | 18 | 18 |
| TWC ATWE 2:1 Ratio | 32 | 3200 | 3200 | (2) 1/2 | 48 1/2 | 18 | 62 1/2 | 63 3/8 | 16 | 24 | 18 | 20 | 18 | 46 1/2 | 12 1/4 | 2 5/8 | 20 | 20 |
| | 08 | 800 | 400 | 1/8 | 40 1/2 | 10 | 32 | 33 3/8 | 8 | 10 | 8 | 12 | 10 | 19 1/2 | 8 | 2 3/8 | 12 | 18 |
| | 12 | 1200 | 600 | 1/6 | 42 1/2 | 12 | 36 1/4 | 37 3/8 | 10 | 12 | 10 | 14 | 12 | 24 | 7 3/4 | 2 3/8 | 14 | 18 |
| | 16 | 1600 | 800 | 1/4 | 44 1/2 | 14 | 40 | 41 3/8 | 12 | 14 | 12 | 16 | 14 | 26 | 9 1/2 | 2 3/8 | 16 | 18 |
| | 24 | 2400 | 1200 | 1/3 | 46 1/2 | 16 | 46 1/4 | 47 5/8 | 14 | 16 | 14 | 18 | 16 | 31 | 10 3/4 | 2 5/8 | 18 | 18 |
| | 32 | 3200 | 1600 | 1/2 | 48 1/2 | 18 | 48 3/8 | 49 1/2 | 16 | 18 | 16 | 20 | 18 | 33 1/2 | 10 1/8 | 2 5/8 | 20 | 18 |
| | 45 | 4500 | 2400 | (2) 1/3 | 52 1/2 | 18 | 62 1/2 | 63 3/8 | 18 x 16 | 20 | 18 | 24 | 18 | 42 | 15 3/4 | 3 3/8 | 24 | 18 |
| | 60 | 6000 | 3200 | (2) 1/2 | 60 1/2 | 18 | 62 1/2 | 63 3/8 | 24 x 16 | 24 | 18 | 32 | 18 | 46 1/2 | 12 1/4 | 3 3/8 | 32 | 20 |

Refer to Section 3 of this catalog for additional hot water coil information.



- NOTES:** 1. Hand is determined by facing the unit in the direction of air flow into the unit from supply duct.
2. Standard motor voltages for 1:1 unit type are 277 volts or 208 volts for sizes 04-32 and 115 volts for sizes 04-16. Standard motor voltages for 2:1 unit type are 277 volts or 208 volts for sizes 08-60 and 115 volts for sizes 08-32.
3. Filter not included with filter rack.
4. Microprocessor Controls includes controller with fan sequencing, actuator, transformer and inlet air flow sensor. (Not available with "E" design series.)
5. Electric/Electronic units do not fail open. "1" or "2" is used for model identification only. (Refer to controls section of this catalog for additional operating information.)