Complete HVAC Capability

• Horizontal Draw-Thru to Size 65
• Vertical Draw-Thru to Size 50
• 1000 to 60,000 CFM
• Forward Curved or Airfoil Wheels
• Inlet Vane Option
• Internal Vibration Isolation Option
**MECHANICAL SPECIFICATIONS**

**MIXING BOX**
Mixing box can be furnished with or without an angular filter section and have either top and back or bottom and back openings. Openings can be furnished with or without parallel blade dampers, having standard or low leak dampers. Blade bearings shall be brass inserts and shall provide smooth operation and corrosion resistance.

Section to have full access doors on each side with slipp-joint hinges, quick-release latches and gasketing.

**DRIVE**
Drive components shall be of the highest quality and statically balanced. Drives are designed to be a minimum of 1.20 or 1.50 times the rated motor horsepower.

**MOTORS**
Motors shall be mounted inside the blower section, on a heavy gauge steel channel, with the drive side out to provide access to the drive. Optional 1” internal spring vibration isolators for sizes 14 - 65 and rubber-in-shear isolators for sizes 03 - 12.

**FLAT FILTER SECTION**
Section available for 2” thick throwaway, cleanable or 30% efficient pleated-media type filters. Sections have full access both sides with removable doors with slipp-joint hinges, quick-release latches and gasketing. Filter velocities not to exceed recommended maximum face velocities.

**ANGULAR FILTER SECTION**
Section available for 2” thick throwaway, cleanable or 30% efficient pleated-media type filters. Sections have full access both sides with removable doors with slipp-joint hinges, quick-release latches and gasketing. Filter velocities not to exceed recommended maximum face velocities.

**ELECTRIC HEAT SECTION**
Section shall be of open coil heater type and shall have external control panel. All heating sections shall be supplied with internal wiring of controls & contactors. Automatic reset thermal cut-out and air flow pressure switch.

**ACCESS SECTION**
Used where access is needed to a particular area. Full access both sides with removable doors with slipp-joint hinges, quick-release latches and gasketing.

**DIFFUSER SECTION**
Factory installed with perforated plate to assure even distribution of discharge air across coil, required for proper heat transfer.

**BAG FILTER SECTION**
Each section has full size gasketed doors for access on both sides. Unit equipped with 2” pre-filter track and 22” bag filters. Cartridge Filter Sections have tracks for 12” Cartridges.

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**Vertical Configuration**
External Vibration Isolation

**Horizontal Configuration**
Internal Vibration Isolation

**Internal Configuration**
Construction Detail

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**NOTE:** Motor and coil connection locations are specified looking into the return air intake of the unit.

![Discharge arrangement is always specified with the unit viewed so that airflow is from left to right through the coil section. The available arrangements are numbered in clockwise sequence. Some arrangements are not available in certain sizes.](image-url)
MECHANICAL SPECIFICATIONS

GENERAL
Each unit shall be furnished with components as specified. All units and accessories shall be constructed of heavy gauge galvanized steel as specified in the Physical Data table on the back cover of this brochure. All handling units of type and size shall be in accordance with the Air Conditioning and Refrigeration Institute (ARI) Standard 430.

FAN SECTION
Fan section shall have an access door on each side secured by quick-release latches. Hinges shall be of the slip joint type allowing easy removal of doors. All doors shall be generously gasketed.

Fan sections used in cooling application shall be internally insulated with standard 1" inch thick, 2.2 lb. (optional 1 inch 3 lb. foil-faced) bonded mat fiberglass insulation, affixed with a waterproof adhesive. All insulation shall comply with the requirements of NFPA 90. Heating and ventilating coil sections are not insulated.

Vertical unit arrangements shall be available with standard and long coil sections. Vertical unit arrangements shall be available with a long coil section only. Coils with coils higher than 42-inch finned height shall com ply with the requirements of NFPA 90. Heating insulation, affixed with a waterproof adhesive. Insulation shall comply with the requirements of NFPA 90. Heating and ventilating coil sections are not insulated.

Horizontal unit arrangements shall be available with standard and long coil sections. Vertical unit arrangements shall be available with a long coil section only. Coils with coils higher than 42-inch finned height shall be generously gasketed.

All units and accessories shall be constructed of heavy gauge galvanized steel as specified in the Physical Data table on the back cover of this brochure. All handling units of type and size shall be in accordance with the Air Conditioning and Refrigeration Institute (ARI) Standard 430.

FAN SHAFT
Shafts shall be solid steel, continuous diameter, turned, ground and polished. Each shaft shall be coated with a non-hardening rust inhibitor.

Shall critical speed shall be at least 1.25 times the maximum operating speed.

BEARINGS
Plow block bearings shall be self-aligning, noise tested and have air conditioning fit. Average bearing life shall be in excess of 300,000 hours.

Extended lube lines and grease fittings shall be furnished to each bearing to allow lubrication from outside the cabinet.

COILS
All coils shall be staggered tube design, have heavy wall copper headers, and de-formed plate type aluminum fins. Coil casings shall be constructed of 16 gauge galvanized steel.

Water and steam coils shall have steel MPT connections. DX and heat reclaim coils shall have copper sweat connections.

All coils shall be submerged in water and leak tested with 400 PSIG dry nitrogen.

All chilled and hot water coils certified in accordance with ARI Standard 410.

FACE AND BYPASS DAMPERS
Dampers shall be internal or external, opposed blade type with inter-connecting linkage. Blade bearings shall be brass inserts and shall provide smooth operation and corrosion resistance. Small face area coils with internal bypass; large face area coils with external bypass. The external duct on external bypass to be insulated.

FAN PRESSURE CLASS
- L = Low
- M = Medium

UNIT ARRANGEMENT
- H = Horizontal
- V = Vertical
- B = Blow-Thru'

'Blow-Thru units are always horizontal arrangement
All Vertical and All Blow-Thru units must use Long coil section

GENERAL DESCRIPTION
The Central Station Air Handler is an industrial grade product with heavy gauge mill-galvanized steel framing and sheet metal throughout. Designed specifically for the HVAC industry with a full range of options and accessories, these units are also ideal for custom or design-and-build projects in refrigeration or air conditioning.

Units are a single blower, internally mounted motor design. Each blower section has hinged access panels on both sides for service convenience. Air conditioning units are available for both low and medium pressure applications.

The standard configurations available in most models include forward curved and airfoil wheels, with or without inlet vanes; horizontal and vertical draw-thru and horizontal blow-thru; internal or external fan isolation.

Continuous diameter solid steel blower shafting is used throughout the line, resulting in large bearing diameters and low bearing loads. The highest quality grease lubricated bearings are selected to assure 200,000 hours average service life. Each rotating assembly, including fan wheel, shaft, sheaves, belts and motor, is balanced after final assembly to assure smooth, quiet performance.

Standard coil options include chilled water or direct expansion cooling coils; hot water, steam and heat reclaim heating coils plus electric heat sections to provide complete comfort and environmental conditioning.

GENERAL PERFORMANCE DATA

- CFM Range: 0 - 40,000
- Nominal Capacity (Large Coil) - MBH:
  - A (Water) 80° DB/60° WB, 5.0 GPM/Ton, 45° Ent. Water
  - B (Steam) 80° DB/60° WB, 5.0 GPM/Ton, 45° Ent. Water

- Large Coil Face Area:
  - Sq. Ft. - Large Wall

- Dimensions:
  - Height (inches)

- Water and steam coils shall have steel MPT connections. DX and heat reclaim coils shall have copper sweat connections.

- All coils shall be submerged in water and leak tested with 400 PSIG dry nitrogen.

- All chilled and hot water coils certified in accordance with ARI Standard 410.

- Fan Pressure Class:
  - L = Low
  - M = Medium

- UNIT ARRANGEMENT:
  - H = Horizontal
  - V = Vertical
  - B = Blow-Thru'

- 'Blow-Thru units are always horizontal arrangement
All Vertical and All Blow-Thru units must use Long coil section

NOMENCLATURE

- L = Low
- S = Standard
- H = Heating Only
- M = Medium
- B = Blow-Thru
- F = Forward Curved
- A = Airfoil

- NOMINAL FACE AREA
  - Sq. Ft. - Large Coil

- COIL SECTION
  - S = Standard
  - L = Long
  - H = Heating Only
  - N = None

- Width is left-to-right dimension facing blower discharge. Length includes fan & standard coil section (Horizontal Arrangement)
STANDARD CONSTRUCTION AND FEATURES

Nut & Bolt Construction (except filter racks riveted inside of filter section)
Lube Lines for blower Bearings Extended to Outside

Heavy Gauge Mill-Galvanized Steel Sheet Metal & Framing
Internally Mounted Motor

Single Blower-Wheel Design
Adjustable Motor Base

Solid Steel Fan Shafts; Continuous Diameter, Turned, Ground & Polished
Blower & Drive Components Dynamically Balanced after Fabrication

Pillow-Block Bearings; 200,000 Average Service Life
Hinged Access Doors w/easy Lift-Off Feature

DOUBLE DRAW Pan (insulated between pan and outer casing)

CONFIGURATION AND OPTION AVAILABILITY

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>UNIT SIZE</th>
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<tbody>
<tr>
<td>03 06 09 12 14 17 21 27 31 35 41 50 65</td>
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</table>

GENERAL

CONFIGURATIONS - FORWARD CURVE FAN
Horizontal Draw-Thru
Vertical Draw-Thru
Horizontal Flow-Thru (includes diffuser section)

CONFIGURATIONS - A-FROK FAN
Horizontal Draw-Thru
Vertical Draw-Thru
Horizontal Flow-Thru (includes diffuser section)

Ceiling or Floor Mounting
Floor or Platform Mount ONLY
Weatherproofing

Insulation - All Models (Fan and coil sections)
Std. Insulation 1'-2.25' and 1'-5' (If Optional) are optional
All Other Models are standard 1' - 2.25' Standard 1'-3.4' (If Optional) are optional

FAN SECTION

LOW PRESSURE CLASS
Forward Curve Fans
Available for all forward curve fans
Airfoil Fans
Available for all airfoil fans

MEDIUM PRESSURE CLASS
Forward Curve Fans
Available for all forward curve fans
Airfoil Fans
Available for all airfoil fans

INLET VANES
Forward Curve Fans
Available for all forward curve fans
Airfoil Fans
Available for all airfoil fans

INTERNAL FAN ISOLATION
Forward Curve Fans
Airfoil Fans

MOTORS
Left or Right Hand Location
Standard Open Drip Proof
High Efficiency
Totally Enclosed - Fan Cooled
Available All Sizes
Two-Speed
Fixed or Adjustable

DRIVES
Fixed or Adjustable
125% or 150% Service Factor

Dual Drive (Motor & Drive on each side of blower)
Motor Starter
OSHA Bolt Guard

* S = Standard 20" blower; 0 = Optional 22" blower. A = Available

COIL SECTION

DESCRIPTION
UNIT SIZE
03 06 09 12 14 17 21 27 31 35 41 50 65

COIL CONSTRUCTION AND OPTIONS

STANDARD CONSTRUCTION

Copper Tubing – Staggered Tube Pattern
3/8", 1/2" & 5/8" Tubing (except steam is 5/8" O.D. only)

De-formed Plate – Type Aluminum Fins
.025", .035" and .049" Wall Copper Tubes (5/8" O.D. only)

Mill-Galvanized Steel Casing – 16 gauge
4 Thru 14 Fins Per Inch

Heavy Wall Copper Headers
Copper Fins, Polyester Coated Fins

Connections:
.010" thick Aluminum Fins

Water & Steam Coils:
Steel MPT
Phenolic Coated Coil – Dipped After Fabrication

Direct Expansion:
Type 304 Stainless Steel Casing
Copper MPT Connections in lieu of Steel

Condenser & Reclime:
Copper Suction
Sweat Copper Suction

Leak Tested Under Water @ 400 PSIG Dry Nitrogen
Row Split

Additional circuits:
Face Split
Intertwined
### STANDARD CONSTRUCTION AND FEATURES

- **Nut & Bolt Construction** (except filter racks riveted inside of filter section)
- Lube Lines for blower Bearings Extended to Outside
- **Heavy Gauge Mill-Galvanized Steel Sheet Metal & Framing**
- **Single Blower-Wheel Design**
- Blower & Drive Components Dynamically Balanced after Fabrication
- **Solid Steel Fan Shafts; Continuous Diameter, Turned, Ground & Polished**
- **Pillow-Block Bearings; 200,000 Average Service Life**

### STANDARD CONSTRUCTION AND FEATURES

- **Copper Tubing – Staggered Tube Pattern**
- **Die-formed Plate – Type Aluminum Fins**
- **Mill-galvanized Steel Casing – 16 gauge**
- **Heavy Wall Copper Headers**
- **Connections:**
  - Copper Tubing – Staggered Tube Pattern
  - De-formed Plate – Type Aluminum Fins
  - Mill-galvanized Steel Casing – 16 gauge
  - Heavy Wall Copper Headers

### CONNECTIONS AND OPTION AVAILABILITY

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| **Insulation** | HH-L/P, HN-L/P & HN-L/P Fan Sections Only | Std., No Insulation | 1” - 2.25” and 1”-3” (if offset) are optional
| All Other Models (Fan and coil sections) | 1” - 2.25” Standard, 1” - 3” (for facades) is optional |

### FAN SECTIONS

- **LOW PRESSURE CLASS**
  - Forward Curve Fans
  - Available for all forward curve fans
- **MEDIUM PRESSURE CLASS**
  - Forward Curve Fans
  - Available for all forward curve fans
- **INTERNAL VENTS**
  - Forward Curve Fans
  - Available for all forward curve fans
- **INTERNAL FAN ISOLATION**
  - Forward Curve Fans
  - Available for all forward curve fans

### MOTORS

- **Left or Right Hand Location**
- **Standard Open Drip Proof**
- **High Efficiency**
- **Totally Enclosed - Fan Cooled**
- **Two-Speed**

### DRIVE OPTIONS

- **Fixed or Adjustable**
- **125% or 150% Service Factor**
- **Dual Drive (Motor & Drive on each side of blower)**
- **Motor Starter**
- **OSHA Bolt Guard**

### CONFIGURATION AND OPTION AVAILABILITY

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### ACCESORY SECTIONS

- **FLAT FILTER SECTION** (For 2” Filters)
  - Throwaway, Cleanable & Pleated Filters
- **FLAT FILTER SECTION** (For 4” Filters)
  - Pleated Filters Only
- **ANGULAR FILTER SECTION** (For 2” Filters)
  - Throwaway, Cleanable & Pleated Filters
- **HEAVY DUTY FILTER SECTION**
  - Throwaway, Cleanable & Pleated Filters
- **BAG FILTER SECTION** (For 22” Bags & Pre-Filters)
  - 65%, 95% & 98% Efficient Filters
- **CARTRIDGE FILT, SECT.** (For 12” Cart., & Pre-Filters)
  - 65%, 90% & 98% Efficient Filters
- **MINING SECTION**
  - With or Without Dampers
  - With or Without 2” Filter Racks
  - Low Leak Dampers
  - FACE & Bypass Damper Section
  - Standard Dampers
  - Low Leak Dampers

### COIL CONSTRUCTION AND OPTIONS

- **STANDARD CONSTRUCTION**
- Copper Tubing – Staggered Tube Pattern
- 3/8”, 1/2”, & 5/8” Tubing (except steam is 5/8” O.D. only)
- De-formed Plate – Type Aluminum Fins
- .025”, .035”, and .049 Wall Copper Tubes (5/8” O.D. only)
- Mill-galvanized Steel Casing – 16 gauge
- Heavy Wall Copper Headers
- Connections:
  - Copper Tubing, Polyester Coated Fins
  - Copper MPT Connections in lieu of Steel
- **OPTIONAL FEATURES**
- Water & Steam Coils:
  - Steel MPT
  - Phenolic Coated Coil – Dipped After Fabrication
- Direct Expansion:
  - Distributor inlet
  - Type 304 Stainless Steel Casing
- Condenser & Reclaim:
  - Copper Suction
  - Copper MPT Connections in lieu of Steel
- Additional Circuits:
  - Face Split
  - Row Split
  - Intertwined

### CONFIGURATION AND OPTION AVAILABILITY

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MECHANICAL SPECIFICATIONS

GENERAL
Each unit shall be furnished with components as specified. All units and accessories shall be constructed of heavy gauge galvanized steel as specified in the Physical Data table on the back cover of this brochure. Air handling units of type and size shall be in accordance with the Air Conditioning and Refrigeration Institute (ARI) Standard 430.

FAN SECTION
Fan section shall have an access door on each side secured by quick-release latches. Hinges shall be of the slip joint type allowing easy removal of doors. All doors shall be generously gasketed. Fan sections used in cooling application shall be internally insulated with standard 1" inch thick, 2.2 lb. (optional 1 inch 3 lb. foil-faced) bonded mat fiberglass insulation, affixed with a waterproof adhesive. All insulation shall comply with the requirements of NFPA 90. Heating and ventilating coil sections are not insulated. Horizontal unit arrangements shall be available with standard and long coil sections. Vertical unit arrangements shall be available with a long coil section only.

COIL SECTION
Coil sections with coils higher than 42-inch finned height shall have an intermediate drain pan (between top and bottom coils) with plastic drain tubes extending into main drain pan. Heating coils shall be considered standard in either the preheat or reheat position. Cooling coils shall be mounted on entering air side of coil section to prevent water carry-over into the fan section. Standard and long coil sections shall have a removable panel on each side to allow easy coil access and removal. Optional hinged and latched access door available on return-vent side of coil section. Standard and long coil sections shall have a double drain pan with insulation between the inner and outer pan. The drain pan shall have welded corners and a 1-1/4 inch MPT drain connection on each side for positive draining. Optional stainless steel drain pans for corrosive applications.

HEATING-ONLY COIL SECTION
One and two row heating coils can be housed in a specially designed slide-in casing and bolted directly to the fan section. Heating only coils with more than two rows shall be bolted directly to the fan section without a casing. No insulation can be applied.

BLOWERS
Each unit shall contain one forward curved, double width, double inlet blower. Blower wheel and housings are heavy gauge galvanized steel. All fans available with standard or Class II; forward curved or airlift wheels. Blower wheels shall be statically and dynamically balanced before they are assembled and dynamically balanced after being installed in the fan section. Fan and fan section in accordance with ARI Standard 430.

FAN SHAFT
Shafts shall be solid steel, continuous diameter, turned, ground and polished. Each shaft shall be coated with a non-hardening rust inhibitor. Shaft critical speed shall be at least 1.25 times the maximum operating speed.

BEARINGS
Pilow block bearings shall be self-aligning, noise tested and have air conditioning fit. Bearing operating life shall be in excess of 200,000 hours. Extended lube lines and grease fittings shall be furnished to each bearing to allow lubrication from outside the cabinet.

COILS
All coils shall be staggered tube design, have heavy wall copper headers, and de-formed plate type aluminum fin. Coil casings shall be constructed of 16 gauge galvanized steel. Water and steam coils shall have steel MPT connections. DX and heat reclaim coils shall have copper sweat connections. All coils shall be submerged in water and leak tested with 400 PSIG dry nitrogen. All chilled and hot water coils certified in accordance with ARI Standard 410.

FACE AND BYPASS DAMPERS
Dampers shall be external or opposed blade type with inter-connecting linkage. Blade bearings shall be brass inserts and shall provide smooth operation and corrosion resistance. Small face area coils with internal bypass; large face area coils with external bypass. The external duct on external bypass to be insulated.


generals description
The Central Station Air Handler is an industrial grade product with heavy gauge mill-galvanized steel framing and sheet metal throughout. Designed specifically for the HVAC industry with a full range of options and accessories, these units are also ideal for custom or design-and-build projects in refrigeration or air conditioning. Units are a single blower, internally mounted motor design. Each blower section has hinged access panels on both sides for service convenience. Air conditioning units are available for both low and medium pressure applications.

The standard configurations available in most models include forward curved and airlift wheels, with or without inlet vanes; horizontal and vertical draw-thru and horizontal blow-thru; internal or external fan isolation. Continuous diameter solid steel blower shafting is used throughout the line, resulting in large bearing diameters and low bearing loads. The highest quality grease lubricated bearings are selected to assure 200,000 hours average service life. Each rotating assembly, including fan wheel, shaft, sheaves, belts and motor, is balanced after final assembly to assure smooth, quiet performance.

Standard coil options include chilled water or direct expansion cooling coils; hot water, steam and heat reclaim heating coils plus electric heat sections to provide complete comfort and environmental conditioning.

GENERAL PERFORMANCE DATA

<table>
<thead>
<tr>
<th>Model Size</th>
<th>CFM Range Cooling Heating</th>
<th>Nominal Capacity (Large Coil) - ft²*</th>
<th>Large Coil</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A (Water) B (Air Exp) C</td>
<td>D (In/hr)  E (Exp)</td>
<td>Face Area Sq. Ft.</td>
<td>Length (inches)</td>
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<td>03</td>
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</tbody>
</table>

* Cooling Capacity

A (Water) 80°DB/67°WB Ent. Air, 2.4 GPM/ton, 45° Ent. Water
B (Air Exp) 80°DB/67°WB Ent. Air, 45° Refrigerant Temperature
C (Exp) 70°DB/62.5°WB Ent. Air, 40° Refrigerant Temperature

Heat Reclaim Capacity

Steam 60°DB Entering Air, 5 PSI Steam

† Width is left-to-right dimension facing blower discharge. Length includes fan & standard coil section (Horizontal Arrangement)
MECHANICAL SPECIFICATIONS

MIXING BOX
Mixing box can be furnished with or without an angular filter section and have either top and back or bottom and back openings. Openings can be furnished with or without parallel blade dampers, having standard or low leak dampers. Blade bearings shall be brass inserts and shall provide smooth operation and corrosion resistance.

Section to have full access doors on each side with slip-joint hinges, quick-release latches and gasketing.

DRIVE
Drive components shall be of the highest quality and statically balanced. Drives are designed to be a minimum of 1.20 or 1.50 times the rated motor horsepower.

MOTORS
Motors shall be mounted inside the blower section, on a heavy gauge steel channel, with the drive side out to provide access to the drive. Optional 1" internal spring vibration isolators for sizes 14 - 65 and rubber-in-shear isolators for sizes 03 - 12.

FLAT FILTER SECTION
Section available for 2" thick throwaway, cleanable or 30% efficient pleated-media type filters.

Section available with 4" thick 30% efficient pleated-media type filters. Sections have full access both sides with removable doors with slip-joint hinges, quick-release latches and gasketing. Filter velocities not to exceed recommended maximum face velocities.

ANGULAR FILTER SECTION
Section available for 2" thick throwaway, cleanable or 30% efficient pleated-media type filters. Sections have full access both sides with removable doors with slip-joint hinges, quick-release latches and gasketing. Filter velocities not to exceed recommended maximum face velocities.

ELECTRIC HEAT SECTION
Section shall be of open coil heater type and shall have external control panel. All heating sections shall be supplied with internal wiring of controls & contactors. Automatic reset thermal cut-out and air flow pressure switch.

ACCESS SECTION
Used where access is needed to a particular area. Full access both sides with removable doors with slip-joint hinges, quick-release latches and gasketing.

DIFFUSER SECTION
Factory installed with perforated plate to assure even distribution of discharge air across coil, required for proper heat transfer.

BAG FILTER SECTION
Each section has full size gasketed doors for access on both sides. Unit equipped with 2" pre-filter track and 22" bag filters. Cartridge Filter Sections have tracks for 12" Cartridges.

NOTE: Motor and coil connection locations are specified looking into the return air intake of the unit.
Complete HVAC Capability

• Horizontal Draw-Thru to Size 65
• Vertical Draw-Thru to Size 50
• 1000 to 60,000 CFM
• Forward Curved or Airfoil Wheels
• Inlet Vane Option
• Internal Vibration Isolation Option