

SUN WEST AIR HANDLING UNITS



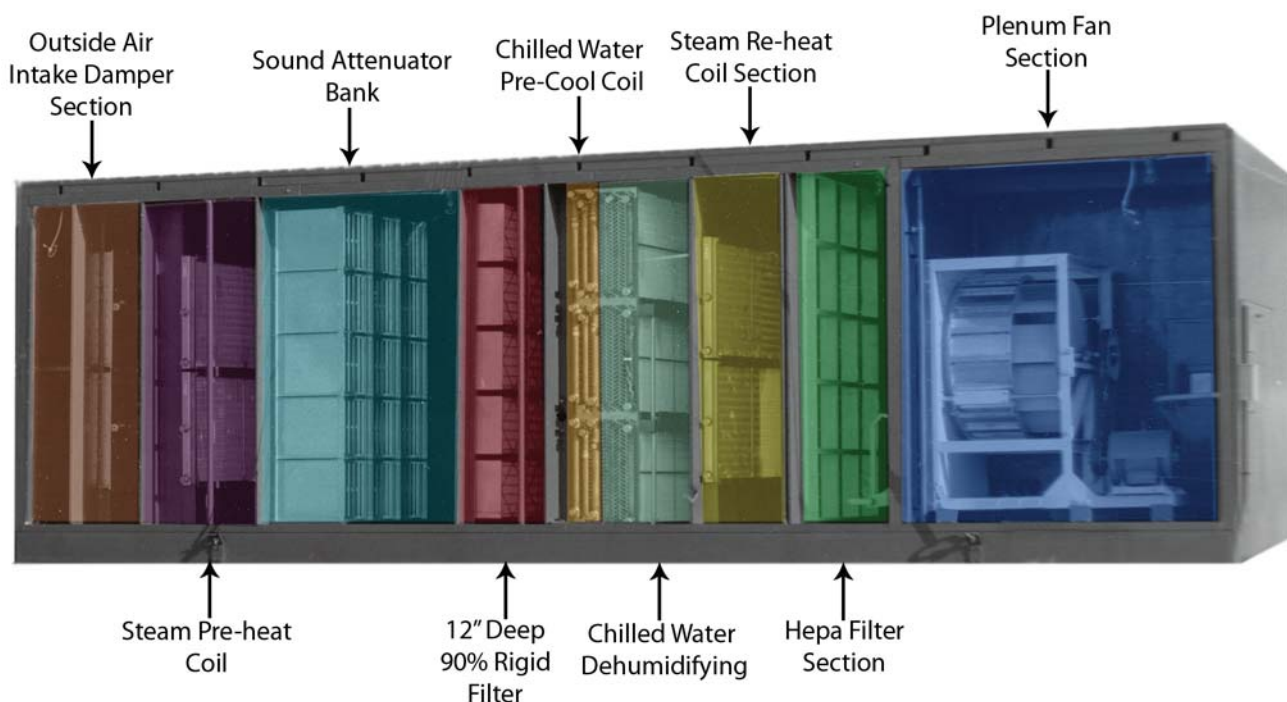
QUALITY • RELIABILITY • SERVICE



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MALLORY MANUFACTURING COMPANY

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Mallory Manufacturing Company is a fast growing U.S. owned and operated manufacturer in operation since 1989. Our skilled employees operate a state-of-the-art 50,000 square foot manufacturing facility. We are committed to continually improve our processes and customer satisfaction.

Mallory Manufacturing specializes in developing and manufacturing high precision products. We manufacture quality products including, but not limited to, a wide array of HVAC and roofing applications as well as parts & assemblies manufactured and designed to specific customer specifications.

Mallory Manufacturing has developed and implemented the Quality System outlined by ISO 9001-2000. Our quality policy ensures that products, standards, and services meet the manufacturing and safety requirements demanded by the industries served. We consider our quality system to be an integral and essential part of the company's operations. Our quality policy was implemented to provide superior value while producing quality products that satisfy the needs and expectations of Mallory Manufacturing's customer base. We maintain a strong commitment to continually improve the effectiveness of our quality management system.

Mallory Manufacturing's quality policy has been communicated to each and every employee; including management. Employees understand the quality management systems purpose and work to achieve quality commitment through out the organization. Our quality management system reflects the organizations total commitment in achieving the needs of our customer base efficiently and safely.





The state of the art equipment at our disposal allows us to fabricate high-precision and high quality parts for a wide variety of applications.

Our facility is over 50,000 square feet, allowing us the capability to handle any job - from the smallest to the largest customer requirements. Our extensive facility and highly skilled fabricators enable us to manufacture all customer requests with great efficiency, the most economical pricing, and fast delivery.

With over 50 years experience in the fabrication of metal equipment and parts, you can count on Mallory Manufacturing Company to deliver exactly what you ordered.

In addition, we offer full-service, high quality design and engineering services at our facility. We support your product vision by utilizing highly proficient engineers, while employing the latest technologies and efficient methods for product optimization and project acceleration. More than that, we are responsive and truly listen to your needs in order to fully understand your vision and goals.

Mallory Manufacturing personnel are always interested in working with users and design professionals in developing new adaptations of our products as well as refinement of their application. To maximize Mallory Manufacturing's interest in this pursuit the company has invested in a sophisticated 3-D Computer Aided Drafting and Design system. This CAD system allows Mallory Manufacturing to develop better and accurately designed units and then supply design engineers and their clients with a hardcopy drawing of a custom-designed Sun West Air Handling Unit almost instantly.

Mallory Manufacturing remains dedicated to investigate new ways to improve quality and efficiency in its service, product and methods of fabrication of its products.

Mallory Manufacturing Company also offers a variety of high quality custom finishing to the parts we manufacture. Our services include anodizing, powder and liquid coating services.

AIR HANDLING UNITS

Mallory Manufacturing is able to offer designers of heating, ventilating, and air conditioning systems the opportunity to design their own units in order to better serve a client through factory packaging of equipment in a single unit with a Sun West Air Handling Unit.

By choosing a custom-designed superior quality Sun West Air Handling Unit by Mallory Manufacturing one can provide the flexibility necessary to optimize comfort as well as ownership costs of individualized systems with excellent quality, versatility and efficient equipment.



There are various product options for the Sun West Air Handling Unit line as fabricated by Mallory Manufacturing. Because of the unique characteristics of the product line, this information is general in nature. Descriptions

of typical components and complete units are to be considered as approximate representations of the equipment. Additional details will be required by the designer and installer. Also available are several types of casing construction variations including access doors/panels and several types of roof curb/unit bases that are available. The Mallory Manufacturing Sun West Air Handling Unit sales representative or factory should be consulted for additional information necessary for a final design.





Drawings of previously designed units are available as supplemental reference material. Sizing and component selections are included for configurations which have been used by others. These might be a starting point around which to design each custom unit. The designer is urged to contact the local Mallory Manufacturing Sun West Air Handler System representative or the factory for assistance in both application and equipment selection.

PRODUCT CONCEPT

In selecting Mallory Manufacturing custom designed packaged air handling equipment, the only limits are good design. The limitations imposed by over-the-road carriers and/or state highway rules regarding oversized loads, the building structure weight capacity and the reasonably available crane weight lifting and reach capacity. Large units which exceed one or more of these limitations can be built as a single unit with provisions incorporated to allow the unit to be split and shipped in multiple sections.



The most common designs are packaged rooftop air handling units completely factory assembled and shipped

as single units ready for hoisting and setting in place on roof curbs furnished with the units.

Although outdoor mounted equipment is most popular, the custom concept is equally valid when selecting air handling equipment for use in indoor mechanical equipment rooms. For indoor use Mallory Manufacturing can furnish air handling equipment ranging for single components such as custom fan units or evaporative cooling air washers to sub-assemblies consisting for example, of an evaporative cooling air washer with pre-cooling coil(s) and filter sections mounted to complete units with dampers and custom plenums and fac-

tory installed power wiring to fan and pump motors.

Experience with many custom applications has given Mallory Manufacturing's design personnel and out regional sales representatives the ability to offer suggestions which may aid the designer in choosing sizes and equipment arrangements which best suits the requirements of the project. Although we are providing descriptions of more typical designs, including sizing information, we are interested in working with users and design professionals by providing assistance to them in developing new adaptations of our products.

TYPICAL SYSTEM COMPONENTS

Mallory Manufacturing offers a wide variety of components to comprise any custom Sun West Air Handling Unit. Systems can even be designed with an individually specified manufacturer of particular internal components of the factory packaged equipment.

AIR WASHERS:

For direct and indirect evaporative cooling, as well as humidification, Mallory Manufacturing offers a wide range of Sun West Air Washer units. * CLASS 1, 2 or 3 Air Washers are usually packaged with either a plug fan section or an FC blower section for economical acquisition costs. * CLASS 4, 6 and 8 Air Washers are atomizing spray type air washers with eliminator banks. * Hexapack Air Washers are sprayed cell type. * Class 10 and 12 Air Washers utilize a cross fluted media, cellulose or fiberglass, over which water is introduced at the top of the fill media and allowed to cascade downward providing a wetted surface for evaporation (eliminators optional).

Class 10 Air Washers are designated for direct evaporative cooling. Class 12 Air Washers are designated for indirect evaporative cooling. Both types of air washers are fabricated using a basin or tank constructed of heavy gauge steel with double welded seams. Fill supports, water drain and over





flow connections are welded in place as integral parts of the tank.

The entire tank assembly is protected with two coats of coal-tar epoxy inside and outside. A stainless steel sump is offered as an option. The tank assembly is leak tested at the factory. The sump is furnished with a pump suction strainer screen. Pump riser and distribution header can be provided in PVC, or copper pipe. A brass float valve is provided located above the flood rim of the tank. The casing walls, roof, blank-off panels and saffings are fabricated of heavy gauge galvanized steel sheets as standard. Options include - coating all interior surfaces with coal-tar epoxy or fabricating the entire air washer casing of stainless steel. Type #304 and #316 are most generally used and available.

Mallory Manufacturing Air Washers, both Class 10 and 12 employ corrugated cell media which is non-clogging, self cleaning, and long-lived (depending on maintenance and water conditions). Maintenance consists primarily of insuring a proper amount of bleed off to keep salts concentration low, and periodic cleaning and draining of the sump. Water treatment is recommended in some cases but strict adherence to outlined methods must be followed. The media is available manufactured of cellulose (CELdek) or optional fiberglass sheets (GLASdek). The fiberglass media carries a U.L. Class 2 fire rating up to 12" fill depth. One cubic foot of media provides a minimum of 123 sq. ft. of evaporative surface. The cross-ribbed design is non-clogging and produces no water carry-over at air velocities below 650 FPM with proper water flow.

The Class 10 Air Washer is used primarily for direct evaporative cooling and humidifying in medium/heavy commercial and industrial applications. The Class 12 Air Washer is specifically designed for use as an evaporative water cooler in an open indirect evaporative cooling system. "Indirect Evaporative Cooling" is the process that combines evaporative cooling with heat exchange.

A primary air stream may be cooled without the addition of moisture to the air washer located upstream.

The heat removed is rejected to a secondary air stream which has been cooled by evaporation. One Sun West Air Washer Class 12 Indirect Evaporative System consists of computer -match selected water cooling coil with a Class 12 Air Washer indirect evaporative cooler with associated fans, circulating pump, and piping. Yet another Class 12 Air Washer Indirect Evaporative System couples air -to-air flat plate heat exchanger.

For specific information on available Air Washer types, refer to each of their individual specification sheets: Class 10 and Class 12 Air Washers for Direct and Indirect Evaporative Cooling; also, Class 1 Evaporative Cooler Units; and, Class 2 and 3 Air Washers with Fan sections; Class 4, 6 and 8 Air Washers; Hexapack Air Washers.

FANS

Mallory Manufacturing is able to furnish fans of any type, size, arrangement and brand of manufacture. Some commonly used fans include air foil, backward curved and forward curved centrifugal fans for supply return and exhaust. Other selections include in-line centrifugal fans, vane-axial fans, and plenum or plug fans, and propeller fans.



The standard fans normally supplied by Mallory Manufacturing are secured from reputable OEM fan manufacturers to requested design criteria. However, by selecting a Sun West Air Handling Unit, an owner or design engineer

may specify their own preferred equipment brand at no objection to Mallory Manufacturing. The company's objective is to build a custom unit exactly as the owner and design engineer requires. Variable inlet vane dampers and variable frequency inverter drives are available for variable volume applications as well as two-speed motors or two-motor drives.





Units can be furnished with many varied combinations of supply, return and exhaust fans. Options include standard centrifugal fans, vane-axial fans, propeller fans, and plug/plenum fans.

Fans can be supplied with factory installed vibration isolation base with spring isolators and earthquake/seismic restraints as applicable. Also, fans can be supplied rigidly mounted or provided mounted on rubber in-shear isolation pads. Mallory Manufacturing also offers several types of belt and equipment guards to meet OSHA safety requirements.

Mallory Manufacturing also has the capability to provide to the owner or designer a specified final assembly balance to a measured quantity and can also provide vibration analysis of equipment. The vibration analyzer/balancer is portable and allows complete analysis of amplitude (velocity and displacement), frequency and phase as well as field and shop dynamic balancing.

Mallory Manufacturing has many other test and measurement instruments, many of which are portable, for air quantity and flow analysis, electrical and electronics testing, sound power level measurement, various HVAC and refrigeration testing, and many other precision measurement tools for both quality control and pre-shipment performance testing, as well as for field troubleshooting.

COOLING AND HEATING COILS

Mallory Manufacturing can furnish a complete range of sizes and types of heating and cooling coils for our Air Handling Units. The coils are purchased from a well established and reputable major coil manufacturer as an O. E. M.

SPRAYED COIL DEHUMIDIFIER

Mallory can provide quality built Sprayed Coil Dehumidifier sections incorporated in the units applying the basic principle that a sprayed coil is more efficient than an coil. Sprayed Coil

Dehumidifiers can reduce system costs with such energy saving and cost saving considerations as reduced system CFM, reduced chiller tonnage or reduced coil size. Sprayed Coil Dehumidifiers can be utilized year round in virtually any climate to improve the efficiency of mechanical cooling, and provide free evaporative cooling, humidification, air cleaning and odor control. See the Mallory Sprayed Coil Dehumidifier specification sheet for details, performance selection data, and product options.

ELECTRIC HEAT

Where required, custom units can be furnished with electric heating coils. Most options of staging, controls, safety devices, etc., available.

GAS FIRED HEATING

When gas is selected as the heating medium, Mallory is able to provide both direct fired and also indirect fired gas heating sections. These heaters are selected and installed in custom units in accordance with the recommendations of the heater manufacturer.

HUMIDIFIERS

All Classes of Sun West Air Washers can serve as high performance humidifiers. In addition, steam distributing, electronic steam generating water atomizing or other types of humidification equipment as selected by the specifier can be incorporated in the custom air handling unit.

HEAT RECOVERY

Mallory Manufacturing can provide custom air handling units with a variety of heat recovery apparatus included in the package. These include: air-to-air shell and tube exchangers; "run-around-coil" systems; heat wheels; plate type air-to-air exchangers, etc., as some available choices. Units with special damper arrangements are also available.





FILTER BANK ARRANGEMENTS

Standard 2"- thick and 4"- thick panel filter banks are available with both "Flat" and "Vee" configurations and with upstream and side access. Medium to high efficiency filter banks are also available with efficiencies from 45-90% utilizing bag or rigid pleated type filters. HEPA and carbon filter banks can be provided per the requirements of the owner or designer.

DAMPERS

Dampers for mixing, volume control, face and bypass, as well as multi-zone can be furnished made to order. Dampers can be motorized, manual, or gravity operation and can be parallel blade or opposed blade configuration. They can be galvanized steel or aluminum construction, standard or low leak style, flat formed or airfoil blade types, all depending on the designers preference. Multiple dampers are connected and driven by a jack shaft turning in ball bearings. Standard damper sizing is based on velocities not to exceed 1500 fpm, or as specified.

LOUVERS / WEATHER HOODS

Mallory furnishes louvers or weather hoods, both if specified on outdoor custom air handling units. Louvers are designed for efficient protection against entry of weather into the air inlet plenum and for minimal resistance to air flow. Where dimensional constraints do not prohibit, louvers are selected for a static pressure loss not to exceed 0.15" WG. All are provided with a bird screen as standard. Mallory recommends a maximum of 500 fpm velocity through Outside Air (OSA) louvers and 850 fpm velocity through Exhaust Air (EA) louvers. As an option a weather hood can be substituted for a louver with a maximum inlet face velocity of 700 fpm.

AIR RELIEF SECTION

The requirement for relief, or exhaust, varies with individual application requirements. Remote exhaust fans or relief vents are often used. Relief

sections can be provided as an integral component of the air handling units. This section may include an exhaust damper, one or more fans, and louvers or back draft dampers.

ECONOMIZER SECTION

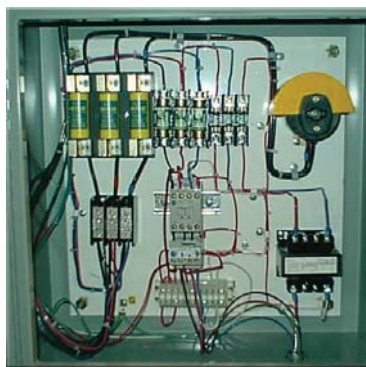
Several types of commonly used economizer sections are available and depicted in the examples of unit section illustrations in the specification sheets for both indoor and outdoor custom air handling units.

PIPING

Mallory Manufacturing's air handler units can be furnished with piping between unit components factory installed when specified. Curbed access openings with covers are provided for field piping installation where it must penetrate the air handling unit floor.

ELECTRICAL WIRING

We offer savings in the installed cost of air handling units resulting from factory installation of motor controls and power wiring to motors and pumps. When specified, custom air handling unit motor control panels usually include: disconnect switch and terminals for the main power supply connection; wiring and fusing for branch circuits; motor starters with overload relays for three phase motors; magnetic contacts for single phase motors (self protected); control circuit transformer(s); control terminal strips for field control wiring;



and control panel internal wiring. Auxiliary contact blocks and relays can also be furnished as required. Control panels for the units are normally located with access from the exterior of the

unit. Wiring is in accordance with the National Electrical Code.





SPECIAL SECTIONS

As required, custom air handling units can be furnished with sections of the integral unit for special purposes. For example, a service corridor may be specified. Other special sections can be provided for factory or field installed boilers, condensing units, chillers or other components. Mallory Manufacturing is a specialist in the design and fabrication of custom air handling equipment. Consult our field representative or factory application department for assistance with special section unit layouts.

SECTIONALIZATION

Although the method of assembly of our units are not made up of individualized sections for each component, it helps both the designer and the manufacturer to visualize the design and layout if the equipment is described as if it were composed of sections. This system is used in the outline drawings provided in our specification sheets and for estimating dimensions, weights, etc.

UNIT CONFIGURATION

In addition to the most frequently used single zone, draw through arrangement, Mallory can provide custom units set up with blow through arrangement with the supply fan located upstream of coils and other unit sections. Blow through arrangements are used for multi-zone and double duct applications. Engineers can specify blow through units in order to insert the fan and motor developed heat upstream of the air washer section to attain the lowest possible supply air temperature or to spare the supply fan assembly the exposure to the moisture laden and corrosive effects of the airstream after the air washer section. Mallory recommends the addition of an air diffusion plate in these applications to insure a uniform flow over components which are located downstream of the fan section.

REMOTE UNITS

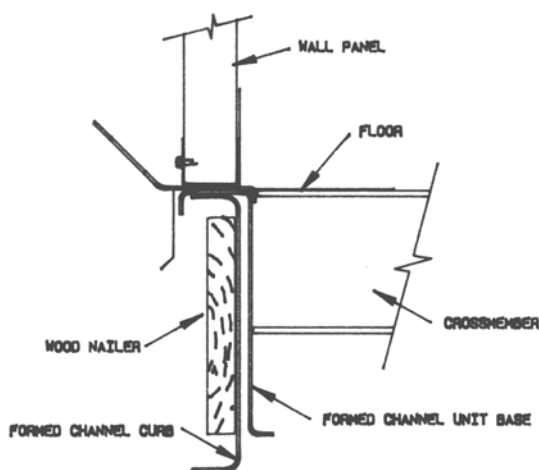
High quality custom packaged air handling equip

ment has proven to be cost effective when compared to field erected systems using components of similar quality. On large systems (12,000 CFM and larger) we have found that we are able to offer higher quality and still be competitive. In an effort to extend our ability to be competitive, offering the same standard of quality, into smaller sizes, Mallory has developed a system of indirect - direct evaporative cooling air handling units using several terminal units with a single larger remote indirect evaporative cooler assembly. Water piping would then be field installed between the units. Another reason for remote sections could be for reduction of weight of each single piece.



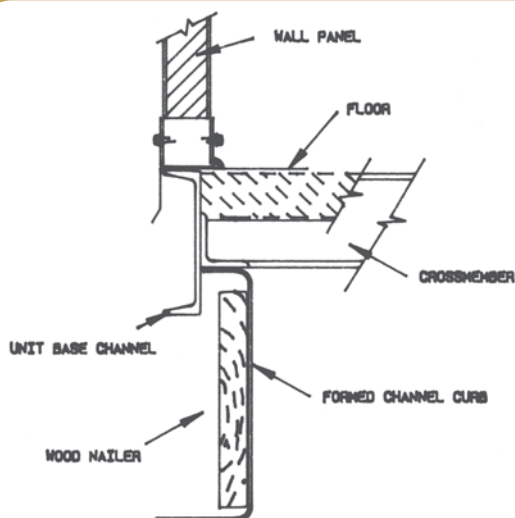
AIR HANDLING UNIT BASES

Several types of unit structural base/curbs are available. The base and floor construction can be suitable for outdoor slab installation or roof-top curb installation. Illustrated below are some standard types available.



2-PIECE BASE / CURB (STYLE "A")

The Mallory two-piece base/curb allows the installer to mount the curb prior to the arrival of the custom air handler. Roofing can occur prior to the AHU's arrival. Using a curb and unit base of the same manufacturer insures a precision fit and a weather proof installation. In addition, the curb can be fabricated to accommodate sloped roofs.

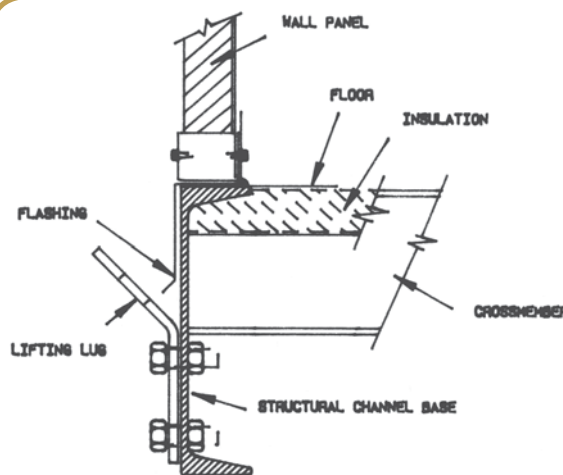


2-PIECE BASE / CURB (STYLE "B")

The Mallory structural base/curb single piece assembly is suitable for both roof-top and slab mounting. Channel size should follow the chart below to determine the minimum size for the average custom air handling unit in most cases. The factory should be consulted for those units which contain heavier than average internal components or extremely long spans.

CHANNEL SIZE	SPAN LENGTH (max.)
3" x 4.1 lb.	8' - 0"
4" x 5.4 lb.	10' - 0"
5" x 6.7 lb.	12' - 0"
6" x 8.2 lb.	15' - 0"
8" x 11.5 lb.	20' - 0"
10" x 15.3 lb.	25' - 0"
12" x 20.7 lb.	30' - 0"

Below is a detail of a standard structural Custom air handling unit base:



STRUCTURAL CHANNEL BASE
(Standard)

Modifications to a standard structural channel base include :

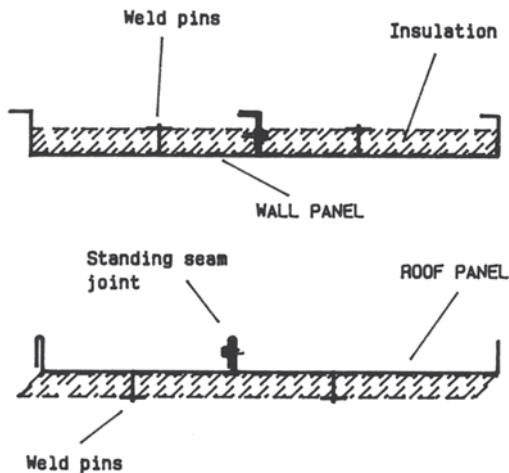
- flange turned outward
- optional wood nailer
- formed channel perimeter for weight saving applications.

The floor types available range from a double wall with 2" and 4" thick insulation to an single sheet which is available with 1" or 2" insulations glued and pinned in place.

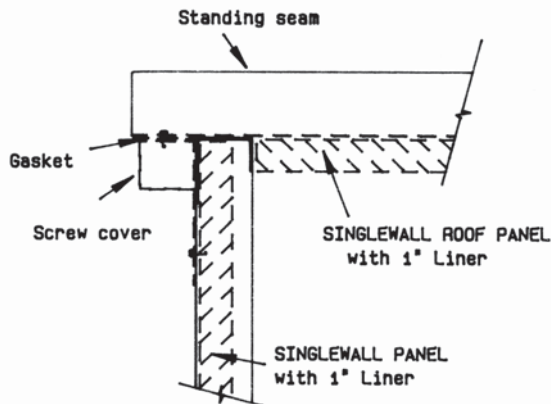


AIR HANDLING UNIT CASINGS

Several options of casing wall construction are offered as standard. The first is a single wall galvanized construction - un-insulated and supplied with 1" thick or 2" thick neoprene coated fiberglass insulation held in place with stick pins and adhesive. Casing roof panels are supplied with similar construction as the wall panels except that the roof panels are designed with a 2" overhang on the sides of the unit and adjacent roof panels are joined 1-1/2" high standing seam joints each sealed and capped with an inverted "U"-strip for weatherproof construction. Roofs are sloped for coverage.

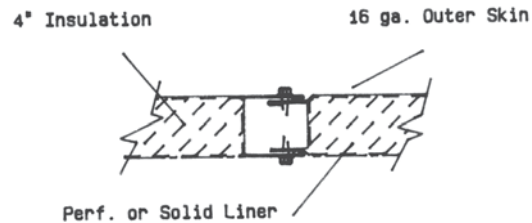


SINGLEWALL PANEL DETAIL

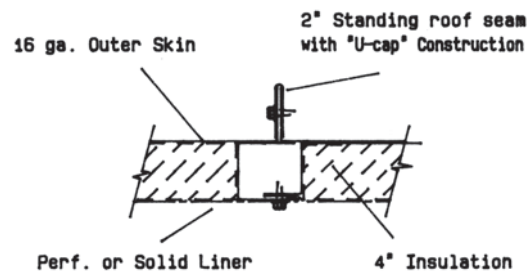


SINGLEWALL CASING DETAIL of WALL and ROOF JOINT

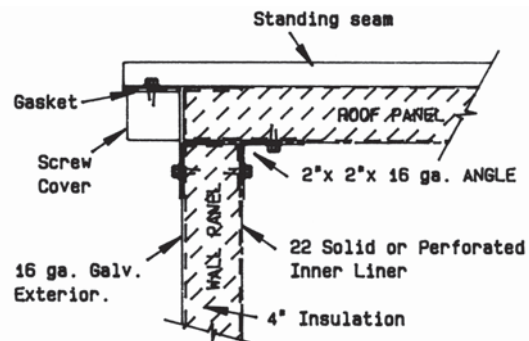
The second type of casing is an insulated DOUBLE WALL constructed panel with an inner liner of solid or perforated sheet. Double wall panels are fabricated with 18 Ga. or 16 Ga. galvanized sheet exterior, 3 lb. PCF density mineral wool insulation, and a solid or perforated 22 Ga. galvanized liner. All double wall panels are internally stiffened with "Z" section braces. Double wall casing roof panels are supplied with similar construction as the wall panels overhang on the sides of the unit and adjacent roof panels are joined 2" high standing seam joints each sealed and capped with an inverted "U"-strip for weatherproof construction. Roofs are sloped for drainage.



DOUBLEWALL "Style A" WALL JOINT



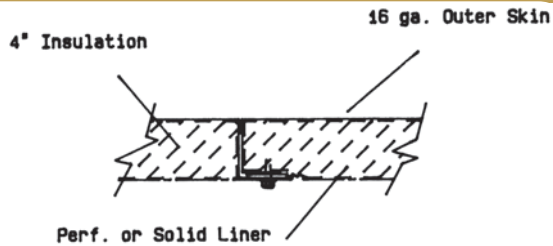
DOUBLEWALL ROOF JOINT



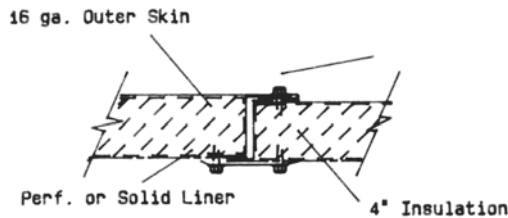
DOUBLEWALL CASING ROOF / WALL JOINT



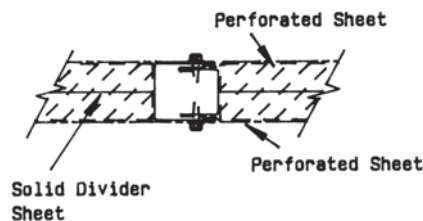
Another style of DOUBLE WALL panel is available which is detailed below.



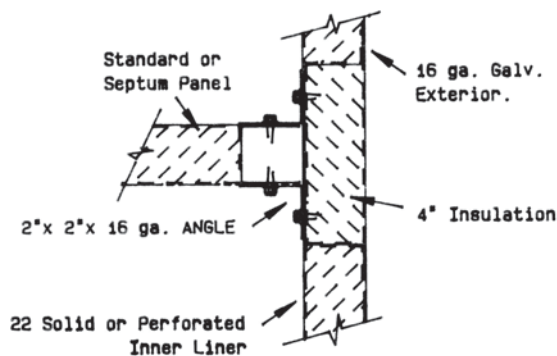
DOUBLEWALL "Style B" WALL JOINT



DOUBLEWALL REMOVABLE
PANEL JOINT

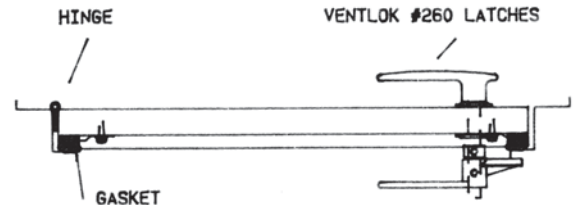


DOUBLEWALL SEPTUM PANEL / JOINT

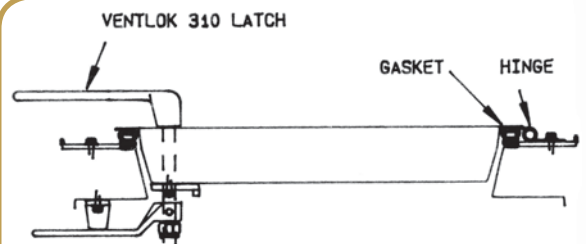


DOUBLEWALL INTERMEDIATE
WALL JOINT

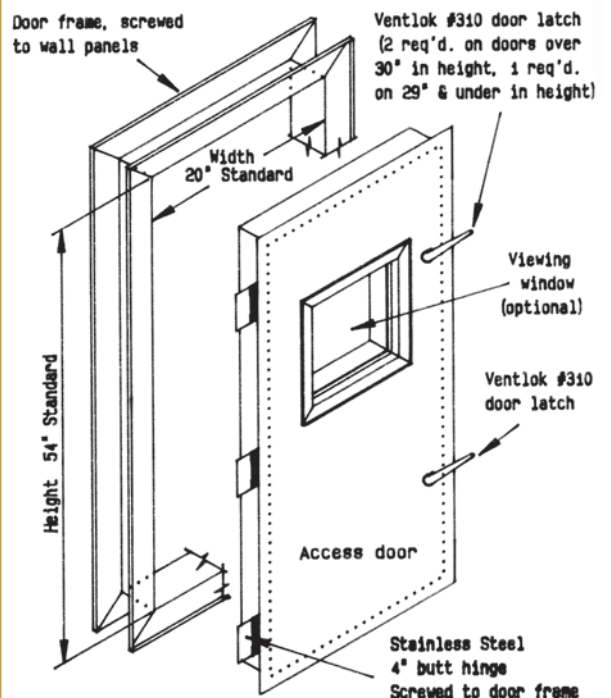
ACCESS DOORS are provided into those sections requiring periodic maintenance and inspection. Doors are sized large enough for removal of the internal components such as fan wheels and shafts, coils, fill media, etc. Removable ACCESS PANELS are furnished when door size does not permit access.



SINGLEWALL ACCESS DOOR DETAIL



DOUBLEWALL ACCESS DOOR DETAIL





PAINTING

Mallory offers a variety of painting options for any custom Sun West Air Handling Unit. The units for outdoor installation are usually painted on the exterior with a vinyl-acid wash primer and a top coat of enamel (beige is standard). Internal components can be supplied with special coatings also available, for example, air washers can be coated on all surfaces exposed to water with coal-tar epoxy and fans can be supplied with special phenolic coatings, etc. Consult the factory for recommended coatings.

SPECIFIC COMPONENT SELECTION

It is not the purpose of this information to provide complete selection data for all unit components such as fans, coils, evaporative coolers, etc. Sizing of typical custom air handling units as shown herein are based on the use of components selected at or near the point of best efficiency for representative conditions of surface. The catalog information of the manufacturers of the respective components are used for their sizing selection and sizing information.

PHYSICAL DATA

Dimensions and physical data resulting from use of this information should be used for estimating only. Data for construction should be taken only from factory certified shop and factory prepared submittal data.

AHU MODEL DESCRIPTION

Although Mallory/Sun West Air Handling Units are not usually manufactured as sectionalized units, it is helpful to think of the various unit components as individual sections. These would normally include: supply fan section; cooling coil section; heating coil section; filter section; fresh air intake louver section; mixing damper section; etc. Depending on the application, there may also be: direct evaporative cooling (for blow through units); or other special sections.

Symbols, such as shown on the pages following are useful in selecting "section" designations for sketching the proposed unit arrangements and estimating space requirements.

Tabulated "Dimensions for Estimating" data in the accompanying table for the various symbol components should be used as approximate dimensions and are subject to verification by the factory after final size and configuration have been selected.

This line of products by Mallory is customized for the requirements of each individual application. Each selection should involve the factory applications department and the local representative for Mallory/Sun West Air Handling Units.

CATALOG NUMBERING SYSTEM

The Sun West Air Handling Unit catalog numbers are derived by use of Series, and Size designations, Enclosure Construction Designation, and Component Section Abbreviations as follows:

SERIES - The Sun West Air Handling Unit Series is designated by a four letter code. The first two letters are the basic series.

RT	=	Roof Top
IH	=	Indoor Horizontal
IV	=	Indoor Vertical
IM	=	Indoor Multizone
IC	=	Indoor Component Assembly
OC	=	Outdoor Component Assembly

The third and fourth letters designate a prominent design feature which is arbitrarily chosen to designate a "family series" of similar units. A "XX" may be used in the absence of any special design feature or if the family is unknown.

ID	=	Indirect/Direct
MA	=	Make-up Air
HR	=	Heat Recovery
DX	=	Refrigeration Unit (freon)
RC	=	Recirculation Unit
XX	=	Unknown family series

SIZE - A one, two, or three digit number is used to designate the unit nominal CFM, rounded to the next larger 1000.





ENCLOSURE CONSTRUCTION- A two symbol designation (one letter and one number) is used to describe the casing construction.

D4 = Double Wall, 4" insulation

D2 = Double Wall, 2" insulation

S2 = Single Wall, 2" insulation

S1 = Single Wall, 1" insulation

S0 = Single Wall, uninsulated

“SECTION” TYPES

A three letter abbreviation is used to list component “sections” and is the following reference list. Additional keys shall be added as necessary.

SDF = Supply Fan, DWDI, down discharge

SFF = Supply Fan, DWDI, front discharge
THD (or BHD)

SFS = Supply Fan, DWDI, side discharge
THD (or BHD)

SPN = Supply Fan, Plenum Type

SPG = Supply Fan, Plug Type

PFD = Fan Discharge Plenum

PFI = Fan Inlet Plenum

AWD = Class 10 Air Washer

AWS = Spray Filled Air Washer
(Class 4, 6, or 8 Air Washer)

HEX = Hexapack Air Washer

AW2 = Class 2 Air Washer

AW3 = Class 3 Air Washer

EWC = Class 12 Airwasher

MEL = Moisture Eliminator Section

CWC = Chilled Water Cooling Coil

CPC = Indirect Pre-Cooling Coil

SCD = Sprayed Coil Dehumidifier

GLY = Dehumidifying Cooling Coil

CDX = Direct Expansion Cooling Coil

CWH = Hot Water Heating Coil

CSH = Steam Heating Coil

IFB = Integral F & B Heating Coil

CEH = Electric Heating Coil

CHR = Heat Recovery Run-Around Coil

HPI = Heat Pipe Recovery Coil

FFB = Flat Filter Bank

FAB = Angle (VEE) Filter Bank

BAG = Bag Filter Bank

FRA = Rigid High Efficiency Filter Bank

FHP = HEPA Filter Bank

FRV = Vertical Roll Filter

FRH = Horizontal Roll Filter

FCR = Carbon Filter Bank

FXX = Special Filter (Specify)

=

HEM = Heat Exchange Module

HRW = Heat Recovery Wheel

CDU = Condensing Unit coupled w/ unit

BOI = Boiler Unit

PIP = Piping Chase Section

SVC = Service Corridor

=

PRA = Return Air Plenum

PEX = Exhaust Air Plenum

PEF = Exhaust Fan Plenum

OAL = Outside Air Intake Louver

SAT = Sound Attenuator Section

OAM = OSA - RA Mixing Section

ECO = Econimizer Section
(OSA - RA - EXH)

=

DFB = Face & By-Pass Damper Section

=

RPG = Return-Exhaust Plug Fan

RPN = Return-Exhaust Plenum Fan

REF = Return-Exhaust Fan, DWDI

=

HMS = Steam Humidifier Section

HME = Electric Steam Gen. Humidifying Section

=

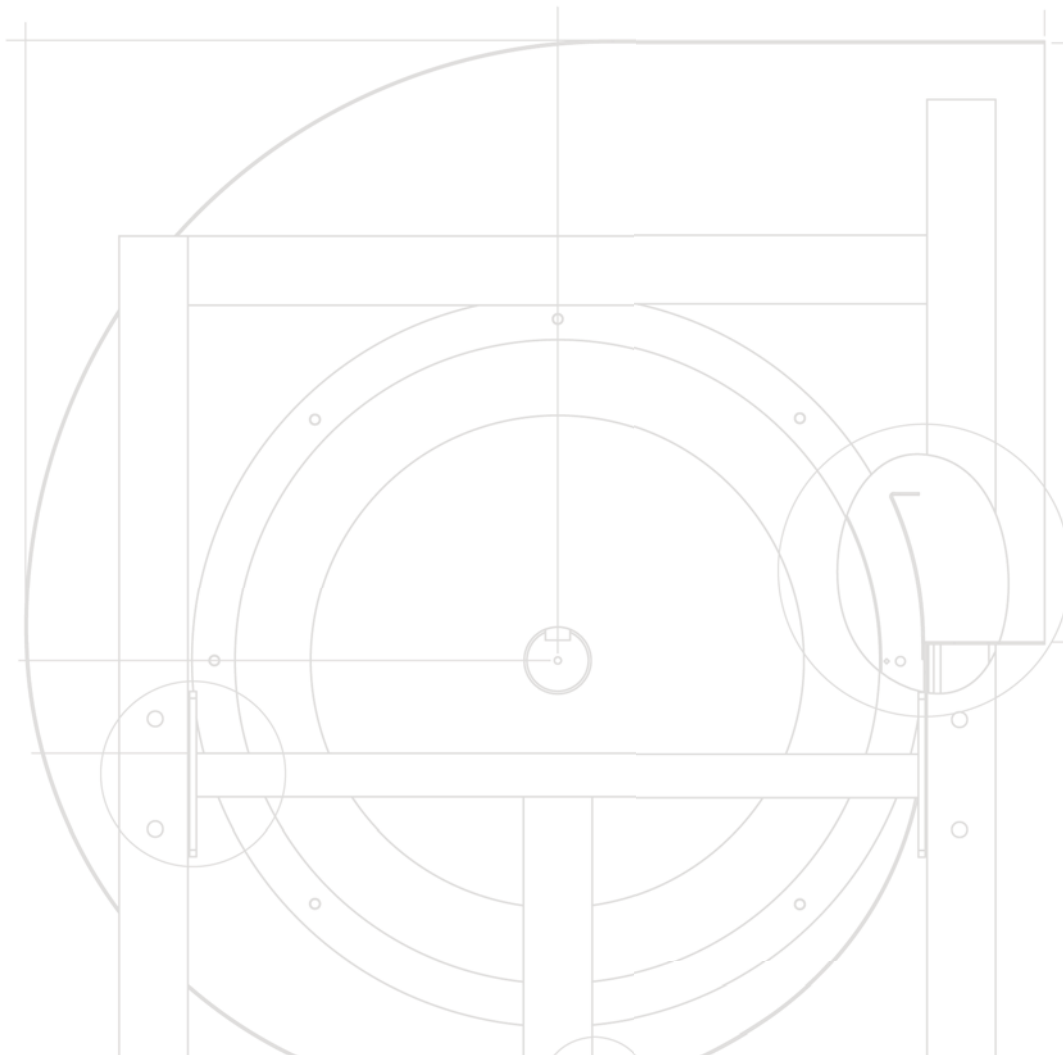
IDE = Indirect Evap. Cooling Exchanger

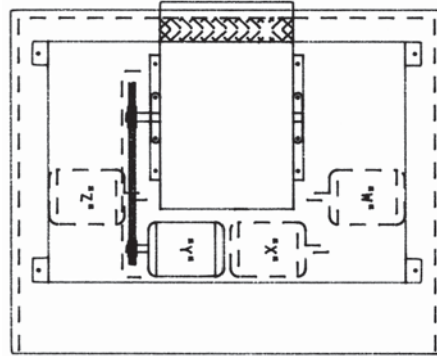
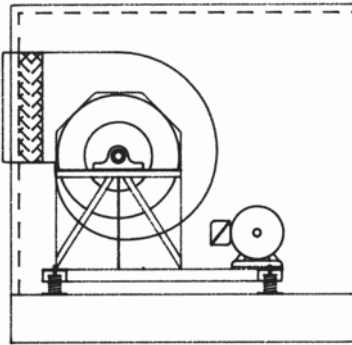




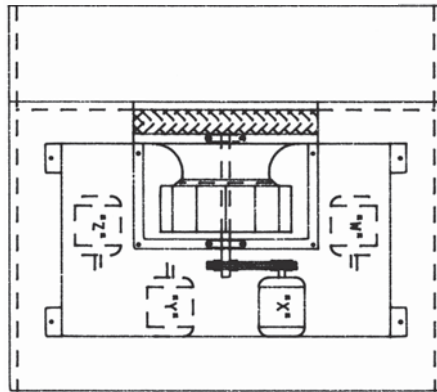
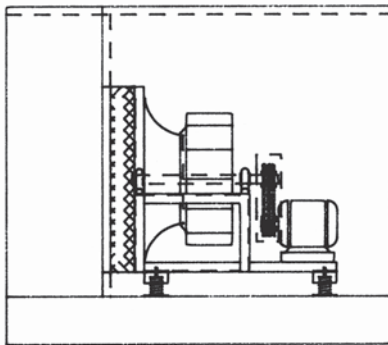
OUTLINE DRAWINGS

The following pages show outline drawings of typical unit component “sections” and assembly arrangements. The drawings are diagrammatic and the dimensions tabulated are approximate. It is anticipated that, due to the particular requirements of each application, the layout and dimensions of each unit could vary as those shown as typical. Dimensions and physical data should be used for estimating only. Construction layout, supports, services, etc., should be designed based on shop drawings and specifications which have been factory certified for the particular shop order. The outline drawings of individual component “sections” on the following pages are by no means all of the types available, but are typical and meant to aid the designer in determining their needs.

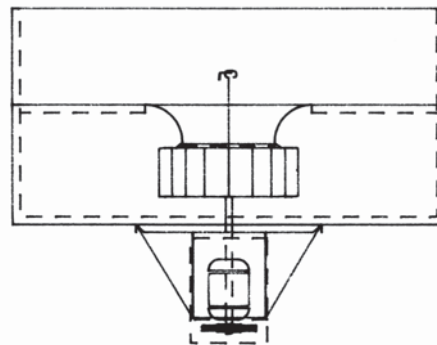
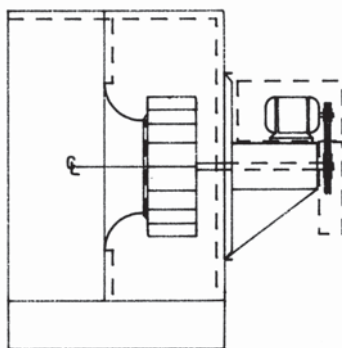




PLUG FAN SECTION
“ PFI + SPG ”



PLENUM FAN SECTION
“ PFI + SPN ”



DWDI FAN SECTION
“ SFF ”



GENERAL NOTES:

FANS ARE BAF AIR FOIL DIDW

INTERNALLY SPRING ISOLATED

ADDITIONAL FAN DISCHARGES AVAILABLE SUCH AS THD, BHD, TAD OR BAU CONSULT FACTORY

VARIABLE INLET VANE DAMPERS AVAILABLE NESTED IN INLET CONES

MOTOR POSITIONS AVAILABLE W, Z, X, OR Y

UNIT BASE

4" CHANNEL THRU SFF 222 FAN

6" CHANNEL THRU SFF 365 FAN

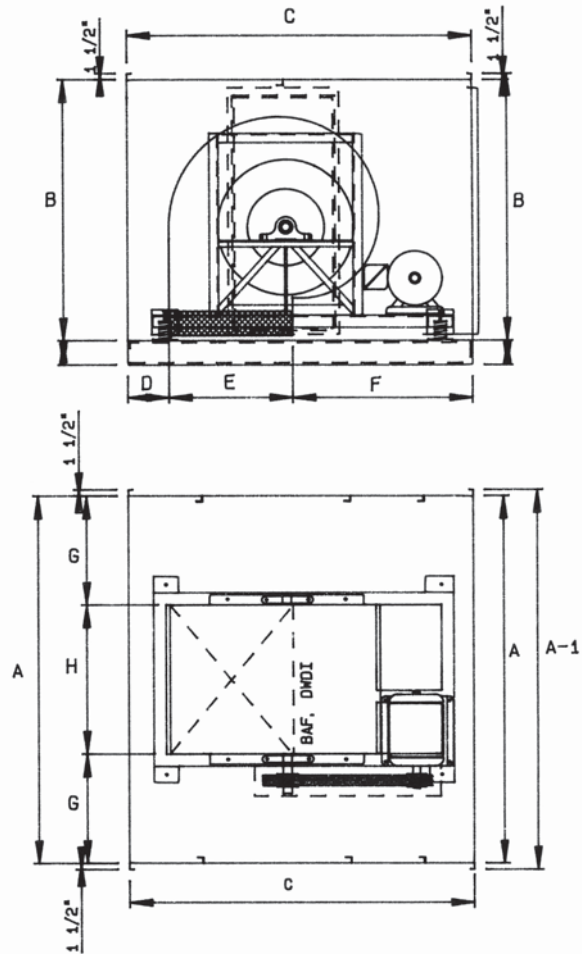
8" CHANNEL THRU SFF-490 FAN

12" CHANNEL THRU SFF-660 FAN

ALL DIMENSIONS IN INCHES

UNITS AVAILABLE WITH SINGLE WALL OR DOUBLE WALL CONSTRUCTION.

SEE DETAIL SHEET FOR INFORMATION



SCHEDULE OF DIMENSIONS IN INCHES

MODEL	A	A-1	B	C	D	E	F	G	H
SFF-182-D	60	63	48	68	10	20-1/2	35-1/2	21-5/8	24-3/4
SFF-200-D	68	71	52	72	10	39-1/2	22-1/2	20-3/8	27-1/4
SFF-222-D	80	83	56	74	10	27-7/8	39-3/8	25	30
SFF-245-D	80	83	60	78	10	27-3/8	40-5/8	23-3/8	33-1/4
SFF-270-D	90	93	64	84	10	30-1/8	43-7/8	26-3/4	36-1/2
SFF-300-D	102	105	72	94	10	33-1/2	50-1/2	30-3/4	40-1/2
SFF-330-D	114	117	78	102	10	36-5/8	55-3/8	34-3/4	44-5/8
SFF-365-D	122	125	84	108	10	40-3/4	57-1/4	32-3/8	49-1/4
SFF-402-D	138	141	96	112	10	44-3/4	57-1/4	41-3/4	54-3/8
SFF-445-D	148	151	102	124	10	49-3/8	64-5/8	44	60
SFF-490-D	165	168	113	134	10	54-3/4	69-1/4	49-1/2	66
SFF-542-D	183	186	120	146	10	60-1/4	75-5/8	55	73
SFF-600-D	193	196	132	156	10	66-3/4	79-5/8	51-7/8	80-3/4
SFF-660-D	220	223	144	174	10	73-1/2	90-1/2	65-1/2	89

SUPPLY FAN BAF DWDI SECTION MOD-SFF
BOTTOM DOWN DISCHARGE

FS_CATALOG_O REV 4-07





GENERAL NOTES:

FANS ARE BAF AIR FOIL DIDW

INTERNALLY SPRING ISOLATED

ADDITIONAL FAN DISCHARGES AVAILABLE SUCH AS THD, BHD, TAD OR BAU CONSULT FACTORY

VARIABLE INLET VANE DAMPERS AVAILABLE NESTED IN INLET CONES

MOTOR POSITIONS AVAILABLE W, Z, X, OR Y

UNIT BASE

4" CHANNEL THRU SFF 222 FAN

6" CHANNEL THRU SFF 365 FAN

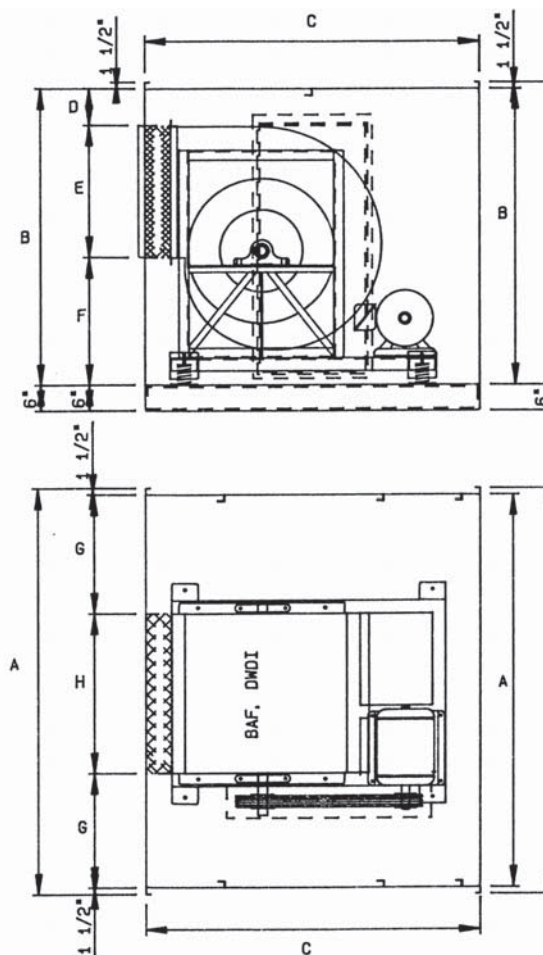
8" CHANNEL THRU SFF-490 FAN

12" CHANNEL THRU SFF-660 FAN

ALL DIMENSIONS IN INCHES

UNITS AVAILABLE WITH SINGLE WALL OR DOUBLE WALL CONSTRUCTION.

SEE DETAIL SHEET FOR INFORMATION



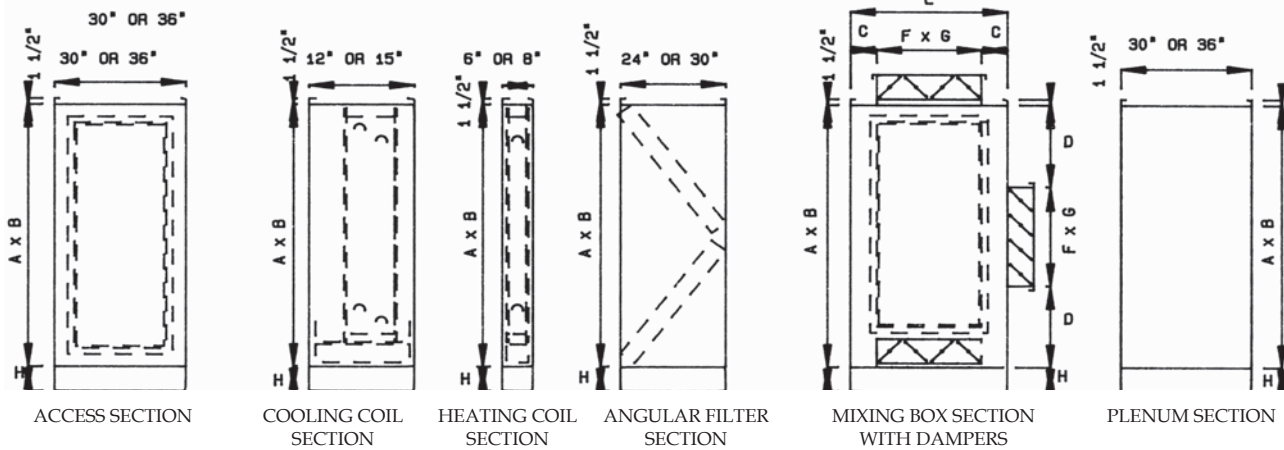
SCHEDULE OF DIMENSIONS IN INCHES

MODEL	A	A-1	B	C	D	E	F	G	H
SFF-182-H	60	63	48	56	5	20-1/2	22-1/2	21-1/2	25
SFF-200-H	68	71	52	66	5-1/4	22-1/2	24-1/4	20-3/8	27-1/4
SFF-222-H	80	83	56	66	5-3/8	24-7/8	25-3/4	25	30
SFF-245-H	80	83	60	68	5-1/2	27-3/8	27-1/4	23-3/8	33-1/4
SFF-270-H	90	93	64	76	4-1/2	30-1/4	29-1/4	26-3/4	36-1/2
SFF-300-H	102	105	72	84	5-1/4	33-1/2	33-1/4	30-3/4	40-1/4
SFF-330-H	114	117	78	90	6-1/8	37-1/8	34-3/4	34-3/4	44-5/8
SFF-365-H	122	125	84	96	6-1/4	40-1/2	37	36-3/8	49-1/4
SFF-402-H	138	141	90	102	6-1/4	44-3/4	39	41-3/4	54-3/8
SFF-445-H	148	151	102	114	8-1/2	49-3/8	44-1/2	44	60
SFF-490-H	165	168	113	122	8-5/8	54-5/8	49-3/4	49-1/2	66
SFF-542-H	183	186	120	130	8-1/4	60-3/8	51-3/8	55-3/4	73-1/8
SFF-600-H	193	196	132	140	10-1/8	66-7/8	55	56-1/8	80-3/4
SFF-660-H	220	223	144	156	10	73-1/8	61	65-1/2	89

SUPPLY FAN BAF DWDI SECTION MOD-SFF

FS_CATALOG REV 4-07





FLAT FILTER 6" DEEP IN DIR
AIR FLOW SECTION
FILTERS CAN BE 2" OR 4" THICK

GENERAL NOTES:

F x G IS SUGGESTED DAMPER SIZE. ADDITIONAL SIZES ARE AVAILABLE.
DAMPERS REQUIRE A 10" CLEARANCE

ACCESS DOORS AVAILABLE 18" X 48" OR 24" X 60" NOMINAL SIZE SEE DETAIL SHEET

FACE & BY PASS DAMPERS ARE AVAILABLE ALLOW 12" DEEP SECTION

TWO PIECE BASE AND ROOF CURB ARE AVAILABLE SEE DETAIL SHEET

UNIT SECTIONS AVAILABLE IN WEATHER PROOF CONSTRUCTION

BOTH SINGLE WALL CONSTRUCTION & DOUBLE WALL TYPE CONSTRUCTION WITH INSULATION ARE AVAILABLE SEE DETAIL SHEET FOR INFORMATION
DOUBLE WALL AVAILABLE WITH PERFORATED OR SOLID LINER 22 GA.

SCHEDULE OF DIMENSIONS IN INCHES

MODEL	A	ANGLE-FLANGE	B	C	D	E	F	G	H
SFF-182-D	60	63	48	68	10	20-1/2	35-1/2	21-5/8	24-3/4
SFF-200-D	68	71	52	72	10	39-1/2	22-1/2	20-3/8	27-1/4
SFF-222-D	80	83	56	74	10	27-7/8	39-3/8	25	30
SFF-245-D	80	83	60	78	10	27-3/8	40-5/8	23-3/8	33-1/4
SFF-270-D	90	93	64	84	10	30-1/8	43-7/8	26-3/4	36-1/2
SFF-300-D	102	105	72	94	10	33-1/2	50-1/2	30-3/4	40-1/2
SFF-330-D	114	117	78	102	10	36-5/8	55-3/8	34-3/4	44-5/8
SFF-365-D	122	125	84	108	10	40-3/4	57-1/4	32-3/8	49-1/4
SFF-402-D	138	141	96	112	10	44-3/4	57-1/4	41-3/4	54-3/8
SFF-445-D	148	151	102	124	10	49-3/8	64-5/8	44	60
SFF-490-0	165	168	113	134	10	54-3/4	69-1/4	49-1/2	66
SFF-542-D	183	186	120	146	10	60-1/4	75-5/8	55	73
SFF-600-D	193	196	132	156	10	66-3/4	79-5/8	51-7/8	80-3/4
SFF-660-D	220	223	144	174	10	73-1/2	90-1/2	65-1/2	89

AIR HANDLING COMPONENT SECTIONS

COMP_CAT_SFF





GENERAL NOTES:

FANS ARE BAF AIR FOIL DIDW
182 & BELOW BC FAN WHEEL

INTERNALLY SPRING ISOLATED

ADDITIONAL FAN DISCHARGES AVAILABLE SUCH
AS TOP, BOTTOM, SIDE, OR END

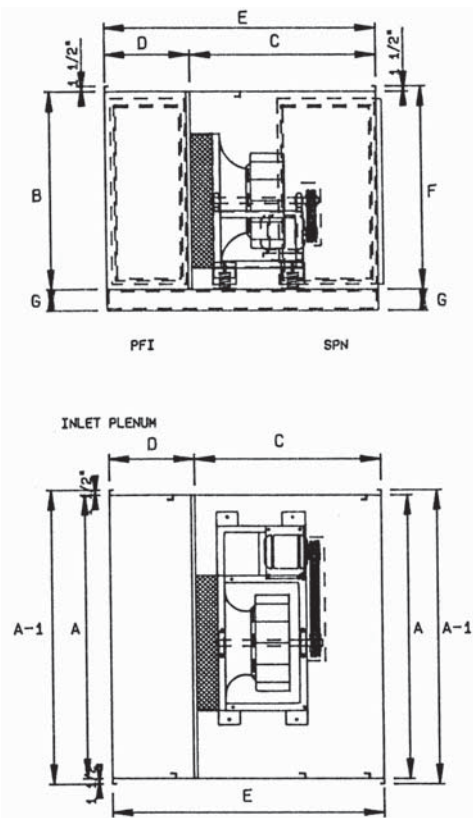
VARIABLE INLET VANE DAMPERS AVAILABLE
NESTED IN INLET CONES

MOTOR POSITIONS AVAILABLE W, Z, X, OR Y

UNIT BASE

4" CHANNEL THRU SFF 222 FAN
6" CHANNEL THRU SFF 365 FAN
8" CHANNEL THRU SFF-490 FAN
12" CHANNEL THRU SFF-660 FAN

ALL DIMENSIONS IN INCHES



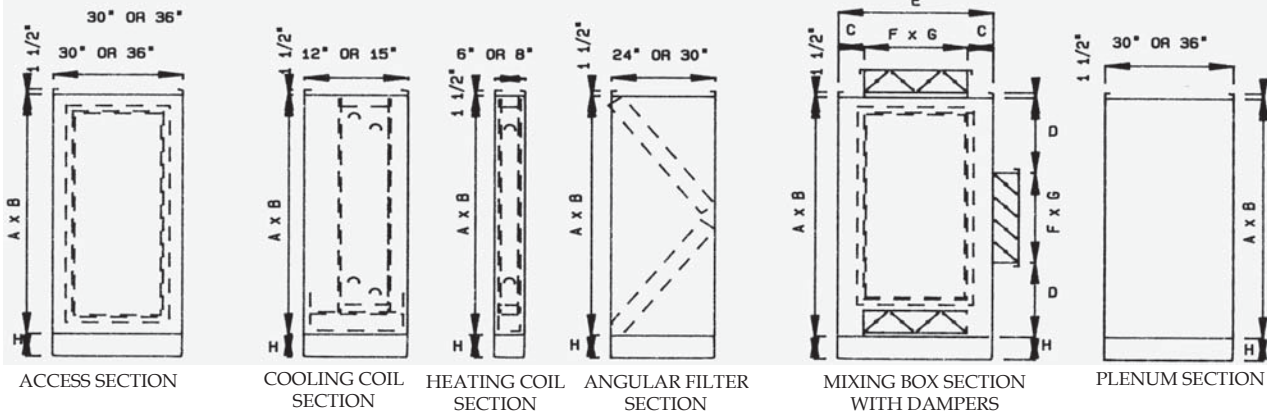
SCHEDULE OF DIMENSIONS IN INCHES

MODEL	A	A-1	B	C	D	E	F	G
SPN-122	48	51	36	37	18	55	37-1/2	4
SPN-150	54	57	36	37	18	55	37-1/2	4
SPN-165	54	57	40	40	18	58	41-1/2	4
SPN-182	62	65	40	42	18	61	41-1/2	4
SPN-200	62	65	40	42	18	61	41-1/2	4
SPN-222	62	65	44	46	18	64	45-1/2	4
SPN-245	66	69	48	49	24	73	49-1/2	6
SPN-270	80	83	56	52	24	76	57-1/2	6
SPN-300	83	86	60	56	24	80	61-1/2	6
SPN-330	86	89	64	60	25	88	65-1/2	6
SPN-365	99	102	66	64	24	88	67-1/2	6
SPN-402	99	102	70	68	24	92	71-1/2	8
SPN-445	111	114	76	72	30	102	77-1/2	8
SPN-490	123	125	82	75	30	105	83-1/2	10
SPN-542	135	138	90	78	30	108	91-1/2	10
SPN-600	147	150	96	81	36	117	97-1/2	12
SPN-660	159	162	102	87	36	123	103-1/2	12
SPN-730	165	168	108	93	36	129	109-1/2	12

SUPPLY FAN BAF SWSI SECTION MOD-PFI + SPN

SPN_CATALOG REV 4-07





FLAT FILTER 6" DEEP IN DIR
AIR FLOW SECTION
FILTERS CAN BE 2" OR 4" THICK

GENERAL NOTES:

F x G IS SUGGESTED DAMPER SIZE. ADDITIONAL SIZES ARE AVAILABLE.
DAMPERS REQUIRE A 10" CLEARANCE

ACCESS DOORS AVAILABLE 18" X 48" OR 24" X 60" NOMINAL SIZE SEE DETAIL SHEET

FACE & BY PASS DAMPERS ARE AVAILABLE ALLOW 12" DEEP SECTION

TWO PIECE BASE AND ROOF CURB ARE AVAILABLE SEE DETAIL SHEET

UNIT SECTIONS AVAILABLE IN WEATHER PROOF CONSTRUCTION

BOTH SINGLE WALL CONSTRUCTION & DOUBLE WALL TYPE CONSTRUCTION WITH INSULATION ARE AVAILABLE SEE DETAIL SHEET FOR INFORMATION
DOUBLE WALL AVAILABLE WITH PERFORATED OR SOLID LINER 22 GA.

SCHEDULE OF DIMENSIONS IN INCHES

MODEL	A	B	C	D	E	F	G	H
SPN-122	48	36	3	12	18	12	36	4
SPN-150	54	36	3	12	18	12	36	4
SPN-165	54	40	4	12	24	16	42	4
SPN-182	62	40	4	12	24	16	52	4
SPN-200	62	40	4	12	24	16	52	4
SPN-222	62	44	4	14	24	16	54	4
SPN-245	66	48	6	12	36	24	60	6
SPN-270	80	56	6	16	36	24	68	6
SPN-300	83	60	4	16	36	28	72	6
SPN-330	86	64	8	16	48	32	72	6
SPN-365	86	66	8	17	48	32	76	6
SPN-402	99	70	8	19	48	32	80	8
SPN-445	111	76	8	16	60	44	94	8
SPN-490	123	82	8	19	60	44	104	10
SPN-542	135	90	3	16	60	54	104	10
SPN-600	147	96	4	19	66	58	112	12
SPN-660	159	102	5	20	72	62	128	12
SPN-730	165	108	3	18	78	72	136	12

AIR HANDLING COMPONENT SECTIONS
FOR MOD SPN PLENUM FAN UNITS

COMP_CAT_SPN REV 4-07





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Mallory Manufacturing Company is the choice to make when superior quality and precision count. We pride ourselves in assuring our customers the best quality product, with the least amount of lead time.

When quality and service count - You can count
on Mallory Manufacturing Company!

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