INDOOR AIR QUALITY
HC10 / HC16
HEALTHY CLIMATE®
MERV 10 OR MERV 16 MEDIA AIR CLEANERS

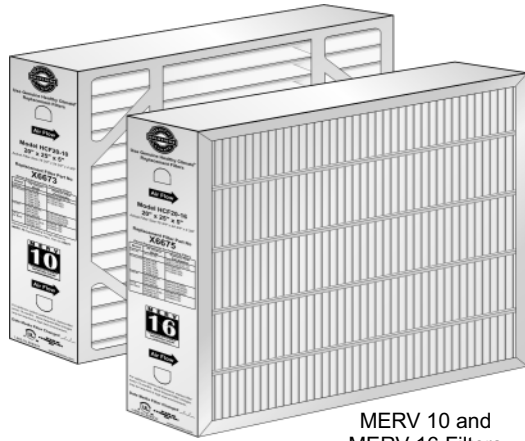Bulletin No. 210450
November 2007
Supersedes July 2006

ENGINEERING DATA

MERV 10 and
MERV 16 Filters

MERV 10 and MERV 16
Expandable Filter Kits
(MERV 16 Shown)

Filter
Cabinet
(With Filter
in Place)

MODEL NUMBER IDENTIFICATION

HC10 (MERV 10)
consists of:
(cabinet + box filter)
HCC14-23 (Cabinet) + HCF14-10 (Filter) 1400 cfm
HCC16-28 (Cabinet) + HCF16-10 (Filter) 1600 cfm
HCC20-28 (Cabinet) + HCF20-10 (Filter) 2000 cfm
(cabinet + expandable filter kit)
HCC14-23 (Cabinet) + HCXF14-10 (Expandable Filter) 1400 cfm
HCC16-28 (Cabinet) + HCXF16-10 (Expandable Filter) 1600 cfm
HCC20-28 (Cabinet) + HCXF20-10 (Expandable Filter) 2000 cfm

HC16 (MERV 16)
consists of:
(cabinet + box filter)
HCC14-23 (Cabinet) + HCF14-16 (Filter) 1400 cfm
HCC16-28 (Cabinet) + HCF16-16 (Filter) 1600 cfm
HCC20-28 (Cabinet) + HCF20-16 (Filter) 2000 cfm
(cabinet + expandable filter kit)
HCC14-23 (Cabinet) + HCXF14-16 (Expandable Filter) 1400 cfm
HCC16-28 (Cabinet) + HCXF16-16 (Expandable Filter) 1600 cfm
HCC20-28 (Cabinet) + HCXF20-16 (Expandable Filter) 2000 cfm

CABINET
HCC 16 - 28

Unit Type
HCC = Healthy Climate Cabinet
Nominal Air Volume Capacity
14 = 1400 cfm
16 = 1600 cfm
20 = 2000 cfm
Cabinet Depth
23 = 23 inches
28 = 28 inches

BOX FILTER
HCF 16 - 10

Filter Efficiency
10 = [1] MERV 10
16 = [1] MERV 16
Nominal Air Volume Capacity
14 = 1400 cfm
16 = 1600 cfm
20 = 2000 cfm
Healthy Climate Filter
[1] Minimum Efficiency Reporting Value

EXPANDABLE FILTER KIT
HCXF 16 - 10

Filter Efficiency
10 = [1] MERV 10
16 = [1] MERV 16
Nominal Air Volume Capacity
14 = 1400 cfm
16 = 1600 cfm
20 = 2000 cfm
Healthy Climate Expandable Filter
[1] Minimum Efficiency Reporting Value

FEATURES

APPLICATIONS

NOTE - Cabinet and Filter must be ordered separately.

MERV 10 and MERV 16 filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

High performance filtration with a narrow 7 in. cabinet.

Pleated filter design allows maximum air flow and filtration efficiency.

- Multi-position cabinet is available for installation on the return air opening of gas, oil or electric forced, warm air furnaces and air handlers with cooling applications up to 5 tons. The unit can be installed in up-flow, down-flow or horizontal unit applications.
- Silent operation, requires no electrical component service, and generates no ozone.
- Constant blower operation will achieve the best air cleaning results.
- No duct transition needed for most furnace applications. See Match-Up Table for additional details on page 5.

WARRANTY

HCC cabinet and HCXF reusable filter box has a five year limited warranty in residential applications, one year in non-residential applications.

Filter media is not covered.

Refer to Healthy Climate Equipment Limited Warranty certificate included with cabinet for specific details.

INSTALLATION CONSIDERATIONS

A 25 in. clearance in front of the air cleaner is required to allow removal of filter media.

Due to the flue location on down-flow furnaces, the front of the air cleaner must be installed to the side or rear of the furnace cabinet. If installed in a confined space, service clearance may be restricted.

If an atomizing spray type humidifier is also used, it must be installed downstream from the air cleaner.

If a UV germicidal light is used in the system, maintain a minimum distance of 6 ft. from the air cleaner if they are in direct line of sight to one another. Maintain a minimum of 3 ft. if using a 90° bend or turn in the duct.

CABINET

Constructed of pre-painted cold rolled steel.

Cabinet will withstand 400 lbs. static weight, enough to support the weight of a typical furnace and indoor coil or air handler.

Tool-less access door allows quick and easy replacement of filter media.

Mounts in any position. Air flow direction through the cabinet can be changed by re-positioning the filter. Arrows on filter indicate air flow direction.

Cabinet is shipped compact and requires minimum field assembly. No tools required.

FILTER MEDIA

Disposable, pleated MERV 10 and MERV 16 filter (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

Dust mites, pollen, mold spores, pet dander and other contaminants are captured by the filter.

Media is certified to UL 900 standard and UL/ULC classification - Class 2.

Recommended replacement of filter media depends on a variety of factors, see Specifications table.

Box Filters

Double-wall beverage board box for rigid construction.

Expandable Filter Kits

Filter kit is shipped compact for field assembly.

All kits consist of an expandable filter media and reusable filter box.

MERV 16 kits also include reusable filter spacers.

SPECIFICATIONS

General Data	Cabinet Model No.	HCC14-23	HCC16-28	HCC20-28	HCC14-23	HCC16-28	HCC20-28
	Filter Model No. (Box Filter)	HCF14-10	HCF16-10	HCF20-10	HCF14-16	HCF16-16	HCF20-16
	Filter Model No. (Expandable Filter Kit)	HCXF14-10	HCXF16-10	HCXF20-10	HCXF14-16	HCXF16-16	HCXF20-16
[1] MERV (Minimum Efficiency Reporting Value) rating		10	10	10	16	16	16
Air Flow	Air flow range - cfm	800 - 1400	800 - 1600	1400 - 2000	800 - 1400	800 - 1600	1400 - 2000
	Rated air flow - cfm	1400	1600	2000	1400	1600	2000
Filter Data	Nominal Filter size - in.	20 x 20 x 5	16 x 25 x 5	20 x 25 x 5	20 x 20 x 5	16 x 25 x 5	20 x 25 x 5
Pressure drop @ rated flow in. w.c. - Initial	**HCF** - Initial	0.25	0.27	0.27	0.29	0.31	0.31
	- Final	0.40	0.40	0.40	0.40	0.40	0.40
	HCXF - Initial	0.27	0.30	0.27	0.29	0.31	0.31
	- Final	0.40	0.40	0.40	0.40	0.40	0.40
[2] Filter estimated service life (months)		up to 12 months					
Shipping weight - lbs.	Cabinet	15	17	18	15	17	18

MAINTENANCE SUPPLIES - MUST BE ORDERED EXTRA						
Replacement filter media for Expandable Filter Kits	**X8311**	**X8309**	**X8310**	**X8314**	**X8312**	**X8313**

[1] Rated at 492 feet per minute

[2] Factors will influence the frequency of replacement of filter media, such as: the number of people in the home, activities, lifestyle, number of pets, and size of home.

DIMENSIONS - INCHES
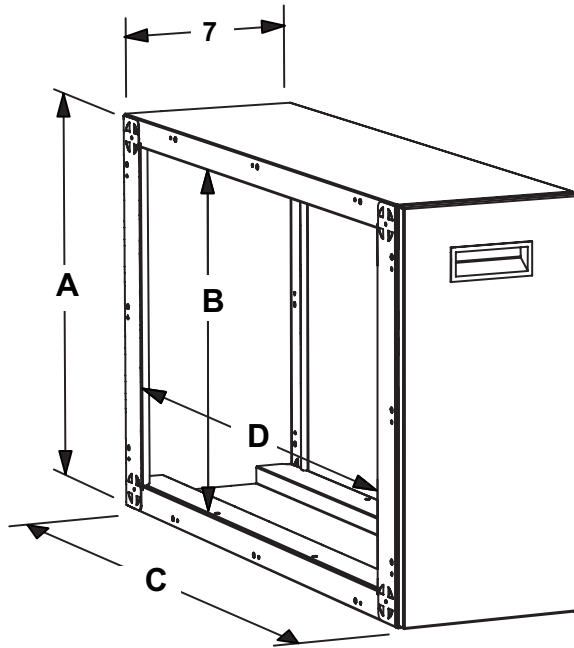
Model No.	A	B	C	D
HCC14-23	21-1/4	18-3/4	23	18-1/2
HCC16-28	17-1/2	15	28-1/2	24
HCC20-28	21	18-1/2	28-1/2	24

FILTER AIR RESISTANCE - HCF

Air Flow (cfm)	Pressure drop (in. w.c.)					
	HCF14-10	HCF14-16	HCF16-10	HCF16-16	HCF20-10	HCF20-16
800	0.11	0.14	0.09	0.12	0.06	0.09
1000	0.15	0.18	0.13	0.16	0.09	0.12
1200	0.20	0.24	0.17	0.21	0.12	0.15
1400	0.25	0.29	0.21	0.25	0.15	0.19
1600	Not recommended		0.27	0.31	0.18	0.23
1800	Not recommended				0.22	0.27
2000	Not recommended				0.27	0.31

FILTER AIR RESISTANCE - HCXF

Air Flow (cfm)	Pressure drop (in. w.c.)					
	HCXF14-10	HCXF14-16	HCXF16-10	HCXF16-16	HCXF20-10	HCXF20-16
800	0.11	0.14	0.12	0.12	0.06	0.09
1000	0.15	0.18	0.19	0.16	0.09	0.12
1200	0.20	0.24	0.22	0.21	0.12	0.15
1400	0.27	0.29	0.26	0.25	0.15	0.19
1600	Not recommended		0.30	0.31	0.18	0.23
1800	Not recommended				0.22	0.27
2000	Not recommended				0.27	0.31

MINIMUM FILTER EFFICIENCY

Filter Model No.	MERV Rating	[1] Filter Efficiency (percentage)		
		E1 (0.3 to 1.0 microns)	E2 (1.0 to 3.0 microns)	E3 (3.0 to 10.0 microns)
HCF14-10 / HCXF14-10 HCF16-10 / HCXF16-10 HCF20-10 / HCXF20-10	10	30%	69%	90%
HCF14-16 / HCXF14-16 HCF16-16 / HCXF16-16 HCF20-16 / HCXF20-16	16	95%	99%	99%

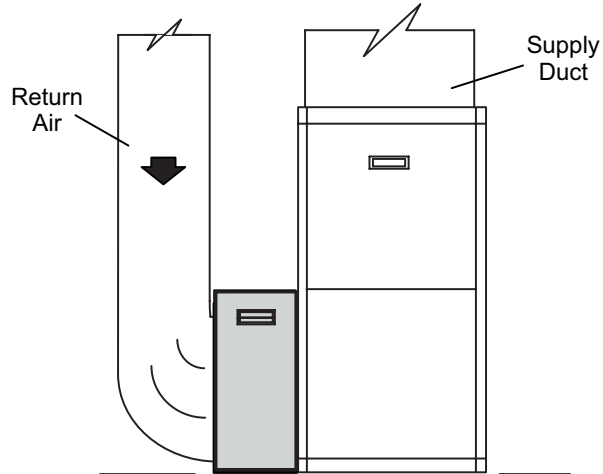[1] Values are based on lab tests conducted with conditions included in ASHRAE Standard 52.2 1999.

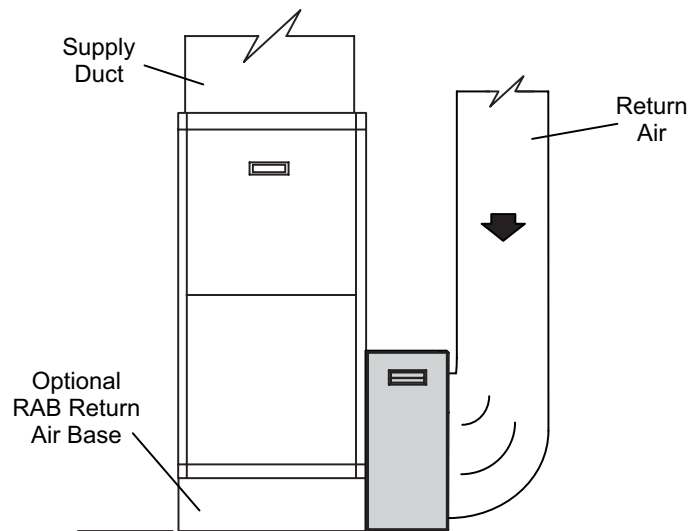## UP-FLOW FURNACE / AIR HANDLER (Bottom Return Air)

Supply Duct
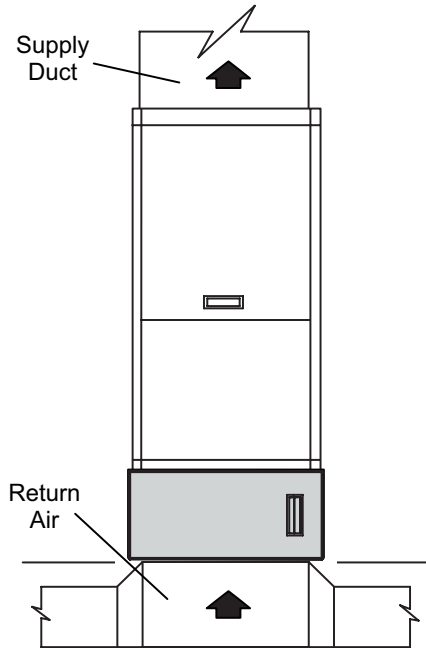
Return Air

Filter Cabinet is installed horizontally beneath the furnace/air handler. Return air enters from the bottom.

## UP-FLOW FURNACE (Side Return Air) Up to 4 ton

Return Air

Supply Duct

Filter Cabinet is installed vertically and return air enters the furnace side inlet (up to 4 ton application).

UP-FLOW FURNACE (Side Return Air) 5 ton applications

Supply Duct
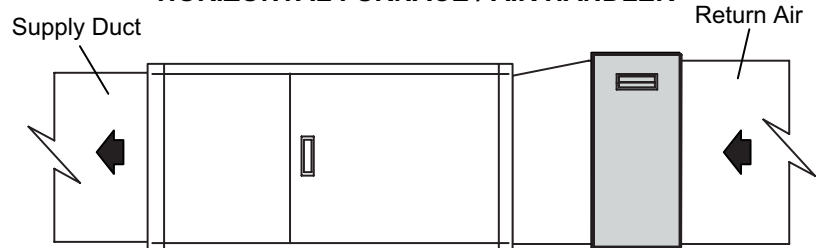
Return Air

Optional RAB Return Air Base

Filter Cabinet is installed vertically and return air enters the furnace side inlet (5 ton application).
Return Air Base (RAB) is ordered separately

DOWN-FLOW [1] FURNACE / AIR HANDLER

Return Air

Supply Duct
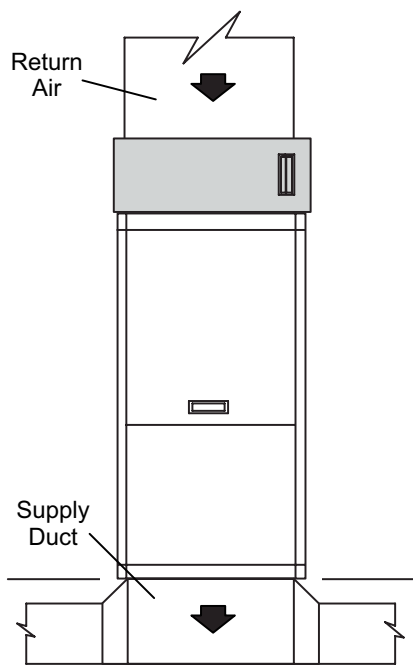
Filter Cabinet is installed horizontally in the return air duct just above the furnace/air handler.
[1] Down-Flow furnaces require field fabricated transition in-between furnace and filter box.

HORIZONTAL FURNACE / AIR HANDLER

Supply Duct

Return Air

Filter Cabinet is installed vertically in the return air duct near the furnace/air handler.
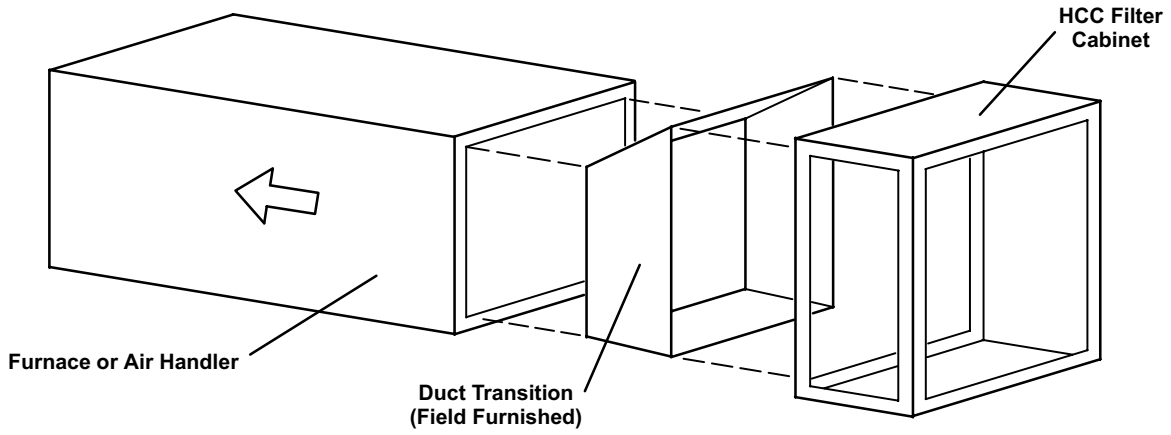
MATCH-UPS - FILTER CABINET WITH FURNACE / AIR HANDLER

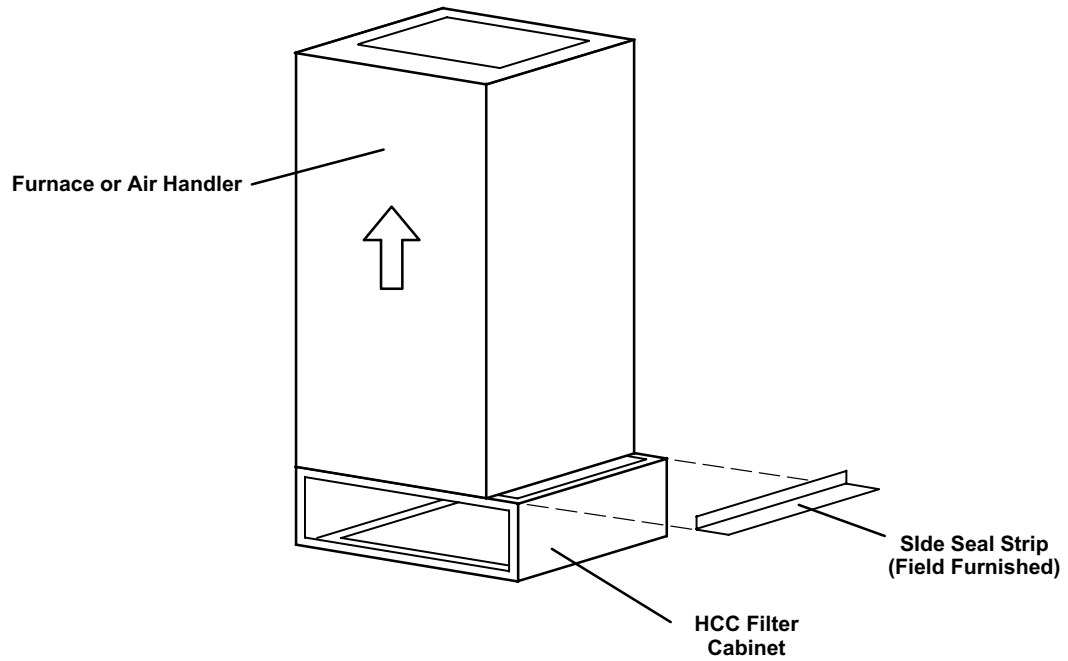**ALSO SEE ILLUSTRATIONS ON NEXT PAGE FOR ADDITIONAL DETAILS**

Furnaces	Filter Cabinet			Comment
	HCC14-23	HCC16-28	HCC20-28	
"A" Width Furnace with Side Return Air		●		No duct transition required.
"A" Width Furnace with Bottom Return Air		●		28-1/2" x 3" side seal strip or duct transition needed.
"B" Width Furnace with Side Return Air		●		No duct transition required.
"B" Width Furnace with Bottom Return Air		●		No duct transition required.
"C" Width Furnace with Side Return Air (up to 4 ton)		●	●	No duct transition required, for high system static application use HCC20-28.
"C" Width Furnace with Side Return Air (5 ton)			●	No duct transition required, must use RAB Return Air Base **(98M58).**
"C" Width Furnace with Bottom Return Air			●	No duct transition required.
"D" Width Furnace with Side Return Air			●	No duct transition required, must use RAB Return Air Base **(98M59)**.
"D" Width Furnace with Bottom Return Air			●	28-1/2" x 3 1/2" side seal strip or duct transition needed.
Air Handlers	**HCC14-23**	**HCC16-28**	**HCC20-28**	**Comment**
Air Handler (W x D) - 16-1/4 x 20-5/8" CBX32MV-018/024 CBX32M-018/024 CB30M-21/26, CB30U-21/26	●	●		Duct transition required.
Air Handler (W x D) - 21-1/4 x 20-5/8" CB(X)27UH-018 CB(X)27UH-024 CBX32MV-024-030 CBX32M-030 CB30M-31, CB30U-31	●			No duct transition required.
Air Handler (W x D) - 21-1/4 x 22-5/8" CB(X)27UH-030 CB(X)27UH-036 CBX32MV-036 CBX32M-036-042 CB31MV-41 CB30M-41-46, CB30U-41/46	●			No duct transition required.
Air Handler (W x D) - 21-1/4 x 24-5/8" CB(X)27UH-042 CB(X)27UH-048 CB(X)27UH-060 CBX32MV-048-060 CBX32M-048-060 CB31MV-51-65 CB30M-51-65, CB30U-51-65			●	21" x 3" side seal strip or duct transition needed.
Air Handler (W x D) - 21-1/4 x 26-5/8" CBX32MV-068			●	No duct transition required.
Air Handler (W x D) - 18-1/2 x 22" CB26UH-018-024 CB26UH-018-024 (-R)	●			22" x 2" side seal strip or duct transition needed.
Air Handler (W x D) - 21-1/4 x 22" CBX26UH-030-036 CB26UH-030-036 (-R)	●			No duct transition required.
Air Handler (W x D) - 21-1/4 x 26" CBX26UH-042-048-060 CB26UH-042-048-060 (-R)			●	No duct transition required.
Hot Water Air Handlers	**HCC14-23**	**HCC16-28**	**HCC20-28**	**Comment**
"B" Width CBWMV with Side Return Air		●		No duct transition required.
"B" Width CBWMV with Bottom Return Air		●		No duct transition required.
"C" Width CBWMV with Side Return Air (up to 4 ton)		●	●	No duct transition required, for high system static application use HCC20-28.
"C" Width CBWMV with Side Return Air (5 ton)			●	No duct transition required, must use RAB Return Air Base **(98M58).**
"C" Width CBWMV with Bottom Return Air			●	No duct transition required.

HORIZONTAL APPLICATIONS

HCC Filter
Cabinet

Furnace or Air Handler

Duct Transition
(Field Furnished)

UP-FLOW APPLICATIONS

Furnace or Air Handler

SIde Seal Strip
(Field Furnished)

HCC Filter
Cabinet

REVISIONS

Sections	Description of Change
New Product	Added new HCXF MERV 16 and MERV 10 Expandable Filters.