INDOOR AIR QUALITY
HC11 / HC16
HEALTHY CLIMATE®
MERV 11 or MERV 16 Media Air Cleaners

Bulletin No. 210450
June 2018
Supersedes July 2014

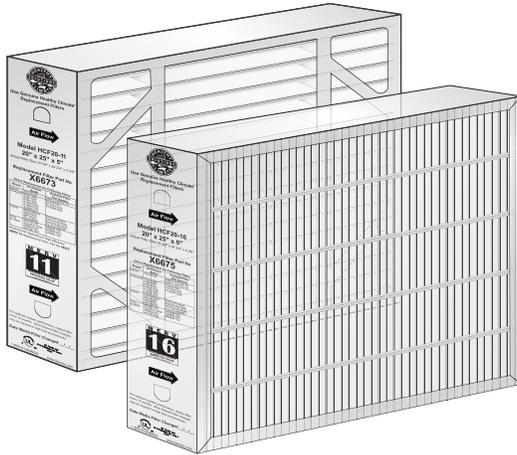## PRODUCT SPECIFICATIONS

MERV 11 and
Carbon Clean 16® (MERV 16) Filters

MERV 11 and MERV 16
Expandable Filter Kits
(MERV 16 Shown)

Filter
Cabinet
(With Filter
in Place)

MODEL NUMBER IDENTIFICATION

HC11 (MERV 11)
consists of:
(cabinet + box filter)
HCC14-23 (Cabinet) + HCF14-11 (Filter) 1400 cfm
HCC16-28 (Cabinet) + HCF16-11 (Filter) 1600 cfm
HCC20-28 (Cabinet) + HCF20-11 (Filter) 2000 cfm
(cabinet + expandable filter kit)
HCC14-23 (Cabinet) + HCXF14-11 (Expandable Filter) 1400 cfm
HCC16-28 (Cabinet) + HCXF16-11 (Expandable Filter) 1600 cfm
HCC20-28 (Cabinet) + HCXF20-11 (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
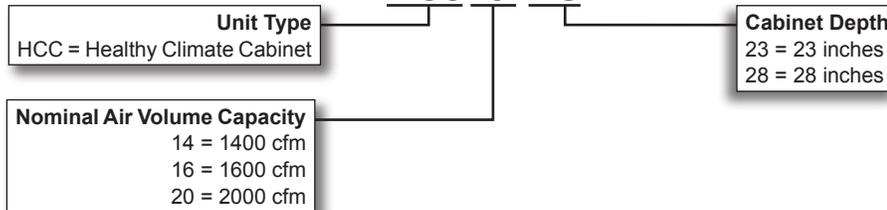**(cabinet + expandable filter kit)**
HCC14-23 (Cabinet) + HCXF14-16 (Expandable Filter) 1400 cfm
HCC16-28 (Cabinet) + HCXF16-16 (Expandable Filter) 1600 cfm
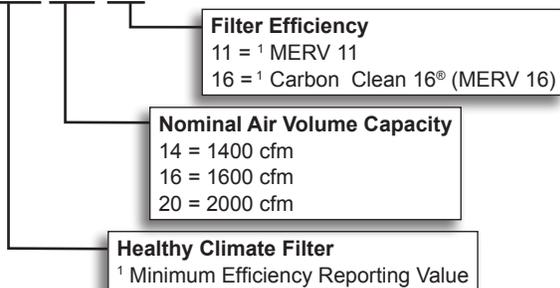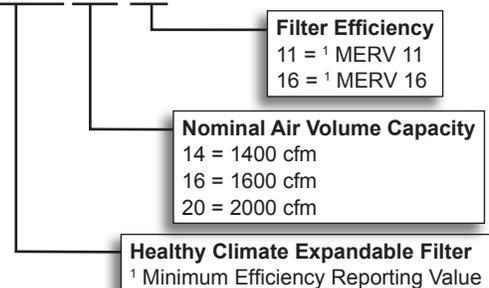HCC20-28 (Cabinet) + HCXF20-16 (Expandable Filter) 2000 cfm

CABINET

HCC 16 - 28

Unit Type
HCC = Healthy Climate Cabinet

Cabinet Depth
23 = 23 inches
28 = 28 inches

Nominal Air Volume Capacity
14 = 1400 cfm
16 = 1600 cfm
20 = 2000 cfm

BOX FILTER

HCF 16 - 11

Filter Efficiency
11 = [1] MERV 11
16 = [1] Carbon Clean 16® (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 - 11

Filter Efficiency
11 = [1] MERV 11
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

CONTENTS

APPLICATIONS

NOTE - Cabinet and Filter must be ordered separately.

MERV 11 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 upflow, downflow 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 downflow 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

Carbon Clean 16® (MERV 16) Box Filters
Disposable, pleated MERV 16 filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

50% first-pass reduction of ozone.

Carbon coated fiber matrix reduces odors.

Hospital inpatient care/general surgery level filtration.

Removes over 95% of E1 (sub-micron) particles down to 0.3-1 microns.

Removes over 99% of E2 particles down to 1-3 microns.

Removes over 90% of ultra-fine particles down to 0.01 micron, including viruses and bacteria.

Double-wall beverage board frame for rigid construction.

Filter is certified to UL 900 standard for flammability only and Class 2 in accordance with ULC S111.

MERV 11 Box Filters
Disposable, pleated MERV 11 filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

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

Double-wall beverage board frame for rigid construction.

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

Filter is certified to UL 900 standard for flammability only and Class 2 in accordance with ULC S111.

Expandable Filter Kits
Disposable, pleated MERV 11 or MERV 16 filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

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

Double-wall beverage board frame for rigid construction.

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

Filter is certified to UL 900 standard for flammability only and Class 2 in accordance with ULC S111.

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)	HCF14-11	HCF16-11	HCF20-11	HCF14-16	HCF16-16	HCF20-16
	Filter Model No. (Expandable Filter Kit)	HCXF14-11	HCXF16-11	HCXF20-11	HCXF14-16	HCXF16-16	HCXF20-16
[1] MERV (Minimum Efficiency Reporting Value) rating		11	11	11	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
	Actual Filter size - in.	20 x 19-3/4 x 4-3/8	15-3/4 x 24-3/4 x 4-3/8	19-3/4 x 24-3/4 x 4-3/8	20 x 19-3/4 x 4-3/8	15-3/4 x 24-3/4 x 4-3/8	19-3/4 x 24-3/4 x 4-3/8
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 - ORDER SEPARATELY

Replacement filter media for Expandable Filter Kits	**X8311**	**X8309**	**X8310**	**X8314**	**X8312**	**X8313**
Replacement filter media for Box Filter Kits	**X0585**	**X6670**	**X6673**	**X7935**	**X6672**	**X6675**

[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 (MM)
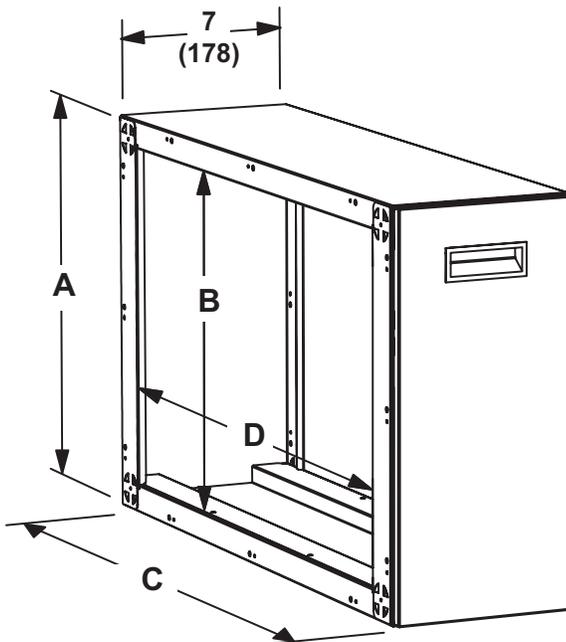
Model No.	A in.	A mm	B in.	B mm	C in.	C mm	D in.	D mm
HCC14-23	21-1/4	540	18-3/4	476	23	584	18-1/2	470
HCC16-28	17-1/4	438	14-3/4	375	28-1/2	7324	24	610
HCC20-28	21	533	18-1/2	470	28-1/2	724	24	610

FILTER AIR RESISTANCE - HCF

Air Flow (cfm)	Pressure drop (in. w.c.)					
	HCF14-11	HCF14-16	HCF16-11	HCF16-16	HCF20-11	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.)					
	HCXF14-11	HCXF14-16	HCXF16-11	HCFX16-16	HCXF20-11	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)
HCF14-11 / HCXF14-11 HCF16-11 / HCXF16-11 HCF20-11 / HCXF20-11	11	28%	65%	87%
HCF14-16 / HCXF14-16 HCF16-16 / HCXF16-16 HCF20-16 / HCXF20-16	16	95%	99%	100%

[1] Values are based on lab tests conducted with conditions included in ASHRAE Standard 52.2 2012.
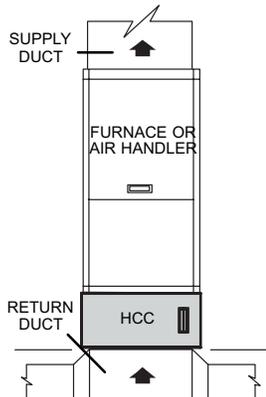
MATCH-UPS - FILTER CABINET WITH FURNACE / AIR HANDLER

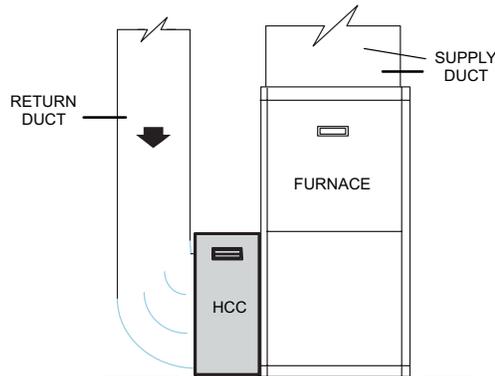**ALSO SEE ILLUSTRATIONS ON NEXT PAGE FOR ADDITIONAL DETAILS**

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 in. 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)			•	**Option 1** - No duct transition required, use Return Air Base (**98M58**). **Option 2** - Overcut top edge of side return opening by 1 in. to make opening 15 x 23 in. (H x W).
"C" Width Furnace with Bottom Return Air			•	No duct transition required.
"D" Width Furnace with Side Return Air			•	**Option 1** - No duct transition required, use Return Air Base (**98M59**). **Option 2** - Overcut top edge of side return opening by 1 in. to make opening 15 x 23 in. (H x W).
"D" Width Furnace with Bottom Return Air			•	28-1/2 x 3 1/2 in. side seal strip or duct transition needed.
Air Handlers	**HCC14-23**	**HCC16-28**	**HCC20-28**	**Comment**
Air Handler (W x D) - 15 x 22 in. CBX25UH(V)-018	•			Duct transition required.
Air Handler (W x D) - 18-1/2 x 22 in. CBX25UH(V)-024-030	•			22 x 2 in. side seal strip or duct transition needed.
Air Handler (W x D) - 21-7/8 x 22 in. CBX25UH(V)-036	•			No duct transition required.
Air Handler (W x D) - 21-7/8 x 26 in. CBX25UH(V)-042-048-060			•	No duct transition required.
Air Handler (W x D) - 16-1/4 x 20-5/8 in. CBX32M-018/024	•	•		Duct transition required.
Air Handler (W x D) - 21-1/4 x 20-5/8 in. CBA27UH-018 CBA27UH-024 CBA38MV-018/024 CBX32M-030	•			No duct transition required.
Air Handler (W x D) - 21-1/4 x 22-5/8 in. CBA27UH-030 CBA27UH-036 CBA38MV-030-036 CBX32M-036-042	•			No duct transition required.
Air Handler (W x D) - 21-1/4 x 24-5/8 in. CBA27UH-042 CBA27UH-048 CBA27UH-060 CBA38MV-042-048-060 CBX32M-048-060			•	21 x 3 in. side seal strip or duct transition needed.
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)			•	**Option 1** - No duct transition required, use Return Air Base (**98M58**). **Option 2** - Overcut top edge of side return opening by 1 in. to make opening 15 x 23 in. (H x W).
"C" Width CBWMV with Bottom Return Air			•	No duct transition required.

UPFLOW FURNACE/AIR HANDLER
(Bottom Return Air)
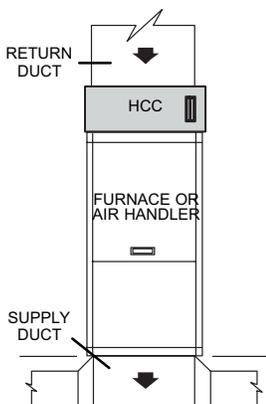
SUPPLY DUCT

FURNACE OR AIR HANDLER

RETURN DUCT

HCC

UPFLOW FURNACE
(Side Return Air − up to 4 ton)

RETURN DUCT

SUPPLY DUCT

FURNACE

HCC

DOWNFLOW FURNACE/AIR HANDLER

RETURN DUCT

HCC

FURNACE OR AIR HANDLER

SUPPLY DUCT

UPFLOW FURNACE
(Option 1 − Side Return Air − 5 ton)
(With Optional Return Air Base)

SUPPLY DUCT

RETURN DUCT

FURNACE

OPTIONAL RETURN AIR BASE

HCC
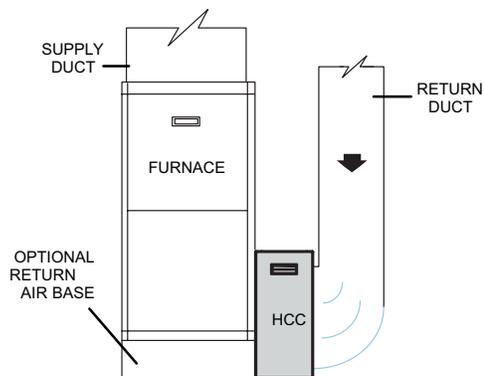
HORIZONTAL FURNACE/AIR HANDLER

SUPPLY DUCT

DUCT TRANSIITON
(Field Furnished)

RETURN DUCT

FURNACE OR AIR HANDLER

HCC
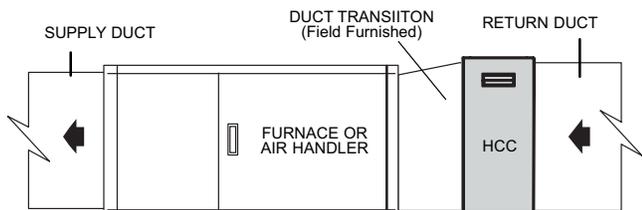
UPFLOW FURNACE
(Option 2 − Side Return Air − 5 ton)
(Modified Return Air Opening)

OVERCUT TOP EDGE BY 1 in.

23 in.

15 in.
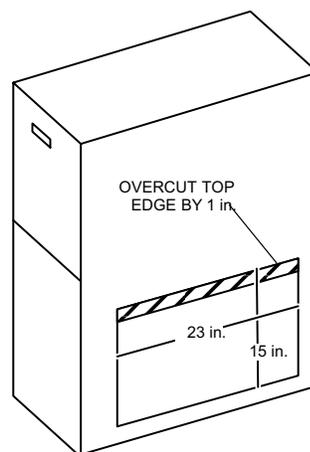
REVISIONS

Sections	Description of Change
Cabinet Furnace Match-Ups	Updated to include latest Air Handler models.

C UL **US**

LISTED