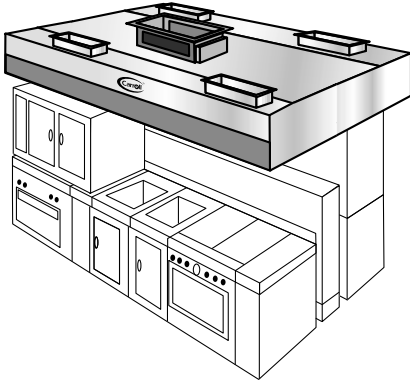




ITEM NO. \_\_\_\_\_

**Carroll Manufacturing International**  
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**PRODUCT SPECIFICATIONS**

Furnish Carroll Ventilator Model DF-C-MS-S \_\_\_\_\_ (ventilator with fire damper) or NDF-C-MS-S \_\_\_\_\_ (ventilator without fire damper) as shown on plans, in the depth indicated, in the overall length of \_\_\_\_\_, and to meet the following specifications.

**GENERAL DESCRIPTION:** Ventilator is a conventional filter-type hood with a continuous array of back-to-back baffle-type U.L. Classified filters along the entire ventilator length. Ventilator is to include a semi-concealed pitched gutter which slopes to a removable grease cup located at either extreme end.

Ventilator shall include means for hanging or otherwise supporting. The fire damper (on DF ventilators only) shall be  212°F fuse link or  thermostatically activated, with damper closure set to occur at 200°F.

**MAKE-UP AIR OPTIONS:** Ventilator shall include an air supply plenum with duct collar(s) and incorporate one of the following designs:

- Registers along the front panel for face discharge (Add suffix "SR" to the model number.)
- Perforated stainless steel front panels for face discharge (Add suffix "SP" to the model number.)
- Vertical full-length adjustable registers for perimeter downward discharge (Add suffix "SV" to the model number.)
- Adjustable registers for discharging directly into cavity of the ventilator (Add suffix "SI" to the model number.)

**CONSTRUCTION MATERIALS:** The ventilator shall be 18 gauge, type 304, all stainless steel construction. A number 4 finish shall be provided on all exposed surfaces.

**LIGHT FIXTURES:** Ventilator shall be equipped with  100 Watt Dome Incandescent or  Recessed 150 Watt Incandescent or  Recessed Fluorescent Fixtures. Light fixtures shall be prewired to a single connection point at the factory.

**APPROVALS:** Ventilator shall be U.L. Listed, listed by NSF, and in accordance with all recommendations of NFPA 96. The ventilator must meet all applicable codes.

**Traditional Series**

**Dry Filter Ventilator**

- **Model DF-C-MS-S**
- **Model NDF-C-MS-S**

**APPLICATION**

Ceiling mounted canopy style ventilator for back-to-back island style cooking arrangements over all types of equipment. Suitable for interior ceiling heights less than 9'-0" by recessing into false ceiling.

**DESCRIPTION**

The Traditional Series is a non water-wash, conventional filter hood which is U.L. Listed under the category "Exhaust Hood with Exhaust Damper," for the DF-C-MS-S models or "Exhaust Hood without Exhaust Damper" for the NDF-C-MS-S models. Units are offered in front-to-back depths as necessary for adequate overhang. All models include a full array of back-to-back, U.L. Classified baffle-type grease removing filters, and a grease-collecting gutter sloped to a removable grease cup at either end. On the DF-C-MS-S model, a spring-loaded, fuse-link fire damper is located at the duct collar. A thermostatically-activated damper is optionally available.

**OPERATION**

When properly operated and maintained, effective grease removal will be obtained. The liquified grease is drained off into a container for periodic removal and cleaning. Any "DF" Series model can be totally integrated with any of the other "DF" Series models only.

**MAINTENANCE**

At periodic intervals (such as the end of each cooking day), the filters are to be removed and cleaned. They can be either washed in a dishwasher, hand washed, or soaked and rinsed.

**AIR SUPPLY OPTIONS**

**"SR" & "SP" Style - Register or Perforated Front Panel Discharge**

Facing panel openings can typically supply 80% or more of required make-up air. Recommended supply air temperature range is 60° to 65°F, but, dependent upon volume, distribution and internal heat load, may be as low as 50°F.

**"SV" Style - Vertical Perimeter Discharge**

Up to 80% of the exhaust air volume may be supplied through this system. To avoid discomfort to personnel, air must be tempered to 65°F or higher.

**"SI" Style - Internal Discharge**

Volume of make-up air supplied through this design varies with the type of cooking equipment used. Air may be untempered in most areas, dependent upon climate and cooking equipment. Consult factory for specific air supply volumes and where winter temperatures drop below 10°F.

**COMBINATION SUPPLY AIR**

More than one supply air option may be specified on a Carroll ventilator, the following are the possible combinations of supply air: SP/SI, SV/SI, SR/SI, SP/SV, SR/SV and SR/SP.

**AIR SUPPLY GUIDELINES**

Appropriately conditioned supply air must be mechanically delivered to the space to replace exhausted air. Generally, 75% to 80% is so delivered, with the remaining 20% to 25% flowing naturally from adjoining areas.

**EXHAUST/SUPPLY FAN UNITS**

Exhaust fan(s) and supply fan(s) are to be furnished and installed by others to meet the Carroll Ventilator air volumes and static pressure drop for the entire system, and must be in compliance with local codes.

- Exhaust fan(s) should be properly sized and include induced draft, squirrel cage design, with backward inclined or air-foil type blades.
- Discharge ducts should be vertical and located away from air intakes.
- Supply fan(s) should be equipped with throwaway or cleanable type filters.
- Exhaust and supply fans require a magnetic starter switch with a 120 volt holding coil and should be electrically interlocked for simultaneous operation.

**FIRE PROTECTION**

NFPA 96 and most other codes require a fire extinguishing system for protection of both the duct collar and plenum areas of ventilators and for the protection of cooking equipment (such as fat fryers, griddles, ranges and broilers) which may be a source of ignition of grease. Check with local fire authorities for exact requirements.

**OPTIONAL EQUIPMENT**

Consult Carroll regarding custom services addressing:

- Exhaust Fans, Supply Fans & Roof Top Units
- Fire Protection Systems
- Heat Recovery Units
- Utility Distribution Systems
- Air Purification Units

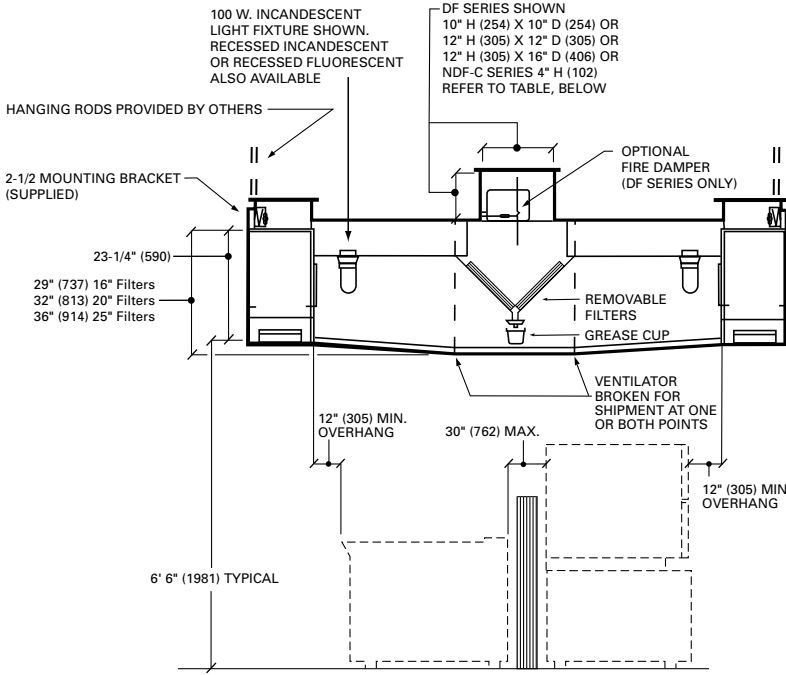


**Model DF-C-MS-S** \_\_\_\_\_ (With Fire Damper)

**Model NDF-C-MS-S** \_\_\_\_\_ (Without Fire Damper)



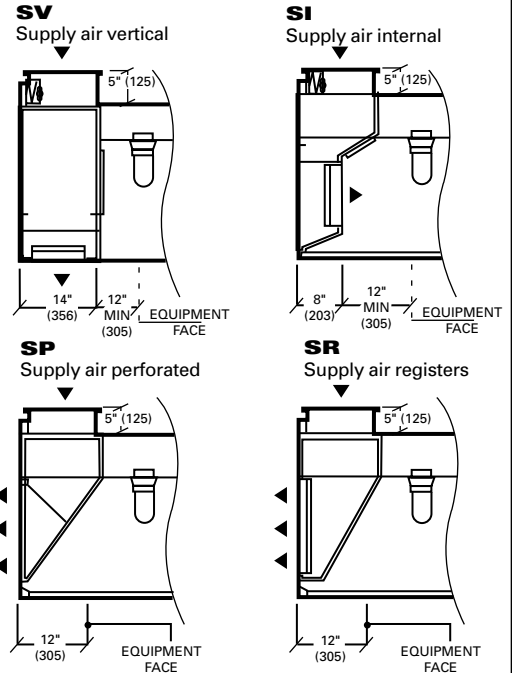
To complete the model number, insert the supply air option and desired depth of the unit in inches.  
 Example: "DF-C-MS-SP-120" (See "Supply Air Options" and typical "Section View" below.)



**Section View**  
N.T.S. (TAPERED SHAPE SHOWN)

NOTE: Dimensions in parenthesis ( ) are millimeters.

**Supply Air Options**



Item No: \_\_\_\_\_ Exhaust - CFM: \_\_\_\_\_  
 Est. Wt.: \_\_\_\_\_ Duct Size: \_\_\_\_\_  
 Length: \_\_\_\_\_ S. P.: \_\_\_\_\_  
 Width: \_\_\_\_\_ Supply - CFM: \_\_\_\_\_  
 Height: \_\_\_\_\_ Duct Size: \_\_\_\_\_  
 S. P.: \_\_\_\_\_

**Engineering Data**

**EQUIPMENT TYPE**

- LIGHT LOAD**.....Steamers, ovens, kettles (under 20 gallons), open burner ranges, griddles, electric fryers
- MEDIUM LOAD** .....Hot top ranges, woks, upright broilers
- HEAVY LOAD** .....Gas broilers consuming maximum of 25% of medium duty equip. line
- EXTRA HEAVY LOAD** .....Entire cooking line made up of gas broilers or equivalent

**SUPPLY AIR**

Indicated supply quantities based on 80% of exhaust quantities. For "SI" style of supply air, quantity will depend on cooking line; don't use over broilers.

**STATIC PRESSURE**

Static pressure drops across ventilator exhaust:  
 Model NDF:.....0.75" W.G. at the duct collar  
 Model DF:.....1.00" W.G. at the duct collar  
 Static pressure drops across ventilator supply:  
 Models DF and NDF: .....0.15" W.G. at the duct collar

**AIR COLLARS**

Exhaust: Based on 1800 FPM  
 Supply: Based on 1000 FPM

**VENTILATOR HANGING WEIGHTS**

Ventilator Depth	102" (2591)	108" (2743)	114" (2896)	120" (3048)
Wt./linear ft. lbs.	114	120	132	138
Wt./linear m. kg.	169	179	197	205

**AIR-SIDE TECHNICAL DATA**

LENGTH	LIGHT LOAD 500 CFM/LIN. FT.				SUPPLY BASED ON 80% OF EXHAUST				MEDIUM LOAD 600 CFM/LIN. FT.				SUPPLY BASED ON 80% OF EXHAUST				HEAVY LOAD 700 CFM/LIN. FT.				SUPPLY BASED ON 80% OF EXHAUST				EXTRA HEAVY LOAD 800 CFM/LIN. FT.				SUPPLY BASED ON 80% OF EXHAUST			
	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X	CFM	DUCT COLLAR W" X L"	NO. OF DUCTS	CFM PER DUCT	DUCT COLLAR 12" X		
3'-0"	1500	12x10	2	600	11"	1800	12x12	2	720	15"	2100	12x14	2	840	15"	2450	12x16	2	980	15"	2800	16x14	2	1120	19"	3200	16x12	2	960	15"		
3'-6"	1750	12x12	2	700	15"	2100	12x14	2	840	15"	2450	12x16	2	960	15"	2800	12x18	2	1080	19"	3150	12x21	2	1260	19"	3600	16x18	2	1440	24"		
4'-0"	2000	12x13	2	800	15"	2400	12x16	2	960	15"	2800	12x19	2	1120	19"	3200	12x23	2	1400	24"	4000	16x20	2	1600	24"	4400	16x22	2	1760	28"		
4'-6"	2250	12x15	2	900	15"	2700	12x18	2	1080	19"	3150	12x21	2	1260	19"	3600	12x24	2	1440	24"	4200	16x24	2	1680	24"	4800	16x24	2	1920	28"		
5'-0"	2500	12x17	2	1000	15"	3000	12x20	2	1200	19"	3500	12x23	2	1400	24"	4000	12x26	2	1560	24"	4550	12x30	2	1820	28"	5200	16x26	2	2080	33"		
5'-6"	2750	12x18	2	1100	19"	3300	12x22	2	1320	19"	3850	12x26	2	1540	24"	4400	12x28	2	1680	24"	4900	16x28	2	1960	28"	5600	16x28	2	2240	33"		
6'-0"	3000	12x20	2	1200	19"	3600	12x24	2	1440	24"	4200	12x28	2	1680	24"	4800	12x30	2	1800	28"	5250	16x26	2	2100	33"	6000	16x30	2	2400	37"		
6'-6"	3250	12x22	2	1300	19"	3900	12x26	2	1560	24"	4550	12x30	2	1820	28"	5200	12x32	2	1960	28"	5600	16x28	2	2240	33"	6400	16x32	2	2560	37"		
7'-0"	3500	12x23	2	1400	24"	4200	12x28	2	1680	28"	4900	16x24	2	1960	28"	5600	12x34	2	2100	33"	6000	16x30	2	2400	37"	6800	16x36	2	2720	37"		
7'-6"	3750	12x25	2	1500	24"	4500	12x30	2	1800	28"	5250	16x26	2	2100	33"	6000	12x36	2	2240	33"	6400	16x32	2	2560	37"	7200	16x36	2	2880	44"		
8'-0"	4000	12x27	2	1600	24"	4800	16x24	2	1920	28"	5600	16x28	2	2240	33"	6400	12x38	2	2380	37"	7000	16x34	2	2800	44"	7800	16x36	2	3120	44"		
8'-6"	4250	12x28	2	1700	28"	5100	16x25	2	2040	33"	5950	16x30	2	2380	37"	6800	12x40	2	2520	44"	7600	16x36	2	3120	44"	8400	16x36	2	3440	44"		
9'-0"	4500	12x30	4	900	15"	5400	16x27	4	1080	19"	6300	16x32	4	1260	19"	7200	12x42	4	1360	19"	7800	16x38	4	1560	19"	8800	16x36	4	1760	24"		
9'-6"	4750	16x24	4	950	15"	5700	16x28	4	1140	19"	6650	16x33	4	1330	19"	7600	12x44	4	1440	24"	8200	16x40	4	1580	24"	9200	16x36	4	1920	24"		
10'-0"	5000	16x25	4	1000	15"	6000	16x30	4	1200	19"	7000	16x35	4	1400	24"	8000	12x46	4	1500	24"	8600	16x42	4	1660	24"	9600	16x36	4	2400	24"		
10'-6"	5250	16x26	4	1050	19"	6300	16x31	4	1260	19"	7350	16x36	4	1470	24"	8400	12x48	4	1600	24"	9000	16x44	4	1740	24"	10000	16x36	4	2640	24"		
11'-0"	5500	16x27	4	1100	19"	6600	16x33	4	1320	19"	7700	16x39	4	1540	24"	8800	12x50	4	1700	24"	9400	16x46	4	1820	24"	10400	16x36	4	2880	24"		
11'-6"	5750	16x29	4	1150	19"	6900	16x34	4	1380	24"	8050	16x40	4	1610	24"	9200	12x52	4	1780	24"	9800	16x48	4	1900	24"	10800	16x36	4	3120	24"		
12'-0"	6000	16x30	4	1200	19"	7200	16x36	4	1440	24"	8400	16x42	4	1680	28"	9600	12x54	4	1860	28"	10200	16x50	4	1980	28"	11200	16x36	4	3360	28"		
12'-6"	6250	16x31	4	1250	19"	7500	16x37	4	1500	24"	8750	16x44	4	1750	28"	10000	12x56	4	1940	28"	10600	16x52	4	2060	28"	11600	16x36	4	3600	28"		
13'-0"	6500	16x32	4	1300	19"	7800	16x39	4	1560	24"	9100	16x46	4	1820	28"	10400	12x58	4	2020	33"	11000	16x54	4	2140	28"	12000	16x36	4	3840	28"		
13'-6"	6750	16x34	4	1350	24"	8100	16x40	4	1620	24"	9450	16x48	4	1890	28"	10800	12x60	4	2100	33"	11400	16x56	4	2220	28"	12400	16x36	4	4080	28"		
14'-0"	7000	16x35	4	1400	24"	8400	16x42	4	1680	28"	9800	16x50	4	1960	28"	11200	12x62	4	2180	33"	11800	16x58	4	2300	28"	12800	16x36	4	4320	28"		
14'-6"	7250	16x36	4	1450	24"	8700	16x43	4	1740	28"	10150	16x52	4	2030	33"	11600	12x64	4	2200	33"	12200	16x60	4	2380	28"	13200	16x36	4	4560	28"		
15'-0"	7500	16x37	4	1500	24"	9000	16x45	4	1800	28"	10500	16x54	4	2100	33"	12000	12x66	4	2220	33"	12600	16x62	4	2460	28"	13600	16x36	4	4800	28"		
15'-6"	7750	16x38	4	1550	24"	9300	16x46	4	1860	28"	10850	16x56	4	2170	33"	12400	12x68	4	2240	33"	13000	16x64	4	2540	28"	14000	16x36	4	5040	28"		
16'-0"	8000	16x40	4	1600	24"	9600	16x48	4	1920	28"	11200	16x58	4	2240	33"	12800	12x70	4	2260	33"	13400	16x66	4	2620	28"	14400	16x36	4	5280	28"		

\*Maximum unit length 16'-0" (4877). Check to ensure that there is adequate access into building and kitchen area.

**ELECTRICAL**

An optional Carroll stop/start switch, Model CS200, is provided for each exhaust fan. Refer to Model CS200 spec. sheet for specifications and electrical details. If specified, lights shall be on a separate circuit, 120 Volt.