

**Spectrum  
Filtration's  
SFVJ Type  
Auto Roll  
Air Filter**



# Spectrum Filtration's SFVJ Type Auto Roll Air Filter

SPECTRUM FILTRATION'S SFVJ type Auto Roll Filter and Air Filter

With controls to meet the complex demands of variable air volume systems.

The roll filter concept combined with fiberglass media provides application versatility and air cleaning economy.

The Type SFVJ Auto Roll filter is the most versatile roll-type filter on the market today. This versatility is due to the many options offered.

Standard equipment for the model SFVJ includes :

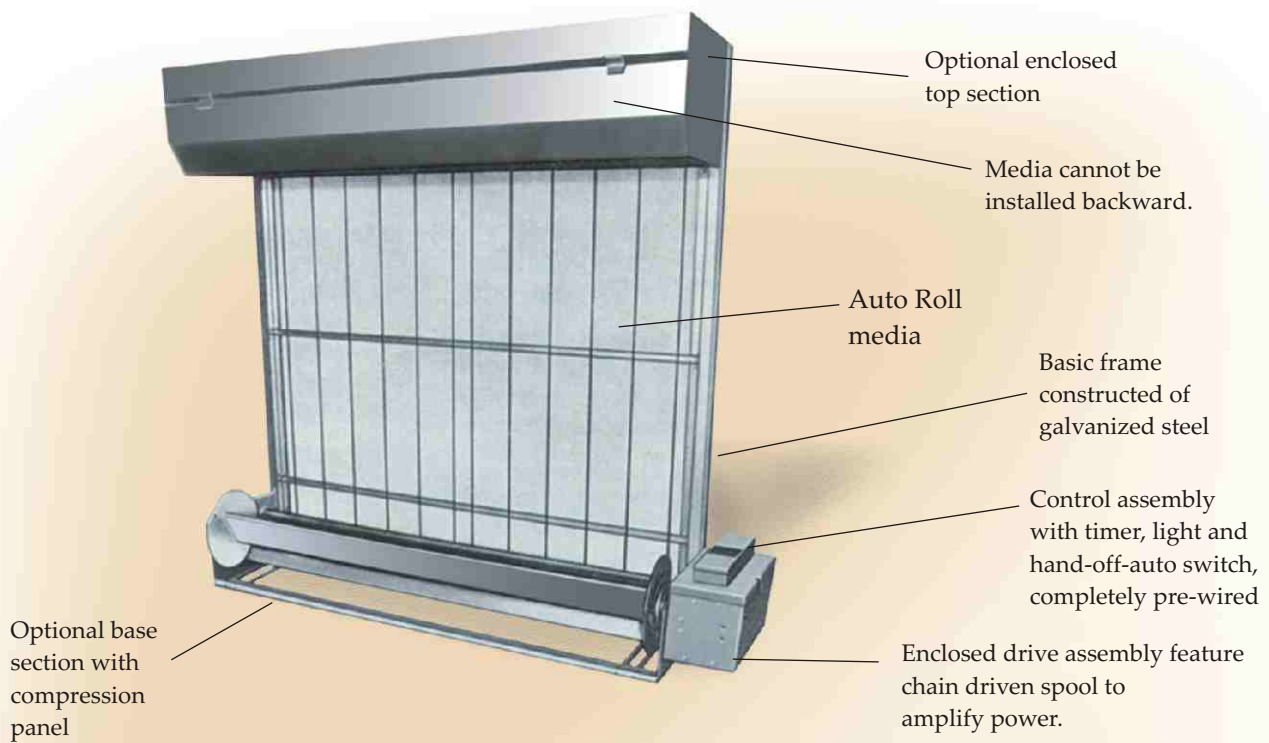
- Basic frame assembly
- Top support brackets and brace
- Base brackets and brace
- Compact, 1/4 HP enclosed gear motor drive assembly. Drive up to 3 sections in width, whether located internally or externally
- Control box containing timer, runout light and hand-off-auto selector switch completely factory wired.
- Initial filling of media and rewind spool.
- Other necessary parts and hardware

## OPTIONS :

- Standard or reverse airflow
- Vertical or horizontal installation
- Separate motor and gear reducer or manual drive
- The standard control incorporates a solid state timer which is easily field adjusted to compensate for the height of the filter and dust concentration of the air being handled.

- DP based Controls for variable or constant air volume systems
- Timer control available with pressure override or media economizer control for constant air volume systems
- Runout switch in master section standard available with runout switch in each section
- Available in 3, 4, 5 and 6 foot wide sections heights from 5 to 15 feet
- Media rolls drive in parallel from solid steel jackshaft with external drive
- Complete factory wiring available
- Normally wired for 24 DV 120 volt, 50 Hertz, single phase/3Ph currents
- Extended drive shafts available
- Factory assembly available
- Enclosed clean media cover available
- Used media compression panel available
- Drive and controls may be mounted internally or externally
- Media cannot be installed backwards in the airstream

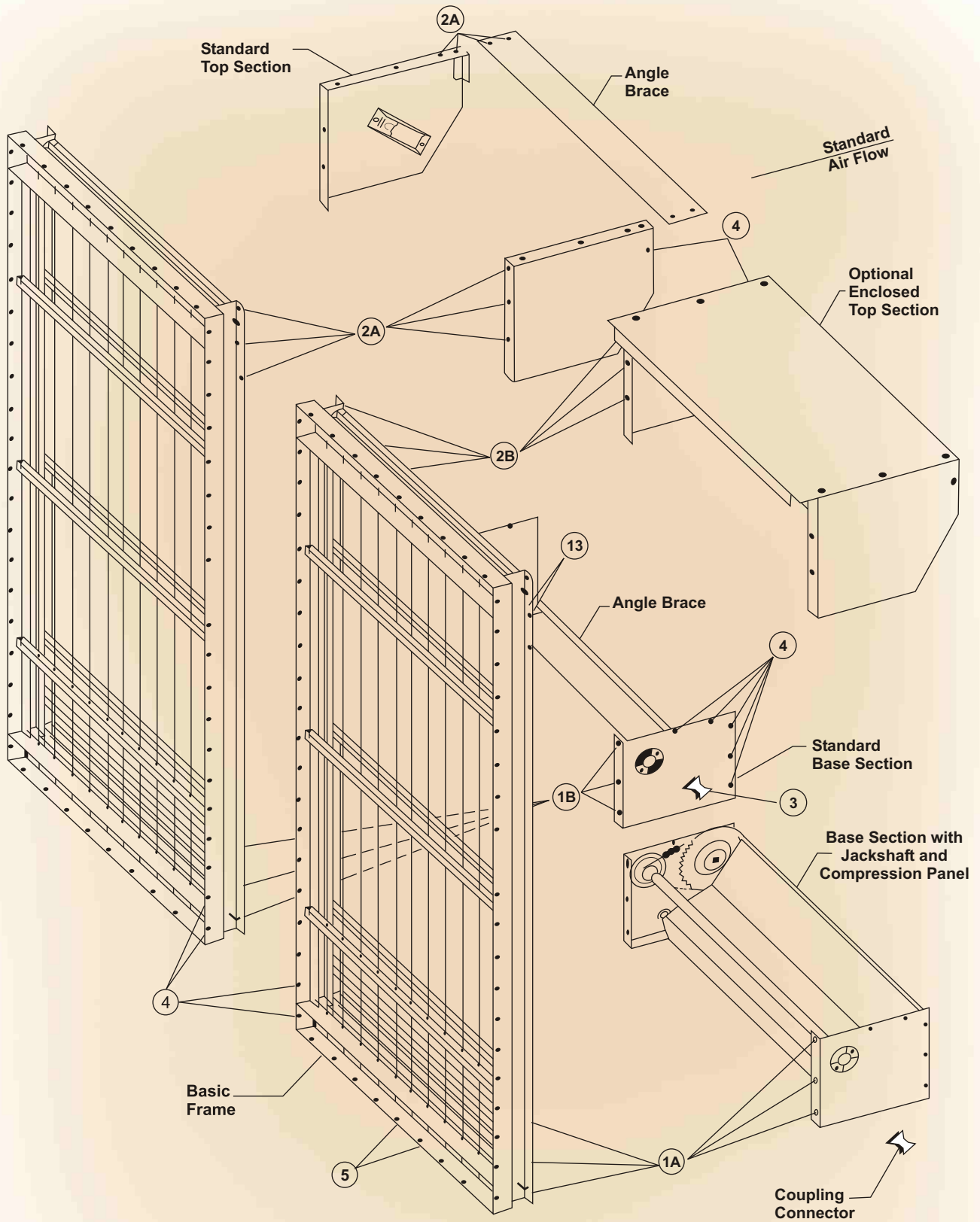
Every part of the Model SFVJ has been selected or designed to give complete reliability and lifetime service. Structural components are constructed of galvanized steel. Operating parts are of aluminum, bronze, or high quality steel.



## Optional features

The Type SFVJ can be equipped with any of the following optional extra features desired :

- Heavy Duty Top Section includes media cover that completely encloses the clean media
- Compression Panel in Base Section applies a minimum of 50 lbs pressure to tightly rewind used media for ease of handling
- Solid Steel Jackshaft as required, turns the rewind spools through a rugged, heavy duty chain and sprocket assembly to amplify power from the drive. Insures that all media spools are driven in parallel. (Furnished in all sections with an external drive but in only two sections of a three-section unit with internal drive.)
- Drive with Separate 1/4 HP Motor and Gear Reducer may be located internally or externally. External mounting of the drive makes for more accessibility and easier maintenance. A single external drive may serve as many as 3 sections or a maximum of 18 feet width (with jackshafts). A jackshaft will be supplied in all sections with external mounted drive. When located internally a drive handles a maximum of three sections or 18 feet width.
- Timer with Pressure Switch Override or Economizer Control for Constant Volume Systems pressure switch may be utilized to override the timer for temporary heavy dust loads, or it may be applied as a media economizer which will not allow the timer to operate until a preset pressure drop is attained. The economizer switch eliminates the need for a fan interlock.
- Reverse Flow permits servicing of the filter from the clean air side. A used media cover is available on reverse flow filters.
- Three Optional Arrangements can be installed for horizontal airflow, vertical downward or vertical upward airflow. Either standard or reverse airflow is available for all arrangements.
- A Special Corrosion Resistant Coating with Stainless Steel Hardware (better known as Papermill Design) insures long life service for installations subjected to corrosive atmosphere.
- Manual Drive



**FIGURE 1**  
**AUTO ROLL ASSEMBLY**

## SFVJ Type Design permits economical, on-the job assembly

The SFVJ Auto Roll Filter offers the advantages of sub-assembly construction. All major components are designed for simple fast erection.

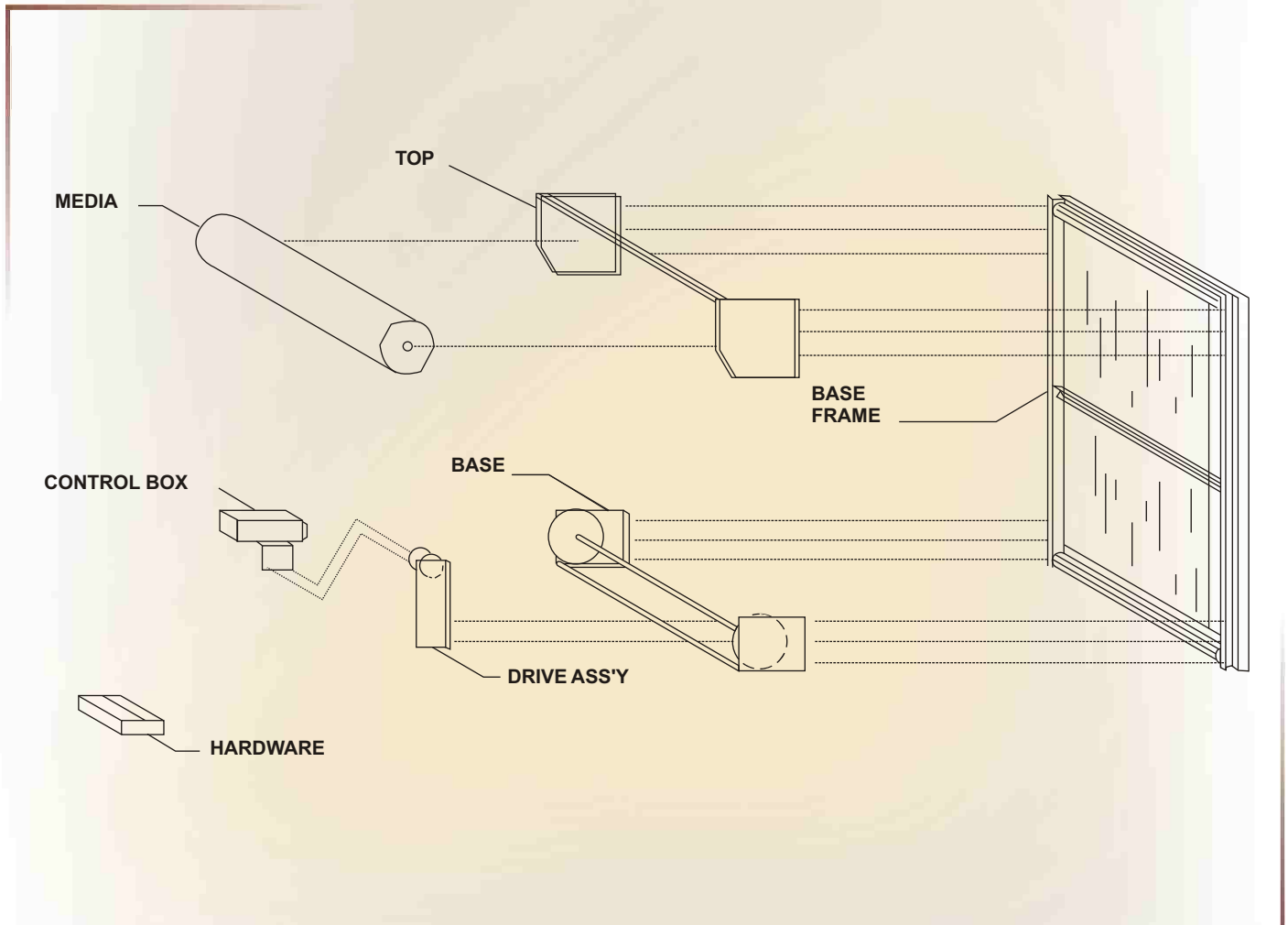
This design offers these

unquestionable advantages:

- Light weight for ease of handling
- Eliminates expensive rigging
- Facilitates shipping

- Easy storage on jobsite
- Quick, simple installation

A standard Auto Roll section is shipped in five cartons.



### What is Furnished with the Auto Roll?

- The proper size and number of sections with drive mechanism(s)
- Control panel including automatic control, media runout switch with red warning signal light and hand-off-auto switch
- Initial filling of Auto Roll media
- Necessary bolts for assembling filter

### What is Furnished by Purchaser ?

1. Sheet metal duct connections with access doors
2. Primary wiring to motor and control
3. Electrical wiring interlocking supply fan and filter controls, if required
4. Blanking of the areas between Auto Roll and fixing Duct

## Performance data

The initial resistance of the clean Auto Roll media at its rated velocity is 0.18" w.g. The average operating resistance under normal conditions varies between 0.35" and 0.45" w.g.

because of the variation in the concentration of atmospheric dust. For fan selection purposes it is recommended that a value of 0.4" to 0.5" w.g. be allowed for filter resistance.

## Specifications : Automatic Renewable Media Air Filter with DP based Control

Furnish and install automatic renewable media type air filters of the sizes and capacities shown on the plans and listed in the equipment schedule. All sheet metal parts shall be of corrosion resistant galvanized steel construction. The filters shall be of sub assembly construction for on-the-job assembly. Each filter shall be complete with initial loading of filter media, 1/4 HP drive motor and integral gear reducer, control box containing warning light to indicate either supply lamp failure or media runout, and hand-off-auto selector switch.

The drive motor shall be actuated by the DP switch which shall cause the media to be advanced in small increments only when dust accumulation dictates. The control circuit shall insure that no media is fed when the system is inoperative, shall feed uniform small increments of media for constant dirt load, and not require recalibration if the actual airflow differs from design or if the system is of the variable air volume type.

A heavy duty top section, including media cover, shall prevent media from being installed backwards, completely enclose the clean media spool and support the spool during media replacement. Rolls of clean media shall be installed at the top of the filter and advanced in small

increments.

The media shall be of non woven glass fibres bonded with a cured thermosetting resin, and shall have a nominal thickness of 2". The density of the media shall be progressive. This shall be achieved by increasing number and decreasing the diameter of the fibres from front to rear of the mat to provide progressively more efficient air cleaning and to apportion the dust load through the depth of the mat for greater dust-holding capacity.

It shall have a compressibility which will allow 65' of material to be wound on a 13" diameter, expendable, steel core spool with integral steel guide flanges at both ends. It shall be charged with an odorless and flame retardant adhesive which shall not flow while in storage nor when subjected to temperatures up to 80° C.

Media shall be reinforced by fiber glass screen running parallel to the media length. The media shall be supported on both faces in the airstream by wire rods parallel to the direction of media travel. Rod spacing shall be on not more than 3 inch centers on the air leaving face and on not more than 6 inch centers on the air entering face.

The average performance of the filter

media shall meet the following performance specifications (subject to tolerance prescribed in ARI standard 850-84 Section 7.4) based on a velocity of 500 FPM.

Initial Resistance (Inches W.G)	0.18
Average Synthetic Dust Weight Arrestance (Steady State) (%)	83
Dust Holding Capacity (Dynamic) Per Square Foot (Grams)	90

The roll media may be listed in the current edition of the U.L. Building Materials Directory and classified Class 2 when tested in accordance with U.L. Standard 900.

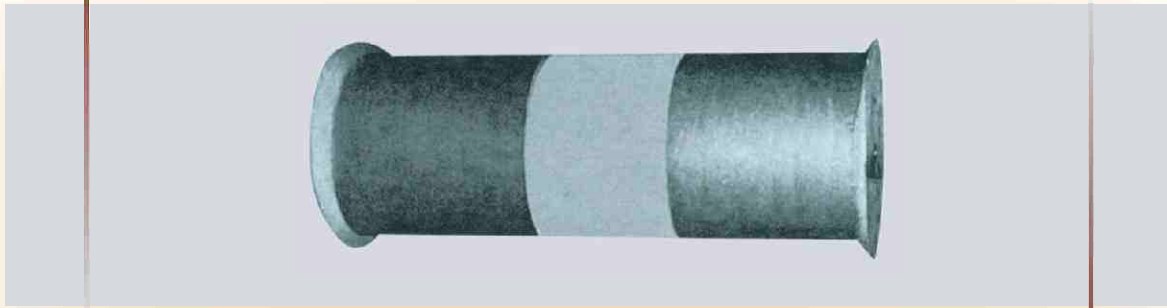
The automatic renewable media air filters shall be Auto Roll, Type V, Model J, with (DP based Control) as manufactured by Spectrum Filtration.

Selection of Auto Roll Filter Control		
Airflow	Dustload	Recommended Control
Constant	Constant	Timer, pressure switch
Constant	Normally constant but with potential for an increase in load on an intermittent bases	Timer with pressure switch override pressure switch
Constant	Variable	Pressure Switch

## Control Panel Specifications :

- LED lights to indicate : "on" (green blinking), "off" (red), and "feed" (amber).
- Relay to handle One 1/4 HP motor.
- Built-in relay for customer's remote alarm.
- Terminals for options override or economizer pressure switch.
- Prewired control. Field connections include 440V supplied by others, and wiring harness connectors. Motor leads are furnished in factory supplied conduit.
- Low voltage runout switch.
- Hand-off-automatic switch
- Runout warning light (red)
- Corrosion resistant heavy gauge galvanized steel control box only.

## Auto Roll Filter with Glass Fibre media



Auto Roll Media is the only glass fiber media designed specifically for renewable media air filter service which meets these basic requirements :

- High cleaning efficiency
- High dust holding capacity
- Operating velocities of 500 to 600 fpm
- Available in easy-to-handle continuous roll form
- High resiliency and flexibility
- Inexpensive from operating and replacement standpoint
- Uniform no voids or thin spots

No other media meets these specifications

This media is composed of continuous, slightly curled, inter-latched glass filaments averaging 0.001" in diameter that are held in

place at every point of contact with a thermo-setting plastic bond to form a thick resilient pad or "blanket". The density of the media is progressive. This is achieved by increasing the number and decreasing the diameter of the fibres from front to rear of the mat to provide progressively more efficient air cleaning and to apportion the dust load through the depth of the mat for greater dust holding capacity.

The glass filaments are fabricated into thick, fluffy "blankets" 65 feet in length which are impregnated with a special non-flammable jell-like viscosine adhesive with these distinct characteristics :

- Will not drip at elevated temperatures
- Retains adhesive qualities
- Won't dry out

Glass reinforcing filaments are bonded to the blanket running the full 65' length of the media.

The impregnated media is cut into strips of the desired width and tightly rolled onto spools. Resiliency and flexibility of this

amazing media permit a roll of 65 lineal feet to be compressed on a spool to about 13" diameter yet resume its original 2" thickness when exposed to the air stream. The used media, with its accumulated dust load, is tightly rewound on the bottom spool for easy disposal.

# Type V Capacities

Capacities in CFM are based on the normal rated velocity of 500 fpm through the filter curtain. Dimensions are overall for the filter. The control panel is usually mounted on the drive bracket but it may be

located remotely, if desired. To designate the size filter desired, write the width number, a dash and then the the height number, as a No. 7-94 (7 feet wide by 9'4" high, capacity 26,000 cfm). Price of the filter

depends on the number of sections involved. Where space is available, first cost is lower if filter height is increased rather than adding additional section.

Height Designation No.	Overall Height of Filter	WIDTH DESIGNATION NUMBER														Height Designation No.
		3	4	5	6	7	8	9	10	1	12	13	14	15	16	
		OVERALL WIDTH IN FEET														
		3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	
50	5'0"	6877	9633	12383	15132	16510	19266	22015	24765	27515	30264	31648	34398	37148	39897	50
54	5'4"	7404	10376	13335	16294	17780	20752	23711	26670	29635	32601	34087	37046	40005	42970	54
58	5'8"	7938	11113	14288	17463	19050	22225	25400	28575	31750	34925	36513	39688	42863	46038	58
60	6'0"	8465	11855	15240	18625	20320	23711	27095	30480	33865	37249	38951	42335	45720	49105	60
64	6'4"	8992	12598	16193	19787	21590	25197	28791	32385	35979	39573	41389	44983	48578	52172	64
68	6'8"	9525	13335	17145	20955	22860	26670	30480	34290	38100	41910	43815	47625	51435	55245	68
70	7'0"	10052	14078	18098	22117	24130	28156	32175	36195	40215	44234	46253	50273	54293	58312	70
74	7'4"	10579	14821	19050	23279	25400	29642	33871	38100	42329	46558	48692	52921	57150	61379	74
78	7'8"	11113	15558	20003	24448	26670	31115	35560	40005	44450	48895	51118	55563	60008	64453	78
80	8'0"	11640	16377	20955	25610	27940	32601	37255	41910	46565	51219	53556	58210	62865	67520	80
84	8'4"	12167	17043	21908	26772	29210	34087	38951	43815	48679	53543	55994	60858	65723	70587	84
88	8'8"	12700	17780	22860	27940	30480	35560	40640	45720	50800	55880	58420	63500	68580	73660	88
90	9'0"	13227	18523	23813	29102	31750	37046	42335	47625	52915	58204	60858	66148	71438	76727	90
94	9'4"	13754	19266	24765	30264	33020	38532	44031	49530	55029	60528	63297	68796	74295	79794	94
98	9'8"	14288	20003	25718	31433	34290	40005	45720	51435	57150	62865	65723	71438	77153	82868	98
100	10'0"	14815	20745	26670	32595	35560	41491	47415	53340	59265	65189	68161	74085	80010	85935	100
104	10'4"	15342	21488	27623	33757	36830	42977	49111	55245	61379	67513	70599	76733	82868	89002	104
108	10'8"	15875	22225	28575	34925	38100	44450	50800	57150	63500	69850	73025	79375	85725	92075	108
110	11'0"	16402	22968	29528	36087	39370	45936	52495	59055	65615	72174	75463	82023	88583	95142	110
114	11'4"	16929	23711	30480	37249	40640	47422	54191	60960	67729	74498	77902	84671	91440	98209	114
118	11'8"	17463	24448	31433	38418	41910	48895	55880	62865	69850	76835	80328	87313	94298	101283	118
120	12'0"	17990	25190	32385	39580	43180	50381	57575	64770	71965	79159	82766	89960	97155	104350	120
124	12'4"	18517	25933	33338	40742	44450	51867	59271	66675	74079	81483	85204	92608	100013	107417	124
128	12'8"	19050	26670	34290	41910	45720	53340	60960	68580	76200	83820	87630	95250	102870	110490	128
130	13'0"	19577	27413	35243	43072	46990	54826	62655	70485	78315	86144	90068	97898	105728	113557	130
134	13'4"	20104	28156	36195	44234	48260	56312	64351	72390	80429	88468	92507	100546	108585	116624	134
138	13'8"	20638	28893	37148	45403	49530	57785	66040	74295	82550	90805	94933	103188	111443	119698	138
140	14'0"	21165	29635	38100	46565	50800	59271	67735	76200	84665	93129	97371	105835	114300	122765	140
144	14'4"	21692	30378	39053	47727	52070	60757	69431	78105	86779	95453	99809	108483	117158	125832	144
148	14'8"	22225	31115	40005	48895	53340	62230	71120	80010	88900	97790	102235	111125	120015	128905	148
150	15'0"	22752	31858	40958	50057	54610	63716	72815	81915	91015	100114	104673	113773	122873	131972	150
No. and Width of Section						1 - No 3 1 - No 4	2 - No 4	1 - No 5 1 - No 4	2 - No 5	1 - No 6 1 - No 5	2 - No 6	2 - No 4 2 - No 6	2 - No 5 1 - No 4	3 - No 5	2 - No 5 1 - No 6	

Height Designation No.	Overall Height of Filter	WIDTH DESIGNATION NUMBER														Height Designation No.
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	
		OVERALL WIDTH IN FEET														
		17'	18'	19'	20'	21'	22'	23'	24'	25'	26'	27'	28'	29'	30'	
90	9'0"	82017	87306	89960	95250	100540	105829	111119	116408	119063	124352	129642	134931	140221	145510	90
94	9'4"	85293	90792	93561	99060	104559	110058	115557	121056	123825	129324	134823	140322	145821	151321	94
98	9'8"	88583	94298	97155	102870	108585	114300	120015	125730	128588	134303	140018	145733	151448	157163	98
100	10'0"	91859	97784	100755	106680	112605	118529	124454	130378	133350	139275	145199	151124	157048	162973	100
104	10'4"	95136	101270	104356	110490	116624	122758	128892	135026	138113	144247	150381	156515	162649	168783	104
108	10'8"	98425	104775	107950	114300	120650	127000	133350	139700	142875	149225	155575	161925	168275	174625	108
110	11'0"	101702	108261	111550	118110	124670	131229	137789	144348	147638	154197	160757	167316	173876	180435	110
114	11'4"	104978	111747	115151	121920	128689	135458	142227	148996	152400	159169	165938	172707	179476	186246	114
118	11'8"	108268	115253	118745	125730	132715	139700	146685	153670	157163	164148	171133	178118	185103	192088	118
120	12'0"	111544	118739	122345	129540	136735	143929	151124	158318	161925	169120	176314	183509	190703	197898	120
124	12'4"	114821	122225	125946	133350	140754	148158	155562	162966	166688	174092	181496	188900	196304	203708	124
128	12'8"	118110	125730	129540	137160	144780	152400	160020	167640	171450	179070	186690	194310	201930	209550	128
130	13'0"	121387	129216	133140	140970	148800	156629	164459	172288	176213	184042	191872	199701	207531	215360	130
134	13'4"	124663	132702	136741	144780	152819	160858	168897	176936	180975	189014	197053	205092	213131	221171	134
138	13'8"	127953	136208	140272	148590	156845	165100	173419	181610	185738	193993	202248	210503	218758	227013	138
140	14'0"	131229	139694	143935	152400	160865	169329	177794	186258	190500	198965	207429	215894	224358	232823	140
144	14'4"	134506	143180	147536	156210	164884	173558	182232	190906	195263	203937	212611	221285	229959	238633	144
148	14'8"	137795	146685	151130	160020	168910	177800	186690	195580	200025	208915	217805	226695	235585	244475	148
150	15'0"	141072	150171	154730	163830	172930	182029	191129	200228	204788	213887	222987	232086	241186	250285	150
No. and Width of Section		2 - No 6 1 - No 5	3 - No 6	1 - No 4 3 - No 5	4 - No 5	3 - No 5 1 - No 6	2 - No 6 2 - No 5	3 - No 6 1 - No 5	4 - No 6	5 - No 6	4 - No 5 1 - No 6	3 - No 5 2 - No 6	3 - No 6 2 - No 5	4 - No 6 1 - No 5	5 - No 6	

\* Height between 5'-0" thru 8'-8", although not shown, are available in widths 17' thru 30'.

Standard sizes.



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