



Falls Filtration  
Technologies, Inc

"Manufacturer of Airmaze Products"

# *OIL BATH*



## OIL BATH INTAKE AIR FILTERS

### Capacities up to 6500 CFM

#### High Efficiency

The combination of oil scrubbing action and baffle impingement principles provides exceptionally high dirt arrestment. Laboratory tests with various types of dust show efficiencies ranging from 95.4% to 98.6%.

#### Quickly Disassembled for Complete Cleaning

Unscrewing a wing nut permits complete disassembly of filter for inspection or cleaning. To clean filter, empty dirty oil from sump and replace with clean oil (SAE 10 to 30 in cold weather, SAE 30 to 50 in hot weather). Filter element may be removed and cleaned if dirty.

#### Resistance

The resistance graph below is of a typical Falls Filtration Oil Bath Filter (less base) showing an increase in pressure drop as the percentage of rated filter capacity increases.

#### Lower Resistance to Air Flow

More filter area per capacity results in much lower air resistance through Falls Filtration Technologies filters. While conventional filters utilize only the filter area equivalent to the base of a cylinder, Falls Filtration Technologies employs the entire cylinder wall. In the case of a cylinder 5" O.D. by 8" high, base area is only 19.63 sq. in., whereas area of cylinder wall is 125.66 sq. in. – more than 6 times as great. Actual pressure drop through a Falls Filtration Technologies oil bath filter depends on size of mounting base used and percentage of total filter capacity used. Resistance on average Falls Filtration Technologies filter application ranges from 3" to 5" water gauge.

#### The FFT Oil Cycle

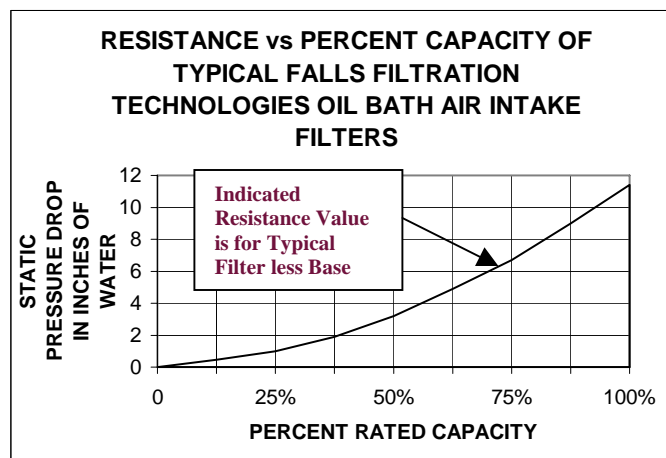
Because of the vertical filter element and oil control ring, Falls Filtration oil bath filters do not hold oil suspended in the element at high airflows. Oil automatically returns to sump for recirculation. The oil washing action takes place at all speeds; from idle to full throttle.

#### Flexibility of Mounting

Because of basic design, Falls Filtration Filters offer greatest installation flexibility. They may be mounted directly on top of, or suspended directly from the intake pipe. When used with a mounting bracket, they can be placed in a remote location and air piped from the cleaner to the intake.

#### All Metal Construction

The wire mesh element cannot pack down or change density. There is nothing to break off and enter the air stream. Metal construction resists vibration and affords complete cleanability.



## HOW TO DETERMINE CORRECT SIZE FILTER

Refer to tables “A,” “B,” “C,” or “D,” whichever applies to your equipment. In the row showing number of cylinders in your equipment (low pressure only for compressors), locate the block containing the range of R.P.M. your equipment operates at maximum speed. In this block is shown the KEY NUMBER that you will refer to in table “F.”

Locate the column under your KEY NUMBER in table “F” and read down until you reach the P.D.C.F.M. as calculated in table “E.” If the P.D.C.F.M. falls between any two figures, use the higher figure.

Read across to the right and select the correct size oil bath for your requirement.

A relief valve should be used when installing on a reciprocating piston type compressor or a slow moving engine with an very large bore and stroke.

<b><u>TABLE A:</u> 4 – CYCLE SINGLE ACTING ENGINES</b>				<b><u>TABLE B:</u> BLOWERS, TURBOCHARGERS, ROTARY COMPRESSORS</b>			
<b>No. of Cyl.</b>	<b>Maximum Engine Speed – R.P.M.</b>			Find maximum C.F.M. free air rating of equipment under Blower C.F.M. column in selection table “F.” Read across to the right and select correct size filter from column specifying type required.			
1	Over 2400 Key 1	2400-1601 Key 2	1600-1 Key 6				
2	Over 1200 Key 1	1200-801 Key 2	800-1 Key 5				
3	Over 800 Key 1	800-533 Key 2	532-1 Key 4				
4	Over 600 Key 1	600-401 Key 2	400-1 Key 3				
5	Over 480 Key 1	480-321 Key 2	320-1 Key 2				
6	Over 400 Key 1	400-267 Key 2	266-1 Key 2				
7	Over 343 Key 1	343-229 Key 2	228-1 Key 2				
<b>8or &gt;</b>	Over 300 Key 1	300-201 Key 1	200-1 Key 1				
<b><u>TABLE C:</u> SINGLE ACTING AIR COMPRESSORS</b>							
<b>No. of LP. Cyl.</b>	<b>Maximum Compressor Speed – R.P.M.</b>			<b>No. of LP. Cyl.</b>	<b>Maximum Compressor Speed – R.P.M.</b>		
1	Over 1200 Key 1	1200-801 Key 2	800-1 Key 5	1	Over 600 Key 1	600-401 Key 2	400-1 Key 3
2	Over 600 Key 1	600-401 Key 2	400-1 Key 3	2	Over 300 Key 1	300-201 Key 2	200-1 Key 2
3	Over 400 Key 1	400-267 Key 2	266-1 Key 2	3	Over 200 Key 1	200-134 Key 2	133-1 Key 2
4	Over 300 Key 1	300-201 Key 1	200-1 Key 1	4	Over 150 Key 1	150-101 Key 1	100-1 Key 1

## HOW TO DETERMINE CORRECT TYPE FILTER

### TABLE E

<b>P.D.C.F.M. (Piston Displacement Cubic Feet per Minute)</b>
<b><i>For Engines = Cubic Inch Displacement x Max. R.P.M. x .00029</i></b>
<b><i>For Compressors = Cubic Inch Displacement x Max. R.P.M. x .00058</i></b>
<b>NOTE: Cubic Inch Displacement = Bore x Bore x Stroke x No. Cylinders x .7854. For Double Acting Engines and Compressors; Multiply by 2.</b>

### TABLE F

### SELECTION TABLE

Key 1	Key 2	Key 3	Key 4	Key 5	Key 6	Blower CFM	No Relief Valve	With Relief Valve	Max. Base Size	Min. Base Size
80	53	40	27	20	10	64	F80S	FV83S	2"	½"
140	93	70	47	35	18	112	F140S	FV143S	2 ½"	1"
250	167	125	83	63	32	200	F250S	FV253S	3"	1¼"
350	233	175	117	88	44	280	F350S	FV353S	4"	1½"
550	367	275	183	138	69	440	F570S	FV550S	5"	2"
850	567	425	283	213	107	680	F858S	FV858S	6"	3"
1200	800	600	400	300	150	960	F1208S	FV1208S	8"	4"
1700	1133	850	567	425	213	1360	F1708S	FV1708S	12"	6"
2800	1867	1400	933	700	350	2240	F2808S	FV2808S	14"	8"
4000	2667	2000	1333	1000	500	3200	F4008S	FV4008S	18"	10"
6500	4333	3250	2167	1625	813	5200	F6508S	FV6508S	22"	16"


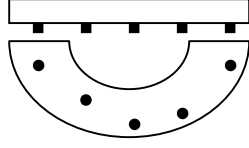
\*These models furnished as assemblies of two large oil bath filters and manifolds. Dimension details on request.

NOTE: All of the above models have Full Hoods. For application where space limitations do not permit full hood, units are available with special tops.

NOTE: All units listed have fixed skirt settings 1/8" below oil level except units with relief valves. Relief valve units have skirt set 3/8" above oil level.

### TABLE G

### TYPES AND SIZES OF BASES AVAILABLE

	 <b>MALE PIPE THREAD</b>											 <b>FLANGE TYPE MOUNTING</b>										
<b>STANDARD PIPE SIZES</b>	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"
Code No. For – Male Pipe Thread	GC	GB	GA	GJ	GK	GL	GM	GN	GE	GS	GQ	GT	GV	GW	GX	GY	GO	GZ	GZZ	-	-	-
*American 125-lb. Std. Flange	-	-	-	-	-	-	-	-	-	ES	EQ	ET	EV	EW	EX	EY	EO	EZ	EZZ	EXZ	EYZ	EOZ

\*Units furnished with studs to match American 125-lb. Standard or Taylor Standard pipe flanges. (Companion flanges not furnished by Falls Filtration.)

## SIZES - DIMENSIONS - WEIGHTS

**TABLE H**

<b>Model</b>	<b>Diameter</b>	<b>Height (less Base)</b>	<b>Approx Oil Cap. (pints)</b>	<b>Shipping Weight Lbs.</b>
F80S	6"	5"	1/3	4
F140S	8 ¼"	6 5/8"	1	8
F250S	10 ¾"	8 1/8"	1 ½	12
F350S	11 ½"	9"	2 ¾	15
F570S	13 ¾"	11"	6	25
F858S	16 ¾"	13 ¼"	7	45
F1208S	21"	18 3/8"	30	160
F1708S	24"	20 ½"	39	195
F2808S	32 ½"	24 7/8"	68	325
F4008S	38"	29 ¾"	104	510
F6508S	52"	35 ¼"	168	800

(See Table G for Bases Available)

**TABLE J**

<b>With Relief Valve</b>	<b>Diameter</b>	<b>HEIGHT (Less base)</b>	<b>Approx. Oil Capacity (In Pints)</b>	<b>Shipping Weight in Lbs.</b>
FV83S	6"	6 1/8"	1/3	5
FV143S	8 ¼"	8 1/8"	1	8
FV253S	10 ¾"	9 5/8"	1 ½	12
FV353S	11 ½"	11"	2 ¾	17
FV570S	13 ¾"	13"	6	28
FV858S	16 ¾"	15 3/8"	7	50
FV1208S	21"	21 ¾"	30	185
FV1708S	24"	23 7/8"	39	225
FV2808S	32 ½"	28 ½"	68	395
FV4008S	38"	33 ½"	104	555
FV6508S	52"	41"	168	825

NOTE: All of the above models have Full Hoods. .

## OIL BATH REPLACEMENT PARTS

MODEL NUMBER	SKIRT ASSEMBLY	FILTER ELEMENT	AUX. ELEMENT	RELIEF VALVE	GASKETS		STEM	WING NUT
					TOP	BASE		
					FA0B	N/A		
F80S	N/A	F80-07	---	---	F80-166	10B-06	2NB-004	20515
F140S	N/A	F140-07	---	---	F140-166	30B-06	5NB-004	20515
F250S	N/A	F250-07	---	---	F250-166	30B-06	FV140-004	20515
F350S	N/A	F350-07	---	---	F350-166	30B-06	8NB-005	20515
F570S	N/A	F570-07	---	---	F550-166	80B-06	F550-04	100B-20
F850S	N/A	F850-07	---	---	F850-166	100B-06	F850-04	100B-20
FV83S	FV83-815	F80-07	FV80-827	FV80-214	F80-166	10B-06	4NB-004	20515
FV140S	FV143-815	F140-07	FV140-827	FV140-214	F140-166	30B-06	FV140-004	20515
FV250S	FV253-815	F250-07	FV250-827	FV250-214	F250-166	30B-06	20B-04	20515
FV350S	FV353-815	F350-07	FV350-827	FV350-214	F350-166	30B-06	30B-04	20515
FV550S	FV553-815	F550-07	FV550-827	FV550-214	F550-166	80B-06	FV570-04	39616
FV850S	FV853-815	F850-07	FV850-827	FV850-214	F850-166	100B-06	FV850-04	20515

MODEL NUMBER	SKIRT AND ELEMENT ASSEM.	SKIRT AND DIFFUSER ASSEMBLY	MAIN FILTER ELEMENT	AUX. ELEMENT	RELIEF VALVE ASSEMBLY	GASKETS		WING NUT
						TOP	SUPPORT PLATE	
						F1200	F1200-852	
F1700	F1700-852	F1700-815	F1700-07	---	---	F1700-166	F1700-66	20519
F2800	F2800-852	F2800-815	F2800-07	---	---	F2800-166	F2800-66	20519
F4000	F4000-852	F4000-815	F4000-07	---	---	F4000-166	F4000-66	20519
F6500	F6500-852	F6500-815	F6500-07	---	---	F6500-166	F6500-66	20519
FV1200	FV1200-852	FV1200-815	F1200-07	FV1200-827	FV1200-R214	F1200-166	F1200-66	20519
FV1700	FV1700-852	FV1700-815	F1700-07	FV1700-827	FV1700-R214	F1700-166	F1700-66	20519
FV2800	FV2800-852	FV2800-815	F2800-07	FV2800-827	FV2800-R214	F2800-166	F2800-66	20519
FV4000	FV4000-852	FV4000-815	F4000-07	FV4000-827	FV4000-R214	F4000-166	F4000-66	20519
FV6500	FV6500-852	FV6500-815	F6500-07	FV6500-827	FV6500-R214	F6500-166	F6500-66	20519

\*\* Stem is a non-replaceable item  
 --- N/A for application

ISO 9001:2000 & AS9100 Certified



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Falls Filtration reserves the right to change any model or specification at any time without notice