

# LP LOW PRESSURE OIL BATH





### LOW PRESSURE OIL BATH FILTERS

#### **Improved Filter Concepts**

Falls Filtration has engineered a selfoperating type oil bath filter, which provides extremely low-pressure loss and does not require use of any external power for oil handling.

The type LP Oil Bath Filter is a second-generation design, which operates at a low-pressure loss and a wide range of airflow capacities (see Flow Capacity and Pressure Drop Chart, next page).

No other filtration method affords such high filtration efficiency combined with the added features of extended operation without attention, small space requirements, and overall economy.

#### Serious Oil Bath Filter Deterrent Eliminated

Oil Scrubbing is a universally accepted method of cleaning intake air but a serious deterrent has been the relatively high-pressure loss across the filter. The Falls Filtration LP Oil Bath Filter eliminates this problem because it is self-operating and does not require moving oiled curtains or motor driven oil pump arrangements.

#### **Special Advantages**

- 1. Low Pressure Loss.
- 2. High efficiency.
- 3. Can be serviced while operating.
- 4. No external power required
- 5. Seismic designs available in high capacities
- 6. Extended service intervals



#### Applications

Falls Filtration LP Oil Bath Filters are recommended for cleaning intake air of engines, compressors, and blowers.

#### Operation

Dirt laden air enters under weather hood a (A) and trough a trash screen (B). Under normal airflow conditions, approximately 2% of the air passes across the oil control pan (C) and beneath the air deflector skirt (D) where it lifts oil droplets from the oil control ports (E) and carries the oil into the scrubbing chamber (F).

The balance of the air passes directly upward through ports (G) arranged peripherally around the bottom or the scrubbing chamber where it is directly tangentially by flexible port covers (H). This forms a rotating air mass that is thoroughly scrubbed by the oil present.

Deflector plates (J) intercept most of the dirty oil droplets and guide them to the center oil return tube (K), which drains oil and dirt into the sump (L). Sufficient oil is carried into the metal mesh filterseparator element (M) to provide adequate adhesive properties. This maintains high filtering efficiency on fine dirt particles and continually flushed collected dirt from the element. The dirty oil also returns to the sump through the oil return tube.

Acting both as an efficient filter media and liquid separator, the filter element permits only clean, oil free air to enter the air using equipment.



## Low Pressure Drop (LP) Oil Filters

FLOW CAPACITY * AND PRESSURE DROP											
	PRESSURE DROP IN INCHES W.G.										
Filter Model No.	1.0" CFM	1.5" CFM	2.0" CFM	2.5" CFM	3.0" CFM						
LP-20	1350	1850	2250	2600	2900						
LP-30	1850	2600	3100	3600	4050						
LP-40	2350	3250	3900	4550	5100						
LP-50	2950	4100	4900	5700	6400						
LP-60	4200	5800	7000	8100	9150						
LP-70	5500	7650	9200	10600	12000						
LP-80	7000	9750	11700	13600	15300						
LP-90	8700	12300	14800	17100	19200						
LP-100	11000	15600	18900	22000	24500						
LP-110	13500	19000	23000	27000	29500						

For steady flow conditions, i.e. turbocharged engines, centrifugal or lube type compressors, blowers. Consult Falls Filtration engineers for recommendations on pulsating flow machines.

#### **High Efficiency**

Falls Filtration LP Oil Bath Filters offer highly efficient dust arrestment. Efficiencies vary depending on type of dust and test procedures used: up to 98% using Standard Air Cleaner test dust. The unusually large reservoir for extra dirt holding capacity, plus its low pressure loss, gives the LP Oil Bath Filter a unique advantage in protecting air-using equipment from dirt contaminate.

#### Construction

A heavy gauge steel housing coated with enamel, insures long life and ability to withstand vibration. The channel iron support legs are installed with the valley or the channel facing outward and located under the drain through spouts. This prevents water from being sucked into the oil bath as it comes off the weather hood

#### Servicing

Readily accessible drain connection, easy rain hood disassembly, and conveniently located sump cleanout doors facilitate servicing. Sump can be cleaned while the unit is in operation. If necessary, the element can be removed from the top. A sight gauge permits observation of oil levels when the equipment is shut down.

<b>←</b> A	
	B

ī

	DIMENSION- WEIGHTS												
	Model No.	A Element Width	B Overall Height	C Overall Width	Outlet P MAX. (INCHES)	ipe Size MIN. (INCHES)	Approx. Oil Cap. (Gal)	Approx (Dry) (LBS)					
	LP-20	28.25	52.00	37.00	16	10	13	270					
	LP-30	33.25	56.00	44.00	20	12	17	380					
8	LP-40	38.25	60.00	50.00	24	14	22	500					
I	LP-50	43.25	64.00	58.00	30	16	30	850					
	LP-60	50.25	74.00	68.00	36	18	45	1200					
	LP-70	56.25	75.00	74.00	42	20	55	1550					
	LP-80	66.25	88.00	88.00	50	24	70	2200					
	LP-90	76.25	104.00	100.00	54	24	80	3100					
<b>*</b>	LP-100	88.00	110.00	108.00	60	30	90	3900					
	LP-110	93.00	114.50	114.25	66	32	120	4950					

Re	placmen	t P	arts for	Lo	w Press	sure	e Drop	Oil	Bath Fi	lte	rs (LP)				
1 2		- -													
3			0	UT											
				5						÷.,		F	4		
4	-	Ř		Sc				~				1)-	A	1	
5		P		T				9	$\longrightarrow$			/		\ \	X
0			<u> </u>							đ	ਜ ∥				N
7		۳۱ II.				,		10	C C	a					
	CH.						£	11		uu An	K			ð	~ /
		<u>a</u>		_			IN			al l				<u>ੱ</u>	
8			7/			$\mathcal{N}$		12		-					
		P	13		$\gamma$	1						_			
1		h			-	Н									
			<u> </u>								20		70		
	vioaei ino.		<i>/</i> //		<li>(1)</li>								/		
Kev	Description	QT	Y. PART	QT	y. Part		NU Y. PART	UP: QT	Y. PART		Y. PART	IQT	Y. PART		y. Part
Key	Cover Plate	QT	Y. Part	QT	Y. Part	QT	Y. PART	QT	Y. PART	QT	Y. PART	QT	Y. Part	QT	Y. Part
<b>Key</b>	Cover Plate S/A	<b>QT</b>	Y. PART	<b>QT</b>	Y. PART	<b>QT</b>	<b>Y. PART</b>	<b>QT</b> 1	Y. PART		Y. PART	<b>QT</b> 1	Y. PART	<b>QT</b>	Y. PART
1 2	Descrption Cover Plate S/A Gasket	<b>QT</b> 1	LP20*-100	<b>QT</b> 1	Y. PART LP30*-100	<b>QT</b> 1	Y. PART	<b>QT</b> 1	Y. PART	<b>QT</b> 1	Y. PART	<b>QT</b> 1	Y. PART	<b>QT</b> 1	Y. PART
1 2 3	Descrption Cover Plate S/A Gasket Element Hold Down S/A	<b>QT</b> 1 2	Y. PART LP20*-100 LP20-166 LP20-351	<b>QT</b> 1 2	Y. PART LP30*-100 LP30-166 LP30-351	<b>QT</b> 1 2	Y. PART LP40*-100 LP40-166 LP40-351	1 2	Y. PART LP50*-100 LP50-166 LP50-351	<b>QT</b> 1 2	Y. PART LP60*-100 LP60-166 LP60-351	<b>QT</b> 1 2	Y. PART LP70*-100 LP70-166 LP70-351	<b>QT</b> 1 2	Y. PART LP80*-100 LP80-166 LP80-351
1 2 3 4	Descrption           Cover Plate           S/A           Gasket           Element Hold           Down S/A           Element	<b>QT</b> 1 2 1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826	<b>QT</b> 1 2 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-826	<b>QT</b> 1 2 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826	<b>QT</b> 1 2 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826	<b>QT</b> 1 2 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826	<b>QT</b> 1 2 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826	<b>QT</b> 1 2 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826
1 2 3 4 5	Descrption           Cover Plate           S/A           Gasket           Element Hold           Down S/A           Element           Body S/A	<b>QT</b> 1 2 1 1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826 LP20-156	<b>QT</b> 1 2 1 1 1 1 1	Y. PART LP30°-100 LP30-166 LP30-351 LP30-826 LP30-156	<b>Q</b> T 1 2 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156	<b>QT</b> 1 2 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156	<b>QT</b> 1 2 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156	<b>LP</b> <b>QT</b> 1 1 1 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156	<b>QT</b> 1 2 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156
1 2 3 4 5 6	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip	<b>QT</b> 1 2 1 1 3	Y. PART LP20'-100 LP20-166 LP20-351 LP20-826 LP20-156 LP20-57	<b>QT</b> 1 2 1 1 3	Y. PART LP30*-100 LP30-166 LP30-351 LP30-826 LP30-156 LP30-156	<b>QT</b> 1 1 1 1 3	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57	<b>QT</b> 1 1 1 1 1 3	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57	<b>QT</b> 1 2 1 1 3	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57	<b>QT</b> 1 2 1 1 1 3	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-57	<b>QT</b> 1 2 1 1 3	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57
<b>Key</b> 1 2 3 4 5 6 7	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down	<b>QT</b> 1 1 1 1 3 10	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826 LP20-156 LP20-57 LP30-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP30*-100 LP30-166 LP30-351 LP30-826 LP30-156 LP20-57 LP30-269	<b>QT</b> 1 2 1 1 1 3 10	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57 LP50-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-57 LP70-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57 LP80-269
Key 1 2 3 4 5 6 7 8	Descrption           Cover Plate           S/A           Gasket           Element Hold           Down S/A           Element           Body S/A           Clip           Valve Hold           Down	<b>QT</b> 1 2 1 1 1 3 10	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826 LP20-156 LP20-57 LP20-57 LP30-269 LP20-851	<b>QT</b> 1 2 1 1 1 3 12 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-826 LP30-156 LP30-156 LP30-269 LP30-269	<b>QT</b> 1 2 1 1 1 3 10	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269 LP40-951	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57 LP50-269 LP50-269	<b>QT</b> 1 1 1 1 3 12	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269 LP60-951	<b>QT</b> 1 2 1 1 1 3 12 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-57 LP70-269 LP70-269	<b>QT</b> 1 2 1 1 1 3 12	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57 LP80-269 LP80-269
Key           1           2           3           4           5           6           7           8	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down Bowl S/A	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826 LP20-156 LP20-57 LP30-269 LP20-851	<b>QT</b> 1 2 1 1 1 3 12 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-826 LP30-826 LP30-156 LP30-269 LP30-269 LP30-851	<b>QT</b> 1 1 1 1 1 3 10 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269 LP40-851	<b>QT</b> 1 2 1 1 1 1 3 12 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP50-156 LP50-269 LP50-269	<b>QT</b> 1 2 1 1 1 3 12 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269 LP60-851	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-57 LP70-269 LP70-851	<b>QT</b> 1 2 1 1 1 3 12 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57 LP80-269 LP80-851
Key 1 2 3 4 5 6 7 8 9	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down Bowl S/A Gasket Clean Out	<b>QT</b> 1 2 1 1 1 1 3 10 1 1	Y. PART LP20'-100 LP20-166 LP20-351 LP20-826 LP20-57 LP20-57 LP30-269 LP20-851 LP20-851 LP70-106	<b>QT</b> 1 2 1 1 1 1 3 12 1 1 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-351 LP30-456 LP30-57 LP30-269 LP30-851 LP30-851 LP70-106	<b>QT</b> 1 2 1 1 1 1 3 10 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269 LP40-851 LP70-106	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57 LP50-269 LP50-851 LP70-106	<b>QT</b> 1 1 1 1 1 3 12 1 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-851 LP70-269 LP70-269 LP70-106	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-57 LP70-269 LP70-851 LP70-106	<b>QT</b> 1 2 1 1 1 3 12 1 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57 LP80-269 LP80-851 LP70-106
Key           1           2           3           4           5           6           7           8           9           10	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down Bowl S/A Gasket Clean Out Cover	<b>QT</b> 1 2 1 1 1 1 3 10 1 1 1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-826 LP20-826 LP20-57 LP20-57 LP30-269 LP20-851 LP70-106 LP40-192	<b>QT</b> 1 1 1 1 1 3 12 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP30 <sup>-1</sup> 100 LP30-166 LP30-351 LP30-826 LP30-826 LP30-156 LP30-269 LP30-269 LP30-851 LP70-106 LP40-192	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-826 LP40-156 LP50-269 LP40-851 LP40-851 LP70-106 LP40-192	<b>QT</b> 1 2 1 1 1 1 3 12 1 1 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57 LP50-269 LP50-851 LP70-106 LP70-192	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269 LP60-851 LP70-106 LP70-192	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-269 LP70-269 LP70-269 LP70-269 LP70-106 LP70-102	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP80-269 LP80-851 LP80-851 LP80-192
Key           1           2           3           4           5           6           7           8           9           10           11	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down Bowl S/A Gasket Clean Out Cover Rain Sheild	QT           1           2           1           1           1           3           10           1           1           1           1           1           1           1           1           1           1           1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-351 LP20-851 LP20-57 LP20-851 LP20-851 LP20-106 LP20-136-1	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-351 LP30-351 LP30-156 LP20-57 LP30-269 LP30-851 LP70-106 LP40-192 LP30-136-1	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269 LP40-851 LP70-106 LP70-106 LP40-132	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-157 LP50-851 LP70-106 LP70-192 -	<b>QI</b> 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269 LP60-851 LP70-106 LP70-192 LP60-136-1	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-57 LP70-269 LP70-851 LP70-106 LP70-192 LP70-136-1	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP70-57 LP80-269 LP80-851 LP70-106 LP80-192 -
Key           1           2           3           4           5           6           7           8           9           10           11           12	Descrption Cover Plate S/A Gasket Element Hold Down S/A Element Body S/A Clip Valve Hold Down Bowl S/A Gasket Clean Out Cover Rain Sheild Rain Sheild	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP20*-100 LP20-166 LP20-351 LP20-351 LP20-826 LP20-156 LP20-156 LP20-57 LP30-269 LP20-851 LP20-851 LP20-106 LP20-136-1 LP20-136-1	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP30*-100 LP30-166 LP30-351 LP30-851 LP30-269 LP30-851 LP70-106 LP40-192 LP30-136-1 LP30-136	QT           1           2           1           1           1           1           1           1           1           1           1           1           1           1           1           1           2	Y. PART LP40*-100 LP40-166 LP40-351 LP40-826 LP40-156 LP70-57 LP50-269 LP40-851 LP70-106 LP40-136-1 LP40-136-1	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y. PART LP50*-100 LP50-166 LP50-351 LP50-826 LP50-156 LP70-57 LP50-269 LP50-851 LP70-106 LP70-106 LP70-192 	<b>QT</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1	Y. PART LP60*-100 LP60-166 LP60-351 LP60-826 LP60-156 LP70-57 LP70-269 LP60-851 LP70-106 LP70-106 LP70-192 LP60-136-1 LP60-136	<b>Q</b> T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2	Y. PART LP70*-100 LP70-166 LP70-351 LP70-826 LP70-156 LP70-269 LP70-269 LP70-269 LP70-106 LP70-106 LP70-136-1 LP70-136	<b>QT</b> 1 2 1 1 1 1 1 1 1 1 1 1 1 1 3 3 3	Y. PART LP80*-100 LP80-166 LP80-351 LP80-826 LP80-156 LP80-269 LP80-269 LP80-851 LP80-106 LP80-192 -

\* To complete cover plate S/A number add outlet size, I.e. LP40 with a 20" outlet is LP40-20-100 Consult Factory for replacement parts for models LP90, LP100 and LP110

Falls Filtration Technologies, Inc "Manufacturer of Airmaze Products"

ISO9001:2000 & AS9100 Certified

115 East Steels Corners Road Stow, Ohio 44224 PH. 330-928-4100 FX. 330-928-0122 www.fallsfti.com