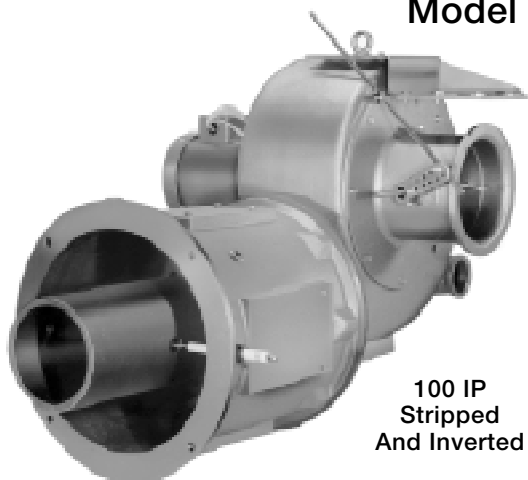


# ECLIPSE IMMERSO-PAK BURNERS

## Model 100 "IP" Stripped



100 IP  
Stripped  
And Inverted

- For 6" through 14" immersion tubes
- Easy to install and operate
- High inputs and transfer rates
- High turndown
- Built for long service life in industrial environments
- Low maintenance
- Low noise levels
- 100% factory tested and adjusted
- Non-loading impeller

Eclipse Immerso-Pak (IP) stripped burners include the burner, blower with motor, spark plug, control motorplate and linkage, flame rod and peepsight elbow. The burner is test-fired, but component selection, installation, and wiring must be completed by the customer. These burners are easy to install, simple to operate, and offer long service life in industrial environments. They are

ideal for heating immersion tubes on cleaning tanks, spray washers, salt baths, quenching tanks, tempering tanks, and similar equipment.

Stripped burners are available with the blower housing hanging below the burner, or, if floor clearance won't permit this, with the blower housing above the tube centerline (inverted).

## Specifications

### Performance Data

Note: Pressures listed below are for sizing purposes only and must NOT be used for set-up. Use separate metering orifices for burner adjustment.

	Burner Size	Tube I.D.	Max. Input	Flame Length	Min. Gas Pressure		
					Using Proportionator Control <sup>1</sup>		Other Control Methods <sup>2</sup>
					Nat. Gas 0.6 s.g.	Propane 1.5 s.g.	Nat. Gas 0.6 s.g.
English Units	124	6"	1,000,000 Btu/hr.	22 ft.	7.0"w.c.	6.0"w.c.	1.0"w.c.
	132	8"	1,750,000 Btu/hr.	23 ft.	7.0"w.c.	6.0"w.c.	1.0"w.c.
	140	10"	2,750,000 Btu/hr.	29 ft.	10.0"w.c.	7.5"w.c.	1.0"w.c.
	148	12"	4,000,000 Btu/hr.	35 ft.	12.0"w.c.	8.0"w.c.	1.0"w.c.
	156	14"	5,000,000 Btu/hr.	42 ft.	12.0"w.c.	8.0"w.c.	1.0"w.c.
Metric Units	124	152 mm	293 Kw	6.7 m	17.4 mbar	15 mbar	2.5 mbar
	132	203 mm	513 Kw	7.0 m	17.4 mbar	15 mbar	2.5 mbar
	140	254 mm	806 Kw	8.9 m	24.9 mbar	18.7 mbar	2.5 mbar
	148	305 mm	1172 Kw	10.7 m	29.9 mbar	19.9 mbar	2.5 mbar
	156	356 mm	1465 Kw	12.8 m	29.9 mbar	19.9 mbar	2.5 mbar

<sup>1</sup> Measured at proportionator inlet.

<sup>2</sup> Pressure drop through burner. Add tube backpressures—2 to 3"w.c. or more (4.9 to 7.5 mbar or more) on a typical tube—and gas train pressure drop to establish required supply pressure.

### Firing Chamber Limits

Operates best with neutral pressure at exhaust end of immersion tube.

### Ambient Temperature Limits

-40° to +104°F (-40° to +40°C)

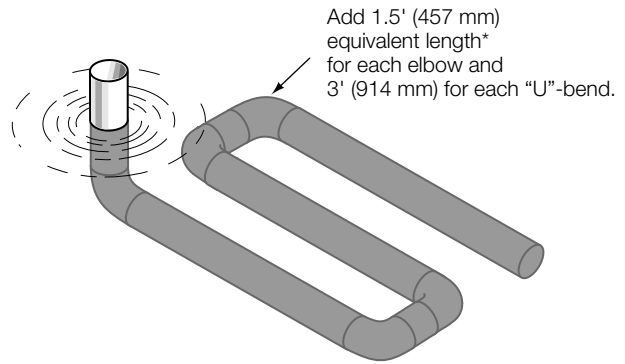
### Materials

Burner Body: Aluminum  
Blower Housing: Aluminum  
Impeller: Aluminum



## Immersion Tube Design

1. Tubes may be constructed with standard, sweep, or miter elbows.
2. Up to five miter elbows or eleven sweep elbows may be used. Contact Eclipse if more bends are required.
3. The first elbow must be at least ten tube diameters from the burner face.
4. The tube must be long enough to allow complete combustion before flue gases reach the exhaust stack. See the table below for recommended tube lengths.



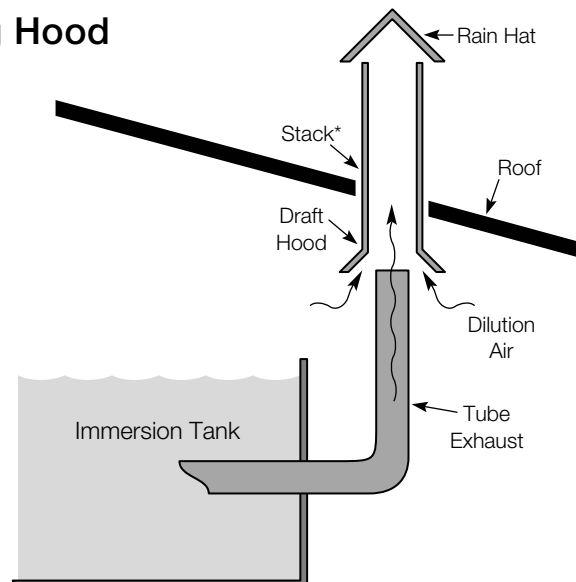
## Recommended Tube Lengths for Various Efficiencies

Burner Size	% Efficiency	English Units				Metric Units			
		Capacity, 1000's Btu/hr.		Tube I.D., Inches	Tube Length, Feet*	Capacity, Kw		Tube I.D., mm	Tube Length, m*
		Input	Output			Input	Output		
124	60	1000	600	6	18	293	176	152	5.5
	70	1000	700	6	37	293	205	152	11.3
	75	1000	750	6	48	293	220	152	14.6
132	60	1750	1050	8	23	513	308	203	7.0
	70	1750	1225	8	45	513	359	203	13.7
	75	1750	1315	8	55	513	385	203	16.8
140	60	2750	1650	10	30	806	484	254	9.0
	70	2750	1925	10	58	806	564	254	17.7
	75	2750	2060	10	73	806	604	254	22.2
148	60	4000	2400	12	40	1172	703	305	12.2
	70	4000	2800	12	69	1172	820	305	21.0
	75	4000	3000	12	80	1172	879	305	24.4
156	60	5000	3000	14	45	1465	879	356	13.7
	70	5000	3500	14	80	1465	1026	356	24.4
	75	5000	3750	14	90	1465	1099	356	27.4

\* Equivalent length based on straight length plus extra for elbows or "U"-bends as shown in the illustration above. Tube lengths are for the listed efficiencies with the corresponding maximum input. If desired, burner input, tube length, and net heat output may be reduced proportionally while maintaining the same efficiency.

## Draft Breaking Hood

1. Use a draft breaking hood as shown. This makes burner operation less susceptible to atmospheric conditions and lowers the temperature of flue gases as they pass through the roof. Provide access between the hood and the tube in case a damper plate must be installed to prevent rumbling.
2. When multiple exhausts are manifolded together into a common stack, always use draft hoods and size the stack to handle the total exhaust flow from all the burners, plus dilution air. This prevents cross-feeding of pressure between tubes which can cause pilot difficulties, burner instability, rumbling and popping.



\* At least one pipe size larger than the tube exhaust. See applicable codes for required size and height.

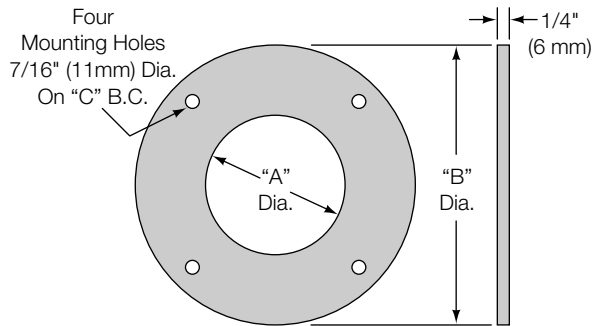
## Ordering Information

Stripped		Stripped & Inverted	
Catalog Number	Assembly Number	Catalog Number	Assembly Number
124 IP-S	112245	124 IP-I	112200
132 IP-S	112243	132 IP-I	112201
140 IP-S	112247	140 IP-I	112202
148 IP-S	112248	148 IP-I	112203
156 IP-S	112248-1	156 IP-I	—

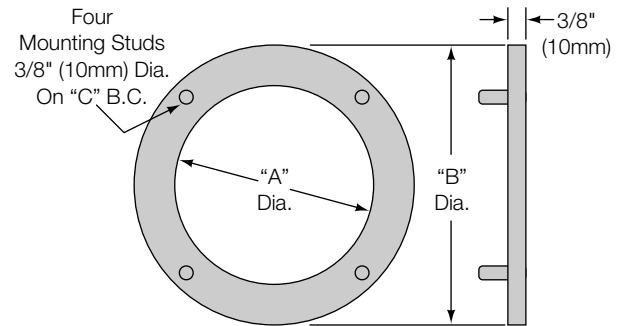
## Options

### Immersion Tube Companion Flanges

For 124 Thru 148 Models

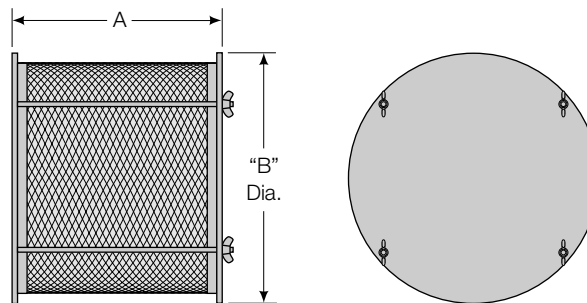


For 156 Model



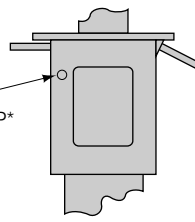
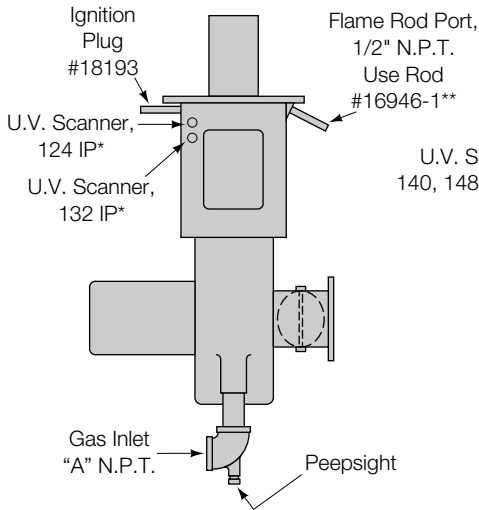
Burner	Dimensions					
	A		B		C	
	Inches	mm	Inches	mm	Inches	mm
124	6-11/16	170	11-7/8	302	10-11/16	271
132	8-11/16	221	11-7/8	302	10-11/16	271
140	10-13/16	275	14-7/8	378	14	356
148	12-13/16	325	14-7/8	378	14	356
156	12	305	15	381	14	356

### Air Filters



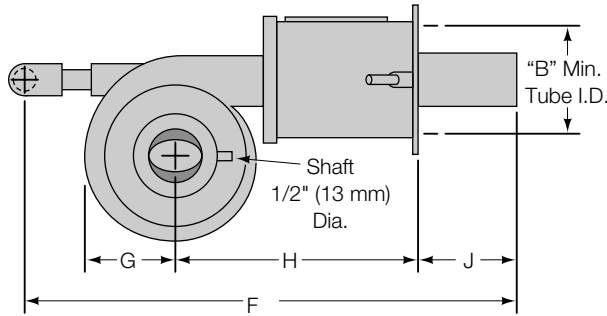
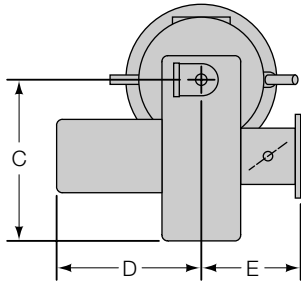
Used On Burner	Cat. No.	Assy. No.	Dimension "A"		Dimension "B"		Replace. Element No.
			Inches	mm	Inches	mm	
124 IP	1-IPF	112261	7-11/16	195	10-3/16	259	12936
132 IP	1-IPF	112261	7-11/16	195	10-3/16	259	12936
140 IP	2-IPF	112262	10-1/2	267	13-1/4	337	14639
148 IP	3-IPF	112263	14-1/2	368	14-3/4	375	14640
156 IP	3-IPF	112264	14-1/2	368	14-3/4	375	14640

## Dimensions

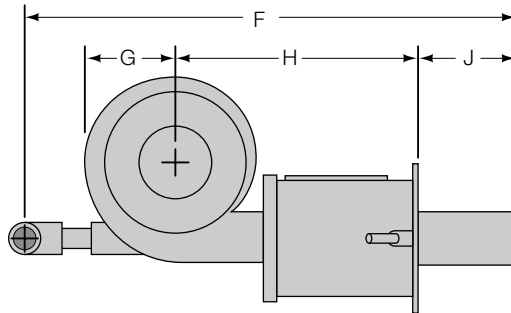
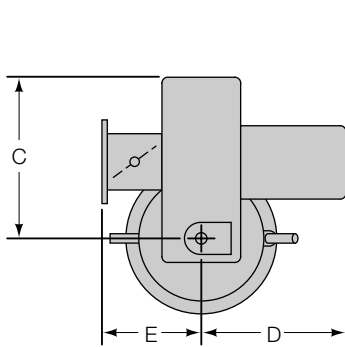


\* All U.V. scanner ports are 1/2" N.P.T. Install the scanner in these ports when it is substituted for a flame rod.

\*\* Cut the electrode length to 4-1/2" (114 mm) for the 124 & 132 IP, and 5" (127 mm) for the 140, 148 & 156 IP



### Inverted Blower Dimensions

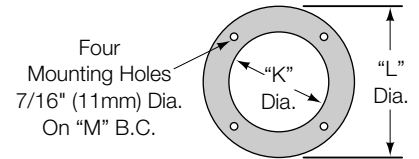


## Blower Motor Part Numbers

Burner Size	HP	115/1/60	230/460/3/60
124	1/2	12033*	13101
132	1/2	12033*	13101
140	3/4	13258	13151*
148	1	—	14938*
156	3	—	16769*

\* Standard unless otherwise specified.

### Mounting Flange Details



Burner Size	Dimensions In Inches											
	A	B	C	D	E	F	G	H	J	K	L	M
124	1-1/2	6	12-15/16	12-11/16	7-3/4	37-7/8	7-7/16	19-13/16	6	8-3/4	11-13/16	10-11/16
132	1-1/2	8	12-15/16	12-11/16	7-3/4	39-7/8	7-7/16	19-13/16	8	8-3/4	11-13/16	10-11/16
140	2	10	15-1/4	14-1/8	9-15/16	39-1/2	8-7/8	22-5/8	5-1/8	12	15	14
148	2	12	15-1/4	15-1/16	9-15/16	39-1/2	8-7/8	22-3/4	5-1/8	12	15	14
156	2	14	15-1/4	17-3/4	9-15/16	39-1/2	8-7/8	22-3/4	5-1/8	12	15	14

Burner Size	"A" N.P.T. (Inches)	Dimensions In Millimeters										
		B	C	D	E	F	G	H	J	K	L	M
124	1-1/2	152	329	322	197	987	189	503	152	222	300	271
132	1-1/2	203	329	322	197	1012	189	503	203	222	300	271
140	2	254	387	359	252	1003	225	575	130	305	381	356
148	2	304	387	383	252	1003	225	578	130	305	381	356
156	2	356	387	451	252	1003	225	578	130	305	381	356