

# AIR FLOW RATIO FANS

AGRICULTURAL

## PRODUCT HIGHLIGHTS

### FEATURES:

- Industry leading performance, efficiency and Air Flow Ratio (AFR)
- Extremely quiet operation on all speeds
- **NEW** quick change belts
- Totally enclosed, maintenance free, high efficiency motors
- Shipped fully assembled except for discharge cones and guards
- Direct Drive Models up to 24" come with polyblades
- 36" Direct Drive Models come with 3 galvanized blades
- 50"-72" come with thick aluminum blades
- 2 year warranty on motor, limited lifetime warranty on fiberglass housing and 1 year limited warranty on all other parts
- 5 year warranty on 50" - 72" blades

### IDEAL APPLICATIONS:

- Our fiberglass fan series are ideal for tunnel or exhaust ventilation in dairy, poultry, swine, greenhouse, factories and warehouses.



**Environmental Solutions, LLC.**  
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Optional Wind Deflector Kit



VES Environmental Solutions, LLC. is North America's most innovative environmental company and world leader in developing 72" fans. VES is thrilled to announce our next generation AFRAir™ exhaust fiberglass fan series. A recognized industry expert in ventilation states that important criteria when choosing an exhaust fan are Air Flow Ratio, Air Moving Capacity and Energy Efficiency.



Air Flow Ratio (AFR) efficiency is determined by dividing the fan performance at .2 static pressure by the fan performance at .05 static pressure. As an example, our AFR7223046090 has a CFM performance at .2 Static pressure of 35,376 CFM and at .05 static pressure 42,865 CFM. Therefore we divide 35,376/42,865= 83%. Why is AFR so important? A 25 MPH wind blowing directly against fans can increase the static pressure these fans are working against by .28" Static pressure, dramatically reducing their air moving capacity. Over the past 20 years the fan industry has adopted using large discharge cones which substantially increase fan performance and efficiency in a test lab which is protected from outside wind. However, these large cones work the opposite in the elements, when the wind blows against them. They become great wind scoops or they stick out past roof lines where they can be easily damaged.

### Air Moving Capacity:

When it comes to air moving capacity the more air the fan moves means fewer fans required and reduced installation and maintenance cost. The VES AFR7272230460100 moves 45,469 CFM at 17.4 CFM/Watt @ .1" static pressure, 41,750 CFM at 15 CFM/Watt @ .2" static pressure, which translates into an air flow ratio of an incredible 87%. There is not another 72" fan with this high of AFR with this performance.

### Energy Efficiency:

Based on energy efficiency, most rebate companies require a minimum CFM/Watt of 20.3 @ .1" static pressure. The VES AFR7223046085 @ 21.9 CFM/Watt and the AFR7223046090 @ 20.8 CFM/Watt are the only 72" exhaust fans independently certified to AMCA 210-07 test standards today that qualify for rebates. With decreased power consumption, you could see an estimated \$2,000 in electrical savings over a 5 year period. (Amounts may vary depending on cost per watt in your area.)

In cold North American markets, our aluminium frame shutter with PVC louvers are strong and durable. Many aluminium shutters freeze up in winter.

# AIR FLOW RATIO FANS



Cone	Rough Opening	Cone Spacing Min.
12"	20" x 20"	18"
16"	23.75" x 24.25"	22"
20"	27.75" x 27.75"	25"
24"	31.75" x 31.75"	30"
36"	43.75" x 43.75"	42"
50"	55" x 54"	60"
55" *	59.5" X 59"	66"
55"	58.75" X 58.75"	68"
72"	78" x 77.75"	86"

\*AFRS Series

### Additional Options Available:

- OSHA compliant intake guards
- Wind Deflector Kits available for 50", 55" and 72" exhaust fans.
- Shutters come standard with PVC louvers in an aluminium

- frame with optional heavy-duty aluminium louvers available.
- Variable Frequency Drives for smooth speed adjustment for the 50" - 72" fan increases belt and motor life.
- Inside winter insert panels for 12" - 72" models.

Part#	Size	HP	Voltage	PH	AMP	RPM	CFM 0" SP	CFM Watt	CFM/ .05"SP	CFM Watt	CFM/ .10"SP	CFM Watt	CFM .15"SP	CFM Watt	CFM .20"SP	CFM/ Watt	AFR
<b>Direct Drive Models</b>																	
AFR12115230NS	12"	1/10	115/230	1	1.35/1.68	1725	1,640	12.5	1,580	11.5	1,500	10.6	1,430	9.6	1,330	8.7	84%
AFR12115230	12"	1/10	115/230	1	1.35/1.68	1725	1,600	11.9	1,530	10.9	1,440	9.9	1,350	8.8	1,220	7.9	80%
AFR16115230	16"	1/3	115/230	1	4.21/2.10	1725	3,110	8.4	2,990	8	2,870	7.6	2,760	7.2	2,620	6.9	88%
AFR20115230	20"	1/3	115/230	1	4.21/2.10	1725	4,150	10.5	3,990	9.9	3,780	9.3	3,560	8.6	3,260	7.9	82%
AFR24115230	24"	1/2	115/230	1	4.95/2.48	1725	5,510	10	5,280	9.4	5,070	8.9	4,870	8.5	4,580	7.9	87%
AFR36115230NS	36"	1/2	115/230	1	5.78/2.89	825	12,090	20.9	11,440	18.9	10,600	18.57	9,690	14.6	8,680	12.5	76%
AFR36115230	36"	1/2	115/230	1	5.78/2.89	825	11,700	19.7	10,980	17.7	10,110	15.6	9,190	13.6	8,030	11.4	73%
AFR36230460NS	36"	1/2	230/460	3	2.6/1.3	825	12,230	22.9	11,650	20.6	10,880	18.2	10,070	16	9,240	14.2	79%
AFR36230460	36"	1/2	230/461	3	2.6/1.3	825	11,700	22	11,040	19.7	10,330	17.5	9,480	15.3	8,600	13.3	78%
<b>Belt Drive Model</b>																	
AFR501230	50"	1-1.5	230	1	6.8	475	24,975	24.95	23,850	22.8	21,950	20.6	20,250	18	17,800	15	75%
AFR503230460V	50"	1.5	230/460	3	4.3/2.12	475	24,975	24.95	23,850	22.8	21,950	20.6	20,250	18	17,800	15	75%
AFRS551230NS	55"	1.5	230	1	4.7	440	25,800	30.3	24,400	27.3	22,300	23.6	19,400	19.76	16,600	17.8	68%
AFRS551230	55"	1.5	230	1	4.7	440	24,800	27.9	22,900	24.9	20,400	21.2	16,800	16.9	11,900	12.4	52%
AFRS553230460VNS	55"	1.5	230/460	3	3.6/1.8	441	28,500	28.2	26,700	24.8	24,900	21.9	22,800	19.4	20,400	16.9	76%
AFRS553230460V	55"	1.5	230/460	3	3.6/1.9	475	27,100	25.4	25,100	22.3	23,000	19.6	20,500	17	15,400	12.7	81%
AFRS55230460HO3VNS	55"	2	230/460	3	5.8/2.9	545	32,100	23.1	30,600	21	29,000	18.9	27,500	17.3	25,700	15.8	84%
- Medium Speed	55"	2	230/460	3	5.8/2.9	456	27,300	30.7	25,300	26.5	23,400	23.3	20,900	20.2	18,000	17.1	71%
- Low Speed	55"	2	230/460	3	5.8/2.9	357	21,200	44.8	18,900	36.4	16,000	29	9,900	18.3	3,900	7.5	21%
AFRS55230460HO3V	55"	2	230/460	3	5.8/2.9	544	31,000	21.1	29,600	19.2	28,000	17.7	26,400	16	24,200	14.3	82%
- Medium Speed	55"	2	230/460	3	5.8/2.9	453	25,600	27.2	23,600	23.6	21,200	20.4	17,500	16.2	13,100	12.4	56%
- Low Speed	55"	2	230/464	3	5.8/2.9	354	19,000	36.4	15,900	28.6	11,100	19.7	5,500	10.1	1,500	6.5	10%
AFR551230HO	55"	2	230	1	9.8	544	31000	21.1	29,600	19.2	28,000	17.7	26,400	16	24,200	14.3	84%
AFR553230460HO	55"	2	230/460	3	5.8/2.9	544	31000	21.1	29,600	19.2	28,000	17.7	26,400	16	24,200	14.3	82%
AFR72323046085	72"	3	230/460	3	8.2/4.1	335	42,342	27.4	40,122	24.4	37,894	21.9	34,545	18.9	30,620	16.3	76%
AFR72323046090	72"	3	230/460	3	8.2/4.1	350	44,900	25.1	42,865	22.8	40,859	20.8	38,500	18.9	35,376	16.7	83%
AFR723230460100	72"	3	230/460	3	8.2/4.1	385	49,632	20.9	47,957	19.3	45,469	17.4	43,727	16.2	41,750	15	87%
AFR72123085	72"	3	230	1	15.5	335	42,342	27.4	40,122	24.4	37,894	21.9	34,545	18.9	30,620	16.3	76%
AFR72123090	72"	3	230	1	15.5	350	44,900	25.1	42,865	22.8	40,859	20.8	38,500	18.9	35,376	16.7	83%
AFR721230100	72"	3	230	1	15.5	385	49,632	20.9	47,957	19.3	45,469	17.4	43,727	16.2	41,750	15	87%

Red data based on testing performed by an independent accredited lab using ANSI/AMCA 210-07 standards.

Blue data based on the red data above using the same fan components except the single phase motor wattage was verified at the in-house VES Engineering test facility.

Black data performance based on in-house VES Engineering test facility.

\*VES continues to strive for the most accurate test data available. As additional independent accredited lab results become available we may need to revise information stated above.

NS = Model does not come with a plastic shutter and is ideal for minimum ventilation fan