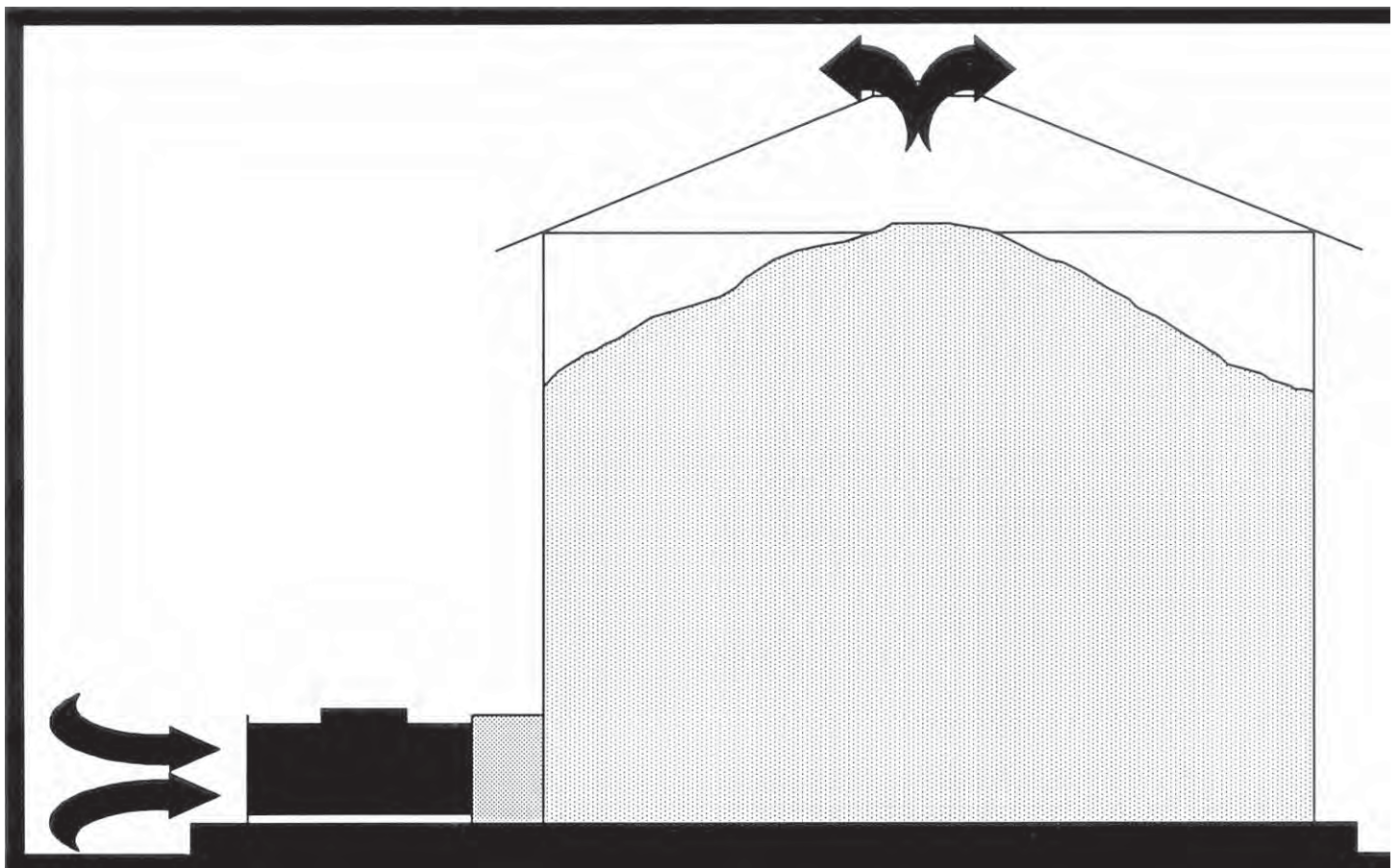


# Evaluation Report

# 681



## Summary of Aeration Fan Reports

A Co-operative Program Between



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## AERATION FANS

Grain drying and aeration requires large volumes of air at high pressures. Axial or centrifugal fans are used for grain drying or aeration.

Axial fans have aerofoil type blades on center shafts inside cylindrical housing. The axis of rotation is parallel to the direction of air flow. Axial fan motors are mounted in the air stream. Having the motor in the air stream allows motor cooling and heat to be added to the air which aids in the grain drying process.

Centrifugal fans have radial blades mounted on a rotor inside the fan housing. Air enters through the fan hub and is caught by the fan wheel. The fan wheel throws the air outwards into a spiral housing and to the fan outlet by centrifugal force. Centrifugal fans are classified by the shape of their blades. There are three types of centrifugal fans: straight blade, forward curved and backward curved.

Aeration fan's propellers and housings are made from a wide variety of materials and finishes. Materials and finishes including aluminum, enamelled steel, galvanized metal, PVC, polyethylene, fibreglass and reinforced plastics. Construction materials are an important consideration when selecting a fan because they determine fan life and ease of fan maintenance.

## FAN TEST RESULTS

This booklet condenses AFMRC/PAMI aeration fan performance data for direct comparisons of various makes and models for selection purposes. A summary of the performance results is given for each fan. All fan performance data was extracted from AFMRC/PAMI fan evaluation reports. Fans were tested in accordance with the test procedures developed and adopted by the Alberta Farm Machinery Research Centre. The reports determined the performance of the fans in terms of air flow rate, static pressure, power consumption and total efficiency. Each fan was also evaluated for ease of operation, maintenance, operator safety and suitability of the operator's manual.

Fan manufacturers may have built different configurations of fans before or after AFMRC/PAMI testing. When using this report check that the fan under consideration is the same as the one reported here. If differences exist, assistance can be obtained from AFMRC or the manufacturer to determine changes in performance. Detailed reports including descriptions and specifications are available upon request.

Fan performance results are given at standard air conditions. Standard air is air with density of 0.075 lb/ft<sup>3</sup> (1.2 kg/m<sup>3</sup>) which occurs at 68°F (20°C), 50 percent relative humidity and a barometric pressure of 29.92 in Hg (101.325 kPa).

"Static pressure" refers to the force that the fan can exert on the bin or aeration system. Static pressure is measured as the pressure difference between the pressure inside and outside the bin or aeration system. Static pressure may be positive or negative depending on the type of system. The static pressure column outlines static pressure to the maximum static pressure achieved by the fan during testing. For static pressure values not listed, a straight line interpolation between points will give an approximation of actual values. Static pressure is expressed in inches of water gauge (in wg) or Pascals (Pa).

"Air flow rate" is the volume of air delivered over a specific time period. Air flow is expressed in cubic feet per minute (cfm) or litres per second (L/s).

"Power consumption" is how much power is used by the fan. Power consumption can be used to estimate the cost of fan operation. Power consumption is expressed in kilowatts (kW). The cost of fan operation is: power consumption (kW) x number of hours of operation (hr) x cost per kilowatt hour (\$/kWh).

"Total Efficiency" is the ratio of air power output over motor power input. Total efficiency is the true mechanical efficiency of the fan. Total efficiency is expressed as a percentage.

"The Fan Speed" column indicates the motor speed in revolutions per minute (rpm) for the various static pressures settings.

APPENDIX I, provides a blank comparison chart that can be used for comparing similar sized fans or combinations of fans. The chart may serve as an aid in fan selection.

## ADVANTOR MODEL B-2 AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

All Size Perforating Limited  
P.O. Box 1441  
Winkler, Manitoba  
R0G 2X0

### FAN DESCRIPTION:

7.5 in (191 mm) single speed, direct drive, 2 hp (1490 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	1230	(581)	2.40	0.51	18	3469
1.5	(374)	1200	(566)	2.32	0.52	35	3475
2.0	(498)	1120	(529)	2.12	0.53	35	3490
2.5	(623)	1020	(481)	1.92	0.53	35	3504
3.0	(747)	940	(444)	1.76	0.53	35	3516
3.5	(872)	862	(407)	1.63	0.53	35	3527
4.0	(996)	773	(365)	1.48	0.52	35	3537
4.5	(1121)	654	(309)	1.30	0.50	34	3547
5.0	(1246)	493	(233)	1.08	0.46	30	3557
5.5	(1370)	295	(139)	0.84	0.35	19	3565
6.1	(1520)	57	(27)	0.65	0.09	7	3582

\*Complete results are available in PAMI Report No. 511.

## ADVANTOR MODEL F-3 AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

All Size Perforating Limited  
P.O. Box 1441  
Winkler, Manitoba  
R0G 2X0

### FAN DESCRIPTION:

7.5 in (191 mm) single speed, direct drive, 3 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Setting	Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
	in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
	Fan with Bin Duct	0.00	(0.0)	187	(88)	0.18	1.04	0
	0.05	(12.4)	176	(83)	0.18	0.98	1	1622
	0.10	(24.9)	166	(78)	0.18	0.92	1	1617
	0.15	(37.4)	152	(72)	0.18	0.84	1	1602
	0.20	(49.8)	138	(65)	0.18	0.77	2	1593
	0.25	(62.3)	124	(58)	0.18	0.69	2	1591
	0.30	(74.7)	110	(62)	0.18	0.61	2	1590
	0.40	(99.6)	78	(37)	0.18	0.43	2	1582
	0.50	(125.0)	38	(18)	0.18	0.21	1	1572

\*Complete results are available in PAMI Report No. 505.

## CALDWELL MODEL ILC 18-112 IN-LINE CENTRIFUGAL FAN

### MANUFACTURER:

Caldwell Manufacturing Company  
A Division of Chief Industries Inc.  
P.O. Box 338  
Kearney, Nebraska 68847-0338

### DISTRIBUTORS:

Westland Metals -Edmonton, Alberta  
-- Saskatoon, Saskatchewan  
-- Regina, Saskatchewan

Frank Flaman Edmonton, Alberta  
--Saskatoon, Saskatchewan

Prince Albert, Saskatchewan  
-- Southey, Saskatchewan

Denouden Agri -- Regina, Saskatchewan

Wall Grain Handling -- Brandon, Manitoba

### FAN DESCRIPTION:

12.75 in (324 mm) single speed, direct drive, 1.5 hp (1120 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0	(0)	2700	(1270)	1.34	2.01	6	3519
0.5	(125)	2620	(1240)	1.39	1.88	14	3514
1.0	(249)	2530	(1190)	1.45	1.74	21	3509
1.5	(374)	2410	(1140)	1.54	1.56	30	3502
2.0	(497)	2280	(1080)	1.62	1.41	36	3494
2.5	(623)	2180	(1030)	1.68	1.30	40	3488
3.0	(747)	2080	(981)	1.73	10.20	43	3484
3.5	(872)	1970	(932)	1.76	1.12	45	3481
4.0	(996)	1820	(857)	1.80	1.01	47	3478
4.5	(1120)	1540	(730)	1.79	0.86	46	3482
5.0	(1240)	1070	(507)	1.58	0.68	40	3505
5.5	(1370)	240	(113)	1.11	0.22	14	3539

\*Complete results are available in PAMI Report No. 413.

## B & W MODEL 128 GRAIN AERATOR AND DRYER

### MANUFACTURER AND DISTRIBUTOR:

B & W Manufacturing Co. Inc.  
Highway 30 East, RR #7  
Columbus, Nebraska 68601

### FAN DESCRIPTION:

11.9 in (302 mm) single speed, direct drive, 0.8 hp (62 W),  
115 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	1400	(661)	2.80	0.50	27	3489
1.5	(374)	1290	(609)	2.54	0.51	27	3506
2.0	(498)	1220	(576)	2.36	0.52	28	3515
2.5	(623)	1140	(538)	2.19	0.52	29	3523
3.0	(747)	1060	(500)	2.03	0.52	31	3532
3.5	(872)	970	(458)	1.87	0.52	32	3540
4.0	(996)	871	(411)	1.69	0.52	32	3548
4.5	(1121)	753	(355)	1.50	0.50	32	3556
5.0	(1246)	519	(245)	1.21	0.43	26	3567
5.5	(1370)	223	(105)	0.85	0.26	17	3581
6.0	(1495)	148	(70)	0.80	0.19	12	3582
6.5	(1630)	66	(31)	0.75	0.09	7	3584

\*Complete results are available in PAMI Report No. 512.

**CALDWELL MODEL ILC 24-312 IN-LINE CENTRIFUGAL FAN**

**MANUFACTURER:**

Caldwell Manufacturing Company  
A Division of Chief Industries Inc.  
P.O. Box 338  
Kearney, Nebraska 68847-0338

**DISTRIBUTORS:**

- Westland Metals -- Edmonton, Alberta
- Saskatoon, Saskatchewan
- Regina, Saskatchewan
  
- Frank Flaman -- Edmonton, Alberta
- Saskatoon, Saskatchewan
- Prince Albert, Saskatchewan
- Southey, Saskatchewan
  
- Denouden Agri -- Regina, Saskatchewan
  
- Wall Grain Handling -- Brandon, Manitoba

**FAN DESCRIPTION:**

15.5 in (394 mm) single speed, direct drive, 3.0 hp (2240 W), 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.5	(125)	4250	(2010)	2.57	1.65	12	3548
1.0	(249)	4160	(1980)	2.68	1.55	19	3544
1.5	(374)	4020	(1900)	2.88	1.40	29	3539
2.0	(497)	3940	(186)	2.98	1.32	33	3536
2.5	(623)	3880	(1830)	3.08	1.26	36	3533
3.0	(747)	3780	(1790)	3.21	1.18	40	3529
3.5	(872)	3660	(1730)	3.38	1.08	44	3524
4.0	(996)	3610	(1660)	3.56	0.99	47	3518
4.5	(1120)	3360	(1580)	3.71	0.91	50	3513
5.0	(1240)	3220	(1520)	3.82	0.84	51	3510
5.5	(1370)	3110	(1470)	3.88	0.80	52	3508
6.0	(1490)	3010	(1420)	3.93	0.77	53	3506
6.5	(1620)	2850	(1350)	3.97	0.72	53	3504
7.0	(1740)	2560	(1210)	3.95	0.65	52	3505
7.5	(1870)	1970	(930)	3.64	0.54	48	3519
8.0	(1990)	470	(222)	2.43	0.19	17	3549

\*Complete results are available in PAMI Report No. 414.

**CALDWELL MODEL ILC 24-512 IN-LINE CENTRIFUGAL FAN**

**MANUFACTURER:**

Caldwell Manufacturing Company  
A Division of Chief Industries Inc.  
  
P.O. Box 338  
Kearney, Nebraska 68847-0338

**DISTRIBUTORS:**

- Westland Metals --Edmonton, Alberta
- Saskatoon, Saskatchewan
- Regina, Saskatchewan
  
- Frank Flaman -- Edmonton, Alberta
- Saskatoon, Saskatchewan
- Prince Albert, Saskatchewan
- Southey, Saskatchewan
  
- Denouden Agri -- Regina, Saskatchewan
  
- Wall Grain Handling -- Brandon, Manitoba

**FAN DESCRIPTION:**

15.5 in (394 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.5	(125)	5830	2750	4.29	1.36	14	3513
1.0	(249)	5760	2720	4.36	1.32	17	3510
1.5	(374)	5620	2650	4.52	1.24	22	3507
2.0	(497)	5440	2570	4.75	1.15	28	3502
2.5	(623)	5250	2480	4.99	1.05	33	3496
3.0	(747)	5070	2390	5.22	0.97	37	3490
3.5	(872)	4910	2320	5.41	0.91	39	3484
4.0	(996)	4760	2250	5.56	0.86	41	3479
4.5	(1120)	4610	2170	5.69	0.81	43	3475
5.0	(1240)	4440	2100	5.79	0.77	45	3471
5.5	(1370)	4220	1990	5.88	0.72	46	3468
6.0	(1490)	3920	1850	5.90	0.66	47	3467
6.5	(1620)	3470	1640	5.73	0.61	47	3472
7.0	(1740)	2830	1340	5.20	0.54	44	3486
7.5	(1870)	1820	(858)	4.24	0.43	37	3509
8.0	(1990)	512	(241)	3.11	0.16	15	3538

\*Complete results are available in PAMI Report No. 415.

**CALDWELL MODEL ILC 28-1032 IN-LINE CENTRIFUGAL FAN**

**MANUFACTURER:**

Caldwell Manufacturing Company  
A Division of Chief Industries Inc.  
P.O. Box 338  
Kearney, Nebraska 68847-0338

**DISTRIBUTORS:**

- Westland Metals --Edmonton, Alberta
- Saskatoon, Saskatchewan
- Regina, Saskatchewan
- Swan River, Manitoba
- Steinbach, Manitoba
- Portage la Prairie, Manitoba
- Spirling, Manitoba
  
- Frank Flaman -- Edmonton, Alberta
- Saskatoon, Saskatchewan
- Prince Albert, Saskatchewan
- Southey, Saskatchewan
  
- Denouden Agri -- Edmonton, Alberta
- Saskatoon, Saskatchewan
- Prince Alberta, Saskatchewan
- Yorkton, Saskatchewan
- Regina, Saskatchewan
  
- Wall Grain Handling -- Brandon, Manitoba

**FAN DESCRIPTION:**

18.75 (476 mm) single speed, direct drive, 10.0 hp (7460 W), 3 phase, 230/460 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	7960	(3760)	7.97	1.00	15	3531
2.0	(497)	7650	(3610)	8.64	0.89	22	3525
3.0	(747)	7330	(3460)	9.31	0.79	29	3517
4.0	(996)	7000	(3300)	9.94	0.70	34	3507
5.0	(1240)	6660	(3140)	10.52	0.63	38	3497
6.0	(1490)	6320	(2980)	11.04	0.57	41	3487
7.0	(1740)	5980	(2820)	11.50	0.52	43	3478
8.0	(1990)	5620	(2650)	11.88	0.47	44	3470
9.0	(2240)	5250	(2480)	12.18	0.43	45	3464
10.0	(2490)	4830	(2280)	12.35	0.39	45	3460
11.0	(2740)	4300	(2030)	12.31	0.35	44	3460
12.0	(2990)	1070	(504)	7.66	0.14	18	3524
12.6	(3140)	825	(389)	7.58	0.11	15	3527

\*Complete results are available in PAMI Report No. 416.

## CECO MODEL CA18753 CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Combustion Equipment Company  
Division of Luffland Industries  
P.O. Box 228  
Bates City, MO 64011

### FAN DESCRIPTION:

18.0 in (457 mm) single speed, direct drive, 7.5 hp (5595 W),  
3 phase, 230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.5	(125)	4300	(2030)	5.51	0.78	12	3547
1.0	(249)	4270	(2010)	5.63	0.76	15	3545
2.0	(498)	4130	(1950)	6.00	0.69	21	3541
3.0	(747)	3980	(1880)	6.36	0.63	27	3536
4.0	(996)	3870	(1830)	6.66	0.58	32	3532
5.0	(1260)	3780	(1780)	6.90	0.55	35	3529
6.0	(1490)	3670	(1730)	7.15	0.51	38	3525
7.0	(1740)	3530	(1670)	7.50	0.47	42	3520
8.0	(1990)	3360	(1590)	7.66	0.44	43	3517
9.0	(2240)	3150	(1490)	7.82	0.40	43	3513
10.0	(2490)	2930	(1380)	7.96	0.37	44	3510
11.0	(2740)	2730	(1290)	7.94	0.34	44	3510
12.0	(2990)	2540	(1200)	7.92	0.32	43	3510
13.0	(3240)	2290	(1080)	7.89	0.29	43	3511
14.0	(3490)	1800	(850)	7.25	0.25	36	3519
15.0	(3740)	771	(364)	5.66	0.14	17	3540
15.3	(3810)	212	(100)	4.98	0.04	7	3551

\*Complete results are available in PAMI Report No. 562.

## CECO MODEL 24501 AXIAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Combustion Equipment Company  
Division of Luffland Industries  
P.O. Box 228  
Bates City, MO 64011

### FAN DESCRIPTION:

24.0 in (610 mm) single speed, direct drive, 7.2 hp (5400 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.5	(125)	11600	(5480)	5.36	2.16	35	3471
1.0	(249)	11000	(5190)	5.67	1.94	40	3463
1.5	(374)	10300	(4860)	5.89	1.75	42	3455
2.0	(498)	9490	(4480)	6.10	1.56	47	3447
2.5	(623)	8670	(4090)	6.25	1.39	48	3443
3.0	(747)	7730	(3650)	6.24	1.24	48	3443
3.5	(872)	6670	(3150)	6.12	1.09	47	3445
4.0	(996)	5540	(2620)	5.96	0.93	44	3450
4.5	(1120)	4420	(2090)	5.78	0.76	41	3455
5.0	(1250)	3440	(1620)	5.57	0.62	36	3461
5.5	(1370)	2680	(1270)	5.40	0.50	32	3468
5.8	(1440)	2320	(1100)	5.29	0.44	29	3473

\*Complete results are available in PAMI Report No. 560.

## CECO MODEL 261003 AXIAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Combustion Equipment Company  
Division of Luffland Industries  
P.O. Box 228  
Bates City, MO 64011

### FAN DESCRIPTION:

25.9 in (657 mm) single speed, direct drive, 12.5 hp (9300 W),  
3 phase, 208-230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
1.5	(374)	13700	(6470)	9.64	1.42	38	3510
2.0	(398)	12960	(6090)	10.08	1.28	41	3501
2.5	(623)	12200	(5760)	10.47	1.17	44	3492
3.0	(747)	11600	(5480)	10.74	1.08	45	3484
3.5	(872)	10900	(5150)	10.95	1.00	47	3476
4.0	(996)	10200	(4810)	11.11	0.92	48	3470
4.5	(1120)	9350	(4410)	11.16	0.84	48	3466
5.0	(1250)	8440	(3980)	11.04	0.76	47	3465
5.5	(1370)	7470	(3530)	10.88	0.69	46	3466
6.0	(1490)	6500	(3070)	10.64	0.61	43	3470
6.5	(1620)	5570	(2630)	10.40	0.54	41	3474
7.0	(1740)	4700	(2220)	10.11	0.46	38	3477
7.5	(1870)	3940	(1860)	9.85	0.40	35	3480
8.0	(1990)	3290	(1550)	9.69	0.34	32	3480
8.6	(2140)	2650	(1250)	9.56	0.28	27	3486

\*Complete results are available in PAMI Report No. 559.

## DENOUDEN MODEL ILC 21/18-312 AERATION FAN

### MANUFACTURER:

Caldwell Manufacturing Company  
P.O. Box 338  
Kearney, Nebraska 68848

### DISTRIBUTOR:

Denouden Agri  
559 Park Street  
Regina, Saskatchewan  
S4N 5B2

### FAN DESCRIPTION:

15.375 in (391 mm) single speed, direct drive, 3.0 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.5	(125)	4150	(1960)	2.78	1.49	15	3544
1.0	(249)	4050	(1910)	2.92	1.39	21	3539
1.5	(374)	3940	(1860)	3.07	1.28	27	3535
2.0	(498)	3840	(1810)	3.20	1.20	32	3530
2.5	(623)	3740	(1760)	3.33	1.12	36	3526
3.0	(747)	3630	(1710)	3.46	1.05	40	3522
3.5	(872)	3520	(1660)	3.58	0.98	43	3518
4.0	(996)	3400	(1600)	3.69	0.92	45	3514
4.5	(1120)	3270	(1540)	3.80	0.86	47	3511
5.0	(1250)	3120	(1470)	3.90	0.80	49	3508
5.5	(1370)	2970	(1400)	3.97	0.75	50	3506
6.0	(1490)	2820	(1330)	4.02	0.70	51	3504
6.5	(1620)	2660	(1260)	4.04	0.66	51	3504
7.0	(1740)	2070	(977)	3.82	0.54	48	3512
7.5	(1870)	1340	(632)	2.99	0.45	35	3535
8.0	(1990)	543	(256)	2.07	0.26	14	3558
8.2	(2040)	224	(106)	2.01	0.11	10	3560

\*Complete results are available in PAMI Report No. 533.

## DENOUDEN MODEL ILC 24/28-512 AERATION FAN

### MANUFACTURER:

Caldwell Manufacturing Company  
P.O. Box 338  
Kearney, Nebraska 68848

### DISTRIBUTOR:

Denouden Agri  
559 Park Street  
Regina, Saskatchewan  
S4N 5B2

### FAN DESCRIPTION:

22.3 in (566 mm) single speed, direct drive, 5 hp (3730 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.94	(234)	5990	(2830)	4.48	1.34	21	3512
1.00	(249)	5970	(2820)	4.38	1.36	20	3514
2.00	(496)	5670	(2680)	4.86	1.17	30	3505
3.00	(747)	5360	(2530)	5.28	1.02	37	3494
4.00	(996)	5200	(2450)	5.64	0.92	43	3485
5.00	(1250)	4740	(2240)	5.97	0.79	47	3477
6.00	(1490)	4360	(2060)	6.27	0.70	49	3468
7.00	(1740)	4010	(1890)	6.50	0.62	51	3462
8.00	(1990)	3630	(1710)	6.64	0.55	51	3459
9.00	(2240)	3200	(1510)	6.64	0.48	50	3457
10.00	(2490)	1370	(647)	5.01	0.27	30	3502
10.16	(2530)	0	(0)	3.38	0.00	0	3540

\*Complete results are available in PAMI Report No. 630.

## FARM FAN MODEL 114SHG TUBE AXIAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Farm Fans, Inc.  
5900 Elmwood Avenue  
Indianapolis, Indiana 46203

### FAN DESCRIPTION:

14.0 in (356 mm) single speed, direct drive, 1.0 hp (746 W),  
115/230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	2570	(1210)	0.79	3.25	11	3547
0.5	(124)	2300	(1080)	0.88	2.61	21	3534
1.0	(249)	1840	(870)	0.94	1.96	25	3525
1.5	(374)	1230	(580)	1.00	1.23	21	3516
2.0	(495)	895	(422)	1.07	0.84	18	3505
2.5	(623)	554	(261)	1.16	0.48	13	3491
3.0	(747)	255	(106)	1.20	.021	6	3488

\*Complete results are available in PAMI Report No. 334.

## FARM FAN MODEL 116AFG TUBE AXIAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Farm Fans, Inc.  
5900 Elmwood Avenue  
Indianapolis, Indiana 46203

### FAN DESCRIPTION:

16.0 in (406 mm) single speed, direct drive, 1.5 hp (1120 W),  
115/230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	4340	(2050)	1.57	2.76	17	3536
0.5	(124)	3930	(1860)	1.69	2.33	24	2527
1.0	(249)	3440	(1620)	1.79	1.92	28	3519
1.5	(374)	2840	(1340)	1.82	1.56	29	3513
2.0	(495)	2190	(1030)	1.79	1.22	28	3512
2.5	(623)	1650	(778)	1.85	0.89	25	3507
3.0	(747)	1460	(689)	1.92	0.76	24	3504

\*Complete results are available in PAMI Report No. 335.

## FARM FAN MODEL 318AFG TUBE AXIAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Farm Fans, Inc.  
5900 Elmwood Avenue  
Indianapolis, Indiana 46203

### FAN DESCRIPTION:

18.0 in (457 mm) single speed, direct drive, 3.0 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	6070	(2870)	2.39	2.54	20	3537
0.5	(124)	5570	(2630)	2.61	2.13	26	3531
1.0	(249)	5130	(2420)	2.75	1.87	29	3525
1.5	(374)	4500	(2120)	2.86	1.57	32	3520
2.0	(495)	3810	(1800)	2.88	1.32	32	3518
2.5	(623)	3110	(1470)	2.84	1.10	31	3519
3.0	(747)	2410	(1140)	2.80	0.86	28	3520
3.5	(872)	1780	(839)	2.81	0.63	24	3521
4.0	(996)	1230	(581)	2.92	0.42	18	3523

\*Complete results are available in PAMI Report No. 336.

## FARM FAN MODEL 316SHG VANE AXIAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Farm Fans, Inc.  
5900 Elmwood Avenue  
Indianapolis, Indiana 46203

### FAN DESCRIPTION:

16.0 in (406 mm) single speed, direct drive, 3.0 - 5 hp (2240 - 3360 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	5810	(2740)	2.68	2.17	23	3518
0.5	(124)	5490	(2590)	2.95	1.86	29	3508
1.0	(249)	5300	(2500)	3.13	1.69	31	3503
1.5	(374)	5020	(2370)	3.36	1.49	34	3493
2.0	(495)	4290	(2020)	3.53	1.22	35	3487
2.5	(623)	3180	(1500)	3.02	1.05	29	3503
3.0	(747)	2280	(1080)	3.18	0.72	26	3497
3.5	(872)	2200	(1040)	3.24	0.68	26	3494
4.0	(996)	1930	(911)	3.45	0.56	25	3487
4.5	(1120)	1650	(780)	3.65	0.45	22	3479

\*Complete results are available in PAMI Report No. 337.

## FARM FAN MODEL FFC 515E CENTRIFUGAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Farm Fans, Inc.  
5900 Elmwood Avenue  
Indianapolis, Indiana 46203

### FAN DESCRIPTION:

15.0 in (381 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	3660	(1730)	3.29	1.11	14	3528
1.0	(249)	3430	(1620)	3.40	1.01	21	3527
2.0	(497)	3220	(1520)	3.50	0.92	27	3526
3.0	(747)	3020	(1430)	3.65	0.83	33	3522
4.0	(996)	2850	(1350)	3.80	0.75	37	3517
5.0	(1240)	2700	(1270)	3.92	0.69	41	3513
6.0	(1490)	2540	(1200)	4.00	0.64	43	3510
7.0	(1740)	2370	(1120)	4.04	0.59	46	3507
8.0	(1990)	2160	(1020)	4.01	0.54	48	3507
9.0	(2240)	1890	(892)	3.90	0.48	48	3509

\*Complete results are available in PAMI Report No. 338.

## FLAMAN CROP DRYER IN-LINE CENTRIFUGAL FAN MODEL FCJ-24-5-1

### MANUFACTURER:

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

### DISTRIBUTORS:

Flaman Sales Ltd.  
Agri-Products Division

P.O. Box 280  
Southey, Saskatchewan  
S0G 4P0

Flaman Sales Ltd. (Stoon)  
203- 47 Street E.  
Saskatoon, Saskatchewan  
S7K 5H1

Frank Flaman Store Inc. P.A.  
P.O. Box 2287  
Prince Alberta, Saskatchewan  
S6V 6Z1

Frank Flaman Sales Ltd.  
P.O. Box 1536  
Leduc, Alberta  
T9E 2Y8

### FAN DESCRIPTION:

15.0 in (381 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.9	(224)	5750	(2710)	5.62	1.02	13	3509
1.0	(249)	5730	(2700)	5.64	1.02	14	3508
1.5	(374)	5580	(2630)	5.76	0.97	19	3504
2.0	(496)	5430	(2560)	5.89	0.92	23	3500
2.5	(623)	5280	(2490)	6.03	0.88	27	3496
3.0	(747)	5130	(2420)	6.16	0.83	30	3496
3.5	(872)	4960	(2340)	6.29	0.79	34	3455
4.0	(996)	4790	(2260)	6.40	0.75	36	3450
4.5	(1120)	4620	(2150)	6.49	0.71	39	3446
5.0	(1250)	4420	(2070)	6.55	0.67	41	3443
5.5	(1370)	4230	(2000)	6.57	0.64	42	3445
6.0	(1490)	4050	(1910)	6.55	0.62	43	3475
6.5	(1620)	3780	(1780)	6.46	0.59	44	3474
7.0	(1740)	3340	(1580)	6.18	0.54	45	3477
7.5	(1870)	2620	(1240)	5.50	0.48	42	3489
8.0	(1990)	1600	(755)	4.43	0.36	33	3517
8.5	(2120)	634	(299)	3.24	0.20	18	3544
9.0	(2240)	323	(152)	2.61	0.12	12	3559
9.3	(2320)	211	(100)	2.31	0.09	9	3565

\*Complete results are available in PAMI Report No. 543.

## FLAMAN CROP DRYER IN-LINE CENTRIFUGAL FAN MODEL FCJ-24-7-1

### MANUFACTURER:

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

### DISTRIBUTORS:

Flaman Sales Ltd.  
Agri-Products Division

P.O. Box 280  
Southey, Saskatchewan  
S0G 4P0

Flaman Sales Ltd. (Stoon)  
203- 47 Street E.  
Saskatoon, Saskatchewan  
S7K 5H1

Frank Flaman Store Inc. P.A.  
P.O. Box 2287  
Prince Alberta, Saskatchewan  
S6V 6Z1

Frank Flaman Sales Ltd.  
P.O. Box 1536  
Leduc, Alberta  
T9E 2Y8

### FAN DESCRIPTION:

16.5 in (419 mm) single speed, direct drive, 7.0 hp (5200 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.3	(324)	6750	(3190)	7.52	0.90	16	3511
1.5	(374)	6680	(3150)	7.59	0.88	18	3509
2.0	(498)	6550	(3090)	7.74	0.85	22	3506
2.5	(623)	6410	(3030)	7.88	0.81	26	3502
3.0	(747)	6260	(2960)	8.02	0.78	29	3499
3.5	(872)	6110	(2880)	8.15	0.75	32	3496
4.9	(996)	5950	(2810)	8.27	0.72	35	3492
4.5	(1120)	5780	(2730)	8.38	0.69	38	3489
5.0	(1250)	5610	(2650)	8.48	0.66	40	3487
5.5	(1370)	5420	(2560)	8.56	0.63	42	3485
6.0	(1490)	5220	(2460)	8.62	0.61	44	3482
6.5	(1620)	5020	(2370)	8.66	0.58	45	3481
7.0	(1740)	4800	(2270)	8.66	0.55	46	3480
8.0	(1990)	4349	(2050)	8.56	0.51	48	3481
9.0	(2240)	3220	(1520)	7.71	0.42	47	3496
10.0	(2490)	1560	(736)	5.19	0.30	31	3537
11.0	(2740)	208	(98)	2.77	0.06	9	3572

\*Complete results are available in PAMI Report No. 544.

## FLAMAN MODEL FCJ-18-3-1 IN-LINE CENTRIFUGAL FAN

### MANUFACTURER:

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

### DISTRIBUTORS:

Frank Flaman Sales Ltd.  
Agri-Products Division

P.O. Box 280  
Southey, Saskatchewan  
S0G 4P0

Flaman Sales Supplies Ltd.  
203- 47 Street E.  
Saskatoon, Saskatchewan  
S7K 5H1

Frank Flaman Store Inc. P.A.  
P.O. Box 2287  
Prince Alberta, Saskatchewan  
S6V 6Z1

Frank Flaman Sales Ltd.  
P.O. Box 1536  
Leduc, Alberta  
T9E 2Y8

### FAN DESCRIPTION:

17.1 in (435 mm) single speed, direct drive, 3.0 hp (2240 W), 208 - 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.5	(124)	4100	(1940)	3.80	1.08	10	3482
1.0	(249)	3980	(1890)	3.96	1.02	16	3477
1.5	(374)	3840	(1810)	3.96	0.97	20	3472
2.0	(497)	3690	(1740)	4.01	0.92	25	3470
2.5	(623)	3530	(1670)	4.05	0.87	27	3467
3.0	(747)	3370	(1690)	4.08	0.83	31	3464
3.6	(872)	3100	(1510)	4.09	0.76	33	3463
4.0	(996)	3020	(1430)	4.08	0.74	36	3462
4.5	(1120)	2840	(1340)	4.03	0.70	38	3463
5.0	(1240)	2620	(1240)	3.93	0.67	39	3467
5.5	(1370)	2400	(1130)	3.83	0.63	41	3472
6.0	(1490)	2130	(1010)	3.63	0.59	40	3480
6.5	(1620)	1900	(895)	3.45	0.55	40	3488
7.0	(1740)	1200	(566)	2.71	0.44	31	3516

\*Complete results are available in PAMI Report No. 506.



## GOLD'N AIR 3 HP CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Airmaster Sales Ltd.  
1301 Dugald Road  
Winnipeg, Manitoba  
R2J 0H3

### FAN DESCRIPTION:

13.5 in (343 mm) single speed, direct drive, 3 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS:

Static Pressure		Air Flow Rate		Input Power kW	cfm/W	Total Efficiency %	Fan Speed rpm
in*wg	(Pa)	cfm	(L/s)				
0.36	(90)	3710	(1750)	3.7	1.00	24	3534
1.00	(249)	3590	(1700)	3.7	0.97	29	3530
2.00	(498)	3430	(1620)	3.78	0.91	36	3525
3.00	(747)	3280	(1550)	3.80	0.86	43	3523
4.00	(996)	3120	(1470)	3.81	0.82	49	3521
5.00	(1250)	2940	(1390)	3.82	0.77	54	3519
6.00	(1490)	2740	(1290)	3.79	0.72	58	3519
7.00	(1740)	2510	(1190)	3.72	0.67	61	3520
8.00	(1990)	2260	(1070)	3.58	0.63	63	3523
9.00	(2240)	1840	(870)	3.35	0.55	60	3530
9.37	(2330)	0	(0)	1.67	0	0	3570

## GOLD'N AIR 5 HP CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Airmaster Sales Ltd.  
1301 Dugald Road  
Winnipeg, Manitoba  
R2J 0H3

### FAN DESCRIPTION:

14.5 in (368 mm) single speed, direct drive, 5 hp (3730 W),  
230 V electric motor.

### SUMMARY OF RESULTS:

Static Pressure		Air Flow Rate		Input Power kW	cfm/W	Total Efficiency %	Fan Speed rpm
in*wg	(Pa)	cfm	(L/s)				
0.84	(209)	5750	(2720)	8.04	0.72	34	3500
1.00	(249)	5700	(2690)	8.01	0.71	34	3490
2.00	(498)	5500	(2600)	8.01	0.69	40	3490
3.00	(747)	5320	(2510)	8.04	0.66	44	3490
4.00	(996)	5140	(2430)	8.10	0.63	48	3480
5.00	(1245)	4870	(2300)	8.01	0.61	51	3480
6.00	(1495)	4560	(2150)	7.84	0.58	54	3480
7.00	(1744)	4360	(2060)	7.81	0.56	57	3480
8.00	(1933)	4140	(1950)	7.77	0.53	59	3480
9.00	(2242)	3890	(1840)	7.65	0.51	61	3480
10.00	(2491)	3480	(1640)	7.30	0.48	61	3490
11.00	(2740)	2960	(1400)	6.76	0.44	59	3500
12.00	(2989)	2410	(1140)	6.13	0.39	56	3510
13.00	(3538)	1820	(860)	5.48	0.33	50	3520
13.76	(3433)	210	(100)	2.90	0.07	11	3560

## GOLD'N AIR 7.5-10 HP CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Airmaster Sales Ltd.  
1301 Dugald Road  
Winnipeg, Manitoba  
R2J 0H3

### FAN DESCRIPTION:

15.8 in (401 mm) single speed, direct drive, 7.5 - 10 hp (5590 -  
7460 W), 230 V electric motor.

### SUMMARY OF RESULTS:

Static Pressure		Air Flow Rate		Input Power kW	cfm/W	Total Efficiency %	Fan Speed rpm
in*wg	(Pa)	cfm	(L/s)				
0.63	(157)	4930	(2330)	5.77	0.85	36	3524
1.00	(249)	4910	(2320)	5.81	0.85	38	3517
2.00	(498)	4800	(2260)	5.88	0.82	44	3507
3.00	(747)	4470	(2110)	5.80	0.77	48	3506
4.00	(996)	4100	(1940)	5.61	0.73	52	3510
5.00	(1250)	3770	(1780)	5.41	0.70	56	3513
6.00	(1490)	3530	(1670)	5.27	0.67	59	3515
7.00	(1740)	3350	(1580)	5.22	0.64	60	3515
8.00	(1990)	3140	(1480)	5.21	0.60	61	3515
9.00	(2240)	2750	(1300)	5.04	0.55	62	3518
10.00	(2490)	1980	(934)	4.39	0.45	57	3531
11.00	(2740)	547	(258)	2.69	0.20	13	3561
11.24	(2800)	0	(0)	2.02	0	0	3573

## INDAL METALS 3 HP CENTRIFUGAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Indal Metals Division of Indal Limited  
P.O. Box 3041  
Saskatoon, Saskatchewan  
S7K 3S9

### FAN DESCRIPTION:

13.5 in (434 mm) single speed, direct drive, 3.0 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power kW	cfm/W	Total Efficiency %	Fan Speed rpm
in*wg	(Pa)	cfm	(L/s)				
0.34	(85)	3630	(1710)	2.80	1.30	22	3518
1.00	(249)	3490	(1650)	2.90	1.20	28	3513
2.00	(498)	3310	(1560)	3.03	1.09	35	3505
3.00	(747)	3020	(1420)	3.05	0.99	43	3502
4.00	(996)	2640	(1250)	2.98	0.89	47	3503
5.00	(1280)	2460	(1130)	3.01	0.80	51	3481
6.00	(1490)	2140	(1010)	3.00	0.71	53	3497
7.00	(1740)	1840	(870)	2.95	0.62	52	3502
8.00	(1990)	1520	(718)	2.87	0.53	50	3510
8.54	(2130)	0	(0)	1.52	0.00	0	3509

\*Complete results are available in PAMI Report No. 609.

## INDAL METALS 5 HP CENTRIFUGAL AERATION FAN

### MANUFACTURER AND DISTRIBUTOR:

Indal Metals Division of Indal Limited  
P.O. Box 3041  
Saskatoon, Saskatchewan  
S7K 3S9

### FAN DESCRIPTION:

14.5 in (368 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.51	(127)	4400	(2080)	3.66	1.20	23	3517
1.00	(249)	4310	(2030)	3.78	1.14	27	3511
2.00	(498)	4140	(1950)	4.08	1.01	35	3499
3.00	(747)	3986	(1880)	4.32	0.92	42	3488
4.60	(996)	3600	(1700)	4.32	0.83	46	3484
5.00	(1250)	3420	(1610)	4.47	0.77	50	3477
6.00	(1490)	3220	(1520)	4.54	0.71	55	3474
7.00	(1740)	3010	(1420)	4.52	0.67	58	3471
8.00	(1990)	2750	(1300)	4.47	0.62	60	3471
9.00	(2240)	2440	(1150)	4.32	0.56	61	3475
9.98	(2490)	1520	(718)	3.47	0.44	51	3518

\*Complete results are available in PAMI Report No. 610.

## KEHO MODEL 15150 5 HP CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

15.0 in (381 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.54	(134)	4440	(2100)	5.22	0.85	22	3420
1.00	(249)	4310	(2040)	5.25	0.82	25	3404
2.00	(498)	4030	(1900)	5.31	0.76	30	3378
3.00	(747)	3770	(1780)	5.33	0.71	35	3370
4.00	(996)	3510	(1660)	5.29	0.66	39	3366
5.00	(1250)	3220	(1520)	5.18	0.62	42	3368
6.00	(1500)	2930	(1360)	5.08	0.58	45	3374
7.00	(1740)	2600	(1230)	4.96	0.52	46	3378
8.00	(1990)	2260	(1070)	4.81	0.47	46	3390
9.00	(2240)	1930	(910)	4.69	0.41	44	3400
10.00	(2490)	1500	(709)	4.29	0.35	40	3420
10.65	(2650)	988	(466)	3.77	0.26	32	3450

\*Complete results are available in PAMI Report No. 602.

## KEHO MODEL 15000 2 HP HI-FLOW CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

13.5 in (343 mm) single speed, direct drive, 2.0 hp (1490 W), 115/230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.00	(0)	3500	(1650)	2.50	1.40	17	3415
1.00	(249)	3270	(1540)	2.50	1.31	26	3410
2.00	(497)	2970	(1400)	2.57	1.16	35	3405
3.00	(747)	2640	(1250)	2.53	1.04	41	3408
4.00	(996)	2320	(1090)	2.50	0.93	44	3408
5.00	(1240)	1960	(927)	2.48	0.79	44	3399
6.00	(1490)	1560	(735)	2.40	0.65	43	3412
7.00	(1740)	1070	(504)	2.11	0.51	38	3435
8.00	(1990)	170	(80)	1.62	0.10	9	3501

\*Complete results are available in PAMI Report No. 389.

## KEHO MODEL 15330 15 HP TWIN CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

2- 16.5 in (419 mm) fans mounted in parallel, single speed, direct drive 15.0 hp (11200 W), 3 phase, 230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	14200	(6700)	15.1	0.94	13	3529
2.0	(497)	13200	(6230)	16.6	0.80	20	3520
3.0	(747)	12300	(5810)	17.6	0.70	26	3511
4.0	(996)	11500	(5430)	18.3	0.63	30	3506
5.0	(1240)	10800	(5100)	18.7	0.58	33	3502
6.0	(1490)	10000	(4720)	18.8	0.53	35	3500
7.0	(1740)	8950	(4230)	18.7	0.48	36	3499
8.0	(1990)	7690	(3630)	18.1	0.42	37	3502
9.0	(2240)	6290	(2970)	17.1	0.37	35	3509
10.0	(2490)	5010	(2360)	16.1	0.31	32	3517
11.0	(2740)	3010	(1420)	14.3	0.21	24	3531

\*Complete results are available in PAMI Report No. 392.

## KEHO MODEL 15400 1 HP HI-FLOW CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

13.5 in (343 mm) single speed, direct drive, 1.0 hp (746 W), 115/230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.5	(125)	1250	591	1.64	0.76	11	3501
1.0	(249)	1180	558	1.63	0.72	13	3499
1.5	(374)	1110	523	1.63	0.68	15	3498
2.0	(497)	1020	483	1.62	0.63	17	3499
2.5	(823)	935	441	1.61	0.58	18	3500
3.0	(747)	846	399	1.58	0.54	19	3501
3.5	(872)	756	357	1.54	0.49	19	3503
4.0	(996)	656	310	1.49	0.44	19	3507
4.5	(1120)	532	251	1.41	0.38	18	3514
5.0	(1240)	379	179	1.29	0.29	15	3526
5.5	(1370)	273	129	1.21	0.23	12	3535
6.0	(1490)	182	86	1.13	0.16	9	3541

\*Complete results are available in PAMI Report No. 391.

## KEHO 10 HP TWIN BLOWER CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

2 - 15 in (381 mm) fans mounted in parallel, single speed, direct drive 10.0 hp (7460 W), 208 - 230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	8740	(4120)	11.70	0.75	15	3497
2.0	(497)	8170	(3860)	11.90	0.69	21	3491
3.0	(747)	7650	(3610)	12.00	0.64	25	3488
4.0	(996)	7140	(3370)	12.10	0.59	29	3486
5.0	(1240)	6630	(3130)	12.20	0.54	32	3485
6.0	(1490)	6100	(2880)	12.20	0.50	34	3485
7.0	(1740)	5540	(2610)	12.10	0.46	36	3487
8.0	(1990)	4910	(2320)	11.90	0.41	37	3489
9.0	(2240)	4170	(1970)	11.50	0.36	36	3493
10.0	(2490)	3200	(1510)	10.60	0.30	33	3501
11.0	(2740)	1880	(889)	8.92	0.21	25	3521

\*Complete results are available in PAMI Report No. 373.

## KEHO MODEL 15751 7.5 HP HI-FLOW CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Keho Alta Products Ltd.  
P.O. Box 70  
Barons, Alberta  
T0L 0G0

### FAN DESCRIPTION:

16.5 in (419) single speed, direct drive, 7.5 hp (5590 W) 3 phase, 208- 230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	6700	(3160)	7.22	0.93	12	3468
1.0	(249)	6420	(3030)	7.73	0.83	19	3467
2.0	(497)	6060	(2860)	7.82	0.77	24	3469
3.0	(747)	5700	(2690)	8.12	0.70	29	3468
4.0	(996)	2340	(2520)	8.45	0.63	32	3465
5.0	(1240)	4950	(2340)	8.69	0.57	34	3463
6.0	(1490)	4510	(2130)	8.73	0.52	36	3461
7.0	(1740)	4040	(1910)	8.52	0.47	39	3466
8.0	(1990)	3560	(1680)	8.11	0.44	40	3484
9.0	(2240)	3050	(1440)	7.65	0.40	40	3487
10.0	(2490)	2400	(1130)	7.27	0.33	36	3495
11.0	(2740)	1320	(624)	7.10	0.19	16	3520

\*Complete results are available in PAMI Report No. 390.

## MIDDLE STATE MODEL IC-18-3 3 HP IN-LINE CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Middle State Manufacturing Inc.  
P.O. Box 788  
Columbus, Nebraska 68601

### FAN DESCRIPTION:

12.5 in (318 mm) single speed, direct drive, 3 hp (2240 W), 115/208 - 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.5	(125)	2890	(1360)	2.22	1.30	7	3500
1.0	(249)	2710	(1280)	2.37	1.14	15	3489
1.5	(374)	2620	(1240)	2.43	1.08	18	3484
2.0	(497)	2520	(1190)	2.50	1.01	21	3480
2.5	(623)	2380	(1120)	2.57	0.93	25	3475
3.0	(747)	2120	(1000)	2.66	0.80	29	3469
3.5	(872)	2070	(975)	2.66	0.78	29	3468
4.0	(996)	1920	(906)	2.66	0.72	30	3467
4.5	(1120)	1700	(803)	2.61	0.65	30	3469
5.0	(1240)	1230	(581)	2.28	0.54	28	3489
5.5	(1370)	178	(84)	1.31	0.14	8	3545

\*Complete results are available in PAMI Report No. 374.

## MIDDLE STATE MODEL IC-24-5 5 HP IN-LINE CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Middle State Manufacturing Inc.  
P.O. Box 788  
Columbus, Nebraska 68601

### FAN DESCRIPTION:

15.25 in (387 mm) single speed, direct drive, 5 hp (3730 W),  
208 - 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.0	(0)	3770	(1780)	3.02	1.25	2	3560
0.5	(125)	3690	(1740)	3.19	1.16	7	3555
1.0	(249)	3620	(1710)	3.35	1.08	12	3550
1.5	(374)	3520	(1660)	3.57	0.99	18	3545
2.0	(497)	3450	(1630)	3.70	0.93	21	3642
2.5	(623)	3390	(1600)	3.81	0.89	24	3538
3.0	(747)	3320	(1570)	3.94	0.64	26	3537
3.5	(872)	3230	(1520)	4.08	0.79	29	3534
4.0	(996)	3120	(1470)	4.22	0.74	31	3531
4.5	(1120)	3010	(1420)	4.35	0.69	33	3529
5.0	(1240)	2890	(1360)	4.44	0.65	35	3527
5.5	(1370)	2770	(1310)	4.50	0.62	36	3526
6.0	(1490)	2660	(1260)	4.53	0.59	37	3525
6.5	(1620)	2540	(1200)	4.53	0.56	38	3525
7.0	(1740)	2390	(1130)	4.78	0.50	39	3526
7.5	(1870)	2180	(1030)	4.34	0.50	39	3527
8.0	(1990)	1860	(878)	4.05	0.46	40	3530
8.5	(2120)	1360	(643)	3.74	0.36	31	3541

\*Complete results are available in PAMI Report No. 375.

## MIDDLE STATE MODEL IC-24-7.5 7.5 HP IN-LINE CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Middle State Manufacturing Inc.  
P.O. Box 788  
Columbus, Nebraska 68601

### FAN DESCRIPTION:

15.25 in (387 mm) single speed, direct drive, 7.5 hp (5590 W),  
3 phase, 208- 230/460 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.5	(125)	4940	(2330)	6.19	0.80	4	3529
1.0	(249)	4620	(2180)	6.60	0.70	12	3521
1.5	(374)	4500	(2120)	6.76	0.67	14	3518
2.0	(497)	4450	(2100)	6.82	0.65	15	3517
2.5	(623)	4400	(2080)	6.89	0.64	16	3515
3.0	(747)	4300	(2030)	7.01	0.61	18	3513
3.5	(872)	4150	(1960)	7.17	0.58	20	3510
4.0	(996)	3970	(1870)	7.34	0.54	23	3506
4.5	(1120)	3770	(1780)	7.46	0.51	25	3503
5.0	(1240)	3600	(1700)	7.54	0.48	27	3500
5.5	(1370)	3460	(1630)	7.57	0.46	28	3499
6.0	(1490)	3350	(1580)	7.57	0.44	28	3499
6.5	(1620)	3260	(1540)	7.57	0.43	29	3498
7.0	(1740)	3100	(1460)	7.53	0.41	29	3497
7.5	(1870)	2760	(1300)	7.37	0.37	29	3498
8.0	(1990)	2180	(1030)	6.84	0.32	27	3504
8.5	(2120)	194	(92)	3.90	0.05	4	3555

\*Complete results are available in PAMI Report No. 394.

## MIDWEST 3 HP CENTRIFUGAL FAN

### MANUFACTURER:

REM Manufacturing Limited  
P.O. Box 1207  
Swift Current, Saskatchewan  
S9H 3X4

### DISTRIBUTOR:

REM Manufacturing Limited  
P.O. Box 1207  
Swift Current, Saskatchewan  
S9H 3X4

United Farmers of Alberta Cooperative Limited  
1016 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

Saskatchewan Wheat Pool  
Wheat Pool Building  
2625 Victoria Avenue  
Regina, Saskatchewan  
S4T 7T9

### FAN DESCRIPTION:

15.0 in (381 mm) single speed, direct drive, 3.0 to 4.5 hp (2240  
to 3360 W) 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.75	(187)	3400	(1610)	4.61	0.74	22	3451
1.00	(249)	3370	(1590)	4.62	0.73	23	3447
2.00	(498)	3220	(1520)	4.71	0.68	29	3436
3.00	(747)	3060	(1440)	4.77	0.64	33	3430
4.00	(996)	2890	(1360)	4.79	0.60	37	3422
5.00	(1250)	2700	(1270)	4.77	0.57	41	3420
6.00	(1490)	2500	(1180)	4.70	0.53	43	3423
7.00	(1740)	2290	(1080)	4.60	0.50	45	3424
8.00	(1990)	2060	(972)	4.43	0.47	46	3434
9.00	(2240)	1770	(835)	4.18	0.42	46	3445
10.00	(2490)	1370	(647)	3.74	0.37	44	3464
11.00	(2740)	771	(364)	2.92	0.26	34	3503
11.70	(2910)	186	(88)	1.91	0.10	13	3542

\*Complete results are available in PAMI Report No. 551.

## MIDWEST 5 HP CENTRIFUGAL FAN

### MANUFACTURER:

REM Manufacturing Limited  
P.O. Box 1207  
Swift Current, Saskatchewan  
S9H 3X4

### DISTRIBUTOR:

REM Manufacturing Limited  
P.O. Box 1207  
Swift Current, Saskatchewan  
S9H 3X4

United Farmers of Alberta Cooperative Limited  
1016 - 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

Saskatchewan Wheat Pool  
Wheat Pool Building  
2625 Victoria Avenue  
Regina, Saskatchewan  
S4T 7T9

### FAN DESCRIPTION:

15.5 in (394 mm) single speed, direct drive, 5.0 to 7.0 hp (3730 to 5220 W) 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.00	(249)	4430	(2090)	7.12	0.62	25	3512
2.00	(498)	4240	(2000)	7.20	0.59	30	3507
3.00	(747)	4100	(1940)	7.21	0.57	34	3506
4.00	(996)	3920	(1850)	7.17	0.55	38	3504
5.00	(1250)	3690	(1740)	7.09	0.52	41	3503
6.00	(1490)	3450	(1630)	6.97	0.49	42	3503
7.00	(1740)	3200	(1510)	6.84	0.47	45	3506
8.00	(1990)	2980	(1410)	6.71	0.44	46	3505
9.00	(2240)	2760	(1300)	6.57	0.42	48	3507
10.00	(2490)	2520	(1190)	6.40	0.39	49	3510
11.00	(2740)	2200	(1040)	6.08	0.36	48	3516
12.00	(2990)	1720	(812)	5.43	0.32	45	3527
13.00	(3240)	1050	(496)	4.10	0.26	28	3543
14.00	(3490)	161	(76)	3.08	0.05	7	3563

\*Complete results are available in PAMI Report No. 552.

## SUKUP MODEL 3-221 CENTRIFUGAL FAN

### MANUFACTURER:

Sukup Manufacturing Company  
Sheffield, Iowa 50475

### DISTRIBUTOR:

United Farmers of Alberta Co-operative Limited  
1016 - 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

### FAN DESCRIPTION:

23.0 in (584 mm) single speed, direct drive, 3.0 hp (2240 W), 115/208 - 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.0	(0)	5310	(2510)	2.84	1.87	12	1770
0.5	(125)	5130	(2420)	2.92	1.76	20	1755
1.0	(249)	4920	(2320)	3.00	1.64	27	1747
1.5	(374)	4680	(2210)	3.08	1.52	33	1746
2.0	(497)	4430	(2090)	3.14	1.41	37	1744
2.5	(623)	4160	(1960)	3.18	1.31	39	1743
3.0	(747)	3870	(1830)	3.20	1.21	41	1743
3.5	(872)	3460	(1630)	3.19	1.08	43	1744
4.0	(996)	3090	(1460)	3.16	0.98	43	1744
4.5	(1120)	2500	(1180)	3.03	0.83	41	1746
5.0	(1240)	1350	(637)	2.52	0.54	28	1756
5.5	(1370)	624	(295)	2.20	0.28	15	1766

\*Complete results are available in PAMI Report No. 395.

## SUKUP MODEL 5-221 CENTRIFUGAL FAN

### MANUFACTURER:

Sukup Manufacturing Company  
Sheffield, Iowa 50475

### DISTRIBUTOR:

United Farmers of Alberta Co-operative Limited  
1016- 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

### FAN DESCRIPTION:

22.8 in (578 mm) single speed, direct drive, 5.0 hp (3730 W), 230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.0	(249)	8060	(3800)	4.54	1.78	26	1763
1.5	(374)	7580	(3580)	4.65	1.63	32	1761
2.0	(497)	7250	(3420)	4.76	1.52	36	1758
2.5	(623)	6850	(3230)	4.98	1.38	41	1754
3.0	(747)	6490	(3060)	5.19	1.25	44	1751
3.5	(872)	6180	(2920)	5.36	1.15	46	1749
4.0	(996)	5880	(2770)	5.47	1.07	47	1747
4.5	(1120)	5490	(2590)	5.56	0.99	48	1746
5.0	(1240)	4940	(2280)	5.50	0.90	48	1746
5.2	(1300)	4400	(2080)	5.35	0.82	46	1748
5.4	(1350)	1560	(736)	3.64	0.43	23	1768
5.3	(1320)	600	(283)	3.06	0.20	11	1774

\*Complete results are available in PAMI Report No. 396.

**SUKUP 3 HP-SINGLE PHASE-3450 RPM CENTRIFUGAL FAN**

**MANUFACTURER:**

Sukup Manufacturing Company  
Sheffield, Iowa 50475

**DISTRIBUTOR:**

United Farmers of Alberta Co-operative Limited  
1016 - 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

**FAN DESCRIPTION:**

15.8 in (400 mm) single speed, direct drive, 3.0 hp (2240 W), 115/208 - 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.00	(0)	2860	(1350)	2.58	1.11	7	3489
1.00	(249)	2660	(1260)	2.75	0.97	17	3484
2.00	(497)	2500	(1180)	2.87	0.87	24	3478
3.00	(747)	2340	(1110)	2.96	0.79	29	3472
4.00	(996)	2180	(1030)	3.04	0.72	33	3467
5.00	(1240)	1980	(935)	3.09	0.64	36	3462
6.00	(1490)	1750	(826)	3.11	0.56	37	3459
7.00	(1740)	1470	(696)	3.09	0.48	37	3461
8.00	(1990)	1150	(544)	2.98	0.39	33	3468
9.00	(2240)	783	(355)	2.77	0.28	26	3479
10.00	(2490)	373	(176)	2.43	0.15	15	3495

\*Complete results are available in PAMI Report No. 397.

**SUKUP 15 HP-THREE PHASE-3450 RPM CENTRIFUGAL FAN**

**MANUFACTURER:**

Sukup Manufacturing Company  
Sheffield, Iowa 50475

**DISTRIBUTOR:**

United Farmers of Alberta Co-operative Limited  
1016- 68 Avenue SW  
Calgary, Alberta  
T2V 4J2

**FAN DESCRIPTION:**

19.0 in (483 mm) single speed, direct drive, 15.0 hp (11200 W), 3 phase, 208 - 230/1460 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
1.00	(249)	9070	(4280)	11.10	0.82	10	3520
2.00	(497)	8400	(3960)	13.50	0.62	25	3502
3.00	(747)	8020	(3790)	14.10	0.57	29	3492
4.00	(996)	7690	(3630)	14.30	0.54	33	3487
5.00	(1240)	7280	(3440)	14.40	0.51	35	3483
6.00	(1490)	6600	(3110)	13.30	0.50	36	3490
7.00	(1740)	6290	(2970)	13.50	0.47	40	3485
8.00	(1990)	5840	(2760)	13.60	0.43	42	3482
9.00	(2240)	5510	(2600)	13.60	0.41	44	3483
10.00	(2490)	5300	(2500)	13.70	0.39	44	3481
11.00	(2740)	5110	(2410)	13.50	0.38	45	3483
12.00	(2990)	4720	(2230)	13.30	0.35	45	3484
13.00	(3240)	3710	(1750)	12.70	0.29	43	3489
14.00	(3490)	1430	(673)	8.83	0.16	16	3526

\*Complete results are available in PAMI Report No. 398.

**WESTEEL CROP DRYER IN-LINE CENTRIFUGAL FAN MODEL WVA-24-5-1**

**MANUFACTURER:**

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

**DISTRIBUTORS:**

Westeel Agricultural Products  
6210- 75 Street

P.O. Box 5740, Station "L"  
Edmonton, Alberta  
T6C 4G2

Westeel Agricultural Products  
240 Melville Street

P.O. Box 1370  
Saskatoon, Saskatchewan  
S7K 3P5

Westeel Agricultural Products  
540- 10 Avenue East

P.O. Box 500  
Regina, Saskatchewan  
S4P 3A2

Westeel Agricultural Products  
450 Desautels Street

P.O. Box 792  
Winnipeg, Manitoba  
R3C 2N5

Westeel Agricultural Products  
250 Brockport Road  
Rexdale, Ontario  
M9W 5C2

**FAN DESCRIPTION:**

15.0 in (381 mm) single speed, direct drive, 5.0 hp (3.73 W) 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.826	(206)	5430	(2560)	5.23	1.04	12	3514
1.000	(249)	5400	(2550)	5.29	1.02	14	3512
1.500	(374)	5320	(2510)	5.46	0.97	18	3507
2.000	(498)	5230	(2470)	5.62	0.93	23	3502
2.500	(623)	5140	(2430)	5.78	0.89	27	3497
3.000	(747)	5040	(2380)	5.93	0.85	31	3492
3.500	(872)	4920	(2320)	6.09	0.81	34	3487
4.000	(996)	4780	(2260)	6.24	0.77	37	3482
4.500	(1120)	4630	(2190)	6.36	0.73	39	3479
5.000	(1250)	4480	(2110)	6.46	0.69	41	3479
5.500	(1370)	4320	(2040)	6.51	0.66	43	3479
6.000	(1490)	4160	(1960)	6.54	0.64	45	3479
6.500	(1620)	3940	(1860)	6.51	0.61	47	3479
7.000	(1740)	3630	(1710)	6.38	0.57	47	3478
7.500	(1870)	3200	(1510)	6.05	0.53	46	3475
8.000	(1990)	1850	(873)	4.59	0.40	37	3514
8.500	(2110)	860	(406)	3.41	0.25	25	3541
9.000	(2240)	400	(189)	2.65	0.15	14	3558
9.200	(2290)	220	(104)	2.28	0.10	10	3564

\*Complete results are available in PAMI Report No. 545.

**WESTEEL CROP DRYER IN-LINE CENTRIFUGAL FAN MODEL WVA-24-7-1**

**MANUFACTURER:**

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

**DISTRIBUTORS:**

Westeel Agricultural Products  
6210 - 75 Street  
P.O. Box 5740, Station "L"  
Edmonton, Alberta  
T6C 4G2

Westeel Agricultural Products  
240 Melville Street  
P.O. Box 1370  
Saskatoon, Saskatchewan  
S7K 3P5

Westeel Agricultural Products  
540 - Box 500  
Regina, Saskatchewan  
S4P 3A2

Westeel Agricultural Products  
450 Desautels Street  
P.O. Box 792  
Winnipeg, Manitoba  
R3C 2N5

Westeel Agricultural Products  
250 Brockport Road  
Rexdale, Ontario  
M9W 5C2

**FAN DESCRIPTION:**

16.5 in (419 mm) single speed, direct drive, 7.0 hp (5200 W), 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
1.30	(324)	6810	(3210)	7.27	0.94	17	3506
1.50	(374)	6750	(3190)	7.32	0.92	19	3505
2.00	(498)	6510	(3070)	7.55	0.86	27	3499
2.50	(623)	6450	(3040)	7.61	0.85	29	3497
3.00	(747)	6370	(3010)	7.68	0.83	30	3495
3.50	(872)	6250	(2950)	7.79	0.80	33	3492
4.00	(996)	6060	(2860)	7.95	0.76	37	3488
4.50	(1120)	5840	(2760)	8.12	0.72	40	3484
5.00	(1250)	5620	(2650)	8.26	0.68	42	3481
5.50	(1370)	5420	(2560)	8.36	0.65	44	3479
6.00	(1490)	5250	(2480)	8.42	0.62	45	3477
6.50	(1620)	5110	(2410)	8.46	0.60	46	3477
7.00	(1740)	4960	(2340)	8.47	0.59	47	3476
8.00	(1990)	4460	(2100)	8.40	0.53	49	3477
9.00	(2240)	3340	(1580)	7.57	0.44	49	3491
10.00	(2490)	1570	(741)	5.14	0.31	28	3534
11.30	(2820)	210	(99)	2.63	0.08	8	3572

\*Complete results are available in PAMI Report No. 546.

**WESTEEL MODEL WVA-18-3-1 IN-LINE CENTRIFUGAL FAN**

**MANUFACTURER:**

Emerson South Agronomics Inc.  
63 Beghin Avenue  
St. Boniface Industrial Park  
Winnipeg, Manitoba  
R2J 3S8

**DISTRIBUTORS:**

Westeel Agricultural Products  
6210 - 75 Street  
P.O. Box 5740, Station "L"  
Edmonton, Alberta  
T6C 4G2

Westeel Agricultural Products  
240 Melville Street  
P.O. Box 1370  
Saskatoon, Saskatchewan  
S7K 3P5

Westeel Agricultural Products  
540 - 10 Avenue East  
P.O. Box 500  
Regina, Saskatchewan  
S4P 3A2

Westeel Agricultural Products  
450 Desautels Street  
P.O. Box 792  
Winnipeg, Manitoba  
R3C 2N5

Westeel Agricultural Products  
250 Brockport Road  
Rexdale, Ontario  
M9W 5C2

**FAN DESCRIPTION:**

13.5 in (343 mm) single speed, direct drive, 3.0 hp (2237 W), 208 - 230 V electric motor.

**SUMMARY OF RESULTS\***

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in*wg	(Pa)	cfm	(L/s)				
0.86	(214)	3839	(1812)	3.47	1.11	15	3511
1.00	(249)	3810	(1798)	3.49	1.09	16	3509
1.50	(374)	3706	(1749)	3.57	1.04	21	3504
2.00	(498)	3558	(1679)	3.65	0.97	25	3511
2.50	(623)	3436	(1622)	3.71	0.93	29	3492
3.00	(747)	3320	(1567)	3.77	0.88	33	3489
3.50	(872)	3173	(1498)	3.81	0.83	36	3486
4.00	(996)	3016	(1424)	3.85	0.78	38	3484
4.50	(1121)	2846	(1343)	3.85	0.74	40	3483
5.00	(1246)	2663	(1257)	3.79	0.70	42	3484
5.50	(1370)	2425	(1145)	3.66	0.66	43	3488
6.00	(1495)	2073	(978)	3.41	0.61	42	3497
6.50	(1619)	1665	(786)	3.08	0.54	40	3508
7.00	(1744)	945	(446)	2.26	0.42	25	3538
7.57	(1886)	124	(59)	1.33	0.09	8	3672

\*Complete results are available in PAMI Report No. 520.

## ZACH MODEL 112 IN-LINE CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Zach Incorporated  
R.R. 2, P.O. Box 118  
Humphrey, NE 68642

### FAN DESCRIPTION:

9.75 in (248 mm) single speed, direct drive, 1.0 hp (746 W),  
115/230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in•wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.50	(124)	1040	(491)	1.36	0.76	5	3477
1.00	(249)	925	(437)	1.31	0.71	9	3480
1.50	(374)	911	(430)	1.25	0.73	14	3482
2.00	(498)	821	(388)	1.20	0.68	17	3488
2.50	(622)	749	(354)	1.13	0.66	20	3495
3.00	(747)	654	(309)	1.06	0.62	22	3504
3.50	(872)	494	(233)	0.91	0.54	20	3515
4.00	(996)	285	(135)	0.77	0.37	16	3537
4.40	(1096)	91	(43)	0.53	0.17	9	3564

\*Complete results are available in PAMI Report No. 507.

## ZACH MODEL 118 IN-LINE CENTRIFUGAL FAN

### MANUFACTURER AND DISTRIBUTOR:

Zach Incorporated  
R.R. 2, P.O. Box 118  
Humphrey, NE 68642

### FAN DESCRIPTION:

14.9 in (378 mm) single speed, direct drive, 3.0 hp (2240 W),  
230 V electric motor.

### SUMMARY OF RESULTS\*

Static Pressure		Air Flow Rate		Input Power	cfm/W	Total Efficiency	Fan Speed
in•wg	(Pa)	cfm	(L/s)	kW		%	rpm
0.50	(124)	3460	(1630)	2.76	1.25	11	3515
1.00	(249)	3340	(1580)	2.85	1.17	17	3512
1.50	(374)	3220	(1520)	2.93	1.10	22	3509
2.00	(497)	3090	(1460)	3.01	1.03	26	3505
2.50	(623)	2950	(1390)	3.07	0.96	30	3502
3.00	(747)	2800	(1320)	3.13	0.89	33	3499
3.50	(872)	2650	(1250)	3.18	0.83	36	3497
4.00	(996)	2500	(1180)	3.21	0.78	37	3495
4.50	(1120)	2340	(1110)	3.23	0.72	38	3494
5.00	(1240)	2170	(1020)	3.23	0.67	39	3494
5.50	(1370)	1960	(925)	3.20	0.61	40	3495
6.00	(1490)	1690	(798)	3.12	0.54	39	3499
6.50	(1620)	1310	(618)	2.94	0.45	36	3510
7.00	(1740)	753	(355)	2.49	0.30	28	3530

\*Complete results are available in PAMI Report No. 478.



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[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/eng6627](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/eng6627)

### Prairie Agricultural Machinery Institute

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