



ZEPHYR CABINET FANS

Models: ZC, ZCC Single and Twin Unit Belt Drive Cabinet Fans





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> Zephyr Cabinet Fans

Model: ZC

- Static pressure up to 1.5 in. wg.
- Belt Drive Flow capacity up to 6,350 CFM

Model: ZCC

- Static pressure up to 1.5 in. wg.
- Belt Drive Flow capacity up to 12,700 CFM



> Zephyr Cabinet Fans

PennBarry certifies that the Zephyr ZC and ZCC models shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Standard 211 and comply with the requirements of the AMCA Certified Ratings Program.



PennBarry reserves the right to make changes at any time, without notice, to models, construction, specifications, options, availability, etc. This bulletin illustrates the appearance of PennBarry products at the time of publication. To view the latest updates, visit PennBarry at www.pennbarry.com.

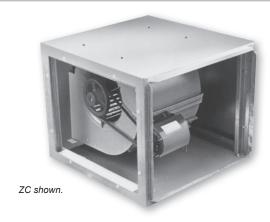
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Introduction

Zephyr Cabinet Fans



Introduction



Domex Axial Supply & Exhaust Fans

PennBarry Zephyr series ZC belt drive cabinet fans are general purpose duct blowers. These versatile, quiet operating air movers provide economical, convenient and effective ventilation in ducted systems. They are also used extensively in heating and cooling systems. Four sizes cover an air capacity range up to 6350 CFM. ZC units are sized with space saving in mind and furnished with inlet and outlet connecting flanges and side access panels as standard. Optional accessories include a duct mounted filter assembly.

> Zephyr Cabinets

Model: ZC

- · Static pressure up to 1.5 in. wg.
- Belt Drive Flow capacity up to 6,350 CFM

Model: ZCC

- · Static pressure up to 1.5 in. wg.
- Belt Drive Flow capacity up to 12,700 CFM

Features & Benefits

> Internal Motor and Drive Assembly

The motor and drive assembly are located inside of the unit for safety. This design also cools the motor so the unit will run more efficiently.

∃ → Ball Bearing Motor

Zephyr Cabinet fans utilize ball bearing motors for durability and long life.

› Blower Shaft Ball Bearings

The blower shaft rides on ball bearings for quiet operation.

› Easy Access Side Panels

Zephyr Cabinet fans come with dual side panels. These panels are easily removable which allows for installation flexibility.

☐ → Application Versatility

Zephyr Cabinet fans can be used for supply or exhaust.

→ Model ZCC Twin Unit

The twin assembly doubles the capacity of a single unit for the same static pressure with identical RPM. Two similar motors are used which enables the flexibility of independent operation when desired.

Options & Accessories

Acoustically Insulated Housing

Optional insulation to line housing for acoustic sensitive applications.

→ Guards

Zephyr Cabinet fans can be supplied with inlet and outlet guards for safety.

> Vibration Isolation

Zephyr Cabinets fans can be supplied with vibration hangers. Vibration hangers allow the fan to be isolated from the building structure which prevents any building resonance from being transmitted to the fan housing.

Safety Disconnect Switch

Safety disconnect switches are available to allow positive electrical shut-off and safety. Switches are factory mounted when factory wiring is requested. Wiring is only run from the motor to the junction box. (Factory wiring of explosion proof applications is not available.) A wide range of Nema rated enclosures with disconnect switches are available for indoor, outdoor, and explosion proof installations. Disconnects are to be field wired by a licensed electrician.

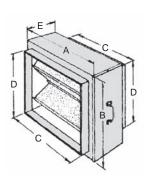


> Internal Wiring

Nema 3R wiring is available.

→ ZF Filter

Series ZF filters are designed for compatibility with Zephyr series ZC cabinet fans. ZF filters can be close-coupled to ZC unit inlets or installed remote to the ZC in the system ductwork. The compact design and ease of maintenance also make ZF filters an ideal choice as a standard duct filter. The filter media can be easily cleaned and is washable with plain soap and water. The pull-out drawer action provides quick and easy access. One filter is required for Model ZC and two filters for Model ZCC.



> ZF Filter Dimensional Data

Size	Α	В	С	D	E
ZF1	22 1/4	20	20 1/8	17 7/8	5 3/4
ZF2	27	23	24 7/8	20 7/8	5 3/4
ZF3	33 1/2	28	30 1/4	24 3/4	5 3/4
ZF4	42	34	38 5/8	30 5/8	5 3/4

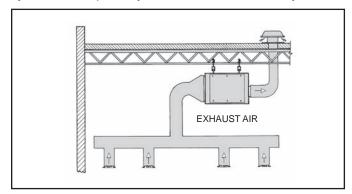
All dimensions in inches.

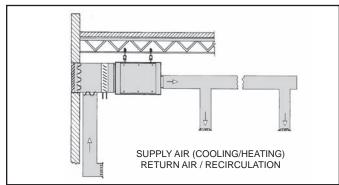
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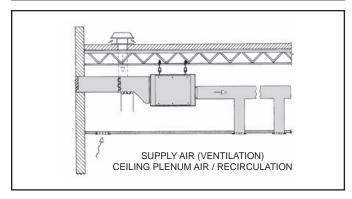


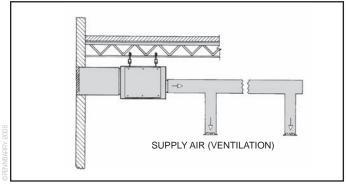
> Typical Applications

Zephyr ZC and ZCC Cabinet fan units are versatile in application. They may be used in ventilation, recirculation, and air conditioning systems as typified by the illustrations below. Dampers, inlet/outlet air diffusers/grilles, cooking appliances, air conditioning coils and ducting shown are typically furnished by others but in part may be available from PennBarry.







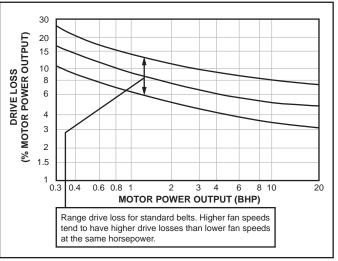


Typical Applications & Belt Drive Losses

› Belt Drive Losses

The AMCA Review Committee has developed the chart shown below for the purpose of estimating belt drive losses. To calculate total BHP (including drive losses): Find the BHP of your operating point on the x-axis on the graph below. Follow the vertical line to the curves indicating the range of drive losses. Look at the y-axis on the left and find the drive loss percentage. Calculate the total BHP by adding the drive loss to the operating point BHP. For BHP's below 0.3, use 30%.

Drive Loss Reference Chart



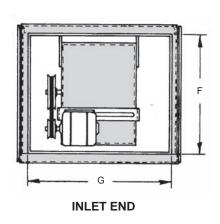
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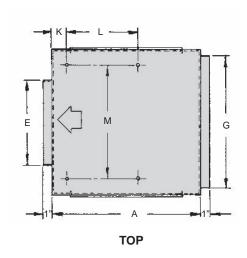
For totally enclosed, explosion proof, multi-speed and all 1.0 Service Factor motors, fan BHP plus drive losses should not exceed motor rated HP.

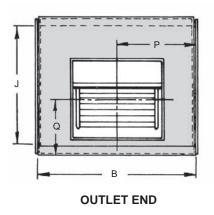
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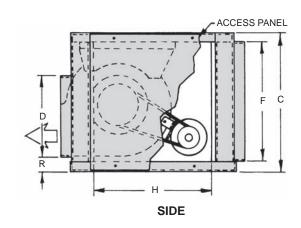
Zephyr Cabinet

ZC









> ZC Belt Drive Unit Dimensional Data

				оит	LET	INL	.ET	ACC OPE	ESS NING						
MODEL	Α	В	С	D	Е	F	G	Н	J	K	L	M	Р	Q	R
ZC10	24 3/4	22 1/4	20	11 3/8	13 3/8	18 1/8	20 3/8	17 1/4	18	1 5/8	13 3/8	17 1/2	11 1/8	7 3/8	1 5/8
ZC12	27 1/2	27	23	13 1/2	15 5/8	21 1/8	25 1/8	20	21	1 5/8	16 1/8	21	13 1/2	8 1/8	1 3/8
ZC15	32	33 1/2	28	15 7/8	18 5/8	25	30 1/2	24 1/2	26	1 1/2	19 1/2	23	16 3/4	10 5/8	2 5/8
7C18	43	42	34	18 7/8	21 7/8	31	39	35 1/2	30	1 7/8	24	37	21	13	3 5/8

All dimensions in inches.

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> ZC10 Fan Performance Data

Inlet Area (FT²)=2.56 | Outlet Area (FT²)=1.04 | Outlet Velocity (FPM)=CFM/1.04 | Tip Speed (FPM)=2.78xRPM | Wheel Dia.=10 5/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFINI	RPM	BHP																
750	422	0.06	535	0.09	637	0.12	-	-	-	-	-	-	-	-	-	-	-	-
950	475	0.10	570	0.13	660	0.17	741	0.21	821	0.25	893	0.30	-	-	-	-	-	-
1150	535	0.15	618	0.19	696	0.23	770	0.28	840	0.33	907	0.38	1035	0.48	-	-	-	-
1350	599	0.23	674	0.28	743	0.32	808	0.37	872	0.42	934	0.48	1049	0.59	1161	0.72	1264	0.85
1550	664	0.33	733	0.38	797	0.44	856	0.49	913	0.55	966	0.60	1078	0.73	1177	0.86	1277	1.00
1750	731	0.46	796	0.52	854	0.58	909	0.64	961	0.70	1013	0.77	1109	0.89	1208	1.04	1297	1.18
1950	801	0.62	860	0.69	914	0.75	966	0.82	1014	0.89	1061	0.95	1153	1.10	1239	1.24	1328	1.41

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> ZC12 Fan Performance Data

Inlet Area (FT²)=3.69 | Outlet Area (FT²)=1.47 | Outlet Velocity (FPM)=CFM/1.47 | Tip Speed (FPM)=3.31xRPM | Wheel Dia.=12 5/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFINI	RPM	BHP	RPM	BHP	RPM	BHP	RPM	ВНР	RPM	BHP								
1150	339	0.08	443	0.13	529	0.19	-	-	-	-	-	-	-	-	-	-	-	-
1350	359	0.10	456	0.16	538	0.22	612	0.30	680	0.38	-	-	-	-	-	-	-	-
1550	381	0.13	472	0.20	552	0.27	621	0.34	685	0.42	747	0.52	-	-	-	-	-	-
1750	406	0.18	492	0.25	565	0.32	634	0.40	695	0.49	752	0.57	853	0.75	-	-	-	-
1950	432	0.23	511	0.30	583	0.38	648	0.47	709	0.56	764	0.65	866	0.86	954	1.01	-	-
2150	459	0.28	533	0.36	603	0.46	664	0.54	722	0.64	777	0.74	876	0.95	964	1.16	1045	1.38
2350	486	0.35	559	0.45	623	0.54	683	0.63	737	0.73	791	0.84	889	1.07	975	1.29	1056	1.52
2550	516	0.43	584	0.54	643	0.62	703	0.74	756	0.84	806	0.95	902	1.19	989	1.43	1067	1.67
2750	547	0.52	611	0.64	668	0.74	723	0.85	776	0.96	825	1.08	916	1.32	1002	1.58	1080	1.84

> ZC15 Fan Performance Data

Inlet Area (FT²)=5.30 | Outlet Area (FT²)=2.05 | Outlet Velocity (FPM)=CFM/2.05 | Tip Speed (FPM)=3.93xRPM | Wheel Dia.=15"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFIVI	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	ВНР	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1950	303	0.13	385	0.19	452	0.26	512	0.34	-	-	-	-	-	-	-	-	-	-
2350	331	0.19	406	0.27	470	0.35	526	0.43	575	0.51	622	0.59	-	-	-	-	-	-
2750	361	0.26	428	0.35	490	0.45	544	0.55	594	0.64	639	0.74	724	0.96	-	-	-	-
3150	393	0.37	455	0.47	512	0.57	565	0.69	612	0.79	657	0.91	736	1.12	810	1.36	-	-
3550	425	0.51	485	0.61	536	0.72	587	0.85	633	0.97	675	1.09	754	1.34	824	1.59	888	1.83
3950	465	0.68	515	0.77	565	0.91	610	1.04	655	1.18	697	1.31	773	1.59	843	1.87	906	2.14
4350	505	0.89	547	0.99	594	1.12	637	1.26	678	1.41	719	1.56	793	1.86	861	2.16	924	2.47
4750	547	1.14	580	1.25	625	1.37	666	1.52	704	1.68	742	1.84	815	2.17	881	2.50	943	2.83

> ZC18 Fan Performance Data

Inlet Area (FT²)=8.40 | Outlet Area (FT²)=2.87 | Outlet Velocity (FPM)=CFM/2.87 | Tip Speed (FPM)=4.75xRPM | Wheel Dia.=18 1/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFIVI	RPM	BHP																
3150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3550	-	-	-	-	-	-	462	0.66	503	0.79	-	-	-	-	-	-	-	-
3950	-	-	-	-	436	0.65	478	0.78	516	0.92	552	1.05	-	-	-	-	-	-
4350	-	-	402	0.65	452	0.79	495	0.92	532	1.07	567	1.22	629	1.51	-	-	-	-
4750	369	0.63	420	0.79	468	0.94	511	1.09	549	1.24	583	1.40	643	1.71	700	2.05	-	-
5150	391	0.77	439	0.95	484	1.11	527	1.28	565	1.43	599	1.60	659	1.95	713	2.29	765	2.65
5550	415	0.94	458	1.12	502	1.30	543	1.49	581	1.66	616	1.83	675	2.19	729	2.57	778	2.94
5950	440	1.14	479	1.32	521	1.53	559	1.71	597	1.91	631	2.09	692	2.47	745	2.87	793	3.26
6350	466	1.37	501	1.55	540	1.77	577	1.97	613	2.18	647	2.38	708	2.75	761	3.19	809	3.61

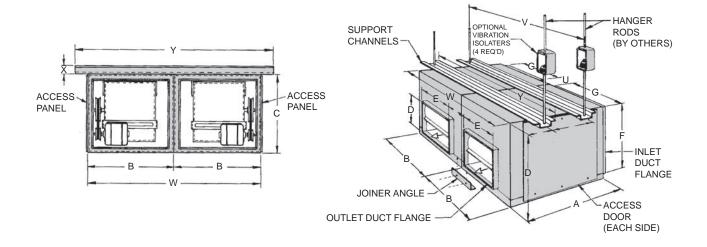
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Class I	Class II	Class III	Class IV	

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ZCC

> ZCC Belt Drive Twin Assembly

Models ZCC are dual units. The twin assembly doubles the capacity of a single unit for the same static pressure with identical RPM. Two similar motors are used which enables the flexibility of independent operation when desired.



> ZCC Belt Drive Twin Assembly Dimensional Data

					OUT	LET		INL	.ET						
Model	Α	В	С	W	D	E	Z	F	G	U	Υ	V	S	Т	Х
ZCC10	24 3/4	22 1/4	20	45	11 3/8	13 1/8	9 5/8	18 1/8	20 1/8	2 3/8	50 1/2	48 1/2	1 5/8	13 3/8	1
ZCC12	27 1/2	27	23	54 1/2	13 1/2	15 5/8	11 7/8	21 1/8	25 1/8	2 3/8	60	58	1 5/8	16 1/8	1
ZCC15	32	33 1/2	28	67 1/2	15 7/8	18 5/8	15 3/8	25	30 1/2	3 1/2	73	71	1 1/2	19 1/2	1
ZCC18	43	42	34	84 1/2	18 7/8	21 7/8	20 5/8	31	39	3 1/2	90	88	1 7/8	24	1

All dimensions in inches.

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ZCC



> ZCC10 Fan Performance Data

Inlet Area (FT²)=5.12 | Outlet Area (FT²)=2.08 | Outlet Velocity (FPM)=CFM/2.08 | Tip Speed (FPM)=2.78xRPM | Wheel Dia.=10 5/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFINI	RPM	BHP																
1500	396	0.11	523	0.17	627	0.24	-	-	-	-	-	-	-	-	-	-	-	-
1900	431	0.19	545	0.26	643	0.34	731	0.41	796	0.51	863	0.59	-	-	-	-	-	-
2300	473	0.30	573	0.38	665	0.47	747	0.56	824	0.65	882	0.75	1002	0.97	-	-	-	-
2700	519	0.46	611	0.55	694	0.64	772	0.74	841	0.85	905	0.96	1021	1.18	1126	1.44	1221	1.69
3100	568	0.66	652	0.76	728	0.87	800	0.98	868	1.09	931	1.20	1044	1.47	1146	1.71	1240	2.00
3500	620	0.91	697	1.04	768	1.16	833	1.28	897	1.40	959	1.53	1069	1.78	1176	2.08	1262	2.36
3900	677	1.23	743	1.37	810	1.50	873	1.64	930	1.77	987	1.91	1097	2.19	1195	2.48	1291	2.81

> ZCC12 Fan Performance Data

Inlet Area (FT²)=7.38 | Outlet Area (FT²)=2.94 | Outlet Velocity (FPM)=CFM/2.94 | Tip Speed (FPM)=3.31xRPM | Wheel Dia.=12 5/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFINI	RPM	BHP																
2300	339	0.15	443	0.26	529	0.38	-	-	-	-	-	-	-	-	-	-	-	-
2700	359	0.20	456	0.32	538	0.45	612	0.60	680	0.76	-	-	-	-	-	-	-	-
3100	381	0.27	472	0.40	552	0.54	621	0.69	685	0.85	747	1.04	-	-	-	-	-	-
3500	406	0.35	492	0.49	565	0.64	634	0.81	696	0.98	752	1.15	854	1.51	-	-	-	-
3900	432	0.45	512	0.60	584	0.77	648	0.94	709	1.12	764	1.31	866	1.71	954	2.10	-	-
4300	459	0.57	533	0.73	603	0.91	664	1.09	723	1.29	778	1.49	876	1.90	964	2.33	1046	2.78
4700	486	0.70	559	0.89	623	1.07	683	1.27	738	1.47	791	1.68	889	2.13	976	2.58	1056	3.05
5100	516	0.86	585	1.08	643	1.25	703	1.47	757	1.69	806	1.89	903	2.38	989	2.87	1067	3.35
5500	547	1.05	611	1.28	668	1.48	723	1.69	776	1.93	825	2.16	916	2.64	1002	3.17	1081	3.70

> ZCC15 Fan Performance Data

Inlet Area (FT²)=10.60 | Outlet Area (FT²)=4.10 | Outlet Velocity (FPM)=CFM/4.10 | Tip Speed (FPM)=3.93xRPM | Wheel Dia.=15"

СЕМ	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFIVI	RPM	BHP	RPM	BHP	RPM	BHP	RPM	ВНР	RPM	ВНР	RPM	BHP	RPM	BHP	RPM	BHP	RPM	ВНР
3900	303	0.44	385	0.39	452	0.52	512	0.68	562	0.81	-	-	-	-	-	-	-	-
4700	331	0.52	406	0.74	470	0.70	526	0.86	575	1.01	623	1.19	-	-	-	-	-	-
5500	361	0.54	429	1.26	490	1.13	544	1.09	594	1.29	639	1.48	724	1.91	795	2.27	-	-
6300	393	0.75	456	1.46	513	1.86	565	1.69	612	1.59	657	1.81	736	2.24	810	2.72	875	3.15
7100	425	1.01	485	1.49	536	2.64	587	2.64	633	2.44	675	2.18	754	2.69	824	3.17	888	3.65
7900	465	1.36	516	1.56	565	2.70	610	3.72	655	3.62	697	3.42	773	3.17	843	3.74	906	4.28
8700	505	1.77	547	1.98	594	2.74	637	4.12	678	4.96	719	4.85	793	4.32	861	4.33	924	4.94
9500	547	2.28	580	2.50	625	2.79	666	4.19	704	5.72	742	6.46	815	6.13	881	5.44	943	5.67

> ZCC18 Fan Performance Data

Inlet Area (FT²)=16.80 | Outlet Area (FT²)=5.74 | Outlet Velocity (FPM)=CFM/5.74 | Tip Speed (FPM)=4.75xRPM | Wheel Dia.=18 1/8"

CFM	0.125	" S.P.	0.250	" S.P.	0.375	" S.P.	0.500	" S.P.	0.625	" S.P.	0.750	" S.P.	1.000	" S.P.	1.250	" S.P.	1.500	" S.P.
CFIVI	RPM	BHP																
6300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7100	-	-	-	-	-	-	462	1.32	503	1.58	-	-	-	-	-	-	-	-
7900	-	-	-	-	436	1.30	479	1.58	516	1.83	552	2.11	-	-	-	-	-	-
8700	-	-	402	1.31	452	1.58	495	1.85	532	2.14	567	2.44	629	3.02	-	-	-	-
9550	370	1.28	421	1.60	469	1.91	512	2.20	550	2.51	584	2.83	644	3.45	701	4.12	-	-
10300	391	1.55	439	1.89	484	2.23	527	2.56	565	2.86	599	3.21	659	3.89	713	4.57	765	5.30
11100	415	1.88	458	2.24	502	2.62	543	2.98	581	3.33	616	3.65	675	4.39	729	5.14	778	5.87
11900	440	2.28	479	2.64	521	3.06	559	3.44	597	3.83	631	4.18	692	4.94	745	5.74	793	6.52
12700	466	2.74	501	3.11	540	3.54	577	3.95	613	4.37	647	4.77	709	5.53	761	6.39	809	7.23

Performance shown is for installation Type B free inlet ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating (BHP) includes drive losses. Legend for colors is shown below.

(DIII) Indiaded and blooded. Edgend for colored content bolow.					
BARRY 2008	Class I	Class II	Class III	Class IV	Class V

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Engineering Specifications

Zephyr Cabinet Fans



Product Configuration & Engineering Specifications

) Model

Fans

ZC = Single Unit ZCC = Dual Unit

→ Unit Size

15 18

Motor Speed

1 = Single Speed

2 = 2S2W Single & Three Phase

3 = 2S1W Three Phase

> Horse Power

1/2 3/4 3

→ Enclosure

O = Open Drip Proof

T = Totally Enclosed

Voltage

A = 110VG = 230VN = 440V B = 115VH = 240VP = 460VC = 120VJ = 277VQ = 480VD = 200VK = 380VR = 575VE = 208VL = 400VS = 600VF = 220VM = 415V

Phase

1 = Single

3 = Three

→ Cycle

5 = 50 Hz

6 = 60 Hz

Paint / Coating

0 = None

F = Epoxy Powder Coat*

G = Epoxy Powder Coat with UV*

H = Hi-Temp Powder Coat*

J = Non-Stick Powder Coat*

K = Phenolic Powder Coat*

L = Phenolic Powder Coat with UV*

N = Polvester Powder Coat

X = Special

p

h

V

r

b

n е t * Not available with choice of color.

> Color

00 = Standard Gray 0 = None50 = Chrome Green 53 = Will. Blue 55 = Pale Green 56 = Dove Gray 61 = White 63 = Oxford Beige 65 = Dover White 66 = Desert Tan 73 = Smoke Gray 70 = Black 77 = Brick Red 79 = Peppercorn 81 = Pale Brown 83= Choc. Brown 85 = Timeless Bronze

X = Special

) Damper

0 = None

D = Damper

Vibration Isolation

0 = None

RH= Rubber Hanger

SH= Spring Hanger

RF = Rubber Floor

SF = Spring Floor

SC = Support Channels with Rubber Floor

> Insulation

0 = None

A = Insulation

Guard

0 = None

N = Inlet

U = Outlet

B = Both

Dust Filter

0 = None

F = Dust Filter

> Filter Replacement Quantity

0 to 99

Disconnect Switch

1 = Nema 1 Disconnect Switch

3R = Nema 3R Disconnect Switch

4 = Nema 4 Disconnect Switch

> Internal Wiring

0 = None

1 = Nema 1 Internal Wiring

3R = Nema 3R Internal Wiring

> Thermal Overload Protection

0 = None

P = Thermal Protection

) ZC

Belt drive cabinet inline duct fan shall be Zephyr ZC, manufactured by PennBarry, Richardson, TX 75081.

Fan housing shall be galvanized steel, shall enclose the motor/fan assembly, & include removable side panels to allow access to the motor/fan assembly. Fans shall have a forward curved centrifugal wheel. Fan motors shall be continuous duty, ball bearing design, permanently lubricated, positively cooled, & furnished at the specified voltage, phase, & enclo-

Each fan shall bear the AMCA Licensed Ratings Seal for Air Performance.

Belt drive dual cabinet inline duct fan shall be Zephyr ZCC, manufactured by Penn-Barry, Richardson, TX 75081.

Fan housing shall be galvanized steel, shall enclose two motor/fan assemblies, & include removable side panels to allow access to the motor/fan assemblies. Fans shall have a forward curved centrifugal wheels. Fan motors shall be continuous duty, ball bearing design, permanently lubricated, positively cooled, & furnished at the specified voltage, phase, & enclo-

Each fan shall bear the AMCA Licensed Ratings Seal for Air Performance.

94 = Charcoal



Sales Agreement

Zephyr Cabinet Fans

1-Year Limited Manufacturer Warranty

Products Covered

PennBarry Fans and Ventilators (each, a "PennBarry Product")

One Year Limited Warranty For PennBarry Products

PennBarry warrants to the original commercial purchaser that the PennBarry Products will be free from defects in material and workmanship for a period of one (1) year from the date of shipment.

> Exclusive Remedy

PennBarry will, at its option, repair or replace (without removal or installation) the affected components of any defective PennBarry Product; repair or replace (without removal or installation) the entire defective PennBarry Product; or refund the invoice price of the PennBarry Product. In all cases, a reasonable time period must be allowed for warranty repairs to be completed.

> What You Must Do

In order to make a claim under these warranties:

- You must be the original commercial purchaser of the PennBarry Product.
- You must promptly notify us, within the warranty period, of any defect and provide us with any substantiation that we may reasonably request.
- The PennBarry Product must have been installed and maintained in accordance with good industry practice and any specific PennBarry recommendations.

> Exclusions

These warranties do not cover defects caused by:

- Improper design or operation of the system into which the PennBarry Product is incorporated.
- · Improper installation.
- · Accident, abuse or misuse.
- Unreasonable use (including any use for non-commercial purposes, failure to provide reasonable and necessary maintenance as specified by PennBarry, misapplication and operation in excess of stated performance characteristics).
- · Components not manufactured by PennBarry.

Limitations

- In all cases, PennBarry reserves the right to fully satisfy its obligations under the Limited Warranties by refunding the invoice
 price of the defective PennBarry Product (or, if the PennBarry Product has been discontinued, of the most nearly comparable
 current product).
- PennBarry reserves the right to furnish a substitute or replacement component or product in the event a PennBarry Product or any component of the product is discontinued or otherwise unavailable.
- PennBarry's only obligation with respect to components not manufactured by PennBarry shall be to pass through the warranty made by the manufacturer of the defective component.

General

The foregoing warranties are exclusive and in lieu of all other warranties except that of title, whether written, oral or implied, in fact or in law (including any warranty of merchantability or fitness for a particular purpose).

PennBarry hereby disclaims any liability for special, punitive, indirect, incidental or consequential damages, including without limitation lost profits or revenues, loss of use of equipment, cost of capital, cost of substitute products, facilities or services, downtime, shutdown or slowdown costs.

The remedies of the original commercial purchaser set forth herein are exclusive and the liability of PennBarry with respect to the PennBarry Products, whether in contract, tort, warranty, strict liability or other legal theory shall not exceed the invoice price charged by PennBarry to its customer for the affected PennBarry Product at the time the claim is made.

Inquiries regarding these warranties should be sent to: PennBarry, 1401 North Plano Road, Richardson, TX 75081

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Other PennBarry Products

Centrifugal Products



> Domex Centrifugal Roof Exhausters



> Fumex Fatrap Kitchen Hood Centrifugal Roof Exhausters



> Zephyr Ceiling and Inline Fans



> Dynamo Centrifugal Blowers



> Centrex Inliner Centrifugal Inline Fan



> LC Dynafan Low Contour Centrifugal Roof Exhausters



> ESI Efficient Silent Inline Fan



> Fume Exhaust **Curb Mounted** Centrifugal Fans

Axial / Gravity Products



> Breezeway Propeller Wall Fan



> Hi-Ex Power Roof Ventilator



> Tubeaxial Inline Fans



> Vaneaxial Inline Fans



> Powered Airette **Axial Roof Ventilators**



> Airette Gravity Intake/Relief Hood



> Domex Axial **Axial Roof Ventilators**



> Axcentrix Bifurcator Fan



For more information, contact your local PennBarry Sales Manufacturer Representative or visit us at www.PennBarry.com.