

TO: Clark/Kjos Architects 621 SW Alder St, Suite 700, Portland, OR 97205PROJECT: Wallowa Medical Office Building Addition

We hereby submit for your consideration the following product instead of the specified item for the above project:

SECTION	PARAGRAPH	SPECIFIED ITEM
<u>233000</u>	<u>2.02P</u>	<u>Gravity Exhaust Head</u>

Proposed Substitution: PennBarry model WCC Aluminum Weather Caps

Fill in Blanks Below:

- A. Does the substitution affect dimensions shown on Drawings? No
- B. Will the undersigned pay for changes to the building design including engineering and detailing costs caused by the requested substitution? Yes
- C. What effect does substitution have on other trades? None
- D. Differences between proposed substitution and specified item? None
- E. Manufacturer's guarantees of the proposed and specified items are: ☒ Same ☐ Different (explain on attachment)
- F. Role of Submitter: ☐ General Contractor ☐ Subcontractor ☐ Manufacturer ☐ Distributor
☒ Representative
- G. Attach complete technical data, including laboratory tests, if applicable.
- H. Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.
- I. The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.
- J. The undersigned agrees that the terms and conditions for substitutions found in the Bidding Documents apply to this proposed substitution.

Submitted by: Greg Oberle

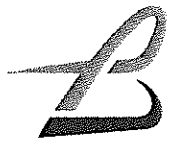
Signature Firm Air Reps, LLCAddress 15860 SW Upper Boones Ferry Rd.Lake Oswego, Oregon 97035Date 2/18/2019Telephone 503-620-4300Fax 503-620-4300Email grego@airreps.com

For use by Design Consultant:

- ☒ Accepted ☐ Accepted as noted
☐ Not Accepted ☐ Received Too Late

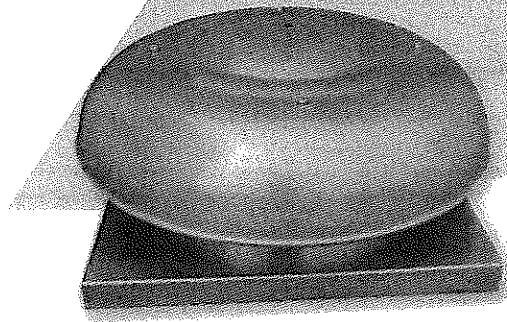
By Mariana GalofteanuDate 2/20/2019

Remarks _____



PENNBARRY™

WC08



WEATHER CAPS

Models: WCF & WCC

Rooftop Exhaust or Supply Ventilators

Flat Base and Curb Mount Base

MOVING YOUR WAY

Introduction & Dimensional Information

Weather Caps



WCF & WCC

Introduction: Air Exhaust or Intake

Weather Caps are constructed of attractive and weather resistant aluminum base, airshaft and cap. Weather caps are used as pressure relief ventilators, discharge caps at the end of ductwork, or outside air inlet hoods. Their aerodynamic design and large diameter caps minimize pressure drops and air noise. With these units, it is possible to provide a weather cap that is visually compatible with spun aluminum centrifugal or axial roof fans.

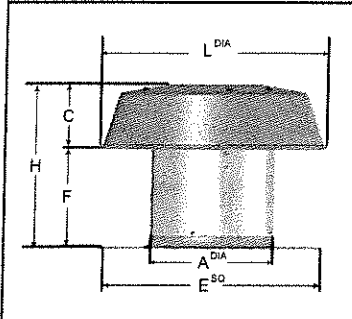
Two styles of Weather Caps are provided:

- **WCF (Weather Cap Flat)** has an extra wide, flat base for installation under shingles. Available in sizes 06 – 20, these models do not require curbs.
- **WCC (Weather Cap Curb)** has a lipped curb cap (base) found on virtually all roof top ventilators. Available in all sizes, these models require a roof curb which must be ordered separately (or provided by the field.)

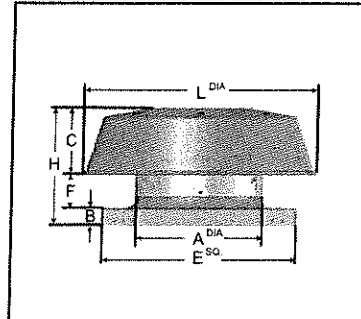
Both styles are weather tight, include bird screen and utilize heavy gauge galvanized hood brackets to provide a rigid, long lasting unit. The caps are seamless, spun aluminum which can be removed for access to the air shaft when required.

(1) The recommended clearances for the roof openings for installing the dampers provided is 1/4" (sizes 06-20) and 1/2" (sizes 24-48). Installation of motorized dampers requires 12" high curbs. (2) Installing roof dampers is not recommended for WCF models. WCF roof openings normally match throat diameters. (3) If round duct is used for either the WCF or WCC units, actuated round dampers, should be specified. (4) All dimensions in inches.

Weather Cap Flat (WCF)



Weather Cap Curb (WCC)



WCF & WCC Dimensional References

Model	A (Throat DIA.)	B	C	E SQ.	F	H	L DIA.	*Damper SQ.
WCF06	7	-	3 1/2	16 1/4	8	11 1/2	12	-
WCF08	9	-	5 1/2	21 1/4	8	13 1/2	18 1/2	-
WCF10	11	-	5 1/2	21 1/4	10	15 1/2	21	-
WCF12	13	-	7	24	10	17	25	-
WCF14	15	-	7	28	10	17	28	-
WCF16	17	-	10	28	12	22	30	-
WCF18	19	-	10	32	12	22	32	-
WCF20	21	-	10 1/2	32	12	22 1/2	37	-
WCC06	7	1	3 1/2	15	4	8 1/2	12	8 3/4
WCC08	9	1 1/2	5 1/2	18 1/2	4	11	18 1/2	11 1/4
WCC10	11	1 1/2	5 1/2	18 1/2	4	11	21	11 1/4
WCC12	13	2	7	20 1/2	4	13	25	15 1/4
WCC14	15	2	7	24 1/4	4	13	28	15 1/4
WCC16	17	2	10	24 1/4	4 1/2	16 1/2	30	15 1/4
WCC18	19	2	10	28 1/2	4 1/2	16 1/2	32	19 1/4
WCC20	21	2	10 1/2	28 1/2	5 1/2	18	37	19 1/4
WCC24	25	2	11	33 1/2	5 1/2	18 1/2	45	24 1/4
WCC30	31	2	11	36 1/2	7	20	52	27 1/4
WCC36	37	2	15	44 1/2	7	24	65	35 1/2
WCC42	43	2	16	52 1/2	7	25	67	43 1/2
WCC48	49	2	16	59	7	25	72	49 1/2

Pressure Drop

The performances of these models are presented as CFM at a Pressure Drop, NOT Static Pressure which is normally shown. The air flow (CFM) shown includes the Total Pressure Drop through the weather cap. Total Pressure Drop includes both Static and Velocity Pressure drops.

To calculate the Static Pressure, perform the following steps:

1. **Throat Velocity** = CFM ÷ Throat Area - CFM is design requirement. Throat area is in units of square feet (shown in Fresh Air Intake chart to the right.)
2. **Velocity Pressure** = (Throat Velocity ÷ 4002)² - Throat velocity is from step #1.
3. **Static Pressure** = Total Pressure - Velocity Pressure
Total Pressure is Pressure Drop shown on performance charts. Velocity Pressure is from step #2.

Fresh Air Intake

Model	Throat Area sq. ft.	Intake Area sq. ft.	Max. Intake CFM* at 500 FPM
WCF/WCC06	0.3	0.5	250
WCF/WCC08	0.4	1.4	700
WCF/WCC10	0.7	1.7	850
WCF/WCC12	0.9	2.5	1,250
WCF/WCC14	1.2	3.0	1,500
WCF/WCC16	1.6	3.3	1,650
WCF/WCC18	2.0	3.6	1,800
WCF/WCC20	2.4	5.1	2,550
WCC24	3.4	7.6	3,800
WCC30	5.2	9.5	4,750
WCC36	7.5	15.6	7,800
WCC42	10.1	14.4	7,200
WCC48	13.1	15.2	7,600

Recommended maximum air intake capacities to minimize the possibility of water entry are listed above. *Based on hood entrance velocity.



Performance Data & Engineering Specifications

Weather Caps

WCF & WCC

WCF & WCC Exhaust Performance Data

Model	Exhaust CFM Pressure Drop ("WC)								
	0.025	0.050	0.100	0.125	0.150	0.200	0.250	0.300	0.350
WCF/WCC06	93	131	185	207	227	262	293	320	346
WCF/WCC08	221	313	442	494	541	625	699	766	827
WCF/WCC10	297	420	594	664	727	840	939	1029	1111
WCF/WCC12	493	697	986	1102	1208	1394	1559	1708	1845
WCF/WCC14	604	853	1207	1349	1478	1707	1908	2091	2258
WCF/WCC16	746	1055	1492	1668	1827	2110	2359	2584	2791
WCF/WCC18	919	1300	1838	2055	2251	2599	2906	3184	3439
WCF/WCC20	1127	1593	2253	2519	2759	3186	3562	3902	4215
WCC24	1471	2080	2941	3288	3602	4159	4650	5094	5502
WCC30	1768	2500	3535	3952	4329	4999	5589	6123	6613
WCC36	2730	3860	5459	6103	6686	7720	8631	9455	10213
WCC42	3468	4904	6936	7755	8495	9809	10967	12014	12976
WCC48	5363	7584	10725	11991	13135	15167	16958	18576	20065

WCF & WCC Intake Performance Data

Model	Intake CFM Pressure Drop ("WC)								
	0.025	0.050	0.100	0.125	0.150	0.200	0.250	0.300	0.350
WCF/WCC06	64	91	128	143	157	181	202	222	239
WCF/WCC08	148	209	296	331	363	419	468	513	554
WCF/WCC10	202	286	404	452	495	571	639	700	756
WCF/WCC12	330.5	467	661	739	810	935	1045	1145	1237
WCF/WCC14	440.5	623	881	985	1079	1246	1393	1526	1648
WCF/WCC16	552	781	1104	1234	1352	1561	1746	1912	2065
WCF/WCC18	707.5	1001	1415	1582	1733	2001	2237	2451	2647
WCF/WCC20	856	1211	1712	1914	2097	2421	2707	2965	3203
WCC24	1191	1684	2382	2663	2917	3369	3766	4126	4456
WCC30	1537.5	2174	3075	3438	3766	4349	4862	5326	5753
WCC36	2402	3397	4804	5371	5884	6794	7596	8321	8987
WCC42	3052	4316	6104	6824	7476	8632	9651	10572	11420
WCC48	4612	6522	9224	10313	11297	13045	14584	15976	17257

Product Configuration

Model

WCF = Weather Cap Flat
WCC = Weather Cap Curb

Unit Size

06 08 10 12 14 16 18
20 24 30 36 42 48

Application E/S

E = Exhaust
S = Supply

Paint/Coating

0 = None
F = Epoxy Powder Coat*
G = Epoxy Powder Coat w/ UV*
H = Hi-Temp Powder Coat*
J = Non-stick Powder Coat*
K = Phenolic Powder Coat*
L = Phenolic Powder Coat w/ UV*
N = Polyester Powder Coat
X = Special

* Not available with choice of color.

Color

0 = None
50 = Chrome Green
53 = Williamsburg Blue
55 = Pale Green
56 = Dove Gray
61 = White
63 = Oxford Beige
65 = Dover White
66 = Desert Tan
70 = Black
73 = Smoke Gray
77 = Brick Red
79 = Peppercorn
81 = Pale Brown
83 = Chocolate Brown
85 = Timeless Bronze
94 = Charcoal
X = Special

Roof Slope

0 = None
S = Single Slope
D = Double Slope

Roof Curb

0 = None
B = UCG12
D = UCA8
F = SFA12
H = SCG16
K = UCA18
M = SA16
P = SFG18
R = SRA16
T = UA12
V = UG18
Y = URA18
10 = SFA8
12 = USCA
4 = UVA18
A = UCG8
C = UCG18
E = UCA12
G = SFA18
J = SCA16
L = UG12
N = SFG12
Q = SG16
S = SRG16
U = UA18
W = URA12
1 = URG12
11 = USCG
2 = URG18
5 = UVG18

Damper

0 = None
BDD = Gravity Backdraft
CBD = Counter Balance Relief
MPBD1 = Motor Operated 115V
MPBD2 = Motor Operated 230V
MPBD4 = Motor Operated 450V

Metal Liner

0 = None
L = Liner

Damper Holding Plate

0 = None
P = Damper Holding Plate

Neoprene Gasket

0 = None
G = Gasket

No Wooden Nailer

0 = None
N = No Wooden Nailer

Curb Paint/Coating

0 = None
B = Air Dried Epoxy
Q = Enamel

Screen

0 = None
S = Insect Screen