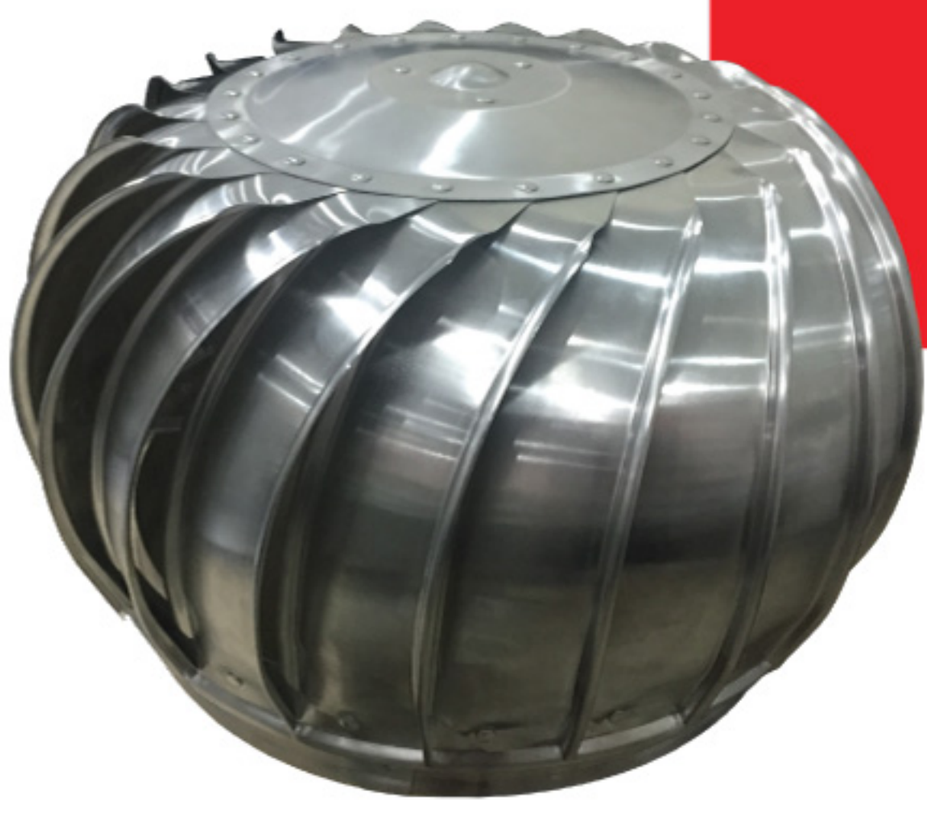
PrudentAire®

WIND TURBINE VENTILATOR



WTV

Wind Turbine Ventilator

BISON wind turbine ventilation are suitable to use for residential and industrial application.

BISON wind turbine ventilation is designed in the USA and has been engineered with computer designed for rigid frame construction to provide efficiently and quietly operation at very low speed of wind and yet can withstand a wind velocity in excess of 160km/h.

BISON wind turbine ventilation is designed for 3 type ;i.e 360mm (14"), 460mm (18") and 600mm (24"). The 360mm (14") ventilators are fitted with Japan high carbon steel bearing, whilst the 460mm (18") and 600mm (24") ventilators are fitted with NTN high carbon steel bearing to provide silent operation and trouble free maintenance.

BISON wind turbine ventilation are suitable to use for residential and industrial application. This natural (mechanical) ventilators will provide better air changes and remove not only hot air and moist but also pollutants, chemical fumes, odor and omission of any toxic.

BISON wind turbine ventilation is the most popular brand sold in Malaysia, and are exported tomany countries in the region including Australia, New Zealand, Singapore, Taiwan, Brunei, Philippine, Myanmar, Thailand, China, Vietnam, India, Bangladesh, Sri Lanka and Indonesia.

Specification

BISON wind turbine ventilator is designed and constructed from 100% strong lightweight aluminum. The 360mm (14") ventilators are fitted with Japan high carbon steel bearing, whilst the 460mm (18") and 600mm (24") ventilators are fitted with NTN high carbon steel bearing to provide silent operation and trouble free maintenance.

CSIRO TEST REPORT

Australia

AS 2428-1
Determination of Resistance to Leakage During Rain Test

AS 2428-2
Operation Under Wind Load Test

BISON wind turbine ventilator

Type	360mm (14")	460mm (18")	600mm (24")
Weight	1.1kg +/-	3.9kg +/-	5.8kg +/-
Height	280mm +/-	400mm +/-	540mm +/-
Blade / Thickness	21nos / 0.4mm	26nos / 0.5mm	34nos / 0.5mm
Center Shaft	Aluminum	Stainless Steel	Stainless Steel
Top Cover	Aluminum	Aluminum	Aluminum
Base Ring / Brace	Aluminum	Aluminum	Aluminum
Bearing System	JAPAN Bearing	NTN Bearing	NTN Bearing

Bearing System

BISON	360mm (14")	460mm (18")	600mm (24")
Bearing System	JAPAN Bearing	JAPAN Bearing	JAPAN Bearing
Bearing Model	6200ZZ	NTN 6002ZZ	NTN 6002ZZ

BISON ventilator is fulfill to method of testing for smoke/heat release ventilation
a) AS 2428-1 determination of resistance to leakage during rain.
b) AS 2428-2 operation under wind load.

WARRANTY : 1 year product warranty against manufacturer defects.

Calculator Guide

Total of units ventilator required

$$\frac{\text{Length (ft) x Width(ft) x Height(ft) x Air Change per hour}}{\text{Ventilator Exhaust Capacity per hour}}$$

Recommended Air Change Per Hour

For various working condition

BISON wind turbine ventilator

Type	Plain Roof	Jack Roof
Warehouse WITHOUT Processing Machine	2.0 - 2.5	1.5 - 2.0
Warehouse WITH Minimal Processing Machine	2.0 - 3.0	1.5 - 2.5
Factories WITH Minimal Heat Production and Fumes Emission	2.5 - 4.0	1.5 - 3.5
Factories WITH Moderate Heat Production and Fumes Emission	3.0 - 5.0	2.0 - 4.0
Factories WITH High Heat Production and Fumes Emission	4.0 - 6.0	3.0 - 5.0
Factories WITH Fumes Emission	7.0 - 10.0	5.0 - 8.0

NOTE : The above is a guide.
During actual assessment of working site, other factors like number of air inlets and traffics flow within working area are taken into consideration, thus adjustments to the above made when necessary.
*MIDA recommendation is 5 air changes per hour air ventilation.

Exhaust Capacity of Wind Turbine Ventilator with Stack Height Effect & Wind Velocity

14" Ventilator Exhaust Capacity Wind Velocity of 8mph (13Kmph)

Height (ft) \ Air Change	3	5	7	9	11	13	15	17	19	21
15	855	860	870	875	880	885	895	900	905	910
20	860	865	875	885	895	900	910	915	925	930
25	865	875	885	895	905	915	925	935	945	950
30	870	880	890	905	915	925	940	950	960	970
35	875	885	900	915	925	940	955	965	980	990

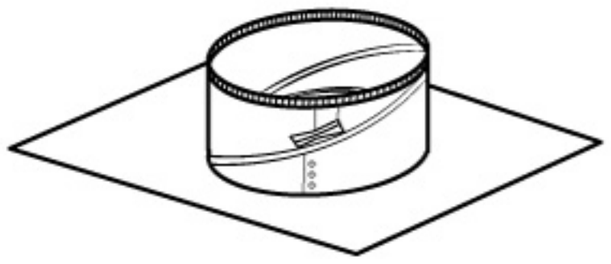
18" Ventilator Exhaust CapacityWind Velocity of 8mph (13Kmph)

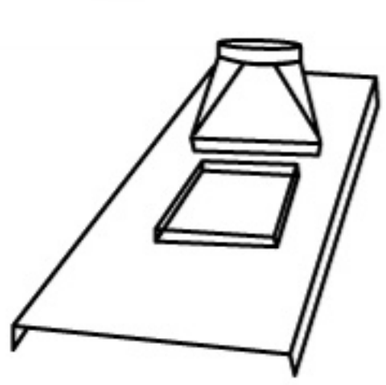
Height (ft) \ Air Change	10	20
15	1340	1360
20	1350	1395
25	1370	1415
30	1360	1505
35	1390	1535

24" Ventilator Exhaust CapacityWind Velocity of 8mph (13Kmph)

Height (ft) \ Air Change	10	20
15	2375	2415
20	2380	2465
25	2415	2500
30	2410	2675
35	2450	2715

Ventilator Type





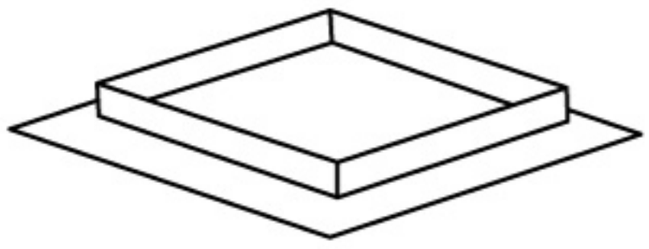
Ventilator Type A

Type	Base Flashing	Center Opening
14” Household variable base	2’ x 2’ 0.7mm	Diameter 14”
14” Industrial variable base	3’ x 4’ 0.7mm	Diameter 14”

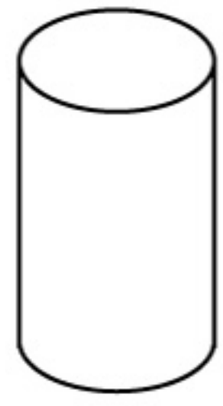
Ventilator Type B

Type	Base Flashing	Center Opening
14” Industrial base	3’ x 4’ 0.5mm	20” x 20”
14” Industrial base	3’ x 6’ 0.5mm	20” x 20”
18” Industrial base	3’ x 4’ 0.6mm	24” x 24”
18” Industrial base	3’ x 6’ 0.6mm	24” x 24”
24” Industrial base	3’ x 4’ 0.6mm	27” x 27”
24” Industrial base	3’ x 6’ 0.6mm	27” x 27”

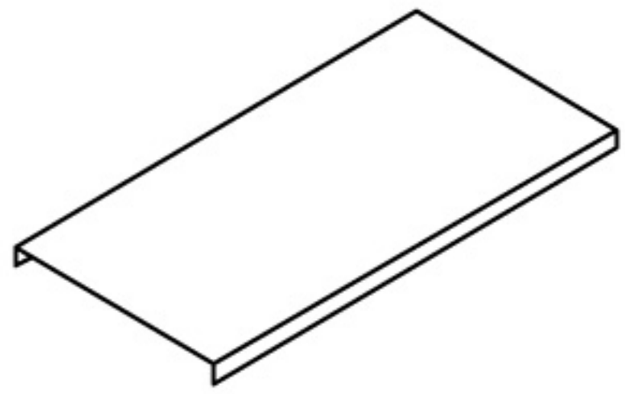
Optional Items



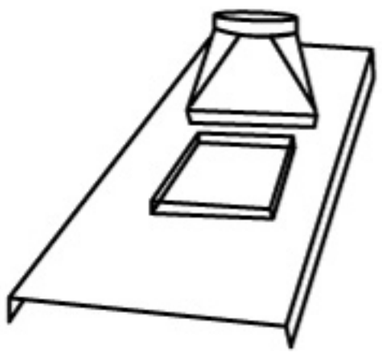
Square Collar



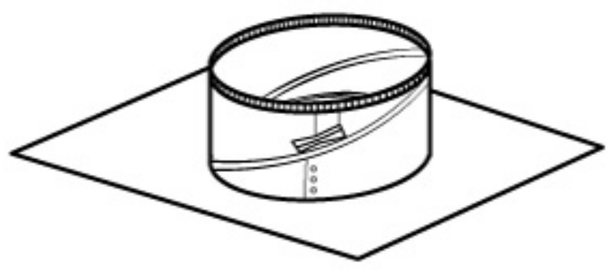
Neck Extention



Flashing Extension



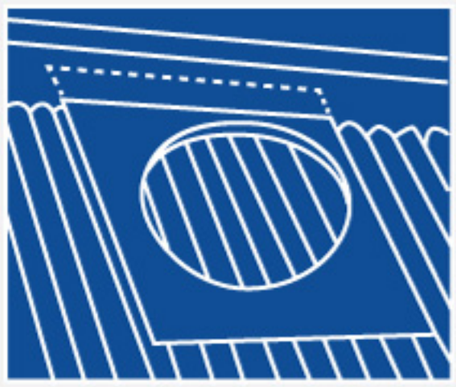
Industrial Base



Variable Base

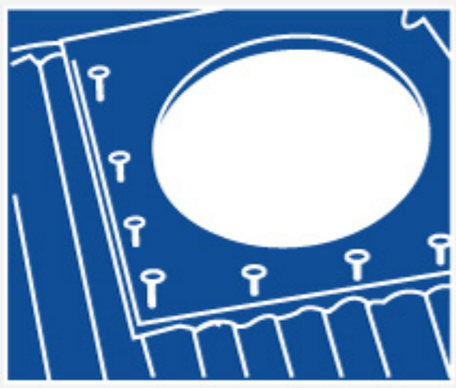
Installation Instruction

Metal Roof

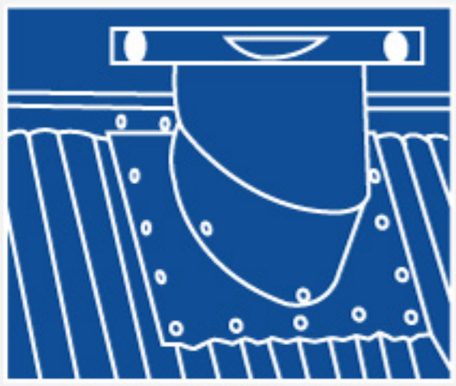


Step 1
Place base flashing in selected position allowing the top edge of flashing to slide under ridge capping by a minimum of 80mm

Step 2
Mark out the location of the 60mm diameter hole and cut it out. Turn up pans corrogations at the cut.



Step 3
Re-position the base flashing over the hole, dress flashing to roof and secure with screws.

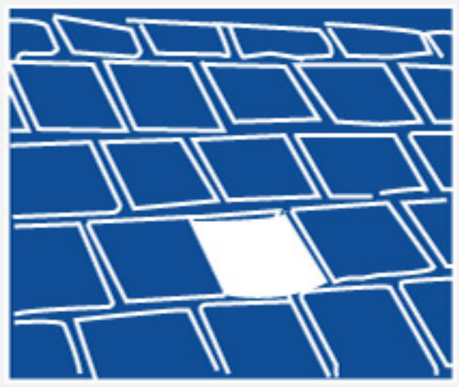


Step 4
Place variable pitch collar on to the base flashing and adjust to ensure the top opening of the collar is level in all directions. Fix the collar to the base with screws and tighten the variable pitch adjustment screw.

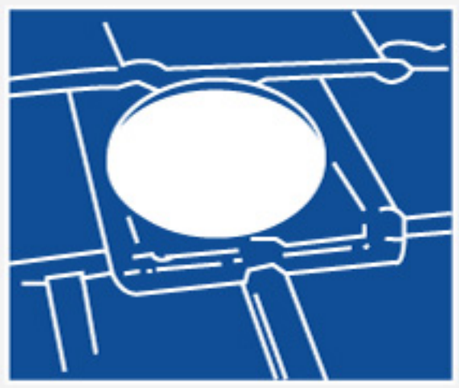
Step 5
Apply silicone sealant to the inside of the variable pitch joint and the collar to base joint. Silicone around the perimeter of the base and any fixings.

Step 6
Mount the turbine head. Fix with screws.

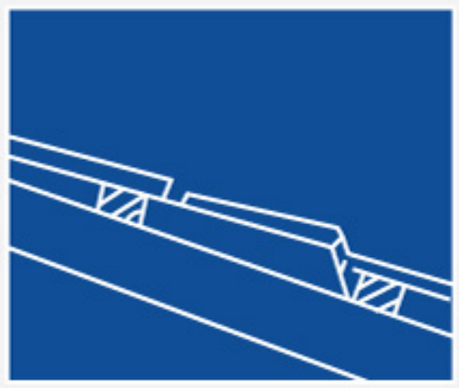
Tile Roof



Step 1
Select the desired location for your BISON™, come down three tiles from the ridge and carefully remove the tile.

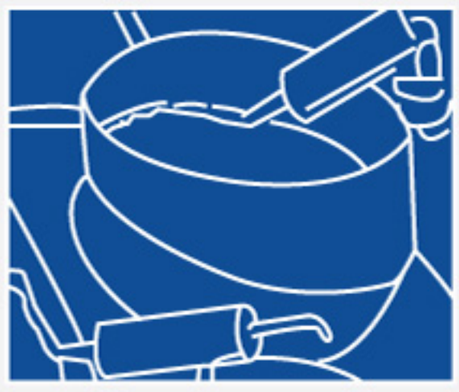


Step 2
Form the base flashing so that it will slide under the tile above the opening. Dress the flashing to the shape of the tiles beside and below the opening.



Step 3
The down the base with a metal strap fixed to the tile batten under the front tile.

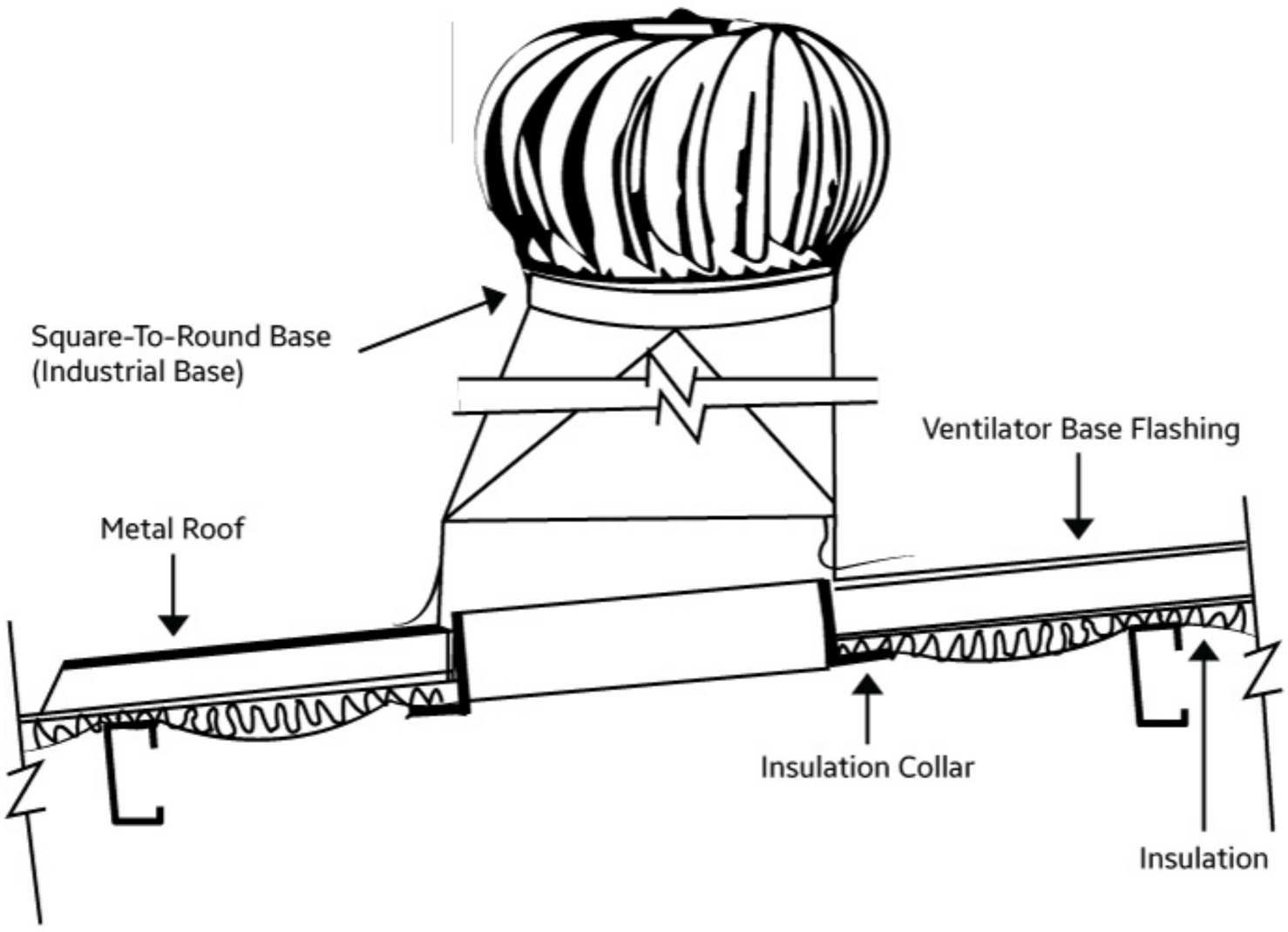
Step 4
Place the variable pitch collar on the base flashing and adjust to ensure the top opening of the collar is level in all directions. Fix the collar to the base with screws and tighten the variable pitch adjustment screw.



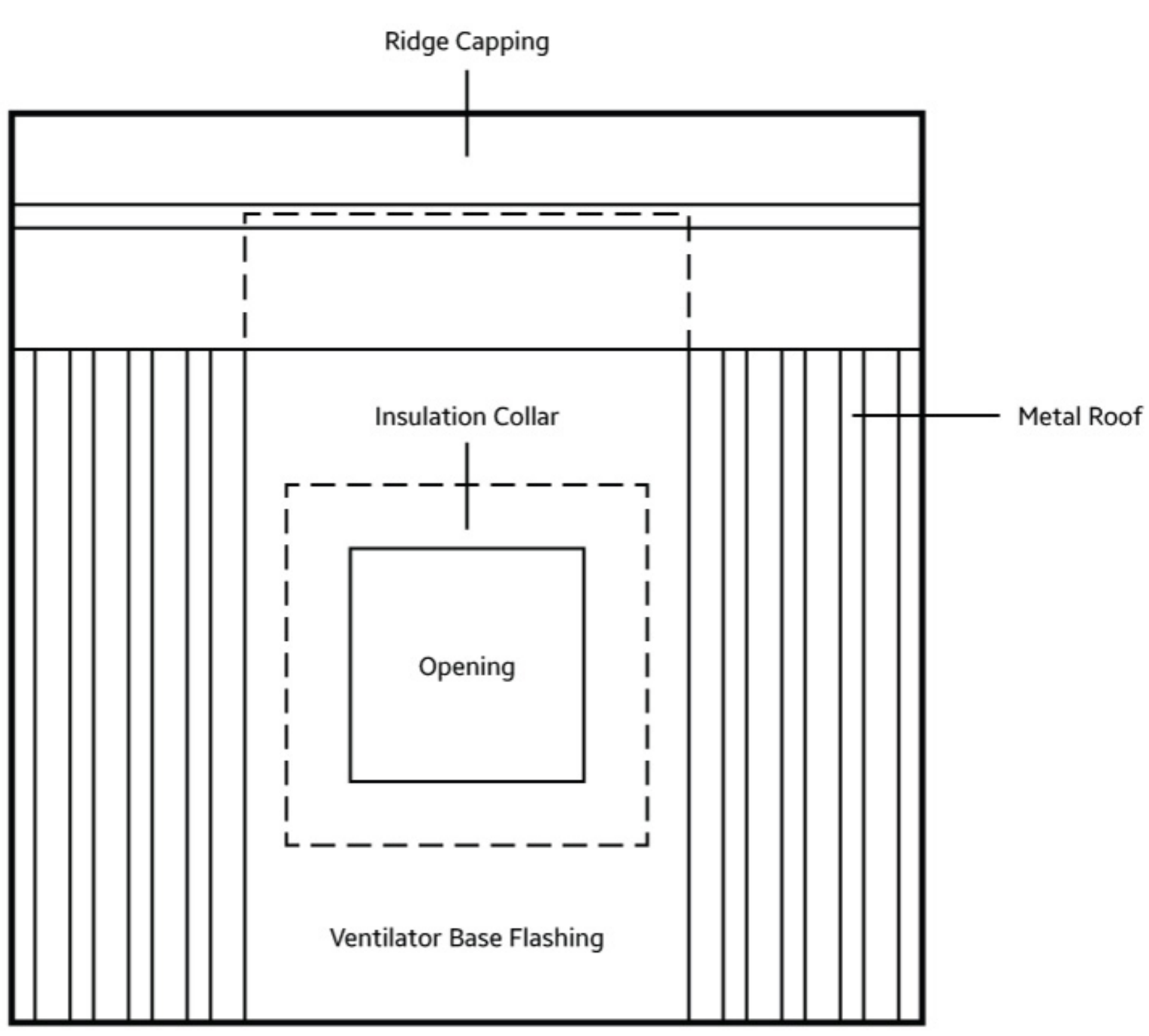
Step 5
Apply silicone sealant to the inside of the variable pitch joint and the collar to base joint. Silicone around the peimeter of the base and any fixings.

Step 6
Mount the turbine head and fix with screws.

Installation Instruction



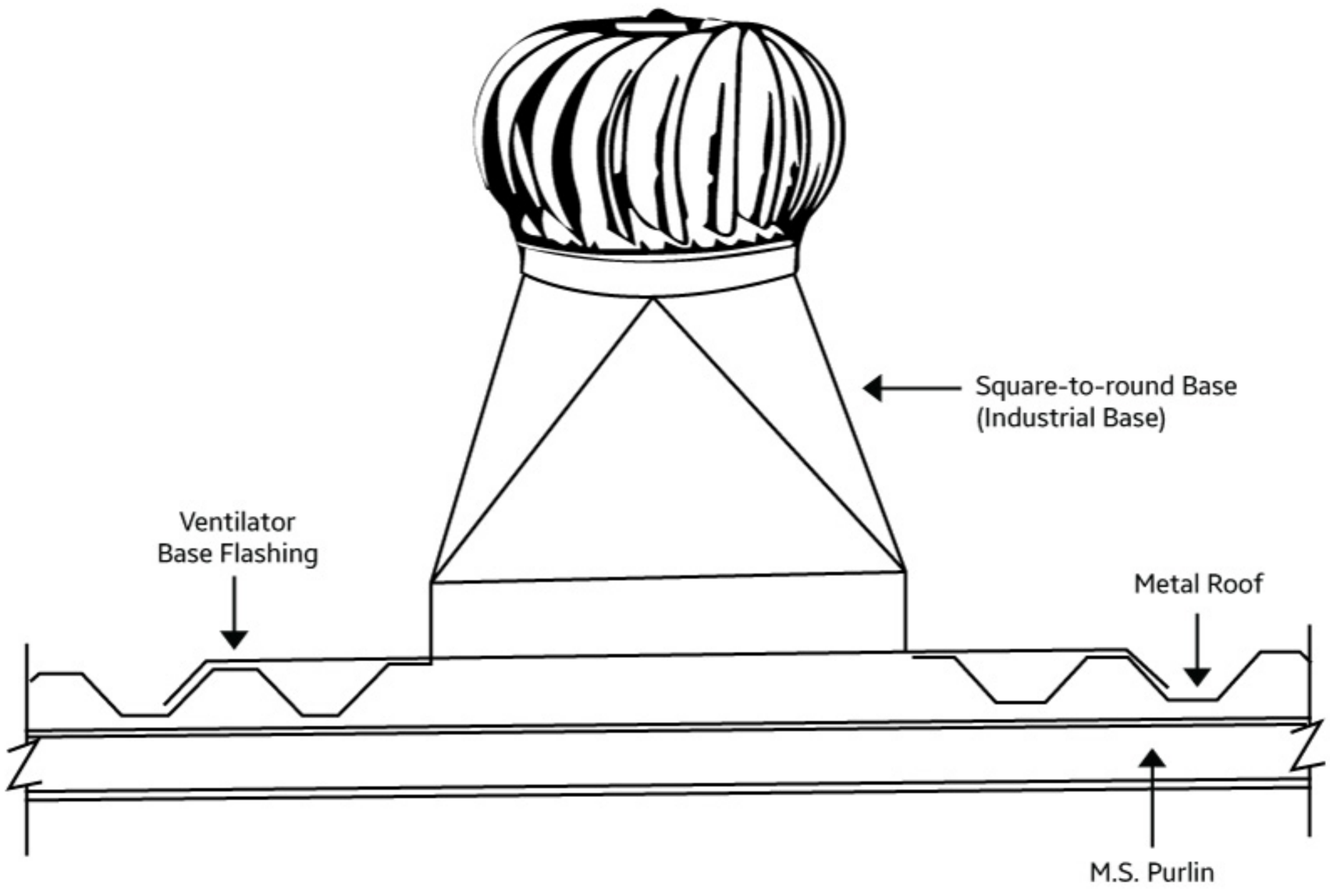
Installation Detail of Insulation Collar

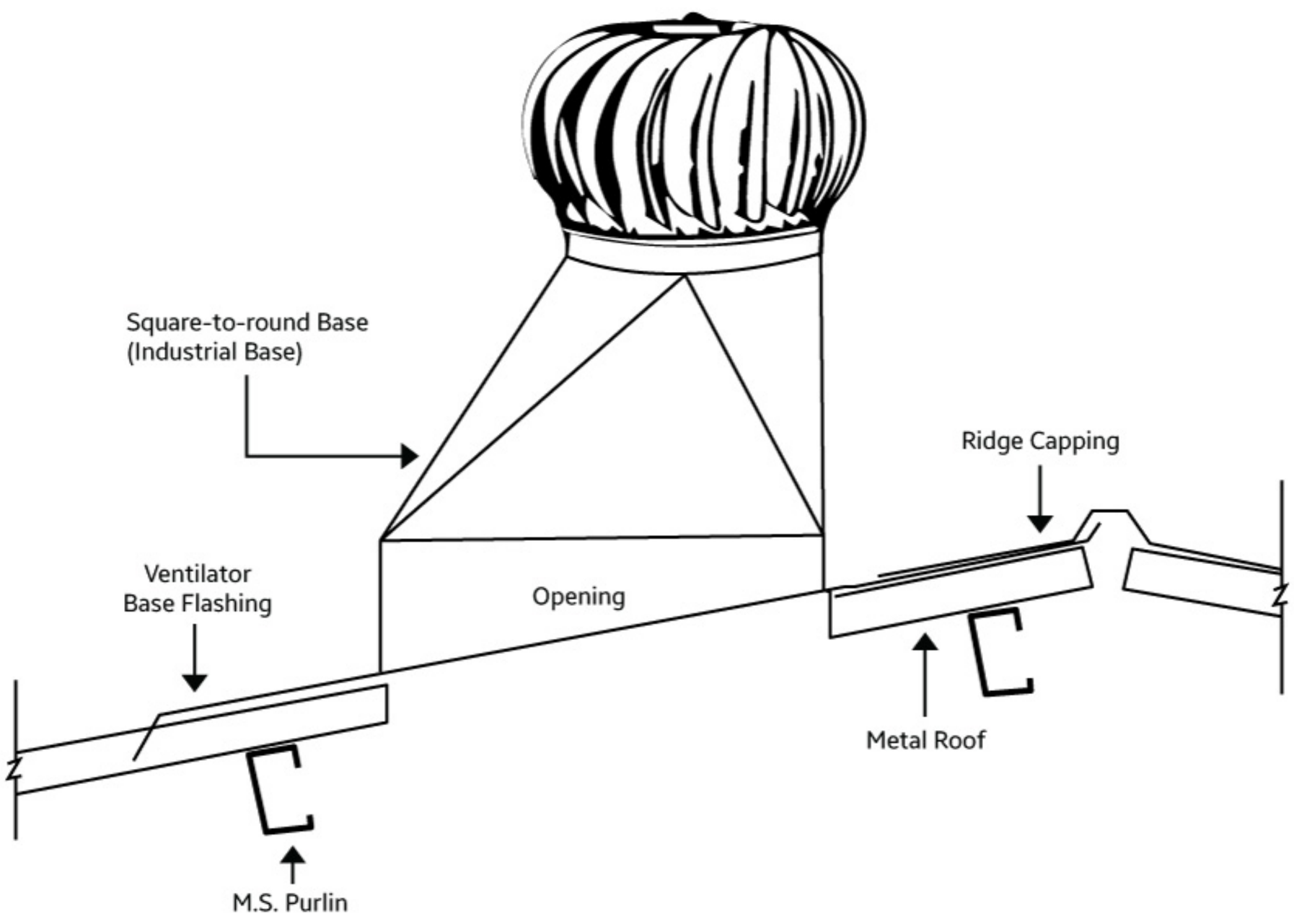


Detail of opening

Installation Detail of Insulation Collar

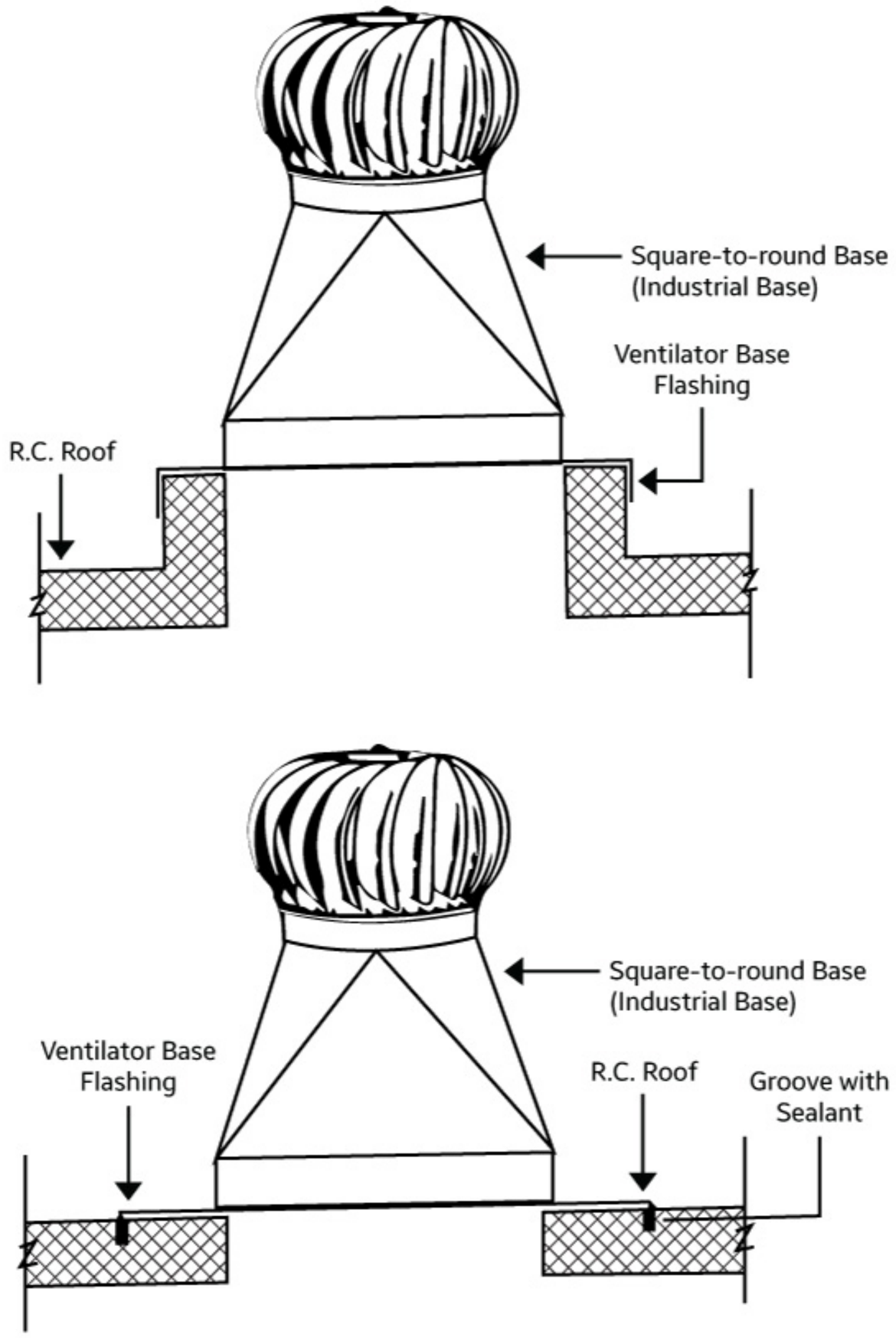
Installation Instruction





Installation Detail of Ventilator

Installation Instruction



14” Installation Detail of Ventilator

Our customers depend on us for quality product and reliable delivery, a responsibility we take very seriously. Prudent Aire maintains stringent quality in every aspect of its manufacturing process.

We believe in delivering Cost effective Solutions to our customers be it Contractors, Architects and End users.

Please call us and find out why our commitment to excellence, both in product and customer service, sets the standard in the industry.

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BRANZ Appraised

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