

H650/H655 Series 4 1/8" Frame Depth Single Hung

H650/H655 SERIES SINGLE HUNG

The Quaker Historical H650/H655 Series Single Hung window is ideal for a variety of applications including - Historical, Landmarks, Institutions, Education, Apartments and Assisted Living.

FEATURES

- ◇ Commercial Framing System
 - 4 1/8" main frame
 - 0.062" wall thickness of interior and exterior walls
 - Nail flange main frame (H650) or no nail flange (H655)
- ◇ Thermally Enhanced Design
 - Azon pour and debridge thermal break in main frame.
 - AzoCore expandable polyurethane barriers in sash rail extrusions
- ◇ Glazing
 - 1" insulated glass
- ◇ Hardware
 - Gravity Latch
 - Heavy duty Class 5 Balancers
- ◇ Screen
 - Extruded aluminum screen frame

BENEFITS

- ◇ The capacity to match exterior colors for unique project facades
- ◇ The ability to facilitate large sizes for taller and wider window openings
- ◇ Historically accurate panning and trim styles to help your project meet Historic Preservation codes

PERFORMANCE

- ◇ Structural & Thermal (test reports and thermal simulations available upon request)

Model	Single Hung
NAFS Rating	AW-PG50*
Structural Load P.S.F.	75.00*
Air at 6.2 PSF Differential	0.30*
Water (No Penetration) P.S.F.	10.00*
U-Value (ranges based on multiple Low-E/Argon combinations)	as low as 0.30*
SHGC (ranges based on multiple Low-E/Argon combinations)	

Window test size: 60" x 99"

Operating Force: 25.3 lbf (maintain motion), 14 lbf (latches)

* - Ratings and Test data shown are projected. Testing in progress as of September, 2021

Our products are tested to the standards of and certified by some of the foremost organizations in the fenestration industry.



OPTIONS

- ◇ Available Configurations
 - Single Hung
 - Oriel Single Hung
 - Simulated Single Hung/Fixed
- ◇ Muntin Choices
 - Internal or simulated divided lites available
- ◇ Limited travel hardware
- ◇ Screen
 - Extruded aluminum half screen frame with aluminum wire mesh
 - Extruded aluminum screen frame with sunscreen mesh
 - Extruded aluminum screen frame with stainless steel 0.009" thickness mesh
 - Security screen
- ◇ Glazing
 - Multiple Low-E and argon glazing choices
 - Capillary tubes
 - Wide variety of glazing, tinting and thickness options
- ◇ Panning & Trim Choices
 - Wide variety of panning, receptor and trim available
- ◇ Mulling
 - Wide variety of structural mulls
- ◇ Specialty
 - Extension jambs
 - Ogee lugs
 - WOCD hardware

ARCHITECTURAL PAINT COATINGS AND FINISHES

◇ Baked on powder coat finish meets AAMA 2604 (an FGIA specification) and is available in unlimited colors

- Quaker Impressive Palette of Colors



- 7 Resemble Colors (painted finish resembling anodized)



- Unlimited Custom Colors

◇ AAMA 2605 (an FGIA specification) powder coat finishes (not available for all colors shown)

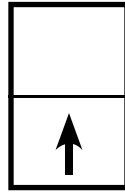
◇ SolarLE Paint Finish (available with Textured Black and Dark Espresso colors only)

◇ AAMA 611-98 Class I (an FGIA specification) clear and tinted anodized finishes

* Printed colors shown here may not accurately depict actual painted colors. Color samples are available upon request.

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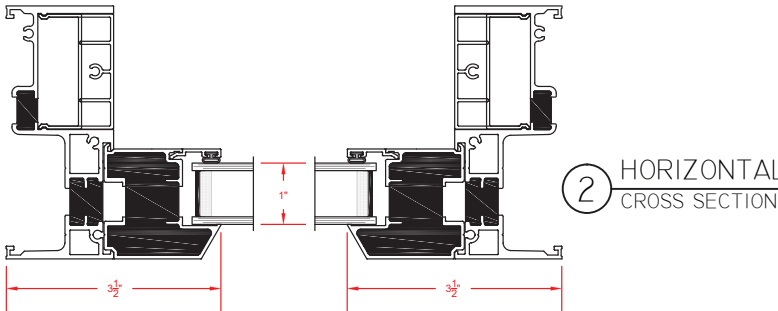
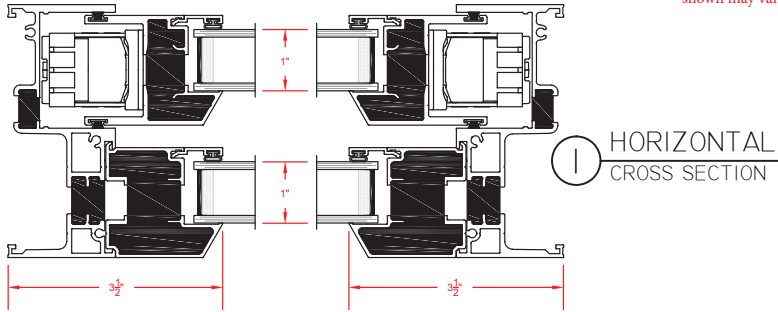




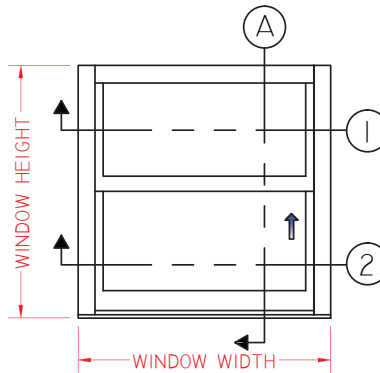
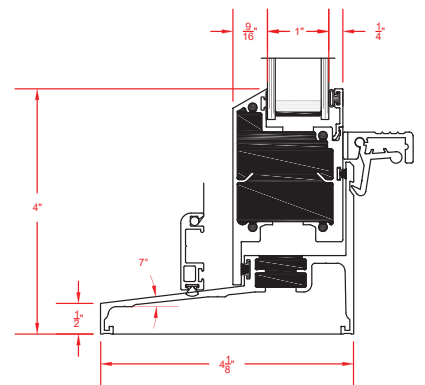
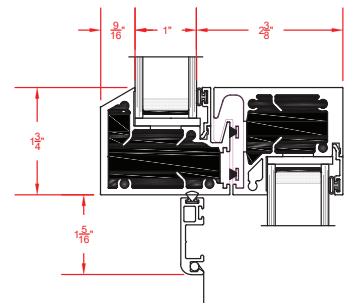
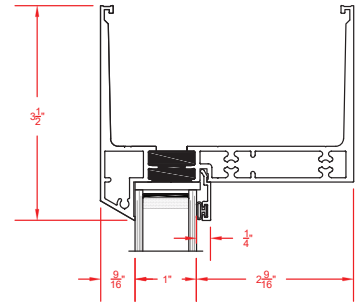
H650 Series 4 1/8" Frame Depth Single Hung

H650 SERIES SINGLE HUNG

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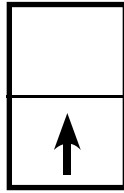
Ⓐ VERTICAL CROSS SECTION



ELEVATION SCALE 1/2" = 1'-0"

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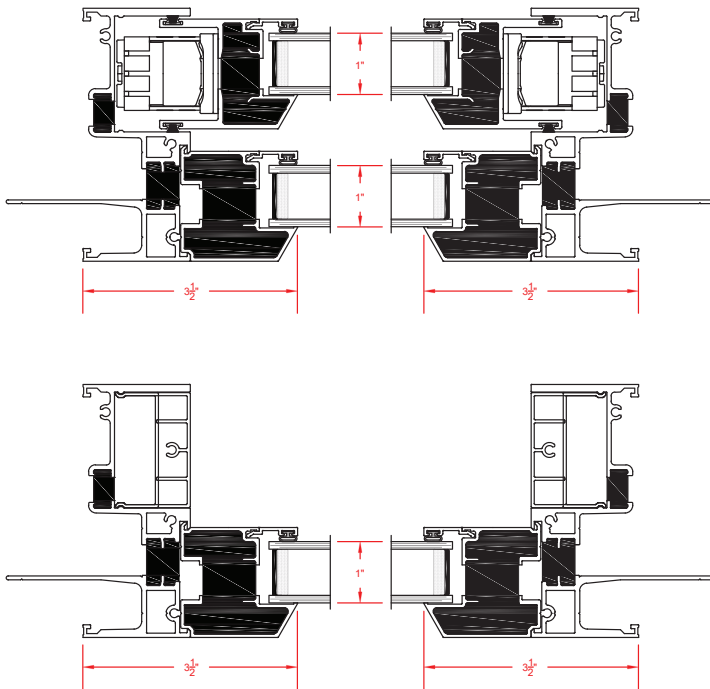




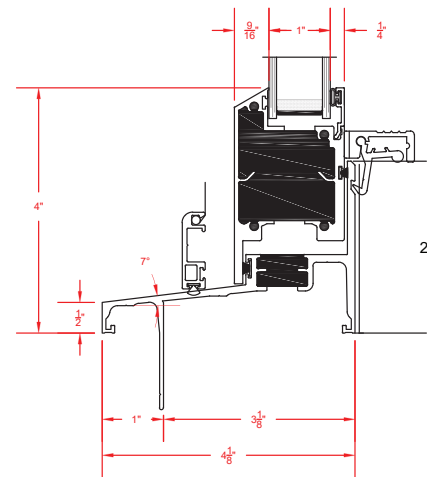
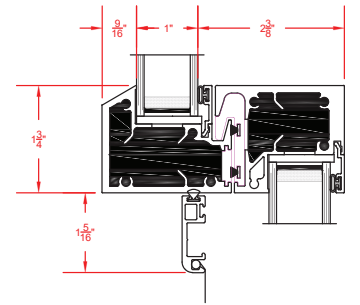
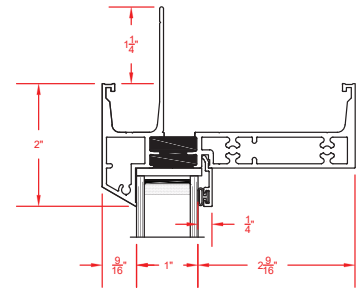
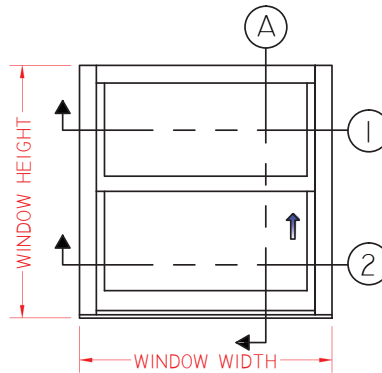
H655 SERIES SINGLE HUNG

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① HORIZONTAL CROSS SECTION



② HORIZONTAL CROSS SECTION



Ⓐ VERTICAL CROSS SECTION

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H450 SERIES PICTURE WINDOW (FIXED)

The Quaker Historical H450 Series Picture Window window is ideal for a variety of applications including - Historical, Landmarks, Institutions and Education.

FEATURES

- ◇ Commercial Framing System
 - 3 1/4" main frame
 - Historically-correct bevel frame exterior
 - Minimum of 0.080" wall thickness, 0.70 on TDL
 - Available with or without integral nailing fin
- ◇ Thermally Enhanced Design
 - Thermally-broken main frame extrusions
 - Azon pour and debridge thermal break technology
- ◇ Glazing
 - 1" insulating glass

OPTIONS

- ◇ Available Configurations
 - Fixed
 - Continuous frame capabilities
- ◇ Muntin Choices
 - Internal or simulated divided lites available
- ◇ Glazing
 - Multiple Low-E and argon glazing choices
 - Glazing pocket can accept 1 3/8" insulating glass for sound attenuation purposes
 - Capillary tubes
 - Wide variety of glazing, tinting and thickness options
- ◇ Panning & Trim Choices
 - Wide variety of panning, receptor and trim available
- ◇ Mulling
 - Wide variety of structural mulls

BENEFITS

- ◇ Historically accurate profiles to help your project meet Historic Preservation codes
- ◇ The capacity to match exterior colors for unique project facades
- ◇ The ability to facilitate large sizes for taller and wider window openings

PERFORMANCE

- ◇ Structural & Thermal (test reports or thermal simulations available upon request)

Model	Picture Window (Fixed)	
Test Size:	60" x 99"	72" x 120"
NAFS Rating	AW-PG50-F	AW-PG110-F
Structural Load P.S.F.	75.19	165.4
Air at 50 MPH (cfm/ft ²)	<0.01	
Water (No Penetration) P.S.F.	15.04	
U-Value (ranges based on multiple Low-E/Argon combinations)	0.26-0.50*	
SHGC (ranges based on multiple Low-E/Argon combinations)	0.16-0.69*	

Thermal performance testing in progress as of 5-18-2020.

* = Thermal performance numbers are projected.



ARCHITECTURAL PAINT COATINGS AND FINISHES

◇ Baked on powder coat finish meets AAMA 2604 (an FGIA specification) and is available in unlimited colors

- Quaker Impressive Palette of Colors



- 7 Resemble Colors (painted finish resembling anodized)



- Unlimited Custom Colors

◇ AAMA 2605 (an FGIA specification) powder coat finishes (not available for all colors shown)

◇ SolarLE Paint Finish (available with Textured Black and Dark Espresso colors only)

◇ AAMA 611-98 Class I clear and tinted anodized finishes

* Printed colors shown here may not accurately depict actual painted colors. Color samples are available upon request.

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QUAKER
COMMERCIAL WINDOWS AND DOORS

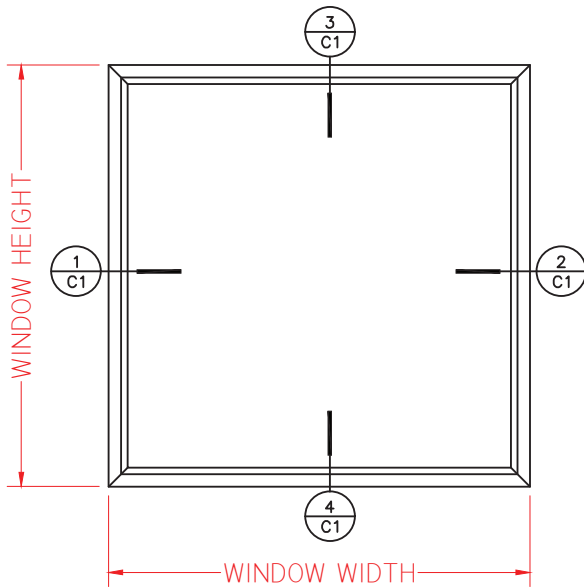
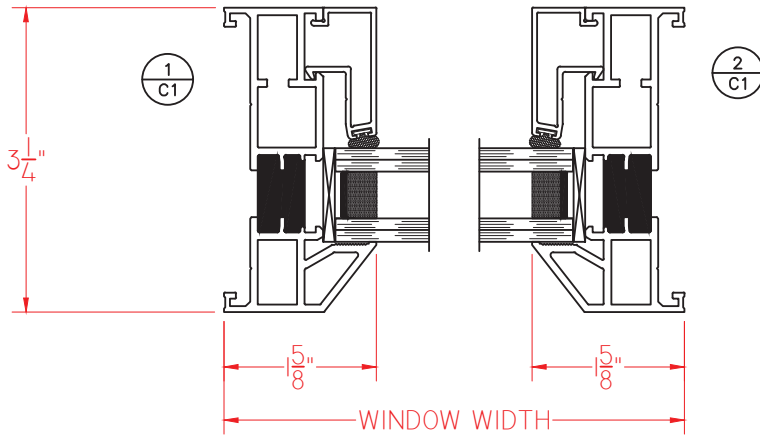


Historical
SERIES

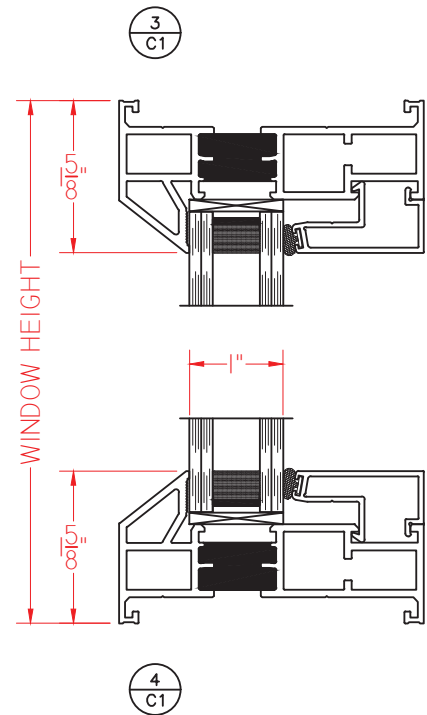
H450 Series
3 1/4" Frame Depth
Picture Window (Fixed)

H450 PICTURE WINDOW WITHOUT NAILING FIN

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ELEVATION SCALE 3/4" = 1'-0"



SCALE 1:2

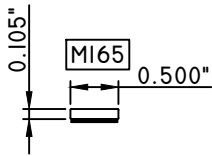
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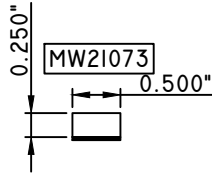
QUAKER
COMMERCIAL WINDOWS AND DOORS



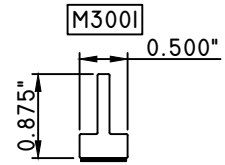
APPLIED MUNTINS



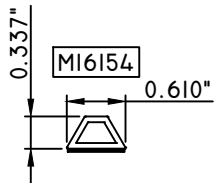
1/2"X1/8"
M165



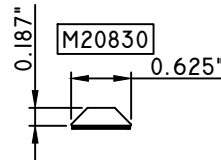
1/2"X1/4"
MW21073



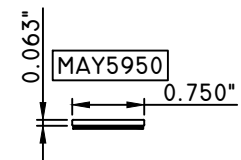
1/2"X1/4"
MW21073



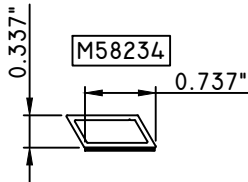
5/8"X5/16"
M16154



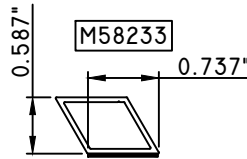
5/8"X3/16"
M20830



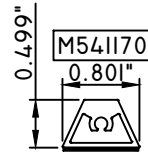
3/4"X1/16"
MAY5950



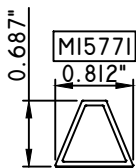
3/4"X5/16"
M58234



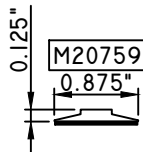
3/4"X9/16"
M58233



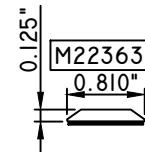
13/16"X1/2"
M541170



13/16"X11/16"
M15771



7/8"X1/8"
M20759



7/8"X1/8"
M22363



24391 Gibson Street
Warren, Michigan 48089
Ph: (586) 754-6400 Fax: (586) 754-6460
e-mail: dmartin@designersmirror.com

BUDGET PROPOSAL (10-11-2022)

Proposal Submitted To:

The Monahan Co.
21321 Kelly Rd.
Eastpointe, Michigan 48201
(586) 774-3800
Attn: Nathan Knapp nathan@themonahanco.com

Work to Be Performed At:

Palms Apartment Building
1001 E. Jefferson
Detroit, Michigan 48027
Architect: TRA

Provide Material and labor to install aluminum single hung, casement, and awning vent windows into prepared openings at Palms Apartment Building

Work to include:

Windows will be Quaker Window and Door H650 single hung, H450 casement, and H450 awning vent. Windows will be standard color painted AAMA 2604 aluminum. Glass will be clear insulated with Cardinal 272 dual silver low-e coating and argon gas fill. All windows will include Quaker standard Flex Screen insect screens, 4" limit stops, and standard gravity latch (single Hung), cam latch (awning vent), lever latch (casement). Windows shall include perimeter brick mold panning and sub sill from available factory profiles (Custom panning profiles available at added cost). Interior perimeter of all windows will include rectangular painted aluminum snap trim. Windows include 365 openings per elevations on A-301, A-302, A-306, and window schedule on A-603. Exterior final caulking of window perimeters is included using matching color polyurethane sealant. (Break metal flashings, trim Are not clearly detailed at this time and are therefore excluded and will be added as required when more detailed drawings become available).

Qualifications:

Wood Blocking to Accept Window Panning: Not included

Installation of Wood Blocking: By Others

Demo of Existing Materials/Windows: By Others

Construction of Openings/Carpentry: By Others

Detroit Executive Order Compliance: Not Included

Prevailing Wage/ Wage Requirements: Not Included

Break Metal Flashings/Trim: At Added Cost as Required

BASIS BID:

All work is Guaranteed to be as specified, and the above work to be performed in accordance with drawings and specifications submitted for above work and completed in a substantial workmanlike manner for the sum of **(\$755,000.00) SEVEN HUNDRED FIFTY FIVE THOUSAND DOLLARS –00--**. with payments to be made as follows: 30 days from invoicing.

Any alteration from above specs involves extra costs
Will be executed only upon written order, and will
Become an extra charge over and above the estimate.
All agreements contingent upon strikes, accidents,
Or delays beyond our control.

Respectfully Submitted Designers Mirror
October 11, 2022

Per: David Martin

**Note: this proposal may be withdrawn if not
Accepted within 30 Days**

ACCEPTANCE OF PROPOSAL

The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

Signature: _____

- All accounts are due net 30 days of invoice or draw submission and are subject to time preference consideration thereafter at a fee of 1.5% per month.
- In the event of collection proceedings customer agrees to pay costs including legal fees associated with the collection of said invoice amounts.
- Designers Mirror makes no Warranty of any kind including Warranty of Merchantability, accept that which has been specifically defined in the proposal herewith or provided by component parts manufacturers.
- All Items not specifically described above are considered excluded and subject to Change order Add or re-quote. No exceptions. This is the job in its entirety as described above.
- Engineering calculations are specifically excluded.





www.blackberrysystems.com

Corporate Office: 6477 West KL Avenue • Kalamazoo, MI 49009 • 269.353.8844 • 800.732.9400 • fax.269.353.8843

9/28/2022

Monahan Construction
Attn: Nathan Knapp
21321 Kelly Rd
Eastpointe, MI 48021
Email: nathan@themonohanco.com

Job Name: Palms Apartments
Job Location: Detroit, MI

COMMERCIAL SALES PROPOSAL: Budget Pricing

BlackBerry is providing budget pricing for the restoration of approximately (370) windows in the Palms Apartments located at 1001 E. Jefferson Ave. Detroit, MI 48207.

Item 1.)

Restoration of approximately (370) wood double hung & fixed windows.

Restoration work includes the following:

- Removal of all sash stops, sashes, and parting bead from each window, cataloging all components, packaging, and loading for delivery to our shop facilities in Kalamazoo, MI.
- Boarding up all openings with a weather proof board up.
- Site restoration work to include stripping of all paint, epoxy repair, sanding, prime and two coat paint finish.
- New perimeter caulking.
- Re-installation of all shop restored components, including sashes reglazed with 3/16" DS Annealed glass and putty glazed, new parting bead, sash stop, sash rope, and restored hardware.
- Shop restoration work to include stripping of all components, abatement of lead paint and ACM containing glazing compound. Kerfing all sashes for new weatherstripping, prime and two coat paint finish. All sashes to be glazed with 3/16" DS Annealed glass and Sarco Type M glazing compound.
- All components will be packaged and shipped to the job site and re-installed.
- All windows will be cleaned at time of installation.

Not Included:

- Any restoration of interior casing including, stool, jamb extensions, and aprons.
- Any replication of missing or damaged beyond repair wood components. Including sashes, sills, brick moulds, and any capped wood components.
- Any lintel or masonry repair and finish.
- Any new hardware, (excluding sash rope.)

Total Budget Pricing: \$1,323,875.00

Architectural • Historical • Commercial Window and Door Systems

Item 2.)

Supply and installation of interior storm windows for the approximately (370) windows. Storms to be Allied operable interior, series MOL-OP. These include 1/8" DSB Annealed glass, in an aluminum frame, painted a standard color. Storm details are attached to this budget proposal.

Total Budget Pricing: \$340,450.00

Budget pricing only is being provided due to the lack of accessibility of the building and lack of time to be able to complete a proper window by window survey. We recommend completing a window by window survey to document the condition of each window. Conditions documented would include; exterior casing profiles, operability, glass failure, all wood damage or failure, etc. This documentation will give BlackBerry what is needed to provide definitive pricing and also provide ownership with the proper material needed to bring to the HDC, SHPO, NPS or any other historical preservation agency necessary.

To be able to complete this survey, ALL windows must be accessible, inside & out. Pricing for this survey is \$1,500 and is not included in the budget pricing. We would also need a lift provided at YOUR cost for (2) days. On-site surveys would take (2) days, and (2) weeks to be formatted and provided.

Budget Pricing includes material, tax on material, labor (non-union, non-prevailing wage), employment costs, insurance, disposal, staging, and supervision.

BlackBerry Systems proposes hereby to furnish products and services in accordance with the description for the sum of: See above Pricing. Terms are net 30 days from the date of delivery. Late payment 1.5% finance charge per month after 30 days. This contract may be withdrawn if not accepted within 30 days.

ACCEPTANCE OF PROPOSAL: By signing, you hereby accept the above prices, quantities, specifications, and conditions as satisfactory and authorize BlackBerry Systems, Inc. to provide as specified. You accept responsibility for checking and approving all quantities and specifications; and will provide full payment as outlined. Work will not proceed, nor will material be ordered without a signed contract and down payment, if required.

____PJA_____
Peter J Arena
Commercial Estimator
BlackBerry Systems, Inc.

__9/28/2022_____
Date

Accepted By

Date

TITAN Outdoor

3-708-xx

oxygen

FIXTURE TYPE _____

LOCATION _____

PROJECT _____

DATE _____

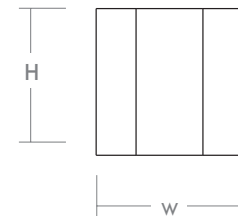
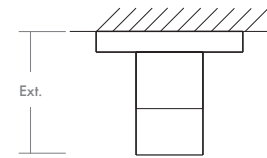


-15 Black



-16 Brushed Aluminum

LIGHT SOURCE	1 x 6W LED with Driver on board, 3000K, CRI 90
LUMINAIRE POWER	6.1W at 120V
RATED LIFE	50000 hr RL
OPTIONAL COLOR TEMPERATURES	3000K Only
LUMEN OUTPUT	Delivered: 236 lm (LM-79)
INPUT VOLTAGE	120V AC, 50/60Hz
DRIVER OUTPUT	N/A
DIMMING	TRIAC Dimming
CONSTRUCTION	Cast Aluminum Housing
DIFFUSER	- Etched White Glass
FINISHES	Black (-15), Brushed Aluminum (-16)
MOUNTING	4" Octagonal J-Box (Installer must provide a bead of caulk between fixture housing and mounting surface)
STANDARDS	ETL Wet listed, ADA Compliant, Conforms to UL STD 1598, Certified CAN/CSA STD C22.2 No 250.0.



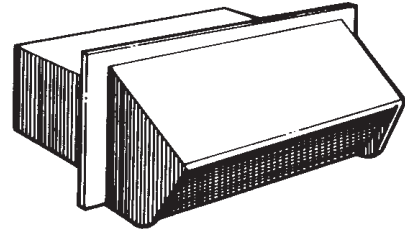
DIMENSIONS

W:	4.75"
H:	4.75"
Ext:	4.00"
M.C:	2.375" From top of fixture

Order example for standard fixture:
3-708-16 (x- Voltage - xxx-Sequence # - xx-Finish)
3: 120V Only

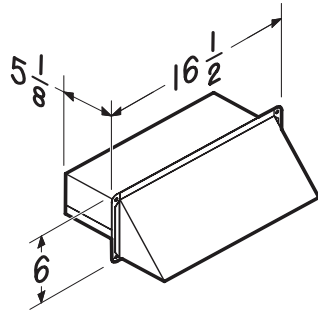


WALL CAPS



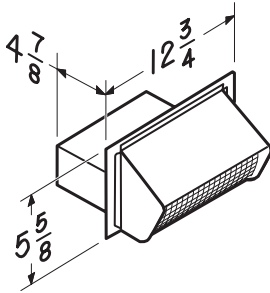
Model WC638

- For 3 1/4" x 14" duct
- Spring-loaded backdraft damper and bird screen
- 26 GA CRCQ Steel, black finish



Model 639

- For 3 1/4" x 10" duct
- Spring-loaded backdraft damper and bird screen
- 24 GA CRCQ Steel, black electrically-bonded epoxy finish
- Do not use for dryer venting

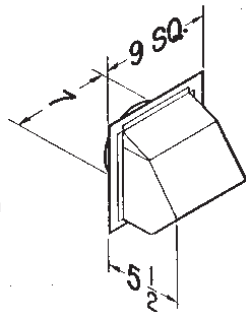


Model 649

- Same features as Model 639
- .025 Aluminum - natural finish

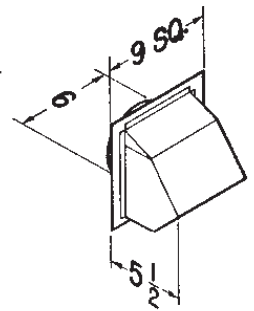
Model 647

- For 7" round duct
- Spring-loaded backdraft damper and bird screen
- .025 Aluminum - natural finish
- Do not use for dryer venting



Model 843BL

- For 6" round duct
- Spring-loaded backdraft damper and bird screen
- 22 GA CRCQ Steel, black electrically-bonded epoxy finish
- Attachment collar 1 1/4" long
- Do not use for dryer venting



Model 641

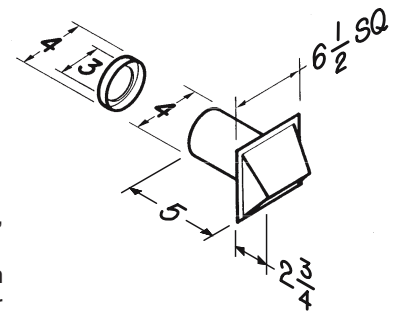
- Same features as Model 843BL
- .025 Aluminum - natural finish

Model 641FA

- Same features as Model 641
- Without backdraft damper
- Includes mesh screen
- Intended for make-up air inlet applications

Model 885BL

- For 3" or 4" round duct (4" to 3" transition included)
- Spring-loaded backdraft damper and bird screen
- 24 GA CRCQ Steel, black electrically-bonded epoxy finish
- Do not use for dryer venting



Broan-NuTone LLC Hartford, Wisconsin www.broan.com 800-558-1711

REFERENCE	QTY.	REMARKS	Project
			Location
			Architect
			Engineer
			Contractor
			Submitted by Date

INSTALLATION

Mounting

WhisperComfort is UL listed for ceiling or wall mount installation. It measures 14" wide and fits between joists 16" on center. Adjustable brackets and screws are provided to secure the unit to the joist on 4 corners.

Wiring

Power consumption is 23 Watts at 40 CFM with a power rating of 120/60 V/Hz. Bring house power to the unit junction box and use 3 wires to connect the 2 switches.

Duct

Insulated 4" duct is recommended. For cold climates, this will help avoid condensation build up. And for warm climates, this will help reduce heat transfer to supply air.

In order to reduce unnecessary airflow resistance, duct should be stretched straight and braced to avoid sagging. Assure that all duct connections are completely secured with duct tape and/or duct mastic material.

Termination/Supply Device

The supply device will need to have the back draft damper removed and replaced with a screen to prevent insects and small animals from nesting.

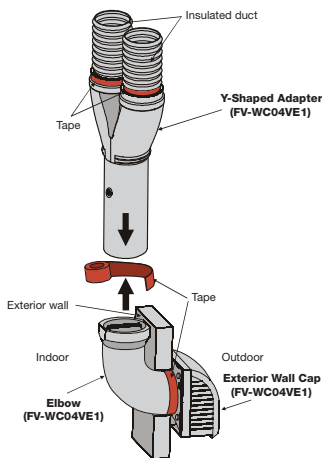
The termination and supply devices should be placed a minimum of 3-feet apart. If placed closer than 3-feet, then the angle of each device should be mounted at 45-degrees in opposite directions.

OPTIONAL ACCESSORIES

Exterior Wall Cap

Unlike previous installations where two wall caps were required, WhisperComfort's FV-WC04VE1 polypropylene wall cap accessory with styrofoam adaptor conveniently allows both exhaust (from the right) and supply (from the left) airflow through a 5.5"-5.75" hole in the building envelope. The dividers inside the bottom portion of the unique Y shape chamber and the new wall cap help prevent cross contamination.

To achieve optimum performance and air flow momentum, allow a 2-3 foot straight run of flex duct out of the unit before the first 90 degree bend. If you connect the ERV unit directly to the Y shaped adapter of the exterior wall cap, you can skip this step.

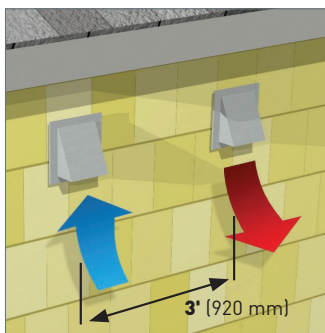


Elbow

Whisper Comfort's FV-EB04VE1 styrofoam elbow accessory connects to the Y shaped adapter of the exterior wall cap to help simplify wall installation. The elbow also features double chambers for exhaust and supply air to help prevent cross contamination.

Typical Wall Cap Installation

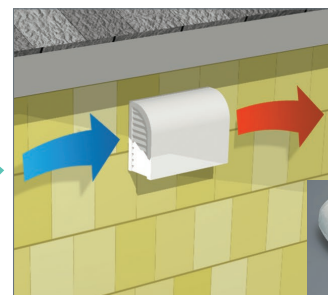
Supply hood should include a bird screen with backdraft damper removed



Exhaust hood should include a backdraft damper

Alternative Panasonic Solution

SUPPLY



Optional Exterior Wall Cap - Model # FV-WC04VE1



MAINTENANCE (Cleaning)

Maintenance instructions can be found in the Operating Manual.

Grille

Follow the Operating Manual to remove the grille from the unit. Next, remove the filter from the inside louver of the grille. Never use gasoline, benzene, thinner or any other chemicals when cleaning the grille or ERV unit. Do not wash grille in a dishwasher which may cause it to deform. Instead, use light dish soap.



Grille

Exchange Capillary Core

Whisper Comfort's unique core is made from a paper-like material and should never be washed or submerged in water. To clean, vacuum with a soft brush attachment. To clean, use vacuum suction with a soft brush attachment. Do not use a vacuum to blow air through the ERV core as that may damage the core.