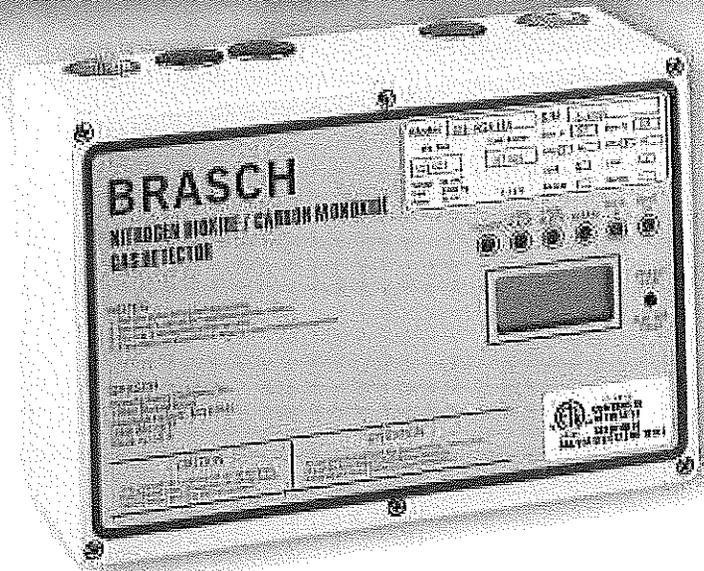


BRASCH



Gas Detectors - Stand Alone



The Brasch gas detector is a combination sensor and energy saving unit. Concentration of a targeted gas is monitored and ventilation equipment cycled when selected threshold levels are exceeded. Because ventilating equipment runs only when necessary, energy costs for heating and operating fans are greatly reduced. Detectors are available to monitor carbon monoxide (CO), nitrogen dioxide (NO₂) and oxygen (O₂), or a combination of any two of these gases. Detectors include an easy to read digital display, a test feature to aid in installation, and an internal, audible alarm. Stand Alone Detectors can be used to monitor up to two remote transmitters.

Key Features

- Microprocessor Controlled
- Electrochemical Sensor-Standard
- Factory Calibrated
- Power Loss Fail-Safe Mode
- Choice of Factory Installed 24 VAC or 120 VAC Power
- Supplied With External Leads for Easy Installation
- Easy To Read Digital Display
- Low, High and Alarm Levels
- Built In Self Test Feature
- Available With Optional Solid State CO Sensor

Flexibility

- Selectable Low-level Setpoint
- Adjustable Alert Time Delay
- External Alarm Contacts
- Capacity for Two Sensors
- Remote Sensor Hookup

Standard Outputs

- Dry Contact Relays
- 4 - 20 mA Current Loop
- 0-1 VDC Output
- 0-5 VDC Output
- 0-10 VDC Output

Typical Applications

- Commercial Parking Garages
- Condominium and Apartment Garages
- Warehouses and Factories
- Car and Bus Maintenance Garages
- Tunnels
- Auto Service Centers
- Small Engine Repair Shops
- Wastewater Treatment plants
- Steel Mills
- Incineration Facilities
- Bottling Plants
- Cryogenic Laboratories

Ratings

- Input Voltage (specify at time of order)
 - 24 VAC, 50/60 Hz., 10 VA
 - 120 VAC, 50/60 Hz., 16VA
- Ambient Temperature Rating
 - Storage
 - 50°C to 50°C (-58°F to 122°F)
 - Operating
 - 15°C to 40°C (5°F to 104°F)
- Humidity
 - 10% to 90% (non-condensing)

Enclosure

- NEMA 1
- Polycarbonate Plastic
- Grey High Gloss Finish

Output Relays

- Alert Levels, Alarm
 - 125 VAC, 50/60 Hz.
 - 5 Amp, Resistive
 - 250 VA, Inductive
 - 1/8 HP Motor
- 24 VAC, 50/60 Hz.
 - 24 VA, Inductive

Dimensions

6⁹/₁₆" H x 9⁷/₁₆" W x 3¹/₂" D

Weight

3 lbs.

Recognition

ETL Listed per
(UL 3111-1, CSA C22.2)

Mounting

This unit must be mounted indoors and should be in a dry location at a height of 5 to 7 feet above floor level. This location will sense the concentration of the target gas at approximately breathing height. The detector should be positioned to sense the average gas concentration in the area. The detector will monitor 7000 to 9000 square feet of floor space.

Unit Operation

The Brasch gas detector uses state of the art analog and digital components, including a microprocessor. This is essential to meet the ever-growing demand for reliable detection of potentially dangerous gases. This unit continuously monitors the ambient concentration of the target gas. When the gas concentration exceeds a pre-selected low-alert level, and remains there for a chosen time delay period, the low-alert relay contacts close. This contact closure can actuate a low speed fan, remote indicator, or open a set of dampers. The low-alert level has eight selectable concentrations depending upon the gas being monitored. The time delay also has eight user selectable periods. Optimal ventilation system operation is obtained through proper selection of the low-alert level and delay period. The delay is active for both the low and high alert conditions.

If the gas level exceeds a factory preset limit, the high-alert relay contacts close, and the high-alert indicator glows. These relay contacts can actuate a high speed fan, a remote indicator, or additional dampers.

If the high alert condition continues for 15 minutes, the alarm relay contacts close and the internal alarm energizes. Pressing the alarm silence switch on the front panel will silence the internal alarm. The alarm circuit automatically reactivates for future alarm conditions.

Typical Uses

Many localities require that operators of underground parking garages provide ventilation to preclude the buildup of dangerous carbon monoxide gas. Brasch detectors, designed to sense carbon monoxide and operate the ventilation system only when necessary, are ideal for this type of application. In areas where only diesel powered equipment is operating, the Brasch nitrogen dioxide detector is recommended. The Brasch combination (carbon monoxide/nitrogen dioxide) unit detects both carbon monoxide and diesel fumes. This detector provides for automatic ventilation control of both gases using one unit.

OSHA defines an oxygen-deficient environment as one that contains 19.5 % or less oxygen. The Brasch oxygen detector safeguards workers against dangers of oxygen deficiency in facilities such as wastewater treatment plants, steel mills, cryogenic laboratories and incineration rooms. When the oxygen level drops below an adjustable threshold, an alarm will sound and ventilation equipment will operate bringing in fresh air to restore the level to normal.

Factory Default Settings

The detector is set at the factory for operation in the 50/100 % ventilation position, (single fan). A field movable jumper allows operation of a two-speed fan motor. The LOW ALERT and TIME DELAY switches are adjustable. Factory setting of the switches are as follows:

GAS	LOW ALERT	HIGH ALERT	DELAY
Carbon Monoxide	35 PPM	100 PPM	3 min.
Nitrogen Dioxide	1.0 PPM	5.0 PPM	3 min.
Oxygen	19.0 %	16.0 %	60 sec.

Color coded wires exiting factory installed conduit fittings allow most installations without opening the housing of the unit.

Sensor Technology

Electrochemical Sensor

Available in detectors for carbon monoxide, nitrogen dioxide, and oxygen. This sensor provides long-term accuracy and repeatability within +/- 5 % of the calibrated value. The sensor is not affected by changes in humidity in the operating area. The sensor's response to the target gas is also inherently linear.

Solid State Sensor

Available in detectors for carbon monoxide. This sensor can be calibrated to provide accuracy of +/- 10 % of full-scale value. The sensor has a nonlinear response which is made linear with software.

Ordering Procedure (Stand-Alone Models)

To order a Brasch gas detector, determine the type of detector for your application.

I. The model designation for a combination, carbon monoxide/nitrogen dioxide, stand-alone gas detector would be as follows:

- (1) Indicates Type of Gas Sensor
 - GSS Solid State Sensor (SS)
 - GSE Electrochemical Sensor (EC)
- (2) Indicates Type of Gas(es) Detected
 - CM Carbon Monoxide (SS & EC)
 - ND Nitrogen Dioxide (EC only)
 - OX Oxygen (EC only)
 - NCM Nitrogen Dioxide and Carbon Monoxide
 - OCM Oxygen and Carbon Monoxide
 - OND Oxygen and Nitrogen Dioxide (EC only)
- (3) Indicates Operating Voltage
 - 0 24 VAC
 - 1 120 VAC

Example: **GSS-NCM-1**

1. Brasch Gas Detector with Solid State CO Sensor
2. Detects both carbon monoxide and nitrogen dioxide
3. 120 VAC Operating Voltage

II. The model designation for a carbon monoxide detector, with electrochemical sensor, would be as follows:

Example: **GSE-CM-0**

1. Brasch Gas Detector with Electrochemical Sensor
2. Detects Carbon Monoxide
3. 24 VAC Operating Voltage

Brasch also produces Refrigerant Leak Detectors, Carbon Dioxide Detectors, and Control Panel Systems. Visit our web site for technical and application literature for all Brasch products.

BRASCH

Brasch Manufacturing Co., Inc.
11880 Dorsett Road Maryland Heights, Missouri 63043
314-291-0440 FAX 314-291-0646
e-mail: braschmfg@braschmfg.com
Website: www.braschmfg.com

Remote Mounted Sensors

Stand-Alone Gas Detectors are capable of monitoring gases from two sensors at the same time. These sensors can be mounted:

- Both externally (Remote)
- One internally (Local) and one externally (Remote)

One or two transmitters can be wired to a Stand-Alone Detector. In this application, the Stand-Alone Detector can serve as a monitor only.

A Transmitter is required for remote mounted sensors. Transmitters are connected to the Stand-Alone Detector with a six conductor, shielded, 18 AWG cable, supplied by the customer.

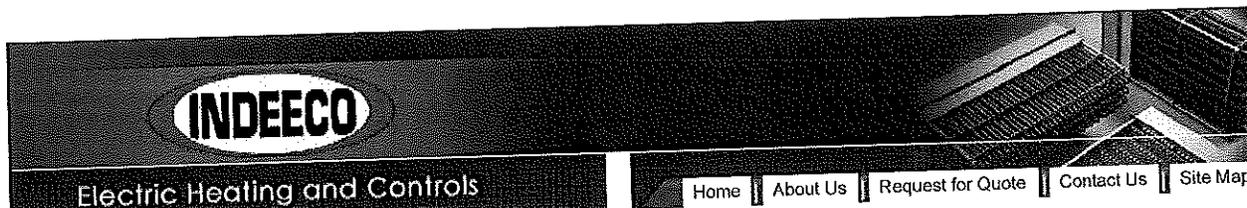
When ordering the Stand-Alone Detector with one of these features, specify the physical location of each sensor (Local or Remote).

Example: **GSE-NCM-LRO**

1. Brasch Stand-Alone Detector with Electrochemical Sensors
2. Detects both nitrogen dioxide and carbon monoxide
3. Nitrogen Dioxide sensor mounted in Stand-Alone Detector (L)
4. Carbon Monoxide Transmitter mounted remotely (R)
5. 24 VAC Operating Voltage

Example: **GSE-NCM-RR0**

1. Same as above
2. Same as above
- 3,4. Both sensors mounted remotely (RR) as Transmitters
5. Same as above



- Online Product Catalog
- Markets Served
- Literature
- Company News
- Rep Locator
- Technical Data
- Jobs / Careers
- How Are We Doing?

Search Catalog

By Keyword

- All Categories
- WAI Series Architectural Wall Heater

All Categories > Electric Heating Products > Forced-Air Heaters > WAI Series Architectural Wall Heater > Item # 933U02000C

Request Information

Item # 933U02000C, WAI Series Architectural Wall Heater

-
-
-



[larger image](#)

The WAI fan-forced wall heater is designed for commercial and industrial areas requiring higher KW ratings and quick recovery. The unit provides a burst of heat in areas affected by cold drafts or wide temperature swings.

- **Efficient Operation** : The fan draws air into the top of the grille and discharges warm air downward to distribute heat and keep floors warm and dry. High CFMs create air circulation within the room to provide uniform temperatures.
- **Extended Capacity** : The WAI is available with one or two modules and ratings up to 8000 W and 320 CFM.

These units are not for residential use in the United States.

MORE IMAGES

- [Dimensional Drawing](#)
- [Double Unit](#)
- [Grille Dimesions](#)
- [Side View](#)

DOWNLOADS

- [WAI Submittal \(DOC, 3927KB\)](#)
- [IOM \(PDF, 118KB\)](#)

Specifications	Standard Construction Features	Applications	Comparison Chart
Power	2000 W		
Voltage Rating	208 V		
Phase	1		
Total Amps ¹	10.0 A		
Airflow	160 CFM		
Approx. Air Temperature Rise	40 °F 22 °C		
Weight	24 lb 11 kg		

Color Code Options	A - Almond AE - Metallic Silver BG - Beige-Grey BZ - Bronze CM - Charcoal Steel NR - Textured Black W - White
Factory Built-in Options	D1 - Disconnect Switch, 600 V, Three-pole, 40 Amp D3 - Disconnect Switch, 277 V, Double-pole, 20 Amp R1 - 24 V Relay R2 - 24 V Relay with Transformer S3 - Fan On/Auto Switch
Field-Installed Options	933-124501 - Surface Mounting Box (1500-4800 W) 933-151114 - 1" Semi Recessed Trim Kit (1500-4800 W) 933-151115 - 2" Semi Recessed Trim Kit (1500-4800 W) 933-158471 - Surface Mounting Box (6000-8000 W) 933-166530 - 1" Semi Recessed Trim Kit (6000-8000 W) 933-166531 - 2" Semi Recessed Trim Kit (6000-8000 W)
† Total Amps = Heating element amps and motor amps.	

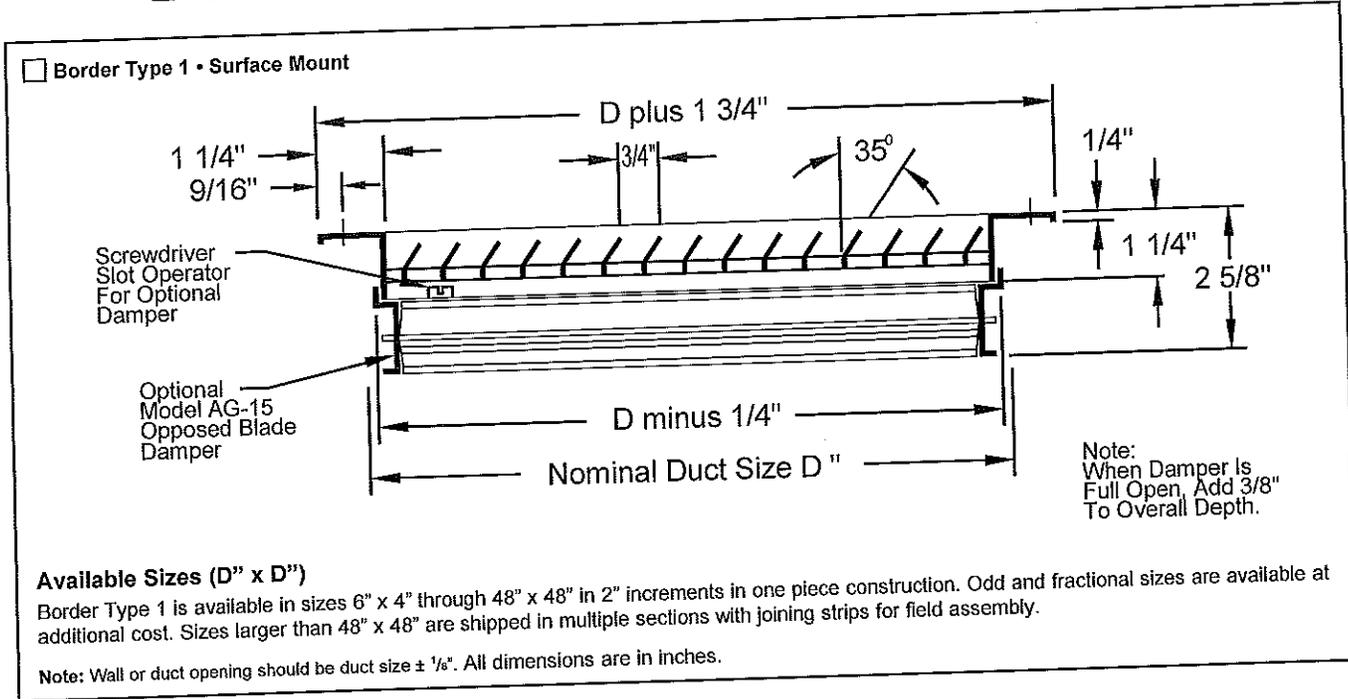
Request Information

425 Hanley Industrial Ct. ▾ St. Louis, MO 63144 ▾ Tel: 314-644-4300  ▾ Email: sales@indeeco.com ▾ [Privacy Policy](#)

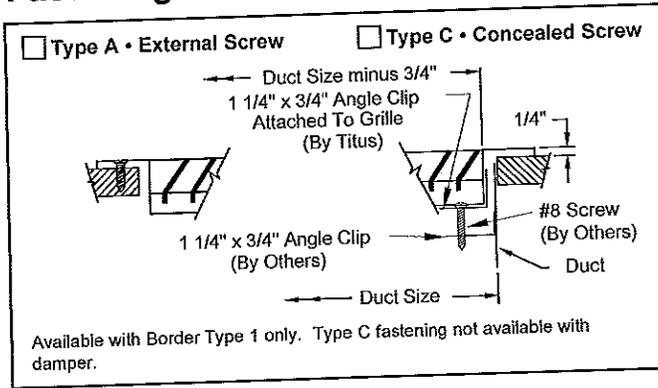
Louvered Return Grilles and Registers • Steel

Models: 350RL • 35° Deflection • Long Blades • 3/4" Blade Spacing

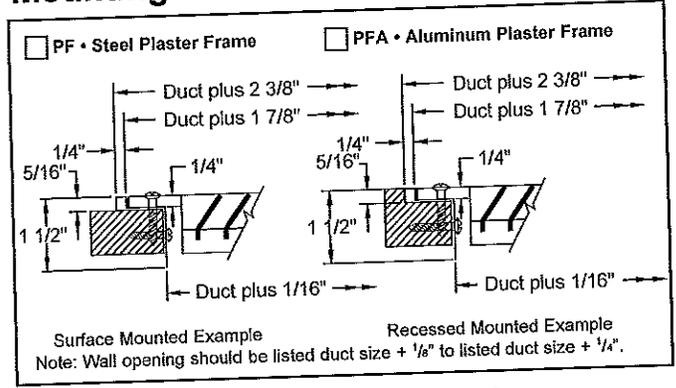
350RS • 35° Deflection • Short Blades • 3/4" Blade Spacing



Fastenings



Mounting Frames



Accessories (Optional)

- Check if provided
- Neck mounted opposed blade damper (galvanized steel)
 - IS • Insect Screen (1/16" square mesh – galvanized steel)
 - DS • Debris Screen (1/4" square mesh – galvanized steel)
 - EQT • Earthquake tabs
 - Other _____

Standard Finish: #26 White

Optional finish _____

General Description

- Available with louvers vertical or horizontal.
- #8 x 1 1/4" lg. Phillip's flat head sheet metal screws painted white.

- Optional opposed blade damper has screwdriver adjustment accessible through face of register.
- Material: Steel.

• All dimensions are ± 1/16".

Optional Border Types Available

Border Type 2 (Snap-in)
Panel Mounted

Available in 24" x 24" modules with neck sizes up to 20" x 20".

Border Type 3 (Lay-in)
Panel Mounted

Available in all standard module sizes with neck sizes up to module size minus 2".

Border Type 4 (Spline)
Panel Mounted

Available in 24" x 24" modules with neck sizes up to 20" x 20".
Splines on 2 opposite sides only

Border Type 7 (Channel)

Available in sizes up to 48" x 48".

Border Type 2, 3, 4

• Accessories & Options

Check if provided

- AG-15 • Neck mounted opposed blade damper (galvanized steel)
- IS • Insect Screen (1/16" square mesh – galvanized steel)
- DS • Debris Screen (1/4" square mesh – galvanized steel)
- EQT • Earthquake tabs
- Other _____

Standard Finish: #26 White

Optional finish _____

Border Type 7

• Accessories & Options

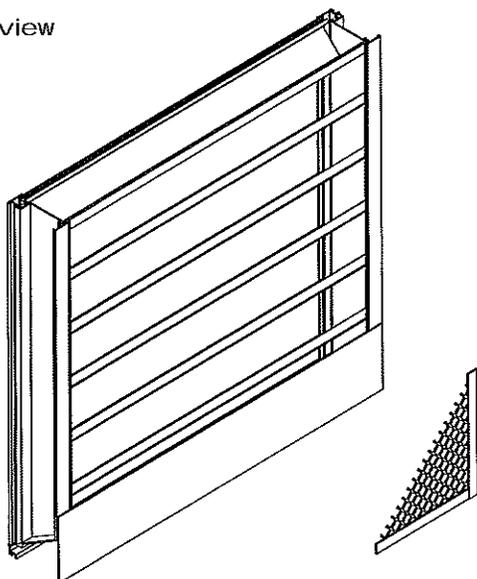
Check if provided

- EQT • Earthquake tabs
- Other _____

Standard Finish: #26 White

Optional finish _____

Internal view



ESD-403

4" Frame

Application & Design

ESD-403 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates a drainable head member and stationary horizontal blades to channel water to the jambs which guides the water through vertical downspouts for escape at the sill. The ESD-403 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

Width and Height furnished approximately 0.250 in. under size.

Construction Features

Frame Depth (in.):	4	Frame Thickness (in.):	0.081	Louver Material:	Aluminum
Sizing:	Nominal	Fixed Blade Thick. (in.):	0.081		
Shape:	Rectangular				
Frame Type:	Channel				
Product Warranty:	1-Year Standard				

Options and Accessories

Finish Type:	Mill	Bird Screen Type:	Flat Expanded	Bird Screen Mat'l:	Aluminum
Bird Screen:	Internal				
Bird Screen Finish:	Mill				
Welded Construction:	No				

Summary

ID #	Tag	Qty.	W (in.)	H (in.)	Free Area (ft ²)	Sect. Wide	Sect. High	Sect. Ship
2-1	L-1	1	48.000	48.000	8	1	1	1

Performance

ID #	Application	Volume (CFM)	Press. Drop (in. wg)	Free Area Velocity (ft/min)	BPWP (ft/min)
2-1	Intake	3,900	0.041	487	1,007

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand a 25 PSF wind-load (please consult Greenheck if the louvers must withstand higher wind-loads). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations or seismic calculations.

Louvers Product Limited Warranty

Thank you for purchasing Greenheck louvers. Greenheck warrants this equipment to be free from defect in material and workmanship for a period of **1 year** from the date of product shipment. Any units or parts, which prove defective during the warranty period, will be repaired or replaced at our option when returned to our factory, transportation prepaid. Unless agreed upon otherwise Greenheck will not be held responsible for costs associated with removal or installation of product(s).

The legal remedies described in this Limited Warranty are the sole exclusive remedy of Customer. This limited warranty will be void if payment from Customer is not received within a commercially reasonable time frame. GREENHECK MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS, OR ITS SELECTION AND APPLICATION, INCLUDING, BUT NOT LIMITED TO, COMPLIANCE WITH BUILDING CODES, SAFETY CODES, LAWS, MERCHANTABILITY OR FITNESS OR A PARTICULAR PURPOSE. This limited warranty is extended solely to the Customer. It is nontransferable and non-assignable, and the Customer shall not permit or authorize its employees, agents, representatives or customers to claim, represent or imply that this limited warranty extends or is available to anyone other than the Customer.

In the event of material breach by the Customer of any of the conditions of this warranty, Greenheck shall have no liability for and product failure claims.

Failure to pay Greenheck in full for original services will automatically make this warranty null and void.

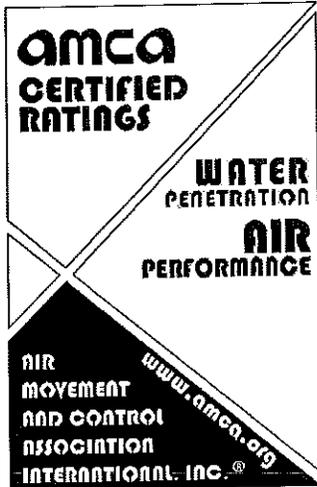
Greenheck will not be held liable for incidental or consequential damages of any kind. The limited warranty of product(s) replaced or repaired under this limited warranty shall be limited to the remainder of the original warranty period. Greenheck reserves the right to reasonable field access to diagnose and repair any product alleged to be defective. This limited warranty may not be modified by anyone and may not be changed by such things as purchase order forms or acceptance forms, unless otherwise agreed upon by Greenheck.

This limited warranty is provided in lieu of any other warranty requirements or obligations, including, but not limited to, those within project specifications.

All notices and claims given under or pursuant to this agreement shall be in writing and sent by certified or registered mail, postage prepaid, return receipt requested to: Greenheck, Attn: Louver Sales, 525 Western Road, Schofield, WI 54476.

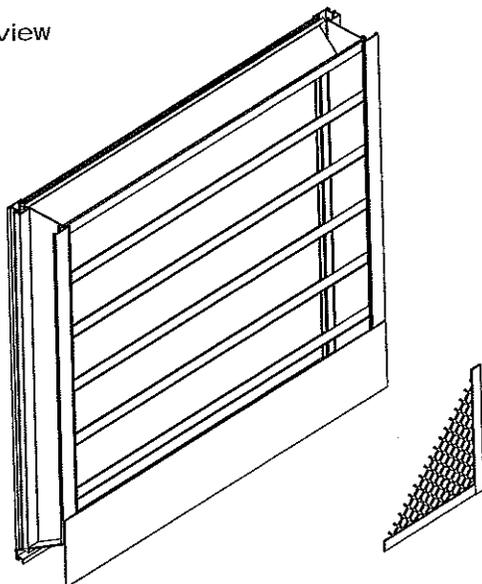
By proceeding to use our products and services on your project, you accept the terms of these limited warranties.

AMCA



Greenheck Fan Corporation certifies that the louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings. The AMCA licensed performance data has been modified for installation, appurtenances, accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the air control device.

Internal view



ESD-403

4" Frame

Application & Design

ESD-403 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates a drainable head member and stationary horizontal blades to channel water to the jambs which guides the water through vertical downspouts for escape at the sill. The ESD-403 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

Width and Height furnished approximately 0.250 in. under size.

Construction Features

Frame Depth (in.):	4	Frame Thickness (in.):	0.081	Louver Material:	Aluminum
Sizing:	Nominal	Fixed Blade Thick. (in.):	0.081		
Shape:	Rectangular				
Frame Type:	Channel				
Product Warranty:	1-Year Standard				

Options and Accessories

Finish Type:	Mill	Bird Screen Type:	Flat Expanded	Bird Screen Mat'l:	Aluminum
Bird Screen:	Internal				
Bird Screen Finish:	Mill				
Welded Construction:	No				

Summary

ID #	Tag	Qty.	W (in.)	H (in.)	Free Area (ft ²)	Sect. Wide	Sect. High	Sect. Ship
3-1	L-2	1	48.000	48.000	8	1	1	1

Performance

ID #	Application	Volume (CFM)	Press. Drop (in. wg)	Free Area Velocity (ft/min)	BPWP (ft/min)
3-1	Intake	3,900	0.041	487	1,007

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand a 25 PSF wind-load (please consult Greenheck if the louvers must withstand higher wind-loads). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations or seismic calculations.

Louvers Product Limited Warranty

Thank you for purchasing Greenheck louvers. Greenheck warrants this equipment to be free from defect in material and workmanship for a period of 1 year from the date of product shipment. Any units or parts, which prove defective during the warranty period, will be repaired or replaced at our option when returned to our factory, transportation prepaid. Unless agreed upon otherwise Greenheck will not be held responsible for costs associated with removal or installation of product(s).

The legal remedies described in this Limited Warranty are the sole exclusive remedy of Customer. This limited warranty will be void if payment from Customer is not received within a commercially reasonable time frame. GREENHECK MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS, OR ITS SELECTION AND APPLICATION, INCLUDING, BUT NOT LIMITED TO, COMPLIANCE WITH BUILDING CODES, SAFETY CODES, LAWS, MERCHANTABILITY OR FITNESS OR A PARTICULAR PURPOSE. This limited warranty is extended solely to the Customer. It is nontransferable and non-assignable, and the Customer shall not permit or authorize its employees, agents, representatives or customers to claim, represent or imply that this limited warranty extends or is available to anyone other than the Customer.

In the event of material breach by the Customer of any of the conditions of this warranty, Greenheck shall have no liability for and product failure claims.

Failure to pay Greenheck in full for original services will automatically make this warranty null and void.

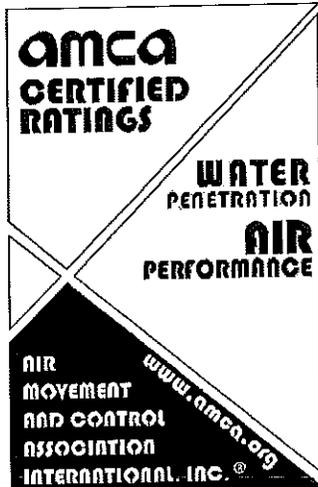
Greenheck will not be held liable for incidental or consequential damages of any kind. The limited warranty of product(s) replaced or repaired under this limited warranty shall be limited to the remainder of the original warranty period. Greenheck reserves the right to reasonable field access to diagnose and repair any product alleged to be defective. This limited warranty may not be modified by anyone and may not be changed by such things as purchase order forms or acceptance forms, unless otherwise agreed upon by Greenheck.

This limited warranty is provided in lieu of any other warranty requirements or obligations, including, but not limited to, those within project specifications.

All notices and claims given under or pursuant to this agreement shall be in writing and sent by certified or registered mail, postage prepaid, return receipt requested to: Greenheck, Attn: Louver Sales, 525 Western Road, Schofield, WI 54476.

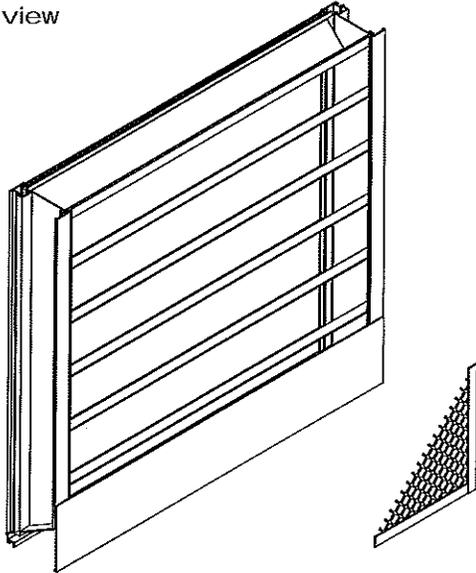
By proceeding to use our products and services on your project, you accept the terms of these limited warranties.

AMCA



Greenheck Fan Corporation certifies that the louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings. The AMCA licensed performance data has been modified for installation, appurtenances, accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the air control device.

Internal view



ESD-403

4" Frame

Application & Design

ESD-403 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates a drainable head member and stationary horizontal blades to channel water to the jambs which guides the water through vertical downspouts for escape at the sill. The ESD-403 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

Width and Height furnished approximately 0.250 in. under size.

Construction Features

Frame Depth (in.):	4	Frame Thickness (in.):	0.081	Louver Material:	Aluminum
Sizing:	Nominal	Fixed Blade Thick. (in.):	0.081		
Shape:	Rectangular				
Frame Type:	Channel				
Product Warranty:	1-Year Standard				

Options and Accessories

Finish Type:	Mill	Bird Screen Type:	Flat Expanded	Bird Screen Mat'l:	Aluminum
Bird Screen:	Internal				
Bird Screen Finish:	Mill				
Welded Construction:	No				

Summary

ID #	Tag	Qty.	W (in.)	H (in.)	Free Area (ft2)	Sect. Wide	Sect. High	Sect. Ship
4-1	L-3	1	46.000	46.000	7.45	1	1	1

Performance

ID #	Application	Volume (CFM)	Press. Drop (in. wg)	Free Area Velocity (ft/min)	BPWP (ft/min)
4-1	Exhaust	7,800	0.158	1,048	1,007

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand a 25 PSF wind-load (please consult Greenheck if the louvers must withstand higher wind-loads). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations or seismic calculations.

Louvers Product Limited Warranty

Thank you for purchasing Greenheck louvers. Greenheck warrants this equipment to be free from defect in material and workmanship for a period of 1 year from the date of product shipment. Any units or parts, which prove defective during the warranty period, will be repaired or replaced at our option when returned to our factory, transportation prepaid. Unless agreed upon otherwise Greenheck will not be held responsible for costs associated with removal or installation of product(s).

The legal remedies described in this Limited Warranty are the sole exclusive remedy of Customer. This limited warranty will be void if payment from Customer is not received within a commercially reasonable time frame. GREENHECK MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS, OR ITS SELECTION AND APPLICATION, INCLUDING, BUT NOT LIMITED TO, COMPLIANCE WITH BUILDING CODES, SAFETY CODES, LAWS, MERCHANTABILITY OR FITNESS OR A PARTICULAR PURPOSE. This limited warranty is extended solely to the Customer. It is nontransferable and non-assignable, and the Customer shall not permit or authorize its employees, agents, representatives or customers to claim, represent or imply that this limited warranty extends or is available to anyone other than the Customer.

In the event of material breach by the Customer of any of the conditions of this warranty, Greenheck shall have no liability for and product failure claims.

Failure to pay Greenheck in full for original services will automatically make this warranty null and void.

Greenheck will not be held liable for incidental or consequential damages of any kind. The limited warranty of product(s) replaced or repaired under this limited warranty shall be limited to the remainder of the original warranty period. Greenheck reserves the right to reasonable field access to diagnose and repair any product alleged to be defective. This limited warranty may not be modified by anyone and may not be changed by such things as purchase order forms or acceptance forms, unless otherwise agreed upon by Greenheck.

This limited warranty is provided in lieu of any other warranty requirements or obligations, including, but not limited to, those within project specifications.

All notices and claims given under or pursuant to this agreement shall be in writing and sent by certified or registered mail, postage prepaid, return receipt requested to: Greenheck, Attn: Louver Sales, 525 Western Road, Schofield, WI 54476.

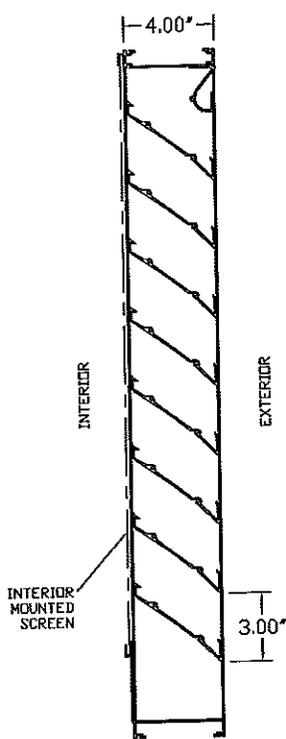
By proceeding to use our products and services on your project, you accept the terms of these limited warranties.

AMCA

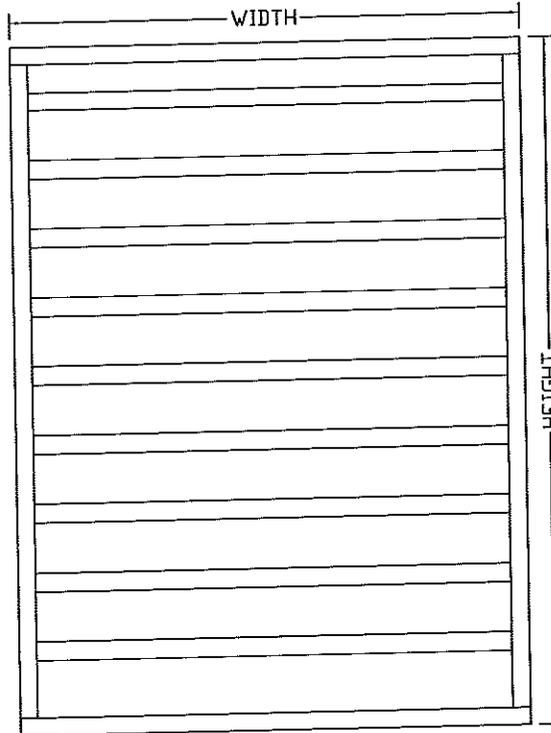


Greenheck Fan Corporation certifies that the louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings. The AMCA licensed performance data has been modified for installation, appurtenances, accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the air control device.

E4DP - 4" DEEP 35 DEGREE HP DRAINABLE D BLADE EXTRUDED ALUMINUM STATIONARY LOUVER



SECTION VIEW



ELEVATION VIEW

BLADE - 0.081" THICKNESS TYPE 6063-T5 EXTRUDED ALUMINUM
 FRAME - 0.081" THICKNESS TYPE 6063-T5 EXTRUDED ALUMINUM
 DESIGNED FOR 100 MPH WIND LOAD
 SIZES 12" WIDE X 12" HIGH UP TO UNLIMITED SIZE AVAILABLE

OPTIONS:
 MOUNTING FOR VARIOUS OPENING TYPES (SEE FRAME STYLES BELOW)
 ARCHITECTURAL SHAPES (SEE SPECIAL SHAPES TECH SHEET)
 HIGHER WIND LOAD RATINGS
 ARCHITECTURAL FINISHES
 VARIOUS SCREENS

* SEE MOUNTING OPTIONS TECHNICAL SHEET FOR MORE FRAME STYLES*

1. J-CHANNEL FOR SIDING OR STUCCO
2. G-CHANNEL FOR GLAZING INTO STOREFRONT OR CURTAINWALL

CONSTRUCTION	FRAME STYLE *	STIFFENER	VERTICAL MULLION (MULTIPLE PANELS WIDE)	HORIZONTAL MULLION (MULTIPLE PANELS HIGH)
STANDARD	 CHANNEL "C" FRAME	 BLADE STIFFENER	 EXPOSED	 EXPOSED
OPTIONAL	 FLANGE "F" FRAME	 BLADE STIFFENER	 HIDDEN	 HIDDEN
PROJECT				
CONTRACTOR				
ARCHITECT				
DRAWN BY: JRR		DATE: 08/2007	DRAWING TYPE: TECHNICAL SHEET	DRAWING TITLE: E4DP

**ARCHITECTURAL
L.O.U.V.E.R.S**

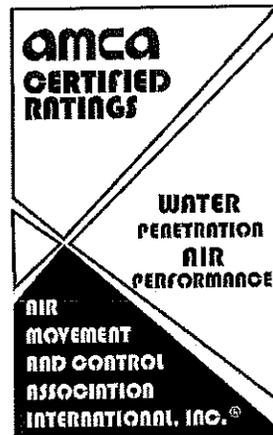
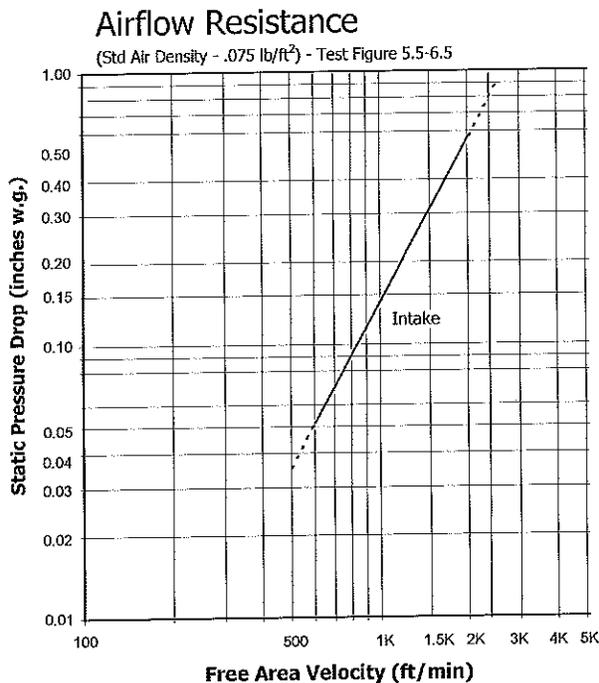
266 West Mitchell Ave - Cincinnati, OH 45232
 PH: (888) 568-8371 Fax: (888) 568-8370

MODEL: E4DP

Louver Performance Data

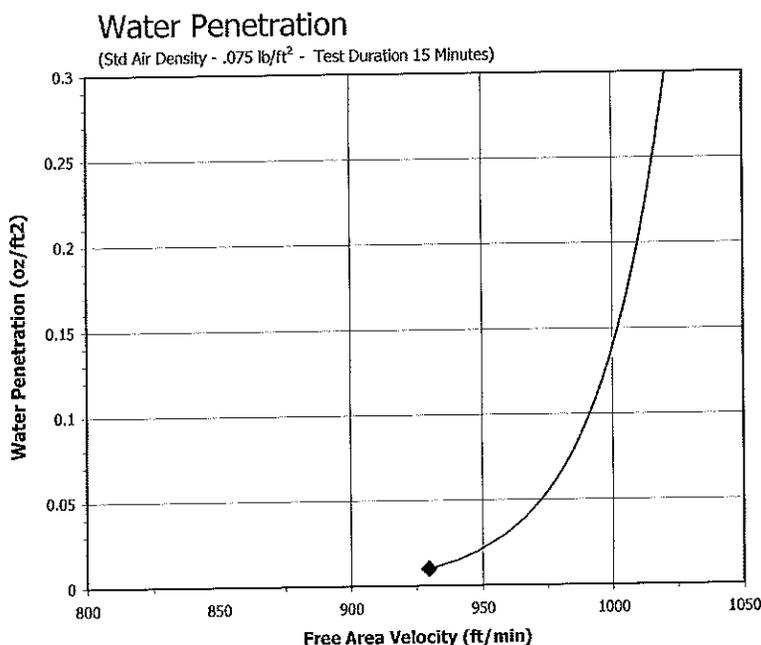


The Architectural Louvers Model E4DP is tested in accordance with AMCA 500-L Laboratory Methods of Testing Air Louvers for Rating. The data presented are the results of these tests. Tested louver size is 48" wide x 48" high and does not include the effects of bird screen.



Architectural Louvers certifies that model E4DP louver shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings only.

Model: E4DP resistance to airflow
Free area velocities (shown left) are higher than average face velocity or duct velocity.
See louver application information.



The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The point of zero water penetration is defined as that velocity where the water penetration curve projects through .01 oz. of water (penetration) per sq. ft. of louver free area. The beginning point of water penetration for this Model E4DP is 930 fpm free area velocity. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors in selecting louvers (i.e. prevailing wind direction, weather patterns for the building location area, desired safety factor, etc.).

MODEL: E4DP

Louver Application Guide



Application of air louvers involves selecting an airflow velocity through the louver free area (free area velocity in fpm) that produces an acceptable pressure drop and for intake applications minimizes carry-over of normally occurring rain. Architectural Louvers does not warrant our louvers to prevent water penetration under all combinations of wind and rain. Water penetration through Model E4DP begins at 930 fpm free area velocity. Intake air louver selection using a free area velocity below 930 fpm is recommended. Louver selection involves the following steps, and depending on the information provided, either step may come first.

Select Free Area Velocity - Fan Forced Intake:

Using the Airflow Resistance Chart, select a free area velocity that produces an acceptable pressure drop with minimal water penetration. (Water penetration is not typically considered when selecting exhaust louvers.)

Determine Louver Free Area:

Using the free area velocity from previous step and total cfm, determine the louver Free Area required. Using louver Free Area Chart, select a louver with the required free area. If louver size is given, determine free area from chart and work backwards to determine maximum airflow. See examples below.

Free Area Chart (ft²)

		Louver Width (Inches)							
		12	24	36	48	60	72	84	96
Louver Height (Inches)	12	0.43	0.92	1.41	1.90	2.39	2.82	3.32	3.81
	24	1.00	2.14	3.29	4.43	5.58	6.58	7.72	8.87
	36	1.57	3.37	5.17	6.96	8.76	10.33	12.13	13.92
	48	2.14	4.59	7.04	9.49	11.94	14.08	16.53	18.98
	60	2.71	5.82	8.92	12.02	15.12	17.84	20.94	24.04
	72	3.29	7.04	10.79	14.55	18.30	21.59	25.34	29.10
	84	3.86	8.26	12.67	17.08	21.49	25.34	29.75	34.16
	96	4.43	9.49	14.55	19.61	24.67	29.09	34.15	39.21

Louver Selection Examples - Fan Forced Intake:

Example 1:

Airflow given as 6000 cfm (fan volume)– select louver size.

- A. Determine louver free area by dividing airflow by free area velocity (do not exceed 930 fpm on intake louver applications).

$$\begin{aligned} \text{cfm} / \text{fpm} &= \text{ft}^2 \\ 6000 / 930 &= 6.45 \end{aligned}$$

- B. Select a louver with at least the required louver free area from Free Area Chart above.

$$\begin{array}{l} \text{Width} \times \text{Height} \quad \text{Free Area from Chart} \\ 48 \times 36 \quad \quad \quad 6.96 \end{array}$$

(Other selections available – See Free Area Chart above)

- C. Calculate Free Area Velocity

$$\begin{aligned} \text{fpm} &= \text{cfm} / \text{ft}^2 \text{ free area of louver} \\ 862 &= 6000 / 6.96 \end{aligned}$$

- D. Check the pressure drop of the selected louver at the calculated airflow (Airflow Resistance Chart on Page 2).

In w.g. = 0.105 at 862 fpm free area velocity

Example 2:

Louver size given as 96 W x 48 H – determine maximum airflow.

- A. Use Free Area Chart to obtain ft² for given size

$$\text{Free Area} = 18.98 \text{ sq ft}$$

- B. Multiply Free Area x Free Area Velocity (Do not exceed 930 fpm on intake louver applications).

$$\begin{array}{l} \text{ft}^2 \times \text{fpm} \quad = \text{cfm} \\ 18.98 \times 930 \quad = 17653 \end{array}$$

- C. Check the pressure drop of the selected louver at the calculated airflow (Airflow Resistance Chart on Page 2).

In w.g. = 0.123 at 930 fpm free area velocity



**KNIGHT XL
COMMERCIAL BOILER
Submittal Sheet**

KBX-Sub-06

KNIGHT® XL COMMERCIAL CONDENSING HEATING BOILERS

JOB NAME _____
LOCATION _____
ENGINEER _____
WHOLESALER _____
MECH. CONTRACTOR _____
MODEL NO. _____
TYPE GAS _____
Btu/hr INPUT _____
Btu/hr OUTPUT _____
NOTES

STANDARD FEATURES

- › 94% Thermal Efficiency
- › Modulating Burner with 5:1 Turndown
 - › Direct-Spark Ignition
 - › Low NOx Operation
 - › Sealed Combustion
 - › Low Gas Pressure Operation
- › ASME Stainless Steel Heat Exchanger
 - › ASME Certified, "H" Stamped Gasketless Heat Exchanger
 - › 160 psi Working Pressure
 - › 50 psi ASME Relief Valve
 - › Highly efficient, condensing design
- › Vertical & Horizontal Direct-Vent
 - › Category IV venting up to 100 feet
 - › PVC, CPVC, Polypropylene or AL29-4C Venting up to 100 Feet
 - › Factory Supplied Sidewall Vent Termination
- › Smart System Control
- › Other Features
 - › On/Off Switch
 - › Adjustable High Limit w/ Manual Reset
 - › Automatic Reset High Limit
 - › Flow Switch
 - › Flue Temperature Sensor
 - › Low Air Pressure Switch
 - › Temperature & Pressure Gauge
 - › Adjustable Leveling Legs
 - › Condensate Trap
 - › Zero Clearances to Combustible Material
 - › 10 Year Limited Warranty (See Warranty)

SMART SYSTEM FEATURES

- › SMART SYSTEM Digital Operating Control
 - › Multi-Color Graphic LCD Display w/ Navigation Dial
 - › Three Reset Temperature Inputs with curves for three set point temperature inputs
 - › Built in Cascading Sequencer for up to 8 Boilers
 - › Multiple Size Boiler Cascade
 - › Lead Lag
 - › Efficiency Optimization
 - › Outdoor Reset Control with Outdoor Air Sensor
 - › Programmable System Efficiency Optimizers
 - › Night Setback
 - › DHW Night Setback
 - › Anti-Cycling
 - › Outdoor Air Reset Curve

- › Ramp Delay
- › Boost Temperature & Time
- › Three Pump Control
 - › System Pump With Parameter for Continuous Operation
 - › Boiler Pump With Variable Speed Pump Control*
 - › Domestic Hot Water Pump
- › Domestic Hot Water Prioritization
 - › DHW tank piped with priority in the boiler loop
 - › DHW tank piped as a zone in the system with the pumps controlled by the Smart System
 - › DHW Modulation Limiting
 - › Separately Adjustable SH/DHW Switching Times*
- › Building Management System Integration
 - › 0-10VDC Input to Control Modulation or Set Point
 - › 0-10VDC Input Signal from Variable Speed System Pump*
 - › 0-10VDC Modulation Rate Output
 - › 0-10VDC Input to Enable/Disable call for heat
 - › Access to BMS Settings through Display
- › High Voltage Terminal Strip
 - › 120 VAC / 60 Hertz / 1 Phase Power Supply
 - › Three sets of Pump Contacts with Pump Relays
- › Low Voltage Terminal Strip
 - › 24 VAC Device Relay
 - › Proving Switch Contacts
 - › Flow Switch Contacts
 - › Alarm on Any Failure Contacts
 - › Runtime Contacts
 - › DHW Thermostat Contacts
 - › 3 Space Heat Thermostat Contacts
 - › System Sensor Contacts
 - › DHW Tank Sensor Contacts
 - › Outdoor Air Sensor Contacts
 - › Cascade Contacts
 - › 0-10 VDC BMS External Control Contact
 - › 0-10 VDC Boiler Rate Output Contacts
 - › 0-10 VDC Variable Speed System Pump Signal Input
 - › 0-10 VDC Signal to Control Variable Speed Boiler Pump
 - › Modbus Contacts

OPTIONAL EQUIPMENT

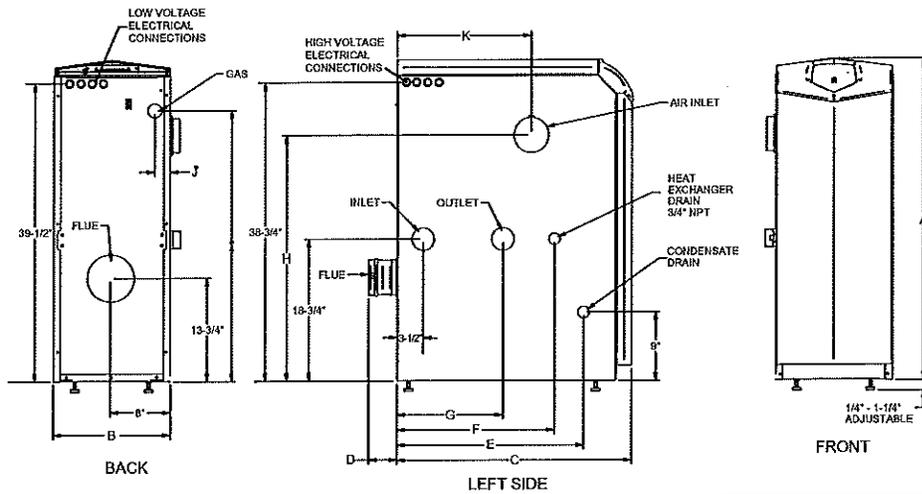
- Alarm Bell
- Condensate Neutralization Kit
- Concentric Vent Kit (KB400-KB601)
- BMS Gateway to LON or BacNet
- High & Low Gas Pressure Switches w/ Manual Reset (KB501-KB801)
- MODBUS Communication
- Multi Temperature Loop Control
- Low Water Cutoff w/Manual Reset & Test
- Boiler Circulation Pump
- SMART SYSTEM PC Software
- Stainless Steel Vent Kits (KB701-KB801)
- Stack Frame
- 30 psi ASME Relief Valve
- 75 psi ASME Relief Valve
- 100 psi ASME Relief Valve
- 125 psi ASME Relief Valve
- 150 psi ASME Relief Valve

FIRING CODES

- M9 Standard Construction
- M7 California Code
- M13 CSD1 / FM / GE Gap (KB501-KB801)

- › Time Clock
 - › Data Logging
 - › Hours Running, Space Heating
 - › Hours Running, Domestic Hot Water
 - › Ignition Attempts
 - › Last 10 Lockouts
 - › Other Features
 - › Low Water Flow Safety Control & Indication
 - › Password Security
 - › Inlet & Outlet Temperature Readout
 - › Customizable Freeze Protection Parameters
 - › Custom Maintenance Reminder with Contractor Info
- *Exclusive feature, available only from Lochinvar*

KNIGHT XL Commercial Boiler Dimensions & Specifications



KNIGHT XL HEATING BOILER						DIMENSIONS AND SPECIFICATIONS															
Model Number	Input		Thermal Efficiency	Net Output MBH	AHRI Rating MBH	A	B	C	D	E	F	G	H	I	J	K	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
	Min MBH	Max MBH				42-1/2"	15-1/2"	27-3/4"	3-3/4"	20-3/4"	21"	14"	34"	34"	2"	18-3/4"	1"	1-1/2"	4"	4"	280
KBN400	80	399	94%	373	324	42-1/2"	15-1/2"	27-3/4"	3-3/4"	20-3/4"	21"	14"	34"	34"	2"	18-3/4"	1"	1-1/2"	4"	4"	280
KBN501	100	500	94%	467	406	42-1/2"	15-1/2"	31-1/2"	3-3/4"	25-1/2"	21"	14"	32-1/2"	36"	2"	18"	1"	1-1/2"	4"	4"	310
KBN601	120	600	94%	567	493	42-1/2"	15-1/2"	36-1/4"	3-3/4"	25"	21"	14"	36"	32-3/4"	5-1/2"	19-1/2"	1"	2"	4"	4"	340
KBN701	140	700	94%	660	574	42-1/2"	15-1/2"	40-1/4"	3-3/4"	29"	23"	17"	36"	32-3/4"	3-1/4"	23-1/2"	1"	2"	4"	6"	370
KBN801	160	800	94%	752	654	42-1/2"	15-1/2"	45-1/4"	3-3/4"	33-1/4"	23"	17"	36"	32-3/4"	3-1/4"	27-3/4"	1"	2"	4"	6"	405

Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models.

VENTING OPTIONS

- Direct Vent Vertical
- Direct Vent Horizontal
- Vertical Vent with Sidewall Air Intake
- Sidewall Vent with Rooftop Air Intake
- Vertical Vent with Optional Room Air
- Sidewall Vent with Optional Room Air



Lochinvar®
High Efficiency Water Heaters, Boilers and Pool Heaters

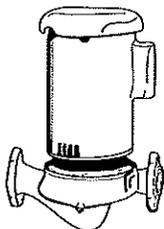


Lochinvar, LLC • 300 Maddox Simpson Pkwy • Lebanon, TN 37090 • 615-889-8900 / Fax: 615-547-1000
www.Lochinvar.com



SUBMITTAL
B-141B

JOB:	REPRESENTATIVE:	
UNIT TAG:	ORDER NO.	DATE: 1/8/2014
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:



1AA Series "90"

Centrifugal Pumps

Vertical In-Line Mounted - Close Coupled

SPECIFICATIONS

FLOW	34	HEAD	50
HP	1.50	RPM	3450
VOLTS			208
CYCLE	60	PHASE	3
ODP			
APPROX. WEIGHT			60
SPECIALS:			

MATERIALS OF CONSTRUCTION

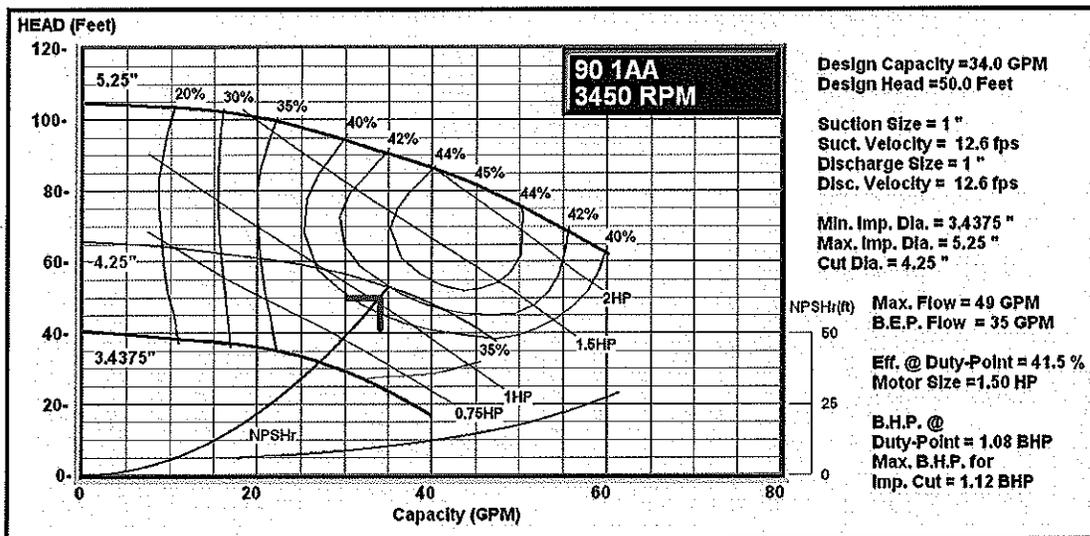
BRONZE FITTED ALL BRONZE

TYPE OF SEAL

90 Standard Seal
(Buna-Carbon/Ceramic)

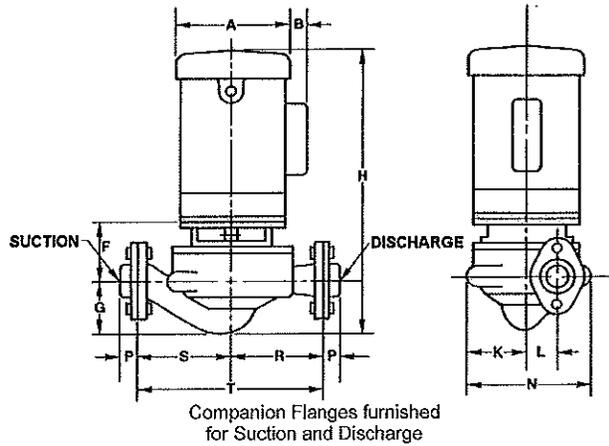
MAXIMUM WORKING PRESSURE

175 psi (12 bar) W.P.



Series 90 1AA Centrifugal Pump Submittal

B-141B



PUMP SIZE	SUCTION AND DISCHARGE SIZE - INCHES NPT	PUMP DIMENSIONS IN INCHES (MM)								
		F	G	K	L	N	P	R	S	T
1AA	1	2-3/4 (70)	3-11/16 (94)	3 (76)	1-3/8 (35)	6-1/8 (156)	3/4 (19)	5 (127)	6 (152)	11 (279)

DIMENSIONS - Inches (mm)

MOTOR HP			A MAX.	B	H MAX.
1725 RPM	3450 RPM	PHASE			
1/4		1	7-1/2 (191)	1-1/2 (38)	15-1/2 (394)
1/4		3	7-1/2 (191)		14-1/2 (368)
1/3		1	7-1/2 (191)	1-1/2 (38)	16 (406)
1/3		3	7-1/2 (191)		15-1/2 (394)
	3/4	1	7-1/2 (191)	1-1/2 (38)	16 (406)
	3/4	3	7-1/2 (191)		15-5/8 (397)
	1	1	7-1/2 (191)	1-1/2 (38)	16-1/2 (419)
	1	3	7-1/2 (191)		17-3/4 (451)
	1-1/2	1	7-1/2 (191)	1-1/2 (38)	17-1/4 (438)
	1-1/2	3	7-1/2 (191)		17-1/4 (438)
	2	3	7-1/2 (191)		17-1/4 (438)
	3	3	7-1/2 (191)		17-3/4 (451)

Dimensions are subject to change. Not to be used for construction purposes unless certified.

American Standard

Style That Works Better

 BARRIER FREE

AFWALL® FloWise®
1.28 GPF FLUSHOMETER TOILET SYSTEM
with EVERCLEAN®
SELECTRONIC® EXPOSED AC FLUSH VALVE

**AFWALL® FloWise® 1.28 GPF
FLUSHOMETER TOILET SYSTEM with EVERCLEAN®**

- 3351.712 1.28 gpf Exposed Top Spud Bowl and Selectronic® Exposed AC Flush Valve

BOWL:

- Wall-hung elongated flushometer valve toilet
- Vitreous china
- High Efficiency, Low Consumption. Operates in the range of 1.1 gpf to 1.6 gpf (4.2 Lpf to 6.0 Lpf)
- Permanent EverClean® surface inhibits the growth of stain and odor-causing bacteria, mold, and mildew on the surface
- Powerful direct-fed siphon jet action
- Fully-glazed 2-1/8" trapway
- Condensation channel
- 1-1/2" inlet spud
- 10" x 12" water surface area
- 100% factory flush tested
- Bolt caps and seat not included
- Model 3351.001

SELECTRONIC® FLUSH VALVE:

- Electronic flush valve with Selectronic® proximity system for hygienic "Hands Free" operation
- Self-Cleaning Piston with integral wiper spring helps prevent clogging and reduces maintenance
- Piston operation delivers superior flush accuracy and repeatability
- Fully Mechanical Manual Override - allows valve to flush during a power failure
- Fall-Safe Operation - valve automatically closes, and does not need to be reset, on loss of power or water pressure
- Adjustable Sanitary Flush - valve automatically flushes after 24 hours of non-use to clean fixture & maintain trap seal
- Chemical resistant EPDM seals are unaffected by chloramines
- Sensor & electronic controls are fully enclosed and water resistant
- Range can be adjusted manually or with optional remote control
- Includes UL approved hardwired AC transformer
- Input Voltage: 100 - 250 VAC, 50 / 60 Hz. Output Voltage: 6 VDC.
- Adjustable tailpiece for rough-in flexibility
- Can be installed left or right hand
- Model 6067.121.002

Includes:

- 047007-0070A Inlet Spud (furnished with bowl)
- 1" I.P.S. angle stop with back-flow prevention and vandal-resistant cap
- 1" Sweat solder kit including cover tube and wall flange
- Outlet includes 1-1/2" vacuum breaker with spud coupling and flange

To Be Specified:

- Color: White
- Seat:
- American Standard #5901.100 Heavy duty open front less cover
 - American Standard #5905.100 Extra heavy duty open front less cover



SEE REVERSE FOR ROUGHING-IN DIMENSIONS

High-Efficiency Toilet System

- 20% water savings when compared to 1.6 gpf toilet systems

System MaP Score:

- 1000 grams of miso @ 1.28 gpf

Operating Pressure:

Overall Range: 20-125 psi**

Recommended: 25 psi (flowing) - 80 psi (static)

** Water pressure over 80 psi is not recommended for most plumbing fixtures.

Flow Requirement:

25gpm (94.6 L/min.)

Nominal Fixture Dimensions:

660 x 356 x 381mm (26" x 14" x 15")

EVERCLEAN®
Surface



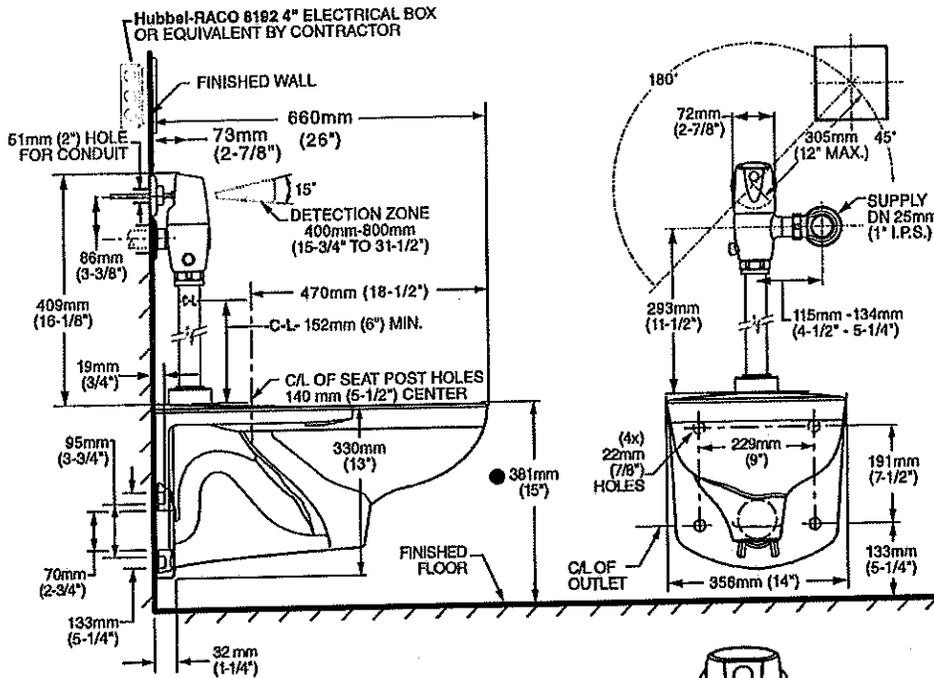
AFWALL® FloWise®
1.28 GPF FLUSHOMETER TOILET SYSTEM
 with EVERCLEAN®
 SELECTRONIC® EXPOSED AC FLUSH VALVE

Fixture Compliance Certifications - Meets or Exceeds the Following Specifications:

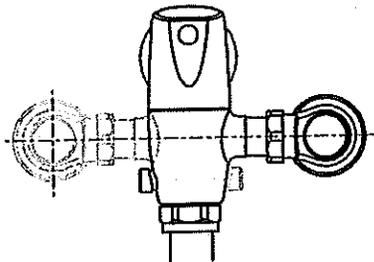
- ASME A112.19.2-2008 / CSA B45.1-08 for Vitreous China Fixtures

Valve Listings:

- ASSE 1037
- ANSI/ASME A112.19.2
- ADA Compliant



*Note: The Critical Line (-C-L) on Vacuum Breaker must typically be a minimum of 152mm (6") above fixture. Consult Codes for details.



VALVE LEFT or RIGHT HAND INSTALLATION



MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.

• When installed so that top of seat is 432 to 483mm (17" to 19") from the finished floor.

NOTES:
 WASTE OUTLET SEAL RING MUST BE NEOPRENE OR GRAPHITE-FELT (WAX RING NOT RECOMMENDED).
 SUGGESTED 2mm (1/16) CLEARANCE BETWEEN FACE OF WALL AND BACK OF BOWL. TO COMPLY WITH AREA CODE GOVERNING THE HEIGHT OF VACUUM BREAKER ON THE FLUSHOMETER VALVE, THE PLUMBER MUST VERIFY DIMENSIONS SHOWN FOR SUPPLY ROUGHING.
 CARRIER FITTING AS REQUIRED TO BE FURNISHED BY OTHERS.
 PROVIDE SUITABLE REINFORCEMENT FOR ALL WALL SUPPORT.

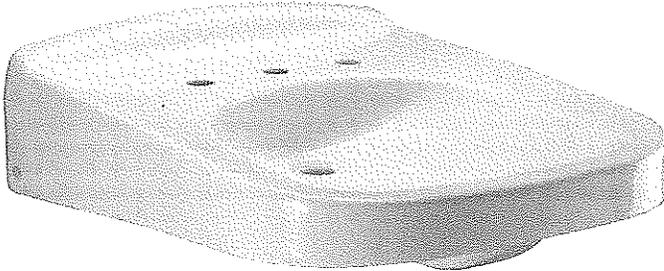
IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages



Z5330

Wall 27" x 20-1/4" Wall Hung Wheelchair Lavatory

TAG _____



Z5330 Series

Recommended Trim:

- Z8743-PC Grid Strainer.
- Z8700 Series P-Trap.
- Z8800 Series Stop with Flexible Supplies.
- Z8946-1-NT ADA Trap, Stop, and Supply Protectors.

Optional Trim:

- Z8746-PC ADA Grid Strainer.
- Z8946-3-NT ADA Trap, Stop, and Supply Protectors for Offset Grid Strainers.

These dimensions and specifications are subject to change without notice.

Fixture dimensions meet ANSI/ASME standard A112.19.2 and CAN/CSA B45 requirements.

Meets the American Disabilities Guidelines and ANSI A117.1 requirements when lavatory is installed 34" [864mm] from finished floor.



See Zurn One Systems for suggested packages.

Zurn Plumbing Products Group Commercial Brass and Fixtures Operation
2640 South Work Street · Falconer, NY 14733 · Phone: 716-665-1132 · Fax: 716-665-1135 · www.zurn.com

Z5330 Series

- 27" [686 mm] x 20-1/4" [514 mm]
- Vitreous china
- Faucet holes for single, 4", 8", or 12" centers
- Available with right-hand side soap hole drilling
- Designed for convenient access by wheelchairs
- Wall hung lavatory for use with concealed arm carrier systems
- Front overflow
- Waste: 1-1/4" O.D.
- Depth: 5-3/4"
- Shipping Weight: 53 lbs.

Engineering Specification:

- Z5331 27" x 20-1/4" with single faucet hole. Vitreous china, wall hung lavatory provided with hanger plate and holes for concealed arm carrier systems.
- Z5334 27" x 20-1/4" with 4" center faucet holes. Vitreous china, wall hung lavatory provided with hanger plate and holes for concealed arm carrier systems.
- Z5338 27" x 20-1/4" with 8" center faucet holes. Vitreous china, wall hung lavatory provided with holes for concealed arm carrier systems.
- Z5339 27" x 20-1/4" with 12" center faucet holes. Vitreous china, wall hung lavatory provided with holes for concealed arm carrier systems.

This space is for Architectural/engineering Approval



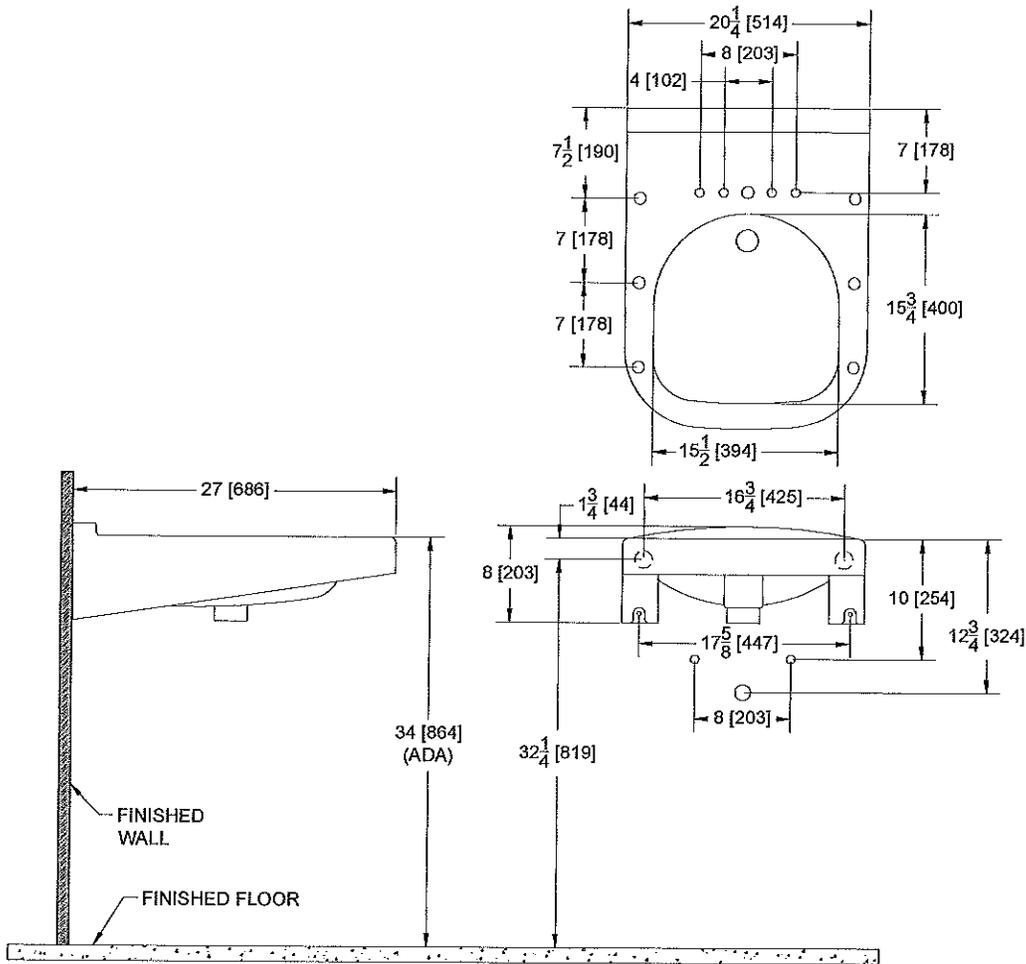
Z5330

Wall 27" x 20-1/4" Wall Hung Wheelchair Lavatory Rough-In

TAG _____

Rough-in dimensions for Z5330 Series

- Z5331 Lavatory with single faucet hole
- Z5334 Lavatory with 4" center faucet holes
- Z5338 Lavatory with 8" center faucet holes
- Z5339 Lavatory with 12" center faucet holes



These dimensions and specifications are subject to change without notice.

Fixture dimensions meet ANSI/ASME standard A112.19.2 and CAN/CSA B45 requirements.

Meets the American Disabilities Guidelines and ANSI A117.1 requirements when lavatory is installed 34" [864mm] from finished floor.



Note: Rough-in for concealed arm carrier, see Zurn Z1231 Rough-in sheet.

Zurn Plumbing Products Group Commercial Brass and Fixtures Operation
2640 South Work Street · Falconer, NY 14733 · Phone: 716-665-1132 · Fax: 716-665-1135 · www.zurn.com

**INNSBROOK SELECTRONIC™
ELECTRONIC PROXIMITY LAVATORY FAUCET
CAST BRASS SPOUT**



GENERAL DESCRIPTION:

Electronic faucet with proximity operation. Vandal-resistant solid brass construction. Operates on DC (battery) or AC permanent power. Water pressure range from 20 to 125 psi. Single inlet 15" flexible stainless steel hose with 3/8" compression fitting for spout connection.

PRODUCT FEATURES:

Power Options;

- **Battery** - Includes CR-P2 lithium battery. Battery Life- Approximately 200,000 cycles (4 years @ 4,000 cycles per month).
- **Plug-In AC** - Includes universal low voltage plug-in power supply with 6 foot long cord. Inlet Voltage: 80 - 250 VAC, 50 - 60 Hz. Outlet Voltage: 6 VDC. One power supply can run up to 15 faucets and/or flush valves at one time.
- **Hard-Wired AC** - Includes universal low voltage hard-wired transformer. Inlet Voltage: 80 - 250 VAC, 50 - 60 Hz. Outlet Voltage: 6 VDC. One transformer can run up to 15 faucets and/or flush valves at one time.

Easy & Flexible Installation: 3-hole, 4" centerset installation. Water resistant solenoid enclosure mounts to wall.

Durable Vandal-Resistant Brass Body: Ideal for high-use commercial applications.

Easy to Service Integrated Strainer: Patented integrated strainer protects solenoid from debris. Strainer is enclosed in removable debris cup for easy service.

Optional Purge Feature: Faucet can be programmed to open at a pre-determined time after the last use to purge the faucet and water lines.

Safety Timer: Helps prevent vandalism by turning off the faucet if the sensor is covered for more than 1 minute.

Low Lead: Faucet contains $\leq 0.25\%$ total lead content by weighted average.

MODEL NUMBER:

- **DC POWERED; single inlet**
 - 6055.205 with cast spout, 0.5 GPM pressure compensating, vandal-resistant non-aerated spray. Battery included.
 - 6055.202 with cast spout, 1.5 GPM pressure compensating, vandal-resistant aerator. Battery included.
- **PLUG-IN AC POWERED; single inlet**
 - 6056.205 with cast spout, 0.5 GPM pressure compensating, vandal-resistant non-aerated spray. Includes Plug-In AC power supply.
 - 6056.202 with cast spout, 1.5 GPM pressure compensating, vandal-resistant aerator. Includes Plug-In AC power supply.
- **HARD-WIRED AC POWERED; single inlet**
 - 6059.205 with cast spout. 0.5 GPM pressure compensating, vandal-resistant, non-aerated spray. Includes UL-approved Hard-Wired AC transformer (electrical box by others).
 - 6059.202 with cast spout. 1.5 GPM pressure compensating, vandal-resistant aerator. Includes UL-approved Hard-Wired AC transformer (electrical box by others).
- **MULTI AC POWERED; single inlet**
 - 6057.205 with cast spout. 0.5 GPM pressure compensating, vandal-resistant spray. One power supply or transformer (sold separately) can operate up to 15 faucets and/or flush valves. 10' extension cable included.
 - 6057.202 with cast spout. 1.5 GPM pressure compensating, vandal-resistant aerator. One power supply or transformer (sold separately) can operate up to 15 faucets. 10' extension cable included.
- **OPTIONAL Mixing Valve**
 - 605XTMV or 605XTMV1070 Thermostatic mixing valve, flex hoses 3/8" compression 20" hose length.

RECOMMENDED SPECIFICATION

Electronic Proximity Lavatory shall feature vandal resistant all brass body with single inlet, and in-line strainer. Shall also feature a low energy use electronically operated solenoid valve and microprocessor controlled proximity sensors. Shall meet ANSI A112.18.1 and ANSI 117.1 codes. Fitting shall be American Standard Model # 6055____, 6056____, 6057____, 6059____.

CODES AND STANDARDS

These products meet or exceed the following codes and standards:

- ANSI A117.1
- ASME A112.18.1
- CSA B 125
- NSF 61/Section 9, Annex G

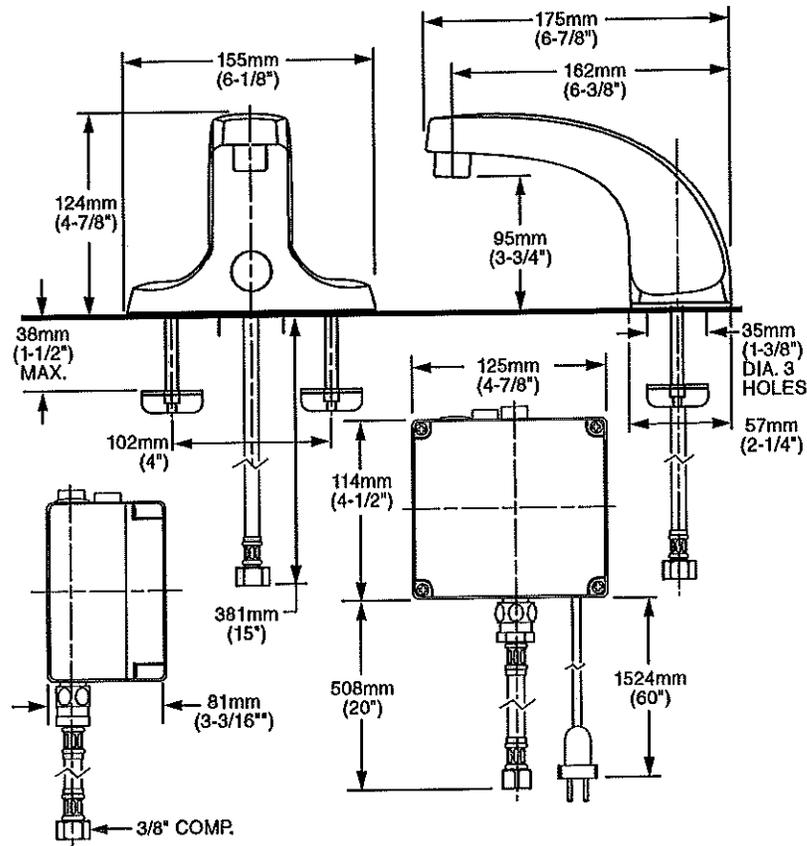
 MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES-CHECK LOCAL CODES

Other Aerators Available:

Part Suffix	Description
A15LV	Anti-Microbial 1.5 gpm (5.7 Lpm) Vandal-Resistant Non-Aerated Laminar Flow Outlet
LV15	1.5 gpm (5.7 Lpm) PCA Vandal-Resistant Non-Aerated Laminar Flow Outlet
LV10	1.0 gpm (3.8 Lpm) PCA Vandal-Resistant Non-Aerated Laminar Flow Outlet
V10	1.0 gpm (3.8 Lpm) PCA Vandal-Resistant Aerator
V035**	0.35 gpm (1.3 Lpm) PCA Vandal-Resistant Non-Aerated Spray

*PCA - Pressure Compensating

**Meets Cal Green Code

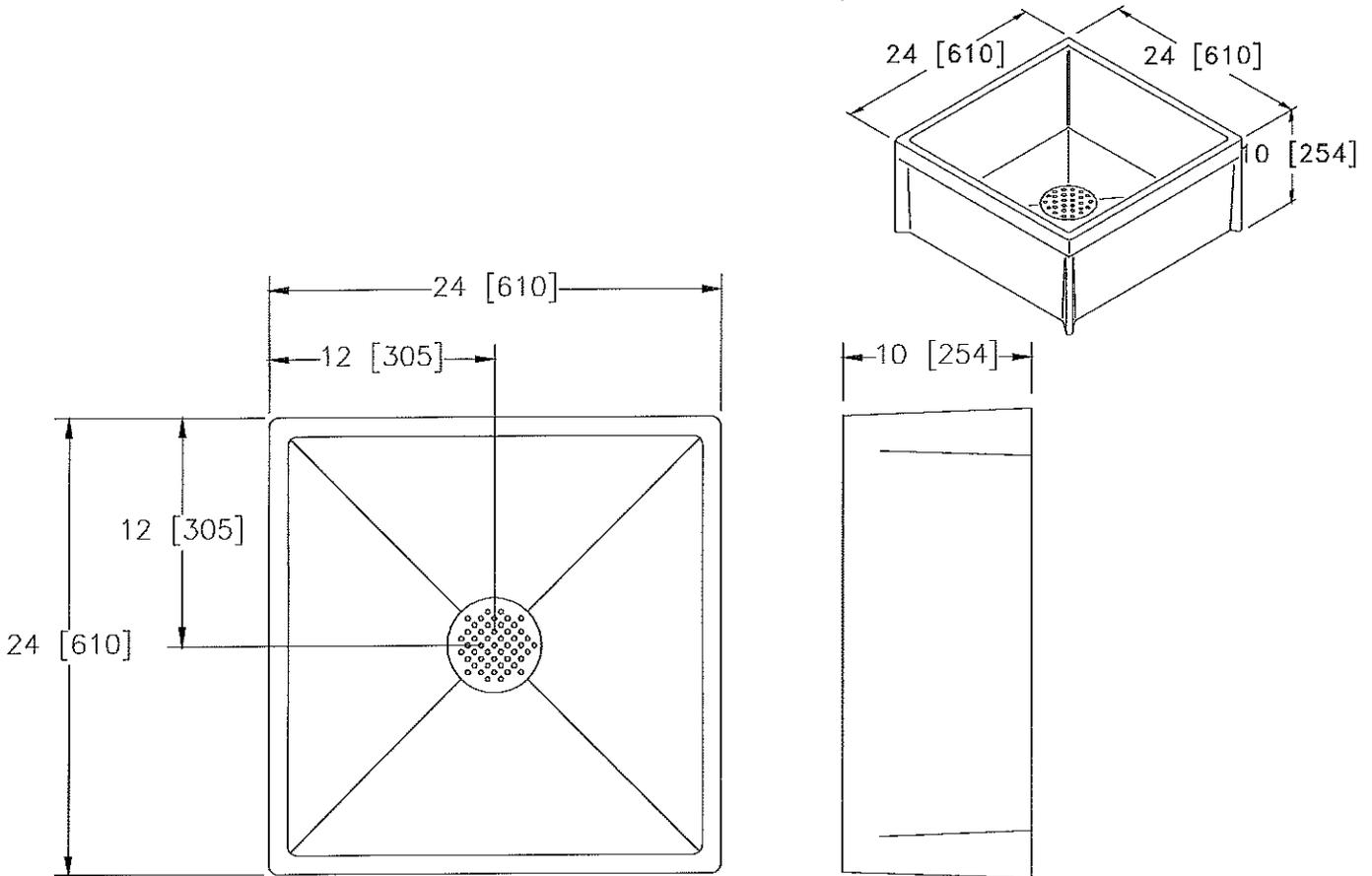




Z1996-24 MOP SERVICE BASIN 24 x 24 [610 x 610]

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Product	Mop Basin Size	Approx. Wt. Lbs. [kg]
__Z1996-24	24 x 24 x 10 [610 x 610 x 254]	50 [23]

ENGINEERING SPECIFICATION: Z1996-24

Mop Service Basin 24 x 24 x 10 [610 x 610 x 254] Molded high density composite basin, PVC drain body, stainless steel strainer and 3 [76] gasketed outlet connection. Certifications: Meets ANSI Z124.6, CSA listed, and IAPMO listed under file # 3561.

OPTIONS (Check/specify appropriate options)

SUFFIXES

- ___ -AW White Body
- ___ -BS Stainless Steel Bumper Guard
- ___ -BV Vinyl Bumper Guard
- ___ -HH Hose and Hose Bracket
- ___ -MH Mop Hanger
- ___ -NHG PVC Drain Gasket for No-Hub Pipe
- ___ -PRP Pipe Reducer for PVC Drain
- ___ -PRS Pipe Reducer for Stainless Steel Drain
- ___ -SDL Stainless Steel Drain with Dome Strainer, Lint Basket and Locking Nut
- ___ -SF Service Faucet
- ___ -WG Wall Guard #20 Gage Type 304 Stainless Steel (2 Panels-Indicate Size)



ZURN INDUSTRIES, LLC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514

Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

MECHANICAL FAUCETS

835-RCF

Manual and Metering Faucets



a Gohorit company

Product Type

Wall Mounted 6" Fixed Centers Exposed Hot and Cold Water Service Sink Faucet with Supplies from Above

Features & Specifications

- 6" Fixed Centers
- 3" Cross Handle
- Quatum Compression Operating Cartridge
- 1/2" NPT Female Thread Inlets Supplied from Top
- 3/4" Male Hose Thread Outlet
- Atmospheric Vacuum Breaker, Not Intended for Continuous Pressure Applications
- 5-3/4" Vacuum Breaker Spout with Pail Hook and Wall Brace
- Atmospheric Vacuum Breaker, Not Intended for Continuous Pressure Applications
- CFNow! Item Ships in 5 Days

Performance Specification

- Rated Operating Pressure: 20-125 PSI
- Rated Operating Temperature: 40-140°F

Warranty

- Lifetime Limited Faucet Warranty
- 5-Year Limited Cartridge Warranty
- 1-Year Limited Finish Warranty

Job Name _____

Item Number _____

Section/Tag _____

Model Specified _____

Architect _____

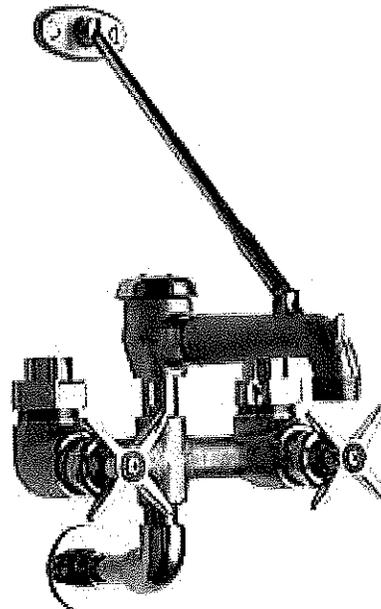
Engineer _____

Contractor _____

Submitted as Shown

Submitted with Variations

Date _____



2100 South Clearwater Drive
Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

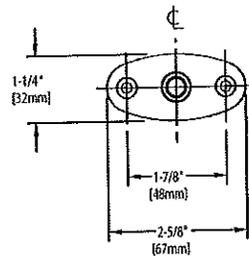
835-RCF

Manual and Metering Faucets

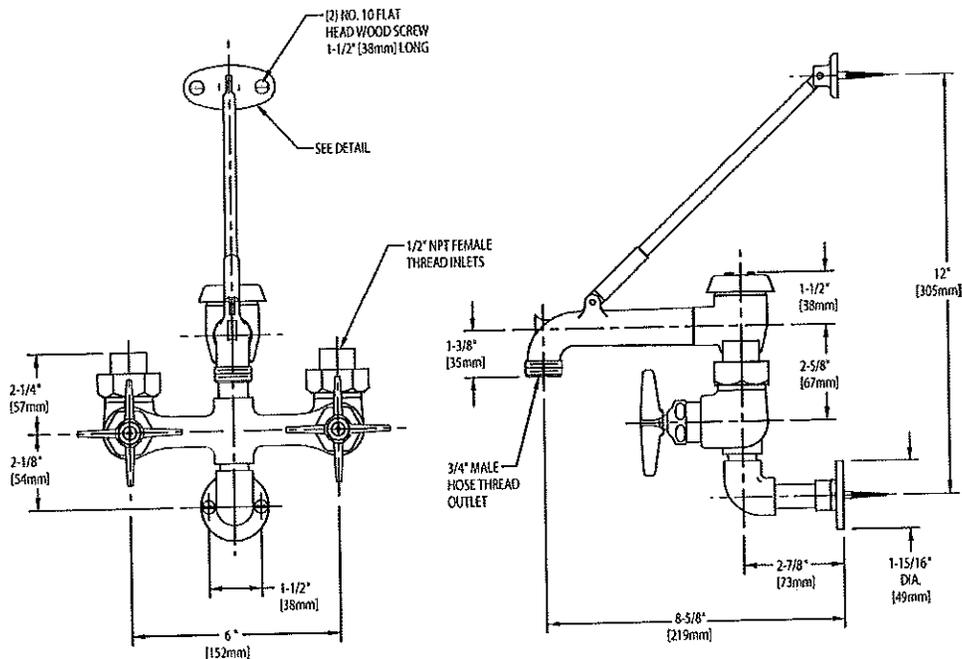


Architect/Engineer Specification

Chicago Faucets No. 835-RCF, Wall Mounted 6" Fixed Centers Exposed Hot and Cold Water Service Sink Faucet with Supplies from Above, Rough Chrome plated solid brass construction. 5-3/4" Vacuum Breaker Spout with Pail Hook and Wall Brace. 3" Metal Cross handle(s) with Eight Point Tapered Broach and Secured Blue and Red Buttons. Quatern™ rebuildable compression cartridge, opens and closes 90°, closes with water pressure, features square tapered stem. 1/2" NPT Female Thread Inlets Supplied from Top. 3/4" Male Hose Thread Outlet. Atmospheric Vacuum Breaker, Not Intended for Continuous Pressure Applications. Atmospheric Vacuum Breaker, Not Intended for Continuous Pressure Applications. Secondary Control Valve: 5-3/4" Vacuum Breaker Spout with Pail Hook and Wall Brace. .



FLANGE DETAIL



Operation and Maintenance

Installation should be in accordance with local plumbing codes. Flush all pipes thoroughly before installation. After installation, remove spout outlet or flow control and flush faucet thoroughly to clear any debris. Care should be taken when cleaning the product. Do not use abrasive cleaners, chemicals or solvents as they can result in surface damage. Use mild soap and warm water for cleaning and protecting the life of Chicago Faucet products. For specific operation and maintenance refer to the installation instructions and repair parts documents that are located at www.chicagofaucets.com.

Chicago Faucets, member of the Geberit Group, is the leading brand of commercial faucets and fittings in the United States, offering a complete range of products for schools, laboratories, hospitals, office buildings, food service, airports and sport facilities. Call 1.800.TECTRUE or 1.847.803.5000 Option 1 for installation or other technical assistance.



2100 South Clearwater Drive
Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

STAINLESS STEEL KITCHEN SINK 17 1/4"

Drop-in Series

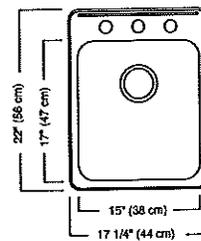
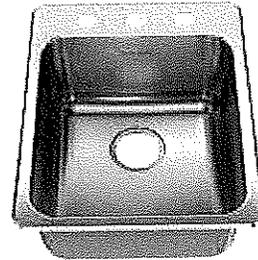
- 20 Gauge Stainless Steel
- 18-8 Chrome Nickel content
- Single bowl sink
- Installation hardware, template and instructions included
- **Waste fitting not included, must be ordered separately**
- **21" cabinet required**

Nominal Dimensions:
17 1/4" x 22" x 8"

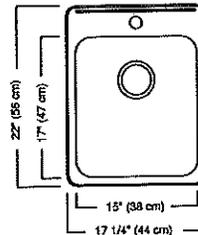
Bowl Size:
15" wide
17" front to back
8" deep

Compliance Certifications:

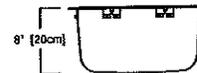
IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME A112.19.3
These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided leaflet.



17SB.172283.290
Standard drilling:
3 hole

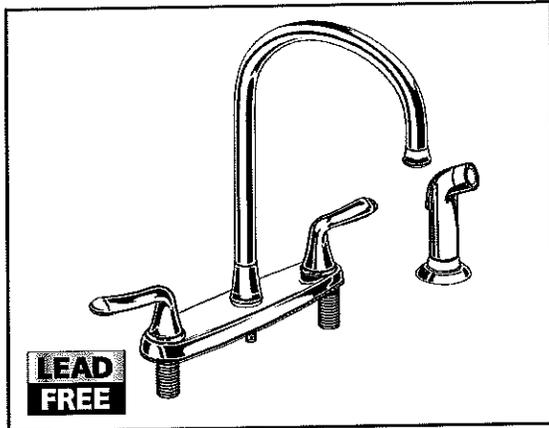


17SB.172211.290
Optional drilling:
1 hole on center



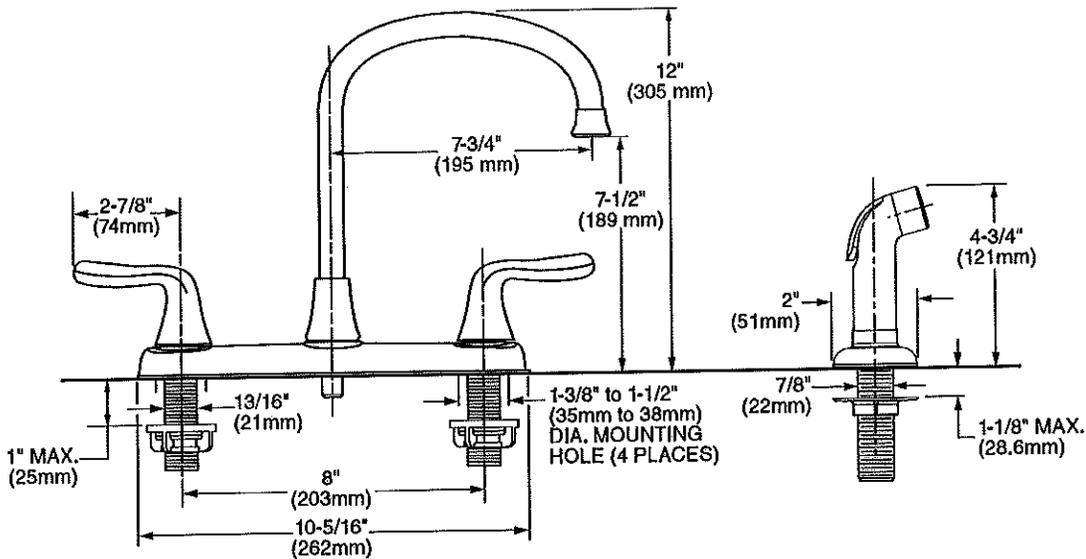
To Be Specified:

- 8443.101500.075  Stainless steel mesh colander
- 8445.131500.075  Stainless steel bottom grid
- 791566-0750A  Stainless steel waste fitting



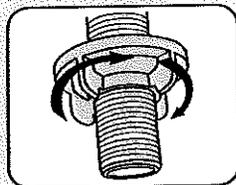
MODEL NUMBER:

- **6425F Kitchen Faucet**
Lever handles. Separate handspray.
Polished Chrome finish. SKU #239-933.



GENERAL DESCRIPTION:

Durable brass construction. 1/4 turn washerless ceramic disc valve cartridges. Durable cast brass waterway with 1/2" male inlet shanks. Brass gooseneck swivel spout. Metal escutcheon plate (escutcheon size 10-5/16" L x 2-3/8" W). 1.8gpm/6.8L/min. maximum flow rate. Lever handles.



- Quick Spin™ Nuts:**
- Hand tighten
 - No tools required

PRODUCT FEATURES:

Simple Installation: Fast and easy one person installation. Faucet drops in from top. Quick Spin™ Nuts secure faucet in place.

Ceramic Disc Valve Cartridges: Assures a lifetime of smooth handle operation and drip-free performance.

Cast Brass Waterways: Strong and durable. Integral tabs on casting provide a wobble-free installation.

Lead Free: Faucet contains ≤ 0.25% total lead content by weighted average.

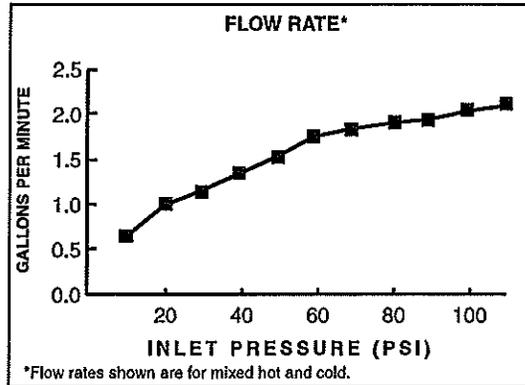
SUGGESTED SPECIFICATION:

Dual control kitchen faucet shall feature a cast brass waterway. Shall also feature 1/4 turn washerless ceramic disc valve cartridges that are reversible for use on either "hot" or "cold" side. Brass gooseneck swivel spout. Fitting shall be American Standard Model #6425F, SKU #239-933.

CODES AND STANDARDS

These products meet or exceed the following codes and standards:

- ASME A112.18.1**
- CSA B 125**
- NSF 61/Section 9**
- ANSI A117.1**



Product Number	Description
6425F	Kitchen faucet, Lever handles, Separate Chrome handspray, Polished Chrome finish, SKU #239-933.

 Meets the American Disabilities Act Guidelines and **ANSI A117.1** Requirements for the physically challenged.

For Residential and Commercial Applications

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

Series FH

Frost-proof Automatic Draining Wall Hydrants

Sizes: 1/2" x 1/2", 3/4" x 1/2", 3/4" x 3/4"
 (15 x 15, 20 x 15, 20 x 20mm)

Series FH Frost-proof Automatic Draining Wall Hydrants are designed to provide freeze protection for external water supply.

Features

- Self drains automatically
- Positive seat water shut-off
- 3/4" hose outlet

Models

FH-1-M1

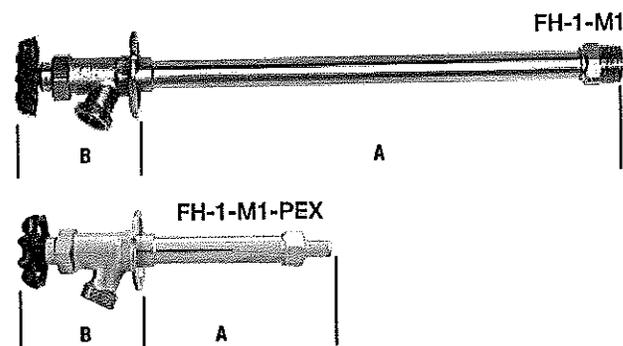
For wall sizes: 4" – 14" (100 – 350mm), 1/2" (15mm) solder or 1/2" (15mm) male IPS inlet.

FH-1-M1-PEX

For wall sizes: 4" – 14" (100 – 350mm), 1/2" (15mm) PEX inlet.

Specifications

A frost-proof automatic draining wall hydrant to be installed where indicated in the plans. Hydrant to be manufactured of a nickel-plated brass body with a metal handle. Plastic handles are not acceptable. Hydrant to be either solder, IPS, or PEX inlet by 3/4" (20mm) hose outlet. Hydrant to be a Watts Series FH.



Dimensions – Weights

MODEL	SIZE		DIMENSIONS				WEIGHT	
	in.	mm	A		B		lbs.	kgs.
Inlet 1/2" (15mm) solder or 1/2" (15mm) male IPS								
FH-1-M1	4	100	4 15/16	125	3 15/32	88	0.93	0.42
FH-1-M1	6	150	7	178	3 15/32	88	1.00	0.45
FH-1-M1	8	200	8	203	3 15/32	88	1.05	0.48
FH-1-M1	10	250	11	279	3 15/32	88	1.08	0.49
FH-1-M1	12	300	13	330	3 15/32	88	1.13	0.51
FH-1-M1	14	350	15	381	3 15/32	88	1.20	0.54
Inlet 1/2" (15mm) PEX								
FH-1-M1-PEX	4	100	5 1/2	140	3 15/32	88	0.93	0.42
FH-1-M1-PEX	6	150	7 1/2	191	3 15/32	88	1.00	0.45
FH-1-M1-PEX	8	200	8 1/2	216	3 15/32	88	1.05	0.48
FH-1-M1-PEX	10	250	11 1/2	293	3 15/32	88	1.08	0.49
FH-1-M1-PEX	12	300	13 1/2	344	3 15/32	88	1.13	0.51
FH-1-M1-PEX	14	350	15 1/2	395	3 15/32	88	1.20	0.54

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

**ISO 9001-2008
CERTIFIED**



USA: No. Andover, MA • Tel: (978) 688-1811 • Fax: (978) 794-1848 • www.watts.com
 Canada: Burlington, ON • Tel: (905) 332-4090 • Fax: (905) 332-7068 • www.wattscanada.ca

WATTS®

A Watts Water Technologies Company

ELKAY[®]

SPECIFICATIONS

Two Station Wall Mount Water Coolers Barrier-Free Access (Adult and Child) NSF/ANSI 61 Compliant – Models EZTL8C, EZSTL8C, EZTLDDC and EZSTLDDC

GENERAL

Self-contained, wall hung electric refrigerated water cooler. Chilling capacity of 50°F drinking water, based upon 80°F inlet water and 90°F ambient.

Model EZSTL8C has self-closing Easy-Touch Controls on front, left and right of each unit.

Model EZTL8C has self-closing Easy-Touch Controls on the front of each unit.

Model EZSTLDDC non-refrigerated. Same as EZSTL8C without cooling system. (Requires outlet for power cord.)

All models have a hooded stream projector with Easy-Touch Controls that require less than 3 pounds of force to activate commercial-grade solenoid based flow control. Valve with built-in flow regulator provide constant stream from 20 to 105 psi water pressure. Bubbler orifice fully protected to meet all sanitary codes.

NOTE: Minimum 40 psi supply line pressure required in special circumstances where both sides of bi-level are in use simultaneously to ensure adequate stream height. Does not apply to non-refrigerated units.

This model cooler consists of a refrigerated lower unit which requires a water supply, drain outlet and electrical supply.

ADA COMPLIANT

These Water Coolers comply with the requirements of A.D.A. (Americans with Disabilities Act) when properly installed. Unit is compliant if installed in an alcove and is also compliant when mounted on an exposed wall if a wing wall is located on the left side or if LKAPREZL apron is installed under upper unit. Also meets the guidelines for children's environments providing the floor to orifice height is 30" or less on the lower unit and proper clear floor space is provided for parallel approach. (Based on Architectural and Transportation Barriers Compliance Board final ruling.) Check Local and State Codes.

NO LEAD DESIGN

These Water Coolers are certified to be lead-free as defined by the Safe Drinking Water Act. Elkay Water Coolers are manufactured with a waterway system utilizing copper components and completely lead-free materials. These waterways have no lead because all lead materials, such as leaded brass, have been removed. All joints are brazed using silver solder only. No lead solder is permitted. A strainer with an easily cleanable screen is provided to allow trapping and convenient removal of waterborne particulate of 140 microns and larger prior to their entry into the water cooler.

CAPACITIES CHART

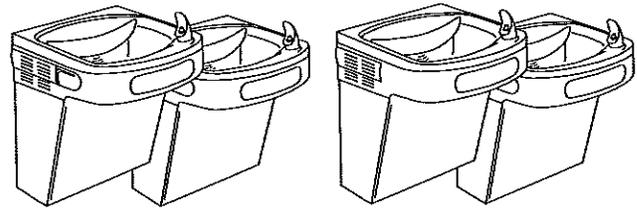
Model Number	Base Rate	**GPH of 50°F Drinking Water			Rated Watts	Full Load Amps	Glass† Filter Option	Ship. Wt. Lbs.
		Room Temperature °F						
		70°F	80°F	90°F				
EZSTL8C	8.0	9.7	8.8	8.0	370	4.0	Yes	89
EZTL8C	8.0	9.7	8.8	8.0	370	4.0	Yes	89
EZTLDDC	–	–	–	–	–	–	Yes	66
EZSTLDDC	–	–	–	–	–	–	Yes	66

**Based on 80°F inlet water temperature. †Glass filler available at extra cost. Requires factory preparation to receive glass filler. Upper unit only.

Rated watts shown are based on operational (run) time, in compliance with A.R.I. Standard 1010 conditions. Specific applications will determine the actual watts consumed per hour. Watts consumed will be based on number of people served per hour (usage), ambient temperatures, and inlet water temperature.

COOLING SYSTEM

Motor Compressor: Hermetically sealed, reciprocating type, 115VAC, 60Hz single phase. Sealed-in lifetime oil supply. Equipped with electric cord and three prong molded rubber plug (domestic models).



Model EZSTL8C

Model EZTL8C

RATED FOR INDOOR APPLICATIONS ONLY

Condenser: Fan cooled, copper tube with aluminum fins. Fan motor is permanently lubricated.

Cooling Unit: Combination tube-tank type. Tube portion is continuous coil of copper tubing. Tank is stainless steel. Fully insulated with EPS foam which meets Underwriters Laboratories Inc. requirements for self-extinguishing material.

Refrigerant Control: Refrigerant HFC-134a is controlled by accurately calibrated capillary tube for positively trouble-free operation.

Temperature Control: Enclosed adjustable thermostat is factory preset. Requires no adjustment other than for altitude requirements. Easily accessible.

CONSTRUCTION

Frame: Galvanized structural steel chassis supports refrigeration system and fastens to wall. Provides increased structural integrity and rigidity to cooler.

Stainless Steel Basin: One piece polished to a uniform Elkay bright luster finish. Basin has integral drain grid, embossed bubbler pad. No exposed fasteners.

Exclusive Flexi-Guard® Safety Bubbler®: Innovative design utilizes an infused anti-microbial pliable polyester elastomer to prevent accidental mouth injuries. Flexes on impact, then returns to original position. Strong. Abrasion-resistant. Anti-sweat. Keyed in location to prevent rotation.

Upper Shroud: Contoured shock-absorbing, provides additional protection against accidental injury. No exposed fasteners.

Lower Shroud: One piece easy to remove and replace. Allows access to internal components from three sides.

Cabinet: Cabinet design allows for flush to wall mounting. No recess space is required.

Color Selection: Unless otherwise specified cabinet is two-tone gray upper shroud with textured gray lower shroud. Stainless Steel lower shrouds available at extra cost.

Protected by Elkay's 5 Year Limited Warranty on the refrigeration system of the unit.

Elkay Pressure-Type Water Coolers are designed to operate on 20 psi to 105 psi supply line pressure. If inlet pressure is above 105 psi, a pressure regulator must be installed in the supply line. Any damage caused by reason of connecting this product to supply line pressures lower than 20 psi or higher than 105 psi is not covered by the warranty.

STANDARDS

 Elkay Electric Air Cooled Water Coolers are listed by Underwriters Laboratories Inc. and comply with both Canadian and U.S. requirements.

These units comply with A.R.I. Standard 1010.

This cooler is certified by WQA to lead-free compliance including NSF/ANSI 61-ANNEX G, AB 1953.

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkayusa.com for most current version of Elkay product specification sheets.

This specification describes an Elkay product with design, quality and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

Elkay

elkayusa.com

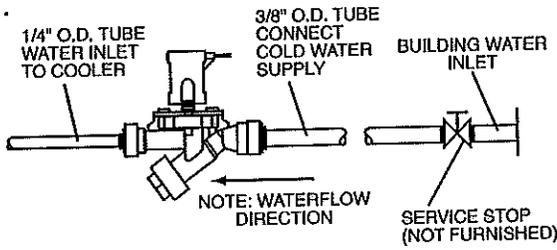
2222 Camden Court
Oak Brook, IL 60523

Printed in U.S.A.
©2011 Elkay

(Rev. 4/11) 12-24H

Two Station Wall Mount Water Coolers
Barrier-Free Access (Adult and Child)
NSF/ANSI 61 Compliant - Models EZTL8C,
EZSTL8C, EZTLDDC and EZSTLDDC

ELKAY®
ROUGH-IN DIMENSIONS



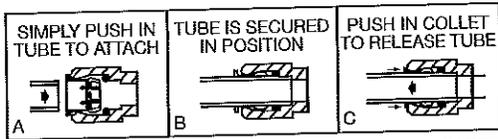
IMPORTANT!
INSTALLER PLEASE NOTE:

This water cooler has been designed and built to provide water to the user which has not been altered by materials in the cooler waterways. The grounding of electrical equipment such as telephone, computers, etc., to water lines is a common procedure. This grounding may be in the building but may also occur away from the building. This grounding can cause electrical feedback into a water cooler creating an electrolysis which creates a metallic taste or causes an increase in the metal content of the water. This condition is avoidable by installing the cooler using the proper materials as shown below.

NOTICE

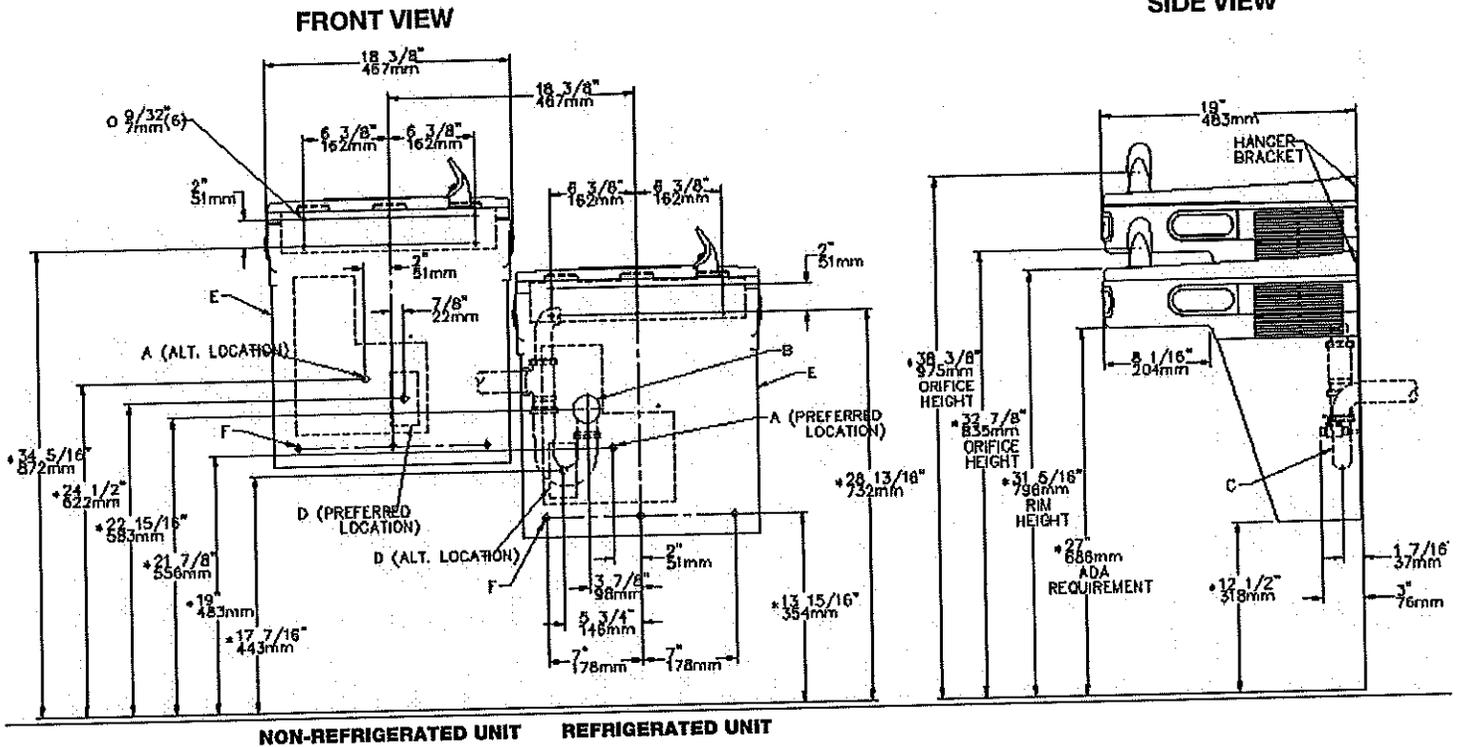
This water cooler must be connected to the water supply using a dielectric coupling. The cooler is furnished with a non-metallic strainer which meets this requirement. The drain trap which is provided by the installer should also be plastic to completely isolate the cooler from the building plumbing system.

OPERATION OF QUICK CONNECT FITTINGS



PUSHING TUBE IN BEFORE PULLING IT OUT HELPS TO RELEASE TUBE

RATED FOR INDOOR APPLICATIONS ONLY



LEGEND

- A = RECOMMENDED WATER SUPPLY LOCATION. SHUT-OFF VALVE (NOT FURNISHED) TO ACCEPT 3/8 O.D. UNPLATED COPPER TUBE. 3" (76mm) MAXIMUM OUT FROM WALL
- B = RECOMMENDED LOCATION FOR WASTE OUTLET TO ACCOMMODATE 1-1/2" NOMINAL DRAIN. DRAIN STUB 2 IN. OUT FROM WALL
- C = 1-1/2" TRAP NOT FURNISHED
- D = ELECTRICAL SUPPLY (3) WIRE RECESSED BOX DUPLEX OUTLET
- F = 7/16" BOLT HOLES FOR FASTENING UNIT TO WALL

INSURE PROPER VENTILATION BY MAINTAINING 6" (152mm) MINIMUM CLEARANCE FROM CABINET LOUVERS TO WALL.

SPECIFICATION:

JOSAM SERIES FD-210 FLOOR DRAIN WITH PVC BODY, INVERTIBLE CLAMP COLLAR WITH DRAINAGE SLOTS, AND 4" ROUND OR SQUARE ADJUSTABLE CHROME-PLATED BRASS STRAINER.

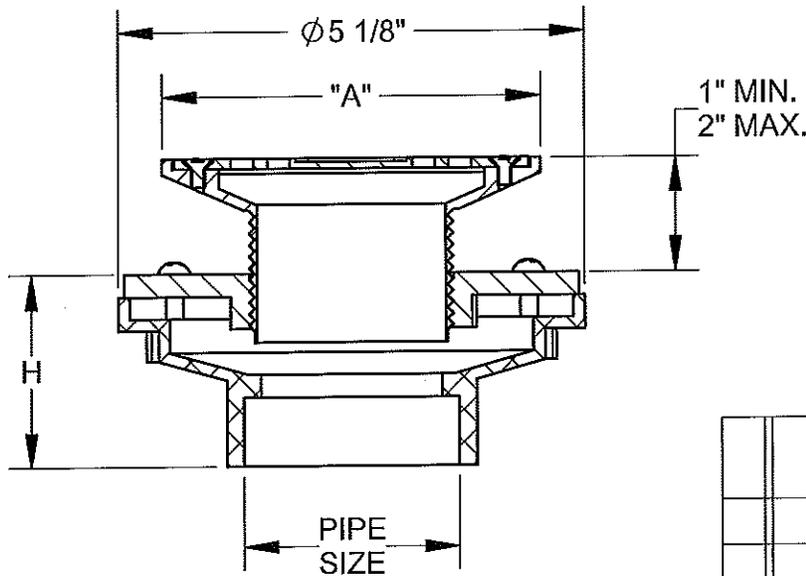
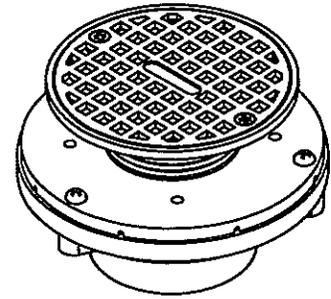
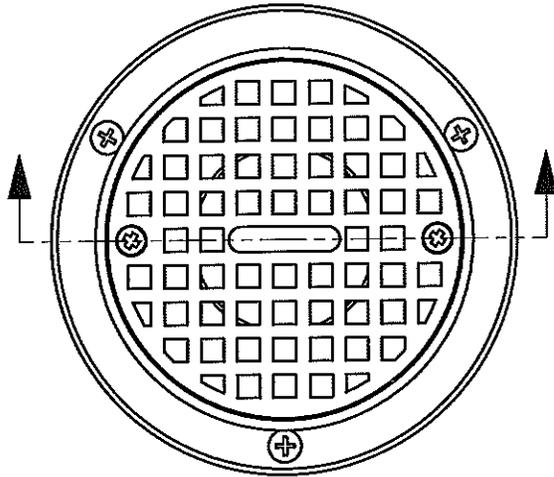
FLOOR DRAIN

PVC

SERIES

FD-210

GRATE FREE AREA: 3.75 in²



MODEL	PIPE SIZE	H
FD-212	2"	2-1/8
FD-213	3"	2-3/4
FD-214	4"	2-3/4

TOP	STRAINER	"A"
ROUND	-4CP	Ø4 3/16"
SQUARE	-4CP-SQ	4 1/16" SQUARE

DATE OF LAST CHANGE: 05/24/12

DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES AND CHANGE WITHOUT NOTICE. WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA.

JOSAM COMPANY
MICHIGAN CITY, INDIANA

NOTES

American Standard

Style That Works Better

 BARRIER FREE

WASHBROOK® FloWise® 0.125 GPF HIGH EFFICIENCY URINAL SYSTEM SELECTRONIC® EXPOSED AC FLUSH VALVE

WASHBROOK® FloWise® 0.125 GPF HIGH EFFICIENCY URINAL SYSTEM

- 6590.530 0.125 gpf Exposed Top Spud Urinal and
Selectronic® Exposed AC Urinal Flush Valve

URINAL:

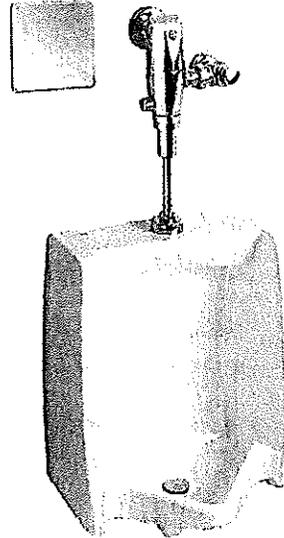
- Vitreous china
- Ultra High Efficiency, Low Consumption. Operates in the range of 0.125 gpf to 1.0 gpf (0.5 Lpf to 3.8 Lpf)
- Flushing rim
- Elongated 14" rim from finished wall
- Washout flush action
- Extended sides for privacy
- 3/4" inlet spud
- Outlet connection threaded 2" inside (NPTF)
- Strainer included
- Meets ASME flush requirements at 0.125 gpf
- Model 6590.001 top spud

SELECTRONIC® FLUSH VALVE:

- Exclusive Pressure Compensation feature eliminates the need for the installer to adjust the stop valves, saving time and money
- Flush volume stays constant throughout the pressure range
- Electronic flush valve with Selectronic proximity system for hygienic "Hands Free" operation
- Self-Cleaning Piston with integral wiper spring helps prevent clogging and reduces maintenance
- Piston operation delivers superior flush accuracy and repeatability
- Fully Mechanical Manual Override - allows valve to flush during a power failure
- Fail-Safe Operation - valve automatically closes, and does not need to be reset, on loss of power or water pressure
- Adjustable Sanitary Flush - valve automatically flushes after 24 hours of non-use to clean fixture & maintain trap seal
- Chemical resistant EPDM seals are unaffected by chloramines
- Sensor & electronic controls are fully enclosed and water resistant
- Range can be adjusted manually or with optional remote control
- Includes UL approved hardwired AC transformer
- Input Voltage: 100 - 250 VAC, 50 / 60 Hz.
Output Voltage: 6 VDC.
- Adjustable tailpiece for rough-in flexibility
- Can be installed left or right hand
- Model 6062013.002

Includes:

- 2 Wall hangers
- 3/4" I.P.S. angle stop with back-flow protection and vandal-resistant cap
- 3/4" sweat solder kit including cover tube and wall flange
- 3/4" vacuum breaker, spud coupling and flange



SEE REVERSE FOR ROUGHING-IN DIMENSIONS

To Be Specified:

- Color: White

High-Efficiency Urinal System

- 87% water savings when compared to 1.0 gpf urinal systems

Operating Pressure:

Overall Range: 20-125 psi**
Recommended: 20 psi (flowing)-80 psi (static)

** Water pressure over 80 psi is not recommended for most plumbing fixtures.

Flow Requirement:

8gpm (30.3 L/min.)

Nominal Fixture Dimensions:

360 x 480 x 664mm (14-1/8" x 18-7/8" x 26-1/8")

Fixture Compliance Certifications -

Meets or Exceeds the Following Specifications:

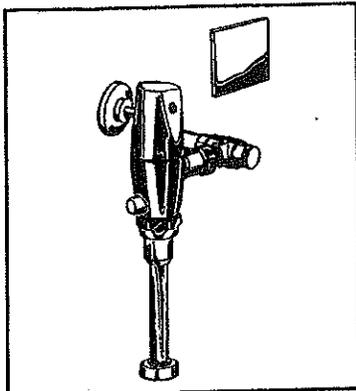
- ASME A112.19.2-2008/CSA B45.1-08 for Vitreous China Fixtures

Valve Listings:

- ASSE 1037
- ANSI/ASME A112.19.2
- ADA Compliant



**SELECTRONIC™ FloWise® EXPOSED
0.125 GPF URINAL FLUSH VALVE
HARD-WIRED AC POWERED, SENSOR OPERATED**



GENERAL DESCRIPTION:
Exposed, Hardwired AC Powered, Sensor Operated Selectronic™ Urinal Flush Valve for 3/4" top spud urinals.

Inlet includes 3/4" I.P.S. angle stop with back-flow protection, vandal-resistant cap, sweat solder kit, cover tube and wall flange.

Outlet includes 3/4" vacuum breaker, spud coupling and flange.

PRODUCT FEATURES:

- Exclusive Pressure Compensation feature eliminates the need for the installer to adjust the stop valves, saving time and money and ensuring water savings
- Electronic flush valve with Selectronic™ proximity system for "Hands Free" operation
- Includes UL approved hardwired AC transformer
- Input Voltage: 100 - 250 VAC, 50 / 60 Hz. Output Voltage: 6 VDC.
- Self-Cleaning Piston operation with integral wiper spring prevents clogging and reduces maintenance
- Piston operation delivers superior flush accuracy and repeatability
- Adjustable tallpiece
- Chemical resistant EPDM seals are unaffected by chloramines and ammonia
- Valve remains closed and does not need to be reset after loss of power or water pressure
- Stadium Feature: Valve automatically switches to water conservation mode during periods of heavy usage
- Fully Mechanical Manual Override Button can flush toilet during a power outage
- Vandal-resistant metal cover plate (for 2-gang electric box supplied by others) with no visible fasteners
- Sensor & electronic controls are fully enclosed and water resistant
- Range can be adjusted manually or by remote control
- Sanitary Flush - Valve automatically flushes after 24 hours of non-use to clean fixture & maintain trap seal
- No external volume adjustment
- 5 second Arming Delay prevents unintentional flushing
- 3-second Flush Delay
- Can be installed left or right-handed

MODEL NUMBER:

6062.013.002 HARD-WIRED AC POWERED:
Includes UL-approved Hard-Wired AC transformer (electrical box by others). 11-1/2" rough-in

6061.013.002 MULTI-AC POWERED:
Includes 10' extension cable. One transformer (sold separately) can operate up to 15 faucets and/or flush valves. 11-1/2" rough-in

OPERATING PRESSURE:

Overall Range: 20-125 psi**
Recommended: 20 psi (flowing)-80 psi (static)

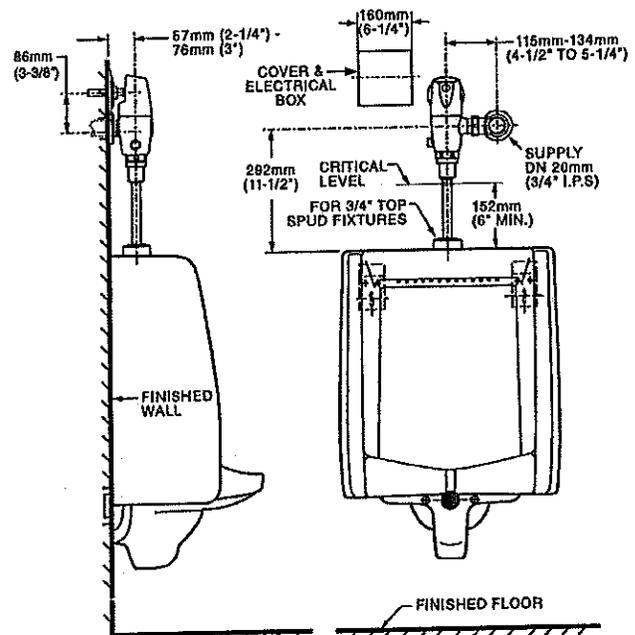
FLOW REQUIREMENT:

8gpm (30.3 L/min.)

** Water pressure over 80 psi is not recommended for most plumbing fixtures.

ACCESSORIES:

- Cast wall flange (3/4")



 MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES-CHECK LOCAL CODES

RECOMMENDED SPECIFICATION:

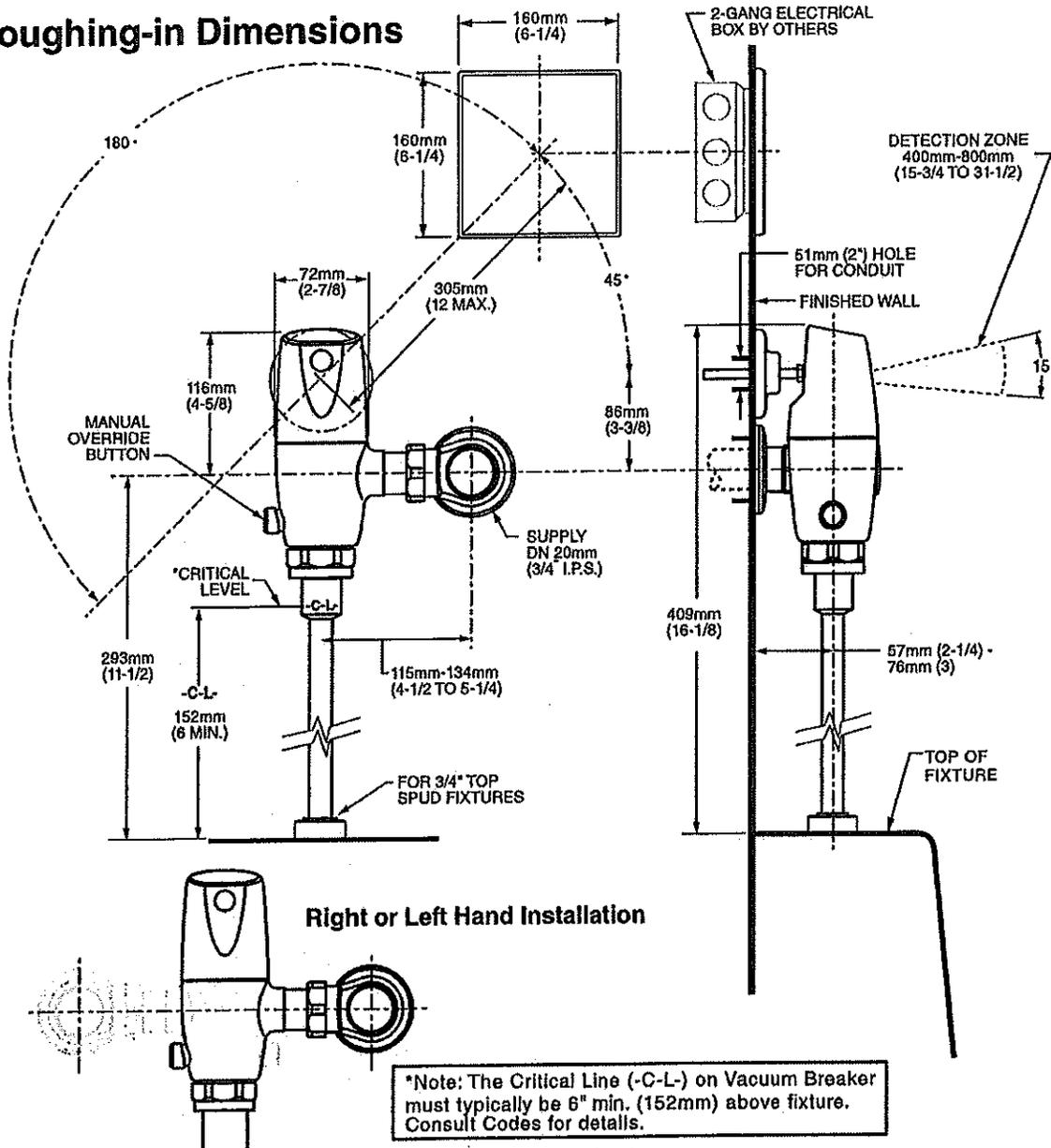
Electronic proximity infrared sensor activated toilet flush valve shall feature self-cleaning piston valve. Includes a UL listed hardwired power supply that provides 6 VDC power to run system. Includes a fully mechanical manual over-ride that can provide a complete flush without power. Includes cast brass valve body and metal cover with chrome finish and vandal resistant stop cap. Angle stop with back-flow protection and vacuum breaker included. 0.125 gpf / 0.5 Lpf. Flush valve shall be American Standard Model # 606_013.002

**SELECTRONIC™ FloWise® EXPOSED
0.125 GPF URINAL FLUSH VALVE
HARD-WIRED AC POWERED, SENSOR OPERATED**

LISTINGS:

- ASSE 1037
- ANSI/ASME A112.19.2
- ADA Compliant

Roughing-in Dimensions



 MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES-CHECK LOCAL CODES

STAINLESS STEEL KITCHEN SINK 25 1/4"

Drop-in Series

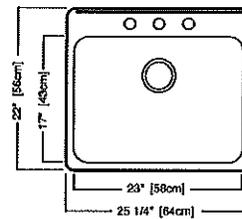
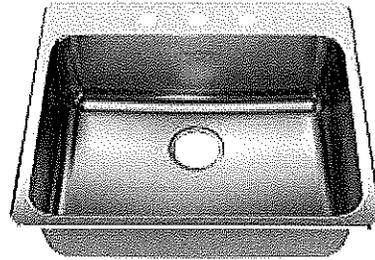
- 20 Gauge Stainless Steel
- 18-8 Chrome Nickel content
- Single bowl sink
- Installation hardware, template and instructions included
- **Waste fitting not included, must be ordered separately**
- **27" cabinet required**

Nominal Dimensions:
25 1/4" x 22" x 8"

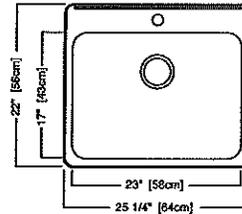
Bowl Size:
23" wide
17" front to back
8" deep

Compliance Certifications:

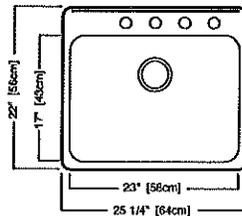
IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME A112.19.3. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided leaflet.



17SB.252283.290
Standard drilling:
3 hole



17SB.252211.290
Optional drilling:
1 hole on center

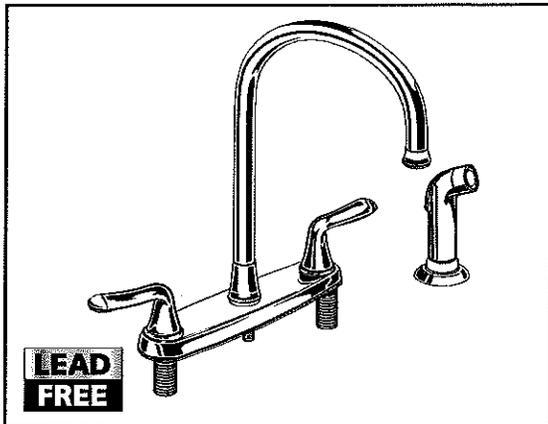


17SB.252284.290
Optional drilling:
4th hole on right



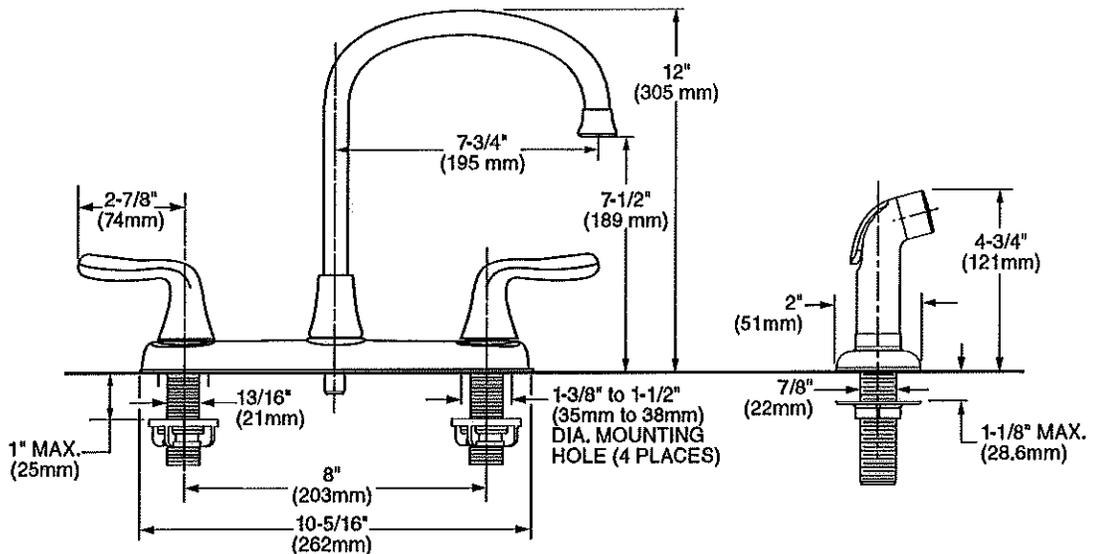
To Be Specified:

- 8443.101500.075  Stainless steel mesh colander
- 8445.211500.075  Stainless steel bottom grid
- 791566-0750A  Stainless steel waste fitting



MODEL NUMBER:

- **6425F Kitchen Faucet**
Lever handles. Separate handspray.
Polished Chrome finish. SKU #239-933.



GENERAL DESCRIPTION:

Durable brass construction. 1/4 turn washerless ceramic disc valve cartridges. Durable cast brass waterway with 1/2" male inlet shanks. Brass gooseneck swivel spout. Metal escutcheon plate (escutcheon size 10-5/16"L x 2-3/8"W). 1.8gpm/6.8L/min. maximum flow rate. Lever handles.



Quick Spin™ Nuts:

- Hand tighten
- No tools required

PRODUCT FEATURES:

Simple Installation: Fast and easy one person installation. Faucet drops in from top. Quick Spin™ Nuts secure faucet in place.

Ceramic Disc Valve Cartridges: Assures a lifetime of smooth handle operation and drip-free performance.

Cast Brass Waterways: Strong and durable. Integral tabs on casting provide a wobble-free installation.

Lead Free: Faucet contains ≤ 0.25% total lead content by weighted average.

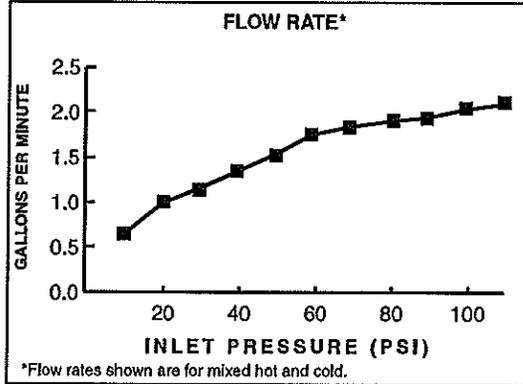
SUGGESTED SPECIFICATION:

Dual control kitchen faucet shall feature a cast brass waterway. Shall also feature 1/4 turn washerless ceramic disc valve cartridges that are reversible for use on either "hot" or "cold" side. Brass gooseneck swivel spout. Fitting shall be American Standard Model #6425F, SKU #239-933.

CODES AND STANDARDS

These products meet or exceed the following codes and standards:

- ASME A112.18.1
- CSA B 125
- NSF 61/Section 9
- ANSI A117.1



Product Number	Description
6425F	Kitchen faucet. Lever handles. Separate Chrome handspray. Polished Chrome finish. SKU #239-933.

 Meets the American Disabilities Act Guidelines and ANSI A117.1 Requirements for the physically challenged.



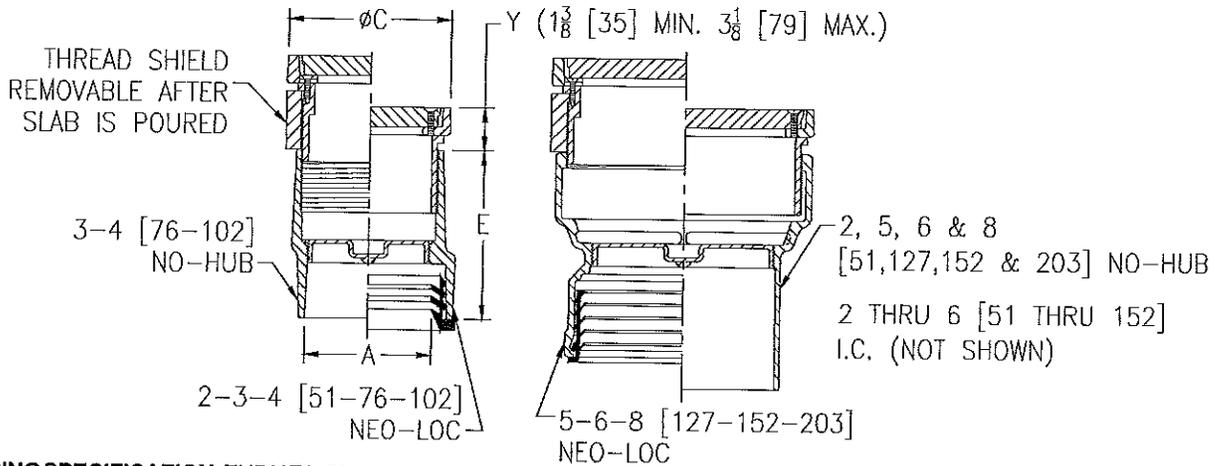
Z1400

SPECIFICATION SHEET

HEAVY-DUTY "LEVEL-TROL" ADJUSTABLE FLOOR CLEANOUT

TAG _____

Dimensional Data (Inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



ENGINEERING SPECIFICATION: ZURN Z1400

"Level-Trol" Adjustable floor cleanout, Dura-Coated cast iron body with gas and watertight ABS tapered thread plug and round scoriated cast iron heavy-duty secured top (Specify finish Z, ZB, ZN, ZS) adjustable to finished floor.

A-Pipe Size	Dimension In Inches		Approx. Wt. Lbs. [kg.]
	C	E	
Inside Caulk			
2 [51]	6-1/8 [156]	6-7/8 [175]	13.8 [6.3]
3 [76]	6-1/8 [156]	6-7/8 [175]	14 [6.4]
4 [102]	7-1/4 [184]	6-7/8 [175]	18.3 [8.3]
5 [127]	8-1/4 [210]	6-7/8 [175]	22.6 [10.3]
6 [152]	9-1/4 [235]	6-7/8 [175]	32.2 [14.6]
No-Hub			
2 [51]	4-1/8 [105]	4-5/8 [117]	7 [3]
3 [76]	4-1/8 [105]	4-3/4 [121]	7.7 [3.5]
4 [102]	5-1/8 [130]	4-3/4 [121]	10.3 [4.7]
5 [127]	7-1/4 [184]	7-1/2 [191]	17.6 [8]
6 [152]	8-1/4 [210]	4-3/4 [121]	22.2 [10.1]
8 [203]	9-1/4 [235]	7-1/2 [191]	29.9 [13.6]
Neo-Loc			
2 [51]	4-1/8 [105]	4-3/4 [121]	7.9 [3.6]
3 [76]	5-1/8 [130]	4-3/4 [121]	10.6 [4.8]
4 [102]	5-1/8 [130]	4-3/4 [121]	11.9 [5.4]
5 [127]	7-1/4 [184]	6-1/2 [165]	18.7 [8.5]
6 [152]	8-1/4 [210]	5-7/8 [149]	21.9 [9.9]
8 [203]	9-1/4 [235]	6-1/2 [165]	23.5 [10.7]

OPTIONS (Check/specify appropriate options)

PREFIXES

- ___ Z Dura Coated Cast Iron*
- ___ ZB D.C.C.I. w/ Polished Bronze Light-Duty Top (Deduct 1/2 [13] from 'Y' Dim.)
- ___ ZN D.C.C.I. w/ Polished Nickel Bronze Light-Duty Top (Deduct 1/2 [13] from 'Y' Dim.)
- ___ ZS D.C.C.I. w/ Polished Stainless Steel Heavy-Duty Top (Add 3/16 [5] to 'Y' Dim.)

SUFFIXES

- ___ -AR Acid Resisting Epoxy Coated Finish
- ___ -BP Bronze Plug
- ___ -CF Carpet Flange Cover (ZB and ZN only)
- ___ -CM Carpet Marker
- ___ -DC Duresist Cover
- ___ -DX Round ZB or ZN Top with Dex-o-tex Flange (2 thru 4 [51 thru 102] Sizes only)
- ___ -G Galvanized Cast Iron
- ___ -HD Heavy-Duty Veneer Top (Add 1/8 [3] to 'Y' Dim.) (ZB and ZN only)
- ___ -K Anchor Flange
- ___ -KC Anchor Flange w/ Clamping Collar
- ___ -SG Solid Gasketed Cover
- ___ -SM Special Marking Stamped on Top
- ___ -T Square Top
- ___ -TC Neo-Loc Test Cap Gasket (2-4 [51-102] NL Bottom Outlet Only)
- ___ -TX Square Top Recessed for 1/8 [3] Tile (ZB and ZN only)
- ___ -VP Vandal-Proof Screws
- ___ -X Round Top Recessed for 1/8 [3] Tile (ZB or ZN only)
- ___ -Z Round Top Recessed for 1-1/4 [32] Terrazzo (ZB or ZN only)

PIPE SIZE

- 2 thru 6 [51 thru 152]
- 2 thru 6-8 [51 thru 152-203]
- 2 thru 6-8 [51 thru 152-203]

(Specify size/type) OUTLET

- ___ IC Inside Caulk
- ___ NH No-Hub
- ___ NL Neo-Loc

'E' BODY HT. DIM.

- See Chart
- See Chart
- See Chart

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. O DATE: 11/03/10 C.N. NO. 120210

DWG. NO. 58757

PRODUCT NO. Z1400

ZURN INDUSTRIES, LLC. ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514

Phone: 814455-0921 ♦ Fax: 814454-7929 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905405-8272 Fax: 905405-1292