

**WILLOUGHBY INDUSTRIES, INC. WILL
NOT RELEASE THIS PRODUCT FOR
PRODUCTION WITHOUT RECEIVING ALL
OF THE FOLLOWING INFORMATION:**

- ✓ A complete & approved submittal package returned to Willoughby Industries, Inc.
- ✓ Specify required details listed on the contractor checklists throughout this submittal package.
(Checklists are located before the specification sheets for each individual fixture.)
- ✓ Proper purchase order including:
 - Our Terms of Sale
 - “Bill To” & “Ship To” Addresses
 - Quantities
 - Model / Part #’s
 - Authorized Signature
 - Job Site Contact

In wall / floor material (i.e.: wall sleeves, wall frames, access boxes, & detox units) will ship approximately N/A weeks after receipt of all information listed above.

Fixtures will ship approximately 16-18 weeks after receipt of all information listed above.



WILLOUGHBY
COUNT ON US

!! WARNING !!

BE SURE TO FLUSH

PLUMBING SUPPLY LINES

PRIOR TO INSTALLING

WILLOUGHBY SUPPLIED

VALVES!

*FLUSHING PLUMBING LINE SYSTEMS WHILE WILLOUGHBY VALVES ARE INSTALLED/CONNECTED MAY RESULT IN PERMANENT DAMAGE TO THE VALVES. WILLOUGHBY WILL NOT BE RESPONSIBLE FOR DAMAGE TO ANY VALVES THAT HAVE BEEN INSTALLED PRIOR TO A COMPLETE AND PROPER LINE FLUSH. FLUSHING THE PLUMBING SYSTEM LINES WITH WILLOUGHBY VALVES CONNECTED WILL VOID THE VALVE WARRANTY.

Willoughby

Project # 41826

Item # TOILET

WILLOUGHBY INDUSTRIES, INC.

Contractor Checklist for Water Closets

This information must be received for order to be processed.

(Standard accessory locations shown on drawings will be used if no information is given).

☐ No information needed.

I have reviewed the submittal package for this fixture. I have verified that the information given with regards to the above questions is correct and this fixture is released for production.

Signature_____ Company_____ Date_____

Willoughby Industries - Security Products

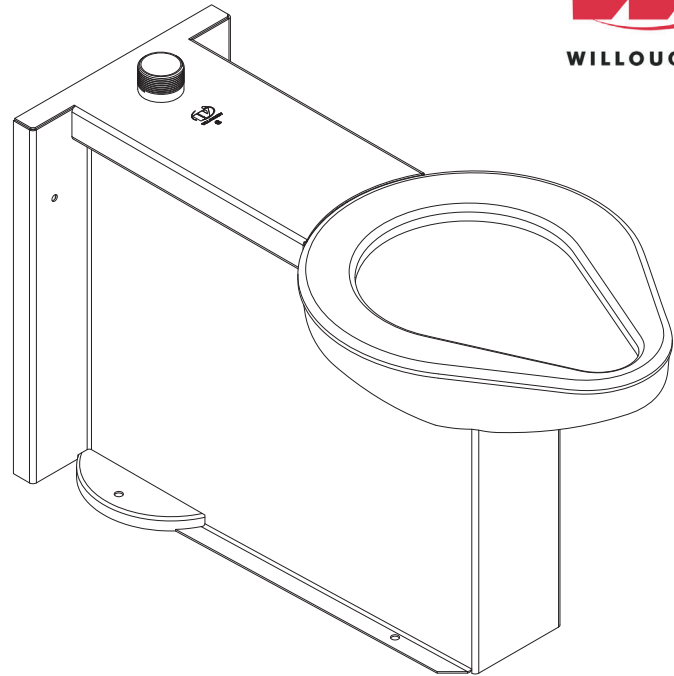


ETF-1490-FM-FA Stainless Steel Front Mounted Floor Outlet Floor Mounted Siphon Jet Series Toilet



IN COMPLIANCE
WITH A.D.A. 2010

** USE "HC" SUFFIX FOR
18" A.F.F. SEAT HEIGHT



(1.6 GPF UNIT W/ 15" A.F.F.
SEAT HEIGHT* SHOWN)

(Unit may be shown with optional features)

To specify fixture and accessories, use the Model Number and Options page.

Example: To specify a Front Access, Floor Outlet, Floor Mounted Siphon Jet Series Toilet with top spud, standard 15" seat height, 1.6 GPF, standard gasketed waste connection, floor outlet waste connection, hydraulic flush valve, flush valve cover, high polish seat, and toilet shipping cover

Use the following Willoughby Model Number:

ETF-1490-FM-FA-TS-1.6-GWC-TW4-FV-FVC-HPS-TSC

Recommended Specifications

Stainless Steel, Front Mounted, Floor Outlet, Floor Mounted, Siphon Jet Series Toilet shall be: Willoughby Model No. **ETF-1490-FM-FA**
(Select from model number and options list on next page)

Fixture shall be fabricated from 14 gauge, type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #4 satin finish.

Standard toilet shall include:

- Elongated toilet bowl with contoured seat
- Integral crevice-free self-draining flushing rim with positive afterfill
- Fully enclosed 2-3/8" O.D. trap which shall maintain a minimum 2" seal and pass a 2" ball
- Bead blast finish bowl interior

Toilet shall be siphon jet type, requiring 35 PSI minimum flushing pressure. Model shall meet the requirements of ASME A112.19.3/CSA B45.4.

Fixture shall withstand loadings of 5,000 lbs. without permanent damage.

Anchoring shall be through the front and through the floor (anchoring hardware provided by others).

Unit requires no chase area for installation and maintenance unless specified with any Toilet Waste Extension options or Toilet Overflow Preventer options.

Note: Unit will pass a 2" ball.

Note: Fixture should only be used with a listed high-efficiency flushometer to ensure the complete system meets the requirements of WaterSense.



WARNING: Cancer and Reproductive Harm

- www.P65Warnings.ca.gov



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MODEL NUMBER AND OPTIONS:

1.) Base Model Number:

- ☒ ETF-1490-FM-FA Stainless Steel, Front Mounted, Floor Outlet,
Floor Mounted, Siphon Jet Series Toilet

2.) Floor Outlet Rough-In:

- ☐ 4-1/4" Fixture Rough-In (Shown, Standard)
☐ 10" 10" Fixture Rough-In
☒ 12" 12" Fixture Rough-In (Changes Overall Fixture Length to 32-3/4")

3.) Inlet Location:

- ☐ BS Back Spud
☒ TS Top Spud

4.) Toilet Seat Height:

- ☐ 15" Seat Height (Standard)
☒ HC 18" Seat Height, Handicap-ADA Compliant

5.) Toilet Waste:

- ☒ GWC Gasketed Waste Connection (Standard)
☒ TW4 4" Cast Iron Closet Flange

6.) Flush Valve:

- ☐ FV Hydraulic Flush Valve (Includes Actuator)
☐ 1.28 GPF HET (4.8 Lpf) ☐ 1.6 GPF ULF (6.0 Lpf)
☐ 3.5 GPF (13.2 Lpf)***
☐ EFVP Electronic Flush Valve w/ (PZPB)
Ligature-resistant Piezo Push Button
(Pick Control)*/**
☐ 1.28 GPF HET (4.8 Lpf) ☐ 1.6 GPF ULF (6.0 Lpf)
☐ 3.5 GPF (13.2 Lpf)***
☐ RFVB Remote Flush Valve with Box
☐ 1.28 GPF HET (4.8 Lpf) ☐ 1.6 GPF ULF (6.0 Lpf)
☐ 3.5 GPF (13.2 Lpf)***
☐ REFVB Remote Electronic Flush Valve with Box*
☐ 1.28 GPF HET (4.8 Lpf) ☐ 1.6 GPF ULF (6.0 Lpf)
☐ 3.5 GPF (13.2 Lpf)***
☒ NFV No Flush Valve (Provided by Others)

7.) Other Options:

- ☐ T4 Manual Reset Toilet Overflow Preventer, Requires:
(FV) Hydraulic Flush Valve and Accessible Chase
☐ ET4 Electronic Toilet Overflow Preventer*, Requires (EFVP),
Accessible Chase, & (WUCC-3010) or (WMSII) control
☐ FVT Flush Valve Connection (Back Spud Only)
☐ ASFVC Flush Valve Cover (Ligature-resistant, Top Spud Only)**
☐ ASFVCADA Ligature-resistant ADA Flush Valve Cover (Top Spud Only)**
☐ APFM Flush Valve Access Panel Front Mounted (Allows access to chase
mounted flush valve from fixture side)
☐ HS Hinged White Plastic Seat (No Cover, not recommended
for Maximum Security/Ligature-resistant use)
☐ DC Decorator Color (Fixture exterior only - White)
☐ TF24H Hard-wired Transformer, 110VAC to 24VAC*
☐ TF24P Plug-in Transformer, 110VAC to 24VAC*
☐ HPS High Polish Seat
☐ MT Wall Template
☐ TSC Toilet Shipping Cover
☐ RTH1 Wall Mounted Recessed Tissue Holder
(Rear Mounted, Requires Accessible Chase)
☐ RTH2 Wall Mounted Recessed Tissue Holder
(Front Mounted, 4-1/2" Depth)
☐ Other _____
☐ Other _____

8.) Electronic Controls* (Must Use Electronic Flush Valve):

- ☐ WUFC-4000 ☐ Pneumatic ☐ WMSII
☐ WUCC-3010 (Select WUCC-3010 Control if pairing a Toilet with a Lavatory
or if the Toilet is selected with an (ET4) overflow option)

*(Req. 110V power through ground fault interrupter (GFCI) receptacle / breaker)

****LIGATURE-RESISTANT DISCLAIMER**

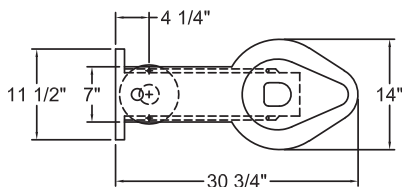
This product is designed to minimize ligature points. While every effort has been made to reduce the possibility of ligature points, this product does not eliminate all risks. Ligature-Resistant products by Willoughby Industries are to be used in conjunction with, not as a replacement for, trained professionals.

***For replacement fixtures only

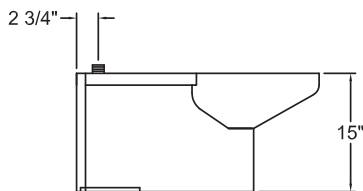
Approved For Manufacturing By: _____ Date: _____ Company: _____
Wall Thickness: _____ Wall Type: _____

VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN
WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND
DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.

**ETF-1490-FM-FA
(4-1/4" ROUGH-IN)**

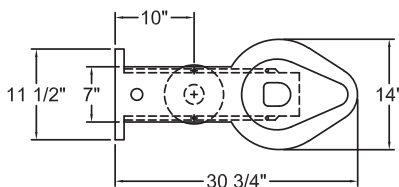


PLAN VIEW

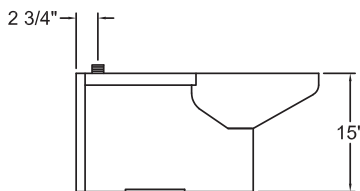


SIDE VIEW

**ETF-1490-FM-FA-10"
(10" ROUGH-IN)**

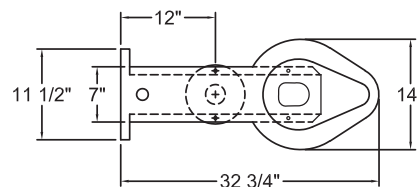


PLAN VIEW

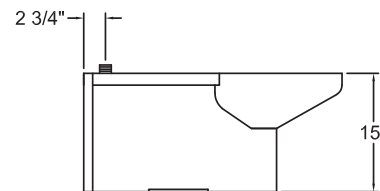


SIDE VIEW

**ETF-1490-FM-FA-12"
(12" ROUGH-IN)**



PLAN VIEW



SIDE VIEW

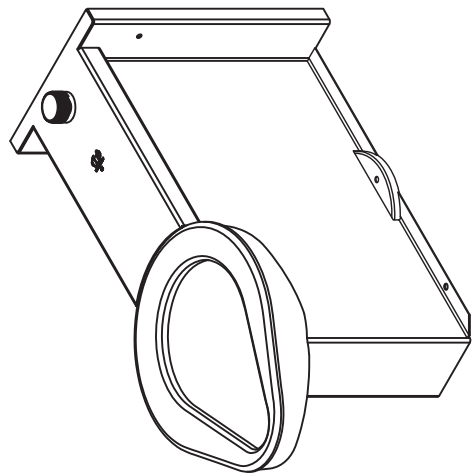
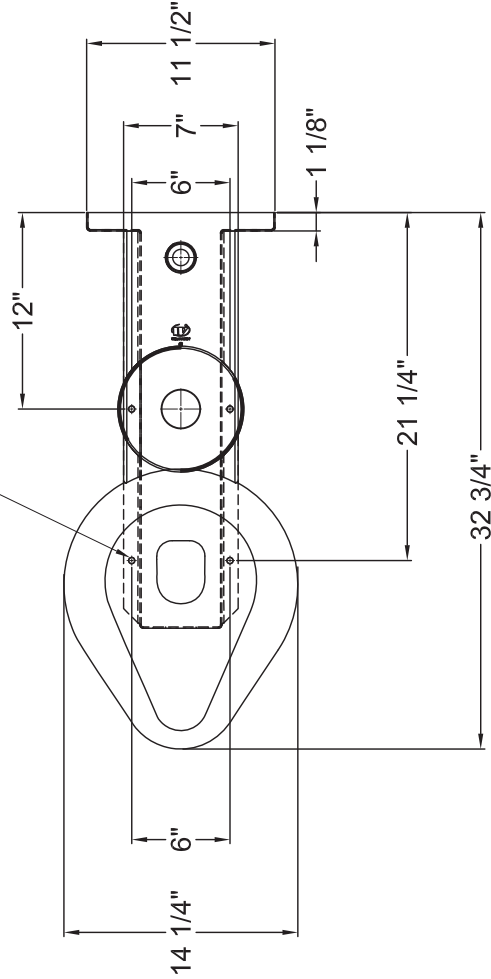
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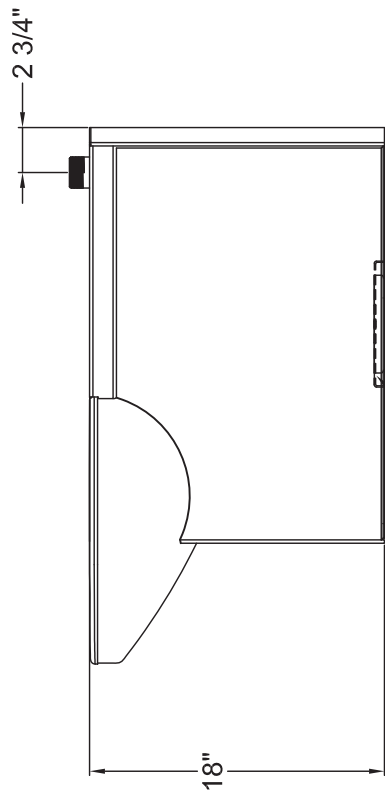
MADE IN THE U.S.A.

Ø 3/8" FLOOR ANCHOR HOLES
FASTENERS BY OTHERS

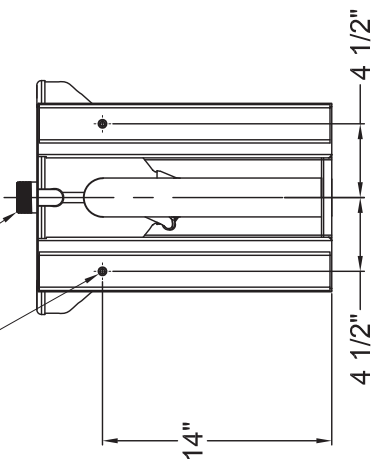


TS: TOP FLUSH INLET
CONNECTION, 1-1/2" M.I.P.

Ø 5/16" HOLES THRU FRONT
FASTENERS BY OTHERS



GWC: 2-3/8" O.D.
WASTE CONNECTION
W/ 7-1/2" GASKET FLANGE
(2) 3/8" MOUNT HOLES



	Willoughby Industries, Inc. Indianapolis, Indiana		TITLE / DESC:		PART #:	
	TOLERANCES EXCEPT AS NOTED	SIZE: A ±0.015 FRACTIONS: ±1/4" ANGLE: ±1°	SCALE: 1:12	REF:	ETF-1490-FM-FA ETF-1490-FM-FA-12-TS-HC-GWC	
	2 PLCS: ±0.015 3 PLCS: ±0.015 FRACTIONS: ±1/4" ANGLE: ±1°	SIZE: A	SCALE: 1:12	REF:	T1490-X185	
REVISIONS				ORIG:	9/20/19	STANDARD
REV:				NAL	9/20/19	SHEET: 1 OF 1



WILLOUGHBY

FLOOR OUTLET FLANGE CONNECTION
MODEL TW4 (1785CTA)

DRAWING #:

P941047A

TOLERANCE:
DIMENSIONS ARE +/- 1/4"
EXCEPT AS NOTED

MATERIAL:

AS NOTED

DRAWN BY: E.L.G.

DATE: 12/21/94

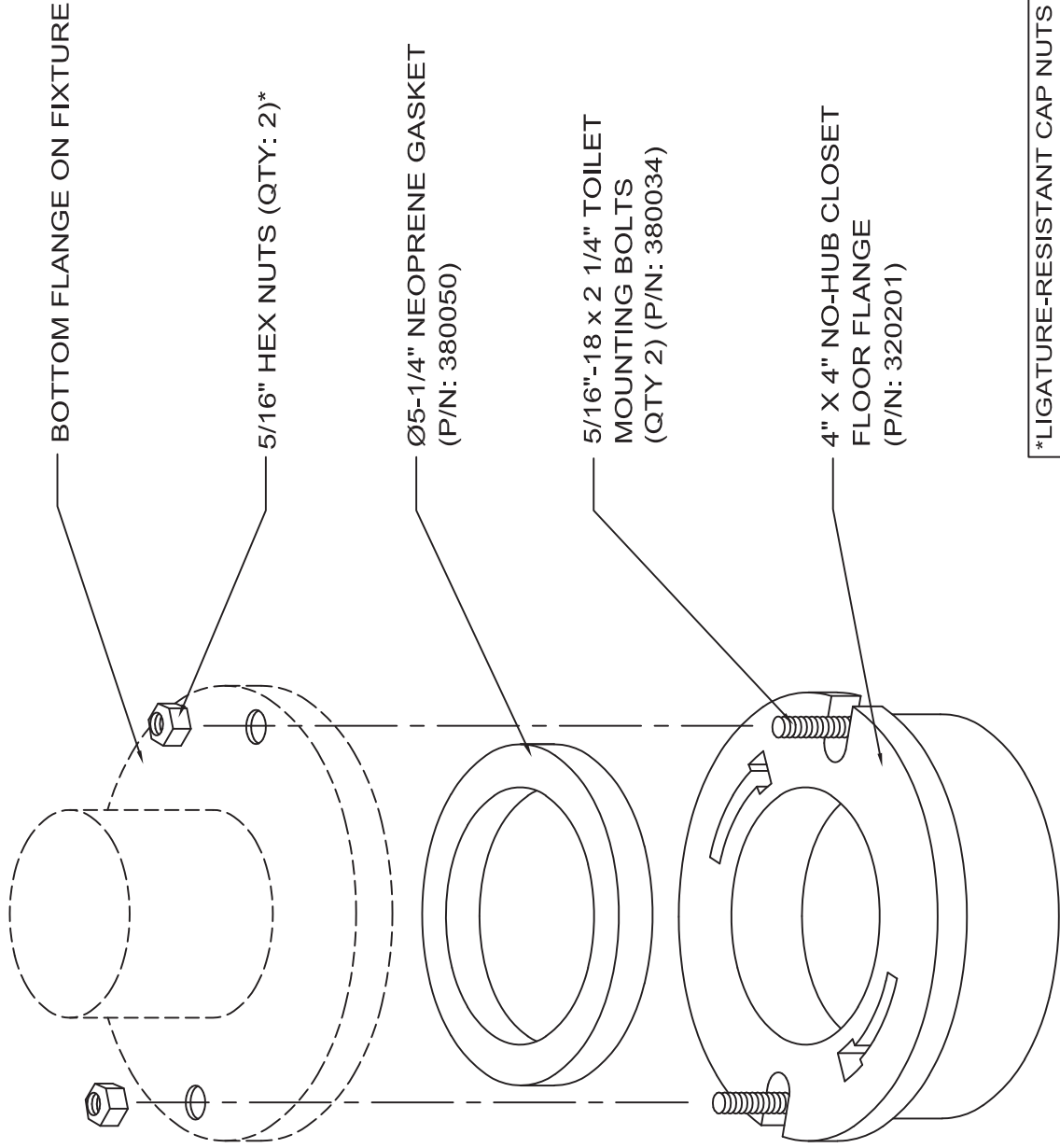
SCALE: NONE

REV. #:

G

4/22/22

STANDARD DWG.



*LIGATURE-RESISTANT CAP NUTS (LRCN)
OPTION ARE AVAILABLE FOR CERTAIN
FLOOR OUTLET TOILETS. CONTACT THE
FACTORY FOR DETAILS

Willoughby

Project # 41826

Item # LAV

WILLOUGHBY INDUSTRIES, INC.

**Contractor Checklist for Lavatory and Drinking
Fountains**

This information must be received for order to be processed.

(Standard accessory locations shown on drawings will be used if no information is given).

- ☐ Specify hole punching information for customer supplied lavatory push buttons/valves:(hole diameter, shape, and location(s))

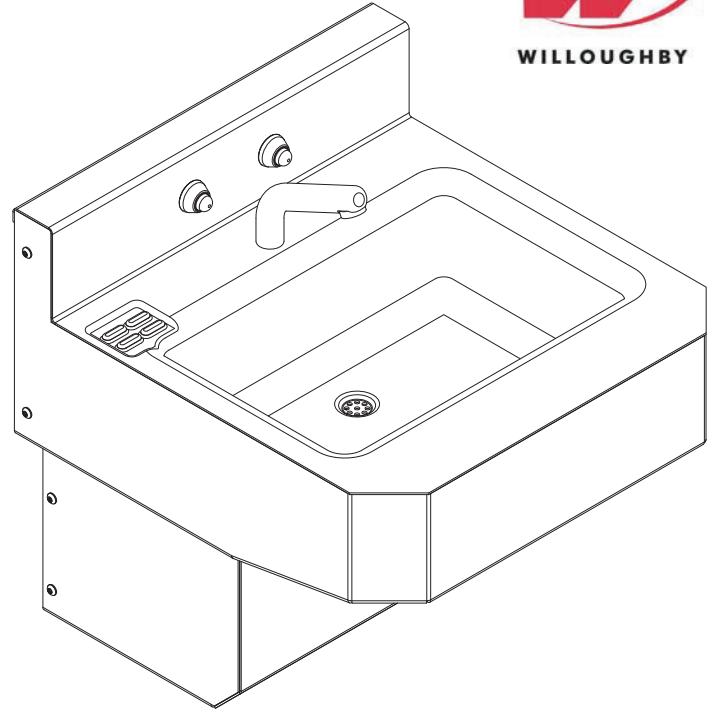
I have reviewed the submittal package for this fixture. I have verified that the information given with regards to the above questions is correct and this fixture is released for production.

Signature_____ Company_____ Date_____

Willoughby Industries - Security Products



HS-1014-96-HC-FA Stainless Steel 18" Wide Front Mounted Handicap-ADA Compliant Rectangular Bowl Lavatory



(Unit may be shown with optional features)



IN COMPLIANCE
WITH A.D.A. 2010

Recommended Specifications

Stainless Steel, 18" Wide, Front Mounted, Handicap-ADA Compliant, Rectangular Bowl Lavatory shall be:
Willoughby Model No. **HS-1014-96-HC-FA**
(Select from model number and options list on next page)

Fixture shall be fabricated from 14 GA., Type 304 stainless steel. The construction shall be all welded, with exposed stainless surfaces polished to a #4 satin finish.

Standard lavatory shall include:

- Rectangular-shaped bowl, 14-1/2" x 9-1/2" x 4-3/8" deep
- Fast drain with air vent
- (1-1/2") slip joint, cast brass union 'p' trap
- Removable bottom panel attached with vandal resistant screws
- Self-draining soap dish
- 0.5 GPM flow rate

To specify fixture and accessories, use the Model Number and Options page.

Example: To specify an 18" Wide, Front Mounted, Handicap-ADA Compliant, Rectangular Bowl Lavatory with dual temp. pneumatic metering valve, ligature-resistant pneumatic push buttons, deck mounted spout, and standard removable 'p'-trap

Use the following Willoughby Model Number:

HS-1014-96-HC-FA-PML2-PBH-DMS-RPT

Mounting:

Anchoring shall be from the front with mounting plate with anchoring holes. Unit does not require chase area for installation and maintenance; proper backing and anchoring hardware for lavatory mounting provided by others.

Note: Only deck mounted Willoughby lavatory spouts and filler/bubblers are available with this lavatory model.



WARNING: Cancer and Reproductive Harm

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MODEL NUMBER AND OPTIONS:

1.) Base Model Number:

- ☒ HS-1014-96-HC-FA Stainless Steel, 18" Wide, Front Mounted,
Handicap-ADA Compliant, Rectangular Bowl
Lavatory

2.) Spout/Bubbler Selection:

- ☒ DMS Deck Mounted Spout
☐ DMBH Ligature-resistant Deck Mounted Bubbler**
(Not for ADA compliant drinking)

3.) Lavatory Valve Selection:

- ☒ NV No Valve (Select Hole Punching if needed)
☐ PML1 Single Temp. Pneumatic Metering
☐ PML2 Dual Temp. Pneumatic Metering
☐ E1L1 Single Temp. Electronic (pick control)*
☐ E1L2 Dual Temp. Electronic (pick control)*

4.) Lavatory Valve Actuation:

- ☐ PBH Ligature-resistant Pneumatic Push Buttons**
☐ PZPB Ligature-resistant Piezo Electronic Push Buttons**

5.) Electronic Controls* (Must Use Electronic Push Button):

- ☐ WUCC-3010 ☐ Pneutronic ☐ WMSII
(The WUCC-3010 Control can be used to pair a Lavatory with a Toilet)

6.) Hole Punching:

- ☐ 4CC 4" Centerset, Ø1-1/4" Holes (Specify 2 or 3 holes: _____)
☐ 8CC 8" Centerset, Ø1-1/4" Holes (Specify 2 or 3 holes: _____)
☐ 1CC Center Shank, (1) Ø1-1/4" Hole
☐ SP Special Punching (Specify hole punching dim.)
SP: _____

SPECIFY

7.) Lavatory Waste:

- ☒ RPT Removable 'P'-Trap (Standard)
☒ OV Lavatory Overflow
☐ SLOW Slow Drain

8.) Options:

- ☐ MT Wall Template
☐ TB1 Single Toothbrush Holder
☐ TB2 Dual Toothbrush Holder
☐ TF24H Hard-wired Transformer, 110VAC to 24VAC*
☐ TF24P Plug-in Transformer, 110VAC to 24VAC*
☐ TH1 Single Towel Hook
☐ TH2 Dual Towel Hook
☐ DC Decorator Color (Fixture exterior only - White)
☐ ISH Integral Shelf
☐ DFBH Ligature-resistant Deck Mounted Drinking ADA Compliant Fountain Bubbler**/**
*** (Panel Mounted Push Button)

- ☐ Other: _____
☐ Other: _____

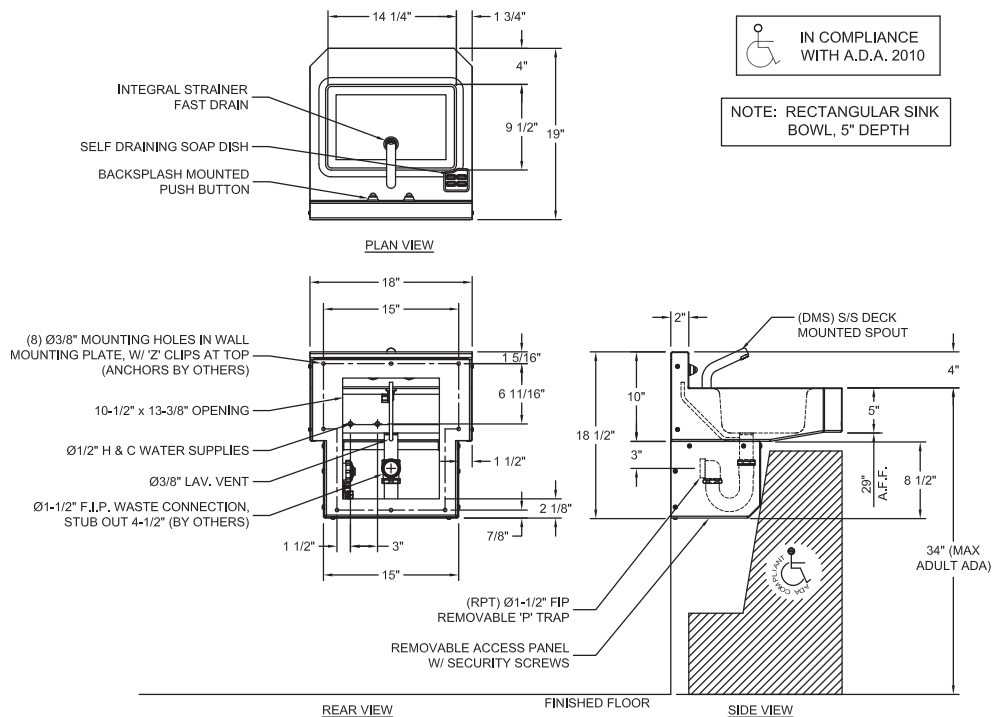
*(Req. 110V power through ground fault interrupter (GFCI) receptacle / breaker)

**LIGATURE-RESISTANT DISCLAIMER

This product is designed to minimize ligature points. While every effort has been made to reduce the possibility of ligature points, this product does not eliminate all risks. Ligature-Resistant products by Willoughby Industries are to be used in conjunction with, not as a replacement for, trained professionals.

Approved For Manufacturing By: _____ Date: _____ Company: _____
Wall Thickness: _____ Wall Type: _____

VERIFY ALL DIMENSIONS WITH FACTORY PRIOR TO ROUGH-IN
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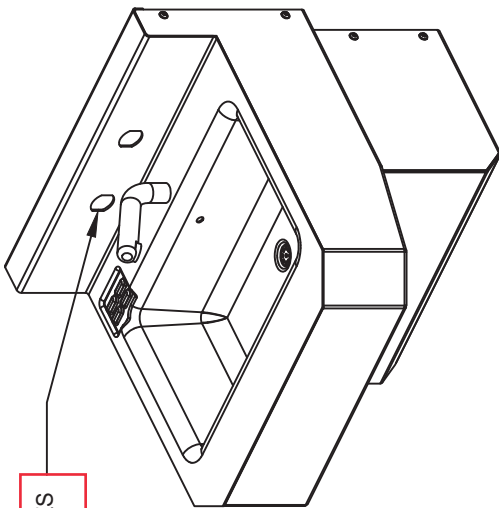


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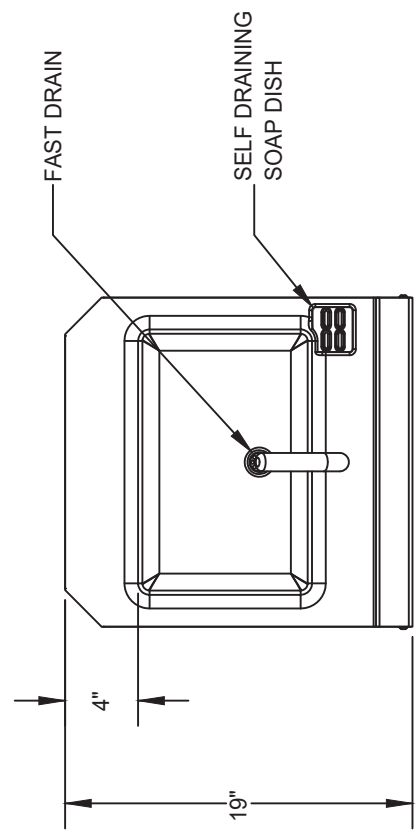
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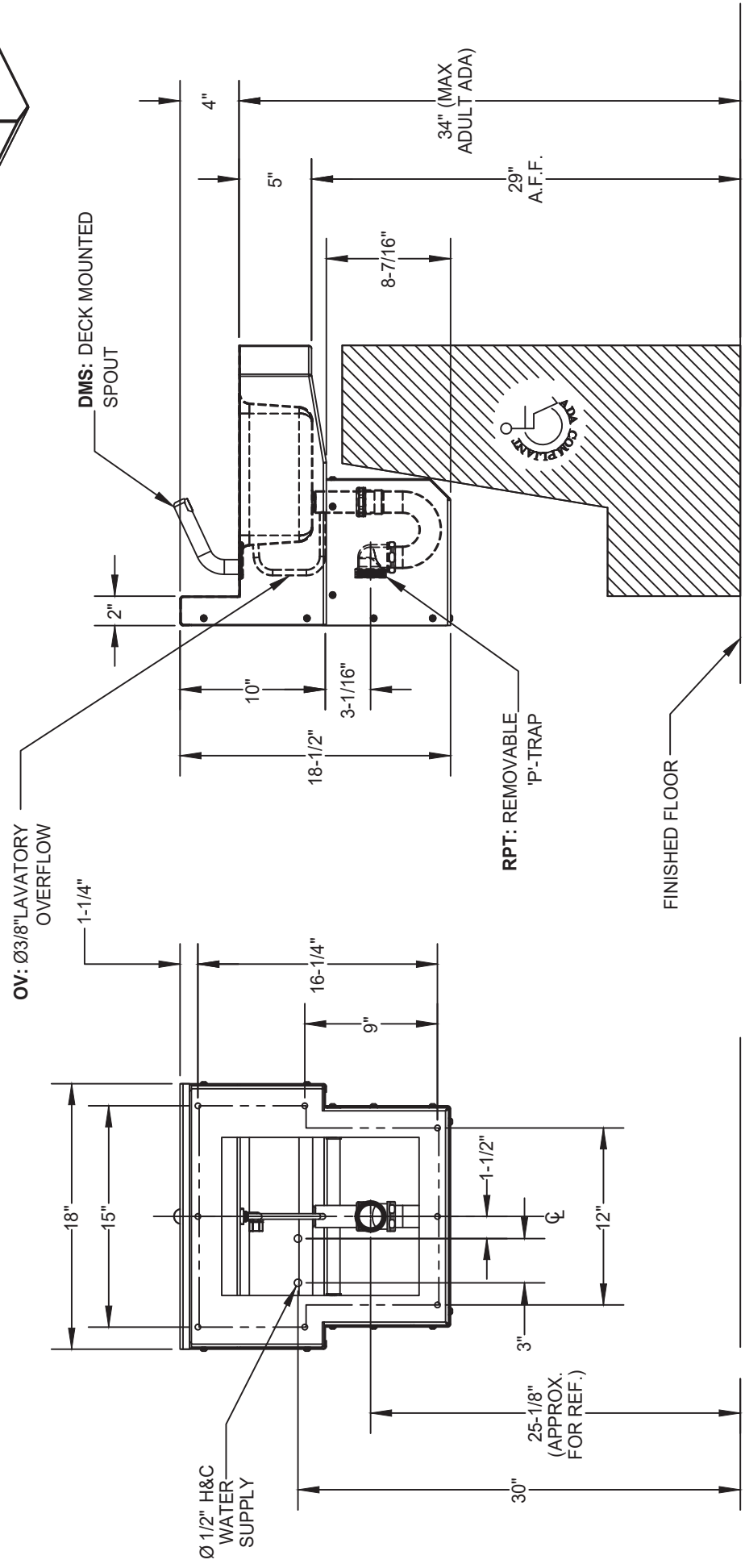
NV: (2) DOUBLE 'D' HOLES

 \geq


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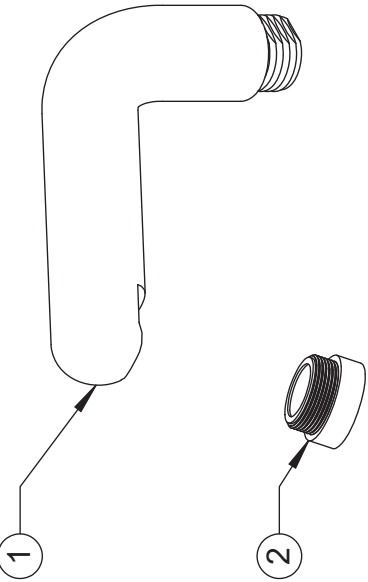
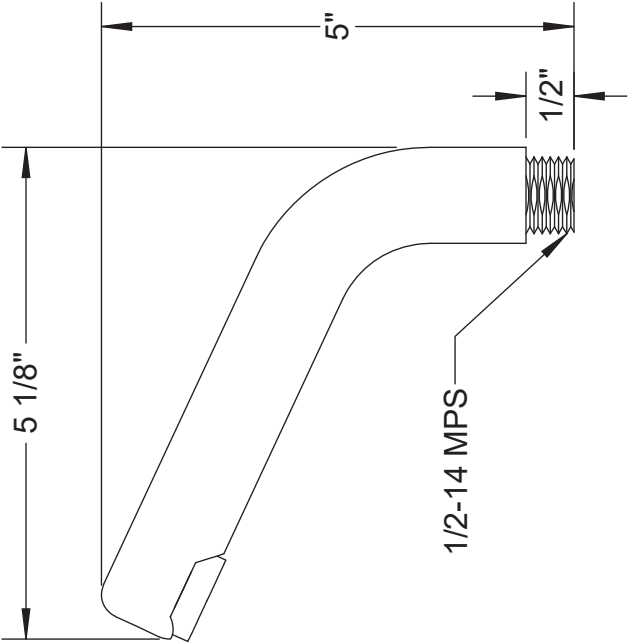
DMS

RPT



FINISHED FLOOR

 WILLOUGHBY	Willoughby Industries, Inc Indianapolis, Indiana		TITLE / DESC: HS-1014-96-HC-FA LAVATORY ASSEMBLY, HS-1014-96-HC-FA-DMS-NV-RPT-OV		PART #: P243055A	
	TOLERANCES EXCEPT AS NOTED	SIZE: 2 PLS: ±0.03 3 PLS: ±0.015	MAT'L: 14 GA 304 SS #4 SATIN FINISH	REVISION:	ORIG: MCL REV: MCL	11/5/24 11/5/24



ITEM #	PART #	DESCRIPTION	QTY.
1	320424B	SPOUT, DECK MOUNTED (DMS)	1
2	320157A	SPRAY HEAD, 0.5 GPM, 13/16"-27 THREAD	1
TITLE / DESC.:		PART #	
		320424	
REVISION		ORIG.	EEF 9/23/16
A		REV.	NAL 10/6/21
TOLERANCES EXCEPT AS NOTED		SIZE	STANDARD
		2 PLCS: ±0.03	
		3 PLCS: ±0.015	
		FRACTIONS: 1/32"	
		ANGLE: 1°	
SCALE: 1:2			
WILLOUGHBY INDUSTRIES, Inc. Indianapolis, Indiana			
TOLERANCES EXCEPT AS NOTED			
		SIZE	STANDARD
		2 PLCS: ±0.03	
		3 PLCS: ±0.015	
		FRACTIONS: 1/32"	
		ANGLE: 1°	
SCALE: 1:2			
WILLOUGHBY			

Willoughby

Project # 41826

Item # URINAL

WILLOUGHBY INDUSTRIES, INC.

Contractor Checklist for Urinals

This information must be received for order to be processed.

(Standard accessory locations shown on drawings will be used if no information is given).

☐ No information needed.

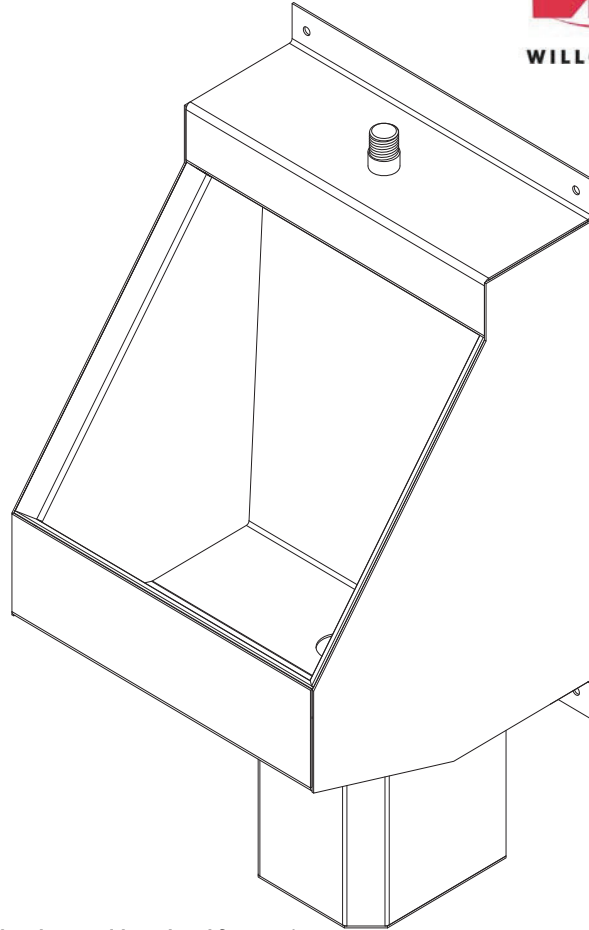
I have reviewed the submittal package for this fixture. I have verified that the information given with regards to the above questions is correct and this fixture is released for production.

Signature_____ Company_____ Date_____

Willoughby Industries - Security Products



UW-1814-WO-FA Stainless Steel Single Person Front Mounted Washout Flush Trough Urinal



(Unit may be shown with optional features)

To specify fixture and accessories, use the Model Number and Options page.

Example: To specify a Stainless Steel, Single Person, Front Mounted, Washout Flush Trough Urinal with top spud, 1.0 GPF, wall template, and hydraulic flush valve

Use the following Willoughby Model Number:

UW-1814-WO-FA-TS-1.0-MT-FV

Recommended Specifications

Stainless Steel, Single Person, Front Mounted, Washout Flush Trough Urinal shall be: Willoughby Model No. **UW-1814-WO-FA** (Select from model number and options list on next page)

Fixture is fabricated from 14 GA., Type 304 stainless steel. The construction shall be all-welded with exposed stainless surfaces polished to a #4 satin finish.

Standard equipment shall include:

- Full perimeter 360° flushing rim
- Beehive strainer
- 1-1/2" slip-joint P-trap
- Removable P-trap access

Urinal shall be washout type which requires 25 PSI minimum flushing pressure. Trap shall be fully enclosed and maintain a 3" seal.

Anchoring shall be from 'Z' clip and anchoring holes provided. Anchoring hardware by others.

Unit requires no chase area for installation and maintenance unless specified with any options requiring an accessible chase.



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MODEL NUMBER AND OPTIONS:

1.) Base Model Number:

☒ UW-1814-WO-FA

 Stainless Steel, Single Person, Front Mounted,
Washout Flush Trough Urinal

2.) Inlet Location:

☐ BS Back Spud
☒ TS Top Spud

3.) Flush Valve:

- ☐ FV Hydraulic Flush Valve (Includes Actuator)
☐ 1.0 GPF Low Flow (3.8 Lpf)
☐ 0.5 GPF High Efficiency (HEU) (1.9 Lpf)
☐ EFVP Electronic Flush Valve w/ (PZPB) Ligature-resistant Piezo Push Button (Pick Control)**
☐ 1.0 GPF Low Flow (3.8 Lpf)
☐ 0.5 GPF High Efficiency (HEU) (1.9 Lpf)
☒ NFV No Flush Valve (Provided by Others)

4.) Options:

- ☐ MT Wall Template
☐ ASUFVC Ligature-resistant Urinal Flush Valve Cover (Top Spud Only)**
☐ FVT Flush Valve Connection (Back Spud Only)
☐ APFM Flush Valve Access Panel Front Mounted (Allows access to chase mounted flush valve from fixture side)
☐ TF24H Hard-wired Transformer, 110VAC to 24VAC*
☐ TF24P Plug-in Transformer, 110VAC to 24VAC*
☐ Other _____
☐ Other _____

5.) Electronic Controls* (Must Use Electronic Flush Valve):

☐ WUFC-4000 ☐ Pneutronic ☐ WMSII

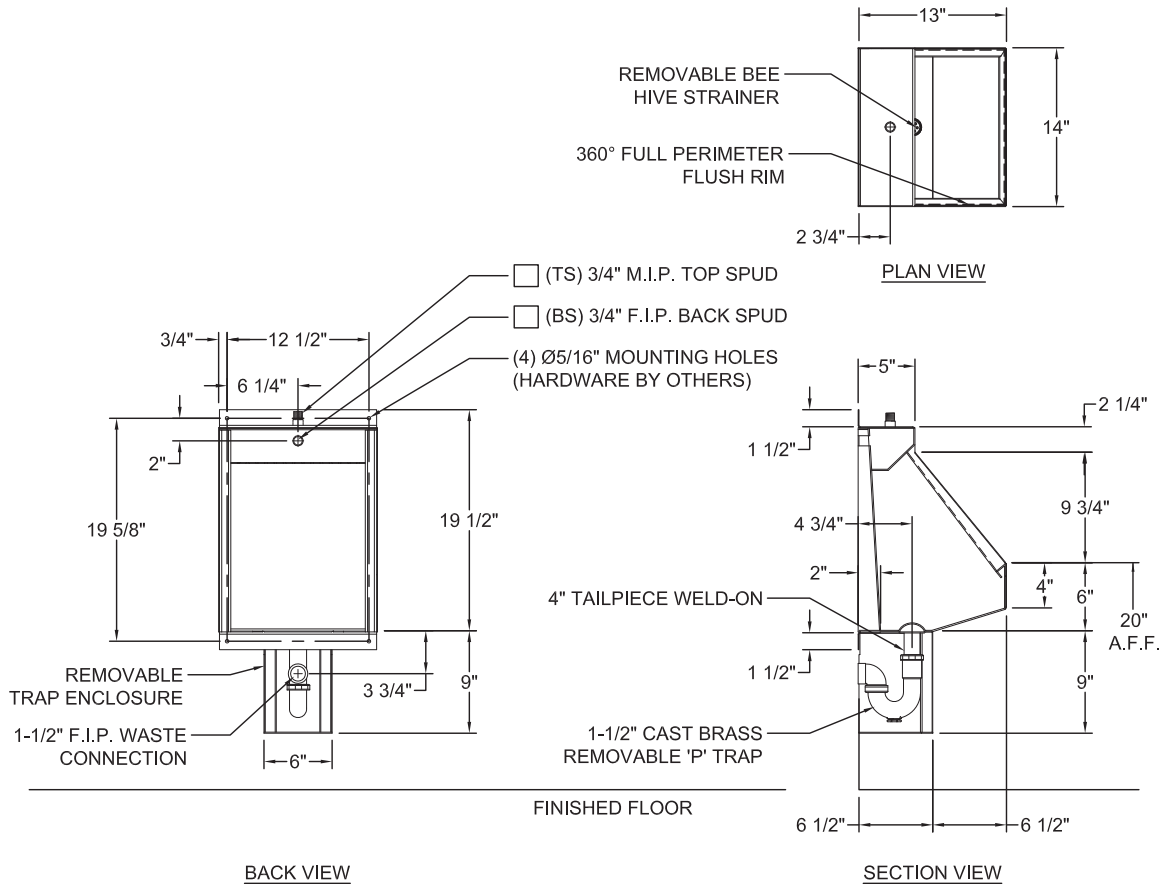
*(Req. 110V power through ground fault interrupter (GFCI) receptacle / breaker)

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Approved For Manufacturing By: _____ Date: _____ Company: _____
 Wall Thickness: _____ Wall Type: _____

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 WILLOUGHBY RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND
 DIMENSIONS WITHOUT FORMAL NOTICE AND WITHOUT INCURRING OBLIGATION.




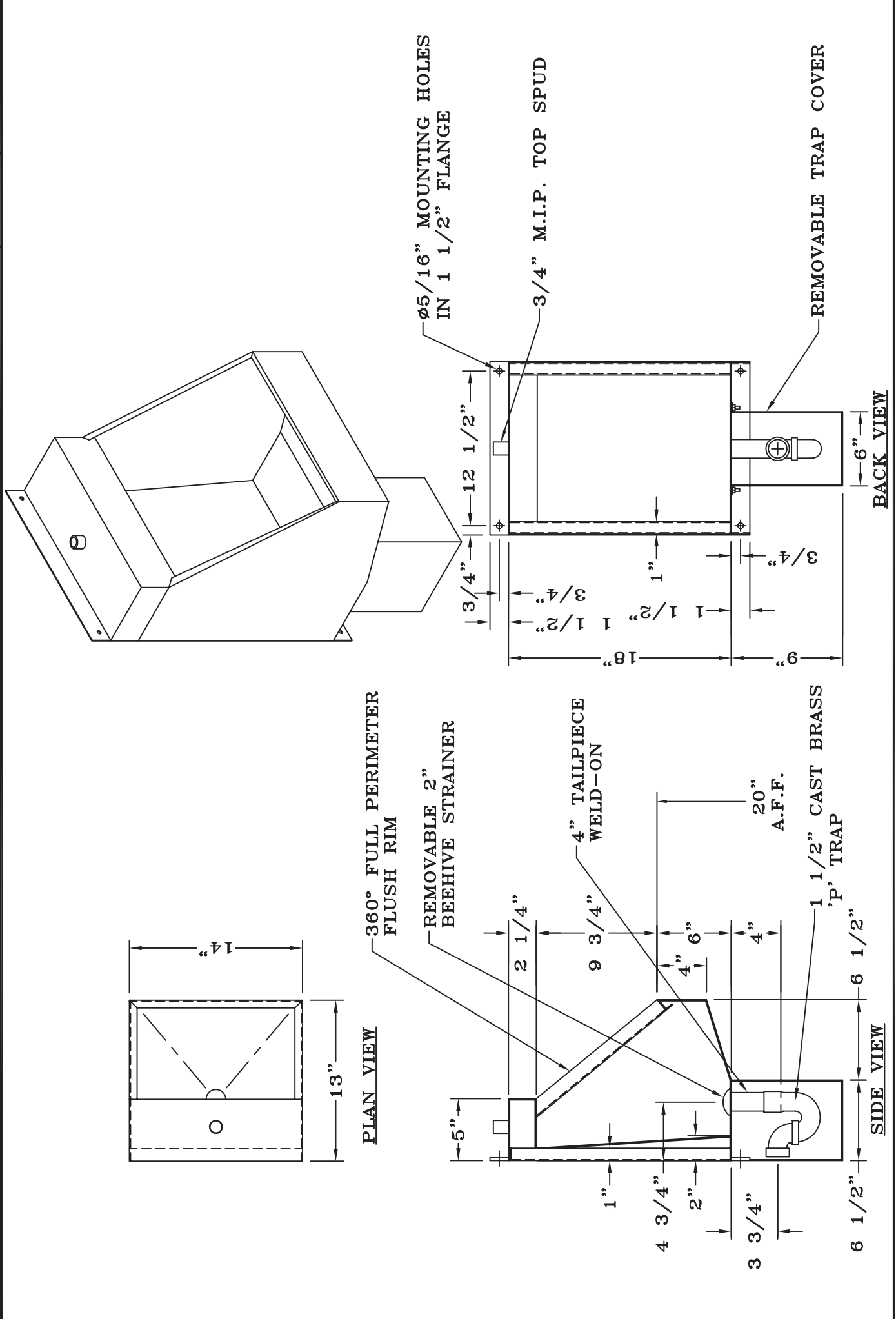
visit our website at www.willoughby-ind.com

5105 West 78th Street • Indianapolis, IN. 46268
 (317) 875-0830 • Fax: (317) 875-0837 • (800) 428-4065



MADE IN THE U.S.A.

 WILLOUGHBY	TITLE: PHYSICAL DIMENSIONS & ROUGH-INS MODEL UW-1814-WO-FA-TS		DRAWING #: U1814-0017	
	DIMENSIONS ARE +/- 1/4" EXCEPT AS NOTED	MATERIAL: ALL 14 GA. TYPE 304 S/S #4 SATIN FINISH	DRAWN BY: MCL	DATE: 11/20/14
			SCALE: NOT TO SCALE	
		REV. #: A	11/20/14	STANDARD DWG.





BUILT TO LAST, IN AMERICA



Willoughby plumbing fixtures are manufactured from type 304 certified stainless steel.

Protect Your Investment

Avoid contact with mild steel and DO NOT use bleach, any chlorine-based products, or caustic acids on stainless steel fixtures. These products will cause severe damage, including rusting and pitting, and will void the warranty. The corrosion in the image above is likely the result of contaminants that fell into the fixture during the construction phase of the project. Particles of mild steel that are introduced into the water in the fixture will rust and cause the stainless steel to corrode. The longer the particles remain in the fixture, the more severe the corrosion.

The fixture must be protected during the construction phase and cleaned immediately upon contact with any contaminants. Cleaning the interior of the bowl or sink with a fiber pad (like a 3M Scotchbrite) is recommended. DO NOT use mild steel (wool) scouring pads. Some areas which may be deeply pitted can not be restored using this method. It is important to regularly clean the fixtures using a mild detergent and water. DO NOT use bleach or any chlorine-based products. DO NOT let standing water or organic matter accumulate in the bowl without fixture being in use or **the warranty is void**. Chlorinated water left standing in the bowl for long periods of time will cause surface rusting. For more information, search the web for "Stainless Steel & Rust".



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BUILT TO LAST, IN AMERICA

Scotch-Brite®
cleaning pads

Warning: Cancer and reproductive harm.
www.P65Warnings.ca.gov

Clean and Maintain Your Stainless Investment

Our stainless steel cleaning kit will help you maintain and care for your Willoughby stainless steel plumbing fixtures so they will last a lifetime.

- Easily cleans grime and stains
- Remove scuffs and minor scratches
- Polishes, preserves, and protects your investment!
- **Ordering part number 980181**

Protect Your Investment

Avoid contact with mild steel and **DO NOT** use bleach, any chlorine-based products, or caustic acids on stainless steel fixtures. These products will cause severe damage, including rusting and pitting, and will void the warranty. The corrosion in the image to the right is likely the result of contaminants that fell into the fixture during the construction phase of the project. Particles of mild steel that are introduced into the water in the fixture will rust and cause the stainless steel to corrode. The longer the particles remain in the fixture, the more severe the corrosion.

The fixture must be protected during the construction phase and cleaned immediately upon contact with any contaminants. Cleaning the interior of the bowl or sink with a fiber pad (like a 3M Scotchbrite) is recommended. DO NOT use mild steel (wool) scouring pads. Some areas which may be deeply pitted can not be restored using this method. It is important to regularly clean the fixtures using a mild detergent and water. DO NOT use bleach or any chlorine-based products. DO NOT let standing water or organic matter accumulate in the bowl without fixture being in use or **the warranty is void**. Chlorinated water left standing in the bowl for long periods of time will cause surface rusting. For more information, search the web for "Stainless Steel and Rust."



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Stainless Steel and Solid Surface
Plumbing Fixture Products and Accessories



CARE AND CLEANING OF WILLOUGHBY STAINLESS STEEL FIXTURES

STAINLESS STEELS are corrosion resistant and are made from alloys of iron, nickel, and chromium. Stainless steel has a bright surface that is easy to clean and is free from oxides. Therefore, cleaning of stainless steel is relatively simple and easy, if done on a regular basis.

CLEANING

Frequency of cleaning should depend on the rate at which the fixture becomes dirty. Remember that fresh (soft) deposits of all kinds are relatively easy to remove, while removing older (hard) deposits are much more difficult. Establish a cleaning SCHEDULE.

Routine cleaning should involve ordinary soap or detergent and water, applied with a sponge, brush or cloth. Baking soda, borax or any of several non-abrasive commercial cleansing agents can help hasten the cleaning action. After scrubbing, rinse THOROUGHLY and wipe dry.

DO NOT use common steel wool, scouring pads, scrapers, wire brushes, files or other steel tools to clean stainless steel. Such items will scratch the surface or leave small particles of iron imbedded in the surface, which will eventually rust and stain the surface--even appearing as if the stainless itself was rusting.

Certain chemical compounds, if used on stainless steel, can give the appearance of rust and if allowed to stand for long periods of time, can pit the surface of even stainless. Products containing hydrochloric acid, muriatic acid or potassium hypochlorite can ruin the surface.

DO NOT use bleach or any chlorine based products to clean stainless steel. Bleach or Chlorine that is left in contact with stainless steel for long periods of time will cause the stainless to appear to be rusting. For more information, perform a web search on "Stainless Steel & Chlorine Rust".

Willoughby Industries, Inc.

Stainless Steel and Solid Surface
Plumbing Fixture Products and Accessories



Does Your Stainless Steel Appear to be Rusting?

The following is an explanation to the appearance of 'rust-spots' and a few suggestions to help eliminate the problem. Rust stains, on stainless steel, are a visual problem, which we hear about from the field on occasion. We have found that one or more of the following items will have some affect on 304 stainless steel:

- Iron particles settling in the bowl, caused by grinding or sanding at the job site, in the presence of water or urine in the bowl. This will cause rust on the surfaces of the fixture at and below the bowl water line.
- Cleaning stainless steel using a steel wool pad, which embeds small iron fibers into the surface of the toilet bowl. Never clean using a steel wool pad.
- The use of acidic cleaners to wash down cell walls before painting may cause rust spots to appear.
- Any cleaning agents that contain any of the following ingredients: chlorine, ferric chloride, hydrochloric acid, hydrofluoric acid, chloric acid, mercuric chloride, hydrofluosilicic acid, phosphoric acid, sodium bisulfate, sulfuric acid, sodium chloride, calcium chloride, chlorine gas, copper chloride, flourine, magnesium chloride, muriatic acid, potassium chloride, sodium hypochlorite, calcium hypochlorite, bromine, iodine, silver chloride, stannic chloride, sulpher chloride, or trichloracetic acid should not be used.
- Re-chlorinated gray water, used in the closet bowls, can cause corrosion on stainless steel due to the high concentrations of chlorine in the water.
- The high salt concentration near costal areas that may accumulate onto fixtures can be a factor on exposed stainless steel.

When cleaning is required, a mild chloride-free detergent, water, and degreaser solution is usually sufficient. Cleaners with abrasives are not appropriate for some finishes. To solve these visual problems we recommend cleaning with Stainless Steel Cleaner-Polish.

Directions:

Just like wood, stainless steel also has a grain. These are the very faint striations that can be found on the surface of your fixture. An entire sheet of stainless steel will have the same grain direction. That said, a fixture will usually have more than one piece of stainless steel incorporated into a complete unit. These other pieces may have a different grain direction, so make sure you are aware of this. Apply a small amount of the cleaner to a Scotchbrite type pad and polish with the grain of the metal (same direction as the grain) to remove the stains. Take a clean soft cloth, apply a small amount of cleaner, and polish to remove residue until clean. Stainless Steel Fixtures still require routine cleaning and maintenance to keep them looking good for years.

WARNING!

Stainless steel plumbing fixtures may be severely affected by certain job-site materials or conditions. Avoid contact with mild steel and **DO NOT** use bleach, any chlorine-based products, caustic acids, or iodine on stainless steel fixtures. These products will cause severe damage, including rusting and pitting, and will void the fixture warranty. Particles of mild steel that are introduced into the water in the fixture will rust and cause the stainless steel to corrode. The longer the particles remain in the fixture, the more severe the corrosion.

Fixtures must be protected during the construction phase and cleaned immediately upon contact with any contaminants. Cleaning the interior of the bowl or sink with a fiber pad (like a 3M Scotchbrite) is recommended. **DO NOT** use mild steel (wool) scouring pads. Some areas which may be deeply pitted cannot be restored using this method. It is important to regularly clean the fixtures using a mild detergent and water. **DO NOT** use bleach or any chlorine-based products. **DO NOT** let standing water or organic matter accumulate in the bowl without fixture being in use or the warranty is void. Chlorinated water left standing in the bowl for long periods of time will cause surface rusting. For more information, search the web for "Stainless Steel and Rust."



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WARRANTY

With respect to goods manufactured by Willoughby, Willoughby warrants the goods to be free from defects in materials and workmanship under normal use and service for one year from the date of shipment; and Willoughby will replace or repair, at its option, any goods which are found defective in material or workmanship within said one-year period from date of shipment upon notification by Buyer identifying each and every defect. Willoughby's obligation with respect to such goods shall be limited to replacement or repair, F.O.B. Indianapolis, Indiana, and in no event shall Willoughby be liable for consequential or special damages, or for transportation, installation, adjustment, replacement or other expenses which may arise in connection with such goods. Any misuse or abuse of the goods voids this limited warranty.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

1. ACCEPTANCE. This order is accepted subject to the following terms and conditions. Conditions stated by buyer in any other communication, prior or subsequent hereto, shall not be binding on Willoughby Industries (hereafter referred to as "Willoughby") if in conflict with or in addition to any of the provisions of these terms and conditions, unless expressly agreed to in writing by Willoughby. Unless otherwise expressed in writing, placement of any order by Buyer or acceptance by Buyer of any goods provided hereunder shall constitute acceptance of the terms and conditions stated herein.

2. ALTERATION OF TERMS. Changes in the terms and conditions herein shall not be binding on Willoughby unless made in writing and executed by a duly authorized officer of Willoughby; and any representations given by any sales representative, employee or agent of Willoughby inconsistent with those Terms and Conditions shall not be binding on Willoughby.

3. PAYMENT. Upon tender of delivery by Willoughby of goods or merchandise to a carrier for transportation, payment is due from Buyer net 20 days unless otherwise stated. All past due accounts are subject to interest thereon at the rate of 12% per month, and Buyer shall reimburse Willoughby for any costs of collection incurred in collecting any past due sums, including court fees, out-of-pocket expenses, and attorneys' fees.

4. SHIPMENT, RISK OF LOSS AND INDEMNIFICATION. Buyer shall accept the goods F.O.B. Willoughby's facility, Indianapolis, Indiana. Method and route of shipment are at Willoughby's discretion, unless Buyer supplies explicit instructions otherwise. Willoughby shall tender delivery of all goods to a carrier for transportation to Buyer's designated shipment destination, but all costs of transportation shall be borne by Buyer (unless specified otherwise on the face hereof), and all risk of loss shall pass to Buyer when the goods are made available to the carrier at Willoughby's facility including all risk of loading and transportation. All claims for loss, damage or delay against the carrier must be made by Buyer.

5. DELAYS AND DAMAGES. Willoughby shall endeavor as far as practicable to make deliveries in accordance with this order, but if for any cause Willoughby shall fail to make such deliveries or fail to do so within the time stated in the order, or shall cancel any such orders, Willoughby shall not be liable for any loss or damage resulting from any such failure or delay in delivery or from cancellation of any order or for loss of use or loss of profits.

6. INSPECTION. Buyer shall have the right to inspect all goods tendered for delivery at the place of destination before delivery is considered complete.

7. REJECTION OF NONCONFORMING GOODS. Any rejection of goods for being nonconforming must be made within ten (10) days after their delivery at the place of destination by immediately notifying Willoughby and confirming in writing the rejection. Such notification shall identify each and every alleged nonconformity of the goods, and describe that portion of the shipment being rejected. Willoughby shall then respond with instructions as to the disposition of the goods. If Buyer shall fail to give such notice or if Buyer uses the goods in any manner inconsistent with the rights of Willoughby, the goods shall be deemed to conform with the terms of the contract, and Buyer shall be bound to accept and pay for the goods in accordance with the terms hereof.

8. CANCELLATION. An order accepted by Willoughby may be cancelled by Buyer only upon the written approval of Willoughby and upon terms that indemnify Willoughby against loss.

9. NO WARRANTY AS TO RESALE ITEMS. With respect to resale items not manufactured by Willoughby. WILLOUGHBY MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH RESALE ITEMS OR FOR CONSEQUENTIAL DAMAGES. The Buyer's sole warranty shall be given by the original manufacturer of said resale items.

10. LIMITED WARRANTY AND LIMITATION OF REMEDY AND DAMAGES FOR GOODS MANUFACTURED BY WILLOUGHBY. With respect to goods manufactured by Willoughby, Willoughby warrants the goods to be free from defects in materials and workmanship under normal use and service for one year from the date of shipment; and Willoughby will replace or repair, at its option, any goods which are found defective in material or workmanship within said one-year period from date of shipment upon notification by Buyer identifying each and every defect. Willoughby's obligation with respect to such goods shall be limited to replacement or repair. F.O.B. Indianapolis, Indiana and in no event shall Willoughby be liable for consequential or special damages, or for transportation, installation, adjustment, replacement or other expenses which may arise in connection with such goods. Any misuse or abuse of the goods voids this limited warranty. THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

11. INDEMNIFICATION. Buyer shall indemnify and hold harmless Willoughby and its agents from any claims, damages or expenses, including reasonable attorneys' fees, arising or alleged to arise in whole or in part from (1) any asserted deficiencies or defects in the goods caused by any alteration thereof made by Buyer with or without Willoughby's consent or any improper handling or storage by Buyer, (2) any breach of any terms stated herein, or (3) any act or omission of Buyer, irrespective of whether or not such claim, damage or expense is caused or alleged to be caused, in part by Willoughby's joint, several or comparative, but not sole negligence, breach of contract or warranty, or any other breach of duty of Willoughby, whether asserted under a strict or other product liability theory or any other legal theory.

12. NON-PERFORMANCE. Neither party hereto shall be liable to the other for failure to perform its obligations hereunder, in whole or in part, when performance is prevented by flood, drought, fire or any other casualty, war, riot, insurrection, acts of God, restrictions or interferences by any government or governmental agency, strike, work stoppage or slowdown, and any causes beyond the control of the party so failing to perform.

13. ARBITRATION. Any claim or controversy arising out of or relating to this agreement shall be settled finally and exclusively before a single arbitrator in Indianapolis, Indiana, under the Uniform Arbitration Act. In Code § 34-4-2-1, the Federal Arbitration Act. 9 U.S.C. § 1, and the auspices of the American Arbitration Association. All costs and expenses of the arbitration, including actual attorneys' fees, shall be allocated among the parties according to the arbitrator's discretion. Proceeding to arbitration and obtaining an award thereunder shall be a condition precedent to the bringing or maintaining of any action in any court with respect to any dispute arising under this agreement, except for the institution of a civil action to maintain the status quo during the pendency of any arbitration proceeding. Any and all actions which may be brought in court for any claim or controversy arising under this agreement shall be filed and maintained only in a state or federal court of appropriate jurisdiction sitting in the State of Indiana.

14. SEVERABILITY. In the event that any provision of these Terms and Condition shall be found to be invalid or unenforceable, the remaining portions of these Terms and Conditions shall remain in full force and effect as if the invalid or unenforceable portion were not a part hereof. Should the severance of any portion of these Terms and Conditions affect a material right or obligation of a party, the party so affected may terminate this agreement.

15. NO WAIVER. The failure to enforce at any time any of the provisions, rights or elections provided in these Terms and Conditions, irrespective of any previous action or proceeding taken by it, shall in no way be considered (i) a waiver of those or any other provisions, right or elections (ii) to affect the validity of this Agreement, or (iii) to preclude or prejudice the exercise of the same or any other provision, right or election it may have hereunder.

16. CONTRACT. This order and these Terms and Conditions shall be a contract made and entered into in the State of Indiana and shall be governed by the laws of the State of Indiana; notwithstanding any state's choice of law rules to the contrary.