

Installation Instructions and Operation & Maintenance Manual

DuraDuct™ DXD

Single Wall Dishwasher Exhaust System

Do not install this system without completely reading the installation instructions. All details as noted in this document must be followed. For further information please contact VaughanAir.

Pennsylvania Avenue ■ Concord, ON L4K 4A6, Canada
TEL: 647.946.4770 ■ EMAIL: sales@vaughanair.com

CONTENTS

GENERAL INFORMATION	2
Product Features:	2
CONSTRUCTION DETAILS.....	2
Duct Construction Materials:	8
Handling Instructions:.....	8
Connection Details:	8
Flange Assembly Instructions:	9
Duct Supports:	10
Appliance Connections:.....	10
Test Port Detail:	10

GENERAL INFORMATION

DuraDuct Model DXD is a pre-manufactured, single wall dishwasher exhaust duct system featuring installer friendly companion flange connections that include a liquid tight gasketed sealing system. The DXD system eliminates the field welding required for contractor fabricated dishwasher duct systems. Extensive structural leakage testing has been performed on the DuraDuct DXD system ensuring a safe and cost effective solution for new construction or retrofitting of dishwasher exhaust duct systems.

PRODUCT FEATURES:

- Rectangular or round footprint
- No weld system; flange to flange connections
- Available in 304SS or 316SS
- Specialized fittings available
- +10" & -10" Leakage and deflection tested in accordance with ANSI/ASHRAE/SMACNA Standard 126-2000
- UL 1978 & CAN/ULC-S662 tested for fire and structural integrity
- Factory pressure tested seam welds

CONSTRUCTION DETAILS

DuraDuct model DXD is constructed with fully welded duct materials. It is supplied with tested flange to flange connections with a liquid tight gasket system. Standard lengths are 59" or 118" long and specialized fittings are available to suit the system design. Refer to lay-out drawing for complete details.

Materials: Liner: 18ga 304 Stainless steel - Standard
18ga 316 Stainless steel - Premium

Angle Flanges (Square): 1-1/2" x 1/8" 304 Stainless steel structural angle - Standard
1-1/2" x 1/8" 316 Stainless steel structural angle - Premium

Angle Flanges (Round): Powder coated mild steel structural angle - Standard
304 Stainless steel structural angle - Premium
316 Stainless steel structural angle - Premium

6" to 11" Diameter	1 1/4" x 1 1/4" x 1/8" angle
12" to 24" Diameter	1 1/2" x 1 1/2" x 1/8" angle
25" to 40" Diameter	2" x 2" x 3/16" angle

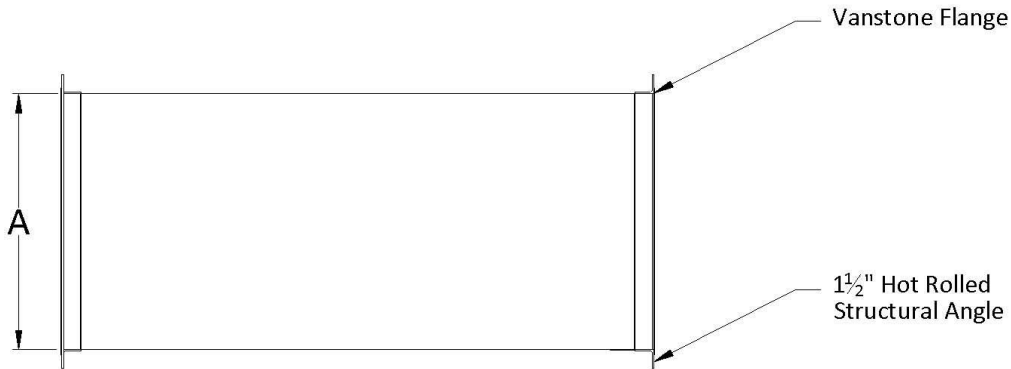
Duct Weight: 2.6 lbs/sq. ft.

Standard Fittings: See the attached pages for DuraDuct DXD standard fittings and dimensions.

Non-Standard fittings, fittings sizes, and fitting configurations are available for a premium. Contact VaughanAir for details.

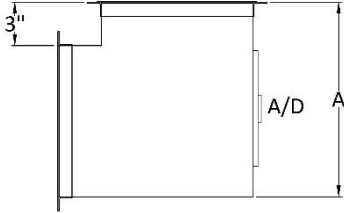
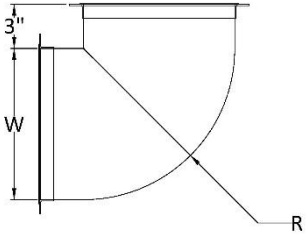
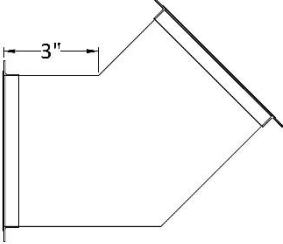
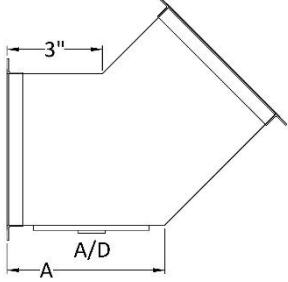
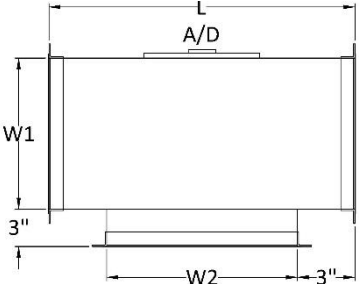
Construction:

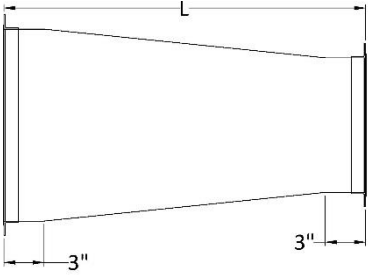
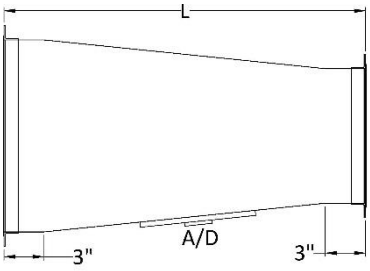
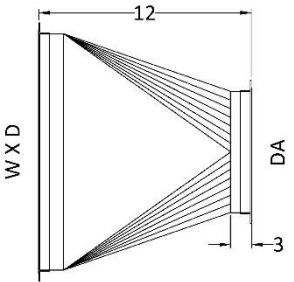
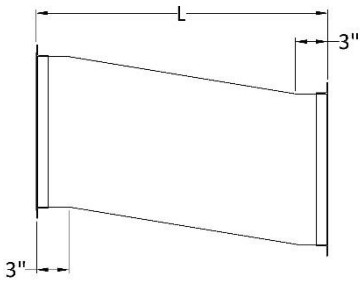
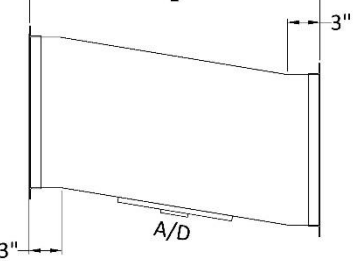
Inner Duct: (A)

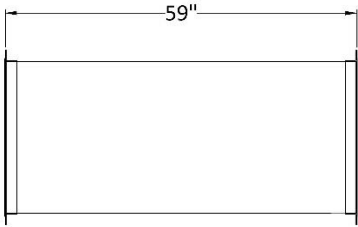
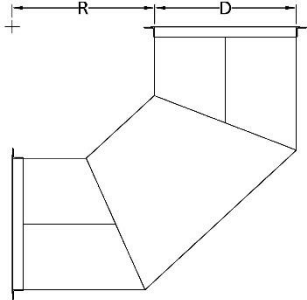
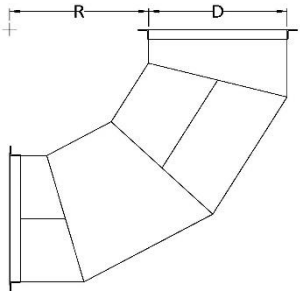
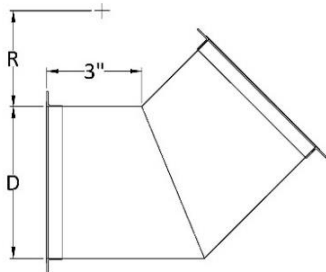
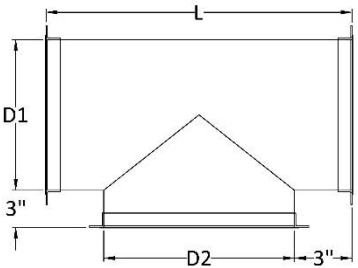


DuraDuct DXD Construction Detail

	<p>Straight Duct</p> <p>Standard Length = 59"</p>
	<p>Straight With Access Door</p> <p>Minimum Length with access door (L) = 18" Minimum Length with out access door (L) = 12" ** Duct lengths shorter than 12" should be added to adjacent fitting.</p>
	<p>90 Degree Square Elbow</p> <p>Standard Throat = 3"</p>

	<p>90 Degree Square Elbow with Access Door</p> <p>Standard Throat = 3" Minimum Heel Length (A) = 18"</p>
	<p>90 Degree Radius Elbow</p> <p>Standard Throat = 3" Standard Radius = W</p>
	<p>45 Degree Elbow</p> <p>Standard Throat = 3"</p>
	<p>45 Degree Elbow with Access Door</p> <p>Standard Throat = 3" Minimum heel length for access door (A) = 18"</p>
	<p>Straight Duct with Tap</p> <p>Standard Throat = 3" Length (L) = W2+6" Minimum length with access door (L) = 20"</p>

	<p>Transition</p> <p>Standard length (L) = 24"</p>
	<p>Transition with Access Door</p> <p>Standard length with access door (L) = 24"</p>
	<p>Square to Round</p> <p>Standard Length = 12" W X D = Inner Duct DA = Diameter of Inner Duct</p> <p>Access door not available</p>
	<p>Offset</p> <p>Standard Length (L) = 24"</p>
	<p>Offset with Access Door</p> <p>Standard Length with access door (L) = 24"</p>

	<p>Straight Duct (Round)</p> <p>Standard Lengths = 59", 29", 19", 14"</p>
	<p>90 Degree 3 Gore Elbow (Round)</p> <p>Diameter (D): 6" to 9" Radius (R) = D</p>
	<p>90 Degree 4 Gore Elbow (Round)</p> <p>Diameter (D): ≥ 10" Radius (R) = D</p>
	<p>45 or 30 or 22.5 Degree 2 Gore Elbow (Round)</p> <p>Radius (R) = D Minimum Throat = 3"</p>
	<p>90 Degree Tee (Round)</p> <p>D1 = Diameter of Duct 1 D2 = Diameter of Duct 2 (D2 must be \leq D1)</p> <p>Standard Throat (T) = 3 Standard Length (L) = D2 + 6</p>

	<p>45 Degree Lateral Tee (Round)</p> <p>D1 = Diameter of Duct 1 D2 = Diameter of Duct 2 (D2 must be \leq D1)</p> <p>Standard Throat = 6</p>
	<p>Flat Transition (Round)</p> <p>D1 = Diameter of Duct 1 D2 = Diameter of Duct 2 (D2 must be $<$ D1)</p> <p>Standard length (L) = 12" if $(D1-D2) \leq 4$" (L) = 18" if $(D1-D2) > 4$"</p>
	<p>Centerline Transition (Round)</p> <p>D1 = Diameter of Duct 1 D2 = Diameter of Duct 2 (D2 must be $<$ D1)</p> <p>Standard length (L) = 12" if $(D1-D2) \leq 4$" (L) = 18" if $(D1-D2) > 4$"</p>
	<p>Block End</p> <p>$W \times D$ = Inner Duct</p>
	<p>Bolted Hood Connection</p> <p>$W = (\text{I.D of hood flange}) - (1/16")$</p>

DUCT CONSTRUCTION MATERIALS:

DuraDuct DXD is manufactured in minimum 18 gauge 304 or 316 stainless steel for rectangular duct and minimum 20 gauge for round.

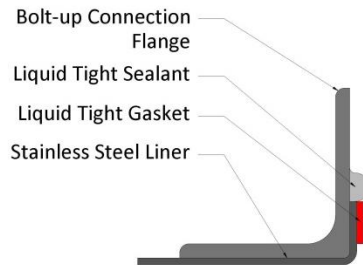
HANDLING INSTRUCTIONS:

DuraDuct DXD is a robust system, however, care should be taken in handling the ductwork. All fittings are shipped skidded and shrink wrapped. Each component should be inspected for damage, if damage has occurred notify the freight company upon receipt of the goods to file a claim.

CONNECTION DETAILS:

All components are supplied with bolt-up type flanged connections. All flanged connections are designed alike providing a quick and trouble-free installation. All flange gasket, nuts, bolts, washers and screws are provided to complete the single-source design. Assembly details follow:

FLANGE ASSEMBLY INSTRUCTIONS:



Rectangular Duct

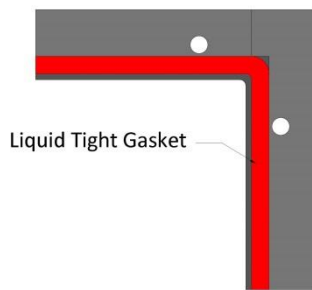


Figure 1

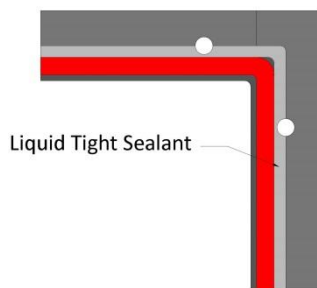


Figure 2

Round Duct

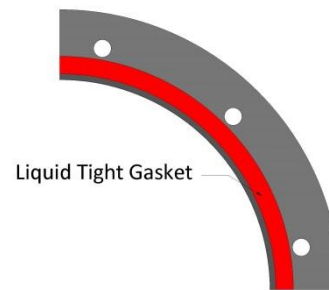


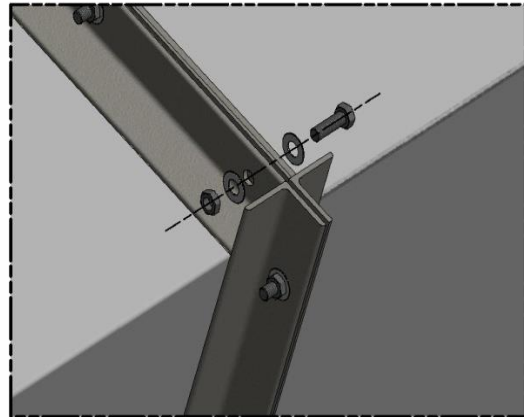
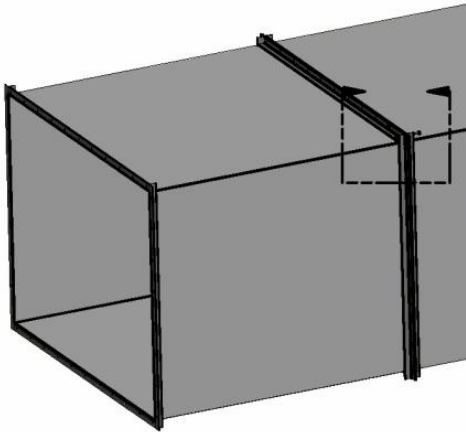
Figure 3



Figure 4

Step 1:

- Thoroughly clean the connection flange of any oil or debris (a solvent based degreaser may be used) to ensure a positive bond between the gasket and steel flange.
- Install the gasket by removing the paper backing and applying the gasket flush to the outer edge of the inner liner (Figure 1 or 4). For horizontal duct configurations, any splices in the liquid tight gasket should be made at the top portion of the duct. Be sure not to stretch the gasket while you apply it to the steel flange.
- Apply a 1/4" continuous bead of the supplied liquid tight sealant along the outside perimeter of the gasket (Figure 2 or 2).
- Sealant cure time prior to operation is 48hrs.



Step 2:

Connect each section using the supplied bolt assembly. A nut, bolt and two flat washers are provided for each bolt hole. Be sure to not disturb the sealant when assembling. Tighten each bolt assembly making sure to check each fastener prior to moving on to step 3. Bolt assembly to be torqued to 75 to 95 lbf-in.

Tip: A drift pin is helpful to locate the bolt holes.

DUCT SUPPORTS:

Duct supports will provide joint alignment and support for dishwasher exhaust duct. The horizontal supports shall be in accordance SMANCA standards. DXD dishwasher exhaust shall slope towards the appliance in accordance with local codes.

Note: Duct supports are supplied by others. Consult with VaughanAir for technical support.

APPLIANCE CONNECTIONS:

Ducts connecting to the appliance shall be coordinated with VaughanAir and installed in accordance with lay-out drawing.

TEST PORT DETAIL:

When requested, optional test ports can be supplied. Test ports can be installed on the duct as intended for use for balancing when required. The test port diameter can be built to suit site requirements. Please inquire with project management for coordination.



Pennsylvania Avenue ■ Concord, ON L4K 4A6, Canada
TEL: 647.946.4770 ■ EMAIL: sales@vaughanair.com