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Diagram Abbreviations and Nomenclature

This catalog was designed to include both single wall and double wall nomenclature. It is important to note that the dimensions shown represents single wall or in the case of double wall, free open (inside dimensions only).

It is also important to note, that although some oval fittings are designed to have gasketed round taps, EHG Flat Oval product is inherently nongasketed.

Flat oval major ............................................... $W_x$
Flat oval minor ............................................... $D_x$

Nominal outside round tap diameter... $\Omega d_1$, $\Omega d_2$, $\Omega d_3$, $\Omega d_4$

Installed height ........................................... $H$
Center line radius ........................................ $R_c$
Center height ............................................... $I$
Installed length ......................................... $L$
Insertion length (slip dimension) ......... $e$
Material thickness (gauge) ....................... $t$
Insulation thickness................................. $i$

All measurements in inches (in or "). All angles in degrees (°).

Elbows
- $B =$ elbow
- $M =$ mitered
- $E =$ easy bend
- $H =$ hard bend
- $A =$ 1.0 x radius

Reducers
- $R =$ reducer
- $C =$ round
- $E =$ eccentric
- $F =$ female

Transitions
- $O R =$ rectangular to oval
- $E =$ eccentric

Saddle Taps
- $S T =$ saddle tap
- $B =$ boot tap
- $V =$ lateral tap

Offset
- $O =$ offset
- $E =$ easy bend
- $H =$ hard bend

Tees/Crosses
- $T =$ tee
- $X =$ cross
- $C =$ round
- $R =$ reducing body
- $S T =$ saddle tap
- $M =$ tap on major axis
- $B S =$ boot tap
- $V =$ lateral tap
- $P S =$ pressed tap
- $B H =$ bullhead tee

Y-Branches
- $Y =$ wye branches
- $R =$ reducing
- $C =$ round branch

End Caps
- $E =$ end caps
- $P =$ duct
- $F =$ fittings

Couplings
- $N P =$ duct coupling
- $M F =$ fitting coupling
Specification

MATERIAL (* ) not available in pressed construction
• Galvanized steel conforming to ASTM standards A653 and A924
• Stainless steel type 304 conforming to ASTM standard A240*
• Stainless steel type 316 conforming to ASTM standard A240*
• Aluminum T3003*
• Insulation specifications:
  1. Standard inner liner is perforated for pipe and solid for fittings.
  2. Perforated liner will consist of 1/8" perforations on 1/4" staggered centers corresponding to an overall open area of 23%.
  3. Standard 1" thick x 1.0 pound per cubic foot (pcf) density, glass fiber insulation has a maximum conductivity factor (k) of 0.26 BTU-in/hr x ft² x °F at 75°F mean ambient temperature (R = 3.8).
  4. Available in 1" and 2" insulation thickness. Please call for thicknesses over 2".
  5. Retaining fabric will be 0.008" thick, 15.6 lb/ft³ density non-woven polyester fabric with an air permeability rate of 9.2 ft³/ft²/s.

SURFACE FINISH
• Galvanized steel (galvanized in accordance with SMACNA 2005 Duct Construction Standards).
• Stainless steel type 304 - Mill Finish
• Stainless steel type 316 - #2 Mill Finish
• ProCoat™ (outside only) or ProCoat™ Plus (inside and outside) on duct and/or fittings
  - Standard color = white (additional color options available)
  - Average coating thickness of 4 mils (0.004 inch)
  - Coating to meet or exceed 1,000 hour Salt Spray Test per ASTM B117-97
• Antimicrobial - EPA listed coating containing an antimicrobial compound complies with UL standard - not to exceed flame or smoke developed ratings of 25/50.

THICKNESS
EHG Oval components are constructed from galvanized steel of thickness conforming to latest SMACNA's HVAC Duct Construction Standards for +10" water gauge pressure.

CONNECTIONS
EHG Oval is available with two connection methods: Standard slip-fit or Flanged connections.
• Flanged connections can be factory installed or delivered loose.
• All fittings that are either spot-welded or button punched construction are internally sealed.
• All transitions and divided flow fittings which convert from flat-oval to round 60" diameter or less incorporate EHG’s triple-lipped EPDM rubber gaskets as the duct sealing system.
Specification

CONSTRUCTION
Duct is of spiral lock seam construction with a mechanically formed seam locking indentation evenly spaced along the spiral seam. All spiral duct 8" diameter and larger incorporates multiple corrugations between spiral seams.

Double wall duct and fittings will consist of a perforated or solid inner liner; 1" thick x 1.0 lb/ft³ (unless otherwise specified) layer of glass fiber insulation and a solid outer pressure shell. When a perforated inner liner is specified, the retaining fabric must be wrapped around the inside diameter, between the perforated inner and the glass fiber insulation. This is to prevent glass fiber tearing and maintains the desired acoustical properties.

Double wall has 1" thick insulation standard and 2" thick insulation available. The outer pressure shell dimensions shall be two times the insulation thickness larger than the inner liner. Inner and outer duct will be of spiral lock seam construction.

Fittings shall be manufactured using one or more of the following construction methods:
- Overlapped edges stitch welded along the entire length of the fitting
- Standing seam gore locked and internally sealed
- Button punched and internally sealed

NOTE: For systems under negative pressure, please refer to the Industrial Catalog or a EHG representative.

JOINT SEALING
All joints must be sealed by the installer during the installation process. The type of sealant used as well as the method and level of application should be as directed by the specification and in accordance with the sealant manufacturer’s published installation instructions.

Fitting Slip Dimension

Standard EHG products are designed with a male/female slip connections. Nongasketed connections have a 2" slip fit connection. For gasketed, or “G-3” connections, refer to the “e” dimension listed in the TOLERANCE chart on page 10 in the EHG Single Wall Catalog. If flanges are utilized, add 3" per flange and the flange thickness to the published length (L) dimension as shown in the product catalog as depicted in the diagram on the right.

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NOTE: For systems under negative pressure, please refer to the Industrial Catalog or a EHG representative.
## Specification - Sizes

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We reserve the right to make changes without prior notice. Therefore, all designs, specifications, and product features are subject to change without notice. The company and its products are protected by patents and registered trademarks. 2019 All rights reserved.
Specification - Sizes

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PLEASE NOTE

- The sizes outlined here are available in single and 1" double wall spiral unless noted with an asterisk (*). An asterisk indicates the size is available in single wall only. 2" and 3" double wall is available but not represented in the dimensional chart.

- Pipe can be constructed in any minor/major combination using long seam construction.

- Fittings can be constructed in any minor/major combination under 83" major.

- Pipe and fitting gauge to meet or exceed SMACNA guidelines.

**Flat Oval to Round**

\[
D_e = 1.55 \times \frac{(A)^{0.625}}{(P)^{0.250}}
\]

**Rectangular to Round**

\[
D_e = 1.3 \times \frac{(a \times b)^{0.625}}{(a + b)^{0.250}}
\]

\(D_e\) = Equivalent round diameter (equal pressure loss), in
\(A\) = Cross sectional area, in\(^2\)
\(P\) = Flat oval perimeter, in
\(a\) = Rectangular dimension, in
\(b\) = Rectangular dimension, in

Credit: SMACNA HVAC Duct Construction Standards Metal and Flexible (2005), Table 3-15 Flat Oval Duct Gauge, Positive Pressure to 10 iwg.
# Acoustical Performance - Net Insertion Loss

Standard 1" thick double wall spiral duct with perforated inner

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<td>1</td>
<td>2000</td>
<td>0.1</td>
</tr>
<tr>
<td>42</td>
<td>1</td>
<td>3000</td>
<td>0.1</td>
</tr>
</tbody>
</table>

1. The chart represents tests performed by an independent testing laboratory in accordance with ASTM standard E477-96, entitled “Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance”. Data for test specimens with inside diameters of 6", 12", 18", 24", 30", 36" and 42" were recorded for 20' lengths of duct and then divided to obtain the dB/foot ratings.

2. Insertion loss gains of approximately 0.25 to 0.50 dB/ft in the 4th, 5th, and 6th octave bands were recorded for 24" diameter duct with 2" thick insulation. Gains were negligible in the 1st, 2nd, 3rd, 7th and 8th octave bands.

3. Data recorded for a 30' section of 24" diameter duct indicates an average gain of 1 dB in the 2nd octave band, 3 dB in the 3rd octave band, 9 dB in the 4th octave band, 1 dB in the 5th octave band, 4 dB in the 6th octave band, 4 dB in the 7th octave band and 3 dB in the 8th octave band. These gains were the average for insertion loss data collected at 0, 1000, 2000 and 3000 fpm with 0.000, 0.006, 0.031, and 0.070 inch water gauge respectively.

4. Data was not collected for duct lengths greater than 30'. However, the results for the 30' test indicate the insertion loss gains diminish with longer duct lengths. For this reason, the data in the above table should be considered valid only for sections of duct 20' or less in length. In addition, data was not collected for larger diameter duct. As the test data indicates, insertion loss decreases with increasing duct diameters.

5. The self-generated noise for double wall duct is too low to be measured by ASTM E477-96. The measurements obtained for these ducts are equal to the corresponding single wall duct reference condition or are within +/- 10 dB per ASTM E477-96 section 9.1.2.

6. Reduced breakout noise in double wall pipe with outer diameter 14" and larger is attributed to double corrugation which increases rigidity and minimizes the area of the outer shell that allows sound waves to break out of the system.
Flat Oval Spiral Duct

Description

Flat oval spiral duct. Note: All flat oval spiral duct is constructed with multiple corrugations between the seams.

Dimensions

Available dimensions are listed in table on pages 7-10.

Order Example

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Wall</td>
<td>FOSR - W/D_1 - L</td>
</tr>
<tr>
<td>Double Wall</td>
<td>FOSRI - W_i/D_i - L - i</td>
</tr>
</tbody>
</table>

All double wall dimensions refer to free open (inside) dimensions. For flanged systems, be sure to reference Flange Dimensional detail located on page 6. We reserve the right to make changes without prior notice. Therefore, all designs, specifications, and product features are subject to change without notice. The company and its products are protected by patents and registered trademarks. 2019 All rights reserved.
Elbows

Description
Mitered 90° easy bend elbow with turning vanes. Available without turning vanes upon request.

Order Example
Single Wall  FOBME - W₁/D₁
Double Wall  FOBMEI - W₁/D₁ - i

FOBME/FOBMH

Description
Mitered 90° hard bend elbow with turning vanes. Available without turning vanes upon request.

Order Example
Single Wall  FOBMH - W₁/D₁
Double Wall  FOBMHI - W₁/D₁ - i
Elbows

**Description**

Easy bend elbow with \( R = 1.5 \times D_1 \)

**Dimensions**

\( \alpha = \text{elbow angle} \)

**Order Example**

| Single Wall | FOBE\( \alpha \) - \( W_1/D_1 \) |
| Double Wall | FOBEI\( \alpha \) - \( W_1/D_1 \) |

**Order Example**

| Single Wall | FOBEA\( \alpha \) - \( W_1/D_1 \) |
| Double Wall | FOBEAI\( \alpha \) - \( W_1/D_1 \) |

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Elbows

FOBH/FOBHA

**Description**
Hard bend elbow with \( R = 1.5 \times W_1 \).
For majors \( \geq 46" \), FOBH/I 90° will be constructed of two FOBH/I 45°s.

**Dimensions**
\[ \alpha = \text{elbow angle} \]

**NOTE:**
FOBH majors \( \geq 48" \), construction is limited to 60°.
FOBHI majors \( \geq 40" \), construction is limited to 60°.

**Order Example**
- Single Wall: FOBH_\alpha - W_1/D_1
- Double Wall: FOBH_{\alpha} - W_1/D_1 - \iota

**Description**
Hard bend elbow with \( R = 1.0 \times W_1 \).
For majors \( \geq 46" \), FOBHA/I 90° will be constructed of two FOBHA/I 45°s.

**Dimensions**
\[ \alpha = \text{elbow angle} \]

**Order Example**
- Single Wall: FOBHA_\alpha - W_1/D_1
- Double Wall: FOBHA_{\alpha} - W_1/D_1 - \iota

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Reducers

**FORC/FORCE**

**Description**
Oval to round eccentric reducer.

**Dimensions**
\[ L = (W_1 - \Ød_2) + 6 \]

**Configurations** *(when looking down from \(W_1\) to \(\Ød_2\)):*
- FOT = flat on top
- FOB = flat on bottom
- FOL = flat on left
- FOR = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

**Order Example**
- Single Wall: FORC - \(W_1/D_1 - \Ød_2\)
- Double Wall: FORCI - \(W_1/D_1 - \Ød_2\) - \(i\)

**Description**
Oval to round concentric reducer.

**Dimensions**
\[ L = [(W_1 - \Ød_2) \times 0.5] + 6 \]

**Configurations** *(when looking down from \(W_1\) to \(\Ød_2\)):*
- FOT = flat on top
- FOB = flat on bottom
- FOL = flat on left
- FOR = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

**Order Example**
- Single Wall: FORCE - \(W_1/D_1 - \Ød_2\) - Config
- Double Wall: FORCEI - \(W_1/D_1 - \Ød_2\) - Config - \(i\)
Reducers

FOR/FORE

**Description**

**Oval to oval concentric reducer.**

**Dimensions**

\[ L = [(W_1 - W_2) \times 0.5] + 8 \]

Substitute:

\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Order Example**

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FOR - W_1/D_1 - W_2/D_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORI - W_1/D_1 - W_2/D_2 - i</td>
</tr>
</tbody>
</table>

**Description**

**Oval to oval eccentric reducer.**

**Dimensions**

\[ L = (W_1 - W_2) + 8 \]

Substitute:

\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Configurations (when looking down from } W_1 \text{ to } W_2):**

- FOT  = flat on top
- FOB  = flat on bottom
- FOL  = flat on left
- FOR  = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

**Order Example**

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORE - W_1/D_1 - W_2/D_2 - Config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FOREI - W_1/D_1 - W_2/D_2 - Config - i</td>
</tr>
</tbody>
</table>
**Reducers**

**FORF/FOREF**

**Description**
- Oval to oval concentric reducer. Large end: duct size.
- Oval to oval eccentric reducer. Large end: duct size.

**Dimensions**
- Single Wall: 
  \[ L = ((W_1 - W_2) \times 0.5) + 10 \]
  Substitute: 
  \[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]
- Double Wall: 
  \[ L = (W_1 - W_2) + 10 \]
  Substitute: 
  \[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Configurations (when looking down from } W_{1} \text{ to } \Omega_d):**
- FOT = flat on top
- FOB = flat on bottom
- FOL = flat on left
- FOR = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

**Order Example**
- Single Wall: FORF - \( W_1/D_1 \) - \( W_2/D_2 \)
- Double Wall: FORFI - \( W_1/D_1 \) - \( W_2/D_2 \) - \( i \)
Reducers

FORCF/FORCEF

Description

Oval to round concentric reducer. Large end: duct size.

Description

Oval to round eccentric reducer. Large end: duct size.

Dimensions

\[ L = [(W_1 - \phi d_2) \times 0.5] + 8 \]

Dimensions

\[ L = (W_1 - \phi d_2) + 8 \]

Configurations (when looking down from \( W_1 \) to \( \phi d_2 \)):

- FOT = flat on top
- FOB = flat on bottom
- FOL = flat on left
- FOR = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

Order Example

Single Wall  FORCF - \( W_1/D_1 - \phi d_2 \)
Double Wall  FORCFI - \( W_1/D_1 - \phi d_2 - \) i

Order Example

Single Wall  FORCEF - \( W_1/D_1 - \phi d_2 - \) Config
Double Wall  FORCFEI - \( W_1/D_1 - \phi d_2 - \) Config - i
Transistions

**FOROR/FORORE**

**Description**

Rectangular to oval concentric transition. Extended raw ends.

**Dimensions**

L can be any length as long as taper angle is less than or equal to 45°.

**Configurations** (when looking down from \( W_1 \) to \( \Omega_d \)):

- FOT = flat on top
- FOB = flat on bottom
- FOL = flat on left
- FOR = flat on right
- FOTR = flat on top right
- FOTL = flat on top left
- FOBR = flat on bottom right
- FOBL = flat on bottom left

**Order Example**

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FOROR - ( W_1/D_1 ) - ( W_2/D_2 ) - L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORORI - ( W_1/D_1 ) - ( W_2/D_2 ) - L - ( i )</td>
</tr>
</tbody>
</table>

**Description**

Rectangular to oval eccentric transition.

**Dimensions**

L can be any length as long as taper angle is less than or equal to 45°.

**Order Example**

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORORE - ( W_1/D_1 ) - ( W_2/D_2 ) - L - Config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FOROREI - ( W_1/D_1 ) - ( W_2/D_2 ) - L - Config - ( i )</td>
</tr>
</tbody>
</table>
Transitions

Description

Double wall to single wall transition. \( W_1 \times D_1 \) is the inner diameter of the double wall.

Configurations:

- FORCKMM: both male ends
- FORCKMF: small end male, large end female
- FORCKFM: small end female, large end male
- FORCKFF: both ends female

Order Example

Double Wall FORCK - \( W/D_1 \) - Config - i
Saddle Taps

Description
Oval expanded base saddle tap for field installation on the minor axis of flat oval or on round duct.

Order Example
Single Wall  FOST - W/D - ØD

FOST/FOSBT

Description
Oval boot saddle tap for field installation on the minor axis of flat oval or on round duct.

Order Example
Single Wall  FOSBT - W/D - ØD
Saddle Taps

Order Example

Single Wall  FOSVT 45 - W/D - ØD

Description

Oval 45° lateral saddle tap for field installation on the minor axis of flat oval or on round duct.

Dimensions

H = 2.5"(constant)(throat length)
Tees/Crossing Tees

Description
Oval tee with round conical concentric taps on minor axis. Taps are centered on fitting body.

Dimensions
\[ L = \varnothing d_3 + 6 \]

Order Example
- Single Wall: FOTCT - \( W_1/D_1 - \varnothing d_3 \)
- Double Wall: FOTCTI - \( W_1/D_1 - \varnothing d_3 \) - \( \varnothing d_3 \) - \( i \)

FOTCT/FORTCT

Description
Oval reducing tee with round conical concentric taps on minor axis.

Dimensions
\[ L = (\varnothing d_3 + 6) + [(W_1 - W_2) \times 0.5] + 6 \]

Order Example
- Single Wall: FORTCT - \( W_1/D_1 - W_2/D_2 - \varnothing d_3 \)
- Double Wall: FORTCTI - \( W_1/D_1 - W_2/D_2 - \varnothing d_3 \) - \( \varnothing d_3 \) - \( i \)
**Tees/Crossing Tees**

**Description**
Oval crossing tee with round conical concentric taps on minor axis. Tap is centered on fitting body.

**Dimensions**
\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4, \]
\[ L = \varnothing d_3 + 6 \]

**Order Example**
- Single Wall: FOXCT - \( W_1/D_1 - \varnothing d_3 - \varnothing d_4 \)
- Double Wall: FOXCTI - \( W_1/D_1 - \varnothing d_3 - \varnothing d_4 \)

---

**FOXCT/FORXCT**

**Description**
Oval reducing crossing tee with round conical concentric taps on minor axis.

**Dimensions**
\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4, \]
\[ L = (\varnothing d_3 + 6) + [(W_1 - W_2) \times 0.5] + 6 \]

**Order Example**
- Single Wall: FORXCT - \( W_1/D_1 - W_2/D_2 - \varnothing d_3 - \varnothing d_4 \)
- Double Wall: FORXCTI - \( W_1/D_1 - W_2/D_2 - \varnothing d_3 - \varnothing d_4 \)
Tees/Crossing Tees

Description
Oval tee with oval expanded base concentric tap on minor axis. Tap is centered on fitting body.

Dimensions
L = W₃ + 10

Order Example
Single Wall  FOTST - W₁/D₁ - W₂/D₃
Double Wall  FOTSTI - W₁/D₁ - W₂/D₃ - i

FOTST/FORTST

Description
Oval reducing tee with oval expanded base concentric tap on minor axis.

Dimensions
L = (W₃ + 10) + [(W₁ - W₂) x 0.5] + 6
Substitute:
D₁,₂ for W₁,₂ if (D₁ - D₂) > (W₁ - W₂)

Order Example
Single Wall  FORTST - W₁/D₁ - W₂/D₃ - W₃/D₃
Double Wall  FORTSTI - W₁/D₁ - W₂/D₂ - W₃/D₃ - i
Tees/Crossing Tees

Description
Oval crossing tee with oval expanded base concentric taps on minor axis. Taps are centered on fitting body.

Dimensions
- \( W_3 \) is always greater than or equal to \( W_4 \).
- \( L = W_3 + 10 \)

Order Example
- Single Wall: FOXST - \( W_1/D_1 - W_2/D_3 - W_4/D_4 \)
- Double Wall: FOXSTI - \( W_1/D_1 - W_2/D_3 - W_4/D_4 \)

FOXST/FORXST

Description
Oval reducing tee with oval expanded base concentric taps on minor axis.

Dimensions
- \( W_3 \) is always greater than or equal to \( W_4 \).
- \( L = (W_3 + 10) + [(W_1 - W_2) \times 0.5] + 6 \)
- Substitute: \( D_{1,2} \) for \( W_{1,2} \) if \( (D_1 - D_2) > (W_1 - W_2) \)

Order Example
- Single Wall: FORXST - \( W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 \)
- Double Wall: FORXSTI - \( W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 \)
Tees/Crossing Tees

Description
Oval tee with oval straight tap on major axis. Tap is centered on fitting body.

Dimensions
\[ L = D_3 + 4 \]
Height from fitting body to tap bead = 2”.

Order Example
Single Wall  FOTM - \( W_1/D_1 - W_2/D_3 \)
Double Wall  FOTMI - \( W_1/D_1 - W_2/D_3 \) - i

FOTM/FORTM

Description
Oval reducing tee with oval straight tap on major axis.

Dimensions
\[ L = (D_3 + 4) + [(W_1 - W_2) \times 0.5] + 6 \]
Height from fitting body to tap bead = 2”.

Substitute:
\( D_{1,2} \) for \( W_{1,2} \) if \( (D_1 - D_2) > (W_1 - W_2) \)

Order Example
Single Wall  FORTM - \( W_1/D_1 - W_2/D_3 - W_3/D_3 \)
Double Wall  FORTMI - \( W_1/D_1 - W_2/D_2 - W_3/D_3 \) - i
Tees/Crossing Tees

**Description**
Oval crossing tee with oval straight taps on major axis. Taps are centered on fitting body.

**Dimensions**
- $D_3$ is always greater than or equal to $D_4$.
- $L = D_3 + 4$

**Order Example**
- Single Wall: FOXM - $W_1/D_1 - W_2/D_3 - W_4/D_4$
- Double Wall: FOXMI - $W_1/D_1 - W_2/D_3 - W_4/D_4 - L - i$

FOXM/FORXM

**Description**
Oval reducing crossing tee with oval straight taps on major axis.

**Dimensions**
- $D_3$ is always greater than or equal to $D_4$.
- $L = (D_3 + 4) + [(D_1 - D_2) \times 0.5] + 6$

**Substitute:**
- $W_{1,2}$ for $D_{1,2}$ if $(W_1 - W_2) > (D_1 - D_2)$

**Order Example**
- Single Wall: FORXM - $W_1/D_1 - W_2/D_3 - W_4/D_4$
- Double Wall: FORXMI - $W_1/D_1 - W_2/D_3 - W_4/D_4 - i$
Tees/Crossing Tees

Description
Oval tee with round straight tap on major axis. Tap is centered on fitting body.

Dimensions
L = Ød₃ + 4
Height from fitting body to tap bead = 2”.

Order Example
Single Wall  FOTMC - W₁/D₁ - Ød₃
Double Wall  FOTMCI - W₁/D₁ - Ød₃ - i

FOTMC/FORTMC

Description
Oval reducing tee with round straight tap on major axis. Tap is centered on fitting body.

Dimensions
L = (Ød₃ + 4) + [(W₁ - W₂) x 0.5] + 6
Height from fitting body to tap bead = 2”.
Substitute:
D₁,₂ for W₁,₂ if (D₁ - D₂) > (W₁ - W₂)

Order Example
Single Wall  FORTMC - W₁/D₁ - W₂/D₂ - Ød₃
Double Wall  FORTMCI - W₁/D₁ - W₂/D₂ - Ød₃ - i
**Tees/Crossing Tees**

**Description**

Oval crossing tee with round straight taps on major axis. Taps are centered on fitting body.

**Dimensions**

\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4, \]

\[ L = \varnothing d_3 + 4 \]

---

**FOXMC/FORXMC**

**Description**

Oval reducing crossing tee with oval straight taps on major axis.

**Dimensions**

\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4, \]

\[ L = (\varnothing d_3 + 4) + [(D_1 - D_2) \times 0.5] + 6 \]

Substitute:

\[ W_1,2 \text{ for } D_{1,2} \text{ if } (W_1 - W_2) > (D_1 - D_2) \]

---

**Order Example**

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FOXMC - W_1/D_1 - ( \varnothing d_3 - \varnothing d_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FOXMCI - W_1/D_1 - ( \varnothing d_3 - \varnothing d_4 ) - ( i )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORXMC - W_1/D_1 - W_2/D_2 - ( \varnothing d_3 - \varnothing d_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORXMCI - W_1/D_1 - W_2/D_2 - ( \varnothing d_3 - \varnothing d_4 ) - ( i )</td>
</tr>
</tbody>
</table>

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**Tees/Crossing Tees**

**Description**
Oval tee with oval straight tap on minor axis. Tap is centered on fitting body.

**Dimensions**
\[ L = W_3 + 4 \]

**Order Example**
- Single Wall: FOT - \( W_1/D_1 - W_2/D_3 \)
- Double Wall: FOTI - \( W_1/D_1 - W_2/D_3 - i \)

---

**FOT/FORT**

**Description**
Oval reducing tee with oval straight tap on minor axis.

**Dimensions**
\[ L = (W_3 + 4) + [W_1 - W_2] \times 0.5 + 6 \]

Substitute:
\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Order Example**
- Single Wall: FORT - \( W_1/D_1 - W_2/D_2 - W_3/D_3 \)
- Double Wall: FORTI - \( W_1/D_1 - W_2/D_2 - W_3/D_3 - i \)
**Tees/Crossing Tees**

**Description**
Oval tee with oval straight taps on minor axis. Taps are centered on fitting body.

**Dimensions**
- $W_3$ is always greater than or equal to $W_4$.
- $L = W_3 + 4$

**Order Example**
- Double Wall: FOXI - $W_1/D_1$ - $W_2/D_2$ - $W_3/D_3$ - $W_4/D_4$

**FOX/FORX**

**Description**
Oval reducing crossing tee with oval straight taps on minor axis.

**Dimensions**
- $W_3$ is always greater than or equal to $W_4$.
- $L = (W_3 + 4) + [(W_1 - W_2) \times 0.5] + 6$

**Substitute:**
- $D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

**Order Example**
- Double Wall: FORXI - $W_1/D_1$ - $W_2/D_2$ - $W_3/D_3$ - $W_4/D_4$

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Tees/Crossing Tees

Description
Oval tee with round straight tap on minor axis. Tap is centered on fitting body.

Dimensions
$L = \phi d_3 + 4$

Order Example
- Single Wall: FOTC - $W_1/D_1 - \phi d_3$
- Double Wall: FOTCI - $W_1/D_1 - \phi d_3 - i$

FOTC/FORTC

Description
Oval reducing tee with round straight tap on minor axis.

Dimensions
$L = (\phi d_3 + 4) + [(W_1 - W_2) \times 0.5] + 6$

Substitute:
$D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

Order Example
- Single Wall: FORTC - $W_1/D_1 - W_2/D_2 - \phi d_3$
- Double Wall: FORTCI - $W_1/D_1 - W_2/D_2 - \phi d_3 - i$
Tees/Crossing Tees

Description
Oval crossing tee with round straight taps on minor axis. Taps are centered on fitting body.

Dimensions
\[ \Phi d_3 \text{ is always greater than or equal to } \Phi d_4. \]
\[ L = \Phi d_3 + 4 \]

Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>Double Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOXC - W₁/D₁ - ( \Phi d_3 - \Phi d_4 )</td>
<td>FOXC - W₁/D₁ - ( \Phi d_3 - \Phi d_4 )</td>
</tr>
<tr>
<td>FOXC - W₂/D₂ - ( \Phi d_3 - \Phi d_4 )</td>
<td>FOXC - W₂/D₂ - ( \Phi d_3 - \Phi d_4 )</td>
</tr>
</tbody>
</table>

FOXC/FORXC

Description
Oval reducing crossing tee with round straight taps on minor axis.

Dimensions
\[ \Phi d_3 \text{ is always greater than or equal to } \Phi d_4. \]
\[ L = (\Phi d_3 + 4) + [(W₁ - W₂) \times 0.5] + 6 \]

Substitute:
\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D₁ - D₂) > (W₁ - W₂) \]

Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>Double Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORXC - W₁/D₁ - ( \Phi d_3 - \Phi d_4 )</td>
<td>FORXC - W₁/D₁ - ( \Phi d_3 - \Phi d_4 )</td>
</tr>
<tr>
<td>FORXCI - W₂/D₂ - ( \Phi d_3 - \Phi d_4 )</td>
<td>FORXCI - W₂/D₂ - ( \Phi d_3 - \Phi d_4 )</td>
</tr>
</tbody>
</table>
Tees/Crossing Tees

**Description**

Oval tee with oval boot tap on minor axis.

**Dimensions**

\[ L = W_3 + 10 \]

Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FOTBS - W_1/D_1 - W_2/D_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FOTBSI - W_1/D_1 - W_3/D_3</td>
</tr>
</tbody>
</table>

FOTBS/FORTBS

**Description**

Oval reducing tee with oval boot tap on minor axis.

**Dimensions**

\[ L = (W_3 + 10) + [(W_1 - W_2) \times 0.5] + 6 \]

Substitute:

\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORTBS - W_1/D_1 - W_2/D_3 - W_3/D_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORTBSI - W_1/D_1 - W_2/D_2 - W_3/D_3</td>
</tr>
</tbody>
</table>
**Tees/Crossing Tees**

**Description**

Oval crossing tee with oval boot taps on minor axis.

**Dimensions**

\[ W_3 \text{ is always greater than or equal to } W_4. \]
\[ L = W_3 + 10 \]

**Order Example**

| Single Wall | FOXBS - W_1/D_1 - W_2/D_3 - W_3/D_4 |
| Double Wall | FOXBSI - W_1/D_1 - W_2/D_3 - W_3/D_4 - i |

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---

**FOXBS/FORXBS**

**Description**

Oval crossing reducing tee with oval boot taps on minor axis.

**Dimensions**

\[ W_3 \text{ is always greater than or equal to } W_4. \]
\[ L = (W_3 + 10) + [(W_1 - W_2) \times 0.5] + 6 \]

**Substitute:**

\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Order Example**

| Single Wall | FORXBS - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 |
| Double Wall | FORXBSI - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 - i |
Tees/Crossing Tees

Description
Oval tee with round boot tap on minor axis.

Dimensions
\[ L = \Phi d_3 + 8 \]

Order Example
- Single Wall: FOTBSC - \( W / D_1 \) - \( \Phi d_3 \)
- Double Wall: FOTBSCL - \( W / D_1 \) - \( \Phi d_3 \) - \( i \)

FOTBSC/FORTBSC

Description
Oval reducing tee with round boot tap on minor axis.

Dimensions
\[ L = (\Phi d_3 + 8) + [(W_1 - W_2) \times 0.5] + 6 \]

Substitute:
- \( D_{1,2} \) for \( W_{1,2} \) if \( (D_1 - D_2) > (W_1 - W_2) \)

Order Example
- Single Wall: FORTBSC - \( W / D_1 \) - \( W / D_2 \) - \( \Phi d_3 \)
- Double Wall: FORTBSCL - \( W / D_1 \) - \( W / D_2 \) - \( \Phi d_3 \) - \( i \)
**Tees/Crossing Tees**

**Description**

Oval crossing tee with round boot taps on minor axis.

**Dimensions**

\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4. \]

\[ L = \varnothing d_3 + 8 \]

**Order Example**

| Single Wall | FOXBSC - W_1/D_1 - \varnothing d_3 - \varnothing d_4 |
| Double Wall | FOXBSC - W_1/D_1 - \varnothing d_3 - \varnothing d_4 - i |

---

**FOXBSC/FORXBSC**

**Description**

Oval reducing crossing tee with round boot taps on minor axis.

**Dimensions**

\[ \varnothing d_3 \text{ is always greater than or equal to } \varnothing d_4. \]

\[ L = (\varnothing d_3 + 8) + [(W_1 - W_2) \times 0.5] + 6 \]

**Substitute:**

\[ D_{1,2} \text{ for } W_{1,2} \text{ if } (D_1 - D_2) > (W_1 - W_2) \]

**Order Example**

| Single Wall | FORXBSC - W_1/D_1 - W_2/D_2 - \varnothing d_3 - \varnothing d_4 |
| Double Wall | FORXBSC - W_1/D_1 - W_2/D_2 - \varnothing d_3 - \varnothing d_4 - i |
### Tees/Crossing Tees

**Description**

Oval tee with lateral oval tap on minor axis. Tap is centered on fitting body.

**Dimensions**

Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps.

$L = [W_3 \times (1/\sin \alpha)] + 4$

$H_3 = 2.5”$ (constant) (throat length)

### FOTV/FORTV

**Description**

Oval reducing tee with lateral oval tap on minor axis.

**Dimensions**

Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps.

$L = [W_3 \times (1/\sin \alpha)] + 4 + \left[(W_1 - W_2) \times 0.5\right] + 6$

$H_3 = 2.5”$ (constant) (throat length)

Substitute: $D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

### Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FOTV$\alpha - W_1/D_1 - W_2/D_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FOTV$\alpha - W_1/D_1 - W_2/D_3 - i$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORTV$\alpha - W_1/D_1 - W_2/D_3 - W_3/D_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORTV$\alpha - W_1/D_1 - W_2/D_2 - W_3/D_3 - i$</td>
</tr>
</tbody>
</table>

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**Tees/Crossing Tees**

**Description**
Oval crossing tee with lateral oval taps on minor axis. Taps are centered on fitting body.

**Dimensions**
Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps. $W_3$ is always greater than or equal to $W_4$.

$L = [W_3 \times (1/\sin \alpha)] + 4$

$H_3 = 2.5^\prime\text{(constant)}\text{(throat length)}$

**Order Example**
- Single Wall: FOXV$\alpha - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4$
- Double Wall: FOXVI$\alpha - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 - \iota$

---

**FOXV/FORXV**

**Description**
Oval reducing crossing tee with lateral oval taps on minor axis.

**Dimensions**
Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps. $W_3$ is always greater than or equal to $W_4$.

$L = [W_3 \times (1/\sin \alpha)] + 4 + [(W_1 - W_2) \times 0.5] + 6$

$H_3 = 2.5^\prime\text{(constant)}\text{(throat length)}$

**Substitute:**
$D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

**Order Example**
- Single Wall: FORX$\alpha - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4$
- Double Wall: FORXVI$\alpha - W_1/D_1 - W_2/D_2 - W_3/D_3 - W_4/D_4 - \iota$
**Tees/Crossing Tees**

**Description**
Oval tee with lateral round tap on minor axis. Tap is centered on fitting body.

**Dimensions**
Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps.
- $L = \left[ \text{Ød}_3 \times (1/\sin \alpha) \right] + 4$
- $H_3 = 2.5''$ (constant) (throat length)

**Order Example**
- Single Wall: FOTVC$\alpha$ - $W_1/D_1$ - Ød$_3$
- Double Wall: FOTVC$\alpha$ - $W_1/D_1$ - Ød$_3$ - $i$

**FOTVC/FORTVC**

**Description**
Oval reducing tee with lateral round tap on minor axis. Tap is centered on fitting body.

**Dimensions**
Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps.
- $L = \left[ \text{Ød}_3 \times (1/\sin \alpha) \right] + 4+ \left[ (W_1 - W_2) \times 0.5 \right] + 6$
- $H_3 = 2.5''$ (constant) (throat length)

**Substitute:**
$D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

**Order Example**
- Single Wall: FORTVC$\alpha$ - $W_1/D_1$ - $W_2/D_2$ - Ød$_3$
- Double Wall: FORTVC$\alpha$ - $W_1/D_1$ - $W_2/D_2$ - Ød$_3$ - $i$
**Tees/Crossing Tees**

**Description**

Oval crossing tee with lateral round taps on minor axis. Taps are centered on fitting body.

**Dimensions**

Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps. $\Theta d_3$ is always greater than or equal to $\Theta d_4$.

$L = [\Theta d_3 \times (1/\sin \alpha)] + 4$

$H_3 = 2.5''$ (constant) (throat length)

**Order Example**

Single Wall  FOXVC$\alpha - W_1/D_1 - \Theta d_3 - \Theta d_4$

Double Wall  FOXVCl$\alpha - W_1/D_1 - \Theta d_3 - \Theta d_4 - i$

---

**FOXVC/FORXVC**

**Description**

Oval reducing crossing tee with lateral round taps on minor axis.

**Dimensions**

Available with $\alpha = 15^\circ, 30^\circ, 45^\circ, 60^\circ$ taps. $\Theta d_3$ is always greater than or equal to $\Theta d_4$.

$L = [W_3 \times (1/\sin \alpha)] + 4 + [(W_1 - W_2) \times 0.5] + 6$

$H_3 = 2.5''$ (constant) (throat length)

Substitute: $D_{1,2}$ for $W_{1,2}$ if $(D_1 - D_2) > (W_1 - W_2)$

**Order Example**

Single Wall  FORVC$\alpha - W_1/D_1 - \Theta d_3 - \Theta d_4$

Double Wall  FORVCl$\alpha - W_1/D_1 - \Theta d_3 - \Theta d_4 - i$
### Tees/Crossing Tees

**Description**

Oval tee with round radiussed pressed tap on minor axis. Tap is centered on fitting body.

**Dimensions**

\[ L = \varnothing d_3 + 6 \]

Maximum size for \( \varnothing d_3 \) is 12".

Maximum size for \( D_1 \) is 24".

### Order Example

**Single Wall**

FOTPSC\( \alpha \) - \( W_1 / D_1 - \varnothing d_3 \)

**Double Wall**

FOTPSC\( \alpha \) - \( W_1 / D_1 - \varnothing d_3 \) - \( i \)

---

### FOTPSC/FORTPSC

**Description**

Oval reducing tee with round radiussed pressed tap on minor axis.

**Dimensions**

\[ L = (\varnothing d_3 + 6) + [(W_1 - W_2) \times 0.5] + 6 \]

Maximum size for \( \varnothing d_3 \) is 12".

Maximum size for \( D_1 \) is 24".

Substitute:

\( D_{1,2} \) for \( W_{1,2} \) if \( (D_1 - D_2) > (W_1 - W_2) \)

**Order Example**

**Single Wall**

FORTPSC\( \alpha \) - \( W_1 / D_1 - W_2 / D_2 - \varnothing d_3 \)

**Double Wall**

FORTPSC\( \alpha \) - \( W_1 / D_1 - W_2 / D_2 - \varnothing d_3 \) - \( i \)
Tees/Crossing Tees

Description
Oval crossing tee with round radiussed pressed taps on minor axis. Taps are centered on fitting body.

Dimensions
\[ \Omega_d_3 \text{ is always greater than or equal to } \Omega_d_4. \]
\[ L = \Omega_d_3 + 6 \]
Maximum size for \( \Omega_d_3 \) is 12".
Maximum size for \( D_1 \) is 24".

Order Example
Single Wall: FOXPSC\( \alpha \) - \( W_1/D_1 - \Omega_d_1 - \Omega_d_4 \)
Double Wall: FOXPSCI\( \alpha \) - \( W_1/D_1 - \Omega_d_3 - \Omega_d_4 \)

FOXPSFC/FORXPSFC

Description
Oval reducing crossing tee with round radiussed pressed taps on minor axis.

Dimensions
\[ \Omega_d_3 \text{ is always greater than or equal to } \Omega_d_4. \]
\[ L = (\Omega_d_3 + 6) \times [(W_1 - W_2) \times 0.5] + 10 \]
Maximum size for \( \Omega_d_3 \) is 12".
Maximum size for \( D_1 \) is 24".

Substitute:
\( D_{1,2} \) for \( W_{1,2} \) if \( (D_1 - D_2) > (W_1 - W_2) \)

Order Example
Single Wall: FORXPSFC\( \alpha \) - \( W_1/D_1 - W_2/D_2 - \Omega_d_3 - \Omega_d_4 \)
Double Wall: FORXPSFC\( \alpha \) - \( W_1/D_1 - W_2/D_2 - \Omega_d_3 - \Omega_d_4 \)
**Tees/Crossing Tees**

**Description**
Diverted flow oval bullhead tee.

**Dimensions**

\[
\begin{align*}
L &= (0.5)W_1 + 6 \\
X &= (0.5)W_1 + 6 \\
I &= W_1
\end{align*}
\]

**Order Example**

Single Wall \( \text{FOBHT} - W_1/D_1 \)
Double Wall \( \text{FOBHTI} - W_1/D_1 - i \)

---

**FOBHT/FORBHT**

**Description**
Reducing diverted flow oval bullhead tee.

**Dimensions**

\[
\begin{align*}
W_2 \text{ is always greater than or equal to } W_3, \\
L_1 &= 0.5(W_2) + 6 \\
L_2 &= L_1 + [0.5(W_2 - W_3)] \\
X &= 0.5(W_2) + 6 \\
Y &= X + [0.5(W_2 - W_3)] \\
I &= W_2
\end{align*}
\]

**Order Example**

Single Wall \( \text{FORBHT} - W_1/D_1 - W_2/D_2 - W_3/D_3 \)
Double Wall \( \text{FORBHTI} - W_1/D_1 - W_2/D_2 - W_3/D_3 - i \)
Tees/Crossing Tees

Description
Diverted flow oval to round bullhead tee.

Dimensions

\[ \Omega_d_2 \text{ is always greater than or equal to } \Omega_d_3. \]

\[
\begin{align*}
L_1 &= (0.5)\Omega_d_2 + 6 \\
L_2 &= L_1 + [0.5(\Omega_d_2 - \Omega_d_3)] \\
X &= 0.5(W_1) + 6 \\
Y &= X + [0.5(\Omega_d_2 - \Omega_d_3)] \\
I &= \Omega_d_2
\end{align*}
\]

Order Example

<table>
<thead>
<tr>
<th>Single Wall</th>
<th>FORBHTC - W/D, - \Omega_d_2 - \Omega_d_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Wall</td>
<td>FORBHTCI - W/D_1, - \Omega_d_2 - \Omega_d_3 - \text{wall}</td>
</tr>
</tbody>
</table>
**Y-branches**

**FOY/FORY**

**Description**

45° hard oval wye branch. **NOTE:** these measurements are valid only for 45° “Y” branch fittings. Call for special angles.

45° hard reducing oval wye branch. **NOTE:** these measurements are valid only for 45° “Y” branch fittings. Call for special angles.

**Dimensions**

**Description**

\[
\begin{align*}
Z &= \text{constant} = 0.5'' \\
m &= (0.207)W_1 \\
O &= 2.828 + 0.354 \times W_1 \\
h &= O + m
\end{align*}
\]

\[
\begin{align*}
\varnothing d_2 &\geq \varnothing d_3 \\
Z &= \text{constant} = 0.5'' \\
m &= (0.207)W_1 \\
O &= 2.828 + 0.354 \times W_1 \\
h &= O + m
\end{align*}
\]

**Order Example**

Single Wall | FOY - \( W_1/D_1 \)
Double Wall | FOYI - \( W_1/D_1 \) - \( \_ \)

Single Wall | FORY - \( W_1/D_1 \) - \( W_2/D_2 \) - \( W_3/D_3 \)
Double Wall | FORYI - \( W_1/D_1 \) - \( W_2/D_2 \) - \( W_3/D_3 \) - \( \_ \)
Y-branches

Description

45° oval to round wye branch. NOTE: these measurements are valid only for 45° “Y” branch fittings. Call for special angles.

Dimensions

Ød₂ must be ≥ Ød₃
Z = constant = 0.5”
m = (0.207)(W₁)
O = 2.828 + 0.354 * W₁
h = O + m

Order Example

Single Wall FORYC - W₁/D₁ - Ød₂ - Ød₃
Double Wall FORYCI - W₁/D₁ - Ød₂ - Ød₃ - i

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Offsets

**Description**
Flat oval hard bend offset.

**Dimensions**
Do not exceed 45°. Offsets resulting in severe angles may result in airflow restriction and may not be possible.

**Order Example**
- Single Wall: FOOH - W₁/D₁ - Z - L
- Double Wall: FOOH - W₁/D₁ - Z - L - i

---

**FOOH/FOOE**

**Description**
Flat oval easy bend offset.

**Dimensions**
Do not exceed 45°. Offsets resulting in severe angles may result in airflow restriction and may not be possible.

**Order Example**
- Single Wall: FOOE - W₁/D₁ - Z - L
- Double Wall: FOOEI - W₁/D₁ - Z - L - i

---

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End Caps

**Description**
Flat oval end cap for duct.

**Order Example**
- Single Wall: FOEP - W/D₁
- Double Wall: FOEI - W₁/D₁ - L

**FOEP/FOEF**

**Description**
Flat oval end cap for fittings.

**Order Example**
- Single Wall: FOEF - W₁/D₁
- Double Wall: FOEFI - W₁/D₁ - L

---

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Couplings

FONP/FOMF

Description
Flat oval duct coupling.

Description
Flat oval fitting coupling.

Order Example
Single Wall  FONP - W₁/D₁
Double Wall  FONPI - W₁/D₁ - i

Order Example
Single Wall  FOMF - W₁/D₁
Double Wall  FOMFI - W₁/D₁ - i
Take-offs

Description
Take-off / starting collar.

Description
Bellmouth take-off. For 1" insulation, max I.D. for minor axis is 30".

Order Example
Single Wall  FOIL - W/D
Double Wall  FOILI - W/D - i

Order Example
Single Wall  FOILR - W/D
Double Wall  FOILRI - W/D - i

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