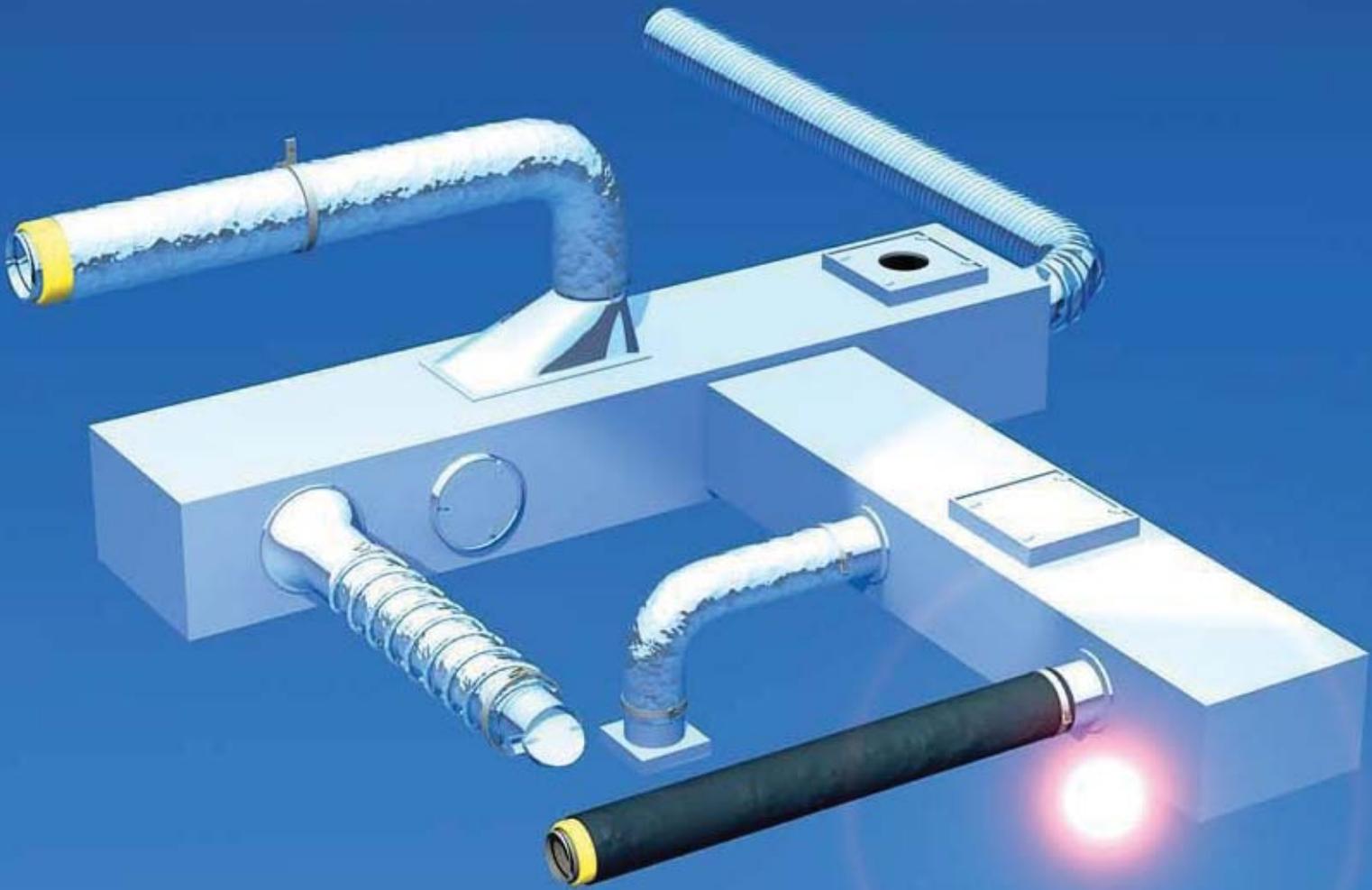




# Flexmaster USA

Flexible Duct, Sheet Metal Fittings, Access Doors And Accessories





Where There's Quality,  
There's Flexmaster.



- *Flexible Duct*
  - *Sheet Metal Fittings*
  - *Access Doors*
  - *Accessories*



Flexmaster USA, located in Houston, TX, is a leading commercial HVAC flexible duct and sheet-metal fitting manufacturer with over 30 years of success in the industry. Our product line of Air Distribution Solutions includes: flexible ducts, acoustical ducts, sheet-metal fittings, access doors, low leakage access doors, and accessories for heating, ventilation, and air conditioning applications.

Designed for sheet metal workers and engineered to perfection, our flexible duct sets the standard in quality and dependability. Unique to others in the industry, we manufacture flexible ductwork without the use of glues or adhesives. The mechanical-locked inner core maintains its shape at all 90° bends and offsets, thus eliminating the need for extra reinforcement. This manufacturing process produces a flexible duct with the highest performance credentials of any flexible duct. Flexmaster USA's 20 year warranty is unsurpassed in the HVAC ductwork industry.

**Our newest product additions** focus on Medical and Environmental Solutions. These flexible duct and sheet metal fittings are manufactured with non-ferrous and antimicrobial materials and are ideal for Hospital Patient Rooms, Operating Rooms, MRI Rooms, Data Centers and Mission Critical Environments, where cleanliness, reliability, and durability are required.

# Flexible Fabric Duct



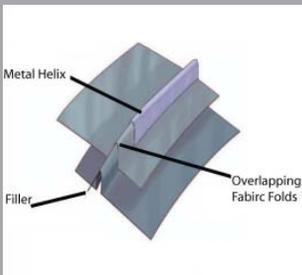
## Universal Characteristics

UL 181/ETL Class 1  
Flame/Smoke: 25/50

Operating Temperature:  
Range: -20 to +250 F

Thermal Conductance:  
R-4.2, R-6.0, R-8.0

## Mechanical Lock Construction



Acoustical Insulated	High Pressure Insulated	High Pressure Insulated
Pressure Rated	Pressure Rated	Pressure Rated
10" w.g. positive 5" w.g. negative thru 16" Dia. 1" w.g. negative, 18" & 20" Dia.	20" w.g. positive 10" w.g. negative thru 12" Dia. 5" w.g. negative, 14" & 16" Dia. 1" w.g. negative, 18" & 20" Dia.	25" w.g. positive 10" w.g. negative thru 12" Dia. 5" w.g. negative, 14" & 16" Dia. 1" w.g. negative, 18" & 20" Dia.
Rated Velocity: 5500 F.P.M.	Rated Velocity: 5500 F.P.M.	Rated Velocity: 5500 F.P.M.
Vapor Barrier Permeance:	Vapor Barrier Permeance:	Vapor Barrier Permeance:
8B - .10 Perm A.S.T.M. E96, Procedure A 8M - .05 Perm A.S.T.M. 96, Procedure A	3B - .10 Perm A.S.T.M. E96, Procedure A 3M - .05 Perm A.S.T.M. E96, Procedure A	4B - .10 Perm A.S.T.M. E96, Procedure A 4M - .05 Perm A.S.T.M. E96, Procedure A
Core: Polyethylene (PE) Fabric	Core: Trilaminate of Aluminized Polyester, Fiberglass and Polyester	Core: PVC Coated Fiberglass
Type 1B *Connector Rated	Type 3B *Connector Rated	Type 4B *Connector Rated
		
Type 1M *Duct Rated	Type 3M *Duct Rated	Type 4M *Duct Rated
		

\*Flexmaster recommends that you check with the local code body having jurisdiction in your area to determine applicable codes.

\*Connector Rated: Limited to 14 foot runs



**Low Pressure Insulated**

**Pressure Rated**

10" w.g. positive  
10" w.g. negative thru 12" Dia.  
5" w.g. negative, 14" & 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

**Rated Velocity:**  
5500 F.P.M.

**Vapor Barrier Permeance:**

5B - .10 Perm A.S.T.M.  
E96, Procedure A  
5M - .05 Perm A.S.T.M.  
E96, Procedure A

**Core:**

Trilaminate of Aluminized Polyester,  
Fiberglass and Polyester

**Type 5B**

\*Connector Rated



**Type 5M**

\*Duct Rated



**Acoustical Insulated**

**Pressure Rated**

6" w.g. positive  
5" w.g. negative thru 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

**Rated Velocity:**  
5500 F.P.M.

**Vapor Barrier Permeance:**

6B - .10 Perm A.S.T.M.  
E96, Procedure A  
6M - .05 Perm A.S.T.M.  
E96, Procedure A

**Core:**

Spunbond  
Nylon Fabric

**Type 6B**

\*Connector Rated



**Type 6M**

\*Duct Rated



**Acoustical Insulated**

**Pressure Rated**

10" w.g. positive  
5" w.g. negative thru 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

**Rated Velocity:**  
5500 F.P.M.

**Vapor Barrier Permeance:**

8B - .10 Perm A.S.T.M.  
E96, Procedure A  
8M - .05 Perm A.S.T.M.  
96, Procedure A

**Core:**

Chlorinated Polyethylene  
(CPE) Fabric

**Type 8B**

\*Connector Rated



**Type 8M**

\*Duct Rated



\*Connector Rated: Limited to 14 foot runs

\*Flexmaster recommends that you check with the local code body having jurisdiction in your area to determine applicable codes.

# Flexible Fabric Duct



Type 1NI  
\*Connector



Type 3NI  
\*Connector



Type 4NI  
\*Duct Rated



Non-Insulated

Pressure Rated

6" w.g. positive  
5" w.g. negative thru 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

Rated Velocity:

5500 F.P.M.

Core:

Polyethylene  
(PE) Fabric

Non-Insulated

Pressure Rated

20" w.g. positive  
10" w.g. negative thru 12" Dia.  
5" w.g. negative, 14" & 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

Rated Velocity:

5500 F.P.M.

Core:

Trilaminate of Aluminized  
Polyester, Fiberglass and Polyester

Non-Insulated

Pressure Rated

25" w.g. positive  
10" w.g. negative thru 12" Dia.  
5" w.g. negative, 14" & 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

Rated Velocity:

5500 F.P.M.

Core:

PVC Coated  
Fiberglass Cloth

\*Connector Rated: Limited to 14 foot runs

\*Flexmaster recommends that you check with the local code body having jurisdiction in your area to determine applicable codes.

## Thermo Sleeve

Available in 25' Standard Lengths  
Sizes to Cover Diameters from 4" thru 10", 12", 14", 15", 16", 18", 20", 24"  
Thick Fiberglass Blanket - R-4.2, R-6.0, R-8.0

Type TSB  
Fire Retardant  
Polyethylene Outer Jacket

Perm rating = .10 grains  
per square foot, per hour,  
per inch of mercury



Type TSM  
Reinforced Metalized  
Outer Jacket

Perm rating = .05 grains  
per square foot, per hour,  
per inch of mercury



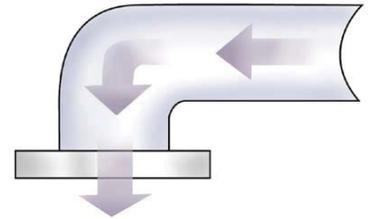
Type 5NI  
\*Connector



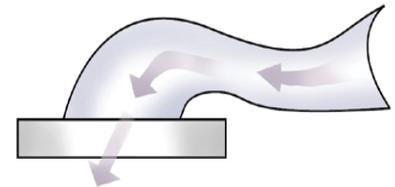
Type 8NI  
\*Connector



**Flexmaster Duct**



**Standard Duct**



**Non-Insulated**

**Pressure Rated**

10" w.g. positive  
10" w.g. negative thru 12" Dia.  
5" w.g. negative, 14" & 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

**Rated Velocity:**

5500 F.P.M.

**Core:**

Trilaminat of Aluminized Polyester, Fiberglass and Polyester

**Non-Insulated**

**Pressure Rated**

6" w.g. positive  
5" w.g. negative thru 16" Dia.  
1" w.g. negative, 18" & 20" Dia.

**Rated Velocity:**

5500 F.P.M.

**Core:**

Chlorinated Polyethylene (CPE) Fabric

Designed for sheet-metal workers and engineered to perfection, our flexible duct sets the standard in quality and dependability. Unique to others in the industry, we manufacture flexible ductwork without the use of glues or adhesives. The mechanical-locked inner core maintains its shape at all 90° bends and offsets, thus eliminating the need for extra reinforcement or hard 90° elbows. This manufacturing process produces a flexible duct with the highest performance credentials of any flexible duct in the industry.

# Flexible Metal Duct



## Triple Lock Aluminum & Stainless Steel

**Flexmaster's Triple Lock** product is an all metal flexible duct that is constructed entirely without the use of adhesives. The Triple Lock mechanical joint makes an air tight seam, while the circumferential corrugations provide excellent strength and flexibility.

Minimum bend radius to center line is one diameter. However, our recommended radius is 1.5 diameters in accordance with accepted practice. Triple Lock stainless steel ducting may be easily cut to size and hand formed into elbows or offsets to suit job conditions without subsequent sagging or droop.

TL-B	TL-M	NI-TL	SS-NI-TL
<b>Insulated</b>	<b>Insulated</b>	<b>Non-Insulated</b>	<b>Non-Insulated</b>
Pressure Rated	Pressure Rated	Pressure Rated	Pressure Rated
10" w.g. positive thru 16" Dia. 6" w.g. positive, 18" & 20" Dia. 12" w.g. negative, thru 16" Dia. 4" w.g. negative, 18" & 20" Dia.	10" w.g. positive thru 16" Dia. 6" w.g. positive, 18" & 20" Dia. 12" w.g. negative, thru 16" Dia. 4" w.g. negative, 18" & 20" Dia.	10" w.g. positive thru 16" Dia. 6" w.g. positive, 18" & 20" Dia. 12" w.g. negative, thru 16" Dia. 4" w.g. negative, 18" & 20" Dia.	12" w.g. positive (all Dia.) 12" w.g. negative (all Dia.)
Rated Velocity:	Rated Velocity:	Rated Velocity:	Rated Velocity:
5500 F.P.M.	5500 F.P.M.	5500 F.P.M.	5500 F.P.M.
Operating Temperature Range:	Operating Temperature Range:	Operating Temperature Range:	Operating Temperature Range:
-20° to 250°F	-20° to 250°F	-60° to 600°F	-60° to 1500°F
Flame/Smoke 25/50 UL 181/ETL Class 1	Flame/Smoke 25/50 UL 181/ETL Class 1	Flame/Smoke 0/0 UL 181/ETL Class 0	Flame/Smoke 0/0 UL 181/ETL Class 0
Vapor Barrier Permeance .10 Perm A.S.T.M. E96, Procedure A	Vapor Barrier Permeance .05 Perm A.S.T.M. E96, Procedure A		
Thermal Resistance R-4.2, R-6.0, R-8.0	Thermal Resistance R-4.2, R-6.0, R-8.0		



Triple Lock has much lower pressure loss than conventional cloth ducts due to the small but consistent corrugations that provide both strength and flexibility.

*\*Flexmaster recommends that you check with the local code body having jurisdiction in your area to determine applicable codes.*



# Medical Grade Acoustical Duct



*Effective acoustical design in medical care facilities should allow for a good night's rest for patients and a distraction-free environment for health care professionals.*

*Flexmaster medical grade acoustical duct provides a safe and healthy environment while eliminating noise from the air flow.*

- Triple locked aluminum perforated core, 20-25% open area
- Air stream protected from thermal jacket by UL approved acoustical transparent sleeve
- Components will not burn, self extinguishing
- Anti-microbial properties inhibit the growth of mold and mildew
- Pressure ratings: 6" w.g. positive, 2" w.g. negative
- -20° to 250° F temperature rating
- 25/50 flame smoke rating
- UL-181/ETL class 1 rated: conforms to NFPA-90A  
Rated velocity 4000 FPM

Diameter: 6", 8", 10", 12", 14", and 16"

Thermal barrier available: R-6.0

Standard Length: 5'; contact factory for special lengths

Noise Reduction dB (5 foot length, 10" diameter)*						
Hertz	125	250	500	1K	2K	4K
Octave Band	2	3	4	5	6	7
MGA-TLB-R6	12.2	23.2	22.9	27.8	21.4	11.2
MGA-TLM-R6	15.8	24.6	25.8	27.9	18.2	10
MGA-TLD-R6	10.7	12.8	24	28.6	16.1	10.9

\*Additional sizes & their dB reductions available by request



*Flexmaster USA's wide range of flexible duct offers you unmatched quality for any application. We'll prove it! With our exclusive 20 year warranty, you can be confident you're using the best in the business. Unmatched by competitors, our warranty offers you peace of mind from the best flexible duct manufacturer in the HVAC industry!*

MGA-TLB-R6



MGA-TLM-R6



MGA-TLD-R6



# Flexmaster Fittings



## Spin Collar Fittings for Sheetmetal

### FL, FLD, FLE, FLDE

Available Order Size: 4" to 20"  
26 Gauge G-90 Galvanized Dimensions  
1/8" Tolerance

**Optional Features:**

- Stronger Gauge Construction  
24 ga., 22 ga., 20 ga
- Aluminum, Stainless Steel or Paint Grip Construction
- BO1 & BO3 Damper options available
- Flange, Flange with Gasket, Insulation Guard
- 90° or 45° scoop
- Also available for Ductboard



## Conical Bellmouth Fittings for Sheetmetal

### CB, CBD, CBE, CBDE

Available Order Size: 4" to 20"  
26 Gauge G-90 Galvanized Dimensions  
1/8" Tolerance

**Optional Features:**

- Stronger Gauge Construction  
24 ga., 22 ga., 20 ga
- Aluminum, Stainless Steel or Paint Grip Construction
- BO1 & BO3 Damper options available
- Flange, Flange with Gasket, Insulation Guard
- 90° or 45° scoop
- Also available for Ductboard





# One Piece Flange Fittings for Sheetmetal

Flange:  
 FL-F, FLD-F  
 CB-F, CBD-F

Flange & Gasket:  
 FL-SOG, FLD-SOG  
 CB-SOG, CBD-SOG

All Flexmaster USA Flanged Spin Collar Fittings and Conical Bellmouths are manufactured with a one piece base producing a more efficient Sheetmetal fitting.



## Damper Options For Most Fittings

2" Build Out	2" Build Out
	Locking Quadrant
	3/8" Aluminum Square Shaft
	Nylon Bushings

# Flexmaster Fittings



## Side Takeoff Fittings

### STO, STOD



Available Order Size: 5" to 20"  
26 Gauge G-90 Galvanized Dimensions:  
4" W.G. Construction  
1/8" Tolerance

#### Features:

1" Flange with Corner Clips  
Prepunched Mounting Holes  
Adhesive Coated Gasket for Minimal Leakage  
BO1 & BO3 Damper options available

Available Order Size: 5" to 16"  
26 Gauge G-90 Galvanized Dimensions:  
4" W.G. Construction  
1/8" Tolerance

#### Features:

1" Flange with Corner Clips  
Prepunched Mounting Holes  
Adhesive Coated Gasket for Minimal Leakage  
BO1 & BO3 Damper options available

### STO45, STO45D



### STOC, STOCD



Available Order Size: 5" to 20"  
26 Gauge G-90 Galvanized Dimensions:  
4" W.G. Construction  
1/8" Tolerance

#### Features:

1" Flange with Corner Clips  
Prepunched Mounting Holes  
Adhesive Coated Gasket for Minimal Leakage  
BO1 & BO3 Damper options available



# LDS Fittings

# STO-LDS, STOD-LDS



Available Order Size: 5" to 20"  
22 Gauge G-90 Galvanized Steel - Damper  
24 Gauge G-90 Galvanized Steel - Body  
4" W.G. Construction  
1/8" Tolerance

**Features:**

- 1" Flange with Corner Clips
- Prepunched Mounting Holes
- Adhesive Coated Gasket for Minimal Leakage
- Optional Damper Blade X or Y Axis



Y Axis Left



Standard X Axis



Y Axis Right

Please see our website [www.flexmasterusa.com](http://www.flexmasterusa.com) for further details.

# SL, SLD

# Connecting Sleeves

Available Order Size: 4" to 20"  
26 Gauge G-90 Galvanized Dimensions 1/8" Tolerance

**Optional Features:**

- Heavier Gauge Construction  
24 ga., 22 ga., 20 ga.
- Aluminum, Stainless Steel or Paint Grip Construction
- BO1 & BO3 Damper options available



# Flexmaster Fittings



## Bellmouth Fittings

SBM, SBMD



Available Order Size - 5" to 20"

24 Gauge G-90 Galvanized

1/8" Tolerance

Pre-Drilled Holes on Flange

High Efficiency Takeoff

Reduced Static Pressure  
(Savings 45% on Pressure)

Air Tight Installation

Labor Saving Installation  
Energy Savings

Low Cost/Precision Engineered

High Velocity/Low Velocity  
Application (ideal for VAV Design)

Gasket Washer to Prevent Leakage

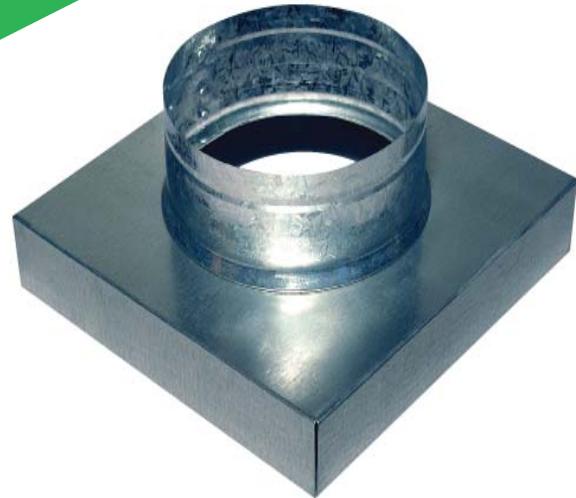
### Optional Features:

BO1 & BO3 Dampers Available

16", 18" & 20" Bellmouths are 18  
Gauge Galvanized Steel Construction

## Square to Round Adaptors

Open or Closed Corners



26 Gauge G-90 Galvanized Dimensions

1/8" Tolerance

Standard Depth Size: 2", 3" or 4"

Custom Sizes Available

### Optional Features:

Heavier Gauge Construction - 24 ga., 22 ga., 20 ga.

Aluminum, Stainless Steel or Paint Grip Construction

Available in Large (Nom. + 1/8") or Small (Nom. - 1/8")

Neck size equal to or less than smallest square  
dimension

Open or Closed Corners

### Sheetmetal Gauge Chart

Gauge	Thickness in Inches	
	Galvanized Steel	Stainless Steel
26	.0217	.0188
24	.0276	.0250
22	.0336	.0313
20	.0396	.0375



# Side Inlet Diffuser Box

SIDB



Available Order Size: 4" to 20"  
26 Gauge G-90 Galvanized Dimensions  
1/8" Tolerance

**Optional Features:**

Heavier Gauge Construction - 24 ga., 22 ga., 20 ga.  
Aluminum, Stainless Steel or Paint Grip Construction  
Flange, Flange and Gasket, Insulation Guard

Custom Sizes available for under floor applications

# Round to Round Adaptors

RRC, RRF

26 Gauge G-90 Galvanized Dimensions  
1/8" Tolerance



**Optional Features:**

Heavier Gauge Construction - 24 ga., 22 ga., 20 ga.  
Aluminum, Stainless Steel or Paint Grip Construction  
Available in Large (Nom. + 1/8") or Small (Nom. - 1/8")

Sample Order Sizes	
4" to 6"	8" to 12"
5" to 6"	10" to 12"
6" to 8"	12" to 14"
7" to 8"	14" to 16"
8" to 10"	16" to 18"
9" to 10"	

# Saddle Taps



Saddle Taps made to fit Round Spiral Pipe can be ordered as a Straight FL, a Straight FL 45 degree or our High Efficiency STO in the 90 degree, 45 degree or Center models. Models are available with dampers and in the BO1 or BO3 build out.

24 Gauge Standard - See page 9 for BO1 and BO3 options.

FL ST

FL ST 45

STO ST 90

STO ST 45



**Optional Features:**  
22 gauge

Available Sizes: 6" to 22"  
Fits up to 24" Spiral Pipe.

# Access Doors



## The Inspector Series TBSM

### Low Pressure TAB DOOR



G-90 Galvanized Steel

**Optional Features:**

Continuous Hinge, Flanged  
Custom Sizes, Special Hardware,  
Stainless Steel, R-6.0

Nominal Door Sizes: 6", 8", 10", 12", 14", 16", 18", 20", 24"

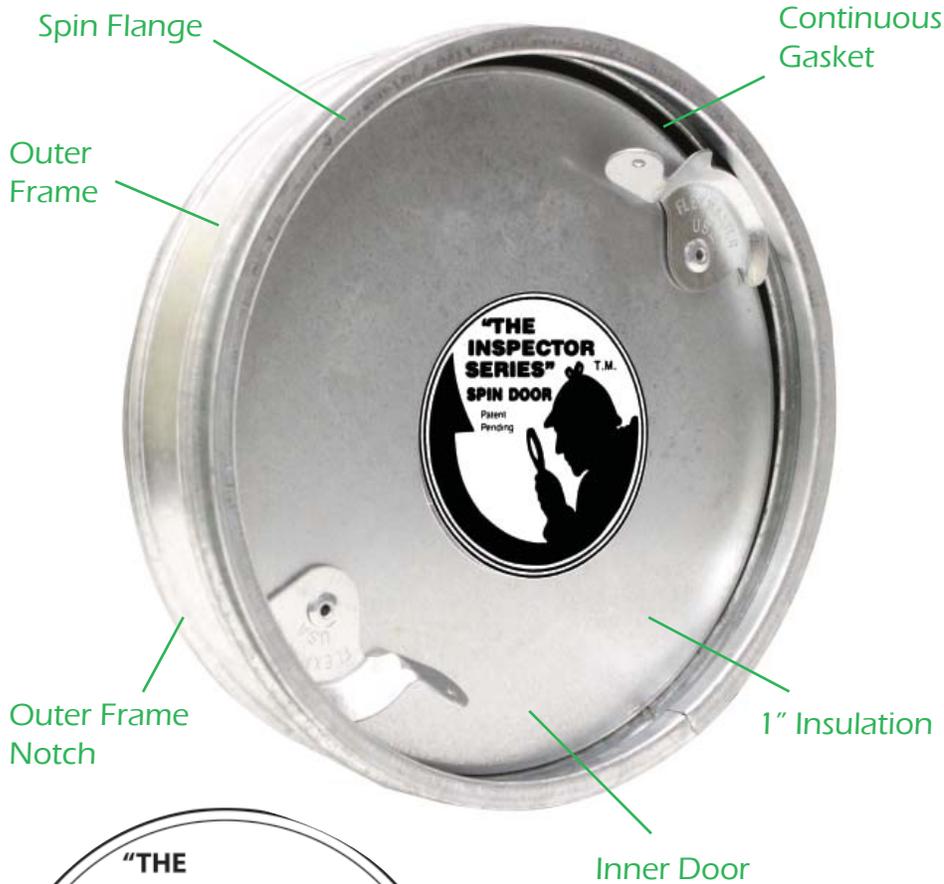
THE INSPECTOR SERIES - TAB DOOR is manufactured with G-90 galvanized steel to meet the highest quality standards required by SMACNA HVAC access door. THE INSPECTOR SERIES - TAB DOOR'S strong frame construction provides for a solid installation as its outer frame tabs are formed around the sheet metal duct and then the self sealing inner door is put into place and locked by turning the pre-installed cam latches. The outer TAB DOOR frame is 22 gauge, galvanized steel, formed, notched and hemmed. The double sided insulated R-4.2 inner door is constructed of 24 gauge galvanized steel.



# The Inspector Series

# SDSM

Low Leakage • Quick Installation • Safe Entry and Exit



Heavy Galvanized Steel

### Optional Features:

- R-6.0 Insulation
- Viewport
- Cable
- Flange & Gasket

### LOW LEAKAGE

Independent laboratory testing has concluded our standard SDSM doors are low leakage doors. Leakage rate may vary based on installation by mechanical contractor. Leakage rates may vary with added options such as view ports and Flange and Gasket (SOG) modifications.

Nominal Door Sizes: 8", 10", 12", 18", 24"



Flexmaster's - THE INSPECTOR SERIES - SPIN DOOR - is manufactured with heavy gauge galvanized steel to meet the highest quality standards required in a high pressure access door. This insulated and gasketed access door is designed for application in a low to high-pressure HVAC air distribution system. THE INSPECTOR SERIES - SPIN DOOR's unique round construction provides for a quick installation as its outer frame is spun into the sheet metal duct and then the self sealing inner door is put into place and locked by turning the pre-installed latches. The outer SPIN DOOR frame is made of heavy gauge galvanized steel, rolled and double hemmed. The inner door is made of heavy gauge galvanized steel, rolled and triple hemmed. When the outer SPIN DOOR frame is properly installed and sealed for the specified operating pressure the leakage rate is extremely low. No raw edges are exposed and therefore a safe entry and exit is insured.



## Flex Duct Kits

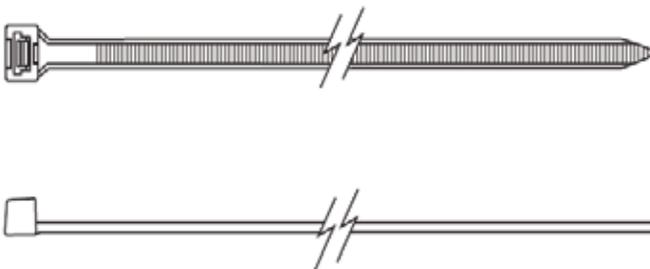
- ▶ Designed with the HVAC Contractor in Mind
- ▶ Efficient & Cost Effective Installation of Low and Medium Pressure HVAC Systems
- ▶ Affordable Time and Labor Saving Options



### Features:

- Factory assembled with collars on each end per UL 181/ETL
- Shipped assembled per custom order
- Polyethylene or metallized mylar outer vapor barrier
- Thermally insulated in R-4.2, R-6.0, or R-8.0
- Standard Sizes: 4" thru 20"
- Standard Lengths of 5', 6' or 7'
- Custom lengths and sheetmetal options available
- Reduce waste that can occur with 25' boxes

## UL 181B-C



- Material: 6/6 Nylon
- Color: Natural Nylon
- Temp Range: -40°F to 185°F
- Flammability: U.L. 94V-2
- ATB: Less than 5 sec. per ASTM D635

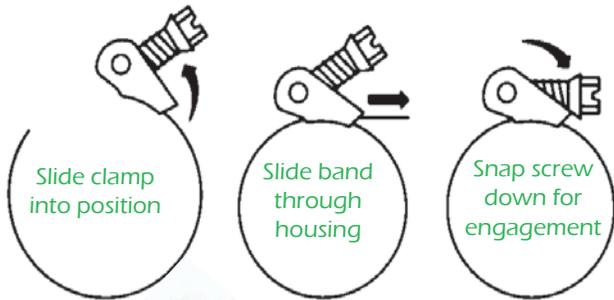
Part Number	Maximum Diameter Formed	Dimensions - Inches (mm)			Average Loop Tensile Strength Lbs. (N)	STD Pkg. Qty.
		Length (L)	Width (W)	Thickness		
SLT-10-LH-L*	11.0 (297.4)	37.1 (942.8)	.340 (8.610)	.090 (2.300)	175 (778)	50

\*NOTE: Clamps Adjustable for DUCT Diameters 4" thru 10"; for larger diameters join two or more clamps together. Can be used for both high pressure and low pressure flexible duct.



# Stainless Steel Clamp Quick Release LS Series

Easy On...Easy Off...in 3 Simple Steps!



Material: Stainless Steel  
Flex Size: 4" to 20"

Clamp	Flex Size	Clamp Min.	Dia. MAX	Length
LS-88	4	2.06	6.00	20"
LS-88	5	2.06	6.00	20"
LS-104	6	1.75	7.00	23"
LS-152	8	2.00	10.00	32"
LS-152	9	2.00	10.00	32"
LS-188	10	2.06	12.31	40"
LS-232	12	10.19	14.00	48"
LS-258	14	10.00	16.00	52"
*LS-280	16	14.25	18.00	58"
LS-312	18	14.00	20.00	64"
LS-344	20	16.00	22.00	73"

\*Can only be used on stated size.

Reverse procedure for quick release and removal. No need to disassemble connection.

# Quick Release Spin Clamps



Bridging over helix allows for better contact of clamp to duct thus lowering leakage

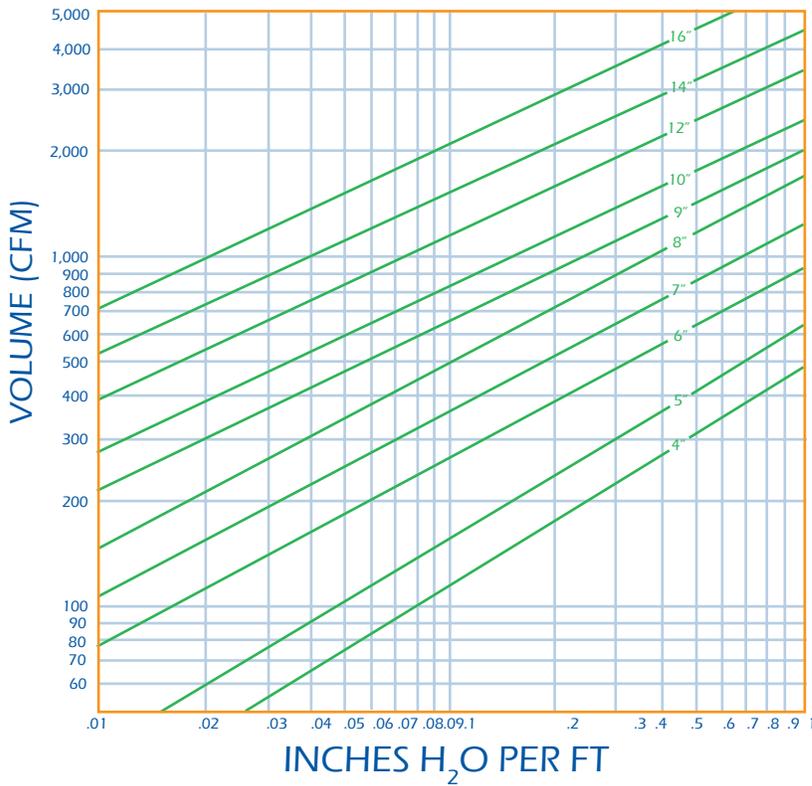
Material: Stainless Steel  
Flex Size: 4" to 20"

# FlexRight Elbow



- Designed to form flexible duct into highly efficient 90 degree elbows.
- Universal Mount, 1 piece fully adjustable radius forming brace to support 4" inch (102-mm) through 16" inch (406mm) diameter flexible air ducts.
- Nylon cable ties secure duct to duct support, (purchased separately and available from Flexmaster USA.)
- Made from 100% recycled material (copolymer polypropylene) UL Listed.
- Meets ASHRAE's Advanced Energy Design Guides for Schools, warehouses, office and retail buildings.

# Flexmaster Duct Material - 90° Bend Friction Loss

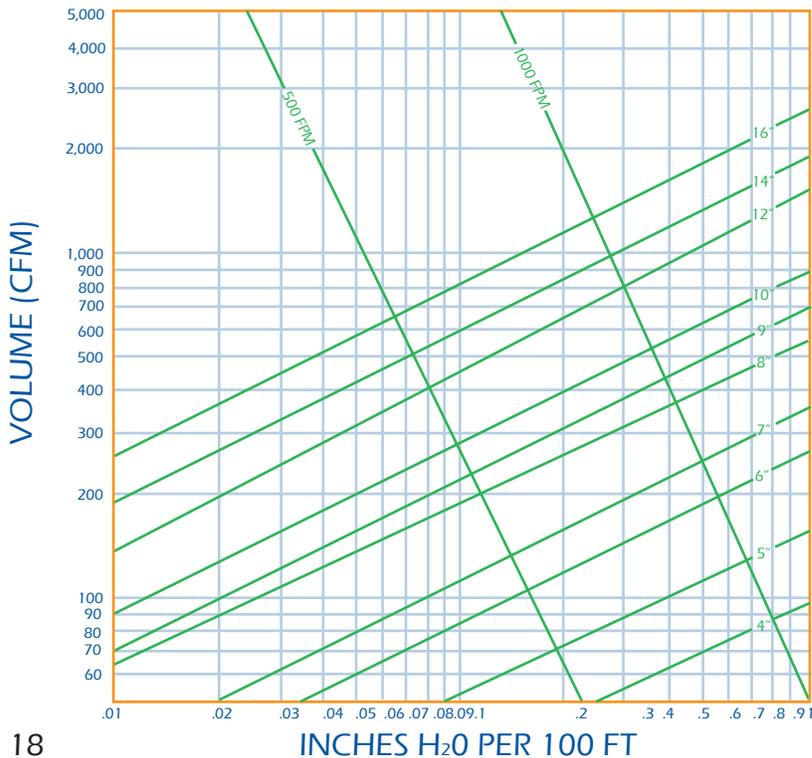


The data presented herein is based on reliable laboratory tests. For all sizes the test bend was formed around a template of the same diameter as the duct resulting in a radius to Diameter ratio of 1. The data has not been extrapolated for other bend ratios but must be considered when comparing values arrived at different R/D Ratios.

By its very nature, flexible duct presents variations not present in the measurement of friction loss in rigid pipe. Variations exist between the test procedure and actual field installations and FLEXMASTER USA, INC. assumes no responsibility for performance characteristics resulting from conditions which differ from those used in laboratory tests.

90° Bend - Inches H<sub>2</sub>O Per Foot -  $\frac{\text{RADIUS}}{\text{DIAMETER}} = 1$

# Flexmaster Duct Material - Straight Run Friction Loss

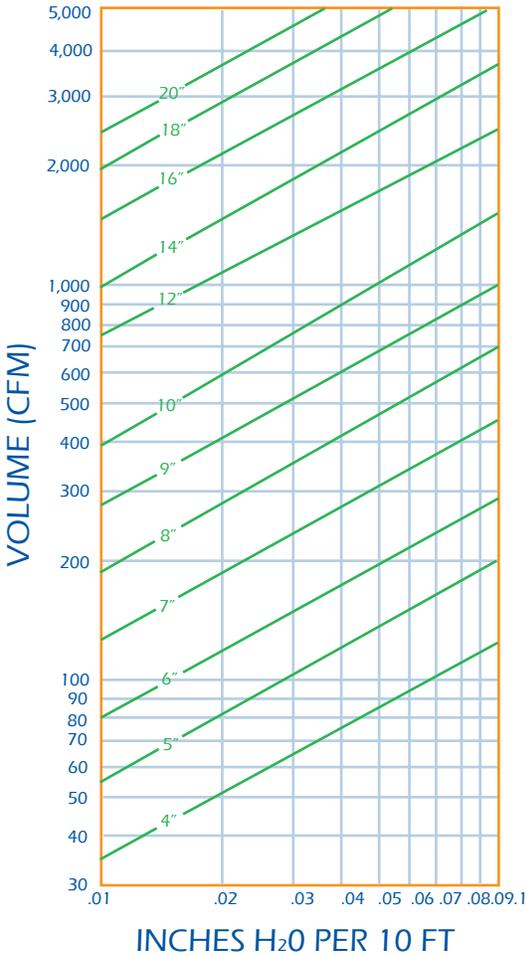


Duct Diameter (inches)	Cross Section Area (sq. ft.)
4"	.0873
5"	.1363
6"	.1963
7"	.2672
8"	.3490
9"	.4418
10"	.5454
12"	.7854
14"	1.069
16"	1.396
18"	1.767
20"	2.182

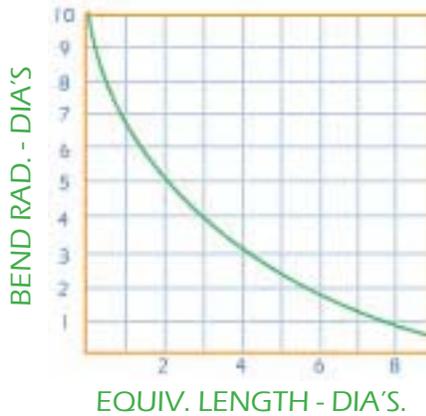
# Flexmaster Triple Lock Metal Flexible Ducting - Straight Run Friction Loss

## Triple Lock

**All Metal • Corrosion Resistant  
Air Tight • Permanent • High & Low Pressure**



Equivalent length of ducting for any bend radius



DIA	WT/FT LBS	Bend Radius
4"	.15	6"
5"	.19	7"
6"	.22	9"
7"	.28	10"
8"	.31	12"
9"	.35	13"
10"	.38	15"
12"	.44	18"
14"	.56	21"
16"	.62	24"

### Hydronic Equivalents

One Gallon Water = 8.33 pounds  
 Specific heat (C<sub>p</sub>) water = 1.00 Btu/lb °F (@68 °F)  
 Specific heat (C<sub>p</sub>) water vapor = 0.45 Btu/lb °F (@68°F)  
 One ft. of water = 0.433 psi

One cu. ft. of water = 62.4 lb = 7.49 gal.  
 One in. of mercury (Hg) = 13.6 in.w.g. = 1.13 ft. w.g.  
 Atmospheric Pressure = 19.92 in.Hg = 14.696 psi  
 One psi = 2.31 ft. w.g. = 2.04 in.Hg

$$TP = V_p + SP$$

$$V_p = \left( \frac{V}{4005} \right)^2$$

$$V = V_m \left[ \frac{d(\text{other than standard})}{0.075 (d = \text{std. air})} \right]$$

$$cfm = A \times V$$

$$TP = C \times V_p$$

TP = Total Pressure (in. w.g.)

V<sub>p</sub> = Velocity Pressure (in. w.g.)

SP = Static Pressure (in. w.g.)

V = Velocity (fpm)

V<sub>m</sub> = Measured Velocity (fpm)

d = Density (lb./cu ft)

A = Area of duct cross section (sq ft)

C = Duct Fitting Loss Coefficient

## Recommended NC-RC Levels for Different Indoor Activity Areas

TYPE OF AREA	NC-RC LEVEL	APPROX. dBA
Private home (urban)	25-35	30-40
Individual rooms	30-40	35-45
Private hospital rooms	25-35	30-40
Operating rooms	30-40	35-45
Laboratories	30-40	35-45
Board rooms	20-30	25-35
General offices	30-45	35-50
Concert, opera halls	15-25	20-30
Movie theaters	30-35	35-40
Lecture halls	30-35	35-40
Sanctuaries	20-30	25-35
Libraries	30-40	35-45
Schools & Classrooms	30-40	35-45
Restaurants	35-45	40-50
Retail Stores	35-45	40-50
Supermarkets	40-50	45-55



Flexmaster USA's wide range of flexible duct offers you unmatched quality for any application. We'll prove it! With our exclusive 20 year warranty, you can be confident you're using the best in the business. Unmatched by competitors, our warranty offers you peace of mind from the best flexible duct manufacturer in the HVAC industry!



All of Flexmaster USA products comply with UL 181/ETL standards of the National Fire Protection Association NFPA No. 90A and NFPA No. 90B, also with the Follow-up Services Procedure and other applicable requirements of UL, Inc. and ETL. Only those products that properly bear the UL/ETL Mark are considered as listed by UL, Inc. and ETL.

### Insulation Information:

Installed Thickness and Thermal Performance (ASTM C518)

Minimum Installed Thickness		R-value		k*	
in	mm	(hr·ft <sup>2</sup> ·°F)/Btu	m <sup>2</sup> ·C/W	Btu·in/(hr·ft <sup>2</sup> ·°F)	W/m <sup>2</sup> ·C
1/8	29	4.2	0.74	0.27	0.039
1/8	41	6.0	1.06	0.27	0.039
2/4	57	8.0	1.41	0.28	0.041

\*Conductivity at 75°F (24°C) mean temperature at minimum installed thickness.

### Proud Supporters of:



Houston Habitat for Humanity is a nonprofit, ecumenical Christian housing ministry. HHFH seeks to eliminate poverty housing and homelessness and to make decent shelter a matter of conscience and action.

Habitat invites people of all backgrounds, races and religions to build houses together in partnership with families in need.



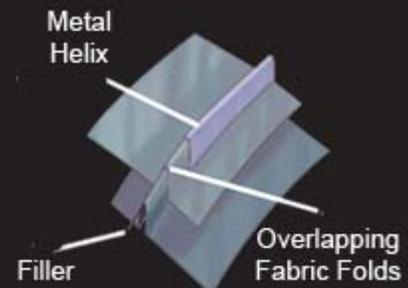
The Race Across America is a 3,000 mile bicycling odyssey across the American continent to benefit M.D. Anderson Cancer Center. Since 1982, RAAM has come to symbolize the strength and endurance of America.

It has been called the "toughest endurance race in the world" by Outside magazine and it brings together the world's best endurance athletes.

# Build with the best.

Designed for sheet metal workers and engineered to perfection, our flexible duct sets the standard in quality and dependability. Unique to others in the industry, we manufacture flexible ductwork without the use of glues or adhesives. The mechanical-locked inner core maintains its shape at all 90° bends and offsets, thus eliminating the need for extra reinforcement.

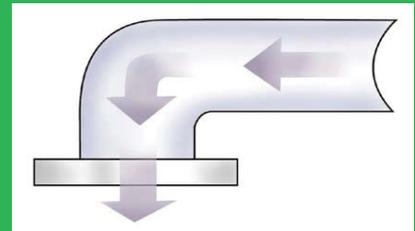
Flexmaster USA'S wide range of flexible duct offers you unmatched quality for any application. We provide the solutions for you to succeed, and, with our exclusive 20 year warranty, you can be confident you're using the best in the business.



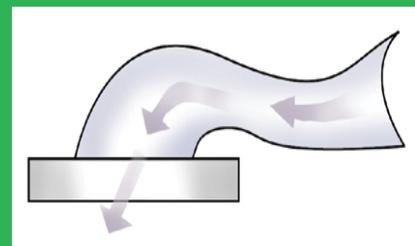
**20**  **year**  
warranty

Flexmaster USA's wide range of flexible duct offers you unmatched quality for any application. We'll prove it! With our exclusive 20 year warranty, you can be confident you're using the best in the business. Unmatched by competitors, our warranty offers you peace of mind from the best flexible duct manufacturer in the HVAC industry!

## Flexmaster Duct



## Standard Duct



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