

Product Guide FLEXMASTER U.S.A.®

Flexible Duct, Sheet Metal Fittings, Access Doors,
Sound Attenuation, and Accessories



Where there's quality, there's FLEXMASTER U.S.A.®

Flexmaster U.S.A.®, located in Houston, Texas, is a leading commercial HVAC flexible duct and sheet metal fitting manufacturer with over 35 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 many heating, ventilation, and air conditioning applications.

Designed for efficient installation and engineered to precise standards, 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 U.S.A.'s 20 year warranty is unsurpassed in the HVAC ductwork industry.

Our newest product additions focus on class A sealed factory fittings and medical and acoustical solutions. These flexible duct and sheet metal fittings are manufactured with antimicrobial materials and are ideal for hospital patient rooms, operating rooms, MRI rooms, data centers and mission-critical environments, where cleanliness, reliability, quiet performance and durability are required. Our 20 year warranty backs our products as a guarantee for their long term performance.

20 Year Warranty



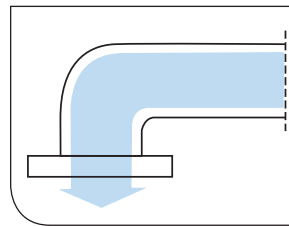
Flexmaster U.S.A.[®] HVAC Division for Masterduct, Inc.

Flexmaster U.S.A.[®] is a division of Masterduct, Inc. manufacturing flexible duct, sheet metal fittings, access doors and HVAC accessories. Worldwide, our company is working towards common brand identity that will improve our visibility as well as promote synergies between our multiple companies across the globe. Flexmaster U.S.A.[®] item numbers and nomenclatures are not changing and will continue to be branded as in the past.

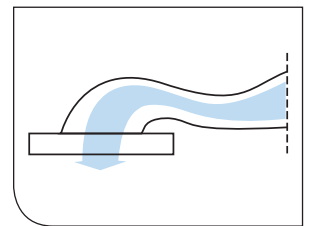
All Flexmaster U.S.A.[®] flexible duct products manufactured by Masterduct, Inc. carry the ETL mark which are tested to UL181 Standards and are listed as Masterduct/Flexmaster U.S.A. with ETL.

- Flexible Duct
- Sheet Metal Fittings
- Silencers
- Triple Lock Specialty Metal Products
- Access Doors
- Accessories
- 20 Year Warranty on Most Products

Flexmaster Advantage



Standard Duct



Flexible Fabric Ducts

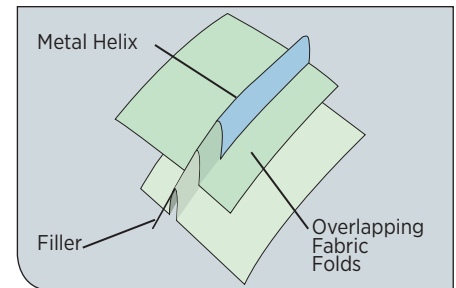
Universal Characteristics

- ETL Class 1 Air Duct
- Flame/Smoke: 25/50
- Operating Temperature Range: -20°F to + 250°F
- Rated Velocity: 5500 F.P.M.
- Available Thermal Conductance (R-factor): R4.2, R6 or R8
- 25 Ft. Standard Length
- Vapor Barrier Permeance:
 - Black Polyethylene (B) - .10 Perm A.S.T.M., E96, Procedure A
 - Silver Mylar (M) - .5 Perm A.S.T.M., E96, Procedure A
- Connector Rated: Limited to 14 foot runs

Our flexible duct sets the standard in quality and dependability. Unique to the industry, we manufacture flexible ductwork without the use of glues or adhesives.

The mechanically-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.

Robust Mechanical Lock Construction



Type 1 - Acoustical Flex

Core: Polyethylene Fabric (PE)

Pressure Rated:

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

Typical Applications:

Low Pressure Supply Connections (Diffusers/Grilles), Schools/Office Buildings/Hospitals



Type 1NI
Non-Insulated
Connector Rated



Type 1B
Connector Rated



Type 1M
Duct Rated

Type 3 - High Pressure

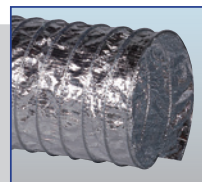
Core: Trilaminate of Aluminized Polyester, Fiberglass and Polyester

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.

Typical Applications:

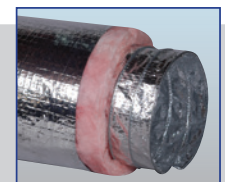
High Pressure Supply Connections, Medium Pressure Exhaust Connections, Low Temperature Heat Exhaust Connections, Light Moisture Connections



Type 3NI
Non-Insulated
Connector Rated



Type 3B
Connector Rated



Type 3M
Duct Rated

Flexible Fabric Ducts

Type 4 - High Pressure

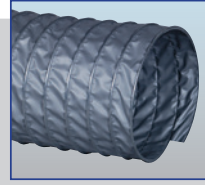
Core: PVC Coated Fiberglass

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.

Typical Applications:

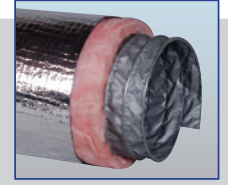
High Pressure Connections, Clean Room Connections, Light to Moderate Moisture Environments, Temporary Duct Applications, Medium Pressure Exhaust Connections



Type 4NI
Non-Insulated
Connector Rated



Type 4B
Connector Rated



Type 4M
Duct Rated

Type 5 - Low Pressure

Core: Trilaminate of Aluminized Polyester, Fiberglass and Polyester

Pressure Rated:

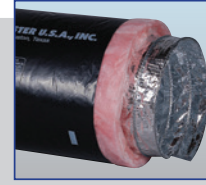
- 10" w.g. positive
- 10" w.g. negative thru 12" dia.
- 5" w.g. negative 14" & 16" dia.
- 1" w.g. negative, 18" & 20" dia.

Typical Applications:

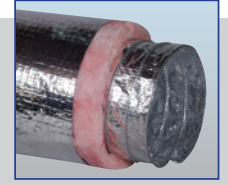
Medium Pressure Supply Connections (VAV/FPB Boxes), Low Pressure Supply Connections (Diffusers/Grilles), Light Pressure Exhaust Connections, Light Moisture Environments



Type 5NI
Non-Insulated
Connector Rated



Type 5B
Connector Rated



Type 5M
Duct Rated

Type 6 - Acoustical Flex

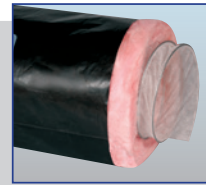
Core: Spunbond Nylon Fabric

Pressure Rated:

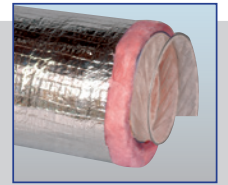
- 6" w.g. positive
- 5" w.g. negative thru 16" dia.
- 1" w.g. negative, 18" & 20" dia.

Typical Applications:

Low Pressure Supply Connections (Diffusers/Grilles), Conference Rooms/CEO Offices, Libraries/Theaters/Schools



Type 6B
Connector Rated



Type 6M
Duct Rated

Type 9 - Low Pressure

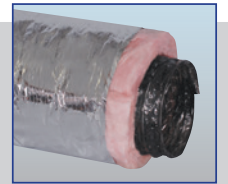
Core: A Double Lamination of Tough Polyester with Spring Wire Support

Pressure Rated:

- 6" w.g. positive
- 1/2" w.g. negative

Typical Applications:

Low Pressure Connections, Light Commercial



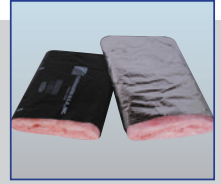
Type 9M
Duct Rated

Flexible Fabric Ducts

Thermo Sleeves

TSB - Black Polyethylene Outer Jacket
 Perm rating = .10 grains per square foot, per hour, per inch of mercury

TSM - Silver Mylar Outer Jacket
 Perm rating = .5 grains per square foot, per hour, per inch of mercury
 Available in 25 ft. standard lengths.
 Sizes to Cover Diameters from 4" thru 10", 12", 14", 15", 16", 18", 20", 24"
 Thick Fiberglass Blanket - R4.2, R6.0, R8.0



Thermo Sleeves

NEW Blue Fume Flex

Core: Light flame retardant PVC Coated Fabric, mechanically locked without adhesives
 Pressure Rated:
 30" w.g. positive
 12" w.g. negative

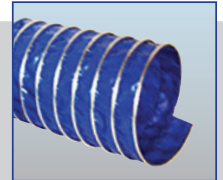
Features:

Light Weight

Flame retardant
 Excellent chemical resistance
 Highly flexible
 External helix protects against abrasion
 No adhesive in construction

Typical Applications:

Specialty designed for fume arm systems
 Not UL/ETL rated



Blue Fume Flex

Flex Duct Kits

Features:

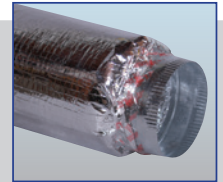
Factory assembled with collars on each end per ETL standards
 Shipped assembled per custom order
 Black polyethylene or silver mylar outer jacket
 Thermally insulated to R4.2, R6 or R8
 Standard Sizes: 4" thru 20"
 Standard Lengths of 5', 6' and 7'
 Custom lengths and sheet metal fitting options available
 Reduces waste that can occur with 25' boxes

Benefits:

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



Polyethylene Outer Vapor Barrier

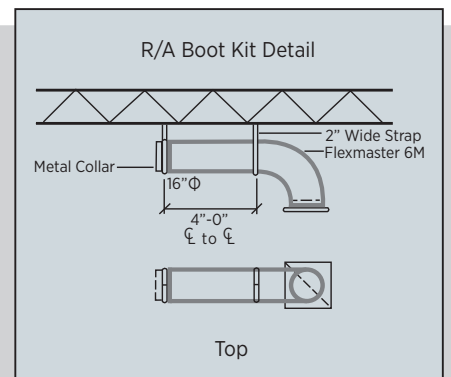


Silver Mylar Outer Vapor Barrier

NEW Return Air Kits

Features:

Available in Type 1 or Type 6 flex
 Shipped assembled, per custom order
 Black polyethylene or silver mylar outer jacket
 Thermally insulated to R4.2, R6 or R8
 Standard Sizes: 4" thru 20"
 Standard Lengths of 5', 6' and 7'



Triple Lock

Flexmaster's Triple Lock Product is an all metal flexible duct which 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 offset to suit job conditions without subsequent sagging or droop.

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

Standard length: 8 ft sections

Triple Lock

Pressure Rated:

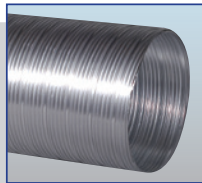
- 10" w.g. positive thru 16" dia.
- 6" w.g. positive, 18" & 20" dia.
- 12" w.g. negative thru 16" dia.
- 4" w.g. negative, 18" & 20" dia.

Stainless Steel Non-Insulated:

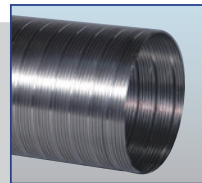
- 12" w.g. positive
- 12" w.g. negative

Temperature Rating:

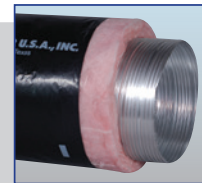
- Insulated (-20° to 250°F) - ETL Class 1, Flame/Smoke: 25/50
- NITL (-60° to 600°F) - ETL Class 0, Flame/Smoke: 0/0
- NITLSS (-60° to 1500°F) - ETL Class 0, Flame/Smoke: 0/0



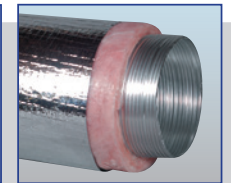
Type NITL
Non-Insulated



Type NITLSS
Non-Insulated



Type TLB



Type TLM

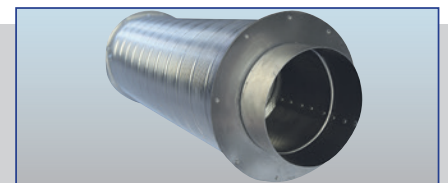
NEW Triple Lock Silencer

Pressure Rated:

- 10" w.g. positive thru 12"
- 6" w.g. positive 14"
- 12" w.g. negative thru 12"
- 4" w.g. negative 14"

Temperature Rating:

- Insulated (-20° to 250°F) - ETL Class 1, Flame/Smoke: 25/50



SA-TLD5

Triple Lock

Medical Grade Triple Lock

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 insulation jacket by ETL-approved acoustical sleeve
- Components will not burn (self extinguishing)
- Anti-microbial properties inhibit the growth of mold and mildew
- 25/50 flame smoke rating
- 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
SA-TLD5	10.7	12.8	24	28.6	16.1	10.9

*Additional sizes & their dB reductions available by request

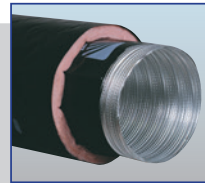
Medical Grade Triple Lock

Pressure Rated:

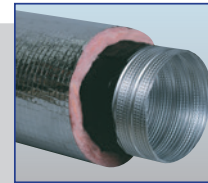
6" w.g. positive
2" w.g. negative.

Temperature Rating:

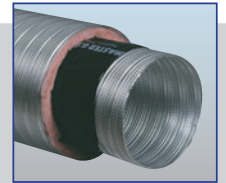
Insulated (-20° to 250°F) - ETL Class 1, Flame/Smoke: 25/50



MGA TLB R6



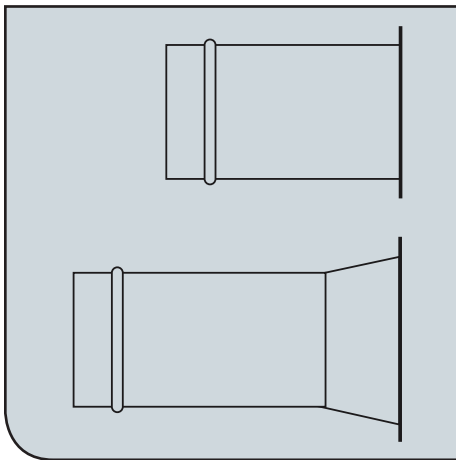
MGA TLM R6



MGA TLD R6

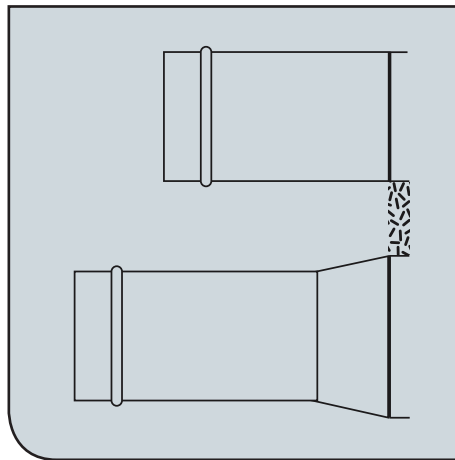
Sheet Metal Options

FL and CB Options



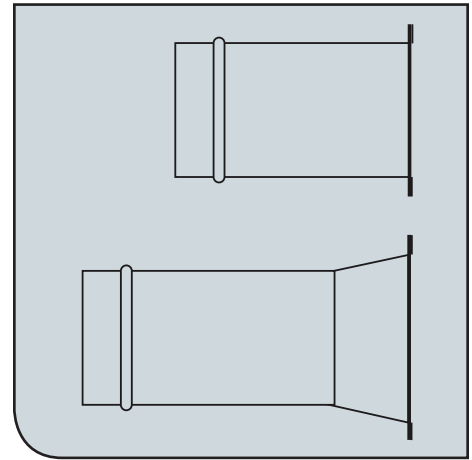
Flange
(F)

1" flange 26 ga. galvanized



Insulation Guard
(IG)

1" insulation guard, 26 ga. galvanized



Flange with Stick On Gasket
(SOG)

1" flange with stick on gasket

Damper Control Options



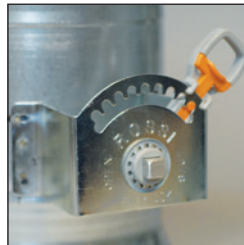
BO1

- 2" Build Out
- Locking Quadrant



BO3

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



BO4

- 2" Rossi (Everlock) Build Out
- Locking Quadrant
- 3/8" Aluminum Square Shaft
- Nylon Bushing

NEW BO4 Option for Flexmaster Fittings

We now offer the Rossi (Everlock) 2" Standoff which was created to replace the friction locks on the market with a more reliable positive (absolute) lock. It is fully hand-operational so that there are no tools needed for adjusting or readjusting the damper blade position on site. Rossi products adhere to all ETL requirements, Plenum ratings and SMACNA standards for manual damper and comply with NFPA 90A & 90B.

Sheet metal Gauge Chart

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

One Piece Flange Fittings

All Flexmaster U.S.A.® Flanged Spin Collar Fittings and Conical Bellmouths are manufactured with a one-piece base, producing a more energy efficient sheet metal fitting.

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

Sheet Metal Fittings

Spin Collar Fittings

FL, FLD, FLE, FLDE

Available Order Sizes: 4" - 20"

26 Ga., G-90 Galvanized

1/8" Tolerance

Optional Features:

24 ga., 22 ga., 20 ga. Fittings & Dampers

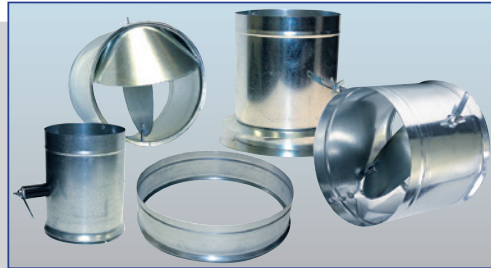
Aluminum, Stainless Steel or Paint Grip Construction

BO1, BO3 & BO4 Damper Control Options

Flange, Flange with Gasket, Insulation Guard

90° or 45° Scoop (Extractor)

Also Available for Ductboard with Special Extended-Length Installation Tabs



Optional DB with Extended Tab

Conical Bellmouth Fittings

CB, CBD, CBE, CBDE

Available Order Sizes: 4" - 20"

26 Ga., G-90 Galvanized

1/8" Tolerance

Optional Features:

24 ga., 22 ga., 20 ga. Fittings & Dampers

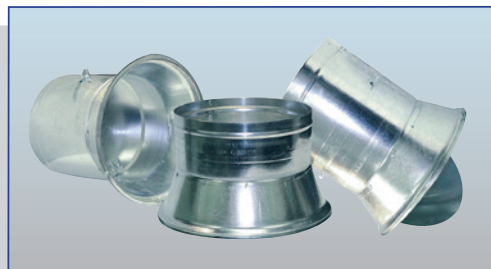
Aluminum, Stainless Steel or Paint Grip Construction

BO1, BO3 & BO4 Damper Control Options

Flange, Flange with Gasket, Insulation Guard

90° or 45° Scoop (Extractor)

Also Available for Ductboard with Special Extended-Length Installation Tabs



Optional DL with Extended Tab

Connecting Sleeves

SL, SLD

Available Order Sizes: 4" - 20"

26 Ga., G-90 Galvanized

1/8" Tolerance

Optional Features:

24 ga., 22 ga., 20 ga. Fittings & Dampers

Aluminum, Stainless Steel or Paint Grip Construction

BO1, BO3 & BO4 Damper Control Options

Flange, Flange with Gasket, Insulation Guard



Sheet Metal Fittings

STO Fittings

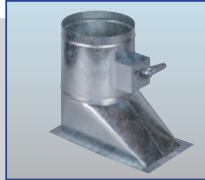
Available Sizes: 5" - 20"
 26 Ga. G-90 Galvanized
 4" w.g. Construction
 1/8" Tolerance

Features:

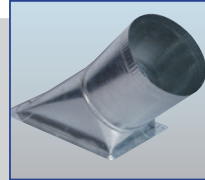
1" Reinforcing Flange with Corner Clips
 Prepunched Mounting Holes
 Adhesive Coated Gasket for Minimal Leakage

Optional Features:

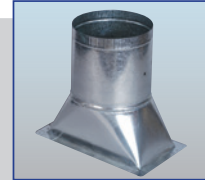
24 ga., 22 ga., 20 ga.
 Aluminum, Stainless Steel or Paint Grip Construction
 BO1, BO3 & BO4 Damper Control Options



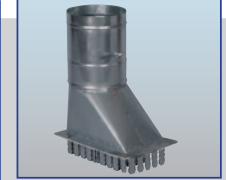
STO, STOD,
STOD-LDS



STO45, STO45D



STOC, STOCD



Optional STOD with
Extended Tab

LDS Fittings

STO-LDS, STOD-LDS

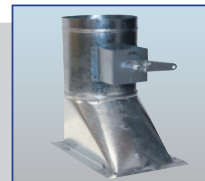
Available Order Sizes: 5" - 20"
 24 Ga. G-90 Galvanized Body
 4" w.g. Construction
 1/8" Tolerance
 Brass Bushings

Features:

1" Reinforcing Flange with Corner Clips
 Prepunched Mounting Holes
 Adhesive Coated Gasket for Minimal Leakage

Optional Features:

Aluminum, Stainless Steel or Paint Grip Construction
 Optional Damper Blade Y-Axis Left or Y-Axis Right
 2" BO3 Buildout



STOD
X-Axis Standard



STOD
Y-Axis Left



STOD
Y-Axis Right

NEW 2000G Fittings

SL 2000G, FL 2000G, CB 2000G, STOD 2000G

Low Leakage

Features:

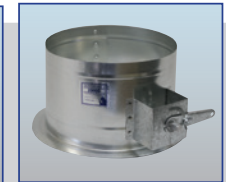
1" Flange with double sided adhesive gasket (No SOG for SL)
 26 gauge, G-90 Galvanized
 1/8" tolerance
 Factory Class A Sealed
 2" BO3 Buildout
 Nylon Bushings
 Reduces leakage from the damper barrel to less than 1 cfm at 4" s.p. (in. w.g.)
 Contact factory for specific leakage data

Option Features:

24 Ga., 22 Ga., 20 Ga.
 Aluminum, Stainless Steel or Paint Grip Construction



SL 2000G



FL 2000G



CD 2000G



STOD 2000G

Sheet Metal Fittings

Saddle Tap Fittings

FLST, FLDST, FLDBO1ST, FLDBO3ST
STOST, STODST, STODBO1ST, STODBO3ST

Available sizes 5" - 20"
Fits up to 24" spiral pipe
24 ga G-90 Galvanized
1/8" tolerance

Optional features:

Aluminum, stainless steel or paint grip construction
22 Ga, 20 Ga.
BO1, BO3 & BO4 Damper Control Options

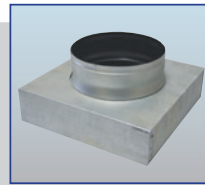


Square to Round Adaptors

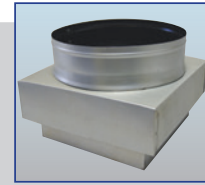
Black Interior Standard
26 Ga., G-90 Galvanized
1/8" Tolerance
Standard Depth Size: 2", 3" or 4"
Custom Sizes Available

Optional Features:

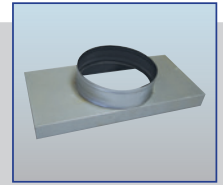
24 ga., 22 ga., 20 ga., Black Interior not Available
Aluminum, Stainless Steel or Paint Grip Construction
Available in Large (Nom. + 1/8") or Small (Nom. - 1/8")
Neck size equal to or less than smallest square dimension
Open or Closed Corners
1" oversized square to round



Square to Round Adapter



Oversized Square to Round Adapter



Square to Round Adapter

Sheet Metal Fittings

Round to Round Adapters

RRC, RRF

26 Ga., G-90 Galvanized

1/8" Tolerance

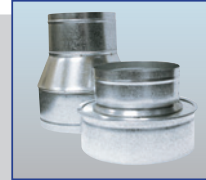
Custom Sizes Available

Optional Features:

24 ga., 22 ga., 20 ga.

Aluminum, Stainless Steel or Paint Grip Construction

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



Round to Round Adapter

Sample Product 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"

Side Inlet Diffuser Box

SIDB

26 ga, G-90 Galvanized

1/8" tolerance

Available Plenum sizes: 6"x6" to 24"x24"

Outlet sizes: 4" to 20"

Custom sizes available

Optional features:

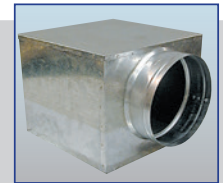
Oval Outlet

Black Interior

24 ga, 22 ga, 20 g

Aluminum, Stainless steel, or paint grip construction

Flange, flange and gasket, insulation guard



Side Inlet Diffuser Box

NEW Oval Starter Collar

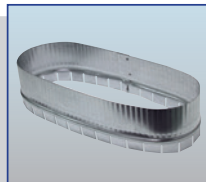
Inlet sizes 5" to 20"

24 Ga., G-90 Galvanized

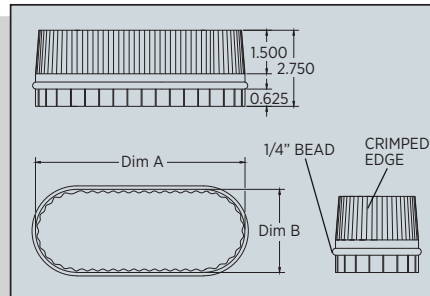
Crimped

Beaded Collar

Custom Sizes Available



Oval Starter Collar



Inlet Size	Dim "A"	Dim "B"
5"	6.231"	2.5"
6"	7.516"	3.0"
7"	8.801"	3.5"
8"	10.087"	4.0"
9"	11.372"	4.5"
10"	12.658"	5.0"
12"	15.228"	6.0"
14"	17.800"	7.0"
16"	20.370"	8.0"
18"	22.941"	9.0"
20"	25.516"	10.0"



Inspector Series Doors

Inspector Series Spin Doors

SDSM

High Pressure, Low Leakage, Spin Door

24 Ga. door/22 Ga. frame
 Standard R4.2 Insulation
 More Energy Efficient

Optional Features:

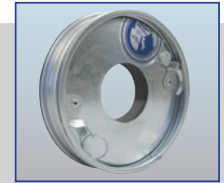
Flange and Gasket (SOG)
 Aluminum, Stainless Steel or Paint Grip Construction
 R6 Insulation
 Safety Cable

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

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 applications 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.



SDSM Door



SDSM Port Door

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.

TBSM

Low Pressure Tab Door

24 Ga. door/22 Ga. Frame
 Custom Sizes Available
 Standard R4.2 Insulation

Optional Features:

Continuous Hinge
 Flange and Gasket (SOG)
 Special Hardware
 Aluminum, Stainless Steel or Paint Grip Construction
 R6 Insulation
 Extended length tabs for duct board installation
 Safety Cable

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 doors. 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 ga., galvanized steel, formed, notched and hemmed. The double sided insulated R4.2 inner door is constructed of 24 ga. galvanized steel.



TBSM H Door



TBSM Port Door



TBSM SOG Door



Optional TBSM Extended Tab Door

Accessories

FLEXRIGHT® Elbows

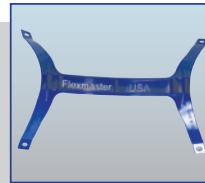
Designed to form flexible duct into highly efficient 90° degree elbows.

Universal Mount, 1 piece fully adjustable radius forming brace to support 4" inch (102-mm) through 16" inch (406-mm) diameter flexible air ducts.

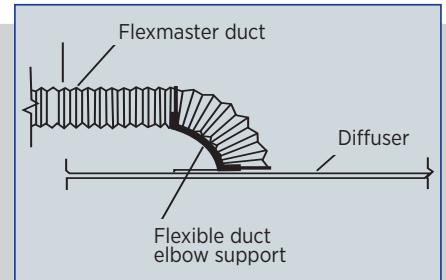
Nylon cable ties secure duct to duct support, (purchased separately). Made from 100% recycled material (copolymer polypropylene). UL 2043 Listed.

Meets ASHRAE's Advanced Energy Design Guides for Schools, Warehouses, Office and Retail Buildings.

The FlexRight® flexible duct elbow is manufactured by Build Right Products.



FLEXRIGHT® Elbow



Nylon Clamps

UL 181B-C

Material:

6/6 Nylon

Color:

Natural Nylon

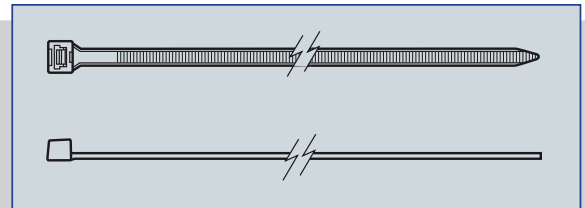
Temp Range:

-40°F to 185°F

Flammability:

U.L. 94V-2

ATB: Less than 5 sec. per ASTM D635



Nylon clamp

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

Nylon Clamps Table

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

Accessories

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"

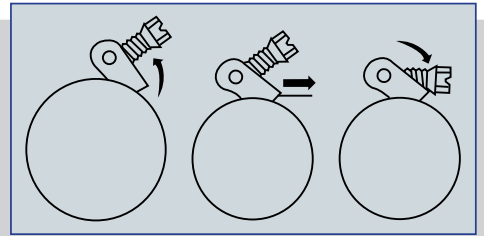


Stainless Steel Clamp Quick Release LS Series

Easy On...Easy Off...in 3 Simple Steps!
Reverse procedure for quick release and removal.
No need to disassemble connection.

Material: Stainless Steel

Flex Size: 4" to 20"



Slide Clamp Into Position

Slide Band Through Housing

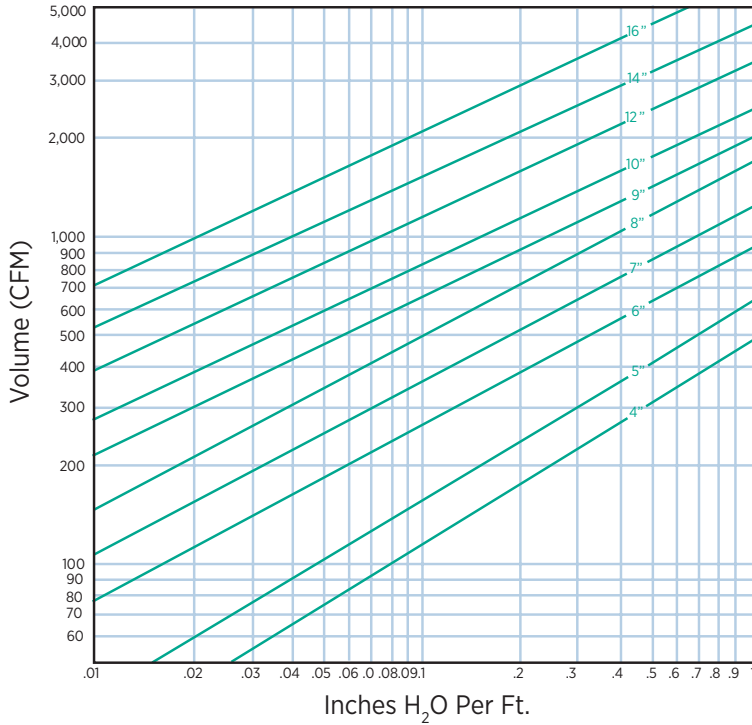
Slide Screw Down for Engagement

Quick Release Spin Clamps Table

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 listed size.

Flexmaster Duct Material - 90° Bend Friction Loss

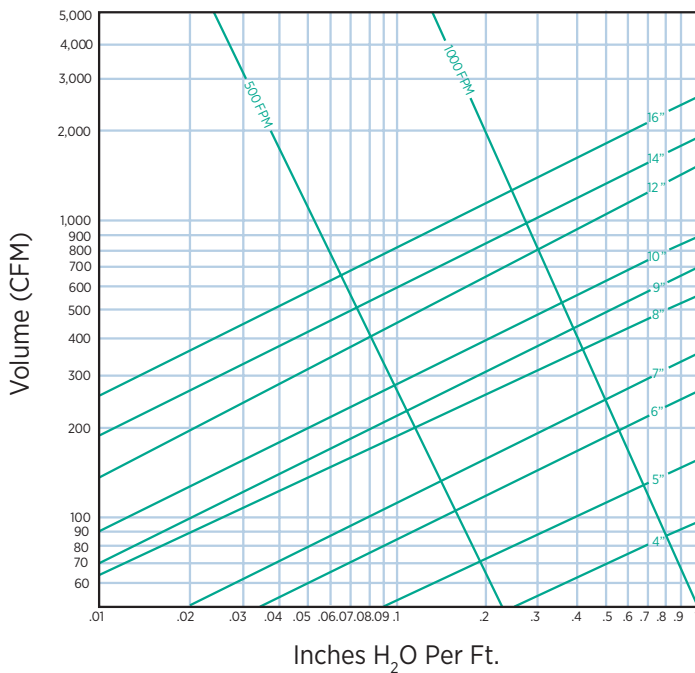


The data presented herein is based on reliable laboratory tests. For all sizes the test bend was formed around a template of the same diameter as the duct resulting in a radius to Diameter ratio of 1. The data has not been extrapolated for other bend ratios but must be considered when comparing values 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 U.S.A.®, Inc. assumes no responsibility for performance characteristics resulting from conditions which differ from those used in laboratory tests.

$$90^\circ \text{ Bend - Inches H}_2\text{O Per Ft.} - \frac{\text{RADIUS}}{\text{DIAMETER}} = 1$$

Flexmaster Duct Material - Straight Run Friction Loss



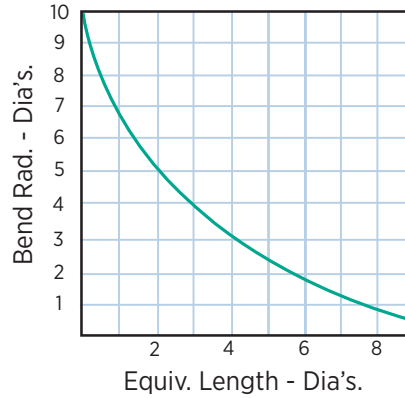
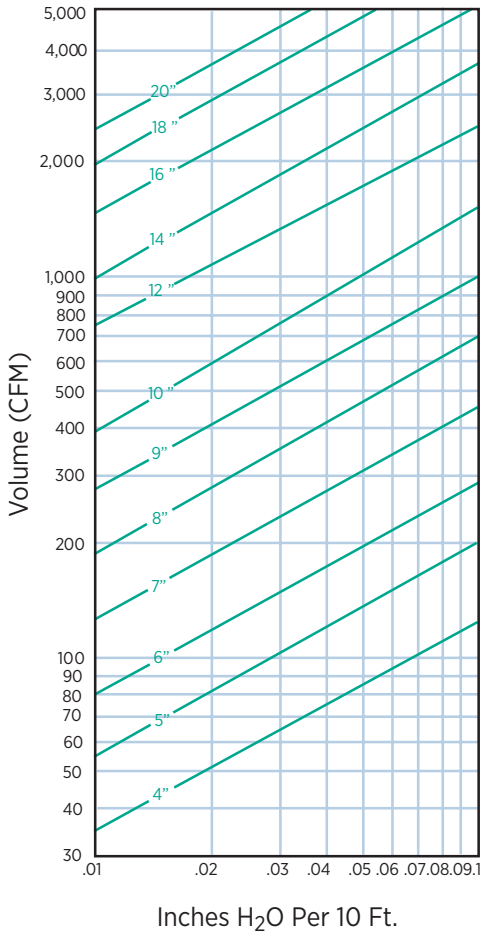
Round Duct Area Table

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

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 _p) water = 1.00 Btu/lb °F (@68 °F)
Specific heat (C _p) 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_p = Velocity Pressure (in. w.g.)

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

V = Velocity (fpm)

V_m = 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

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

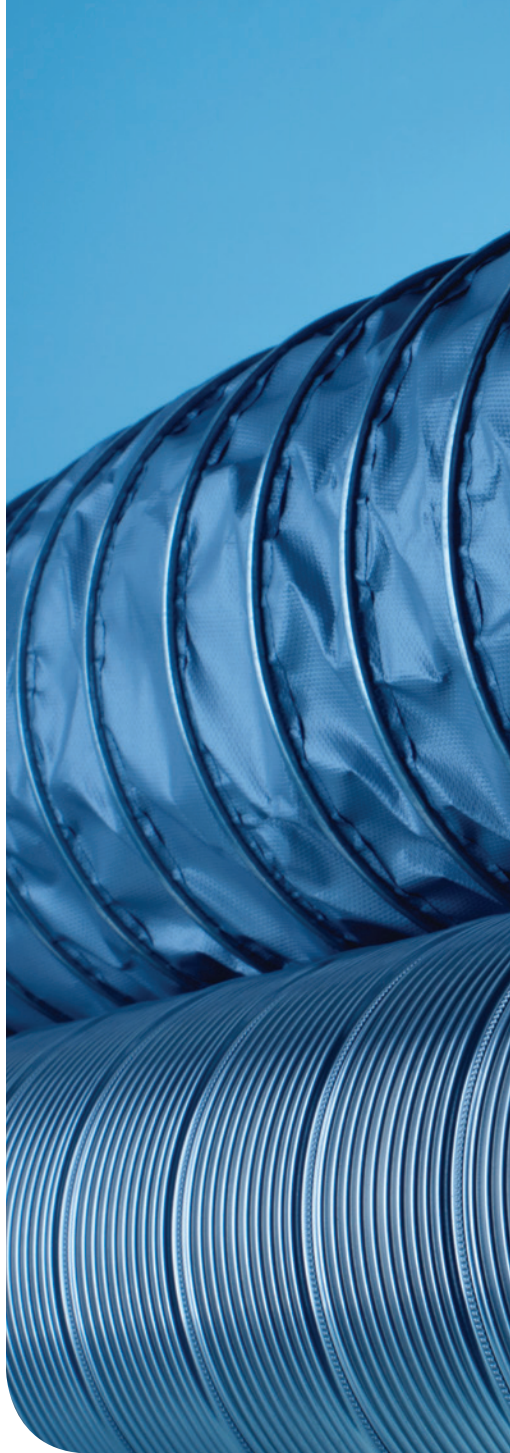
Insulation Information

All of Flexmaster U.S.A.® products comply with 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 ETL. Only those products that properly bear the ETL Mark are considered as listed by ETL.



Installed Thickness and Thermal Performance (ASTM C518)					
Minimum Installed Thickness		R-Value		K*	
in.	mm	(hr•ft ² •°F)/Btu	m ² •C/W	Btu•in/(hr•ft ² •°F)	W/m•C
1.125	29	4.2	0.74	0.27	0.039
1.625	41	6.0	1.06	0.27	0.039
2.25	57	8.0	1.41	0.28	0.041

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



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 **MASTERDUCT**
Connecting Values