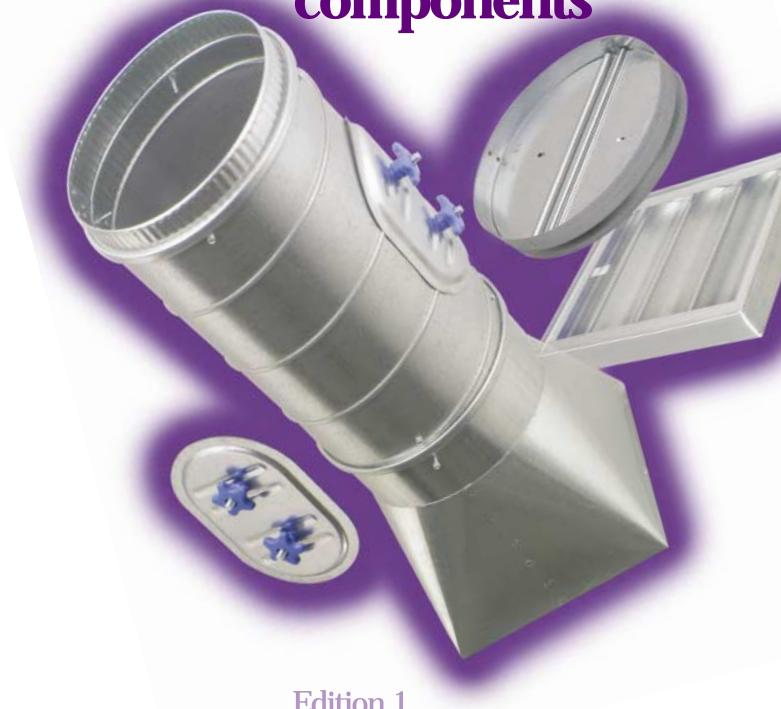


Duct system components



Edition 1

INTR	ODUCTION2			
DAMF	PERS			
FIRE D	AMPERS	PAG	Punched Angle	
	Model Summary	HS	Hanger Strap	
	Reference Guide	TRD	Threaded Rod	18
75	Fire Damper - 1.5-hour rated5			
85	Thinline Fire Damper - 1.5-hour rated	HARDWARE		
95	Thinline Vertical Fire Damper - 3-hour rated	RDL	Rod Lock	18
105	Vertical Fire Damper - 3-hour rated5	TKS	Tek Screws	
	How to Specify Fire Dampers			
	How to Specify Fire Dampers with Sleeves	DAMPER	R / REGULATOR ACCESSORIES	
	How to Specify Retaining Angle for Sleeves	65/66	Damper Set	19
	Tion to openly retaining ringle for closeles Triffic III		Damper Set	
CEILIN	G RADIATION DAMPERS	506/507		
	nce Guide	0007001	Damper Set	19
SCRD	Ceiling Radiation Damper (square or rectangular)	60-3/8	Regulator Set	
RCRD	Ceiling Radiation Damper (round)	56-3/8	Regulator Set	
KOKD	How to Specify Ceiling Radiation Dampers	80-3/8	Regulator Set	
CRD	Boot	69	Regulator Set	
UND	How to Specify CRDs with Boots	70	Regulator Set 704 Washer, 705 Handle, 706 Wing Nut,	20
	now to specify onds with boots	10	708 5/16" Bearings	วก
DUCT COMPONENTS		102	Damper Tip	
ACCESS DOORS		2	Casing Clip	
6110	Flat	27	Casing Clip	
6120		21	casing ciip	20
	Oval			
6130	Spin-in			01
6140	Hinged	AD	Aluminum Opposed-Blade Damper	
6150	Cammed	DT	Ducturns	
DUOT (DONNECTORO	DT	Air Diverter	
	CONNECTORS	FT	Flexiturn	21
KC	Keating Koupling–Round Oval Duct	CEALA	NITE AND ADDICENTE	
ZF	Zip Flange Duct Connector–Round/Oval Duct		ANTS AND ADHESIVES	
QC	Quick Connect–Round Duct	GASKET	D. 10 1 . T	••
STS	Standing S–Rectangular Duct	BUGA	Butyl Gasket Tape	
STD	Standing Drive–Rectangular Duct	NEGA	Neoprene Gasket Tape	22
T6	Slip–Rectangular Duct			
T1	Drive–Rectangular Duct14	SEALAN [*]		
FC	Flexible Connectors–Rectangular Duct15	SS	Solvent Based Sealer	
		SSF	Water Based Sealer, Fiber	
DUCT ACCESSORIES		SSNF	Water Based Sealer, Non Fiber	
VANE A	ND RAIL	BUS	Butyl Sealant	22
VN	Vane			
RA	Rail	ADHESI\		
		ADR	Roller Type Adhesive	
HANGE	RS AND STRAPPING	ADS	Spray Type Adhesive	
TR	Trapeze	SL	Silicon	22
SA	Slotted Angle			

Duct System Components



Hart & Cooley, Inc. introduces a new segment of accessories that complements our other products that you have known for more than 100 years. Duct System Components is a line of products that serves the sheet metal, insulation, heating, and air conditioning industry. Hart & Cooley offers a wide range of products to service the sheet metal contractor. In addition, these products offer timesaving features, as well as the quality that you have come to know from Hart & Cooley.

Products included in this new offering are Fire Dampers, Ceiling Radiation Dampers, Access Doors, Vane, Rail, Slips and Drive, as well as a wide range of gaskets, adhesives and sealants. These products are natural extensions of the existing line of Hart & Cooley products you are using today.

Model Summary—Fire Dampers

Model Summary

Model	Hour Rating	Side Profile	Damper Orientation	Configuration
75 Series	1.5-hour	Wide (4-1/4'')	H and V	A, B, and C
85 Series	1.5-hour	Thinline (2")	H and V	A, B, and C
95 Series	3-hour	Thinline (2")	V	A, B, and C
105 Series	3-hour	Wide (4-1/4")	V	A, B, and C

IMPORTANT FACTS

Hart & Cooley fire dampers are undersized 1/4" at the factory (size minus 1/4").

■ Fire Damper Sleeves

A fire damper sleeve is a rectangular piece of galvanized sheet metal (usually the same gauge as the ductwork or heavier) that is wrapped around the damper in order to meet the requirements of national codes. The damper sleeve serves two functions. In many cases it provides a fastening site for the ductwork on either side of the damper. Secondly, a damper sleeve acts as a platform to attach the retaining angle. The damper and sleeve are sized slightly smaller than the opening in the barrier to ensure proper damper operation during the expansion that comes with changing temperatures.



Fire damper sleeves are available in 8"-20" lengths (4" increments) and gauges 14-22. It should be noted that a damper sleeve might not be required if the side profile of the fire damper is wide enough to accommodate retaining angles on either side of the barrier.

■ Retaining Angles

Retaining angles attach to the fire damper sleeve on either side of the barrier (wall or floor) for the purpose of securing the damper in place. The retaining angles frame the damper on each side to secure it in position in the barrier and to cover the gap between the damper (or damper sleeve) and the hole in the barrier.

■ Fusible Links

165°F link is standard. To order 212°F or 286°F link, specify at the time of order.

■ Listed to Underwriters Laboratories Standard 555



Fire Damper Reference Guide



Fire Damper Models

75 Series

- 1.5-hour fire rating
- Used in barriers rated at 2 hours or less
- Has a 4-1/4" side profile
- 165°F fusible link standard (212°F and 286°F also available)
- Available in both horizontal (H) and vertical (V) damper orientations
- Available in A, B, & C type configurations

85 Series (Thinline)

- 1.5-hour fire rating
- Used in barriers rated at 2 hours or less
- Has a 2" side profile
- 165°F fusible link standard (212°F and 286°F also available)
- Available in both horizontal (H) and vertical (V) damper orientations
- Available in A, B, & C type configurations

95 Series (Thinline)

- 3.0-hour fire rating
- Used in barriers rated at 4 hours or less
- Has a 2" side profile
- 165°F fusible link standard (212°F and 286°F also available)
- Available in vertical (V) damper orientation only
- Available in A, B, & C type configurations

105 Series

- 3.0-hour fire rating
- Used in barriers rated at 4 hours or less
- Has a 4-1/4" side profile
- 165°F fusible link standard (212°F and 286°F also available)
- Available in vertical (V) damper orientation only
- Available in A, B, & C type configurations

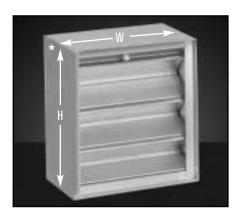
Damper Orientation Guide

- H Horizontal
- V Vertical

Configuration Reference Guide

- A Damper blades and the damper frame are in the air stream.
- B Damper blades are out of the air stream but the damper frame is in the air stream.
- C Damper blades and damper frame are both removed from the air stream. The "C" configuration requires the damper to be fitted with a collar that will correspond to the type of duct being used in the project.
 - O Designates an oval collar for use with oval ductwork.
 - \underline{R} Designates a rectangular collar for use with flat ductwork.
 - C Designates a round collar for use with round ductwork.

Fire Dampers



75 Series

- UL 555 approved with a 1.5-hour fire rating
- Used in barriers rated at 2 hours or less
- 4-1/4" side profile
- Single-piece galvanized steel frame
- 165-degree fusible link standard (212- and 286- degree available)
- Maximum single unit size: 60" x 60"
- Maximum multiple section units up to 120" x 120" - vertical orientation 102" x 60" - horizontal orientation

Models Available

75VA

75VB

75VC

75VO

75VR

75HA

75HB

75HC

75HO

75HR



85 Series (Thinline)

- UL 555 approved with a 1.5-hour fire rating
- Used in barriers rated at 2 hours or less
- **2**" side profile
- Single-piece galvanized steel frame
- 165-degree fusible link standard (212- and 286- degree available)
- Maximum single unit size up to:
 - vertical 41" x 36" or 36" x 60"
 - horizontal 41" x 36"
- Multiple section units not available

Models Available

85VA

85VB

85VC

85HA

85HB

85HC



95 Series (Thinline)

- UL 555 approved with a 3-hour fire rating
- Used in barriers rated at 4 hours or less
- **2**" side profile
- Single-piece galvanized steel frame
- 165-degree fusible link standard (212- and 286- degree available)
- Vertical orientation only
- Maximum single unit size up to 48" x 49"
- Multiple section units not available

Models Available

95VA

95VB

95VC



105 Series

- UL 555 approved with a 3-hour fire rating
- Used in barriers rated at 4 hours or less
- 4-1/4" side profile
- Single-piece galvanized steel frame
- 165-degree fusible link standard (212- and 286- degree available)
- Vertical orientation only
- Maximum single unit size up to 60" x 48"
- Multiple section units not available

Models Available

105VA

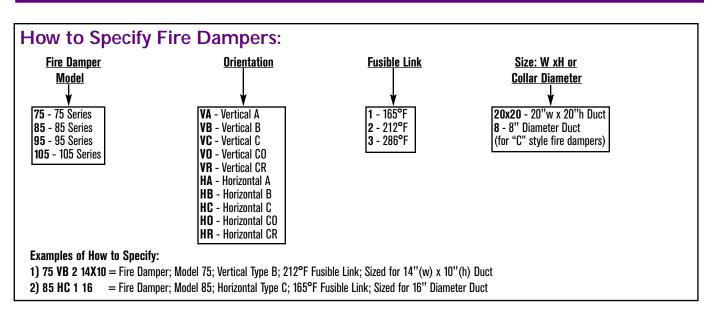
105VB

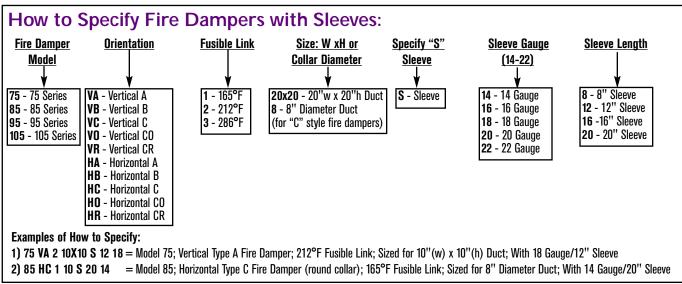
105VC

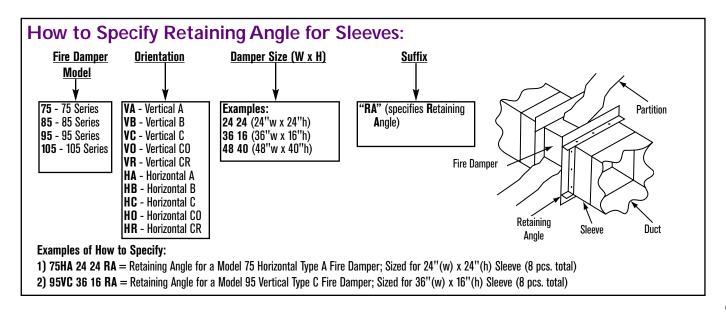
105VO

105VR









Ceiling Radiation Damper Reference Guide

Ceiling Radiation Damper (CRD) Models

"S" Series—Square and Rectangular

Model SCRDSB

- Single-blade damper
- Great for smaller sized dampers where maximizing airflow is essential
- Rectangular
- Available in 8" x 4", 10" x 4", and 12" x 4" only
- 165°F fusible link standard (212°F also available)
- Available with easy access hook and catch only

Model SCRDDB

- Double-blade damper, arranged in a butterfly configuration
- Square or rectangular
- Minimum size 4" x 4"
- Maximum size 24" x 24"
- 165°F fusible link standard (212°F also available)
- Available with easy access hook and catch or link plate

"R" Series-Round

Model RCRDDB

- Double-blade damper, arranged in a butterfly configuration
- Round
- Sizes range from 4" to 24" diameter
- 165°F fusible link standard (212°F also available)
- Available with easy access hook and catch or link plate

Model Prefix

S - Square/Rectangular

R - Round

Damper Style

SB - Single Blade (8" x 4", 10" x 4", and 12" x 4" only)

DB - Double Blade

Easy Access Suffix

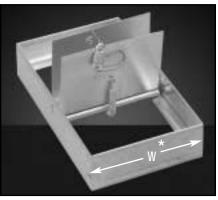
LP - Link plate

EA - Easy access

The easy access feature allows for "easy access" to reset the damper.

Ceiling Radiation Dampers





Easy Access Shown Even Inch Increments Standard

S Series Model CRD Square and Rectangular Ceiling Radiation Dampers

- UL 555C approved with a 3-hour fire rating
- Single-piece galvanized steel frame

SCRDSB EA

■ Available as 8" x 4", 10" x 4", and 12" x 4" only

SCRDDB LP

- Minimum size 4" x 4"
- Maximum size 24" x 24"

SCRDDB EA

- Minimum size 4" x 4"
- Maximum size 24" x 24"

Models Available

SCRDSB EA (single blade)

SCRDDB LP (double blade, link plate)

SCRDDB EA (double blade, easy access)

*Width dimension (given first) is always the hinge direction.

Link Plate Shown Even Inch Increments Standard

R Series Model CRD Round Ceiling Radiation Dampers

- UL 555C approved with a 3-hour fire rating
- Single-piece galvanized steel frame

RCRDDB LP

- Minimum size 4" dia
- Maximum size 24" dia

RCRDDB EA

- Minimum size 4" dia
- Maximum size 24" dia

Models Available

RCRDDB LP (double blade, link plate)

RCRDDB EA (double blade, easy access)

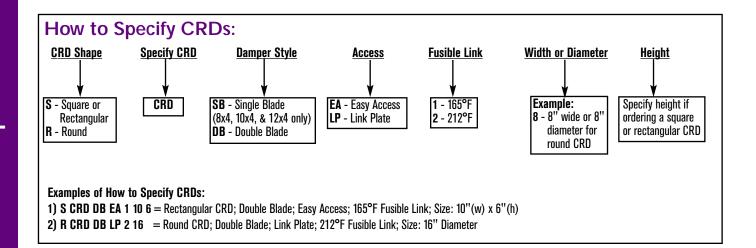
IMPORTANT FACTS

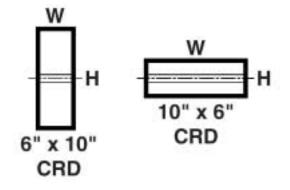
■ CRD Boots

Boot option available. See page 10.

■ Fusible Links

165°F link is standard. To order 212°F link, specify at the time of order.





Ceiling Radiation Dampers with Boot





CRD Boot

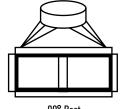
Available in the following styles:

End boot

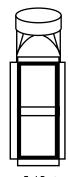
Elbow (90° boot)

Straight boot

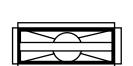
- Available in collars ranging from 4" to 10"
- Available with a 4", 6" or 8" throat
- Available with or without a flange
- Contact factory for availability of other sizes or
- Factory assembled to ensure proper fit and
- Eliminates the need for labor to install in the field



90° Boot

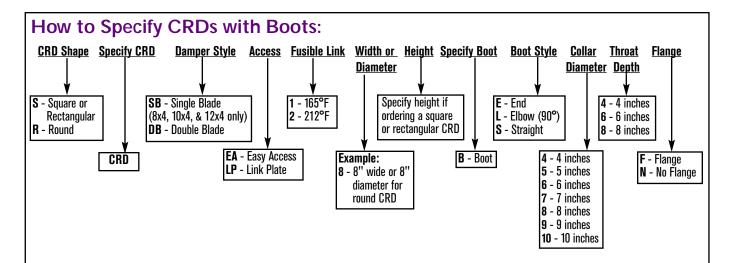


End Boot



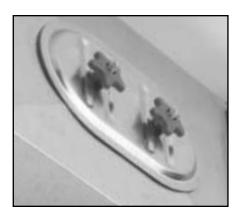
Straight Boot





Examples of How to Specify (space required between each component):

- 1) S CRD DB LP 1 12 8 B L 8 6 F = Square CRD; Double Blade with Link Plate; 165°F Fusible Link; 12"(w) x 8"(h); With 90° Elbow Boot; Collar: 8" diameter; Throat: 6" depth; With Flange
- 2) S CRD SB LP 2 10 4 B E 6 6 N = Square CRD; Single Blade with Link Plate; 212°F Fusible Link; 10"(w) x 4"(h); With End Boot; Collar: 6" diameter: Throat: 6"depth; No Flange



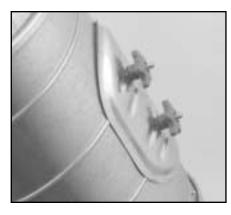
Model 6110 Flat Access Door (Sandwich Style)

- Provides access to sheet metal ductwork for resetting dampers, cleaning filters or general maintenance
- Available in galvanized, stainless and aluminum
- Extremely low leakage at a wide range of pressures
- Provided with an adhesive installation template
- Available in 10" x 6" and 16" x 12" for square and rectangle duct only
- Specify single- or double-wall duct



Model 6110 Flat Access Door (Sandwich Style, High Temp.)

- Provides access to sheet metal ductwork for resetting dampers, cleaning filters or general maintenance
- Constructed from Black Iron material with woven ceramic fiber gasket
- Good for temperatures up to 2000 degrees F
- Provided with an adhesive installation template
- Available in 10" x 6" and 16" x 12" for square and rectangle duct only



Model 6120 Oval Access Door (Sandwich Style)

- Provides access to round or oval duct systems for resetting dampers, cleaning filters or general maintenance
- Available in galvanized, stainless, aluminum or black iron
- For single- and double-wall pipe
- Available for high-temperature applications
- Available sizes:
 - 1) 10" x 6" for duct with 6" 30" diameter (must specify diameter)
 - 2) 16" x 12" for duct with 18" 60" diameter (must specify diameter)



Model 6130 Spin-in Access Door

- Tested to 20" S.P. with minimal leakage
- Available for single-wall duct applications
- Available in 8", 10", 12", 18" and 24" diameters





Model 6140 Hinged Access Door Square

- Provides access to sheet metal ductwork
- Access door is hinged to frame
- Insulated door to ensure peak performance and efficiency
- For use in low-pressure systems (1-4.5" W.C.)
- Available in 6" x 6" through 24" x 24"



Model 6150 Cammed Access Door Square

- Provides access to sheet metal ductwork
- Access door is removable and is attached with cam latches to frame
- Insulated door to ensure peak performance and efficiency
- For use in low pressure systems (1-4.5" W.C.)
- Available in 6" x 6" through 24" x 24"

Duct Connectors





Model KC Keating Koupling

- Patent #5,213,374
- Used to connect 2 pieces of round or oval ductwork
- Provides double "S" connection
- 20 ga galvanized steel
- Self-sealing
- Integral sealant pocket produces airtight seal
- Tested at pressures over 10" W.C.
- Available in 10" through 30" diameters for round and most standard oval ductwork sizes



Model ZF Zip Flange Duct Connector

- Provides a simple butt type connection
- Acts as a reinforcement at the duct connection
- Adapts to minor variations in the pipe diameter
- Constructed from galvanized material

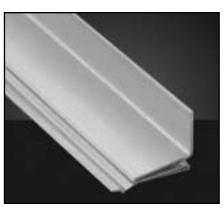


Model QC Quick Connect

- Provides airtight connection for round duct
- 3" through 12" diameter
- One-bolt connection
- Tested to over 30" W.G. positive and negative

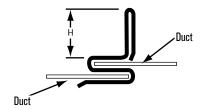
Duct Connectors





Model STS Standing S

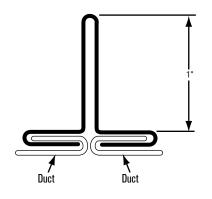
- Available in 20 ga, 22 ga, 24 ga and 26 ga
- 100' per bundle
- Used to connect ductwork segments
- Available in 1/2" and 1" heights

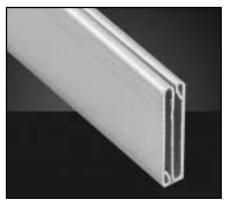




Model STD Standing Drive

- Available in 22 ga, 24 ga, and 26 ga
- 100' per bundle
- Used to connect ductwork segments
- Available in 1" height only

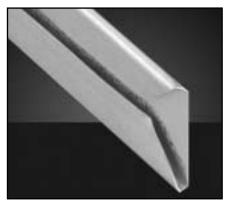




Model T6 Slip

- Available in 24 ga and 26 ga
- 100' per bundle
- Used to connect ductwork segments



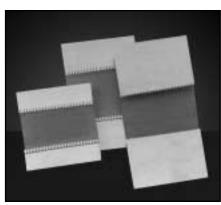


Model T1 Drive

- Available in 20 ga, 22 ga, 24 ga, and 26 ga
- 100' per bundle
- Used to connect ductwork segments



Duct Connectors



See submittal drawing #7071 for material choices and descriptions

Model FC Flexible Connector

- Used where flexible connections of ductwork are required
- Minimizes vibration
- Provides airtight, weather and chemicalresistant connections
- Zipper style design
- 100' rolls

Models Available

FCCV (Commercial Vinyl)
FCCVA (Commercial Vinyl Alum)
FCCN (Commercial Neoprene)
FCEV (Economical Vinyl)
FCEN (Economical Neoprene)
FCRV (Residential Vinyl)
FCRN (Residential Neoprene)
FCTV (TDC/TDF Vinyl)
FCTVA (TDC/TDF Vinyl Alum)
FCTN (TDC/TDF Neoprene)
FCTNA (TDC/TDF Neoprene Alum)

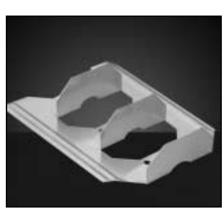
FCTNS (TDC/TDF Neoprene SS)





Model VN Vane

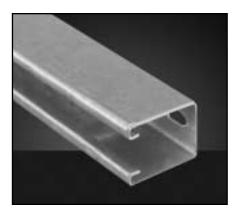
- Available in the following models: 2", 4" and 4" acoustical
- Constructed from galvanized steel material
- 10' lengths
- Assembles quickly and easily to rail without screws or fasteners



Model RA Rail

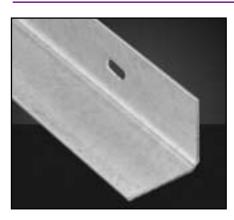
- Available in the following models: 2" and 4" widths
- Constructed from galvanized steel material
- 10' lengths
- Assembles quickly and easily to vane without screws or fasteners
- Extra wide flange for easy mounting

Hangers and Strapping



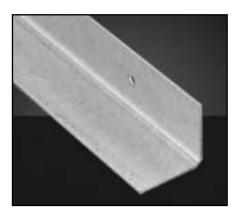
Model TR Trapeze

- Used for hanging HVAC ductwork, as well as conduit and piping
- Available in 10' bundles
- Available in 16 ga and 18 ga
- **■** Washers available



Model SA Slotted Angle

- Used for stiffening ductwork or closing gaps at firewall penetrations
- Available in 1-1/2 x 1-1/2 in 14 ga, 16 ga and 18 ga
- Available in 2 x 2 in 14 ga, 16 ga and 18 ga
- Available in 2-1/2 x 2-1/2 in 14 ga, 16 ga and 18 ga



Model PAG Punched Angle

- Used for stiffening ductwork or closing gaps at firewall penetrations
- Available in 1-1/2 x 1-1/2 in 14 ga, 16 ga and 18 ga
- Available in 2 x 2 in 14 ga, 16 ga and 18 ga
- Available in 2-1/2 x 2-1/2 in 14 ga, 16 ga and 18 ga



Model HS Hanger Strap

- Available in 16, 18, 20, 22 and 24 ga.
- 1" width
- 200'/roll

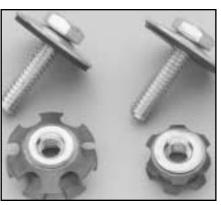
Hangers and Strapping / Hardware





Model TRD Threaded Rod

- Available in 1/4" x 6', 10' and 12' lengths
- Available in 3/8" x 6', 10' and 12' lengths
- Available in 1/2" x 6', 10' and 12' lengths
- Available in 5/8" x 6', 10' and 12' lengths
- Available in 3/4" x 6', 10' and 12' lengths
- Available in 7/8" x 6', 10' and 12' lengths



Model RDL Rod Lock

- Available in 1/2" and 3/4" sizes
- Used to reinforce duct
- Pull tested to over 1900 lbs.
- Sold with bolt and washer



Model TKS Tek Screws

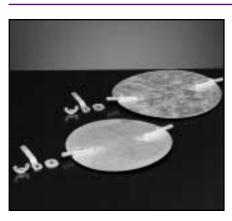
- #8 x 3/4" long sheet metal screw
- **7,500** pcs/box

Damper / Regulator Accessories



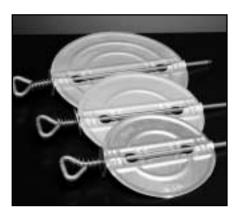
Model 65 & 66 Damper

- For use in 5" to 6" round pipe
- Furnished with handle, washer and wing nut
- Has one bearing
- Unassembled



Model 607/608 **Damper**

- Two bearings
- For use in 7" to 8" round pipe
- Furnished with handle, washer and wing nut
- Unassembled



Model 506/507/508 **Damper**

- Steel Warm Air Damper
- 6", 7" and 8" sizes
- Spindle is reversible and may be inserted from either end
- The heavy spring holds damper securely under most conditions



Regulator Sets 60 - 3/8" Regulator

- 56 3/8" Square Shank Bearing
- 80 3/8" Dial Regulator set for large dampers

Furnished with two solid bearings, six rivets and three sheet metal screws. Dial regulator, inner disc, handle, bolt and wing nut assembled and packaged individually. Inner disc prevents air leakage.

Damper / Regulator Accessories





Model 69 Regulator Set

- 704 Washer
- 705 Handle
- 706 Wing Nut
- 708 (one) 5/16" Bearing

69 regulator sets are furnished with retractable bolt bearing for fast, easy assembly. Merely slip bearing over edge of damper at the bearing line, lay the bearing on any firm surface and drive the prong through the damper. The prong firmly clinches the bearing to the damper. 5/16" bearings are ample for most damper installations. Maximum damper thickness: .022, 22 gauge galv.



Model 70 Regulator Set

- 704 Washer
- 705 Handle
- 706 Wing Nut
- 708 (two) 5/16" Bearings

70 regulator sets are furnished with retractable bolt bearing for fast, easy assembly. Merely slip bearing over edge of damper at the bearing line, lay the bearing on any firm surface, and drive the prong through the damper. The prong firmly clinches the bearing to the damper. 5/16" bearings are ample for most damper installations. Maximum damper thickness: .022, 22 gauge galv.



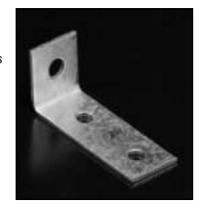
Model 102 Damper Tip

- Fixed bearing
- Has same fastening features as No. 708 retractable bolt bearing



Model 2 Casing Clip

- For fastening casings and drawbands
- 14-gauge steel



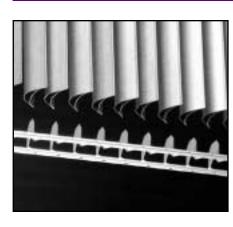
Model 27 Casing Clip

- For fastening casings and drawbands
- 16-gauge steel



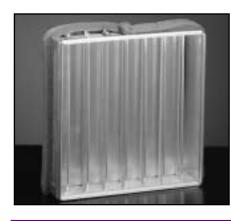
Model AD Aluminum Opposed-Blade Damper

- Aluminum construction
- Opposed-blade damper
- Controls the air volume from full flow to shut-off



Ducturns

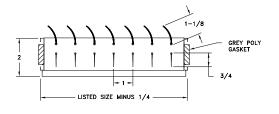
- Nonadiustable
- Furnished in 8-foot lengths
- Blade spacing approximately 1.4" or 8-1/2 blades/foot
- Galvanized steel



Model DT Air Diverter

- All-aluminum construction
- Two sets of individually adjustable blades
- Equalizes flow and controls volume at collar take-offs to registers and grilles
- Equipped with gasket around outside of frame for positioning firmly in duct

DT Available Sizes (in.) Minimum: 6" x 4" Maximum: 20" x 36"



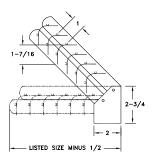


Model FT Flexiturn

- All-aluminum construction
- Designed to pick up air from the main trunk at branch take-offs and divert it toward the grille
- Mounts easily with sheet metal screws
- Gang-operated blades move from 45 degrees open to fully closed
- Positive setting

FT Flexiturn Available Sizes (in.)

Minimum: 6" x 4" Maximum: 18" x 30"



Sealants and Adhesives





Model BUGA Gaskets

- Butyl Gasket
- Provides moisture and vapor-tight seal
- UL approved
- 30' rolls, 780'/case



Model NEGA Gaskets

- Neoprene Gasket
- Provides moisture and vapor-tight seal
- UL approved
- 50' rolls, 750'/case



Sealants

- Water-based and solvent-based
- Available in tube, 1 gallon, 5-gallon pail, and 55-gallon drums
- Forms a flexible, yet durable seal against air leakage

Adhesives

- Roller type available in 5-gallon pail
- Spray type available in 55-gallon drum
- Silicon available in 11-ounce tube
- Used for bonding fiberglass and mineral wool duct liner to galvanized steel

Models Available

Sealants

SS Solvent-based Sealant SSF Water-based Sealant SSNF Water-based, Nonfiber Sealant BUS Butyl Sealant

Adhesives

ADR Roller Type Adhesive ADS Spray Type Adhesive SL Silicon Adhesive



Hart & Cooley, Inc. 500 East Eighth Street Holland, MI 49423 info@hartcool.com www.hartandcooley.com 800.433.6341 toll-free 616.392.7855 phone 800.223.8461 toll-free fax 616.392.7971 fax

Offered by:		

www.hartandcooley.com

For submittal information and other literature visit our Website.