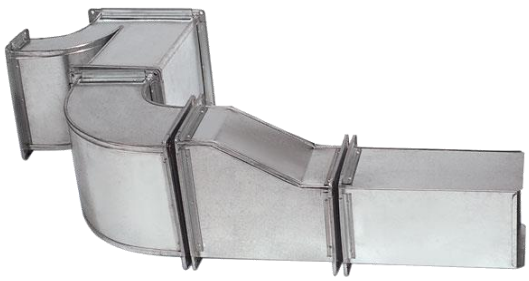
RECTANGULAR DUCTS

RECTANGULAR DUCTS

Ducts are conduits or passages used in HVAC to deliver and remove air. The needed airflows include, for example, supply air, return air, and exhaust air. Ducts commonly also deliver ventilation as part of the supply air. As such, air ducts are one method of ensuring acceptable indoor quality as well as thermal comfort.



Sasco single wall duct & fittings are factory fabricated and ready to install at the site .Rectangular ducts are available in various material such as galvanized sheet, Aluminum , Mild steel and Stainless Steel.





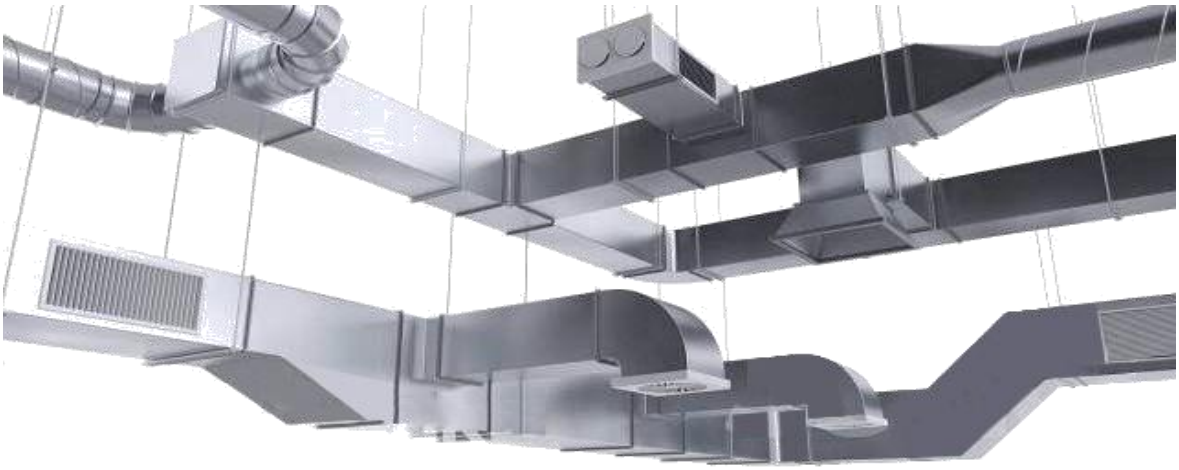
- Galvanized Steel: (Standard) L.F.Q. Complying with ASTM A653 and Having G90 Coating Designation.
- Stainless Steel : (Optional) Complying with ASTM A240M / A480M, Grade 304, 304L, 316 & 316L.
- Aluminum Metal : (Optional) Complying with ASTM B209, Alloy 3003, Temper H14.

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OPTIONS

Ducting can be supplied in various ranges of thickness, Sizes, Shapes with or without flanges and flanges frame as per SMACNA / DW144 / ASHRAE standard.

GI ducts and fittings include Straight duct, Square and Radius Elbows, Neck, Offset, Y-Elbow, Reducer, Square to round, Breeches 2-way, Plenum box and many more.



Key Features of SASCO Ducts

- Factory fabricated and assembled, ready for installation with complete range of rectangular products.
- State of the art identification system on duct pieces cross-referenced to drawings for an easy installation procedure and follow up.
- Virtually any size of duct can be constructed. (No limitation, to standard manufacturer sizes).
- Quick and easy installation in case of flanged ducts without the use of special tools.
- Factory applied sealant on all longitudinal seams and transverse seams in case of flanged duct for all pressure systems upon request.

RECTANGULAR DUCTS



Automatic duct Line: CNC controller based state of the art straight duct forming machine. This machine has a capacity to make straight ducts with standard length of 1.2m. The raw materials used as GI coils of 1.2 m width, the width of coils becomes standard length of straight duct. At a time 4 different thickness coils can be loaded with the machine and selected sheet thickness coil is being processed for manufacture of different sized ducts

Plasma Cutter: CNC controller based plasma cutting machine for cutting fittings parts. The machine runs with CAM DUCT software to prepare part programs for the ducts layout drawings. These machines precisely cut the blanks used for the fitting parts in order to get the desired duct dimensions.





Lock Formers: To make mechanical lock for the longitudinal joints, high quality lock formers are being used

Bending & shearing :High quality bending and shearing machine for making parts of the ducts for accurate geometry

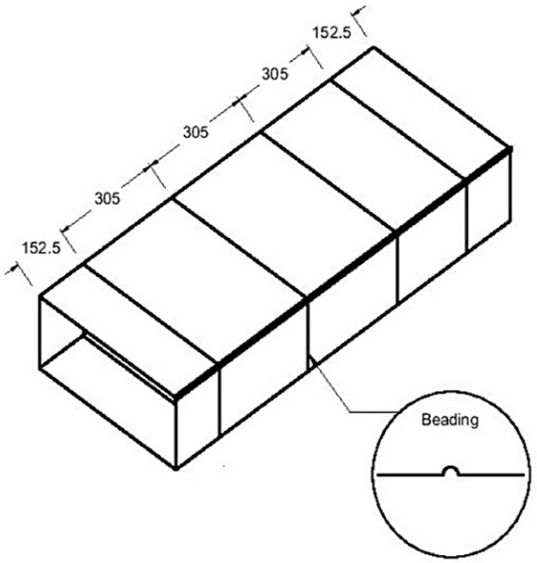


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SEAM DETAILS

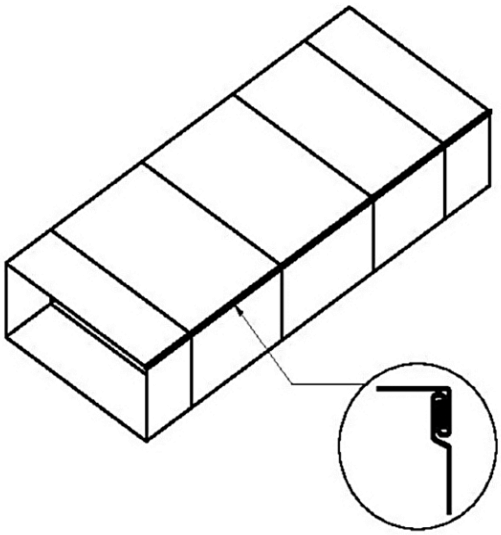
Straight Ducts are Beaded or Crossbroken

- Duct Sides that are 260mm and over, shall be Crossbroken or Beaded.



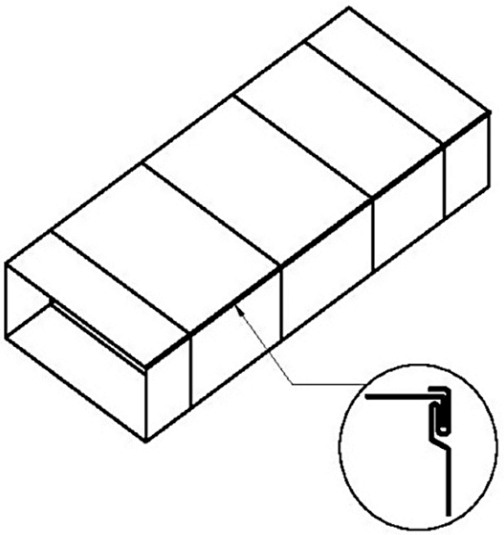
Grooved Corner Seam

- Galvanized Up to 20 Gage



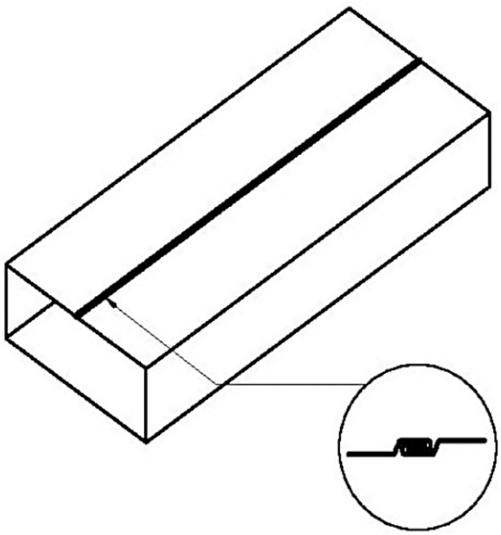
Pittsburgh Lock Seam

- Galvanized 16 Gage Maximum



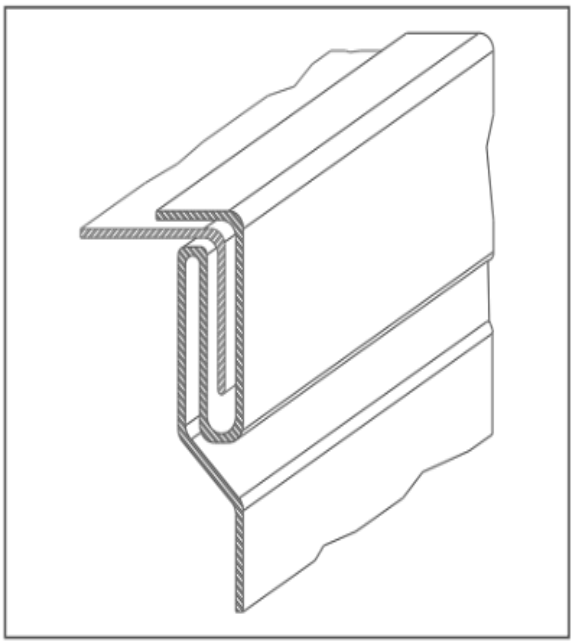
Grooved Seam

- Galvanized 16 Gage Maximum

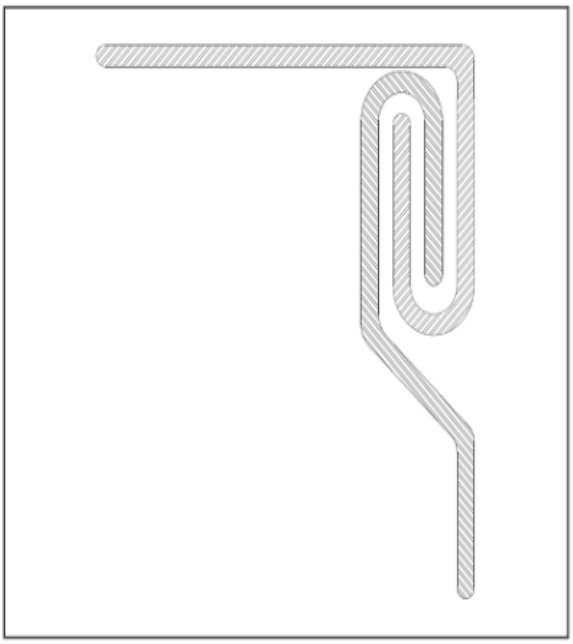


SEAM DETAILS

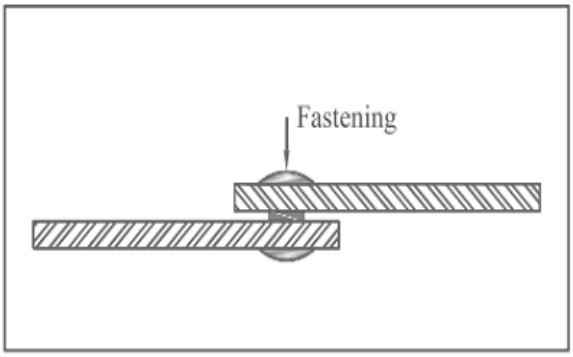
a. Pittsburgh Lock



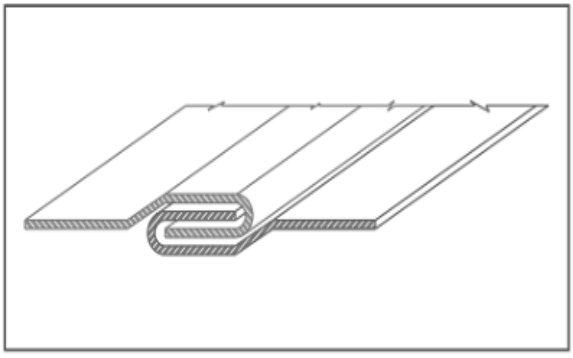
b. Grooved Seam



c. Lap Joints



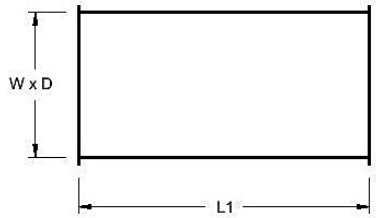
d. Double Seam (Sheet Joints)



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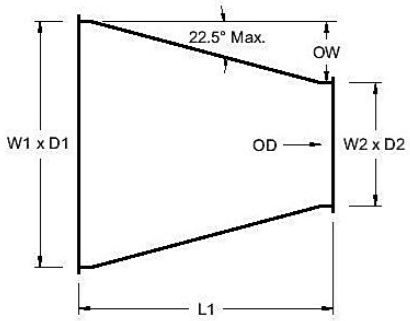
DIMENSIONAL DETAILS

Straight
Standard Length 1220mm
While Using Slip & Drive Length Will be 1190mm



A

Taper

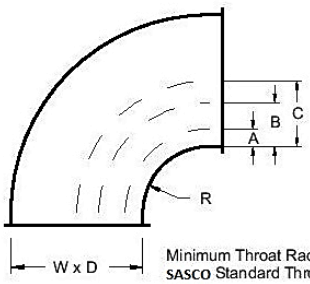


B

Radius Bend

Width - mm	Splitters	Splitter Position		
		A	B	C
400 - 800	1	W/3	-	-
801 - 1600	2	W/4	W/2	-
1601 - 2000	3	W/8	W/3	W/2

Splitters not Required in Bend Angles Less Than 45°

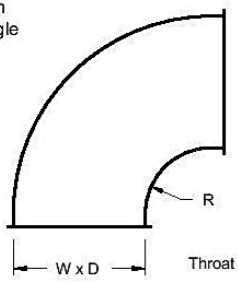


Minimum Throat Radius = 100mm
SASCO Standard Throat Radius = 150mm

C

Medium Radius Bend (as illustrated)
Can be Applied to any Angle

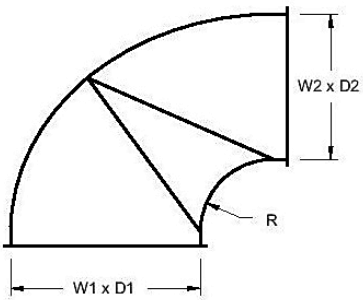
Long Radius Bend
Similar but Radius = Width
Can be Applied to any Angle



Throat Radius = Width

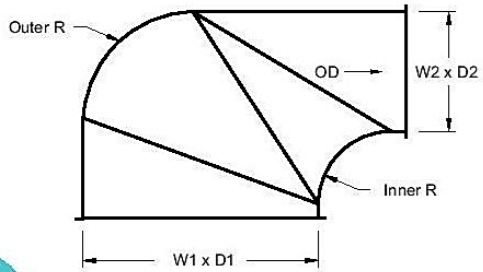
D

Drop Cheek Bend
Can be Applied to any Angle



E

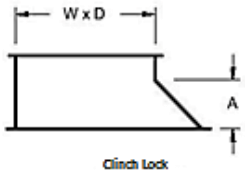
Master Bend



F

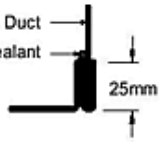
DIMENSIONAL DETAILS

Shoe Branch

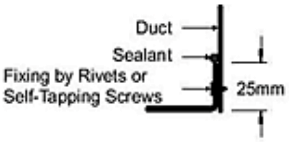


Width (W) mm	Dim. (A) mm
Up to 200	75
,, 300	100
,, 400	125
,, 600	150
Over 600	200

Clinch Lock (Optional)

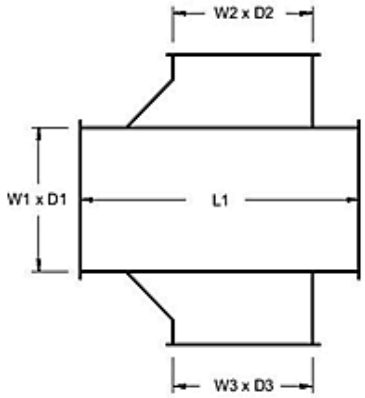


Straight Tap (SASCO Standard)



G

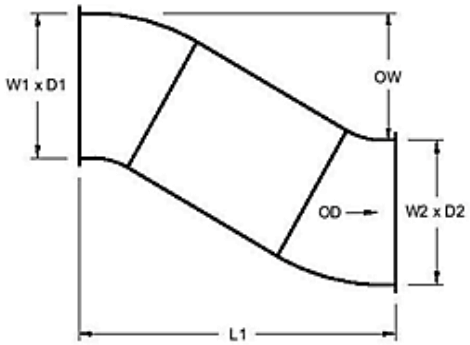
Straight + 2 Branches



H

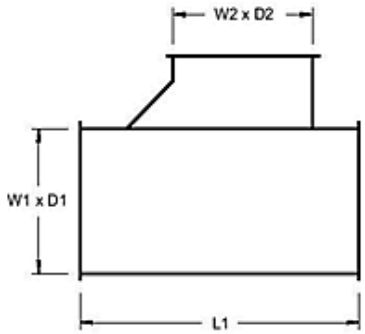
Radius 2-Way Offset

Minimum Throat Radius = 150mm



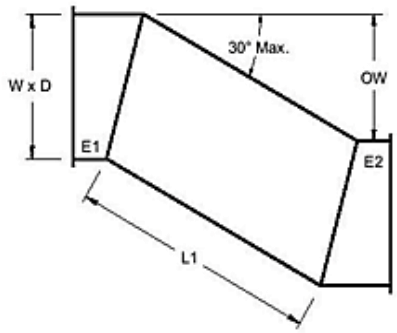
I

Straight + Branch



J

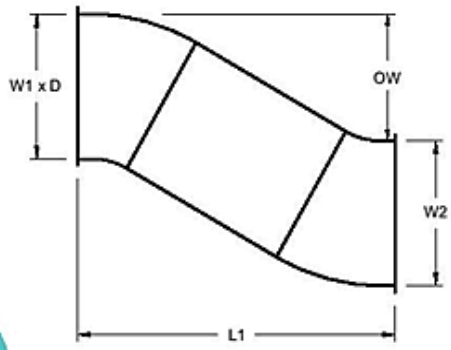
Mitered Offset



K

Radius Offset

Minimum Throat Radius = 150mm

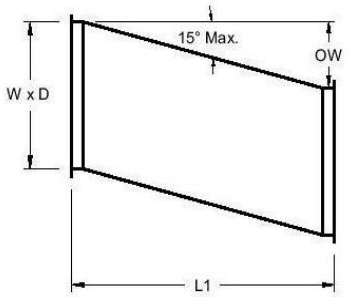


L

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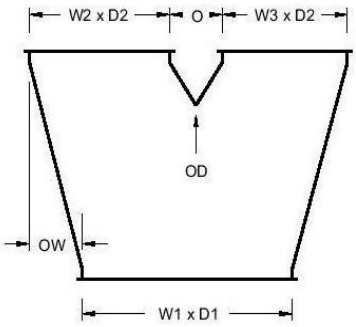
DIMENSIONAL DETAILS

Angled Offset



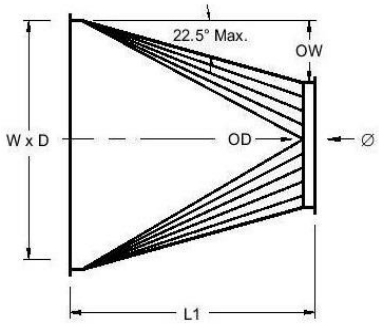
M

Trousers Piece



N

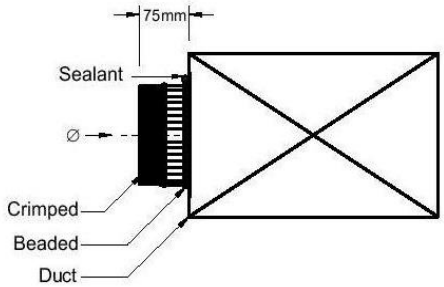
Square to Round



O

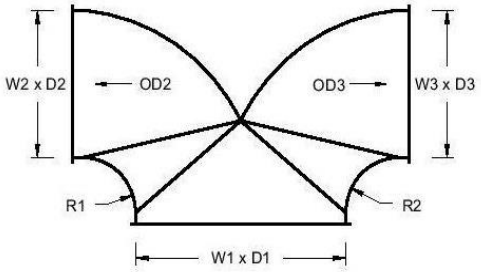
Collar (Dovetail)

VCD Optional



P

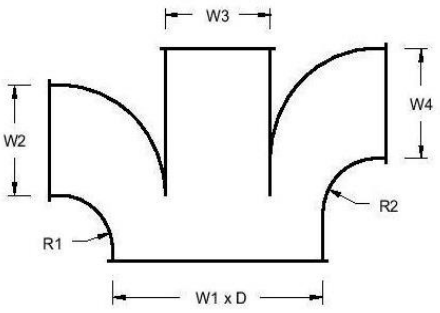
Drop Cheek Breeches Piece



Q

3-Way Tee

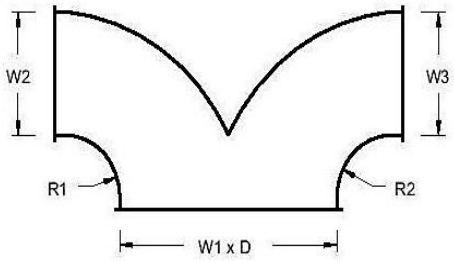
Splitter Damper Optional



R

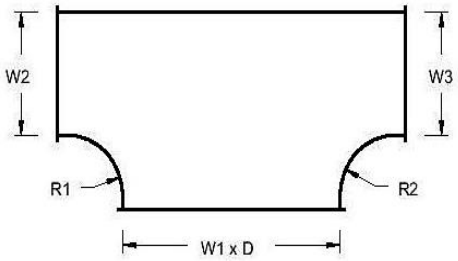
DIMENSIONAL DETAILS

Breeches Piece
Splitter Damper Optional



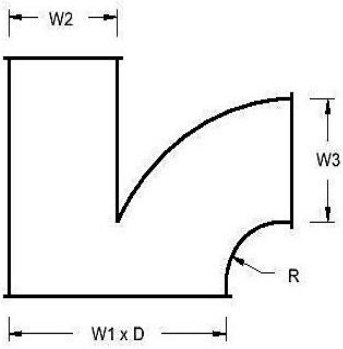
S

Radius Tee



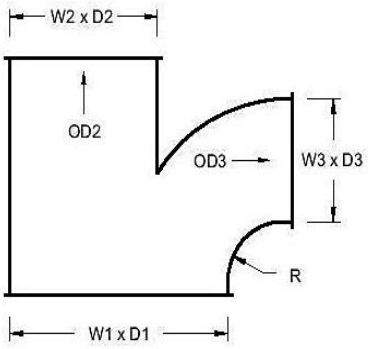
T

Side Branch
Splitter Damper Optional



U

2-Way Breeches

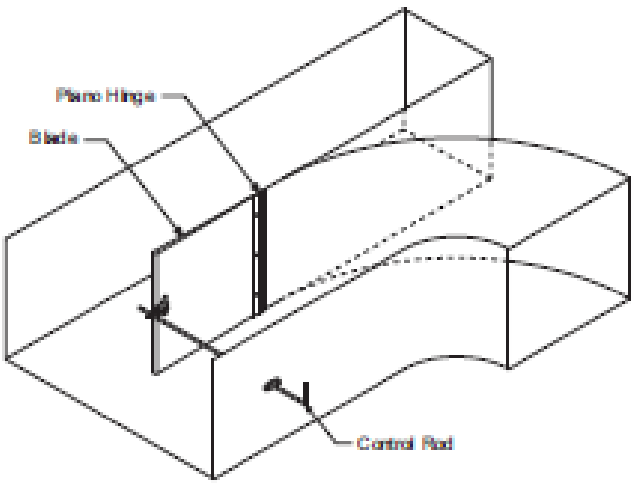


V

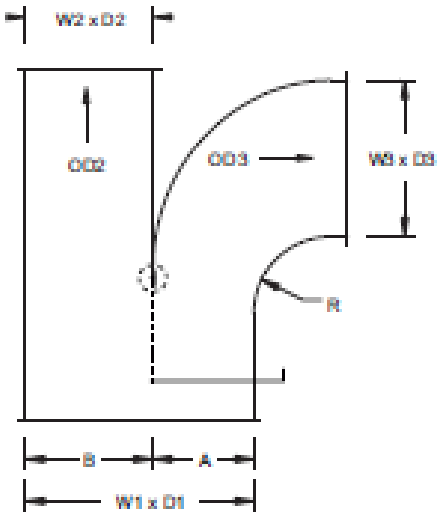
DUCT CLAMP/CLEATS REQUIREMENT

Duct Dimension (mm)	Number		Duct Dimension (mm)	Number
0-200	0		1250-1400	6
250-400	1		1450-1600	7
450-600	2		1650-1800	8
650-800	3		1850-2000	9
850-1000	4		2050-2200	10

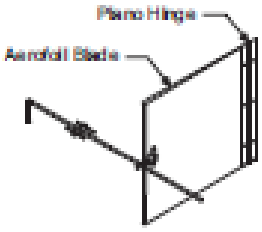
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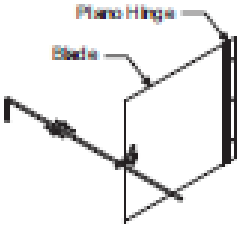
Splitter Damper Length (A x 1.5)



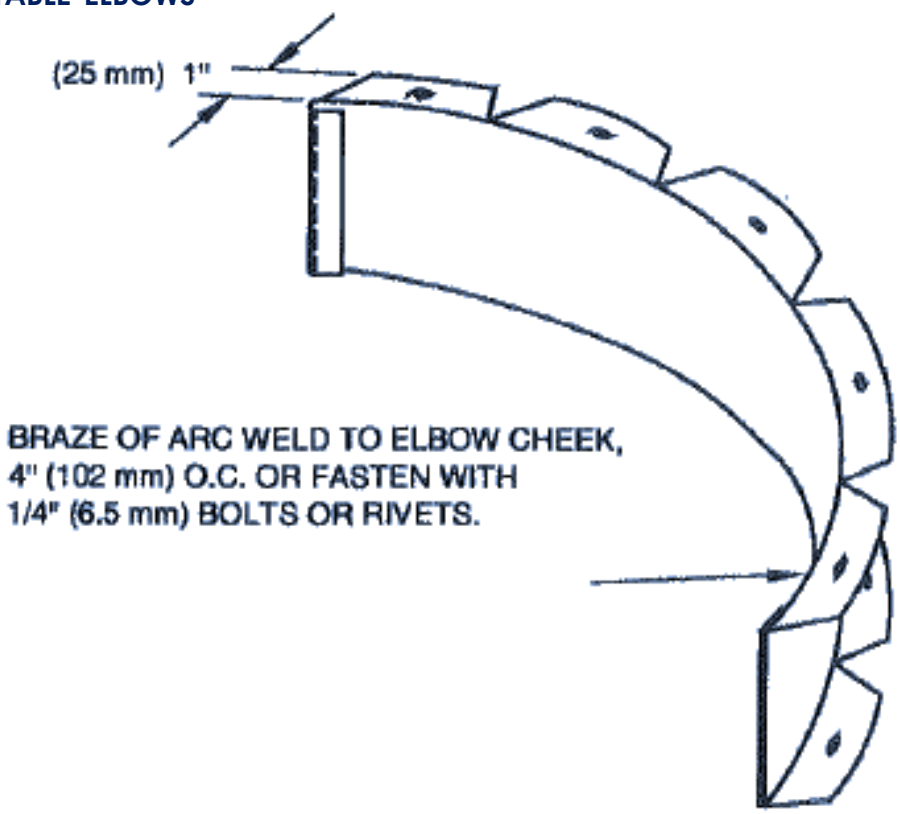
Aerofoil Blade Splitter Damper
(**DVAC** Standard)



Single Blade Splitter Damper



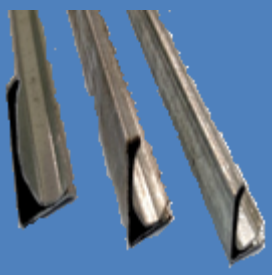
VANES TABLE-ELBOWS

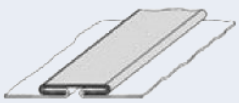
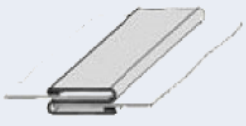
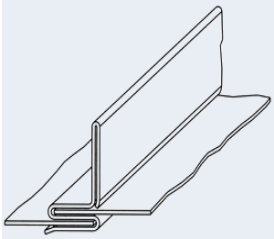


WIDTH(MM)	No of vanes
0-300	NONE
301-500	1
501-1000	2
1000 & ABOVE	3

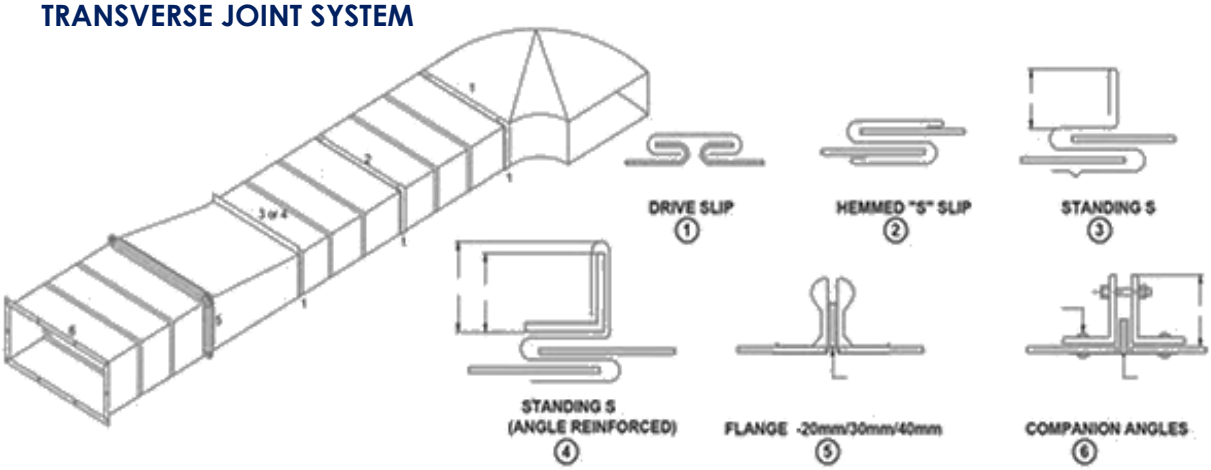
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UAE - KSA / BAHRAIN - EGYPT - OMAN - SWEDEN

ACCESSORIES

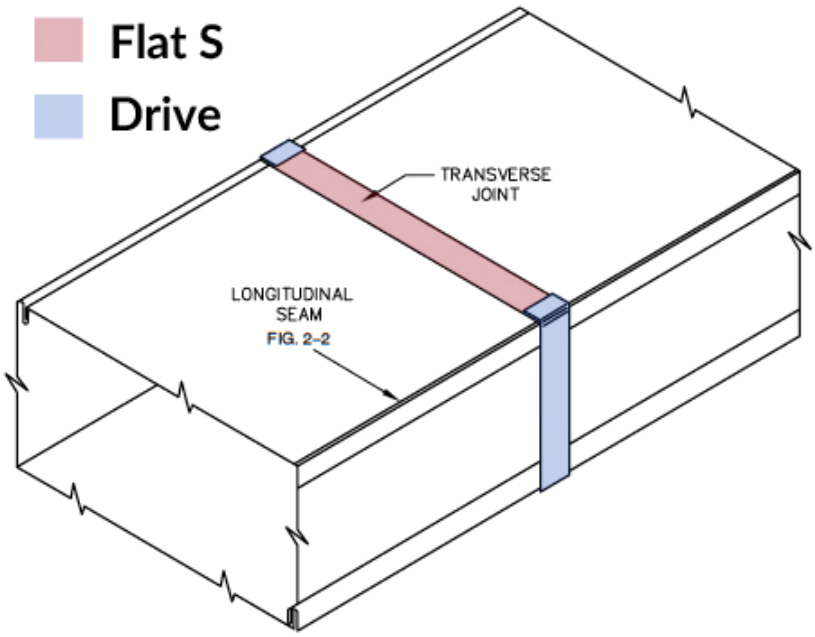
Slip on flange	GI Corner	GI Cleats
40 mm, 30 mm, 20 mm	40 mm, 30 mm, 20 mm	30 mm, 20 mm
		

GI Clamp	Drive Cleats		
40 mm, 30 mm, 20 mm	C Cleat	Hemmed 'S' Cleat	Standing 'S' Cleat
			

TRANSVERSE JOINT SYSTEM



DRIVE CLEATS

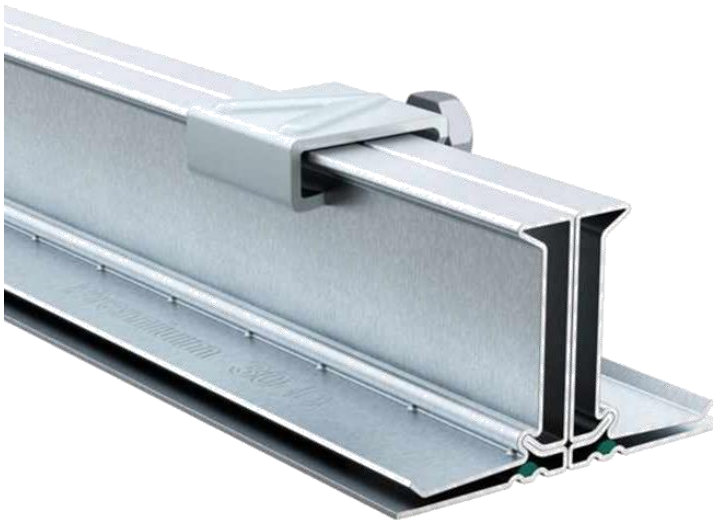


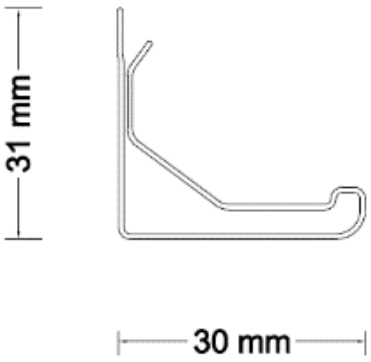

DRIVE SLIP
T–1

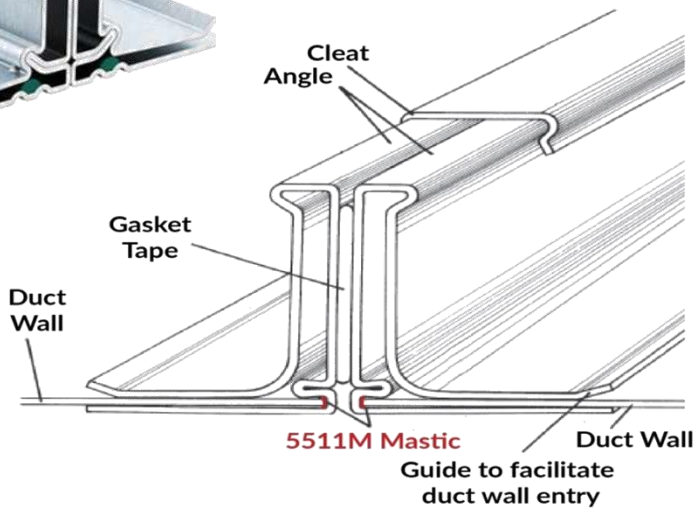

HEMMED "S" SLIP
T–6

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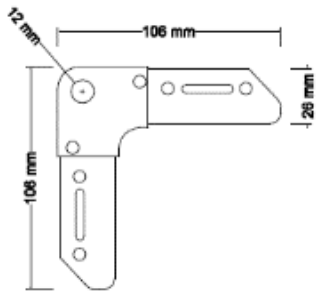
SLIP ON FLANGE

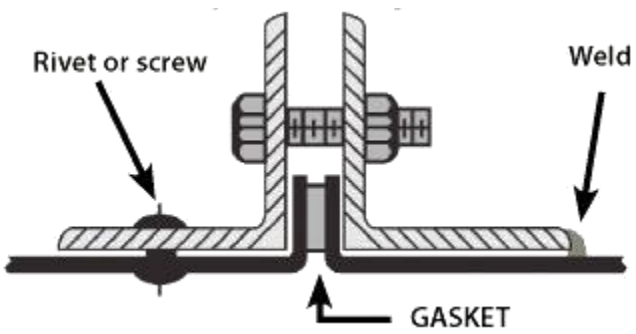






STEEL ANGLES





MATERIAL RANGE

Material	Specification	Thickness	Coating	Grade
GI Sheets	ASTM A635/A 653 M, LFQ Grade, Zinc coating Z 275/G90 as standard	26g-18ga	Z275/G90	
Stainless Steel Sheets	ASTM A 167.A 480 Grades SS 304 & SS 316	26g-18ga	MILL FINISH	2B
MS/CS Sheets	ASTM A366 , A 568 , A569, Grade CR/HR	26g-18ga	MILL FINISH	
Aluminum Sheets	Alloy H 3003, Grade H14,B209	26g-18ga	MILL FINISH	

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SMACNA TRANSVERSE JOINT TABLE FOR LOW PRESSURE DUCT

SMACNA RECTANGULAR DUCT REINFORCEMENT												
Duct Dimension	500 Pa Static Positive or Negative			1000 Pa Static Positive or Negative			1500 Pa Static Positive or Negative			2500 Pa Static Positive or Negative		
	Thickness	Cross Joint Rating	Stiffener Rating	Thickness	Cross Joint Rating	Stiffener Rating	Thickness	Cross Joint Rating	Stiffener Rating	Thickness	Cross Joint Rating	Stiffener Rating
251-300	0.55	C		0.55	C		0.7	C		0.7	D	
301-350	0.55	C		0.55	C		0.7	C		0.85	D	
351-400	0.55	C		0.55	C		0.7	C		1	E	
401-450	0.55	C		0.55	D		0.7	D		1	F	
451-500	0.55	C		0.7	D		0.7	D		1	F	
501-550	0.55	C		0.7	E		0.7	E		1	H	
551-600	0.55	D		0.7	E		0.85	E		1	H	
601-650	0.55	D		0.7	E		0.85	E		1	H	
651-700	0.55	D		0.7	F		0.85	F		1	H	
701-750	0.55	E		0.7	F		0.85	F		1	H	
751-900	0.7	F		0.85	G		0.85	G		1	H	H
901-1000	0.7	G		1	H		0.85	H		1	J	H
1001-1200	0.85	H		1	H	H	0.85	H	H	1	J	H
1201-1300	1	H		1	H	H	0.85	H	H	1	J	H
1301-1500	1	H	F	1	H	H	0.85	H	H	1	J	J
1501-1800	1	H	H	1	J	H	1	J	H	1.2	J	J
1801-2100	1	J	H	1.2	J	J	1	J	H	1.2	J	J
2101-2400	1	J	J	1.2	J	J	1.2	J	J	1.6	L	L
2401-2700	1.2	J	J	1.2	J	J	1.2	J	J	1.6	L	L
2701-3000	1.2	J	J	1.2	J	J	1.2	K	J	1.6	L	L

CONSTRUCTION TABLE

Project	
GI Sheet Brand / Origin	
Duct Manufacturer	M/s SASCO AIRCONDITIONING INDUSTRY

DW144 PRESSURE CLASS : Medium (1000 pa)

Duct (Longer side) mm	Proposed Actual GI Sheet Thickness mm	Longitudenal Connection	Transverse Joint (Based on 1220 mm of Spacing)	Intermediate Reinforcement (Based on 1220 mm of Spacing)
0-600	0.60	Grooved / Pittsburgh seam		
601-800	0.80	Grooved / Pittsburgh seam		
801-1000	0.80	Grooved / Pittsburgh seam		
1001-1250	0.80	Grooved / Pittsburgh seam		
1251-1600	1.00	Grooved / Pittsburgh seam		
1601-2500	1.00	Grooved / Pittsburgh seam		
2501-3000	1.20	Grooved / Pittsburgh seam		

* SS - Stiffened Sheet (by mean of Beading at 300mm Distance)
* Slide on flange System : SASCO Air Conditioning Industry
* Slide on flanges are fixed by (Rivets or Screws or Spot welding or Punching (Clinching)).

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