



INTRODUCTION

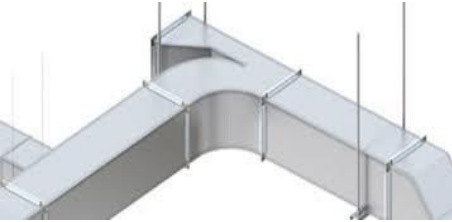
GULF GRILLES Co.

Established in 1984, Gulf Grilles Company LLC (GGC) is one of the leading manufacturer of the HVAC products in the Middle East. Our relentless effort to consistently and promptly meet the changing customer demands made us one of the most reputed company among HVAC contractor and clients. We deals with a broad range of products predominantly air terminal devices such as grilles, diffusers and duct accessories. Our state of the art manufacturing facility located in Riyadh is equipped and employed with the latest machines and people having skill set in their respective field to quickly address the fluctuating yet large demand in HVAC field.

In order to promptly respond to the inquiries of the customers spread across the kingdom we have also opened two branches Jeddah and Al Khobar, effective utilization of resources enable us to produce roughly 950000 pc's of air terminal devices and 150000 pc's galvanized steel duct accessories per year not only emphasis the large turnout but the extent of its market share. What stand out in our extensive production line are undoubtedly the two automatic electrostatic polyester powder coating facilities equipped with the most advanced power coating guns and curing oven to enhance the aesthetics of our range of products. The standard color of our products, particularly grilles and diffusers is white and for damper it is black painted under electrostatic polyester powder coating system. Despite, we let the customer to choose from the board range of color to aesthetically please the products they buy from us.

What's new to our production facility, Is duct fabrication line by which it is equipped with the latest machines and specialized equipment to produce the highest quality duct fabrication that satisfies customer requirements and needs for each detail. All standard duct fabrication will be available, Rectangular, Round and Flat Oval duct, flexible duct, semi flexible duct , and flexible duct connector ,duct fittings and joints by which duct and accessories are made from either GI steel sheets. All duct dimensions and design standards will satisfy SMACNA standards for duct construction fabrications.

INTRODUCTION



1. RECTANGULAR DUCTS AND FITTINGS



2. FLEXIBLE DUCT



3. SEMI FLEXIBLE DUCT/SEMI RIGID



4. ROUND DUCT AND FITTINGS



5. OVAL DUCTS AND FITTINGS



6. FLEXIBLE CONNECTOR



شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.

AIR DISTRIBUTION SYSTEMS



RECTANGULAR DUCT

RECTANGULAR DUCTS

GULF GRILLES COMPANY's Rectangular Duct System is manufactured to meet the most stringent HVAC /commercial/residential specifications and quality standards using GGC's vast experience and expertise in the field and its state-of-the-art equipment. For over a decade, GGC's Rectangular Duct System is available for various HVAC and other commercial applications. Energy efficiency through minimum air leakage rate and indoor air quality are the basis of GGC's engineered products.

Ducts are manufactured on CNC machinery such as Automatic line, Plasma Arc Cutting machines, and Auto Seaming machines and many more.

GGC Rectangular Ducts are available in the following construction:-

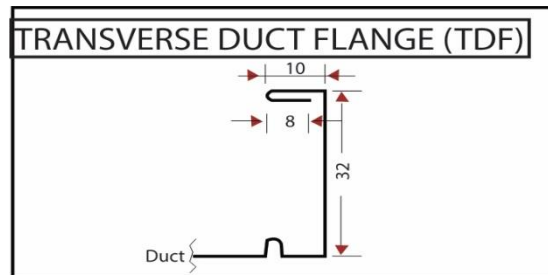
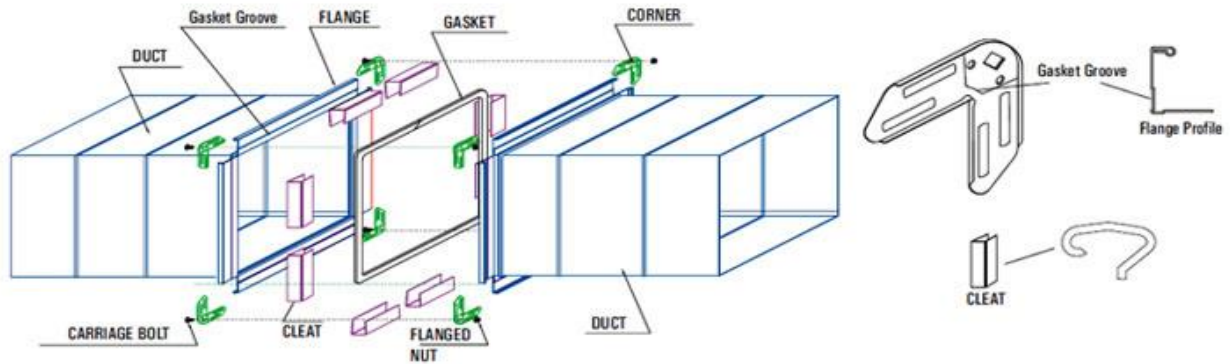
- ❖ Galvanized Construction: - GGC's GI rectangular ducts are fabricated from hot dipped galvanized sheets in accordance with ASTM A653, Lock forming quality with G90 / Z27 (275 grams / m²) zinc coating.

Product Features

- ❖ Excellent quality ducts fabricated from a variety of GI sheet makes.
- ❖ Duct construction as per SMACNA standards provides superior strength, low leakage rate and vibration free products.
- ❖ No limitation on duct size. Any size of duct can be constructed.
- ❖ Less leakage with superior quality slip on flange transverse joints with integral sealant. TDF type integral flanges are also available as an option.
- ❖ All GI ducts shall be with beading at 300mm distance, which act as stiffeners and help minimizing vibration and drumming noise of duct sheet panels. Tie rods and stiffeners shall be provided if required.
- ❖ Factory fabricated and "Ready to Install" ducts at the site.
- ❖ Accurate finished dimensions.
- ❖ Quick and easy installation without the use of special tools.

TRANSVERSE JOINT

TDF FLANGE



- Corner piece 16 gauge hole size for 3/8" bolt



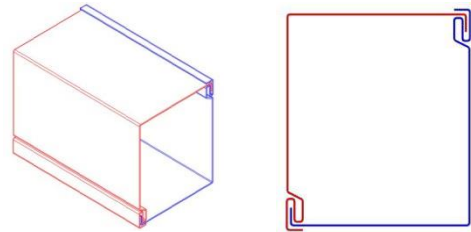
- J cleat. Sheet Gauge 22, 20 gauge. Installed at an interval of 150mm. its standard length is 6 inches.



TRANSVERSE JOINT

1. U- shape or L – Shape for small and medium sizes

Joints in L form or two parts of longitudinal Pittsburgh seams.



2. Four Piece for large size

Joints of four-piece or four parts of longitudinal Pittsburgh seams.

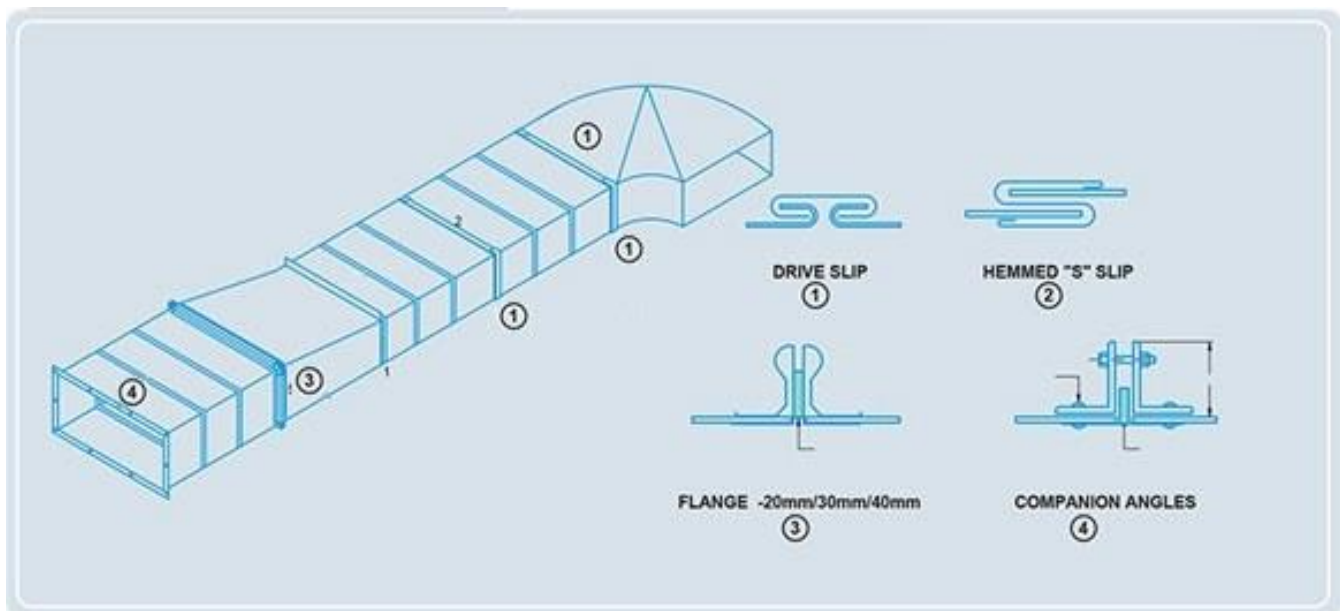
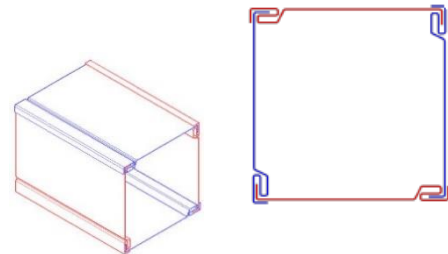


Figure-details of joints & connections

TYPES OF RECTANGULAR DUCT WE MANUFACTURE

- A) TDF Ductwork and Fittings
- B) TDC Ductwork and Fittings or angle flange
- C) Slip & drive
- D) Raw at both end ducts.



GALVANIZED SHEET THICKNESS TOLERANCES

Gage	Thickness in Inches			Weight				Thickness in Millimeters		
	Min.	Max.	Nom.	Min. lb/sf	Nom. Lb/sf	Max. lb/sf	Nom. Kg/m ²	Min.	Max.	Nom.
33	.0060	.0120	.0090	.2409	.376	.486		.1524	.3048	.2286
32	.0104	.0164	.0134	.4204	.563	.665		.2642	.4166	.3404
31	.0112	.0172	.0142	.4531	.594	.698		.2845	.4369	.3607
30	.0127	.0187	.0157	.5143	.656	.759	3.20	.3188	.4783	.3988
29	.0142	.020	.0172	.5755	.719	.820		.3569	.5169	.4369
28	.0157	.0217	.0187	.6367	.781	.881	3.81	.3950	.5550	.4750
27	.0172	.0232	.0202	.6979	.844	.943		.4331	.5931	.5131
26	.0187	.0247	.0217	.7591	.906	1.004	4.42	.4712	.6312	.5512
25	.0217	.0287	.0247	.8407		1.167		.5274	.7274	.6274
24	.0236	.0316	.0276	.9590	1.156	1.285	5.64	.6010	.8010	.7010
23	.0266	.0346	.0306	1.0814		1.408		.6772	.8772	.7772
22	.0296	.0376	.0336	1.2038	1.406	1.530	6.86	.7534	.9534	.8534
21	.0326	.0406	.0336	1.3263		1.653		.8296	1.0296	.9296
20	.0356	.0436	.0396	1.4486	1.656	1.775	8.08	.906	1.106	1.006
19	.0406	.0506	.0456	1.6526		2.061		1.028	1.288	1.158
18	.0466	.0566	.0516	1.8974	2.156	2.305	10.52	1.181	1.441	1.311
17	.0525	.0625	.0575	2.1381		2.546		1.331	1.591	1.461
16	.0575	.0695	.0635	2.342	2.656	2.832	12.96	1.463	1.763	1.613
15	.0650	.0770	.0710	2.6481		3.138		1.653	1.953	1.803
14	.0705	.0865	.0785	2.8725	3.281	3.525	16.01	1.784	2.204	1.994
13	.0854	.1014	.0934	3.4804		4.133		2.162	2.5823	2.372
12	.0994	.1174	.1084	4.0516	4.531	4.786	22.11	2.523	2.983	2.753
11	.1143	.1323	.1233	4.6505		5.394		2.902	3.362	3.132
10	.1292	.1472	.1382	5.2675	5.781	6.002	28.21	3.280	3.740	3.510
9	.1442	.1622	.1532	5.8795		6.614		3.661	4.121	3.891
8	.1591	.1771	.1681	6.4874	6.875	7.222		4.040	4.500	4.270

G.I. SHEET THICKNESS SCHEDULE

OPERATING PRESSURE in W.G	DUCT SIZE	GAUGE	CONNECTION TYPE
2" W.G	0-450	26	TDF\C&S cleat
	451-750	26	TDF
	751-900	24	TDF
	901-1000	24	TDF
	1001-1200	22	TDF\SLIP ON
	1201-1300	24	TDF\SLIP ON
	1301-1500	24	SLIP ON
	1501-1800	20	SLIP ON
	1801-2100	18	SLIP ON
	2101-2200	18	SLIP ON
	2201-2400	18	SLIP ON
2401-2700	18	SLIP ON	

OPERATING PRESSURE in W.G	DUCT SIZE	GAUGE	CONNECTION TYPE
4" W.G	0-450	24	TDF
	451-750	24	TDF
	751-900	22	TDF\ SLIP ON
	901-1000	20	TDF\SLIP ON
	1001-1200	18	TDF\ SLIP ON
	1201-1300	18	TDF\ SLIP ON
	1301-1500	18	SLIP ON
	1501-1800	18	SLIP ON
	1801-2100	18	SLIP ON
	2101-2200	18	SLIP ON
	2201-2400	18	SLIP ON
2401-2700	18	SLIP ON	

OPERATING PRESSURE in W.G	DUCT SIZE	GAUGE	CONNECTION TYPE
6" W.G	0-450	24	TDF
	451-750	22	TDF
	751-900	20	TDF
	901-1000	18	TDF
	1001-1200	18	TDF\SLIP ON
	1201-1300	18	TDF\SLIP ON
	1301-1500	18	SLIP ON
	1501-1800	18	SLIP ON
	1801-2100	18	SLIP ON
	2101-2200	18	SLIP ON
	2201-2400	18	SLIP ON
	2401-2700	18	SLIP ON

OPERATING PRESSURE in W.G	DUCT SIZE	GAUGE	CONNECTION TYPE
10" W.G	0-300	24	TDF
	301-450	22	TDF
	451-750	20	TDF
	751-1000	18	TDF
	1001-1200	18	TDF\SLIP ON
	1201-1300	18	TDF\SLIP ON
	1301-1500	18	SLIP ON
	1501-1800	18	SLIP ON
	1801-2100	18	SLIP ON
	2101-2200	18	SLIP ON
	2201-2400	18	SLIP ON
	2401-2700	18	SLIP ON

LIST OF MANUFACTURING PRODUCTS

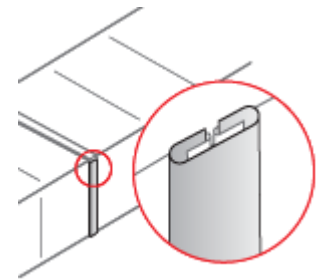


Stack Duct- Used between wall studs for venting, heating & air conditioning supply & return duct

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-SD

For order- W x H

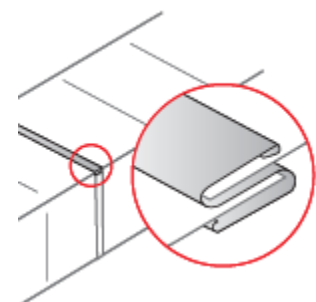


Trunk Duct- Trunk ducts are the main supply (or return) which connect directly to the plenum from which branch ducts extend to individual air distribution outlets.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-TD

For order- W x H



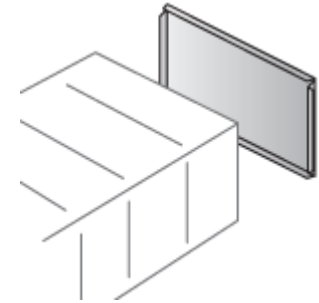


Blind End Cap-Used to terminate a rectangular duct run.

Sizes- Available in almost all sizes.

Model no- RC-DEC

For order- W x H



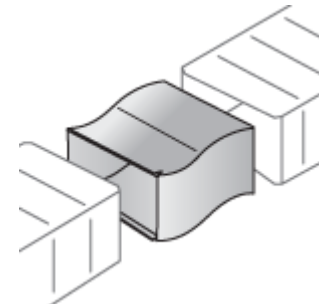
Duct Riser/Offset - Used as transition to elevate a duct run.

Designed with a 6" rise.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw duct.

Model no- RC-DR/OS

For order- W x H



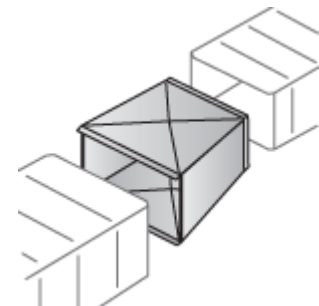
Duct Reducer: - Allows for a smooth transition from duct size to a smaller size.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-DFR

For order- w x h (Inlet)

W x H (Outlet)





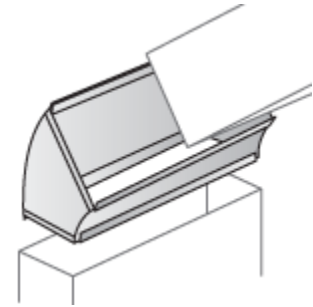
Flat Elbow 45° - Short way - Used to change the direction of two sections of rectangular.

Fixed at 45° angle.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-FE45°

For order- W x H



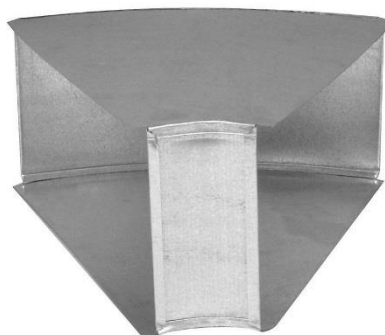
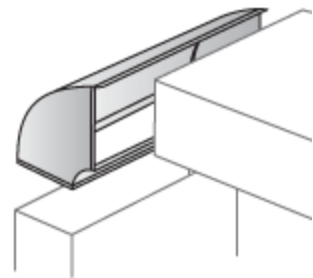
Flat Elbow 90° - Short way - Used to change the horizontal direction of two sections of rectangular.

Fixed at 90° angle.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-FE90°

For order- W x H



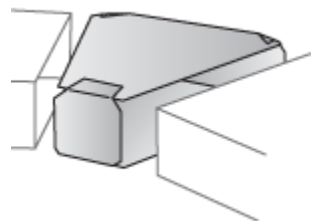
Side Elbow 45° - Long way - Used to change the vertical direction of two sections of rectangular stack duct.

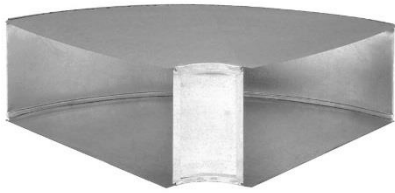
Fixed at 45° angle.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts.

Model no- RC-SE45°

For order- W x H





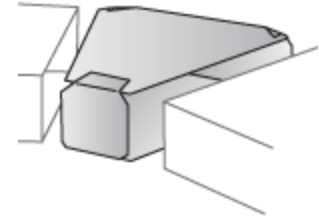
Side Elbow 90° - Long way - Used to change the vertical direction of two sections of rectangular stack duct.

Fixed at 90° angle.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw duct

Model no- RC-SE90°

For order- W x H



Shoe Boot Elbow - Used to change the direction.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw ducts

Model no- RC-SBE

For order- w x h (Inlet)

W x H (Outlet)



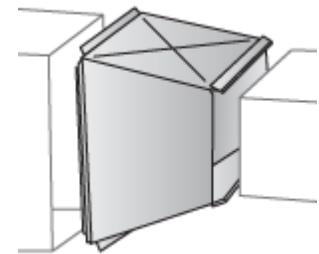
Starting Collar (Take off) - Attached to a rectangular hole cut into the side of the plenum. Provides a transition reduction in the size of trunk duct being used.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw DUCTS.

Model no- RC-SCO

For order- w x h (inner)

W x H (outer)



A. Y CONNECTION - MODEL NO (RC-YC)

B. REDUCEING Y CONNECTION - MODEL NO (RC-RYC)



Attached to a rectangular duct line for dividing into two section.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw duct.

For order - w x h (inner)

W x H (outer)

Wb x Hb (branch)



A. TWO WAY CONNECTION – MODEL NO (RC-2W)

B. REDUCING TWO WAY CONNECTION - MODEL NO (RC-R2W)



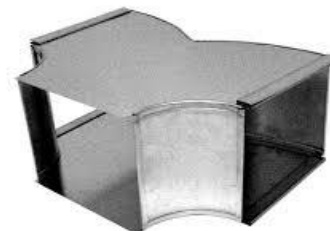
Attached to a rectangular duct line for dividing into two section.

Sizes- Available in almost all sizes in TDF, TDC, Slip & Drive and raw duct.

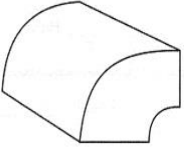
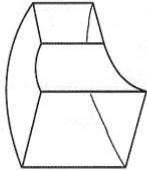
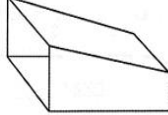
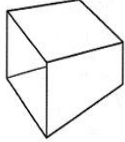
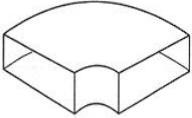
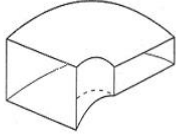
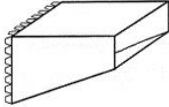
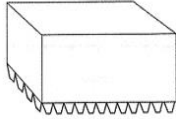
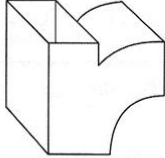
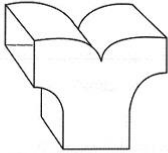
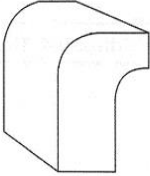
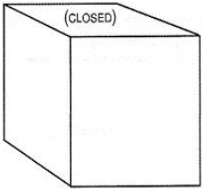
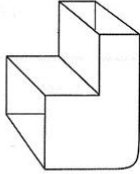
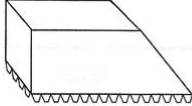
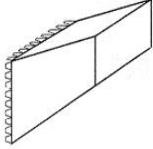
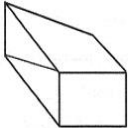
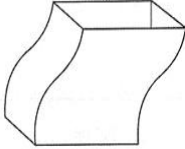
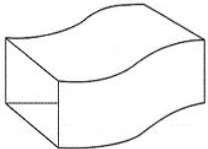
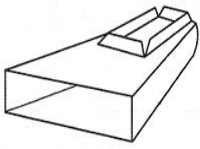
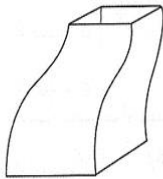
For order - w x h (inner)

W1 x H1 (outer left)

W2 x H2 (outer right)



LIST OF MANUFACTURING PRODUCTS

STACK ELBOW 90°	STACK ELBOW 90° REDUCING	TRANSITION	TRANSITION (OFFSET/RISING)
			
SIDE ANGLE 90°	SIDE ANGLE 90° REDUCING	PLENUM TAKE-OFF (Flat on Top)	FISHLOCK COLLAR
			
Y-BRANCH	3-WAY	PLENUM ELBOW	BOX PLENUM (CLOSED)
			
RETURN AIR BOOT	SIDE TAKE-OFF	PLENUM TAKE-OFF (With Rise)	REDUCER
			
OFFSET	RISER		
			
REVERSING 90°	OFFSET/RISER REDUCING		
			

Note- We manufacture almost all types of rectangular duct & fittings; inform us if you don't find any fittings in this list.

COMMONLY USED RECTANGULAR DUCT

Width (mm)	Height (mm)										
	100	150	200	250	300	400	500	600	800	1000	1200
200	1)	1)	2)	3)	3)	3)	3)	3)	3)	3)	3)
250	2)	2)	2)	2)	3)	3)	3)	3)	3)	3)	3)
300	1)	1)	1)	2)	2)	3)	3)	3)	3)	3)	3)
400	1)	1)	1)	2)	1)	2)	3)	3)	3)	3)	3)
500	3)	1)	1)	2)	1)	1)	2)	3)	3)	3)	3)
600	3)	1)	1)	2)	1)	1)	1)	2)	3)	3)	3)
800	3)	3)	1)	2)	1)	1)	1)	1)	2)	3)	3)
1000	3)	3)	3)	2)	1)	1)	1)	1)	1)	2)	3)
1200	3)	3)	3)	3)	1)	1)	1)	1)	1)	1)	2)
1400	3)	3)	3)	3)	3)	2)	2)	2)	2)	2)	2)
1600	3)	3)	3)	3)	3)	1)	1)	1)	1)	1)	1)
1800	3)	3)	3)	3)	3)	3)	2)	2)	2)	2)	2)
2000	3)	3)	3)	3)	3)	3)	3)	3)	1)	1)	1)

1) Preferred
 2) Acceptable
 3) Not common



شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.

AIR DISTRIBUTION SYSTEMS

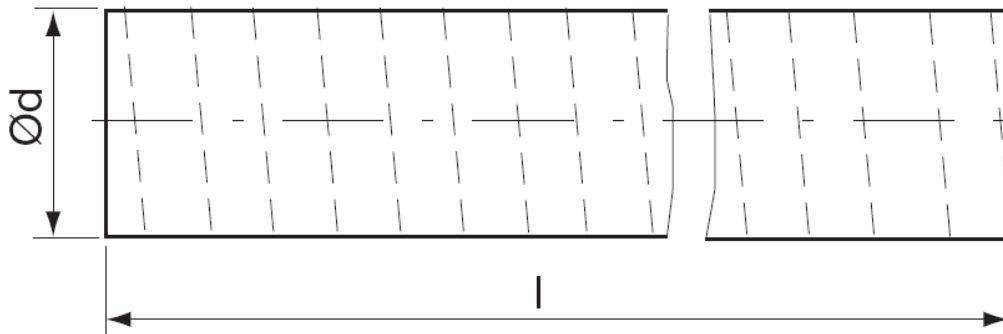


Flexible duct

FLEXIBLE ALUMINUM DUCT

Product Description- FD

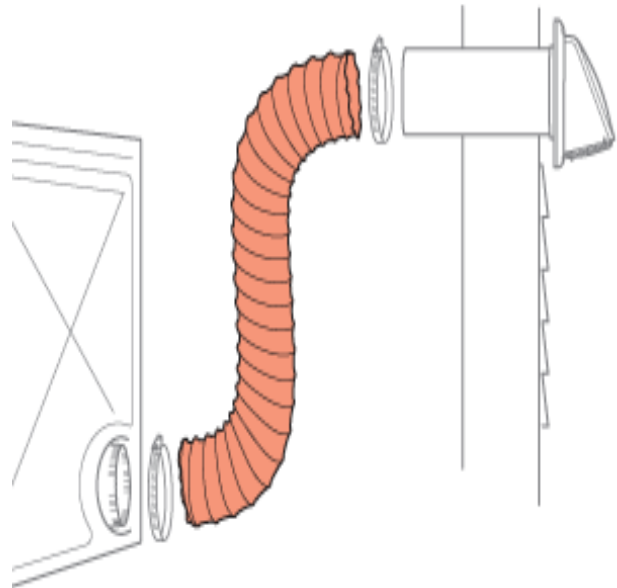
Multiple layer products made up of aluminum/PET laminate formed into a flexible duct supported by a wire helix.



FOR ORDER WE NEED LENGTH AND DIAMETER

Technical data

Duct material	Aluminum/PET (AL-9 um/pet-12 um)
Product thickness	AL-9 um/pet-12 um + glue + AL-9 um/pet-12 um
Diameter range	80 - 600mm
Temperature	-30 to +140°C
Air velocity	30 m/s max
Operating pressure	2500 pa max
Wire thickness	0.9 and 1.2 mm

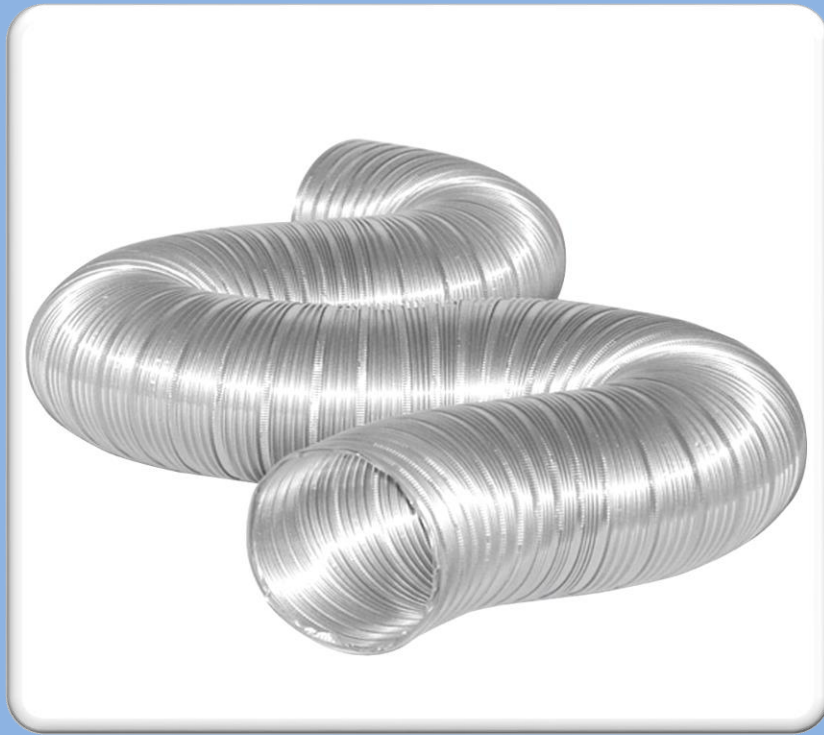




شركة الخليج لفتحات التكييف المركزي

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AIR DISTRIBUTION SYSTEMS



SEMI FLEXIBLE DUCT

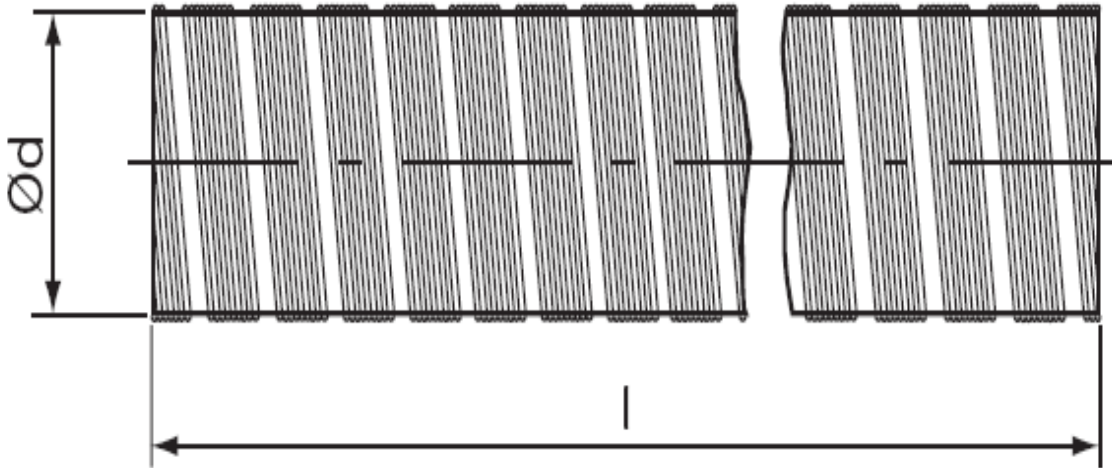
SEMI FLEXIBLE ALUMINUM DUCT

Product Description- SFD

Semi flexible aluminum Single layer duct wall.

Advantages

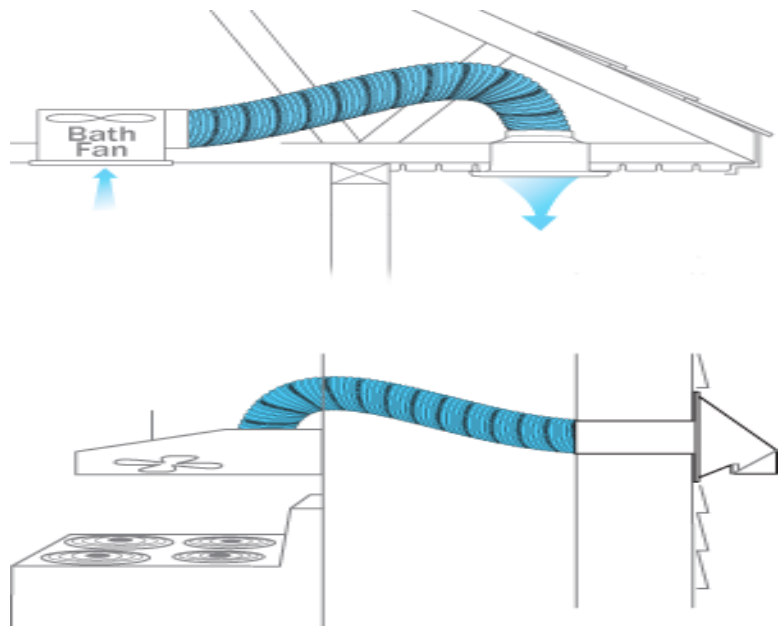
- ❖ Small storage and transport volume.
- ❖ No toxic gases are emitted in case of fire.
- ❖ Tested on fire resistance



FOR ORDER WE NEED LENGTH AND DIAMETER.

Technical data

Duct material	Aluminum
Material thickness	120 microns or 0.12mm
Diameter range	80-500mm
Temperature	-30 °C to +250 °C
Fire resistance	not flammable in accordance with DIN 4102 class A1
Air velocity	30 m/s max
Operating pressure	2000 pa max
Standard length	3.5 m compressed to 1 meter.



Use with bath fans and other general purpose venting applications



شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.

AIR DISTRIBUTION SYSTEMS



ROUND DUCT

ROUND SPIRAL DUCTS

GULF GRILLES COMPANY'S Round spiral Duct comes in a range of **100 mm to 1200mm**, manufactured to meet the most stringent specifications and quality standards using GGC's vast experience and expertise in the field and its state of the art equipment. GGC's Round spiral Duct System is available for various HVAC and other commercial applications. Energy efficiency through minimum air leakage rate and indoor air quality are the basis of GGC's engineered products.



"GGC" Spiral Duct System is produced on Tube former, Gore Locker, Stitch Welder, Seam welding machinery, CNC Plasma Arc Cutting machines, and many more.

Galvanized Construction: - GGC's GI round ducts are fabricated from hot dipped galvanized sheets in accordance with ASTM A653, Lock forming quality with G90 / Z27 (275 grams / m²) zinc coating.

Product Features

- ❖ Excellent quality ducts fabricated from a variety of GI sheet makes.
- ❖ Duct construction as per SMACNA standards provides superior strength, very low leakage rate and vibration free products.
- ❖ All GI ducts shall be with outside lock seam.
- ❖ Factory fabricated and "Ready to Install" ducts at the site.
- ❖ Accurate in finished dimensions.
- ❖ Special identification stickers on duct pieces cross referred to AC units/drawings/areas for an easy installation process.
- ❖ Quick and easy installation without the use of special tools.
- ❖ The smaller shape of the surface means LESS INSULATION required when it is covered externally.



Spiral duct is available in various diameter sizes, from 100mm to 1200m.

The diameters choices are as follows:

100mm, 150mm, 200mm, and multiples of 50mm to 1200 mm.

PROFILE



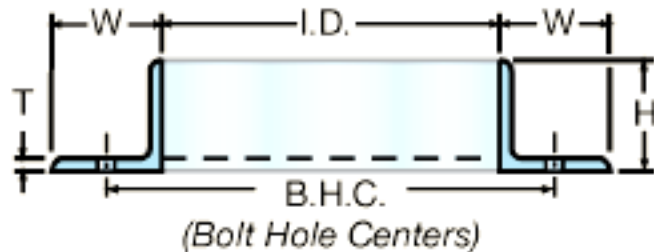
Thickness range	26-18 ga
Diameter range	100-1200 mm
Lock seam	Outside lock seam

Galvanized Construction: - GGC's GI spiral ducts are fabricated from hot dipped galvanized sheets in accordance with ASTM A653, Lock forming quality with G90 / Z27 (275 grams / m²) zinc coating.

FLANGE PROFILE

Flange-to-flange joints are widely used to connect pipes in dust and fume control applications, in outdoor applications, and for additional strength in high positive or high negative pressure applications.

The basic flange-to-flange joints consist of two facing flanges which are fastened to the ends of the spiral pipe with screws, pop-rivets, or sometimes by welding-except, which do not require fastening to the duct under standard loading conditions. The two flanged ends are then fastened together with bolts, screws, or flange clamps.



Bolts are used for permanent installations and when the pipe must mate with fans or other air moving equipment. In installations where there is a need for frequent maintenance or cleaning, flange clamps are used.

Pressed and rolled steel angle rings are used widely in joining ductwork in dust and fume control work. Available in 200 mm to 1800 mm diameters, Galvanized. They are available with or without holes. Nearly any bolt circle spacing or hole size is available.

thickness	2.5 to 4 mm
diameter	200 to 1200 mm
size	30x20,30x30,40x20,40x30



Weight and Gauge Chart

diameter	26 Gauge lbs./ft.	24 Gauge lbs./ft.	22 Gauge lbs./ft.	20 Gauge lbs./ft.	18 Gauge lbs./ft.	16 Gauge lbs./ft.
3"	0.8	1.1	1.3	1.5		
4"	1.1	1.4	1.7	2		
5"	1.4	1.7	2.1	2.5	3.2	4
6"	1.6	2	2.5	3	3.9	4.5
7"	1.9	2.4	2.9	3.4	4.6	5.6
8"	2.1	2.8	3.3	3.9	5.2	6.3
9"	2.4	3.1	3.8	4.4	5.9	7.2
10"	2.6	3.4	4.2	4.9	6.5	7.9
11"	2.9	3.8	4.6	5.4	7.1	8.7
12"	3.2	4.1	5	5.9	7.8	9.5
13"		4.5	5.4	6.4	8.5	10.2
14"		4.8	5.8	6.9	9.1	11.1
15"		5.1	6.2	7.4	9.8	11.9
16"		5.5	6.6	7.8	10.4	12.7
17"		5.8	7.1	8.3	11.1	13.4
18"		6.1	7.5	8.8	11.7	14.2
20"		6.8	8.3	9.8	13	15.8
22"		7.5	9.1	10.8	14.3	17.4
24"		8.2	9.9	11.7	15.6	19
26"			10.8	12.7	16.9	20.6
28"			11.6	13.7	18.2	22.2
30"			12.4	14.6	19.5	23.8
32"			13.3	15.6	20.8	25.4
34"			14.1	16.6	22	26.9
36"			14.9	17.6	23.3	28.5
38"				18.5	24.6	30.1
40"				19.5	25.9	31.7
42"				20.5	27.2	33.3
44"				21.5	28.5	34.9
46"				22.5	29.8	36.4
48"				23.4	31.1	38
50"				24.5	32.4	39.6
52"					33.7	41.3
54"					34.8	42.9
56"					36.3	44.5
58"					37.4	46
60"					38.9	47.3

Positive Pressure

Bursting Pressure various gauges of spiral tubing

diameter	26 Gauge	24 Gauge	22 Gauge	20 Gauge	18 Gauge.
3"	420	535	650	765	995
4"	308	392	475	560	728
5"	238	303	369	435	566
6"	199	252	308	363	473
7"	169	216	262	309	403
8"	145	186	224	264	344
9"	127	161	196	230	299
10"	113	144	177	208	271
12"	93	118	145	171	223
14"	76	100	120	142	185
16"	68	86	103	122	162
18"		75	91	104	136
20"		66	81	96	125
22"		60	72	85	111
24"			66	78	101
26"			61	72	94
28"			55	65	85
30"			51	60	78
32"			47	56	73
34"				52	68
36"				48	65
38"				45	59
40"				42	55
42"				39	51
44"					47
46"					44
48"					41
50"					39

1 PSI = 27.678 H2O

**All tube diameters in inches. All pressure in PSI.
Internal Pressure**

Collapsing Pressure various gauges of spiral tubing

diameter	26 Gauge	24 Gauge	22 Gauge	20 Gauge	18 Gauge.	16 gauge
6"	220.4					
8"	69.2	121.2				
10"	34.6	110.6	691.7			
12"	22	55.1	249.2	1107		
14"	15.3	38.5	110.6	456.6	2767.7	
16"	11	27.5	105.1	236.2	1383.8	5258.6
18"	9	20.8	53.9	149.6	664.1	2214.1
20"	7.8	16.5	38.5	99.6	332.2	1245.6
22"	7.2	14.1	30.3	72	221.2	692.1
24"	5.5	11.8	24.8	55.5	155.1	387.4
26"	5.1	9.8	20.8	44	110.6	290.5
28"	4.7	8.6	18.1	35.8	88.5	243.7
30"	4.3	8.2	15.3	30.3	69.2	166.1
32"		6.6	13.7	26.3	58.2	128.7
34"				22	48.4	103.9
36"		5.5	11	20.4	42.9	85.8
38"				17.7	37.4	72
40"		4.3	9.8	16.5	33	62.2
42"			9	15.3	29.1	53.9
44"				13.7	26.3	47.2
46"				12.5	23.6	41.3
48"				11.8	22	37.4
50"				11	19.2	34.6
60"					14.9	24.8

.036 PSI = 1 inch H2O

Internal negative pressure in inches of water.

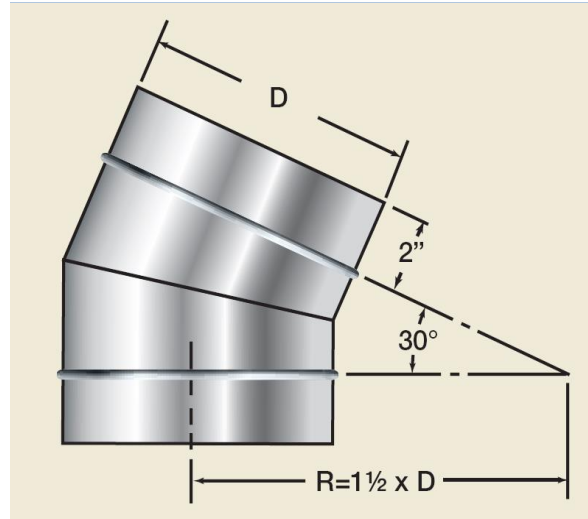
These tables are given only as a courtesy.

LIST OF MANUFACTURING PRODUCTS

01. GORGED ELBOW

Model - (SD - GE)

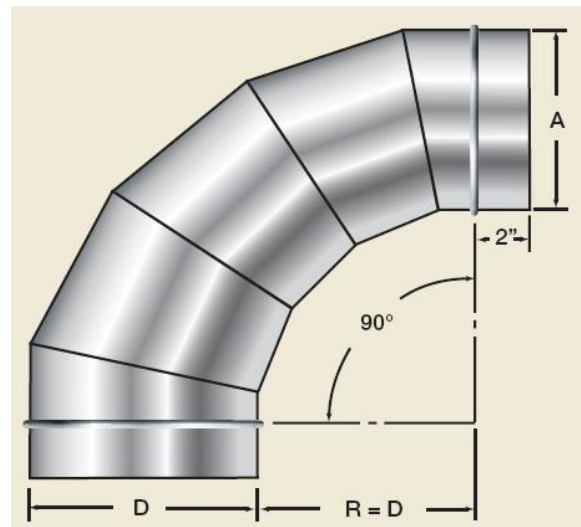
For order- (D - Θ)



02. GORGED REDUCING

Model - (SD - GRE)

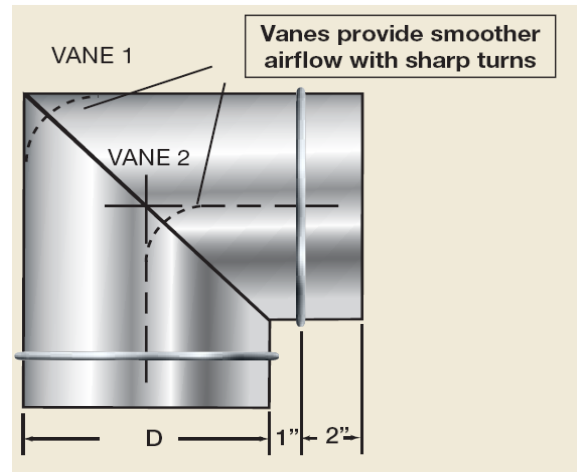
For order- (D - A - Θ)



03. MITERED ELBOW 90

Model - (SD - ME)

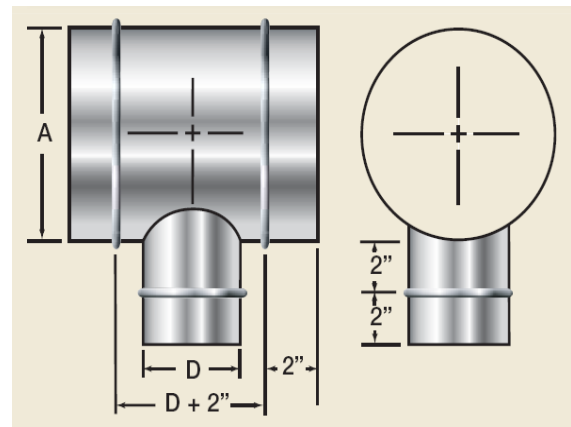
For order- (D)



04. PLANE TEE

Model - (SD - T)

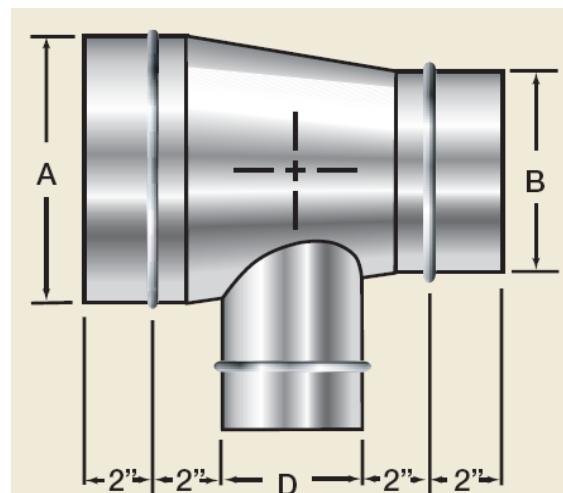
For order- (A - D)



05. REDUCING TEE

Model - SD - RT

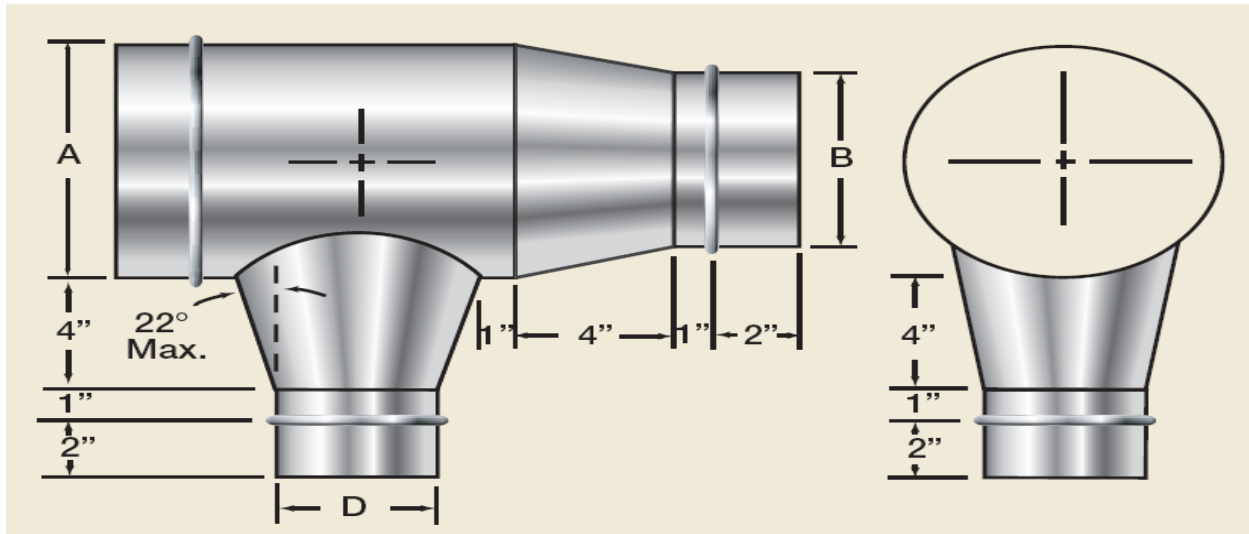
For order- (A - B - D)



06. REDUCING CONICAL TEE

Model - SD - RCT

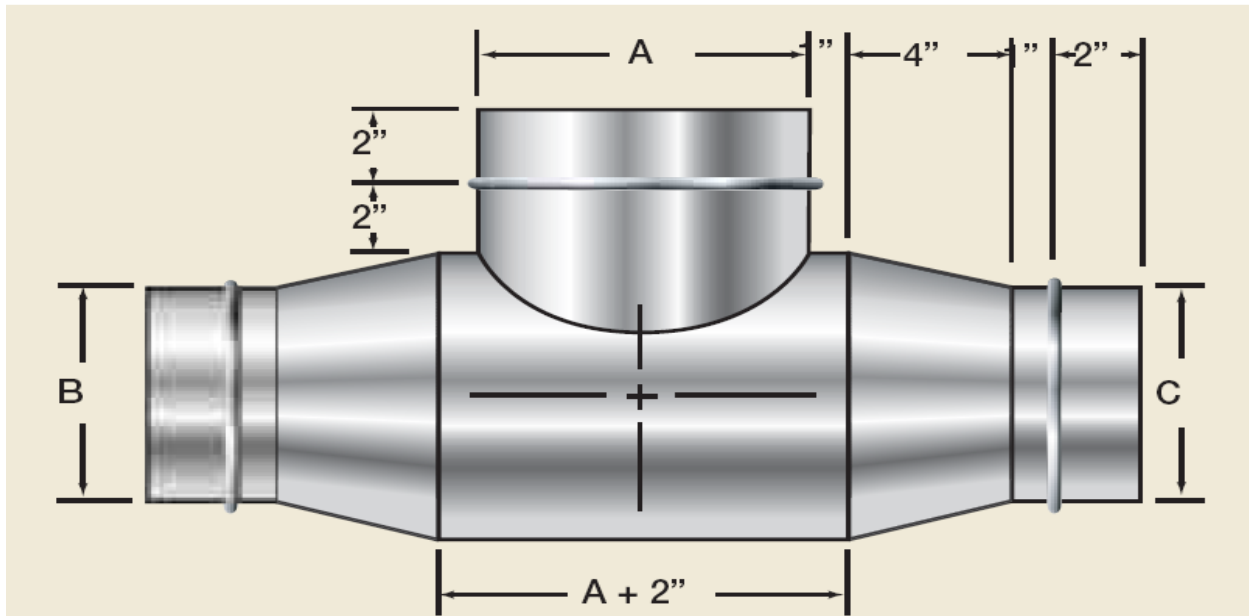
For order- (A - B - D)



07. BULLHEAD TEE

Model - SD - BH

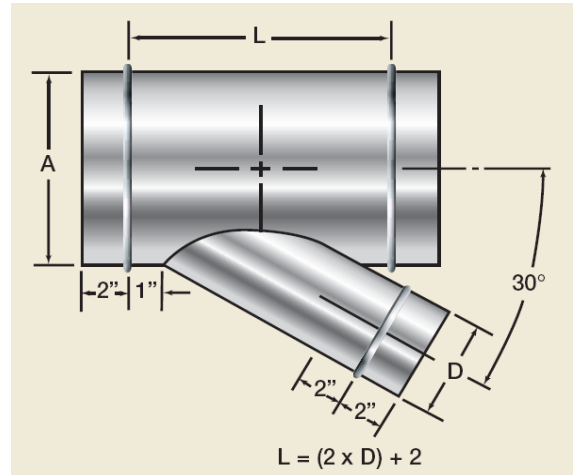
For order- (A - B - C)



08. LATERAL

Model - SD - LT

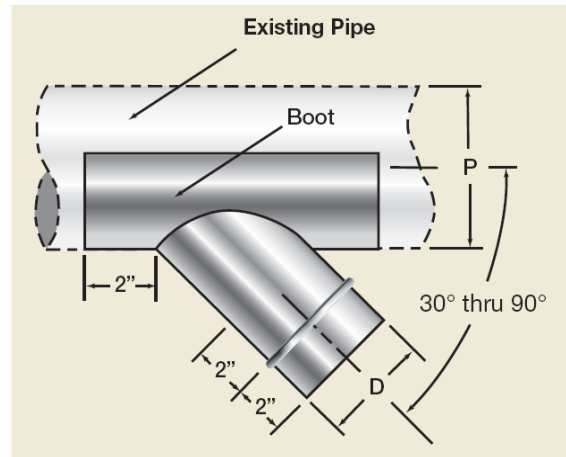
For order- (A - D - Θ)



09. COLLAR SADDLE

Model - SD - CS

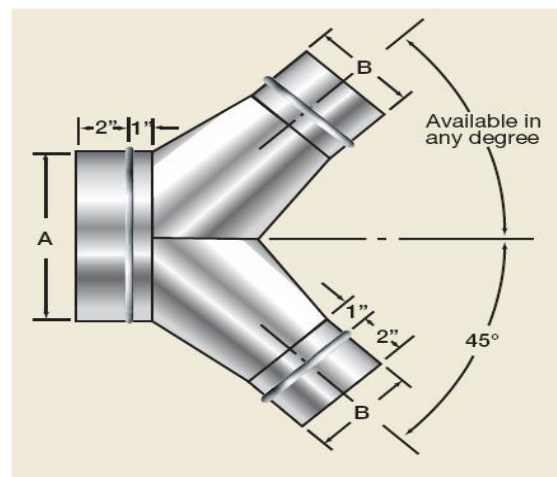
For order- (P - D - Θ)



10. Y-BRANCH

Model - SD - Y

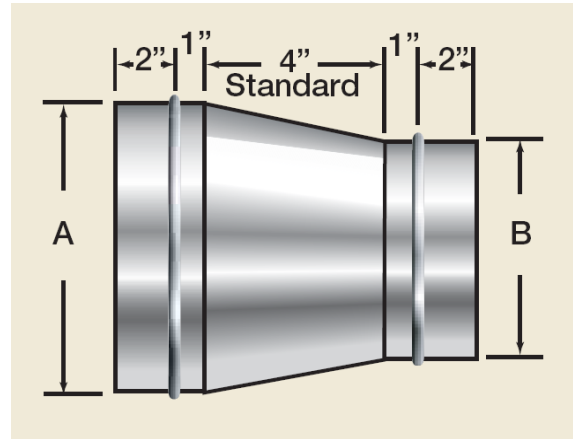
For order- (A - B - Θ)



11. CONCENTRIC REDUCER

Model - SD - CR

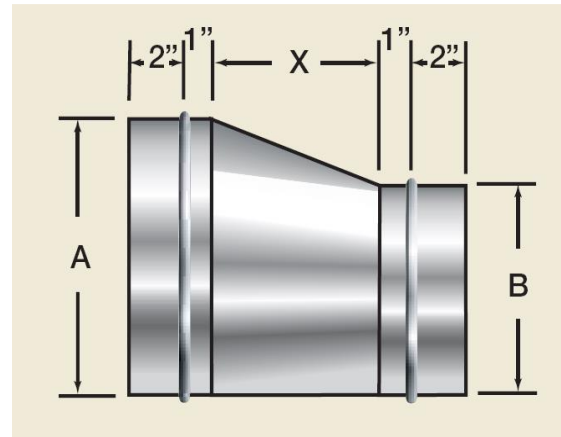
For order- (A - B)



12. ECCENTRIC REDUCER

Model - SD - ER

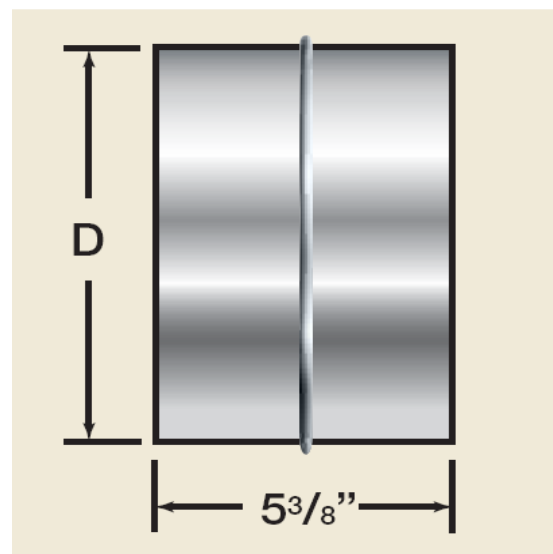
For order- (A - B)



13. COUPLINGS

Model - SD - CP

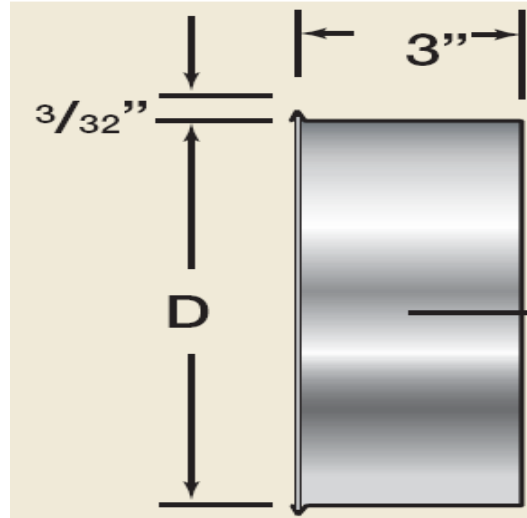
For order- (D)



14. END CAP

Model - SD - EC

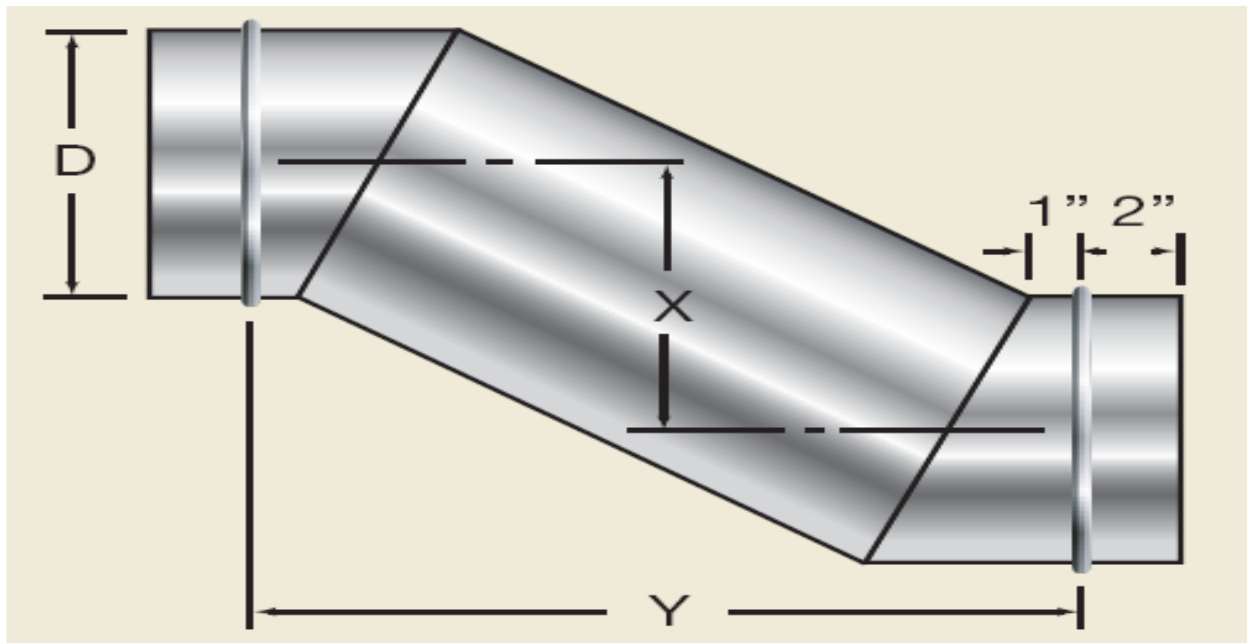
For order- (D)



15. OFFSET

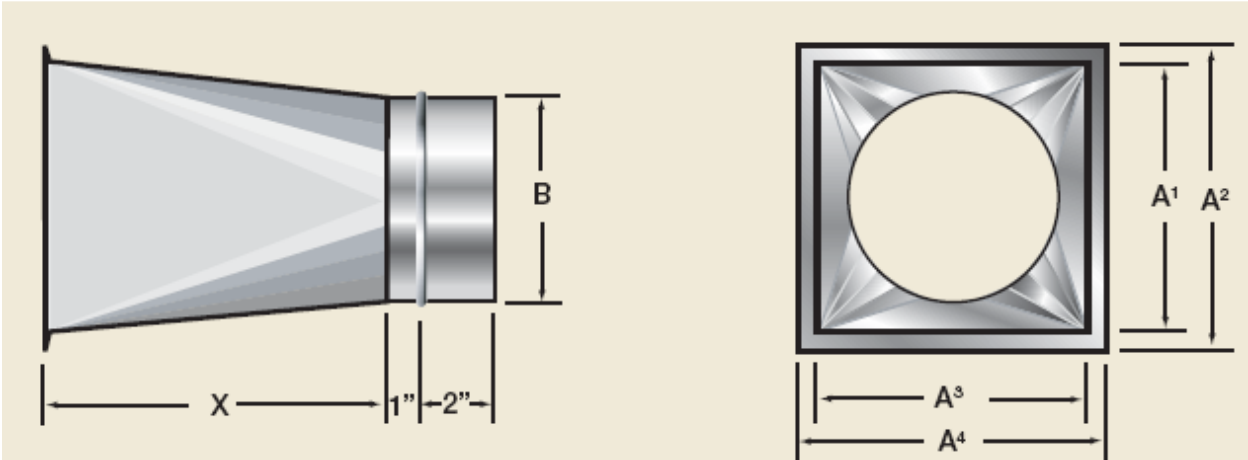
Model - SD - OFS

For order- (D - Y - X)



16. RECTANGULAR TO ROUND TRANSITION

Model - SD - TRS For order- (A – B)





شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.

AIR DISTRIBUTION SYSTEMS



OVALDUCT

OVAL DUCTS

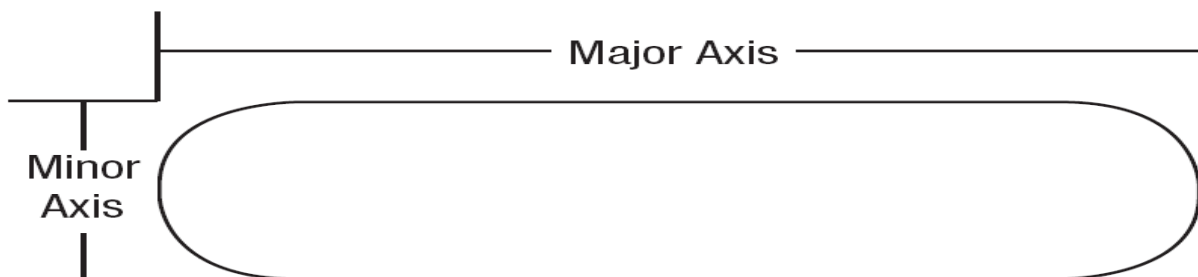
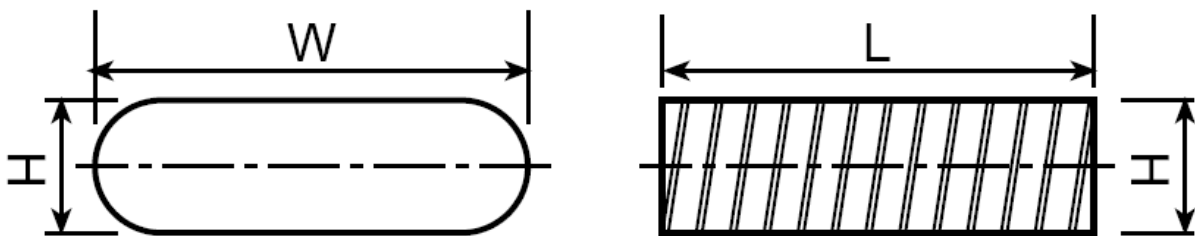
GULF GRILLES COMPANY's Oval Duct comes in a range of **500x150 mm to 1800x500 mm**, manufactured to meet the most stringent HVAC/ commercial/residential specifications and quality standards using GGC's vast experience and expertise in the field and its state-of-the-art equipment. For over a decade, GGC's Duct System is available for various HVAC and other commercial applications. Energy efficiency through minimum air leakage rate and indoor air quality are the basis of GGC's engineered products.



"GGC" oval Duct System is produced on ovalizer, Gore Locker, Stitch Welder, Seam welding machinery, CNC Plasma Arc Cutting machines, and many more.

GGC Round Ducts are available in the following construction:-

Galvanized Construction: - GGC's GI round ducts are fabricated from hot dipped galvanized sheets in accordance with ASTM A653, Lock forming quality with G90 / Z27 (275 grams / m²) zinc coating.



Product Features

- ❖ Excellent quality ducts fabricated from a variety of GI sheet makes.
- ❖ Duct construction as per DW144 / SMACNA/ASHRAE standards provides superior strength, very low leakage rate and vibration free products.
- ❖ All GI ducts shall be with outside lock seam.
- ❖ Factory fabricated and “Ready to Install” ducts at the site.
- ❖ Accurate in finished dimensions.
- ❖ Special identification stickers on duct pieces cross referred to AC units/drawings/areas for an easy installation process.
- ❖ Quick and easy installation without the use of special tools.
- ❖ The smaller shape of the surface means LESS INSULATION required when it is covered externally.
- ❖ Operational cost is LOWER because the oval round duct shape influences the air pressure, so the horse power of the fan is smaller.
- ❖ A smaller duct surface absorbs HEAT on a medium level, thus producing MORE EFFICIENT energy.
- ❖ A TIGHTER connection, thus LEAKS is greatly reduced and energy is not wasted.

Oval duct is available in various diameter sizes, from minor axis 150 mm to 500mm and major axis 500 mm to 1800 mm

The minor axis choices are as follows:

150mm, mm, 200m, and multiples of 50mm to 500 mm.

PROFILE



Thickness range	26-18 ga
Diameter range	370x150 mm to 1700x500 mm
Lock seam	Outside lock seam

Galvanized Construction: - GGC's GI spiral ducts are fabricated from hot dipped galvanized sheets in accordance with ASTM A653, Lock forming quality with G90 / Z27 (275 grams / m²) zinc coating.

FLANGE PROFILE

Flange-to-flange joints are widely used to connect pipes in dust and fume control applications, in outdoor applications, and for additional strength in high positive or high negative pressure applications.

The basic flange-to-flange joints consist of two facing flanges which are fastened to the ends of the oval pipe with screws, pop-rivets, or sometimes by tack welding, which do not require fastening to the duct under standard loading conditions. The two flanged ends are then fastened together with bolts, screws, or flange clamps.

Bolts are used for permanent installations and when the pipe must mate with fans or other air moving equipment. In installations where there is a need for frequent maintenance or cleaning, flange clamps are used.

Pressed and rolled steel angle rings are used widely in joining ductwork in dust and fume control work. Available in 200 mm to 1800 mm equivalent round diameters, Galvanized. They are available with or without holes. Nearly any bolt circle spacing or hole size is available.

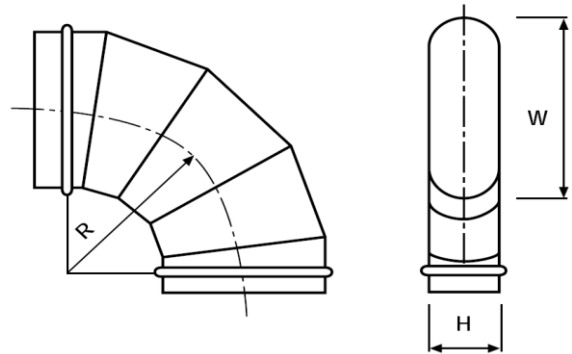
thickness	2.5 to 4
diameter	200 to 1800 mm
size	30x20,30x30,40x20,40x30



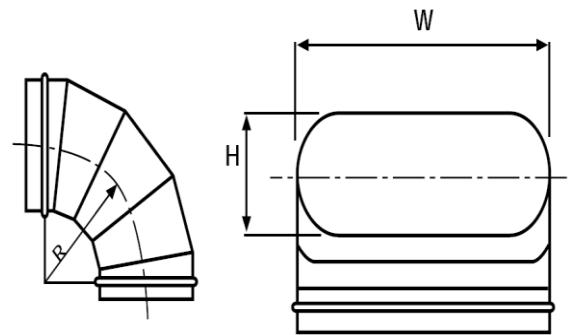
OVAL AF

LIST OF MANUFACTURING PRODUCTS

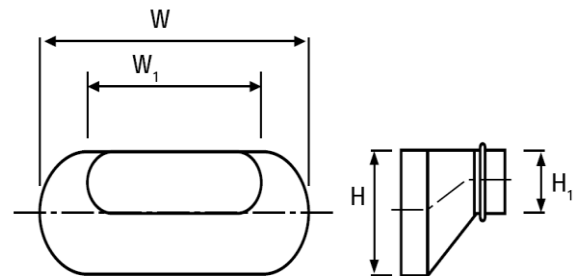
- 01. ELBOW 90 LONG WAY (HARD BEND) (O-HE-90) & (O-HE-45)**
DIMENSIONS TO BE LISTED IN ORDER OF W, H
 $R = 1.5W$ OR $R = W$



- 02. ELBOW 90 LONG WAY (EASY BEND) (O-EE-90) & (O-EE-45)**
DIMENSIONS TO BE LISTED IN ORDER OF W, H
 $R = 1.5W$

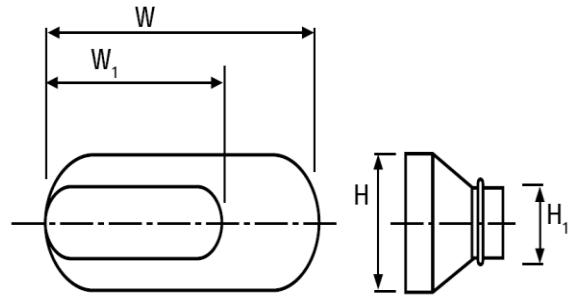


- 03. REDUCER CENTRIC-ECCENTRIC (O-R-CE)**
DIMENSIONS TO BE LISTED IN ORDER OF W, H / W_1, H_1



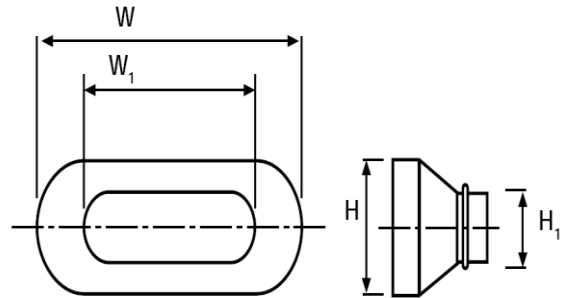
**04. REDUCER ECCENTRIC- CENTRIC
(O-R-EC)**

**DIMENSIONS TO BE LISTED IN
ORDER OF W, H / W₁,H₁**



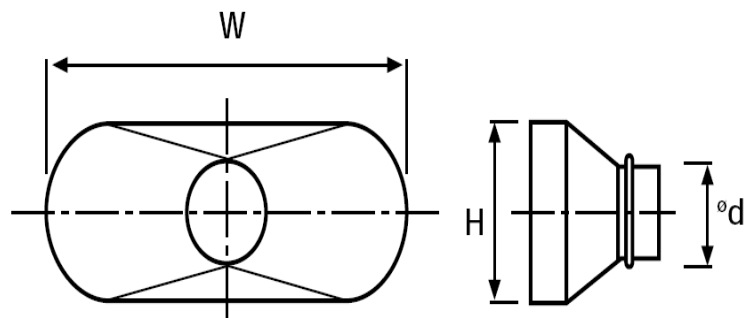
**05. REDUCER CENTRIC
(O-R-C)**

**DIMENSIONS TO BE LISTED IN
ORDER OF W, H / W₁,H₁**

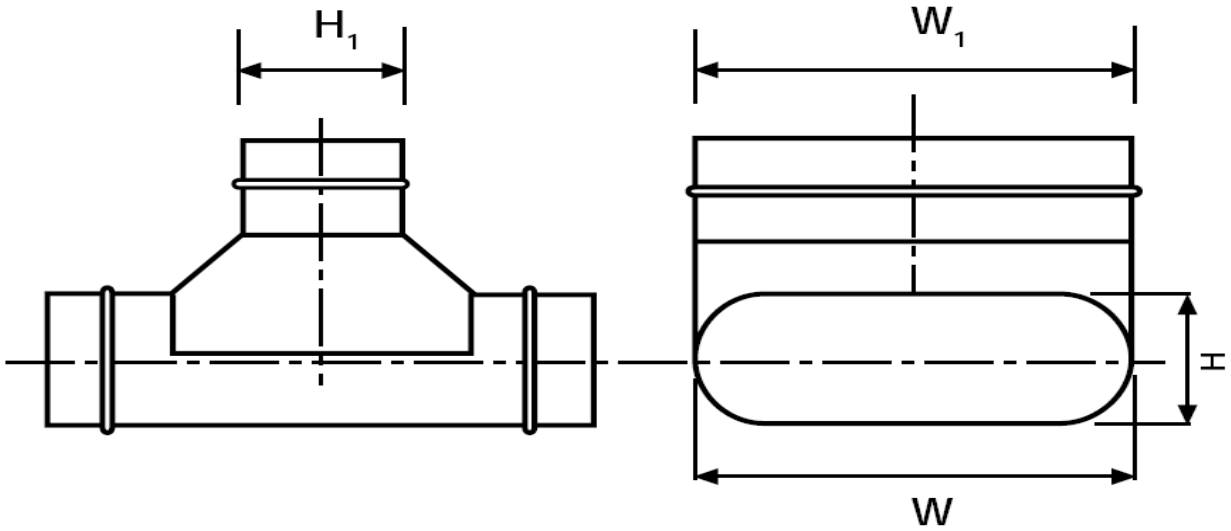


06. TRANSITION (O-TR)

**DIMENSIONS TO BE LISTED IN ORDER OF
W, H / D**

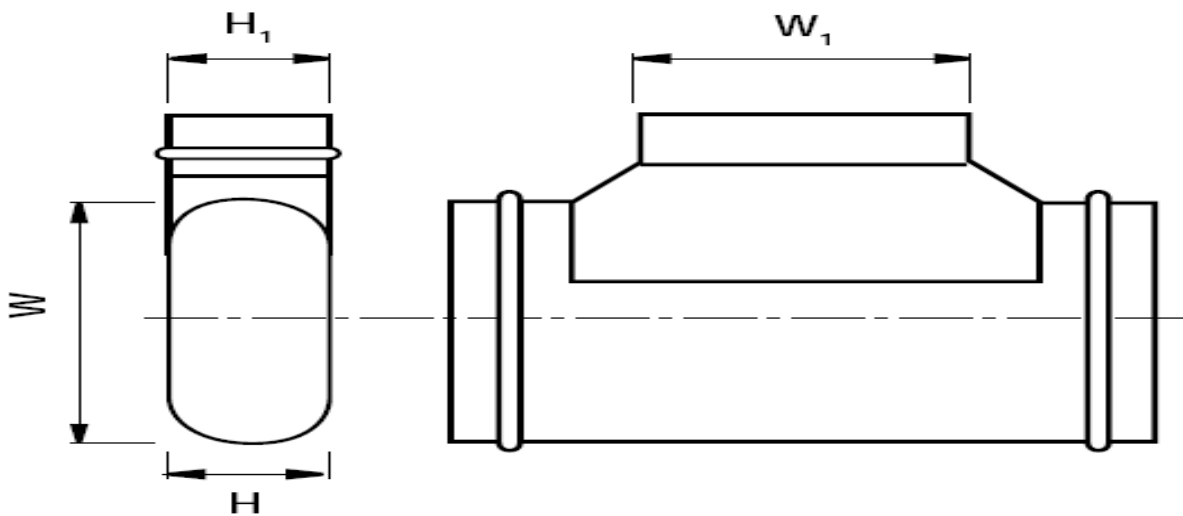


07. TEE-VERTICAL (O-T-V)



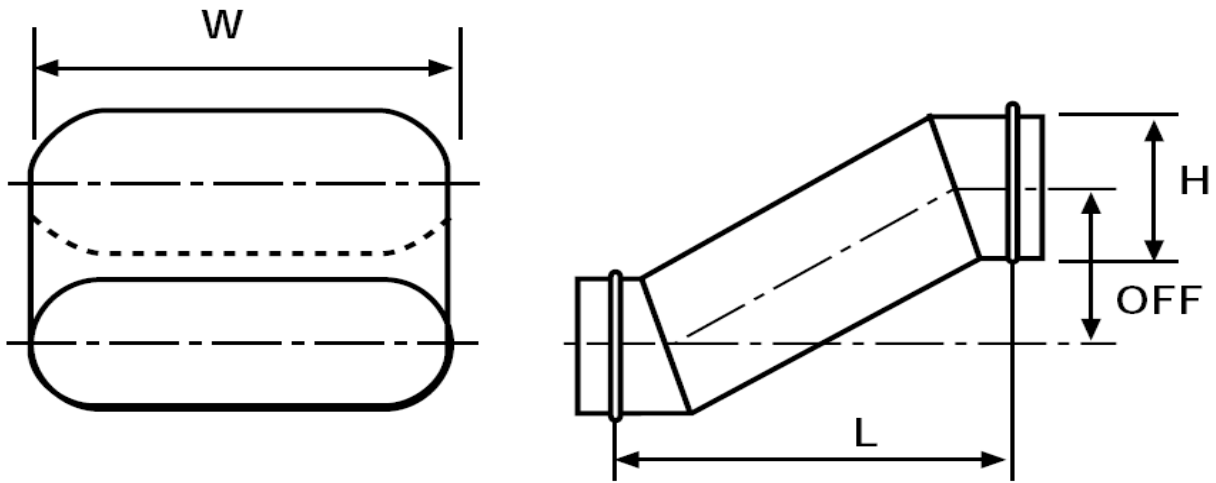
DIMENSIONS TO BE LISTED IN ORDER OF W, H / W1,H1

08. TEE-HORZONTAL (O-T-H)



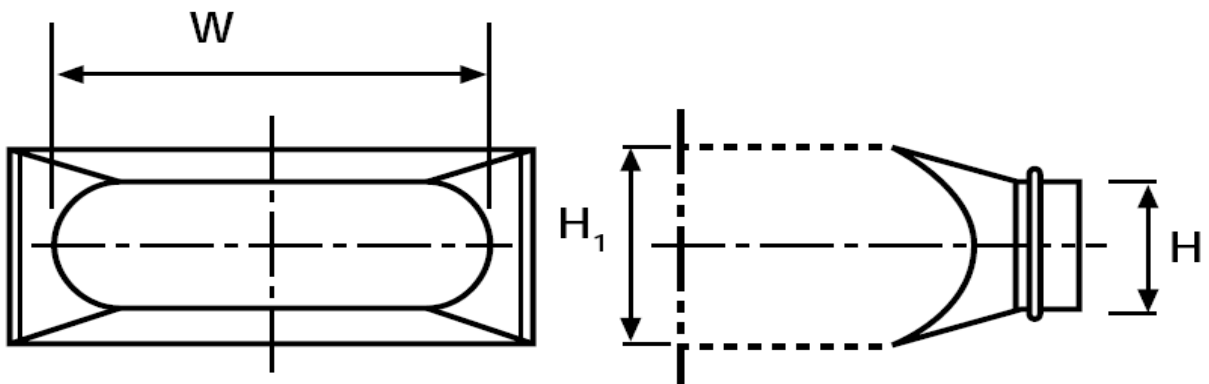
DIMENSIONS TO BE LISTED IN ORDER OF W, H / W1,H1

09. OFF-SET (O-O-S)



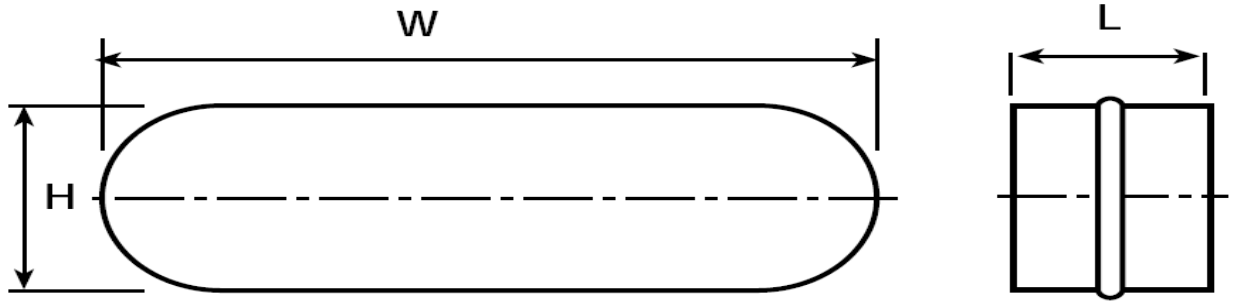
DIMENSIONS TO BE LISTED IN ORDER OF W, H / OFF

10. COLLAR SADDLE (O-C-S)

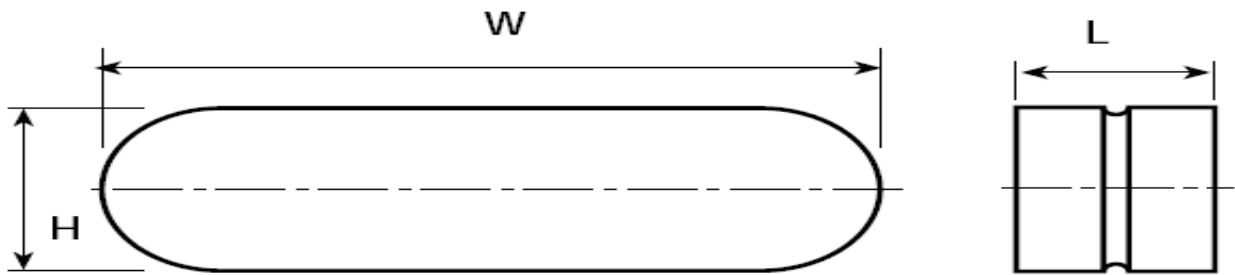


DIMENSIONS TO BE LISTED IN ORDER OF W, H / H1

11. OVAL COUPLING (O-C)

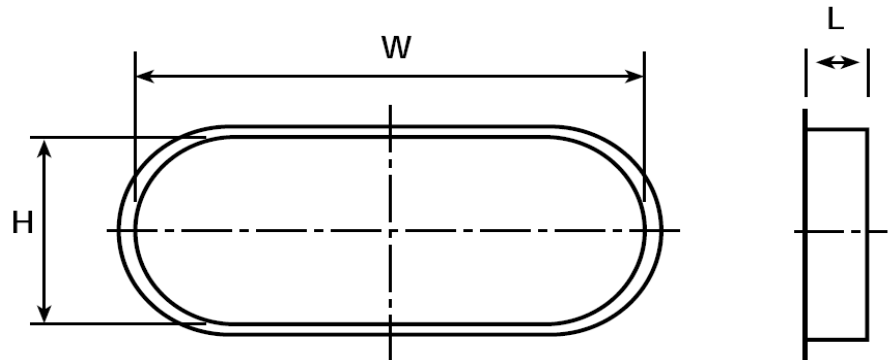


DIMENSIONS TO BE LISTED IN ORDER OF W, H



12. END CAP (O-EC) AND TAKE-OFF (O-TO)

DIMENSIONS TO BE LISTED IN ORDER OF W, H



NOTE- IF YOU DONT SEE ANY TYPE OF FITTINGS PLEASE CONSULT TO OUR FACTORY.



شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.

AIR DISTRIBUTION SYSTEMS



FLEXIBLE DUCT CONNECTOR

Flexible Duct Connector

Flexible Duct Connectors are used to eliminate duct system noises and vibrations for industrial and commercial applications. The Basic use is to isolate the vibration and noises from the source with an air tight flexible joint consisting of a fabric fastened to steel metal on both sides. The flexible connector is fixed between the A/C equipment or fan and the ductwork. Various cloth types, cloth widths and steel widths are available in order to meet most of the installation requirements at job sites.

The duct connector fabric is available in two standard widths – 75 and 100 mm. The duct connector with 100 mm wide fabric comes with a metal strip of 70 mm width. The remaining duct connectors are available with 45 mm wide steel strip.



MATERIAL DISCRIPTION

01. NEO FLEXIBLE DUCT CONNECTOR (NFC100)

Product size Width in mm			Steel Gauge	Fabric character	
G.I steel	NEO fabric	G.I steel		backing	Fiber glass cloth
75	100	75	28	coating	Neoprene
				color	black
				weight	500 to 720 g/sq.m
				Temp.	-20 to 100 °C
				Fire resistance	Hardly flammable

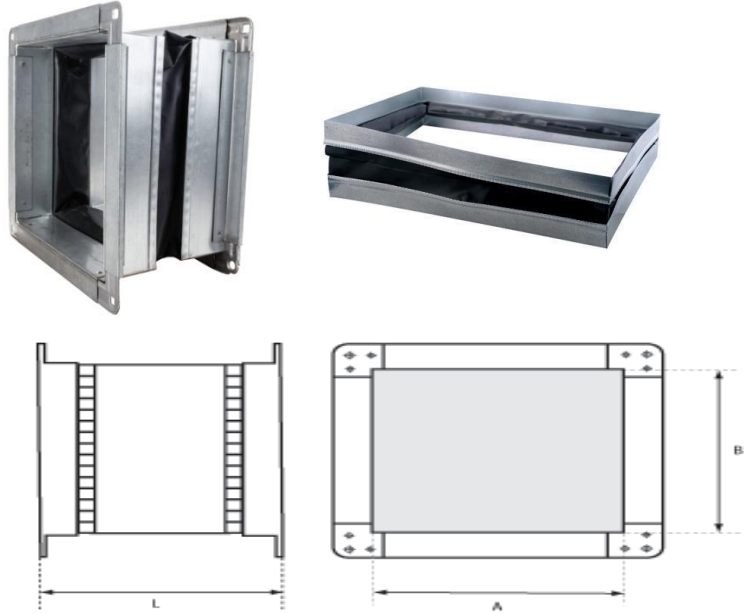
02. POLY FLEXIBLE DUCT CONNECTOR (PFC75)

Product size Width in mm			Steel Gauge	Fabric character	
G.I steel	POLY Fabric	G.I Steel		Backing	POLYSTER
45	75	45	28	Coating	PVC
				Color	Black
				Weight	400 to 600 g/sq.m
				Temp.	-20 to 70 °C
				Fire resistance	Flammable retardant

PRODUCT DISCRIPTION

01. RECTANGULAR FLEXIBLE DUCT CONNECTOR (R-NFC100) / (R-PFC75)

Our rectangular flexible duct connector comes in C&S derive & tdc flange available in almost all sizes.



02. ROUND FLEXIBLE DUCT CONNECTOR (C-NFC100) / (C-PFC75)

Our round flexible duct connector comes in raw end & round flange, available in almost all sizes.

