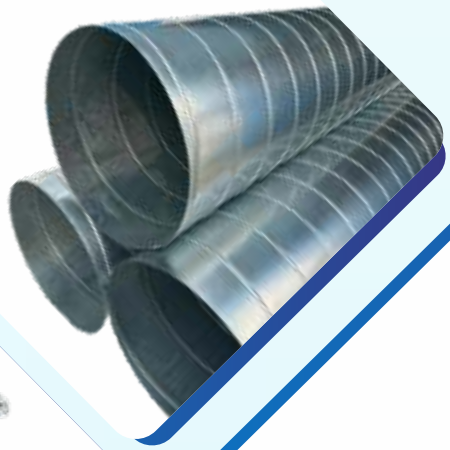
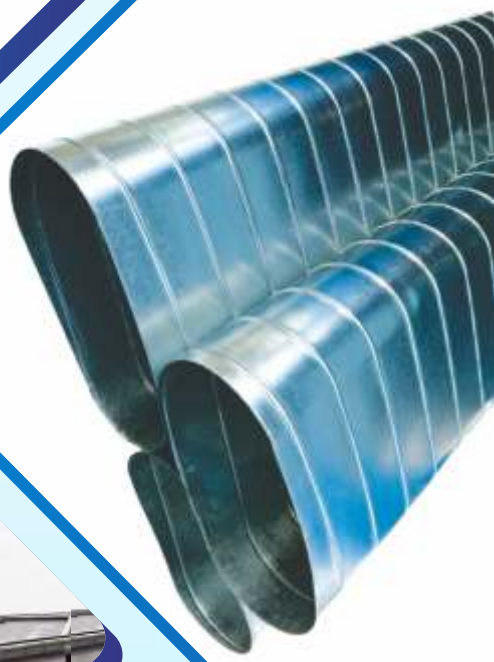
ISO 9001-2008 QM 032





GP SPIRA DUCT PVT. LTD.

(An ISO 9001-2015 Company)

www.gpspira.com

INDEX

➤ SPIRAL DUCT ➤

Today, more and more companies are switching from rectangular to spiral round rigid duct work. Why is this? what advantages do spiral systems have over rectangular? The answer is simple.

E nergy efficient
C est less to install
0 ften requires less space
N eed less hangers
0 peration cost lower
M ore noise free
I nstallation simplified
C leaning less complicated
A irflow measurement easier
L ight in weight

Also, the perimeter of round ducting system is less by 20% or more of same cross section of rectangular ducting. Hence, the area of ducting and insulation required is less by the same percentage.

Application :

•Air Conditioning (including high pressure and high velocity air distribution systems)
•Ventilation (Industrial & Tunnel)
•Warm air heating
•Fume and dust extraction
•Pneumatic conveying
•Exhaust and air intake pipes
•Humidification

Specifications :

Thickness: 0.60mm (24G) to 1.2mm (18G)
Thickness of Spiral ducts as per SMACNA
(HVAC Duct construction standards)

Diameter (mm)	Thickness mm(G)
100 to 600	0.60 (24G)
601 to 900	0.80 (22G)
901 to 1250	1.00 (20G)
1251 to 1600	1.20 (18G)

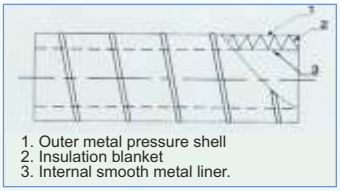
Diameter: 100mm to 1600mm
Length: 3,4 & 6 Mtr.
Material: Galvanised Steel, Aluminium,
Mild Steel (CRCA), Stainless Steel, etc
Surface Constructions: Plain or Corrugated
(to increase the rigidity of the ducting by 300%)

Pre-insulated Double-walled Spiral Duct Systems

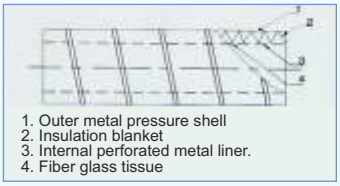
A. Thermal Insulation: A double-walled thermal insulated Spiral duct consists of an external pressure tight metal shell, 25/50mm thick of fibreglass/mineral wool/puf insulation and an internal protective metal liner.

Advantages:

- Double-wall fire protection
- No sheet metal screws in the air stream
- Lower friction loss
- Improved appearance
- Speeds installation
- No fibres in the air stream
- Protection from External damages.



1. Outer metal pressure shell
2. Insulation blanket
3. Internal smooth metal liner.



1. Outer metal pressure shell
2. Insulation blanket
3. Internal perforated metal liner.
4. Fiber glass tissue

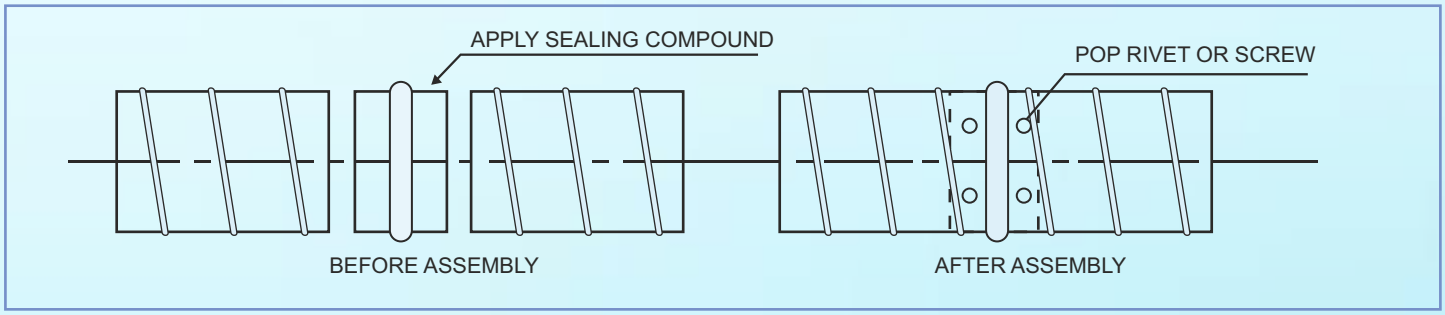
B.Acoustic Insulation: A double-walled acoustic insulated spiral duct consists of an external pressure tight metal shell, 25/50mm thickness of fiber glass/miqeral wool insulations and an internal perforated protective metal liner and fiber glass tissue between the perforated liner and insulation material. In addition to the above advantages this system is having advantage of High Sound transmission loss.

Duct Fittings:

Duct Fittings, standing seam Elbows, Reducers, End caps, Offsets, etc. are manufactured on high speed machines while maintaining the high dimensional accuracy.

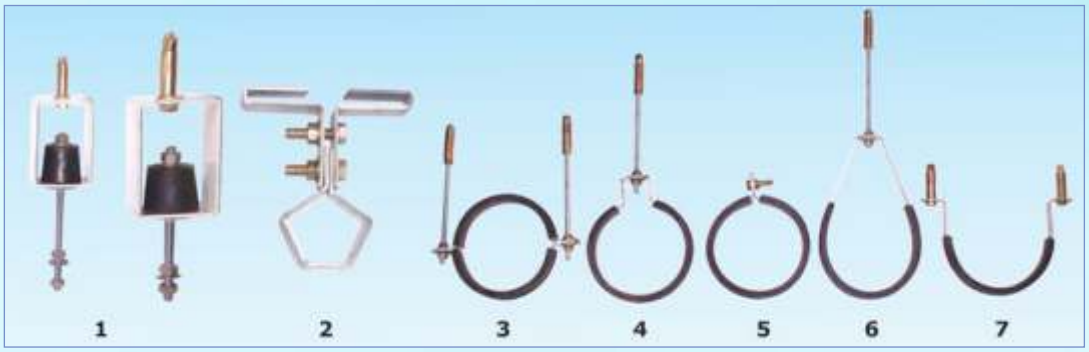
Jointing System:

Spiral Ducts and duct fittings joined together by slip joint coupling.



Supporting / Hanging Systems

1.Isolater
2.I-Beam Holding Clamp
3.Split Clamp
4.Hightek Clamp
5.Ring Clamp
6.Universal Clamp
7.Wall Mounting Clamp



➤ FLAT - OVAL SPIRAL DUCT ➤

Flat -oval spiral duct is formed from round spiral duct. The straight sections of the long sides are stretched traut and perfectly flat. The flat oval shape is specifically designed for low head room and restricted space locations which can't accept round duct.

Spiral Duct work systems in both round and flat-oval shape have many advantages, some of the major advantages include

•Light weight spiral reinforced walls.
•Smooth streamline internal surfaces giving low friction loss and no turbulence.
•Long runs in continuous lengths.
•Simple joining Technique.
•Matted fittings of consistent size.
•Reduced space requirement in height or depth.

Specifications

Thickness: 0.60(24G) to I .00mm(20G)
Thickness of flat-oval spiral ducts as per SMACNA HVAC Duct Construction Standards 1985

Major axis Duct width "B"	Spiral Duct Thickness Gauge (mm)	Duct Fittings Thickness Gauge (mm)
to 24"	24 (0.60)	22 (0.80)
25" to 36"	22 (0.80)	20 (1.00)
37" to 48"	22 (0.80)	20 (1.00)
49" to 60"	20 (1.00)	18 (1.20)
61 to 70"	20 (1.00)	18 (1.20)

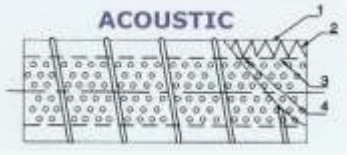
Length: 4,8, and 10 ft.
Material : Galvanised steel, mild steel (CRCA), Aluminium, Stainless Steel etc.
Surface Constructions : Plain or Corrugated (to increase the radial rigidity, of the duct by 300%)

Pre-insulated Double-walled Flat Oval Duct

Thermal/ Acoustic Insulation :

A double-walled insulated Flat-oval Spiral Duct consists of an external pressure tight metal shell, 25/50mm thick of fiberglass/mineral wool / puf insulation and internal plain protective metal liner for thermal insulation or perforated metal inner liner for acoustic insulation.

1. Outer metal pressure shell
2. Insulation blanket
3. Internal smooth metal liner.



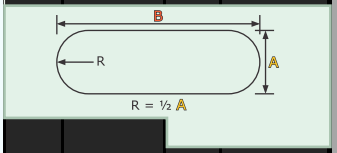
1. Outer metal pressure shell
2. Insulation blanket
3. Internal perforated metal liner.
4. Fiber glass tissue

STANDARD SIZE FOR OVAL DUCT OF GP SPIRA DUCT PVT. LTD.

NOMINAL DUCT HEIGHT IN MM : (A) →

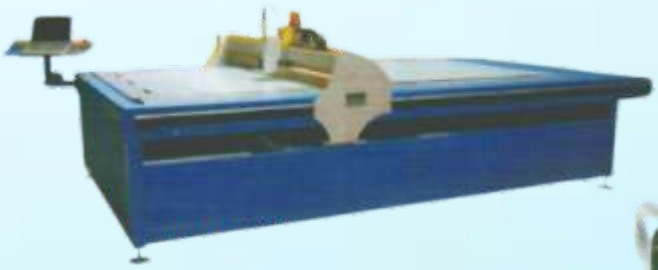
NOMINAL DUCT WIDTH IN MM : (B) ↓

Basic Circ. Dia	150	200	250	300	350	400	450	500
400	550	525						
425	581.25	550						
450	625	600	575					
475	662.5	631.25	600					
500	700	675	650	625				
525	737.5	712.50	681.25	650				
550	787.5	762.50	725	700	675			
575		787.50	762.5	731.25	700			
600		825	812.5	775	750	725		
625		868.75	837.5	812.5	793.75	750		
650		912.50	887.5	862.5	825	800	775	
700		987.50	962.5	937.5	912.5	875	850	825
750			1050	1012.5	987.5	962.5	925	900
800			1125	1100	1062.5	1037.5	1012.5	987.5
850			1200	1175	1150	1125	1100	1050
900			1287.5	1250	1225	1200	1162.5	1137.5
950				1325	1300	1275	1250	1225
1000				1412.5	1387.5	1350	1325	1300
1050				1500	1450	1425	1400	1375
1100				1575	1537.5	1500	1487.5	1450
1150					1625	1600	1550	1525
1200					1700	1675	1637.5	1612.5



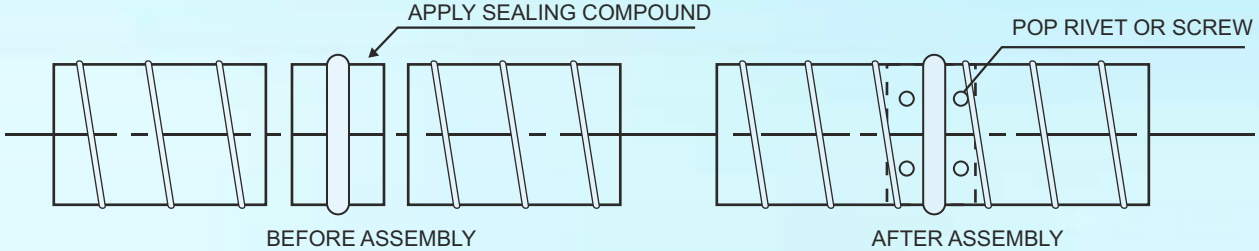
Duct Fittings :

A complete line of duct fittings designed for low leakage and efficient performance is available for use with single-wall and double-wall Flat-Oval Ducts.



Jointing System :

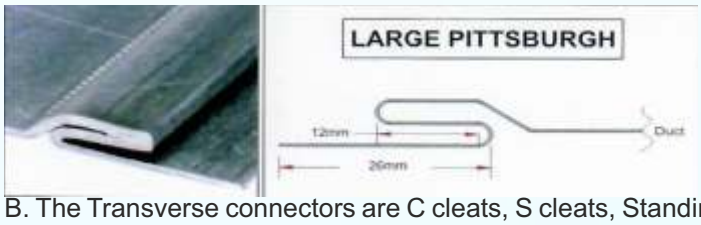
Flat-Oval Spiral Ducts and fittings joined together by slip joint coupling.

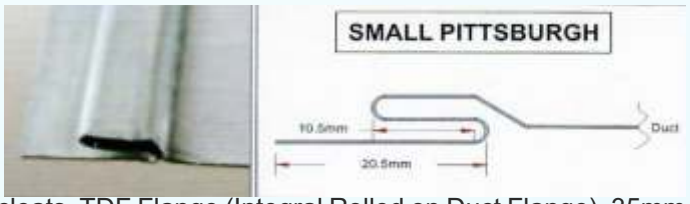


➤ RECTANGULAR DUCT ➤

Integrated Ducting System

A. The Longitudinal Joints will be factory formed & sent to site in L shaped sections for easy transportation, site handling & storage & to facilitate easy assembly at site. Boxed up ducts also available on request.



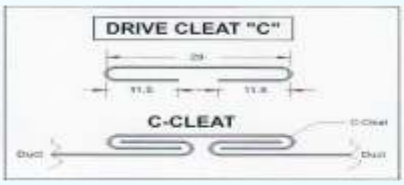


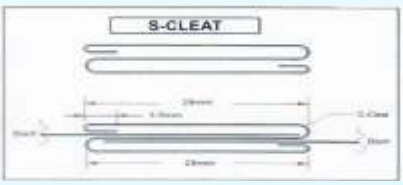
B. The Transverse connectors are C cleats, S cleats, Standing s cleats, TDF Flange (Integral Rolled on Duct Flange), 35mm mate Flange, Angle iron?GI Flange

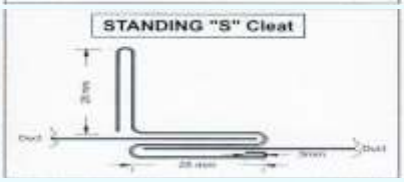
•C,S & Standing S cleats will be cut to size & sent loose to drive at site

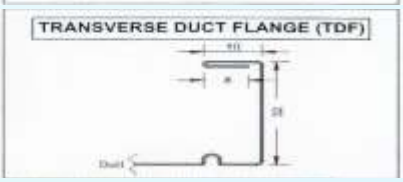
•TDF corner flange will befixed on the L shaped contour, The corner Flange along with the requisite amount of C Clamps for flange locking will be sent separately.

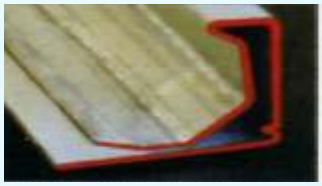
•Slip on Mate Flange will have one corner flange locking will be sent separately.

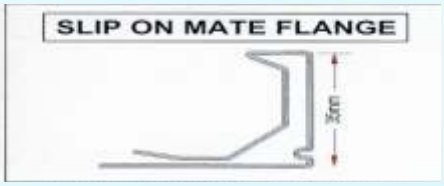












C. Bolts, Nuts, Gaskets, Sealants are also supplied on request to ensure thesystem is complete. This arrangement ensures that the duct can be boxed up & erected with simple hand tools.

RECOMMENDED SPECIFICATIONS										
SMACNA - 2005							IS 655 1963 & 2006			
Duct Sizes mm	OPERATION PRESSURE Pa						Low Pressure		Medium Pressure	
	250		500		1000					
	Gauge	Connector Type	Gauge	Connector Type	Gauge	Connector Type	Gauge	Connector Type	Gauge	Connector Type
0-450	26	C&S/TDF	26	TDF	26	TDF	26	C&S	22	TDF
451-750	26	C&S/TDF	26	TDF	24	TDF	24	C&Standing S/TDF	20	TDF
751-900	26	TDF	24	TDF	22	Slip on	22	C&Standing S/TDF	20	TDF
901-1000	26	TDF	24	TDF	20	Slip on	22	C&Standing S/TDF	20	TDF
1001-1200	24	TDF	22	Slip on	18	Slip on	22	TDF	20	TDF
1201-1300	24	TDF	20	Slip on	18	Slip on	22	TDF	18	TDF/Slip on
1301-1500	24	Slip on	18	Slip on			22	TDF/Slip on	18	TDF/Slip on
1501-1800	22	Slip on	18	Slip on			20	TDF/Slip on	18	TDF/Slip on
1801-2100	20	Slip on	18	Slip on			20	TDF/Slip on	18	TDF/Slip on
2101-2200	18	Slip on	18	Slip on			20	TDF/Slip on	18	TDF/Slip on
2201-2400	18	Slip on	18	Slip on			18	TDF/Slip on	18	Slip on
2401-2700	18	Slip on	18				18	TDF/Slip on	18	Slip on

•The specifications given above are based on the Relevant SMACNA & IS Standards. Ducts can also be manufactured based on other standards on request.

•Slip on Flanges indicate Mate/Angle Flanges

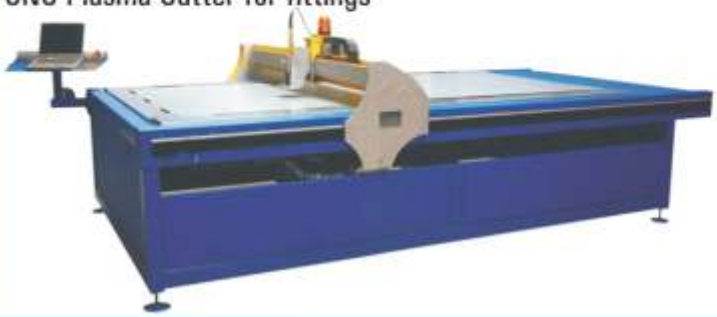
•Duct material can be GSS, Al or SS or other metals based on specifications.

➤ THE MANUFACTURING FACILITY ➤

Fully Automated Duct Line (Auto Folder VI)

Uncoiling, Leveling, Beading, Notching, Shearing, Pitsburg joint, TDF and folding

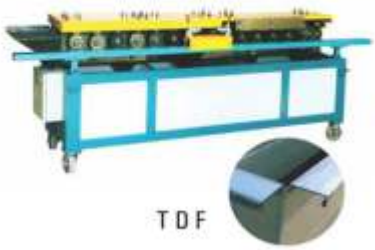
CNC Plasma Cutter for fittings



Pittsburgh Lock Former

Flanging

C & S / C & Standing S



T D F

Mate / Slip-on

Closing

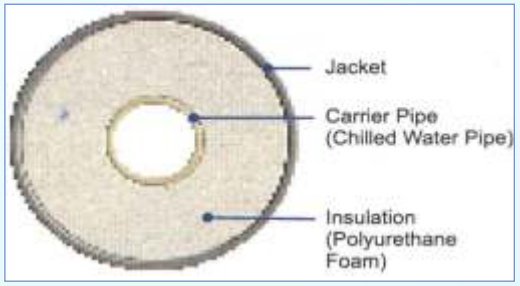
Whisper-Loc Seam Closer

Cornersmatic

Ready to Install

◄ PRE-INSULATED PIPES ►

Today in India, Polystyrene or PUF pipe sections of 1m length are fixed to carrier pipes (chilled water pipes) using adhesives like hot bitumen or other compounds. Thus we have two longitudinal and one circumferential joint for every 1m length of pipe. Poor dimensional accuracy of pipe section and mismatch of carrier pipe O.D. and Insulation pipe section I.D. contour leaves a gap along the entire circumference between the two.Further a combination of factors, like quality of adhesive, improper and insufficient use of adhesive, lack of adequate space at field for proper insulation, poor quality of tradesmen, urgency of completion, lead to poor site insulation work. Thus, the present method gives room to openings and gaps for moisture to permeate and weaken insulation. Over a period of time these thermal losses lead to higher power consumption. Seven star pre-insulated pipes are designed to resolve all these problems.



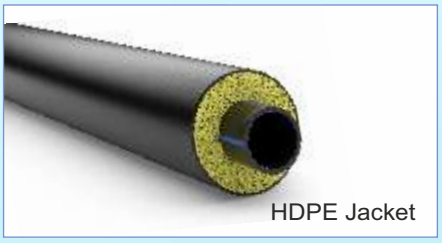
Sectional view of a Pre-insulated pipe

What are pre-insulated pipes?

A metered dose of Poly urethane foam (PUF) is injected in the factory, in the angular space between carrier pipe (Chilled water pipe) and the outer jacket. The PUF expands and, upon setting, forms a homogenous insulation around the carrier pipe. The combination of pipe, insulation and jacket together is called pre-insulated pipe.

Metallic Jacket

PVC Jacket



HDPE Jacket

Specifications

1. Insulation	
Material	Polyurethane Foam
Thickness	25mm onwards to suit application
Density	Standard 36kg/m3 Other densities on specific request.
2. Fluid Temp. Range	-20^0 c to 120^0 c
3. Sizes	For carrier pipes 19mm onwards
4. Pre-insulated pipe length·	6m
5. Outer Jacket	6m
Metallic	GI/Al/Stainless Steel
Non-metallic	HDPE/PVC

Why Pre-insulated pipes?

Using Pre-insulated pipes ensures that the density of the insulation is accurate as metered dosages of chemicals are injected at the factory. This means a uniform insulation spread over the entire carrier pipe, ensuring no loss of energy.

Factory injection of PUF and Pre-fabricated kits for site fittings, ensure that the Carrier pipe, Insulation and Jacket form an integral part with ZERO" JOINTS. This means no chance for moisture to permeate and therefore much longer life for the insulation.

More than 2000 metres of insulation can be finished in a day. This means faster completion of chilled water piping work at site. This also means that lesser work at site especially where shafts and working spaces are small.

Factory insulation also ensures that there is a wide variety of choices for the outer skin. This enables the use of HDPE jackets for buried pipes which is not possible using the present methods.

The outer metallic jackets are also made of zero leak lock seam spiral tubes from a special spiral duct machine. This ensures that the quality of cladding is not dependent on the skill of the site worker alone.

Factory insulation and cladding also ensures excellent mechanical protection for the insulated piping. This means no special saddle or wooden block is required at site for supporting the insulated pipe.

Field Jointing Methods

Field Joint closure for overground piping

Place sleeve in position

Place elbow cover

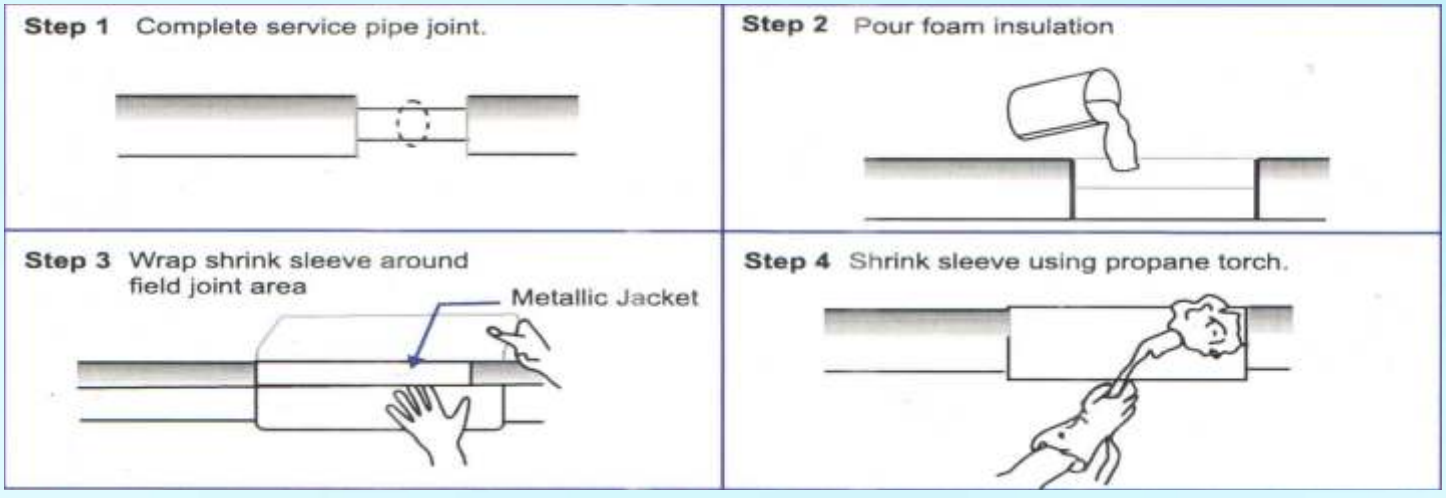
Place elbow cover

Open pour-hole on fitting cover

Pour Chemicals through opening

Pour Chemicals through opening

Field Joint closure for buried piping



➤ FLEXIBLE DUCT ➤

Flexible Duct: GP Spira flexible ducts class 1 listed and meet with requirements of ASTM E 84-08 a with flame spread ratio <20: smoke development ratio <40 made of 2ply multi-layered Aluminium Polyester, Metalised Polyester, etc. foils bonded together by quality adhesive with high carbon corrosion - proof spring wire. GP Spira Flexible ducts are non-flammable and more efficient.

Characteristics :

- Able to withstand high air pressure.
- Strong and Durable with 2 ply double facing aluminium foil.
- Tear and puncher resistant, energy efficient.
- No Problem of air leakage.
- GP Spira offers smooth Inner core which provides low friction loss. Low operating cost.
- Compressible and extendable by more than 10 times its original size. No problems of shrinking when fully extended.
- Non-flammable.

Application :

- Ideal for all air conditioning/ventilating systems and any other industrial or residential applications including hospital, hotel, commercial, office buildings and shopping malls.
- Very flexible and can be connected to whatever position required.
- Economical, quick and easy to install ever in complicated unworkable areas where other ducts cannot reach.
- Available bare or preinsulated with fibreglass of thickness 25mm (1"), or 50mm (2") X 1 6kg/m3 or 24kg/m3.
-

Size Available

Available in various I.D. ranging from 100 mm to 500 mm (4" to 20")

Supplied in Standard length of 7.5 meters each.

Uninsulated Duct

GP Spira uninsulated flexible duct is made of 2 ply multilayered metalized aluminium polyester permanently bonded to a coated spring steel wire helix.

Standard length	:	25Ft.
Range	:	150 mm to 500 mm dia.
Max. Permissible Velocity	:	5000 Fpm.
Max. recommended operating pressure	:	6" w.g. positive all dia. 1/2" w.g. negative all dia

Insulated duct

GP Spira insulated flexible duct is made of 2 ply multilayered metalized aluminium polyester permanently bonded to a coated spring steel wire helix. Thermal efficiency is provided by wrapping the exterior with blanket of fi er glass insulation. The outer jacket is made of metalized polyester vapor barrier jacket

Standard length	:	25ft.
Range	:	150mm to 500mm dia.
Max. Permissible Velocity	:	5000 Fpm.
Max. recommended working pressure	:	8" w.g.
Tempareture range	:	32-200◦F
Insulation Thickness	:	25 mm/50 mm
Insulation Density	:	16kg/m3/24kg/m3
Insulation R-value	:	4.2 (oF-Ft.2 -hr/Btu)

➤ QWIK FOOT ➤

A.Standard Frame:

Application:

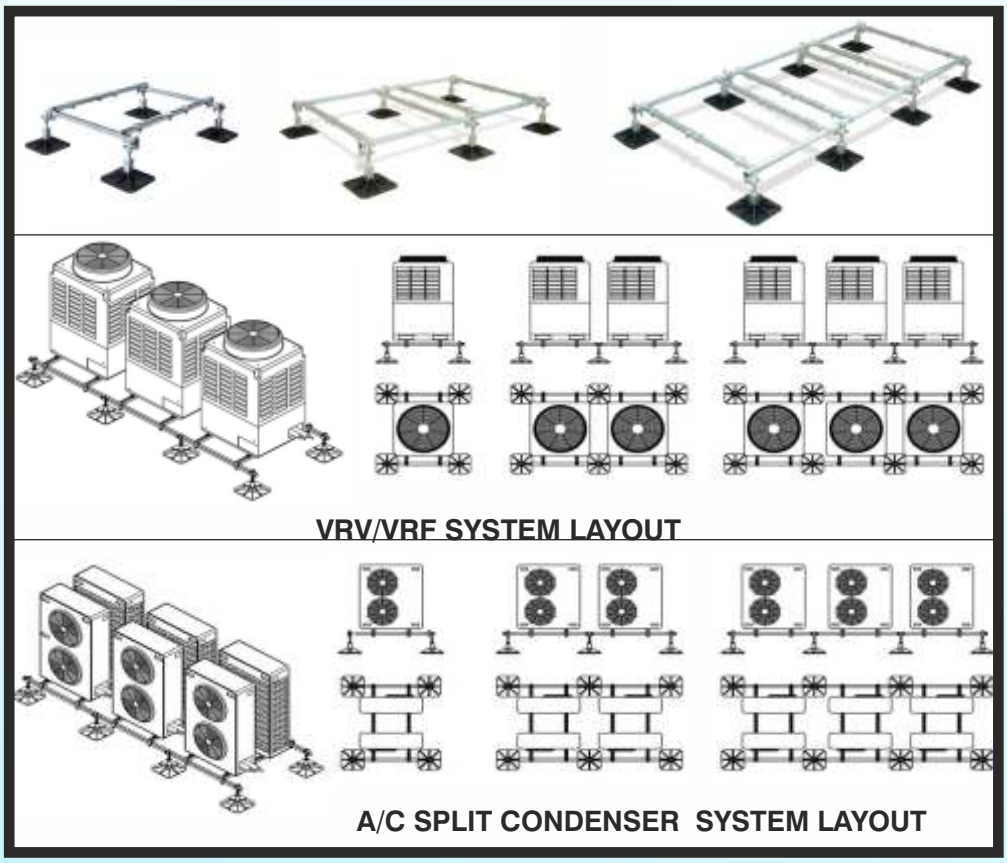
Suitable for VRV/VRF,A/C Split Systems, Smaller Air Handling Units(AHU'S)

Features & Benefits:

Non-penetrative support.
Flexible design to accommodate late design changes.
Fast and simple installation.
Hot dip galvanized frame work
Rubber mates adhered to feet for additional roof protection.
The kit comes in a box for convenience.
Available as standard 305 mm square foot or 500 mm option for heavy duty application.

Material Specification:

1.Foot -305 Square as standard or 500 mm Square for heavy duty application, UV Stabilized, Nylon with glass filled.
2.Mat-100% Recycled tyre rubber crump(mat adhered to the foot).
3.Legs-50 mm square tube with M24 stud adjuster and 3 mm thick U-Clevis to stop .
4.End bars-41x41x2.5 mm box section
5.Cross bars- 41x41x2.5 mm box section
6.Finish- -Hot dip galvanized BS EN ISO 1461:2009



Si.No.	Description	Part no.	Length(mm)	Width(mm)	Height(mm)	Weight(kg)	Max Load
1.	1m x 1.2 m	GP-MFS/1x1.2	1000	1200	290-400	39	500
2.	2m x 1.2 m	GP-MFS/2x1.2	2000	1200	290-400	67	1000
3.	3m x 1.2 m	GP-MFS/3x1.2	3000	1200	290-400	97	1500
4.	1m x 1.5 m	GP-MFS/1x1.5	1000	1500	290-400	42	400
5.	2m x 1.5 m	GP-MFS/2x1.5	2000	1500	290-400	72	800
6.	3m x 1.5 m	GP-MFS/3x1.5	3000	1500	290-400	103	1200

Typical Installation:

Typical Installation:

Typical Installation:

ISO 9001-2008 QM 032

DELHI
Office: Unit No.68, Eros Corporate Park, Sector-2 IMT Manesar, Gurugram - 122050
Factory: Khasra No. 68/2, Vill. Khera-Khurampur, Teh. Farruk Nagar, Gurugram - 123506
+91- 99900 49603, 99900 49602, 98110 79674
sales@gpspira.com
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AHMEDABAD
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HYDERABAD FACTORY

DELHI FACTORY

KOLKATA FACTORY

MUMBAI FACTORY

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