

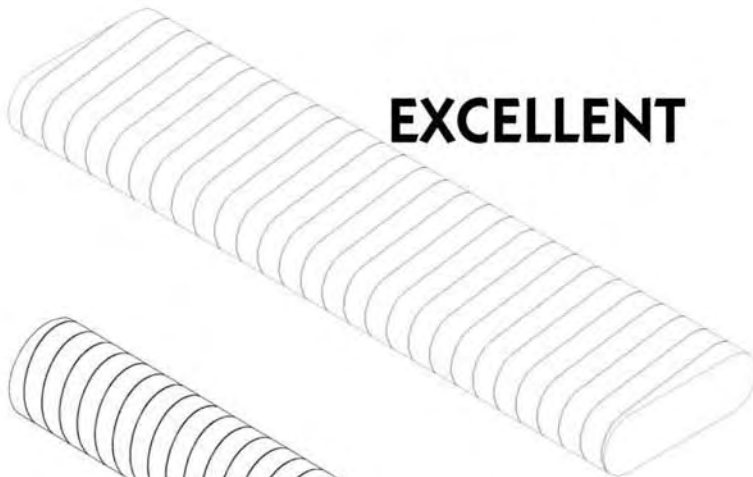
Round and Oval Spiral Duct Systems:

A smart choice for economical quality indoor air environments!



ADEQUATE

Why settle for “adequate” when you can have...



EXCELLENT



THE BEST!

Today, creating a quality indoor air environment at an economical cost to building owners has become one of the most important parts of building design and engineering. Oddly enough, one of the last places a designer or specifier looks to improve quality or save money, is at a building's ventilation air duct system.

The Round and Oval Spiral Duct System choice can provide the quality, cost effective indoor environment you've been looking for. And SEMCO's Spiral Duct Systems, backed by over 30 years of service to the HVAC industry, provide the reason to make that choice.



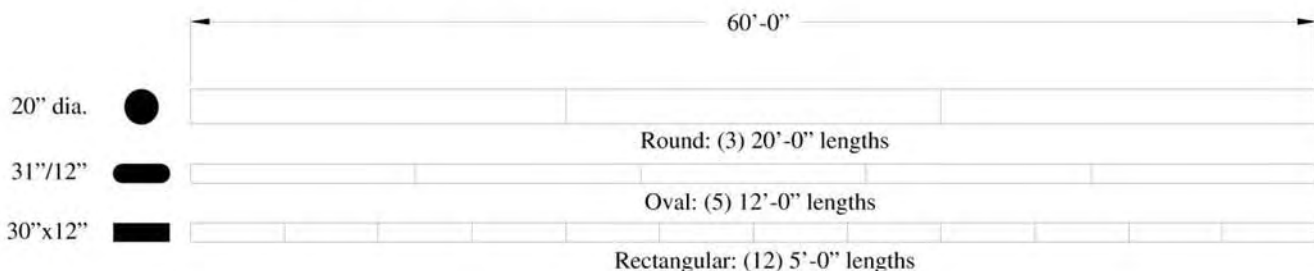
Lower Overall Initial Cost:

While it is generally understood that round duct is the most efficient means of distributing air, many designers/specifiers have the mistaken impression that field fabricated rectangular duct is the most economical means in terms of initial cost. The truth is, round and flat-oval spiral duct and fittings are both efficient and economical. Round and flat-oval shapes result in less pressure drop, translating into up-front savings in initial system cost. Spiral construction allows duct lengths up to 20 feet resulting in fewer field joints and less field labor. And, the spiral lockseam construction provides extra rigidity allowing the use of lighter gauge materials.

Rectangular Duct					Round Duct					Oval Duct				
Size	Gauge	Wt./ft.	Section Length	Reinforcing Spacing	Size	Gauge	Wt./ft.	Section Length	Reinforcing Spacing	Size	Gauge	Wt./ft.	Section Length	Reinforcing Spacing
12 x 12	26	3.60	5 ft.	60" O.C.	13	26	3.50	20 ft.	none	17 / 12	24	5.30	12 ft.	none
24 x 12	26	5.40	5 ft.	60" O.C.	19	26	5.10	21 ft.	none	26 / 12	22	8.70	12 ft.	none
30 x 12	24	8.10	5 ft.	60" O.C.	20	26	5.30	22 ft.	none	31 / 12	22	9.90	12 ft.	72" O.C.
36 x 12	22	11.20	5 ft.	60" O.C.	22	26	5.90	23 ft.	none	37 / 12	22	11.60	12 ft.	60" O.C.
48 x 12	20	16.60	5 ft.	60" O.C.	26	26	6.90	10 ft.	none	50 / 12	20	17.60	12 ft.	48" O.C.
71 x 12	16	37.20	5 ft.	60" O.C.	30	24	10.20	10 ft.	none	75 / 12	18	33.60	12 ft.	36" O.C.
24 x 18	26	6.30	5 ft.	60" O.C.	24	26	6.40	10 ft.	none	27 / 18	22	9.90	12 ft.	none
30 x 18	24	9.20	5 ft.	60" O.C.	26	26	6.90	10 ft.	none	34 / 18	22	11.60	12 ft.	72" O.C.
36 x 18	22	12.70	5 ft.	60" O.C.	28	24	9.50	10 ft.	none	40 / 18	22	13.20	12 ft.	60" O.C.
48 x 18	20	18.20	5 ft.	60" O.C.	32	24	10.90	10 ft.	none	53 / 18	20	19.50	12 ft.	48" O.C.
72 x 18	16	39.80	5 ft.	60" O.C.	38	22	15.70	10 ft.	none	75 / 18	18	34.90	12 ft.	36" O.C.
24 x 24	26	7.20	5 ft.	60" O.C.	26	26	6.60	10 ft.	none	30 / 24	22	11.60	8 ft.	72" O.C.
30 x 24	24	10.40	5 ft.	60" O.C.	30	24	10.20	10 ft.	none	33 / 24	22	12.40	8 ft.	72" O.C.
36 x 24	22	14.10	5 ft.	60" O.C.	32	24	10.90	10 ft.	none	40 / 24	22	14.10	8 ft.	60" O.C.
48 x 24	20	19.90	5 ft.	60" O.C.	38	22	15.70	10 ft.	none	52 / 24	20	20.50	8 ft.	48" O.C.
72 x 24	16	42.50	5 ft.	60" O.C.	44	22	18.20	10 ft.	none	75 / 24	18	36.20	8 ft.	36" O.C.

Gauges and construction for 2" w.g. pressure per latest SMACNA standards

Comparing number of joints:



Lower Operating Costs:

Rectangular duct, with its larger comparative surface area, has a higher rate of heat loss and gain, requires more square feet of insulation per lineal foot of duct and simply takes more steel to fabricate. Round is the most efficient shape and should be the designers first choice when adequate space is available. When space limitations restrict the use of round, flat-oval duct should be used because it has many of the same advantages as round duct. The following table shows the comparative surface areas of these three shapes.

Rectangular			Round Duct			Oval Duct		
Size	Equivalent Diameter	Surface Area sq. ft./ft.	Size	Surface Area sq. ft./ft.	Surface Area as % of rect	Size	Surface Area sq. ft./ft.	Surface Area as % of rect
12 x 12	13.12	4	13	3.40	85%	17 / 12	3.97	99%
24 x 12	18.28	6	19	4.97	83%	26 / 12	5.47	91%
30 x 12	20.22	7	20	5.24	75%	31 / 12	6.31	90%
36 x 12	21.91	8	22	5.76	72%	37 / 12	7.31	91%
48 x 12	24.81	10	26	6.81	68%	50 / 12	9.47	95%
71 x 12	29.39	14	30	7.85	56%	75 / 12	13.64	97%
24 x 18	22.66	7	24	6.28	90%	27 / 18	6.21	89%
30 x 18	25.20	8	26	6.81	85%	34 / 18	7.38	92%
36 x 18	27.42	9	28	7.33	81%	40 / 18	8.38	93%
48 x 18	31.22	11	32	8.38	76%	53 / 18	10.55	96%
72 x 18	37.22	15	38	9.95	66%	75 / 18	14.21	95%
24 x 24	26.24	8	26	6.81	85%	30 / 24	7.28	91%
30 x 24	29.29	9	30	7.85	87%	33 / 24	7.78	86%
36 x 24	31.97	10	32	8.38	84%	40 / 24	8.95	90%
48 x 24	36.56	12	38	9.95	83%	52 / 24	10.95	91%
72 x 24	43.84	16	44	11.52	72%	75 / 24	14.78	92%

Rectangular, round and oval sizes have equivalent performance in accordance with ASHRAE.

Better Acoustic Performance:

Curved surfaces of round and flat-oval ducts mean less breakout noise. The flat sides of rectangular duct create the potential for vibration or “oil canning”.

Aesthetically Pleasing:

Over the past few years round and flat-oval spiral duct has become a major element of architectural design. The aesthetically pleasing round and flat-oval shapes enhanced by the spiral lockseam help to transform standard ventilation ductwork into a unique and integral design element used by more and more architects every day.



Spiral duct and fittings can either blend into their surroundings...



... or accent the architectural features of the space.

Promote Healthier Indoor Air Environments:

Believe it or not, the round and flat-oval shapes can also have an environmental impact on indoor air quality. Less sheet metal area means less area for the collection of dirt and grime. This and the better air flow dynamics of round and flat oval duct combine to create a vehicle for air distribution which is much less likely over time to become a breeding ground for bacterial growth.



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