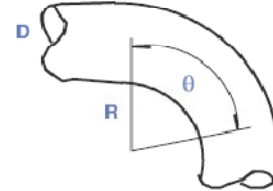
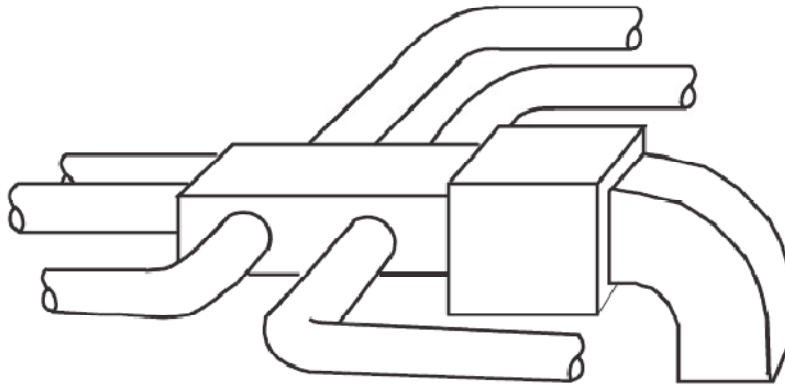


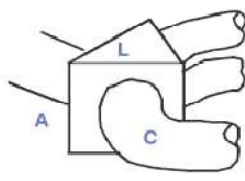
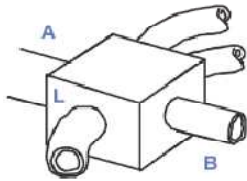
Group 11
Flexible Duct Junction Boxes and Radius Bends
 Reference Velocity = As Indicated
 Reference Friction Rate = 0.08 IWC per 100 Feet



For bends that are not equal to 90°, multiply the 90° equivalent length by the ratio of the desired angle to the 90° angle.

Example: IF R/D = 1.0, find the EL for a 45° bend if the velocity equals 700 Fpm.

$$15 \times 45 / 90 = 7.5 \text{ Ft}$$



- Recommended** (compatible with Group 11 EL values)
- Entrance (A) has a diffuser fitting that recovers velocity pressures and prevents swirl (optional).
 - Straight approach(A) and straight exit (B)
 - Exit opening on side (no top or bottom exits)
 - Exit opening at least two diameters from entrance (L)
 - Make box as small as possible, but comply with $L = 2 \times D$

- Not Recommended** (Group 11 EL values may be too small)
- Turn or bend near entrance or exit (C).
 - Top or bottom exits <-tentative, may be deleted after investigation
 - Exit opening less than two diameters from entrance (L)

Equivalent Length Values					
Velocity in Flex Duct (Fpm)	Junction Box (Ft) <small>Notes 1, 2 and 3</small>	90° Bend (Ft)			
		R / D Ratio (In / In) ⁴			
		1.0	1.5	2 to 3	4 to 5
400	20	5	5	5	5
500	30	5	5	5	5
600	40	10	5	5	5
700	60	15	10	5	5
800	75	15	10	10	8
900	95	20	15	10	8

1) No anti-swirl regain diffuser at entrance.
 • Swirl tends to feed one side of the box and starve the other side.
 • Swirl may be induced by spiral wire geometry.
 • Swirl attributes (such as direction) may change when the blower shuts down and restarts.
 2) Straight-run approach and a straight-run departures (no turns in duct runs near the junction box).
 3) Entrance and exits on side of box (no top or bottom openings).
 4) Radius of turn divided by diameter of duct.

