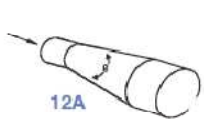


Group 12
Transitions (Diverging)
 Reference Velocity = 900 Fpm
 Reference Friction Rate = 0.08 IWC per 100 Feet



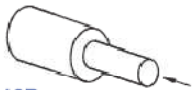
12A

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	40
2:1	20	40
4:1	20	30



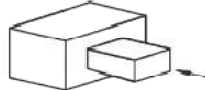
12F

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	40
2:1	20	40
4:1	15	30



12B

EL Values	A1/A2	A1/A2
Slope	2	4
Abrupt	20	40



12G

EL Values	A1/A2	A1/A2
Slope	2	4
Abrupt	20	40



12C

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	40
2:1	20	40
4:1	20	30



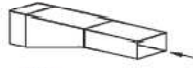
12H

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	40
2:1	20	40
4:1	15	25



12D

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	40
2:1	20	40
4:1	20	30



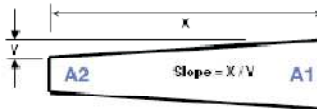
12I

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	20	35
2:1	15	25
4:1	10	10



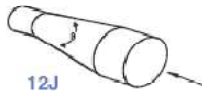
12E

EL = 25



A1 / A2 = Larger Area / Smaller Area

Group 12
Transitions (Converging)
 Reference Velocity = 900 Fpm
 Reference Friction Rate = 0.08 IWC per 100 Feet



12J

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	10	10
2:1	5	5
4:1	5	5



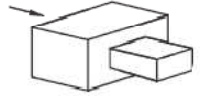
12O

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	10	10
2:1	5	5
4:1	5	5



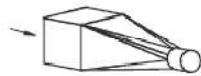
12K

EL Values	A1/A2	A1/A2
Slope	2	4
Abrupt	25	25



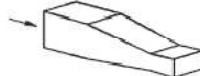
12P

EL Values	A1/A2	A1/A2
Slope	2	4
Abrupt	30	30



12L

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	10	10
2:1	5	5
4:1	5	5



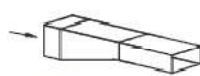
12Q

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	10	10
2:1	5	5
4:1	5	5



12M

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	10	10
2:1	5	5
4:1	5	5



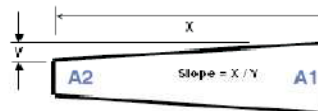
12R

EL Values	A1/A2	A1/A2
Slope	2	4
1:1	5	5
2:1	5	5
4:1	5	5



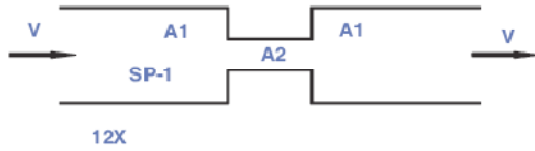
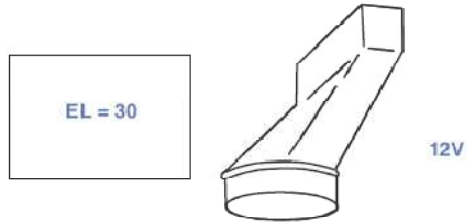
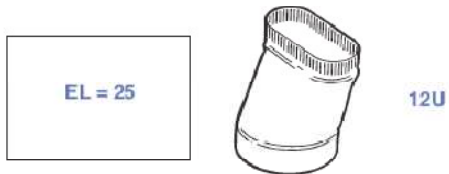
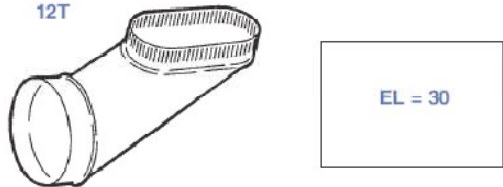
12N

EL = 10



A1 / A2 = Larger Area / Smaller Area

Group 12
Oval Transition Plenums and Abrupt Squeezes
 Reference Velocity = 900 Fpm or as Indicated
 Reference Friction Rate = 0.08 IWC per 100 Feet



EL Values for Flow Through Large Plenum				
V _{out} (Fpm)	V _{in} (Fpm)			
	600	700	800	900
600	40	40	35	35
700	55	55	50	50
800	70	70	70	65
900	90	90	90	85

Abrupt Squeeze				
Velocity (Fpm)	A ₁ / A ₂ = 2		A ₁ / A ₂ = 4	
	EL	Min SP-1	EL	Min SP-1
600	65	0.12	245	0.52
700	90	0.16	330	0.71
800	115	0.20	430	0.92
900	145	0.26	545	1.17

Min SP-1 = Minimum upstream static pressure (IWC) for positive static pressure at A2 (air velocity doubles or quadruples at A2).