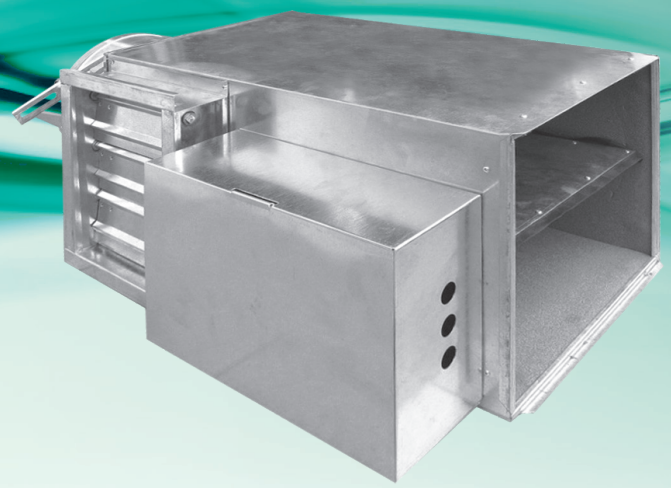
Bypass VAV Terminal Units



ASLI Bypass Terminal Unit, model ST6000 is a single duct variable air volume pressure dependent air terminal unit, designed for use with constant volume low and medium pressure packaged air handling systems or roof top air conditioning units. ST6000 handles a constant supply of primary air through its inlet and bypass the excess air through the pressure relief damper into the plenum return when the pressure in the terminal unit increases. The supply air volume is controlled by damper blade which responds to the room thermostat in the occupied space to meet the cooling load.

Materials

Casing : 0.7mm galvanized steel
Damper blade : Double layer 0.7mm galvanized steel with a sandwiched peripheral gasket
Inlet balancing damper : 0.7mm galvanized steel
Internal Insulation : 5mm PE foam (25mm, 32kg/m3 density fiberglass with matt black tissue facing is optional)
Bearing : Engineering plastic
Hexagon shaft : Hexagon bar mild steel
Pressure relief damper blade : 0.5mm galvanized steel

Features

- Round inlet with beading for good inlet connection.
- Inlet balancing damper for primary air volume control.
- Pressure relief damper with adjustable counterweight.
- 5mm PE foam internal insulation.
- Neoprene peripheral gasket to prevent leakage.
- Hexagon shaft for better grip mounting of actuator.
- Shaft indicator indicating damper position.
- Double layer heavy gauge damper blade.
- Rectangular discharge opening with slip and drive cleat duct connection.

Recommended Maximum Air Volume

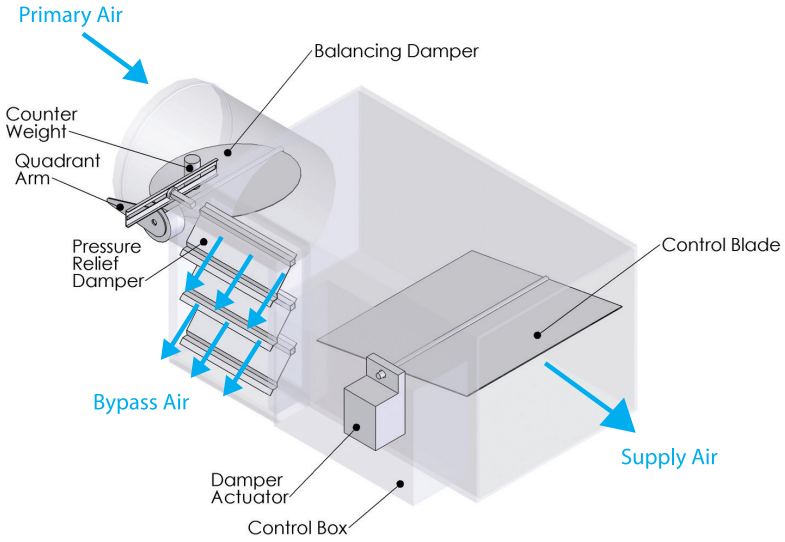
Unit Size, mm (inch)	Maximum Air Volume	
	liter/s	CFM
150 (6)	189	400
200 (8)	283	600
250 (10)	567	1200
300 (12)	708	1500
350 (14)	944	2000
400 (16)	1275	2700

Bypass VAV Terminal Units

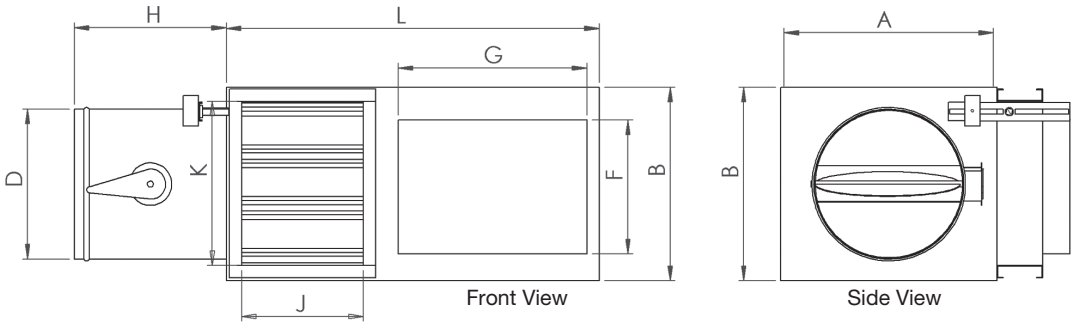
Operation of Bypass VAV Box

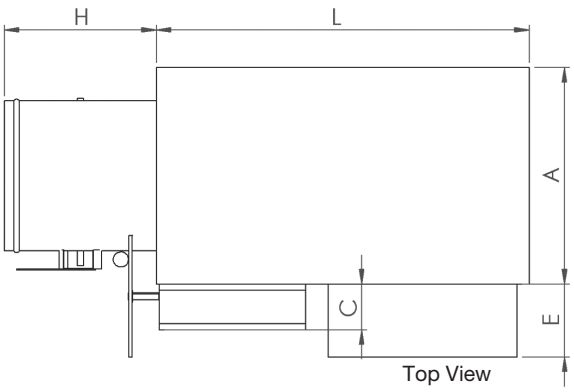
The supply air volume is controlled by damper blade which responds to the room thermostat in the occupied space to meet the cooling load. When the damper blade closes and the pressure in the terminal unit increases, the excess air will be bypassed through the pressure relief damper into plenum return.

A field adjustable counterweight is provided for the pressure relief damper to control the pressure resistance to the bypass air. A manual balancing damper at the inlet of the terminal unit is field adjusted to control the primary air volume.



Bypass VAV Construction Illustrations



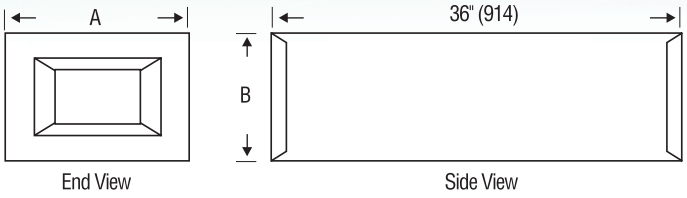


Bypass VAV Physical Dimension *Unit : mm*

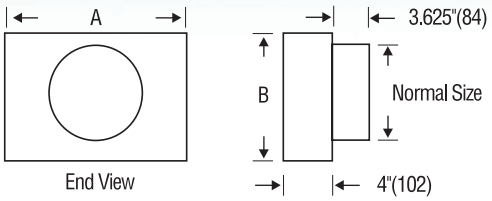
Unit size	D	A	B	C	E	F	G	J	K	L	H
150	145	305	203	75	120	220	200	200	153	491	150
200	195	305	254	75	120	220	200	200	204	545	200
250	245	356	318	75	120	220	200	200	268	613	250
300	295	406	381	75	120	220	200	200	331	680	300
350	345	508	445	75	120	220	200	200	395	748	350
400	395	610	457	75	120	220	200	200	407	811	400

Bypass VAV Terminal Units

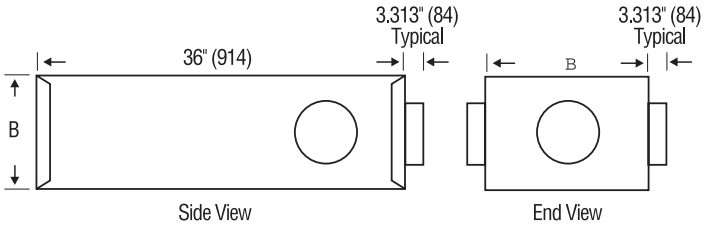
ATT Attenuator Section



RDC Round Discharge Collar



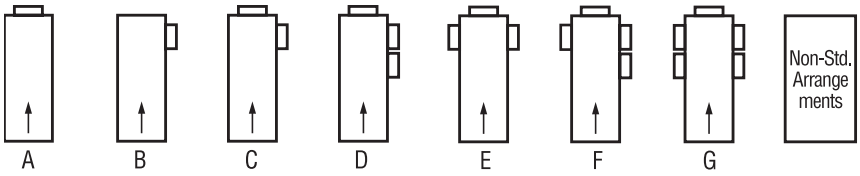
MOA Multi-Outlet Attenuator Section



NOTES :

- Only one outlet size to be specified per M.O.A.- No mixing of outlet sizes on the same unit.
- All round outlet c/w manual dampers.
- Denotes air flow direction.
- For special outlet sizes & arrangements, consult your ASLI representative office.

Standard MOA Configuration



Bypass VAV Performance Data

Unit size	Air Volume		Discharge Min. SP		Bypass Min. SP		Discharge	Radiated
	l/s	CFM	Pa	inch w.g.	Pa	inch. w.g.	NC	NC
150	47	100	2	0.01	2	0.01	-	-
	94	200	10	0.04	11	0.04	22	-
	142	300	22	0.09	24	0.10	35	-
	189	400	40	0.16	44	0.18	42	25
200	189	400	14	0.05	35	0.14	26	-
	236	500	20	0.08	55	0.22	33	-
	283	600	30	0.12	79	0.32	38	21
	331	700	40	0.16	107	0.43	42	25
250	236	500	8	0.03	8	0.03	-	-
	331	700	16	0.06	19	0.08	28	-
	425	900	26	0.10	30	0.12	36	-
	519	1100	40	0.16	46	0.19	42	25
300	378	800	10	0.04	28	0.11	22	-
	472	1000	16	0.06	44	0.18	28	-
	614	1300	26	0.10	74	0.30	38	-
	756	1600	40	0.16	110	0.44	42	25
350	519	1100	10	0.04	28	0.11	22	-
	661	1400	18	0.07	44	0.18	29	-
	803	1700	26	0.10	66	0.27	36	-
	992	2100	40	0.16	101	0.41	42	26
400	756	1600	14	0.05	30	0.12	26	-
	944	2000	20	0.08	50	0.20	33	-
	1133	2400	30	0.12	72	0.29	38	24
	1322	2800	40	0.16	96	0.38	42	28

- Discharge Min. SP is the static pressure loss through the unit with 100% airflow through the discharge outlet
- Bypass Min. SP is the static pressure loss through the unit with 100% airflow through the bypass outlet
- Blanks (-) indicate NC less than 20