



Leminar

Where Trust Matters

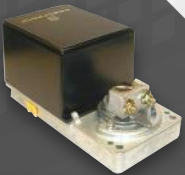
BYPASS TYPE VAV UNIT



Digital Thermostat



Galloway



Modulating Actuator



PRESSURE INDEPENDENT TYPE VAV UNIT



VAV Single Duct Controller & Actuator

BY PASS TYPE VAV UNITS

Leminar Bypass type Variable Air Volume units are ideal for low and medium pressure applications. These units are suitable for both cooling and heating systems. The temperature can be preset on the electronic analogue/digital thermostat, which senses the room temperature and controls the VAV Unit.

The Bypass terminal unit handles a constant supply of primary air through its inlet. The required quantity of air to each zone is pumped in to the serving area based on the load requirement and the balance air is by passed above false ceiling or into the system return.

CONSTRUCTION FEATURES:

CASING:

- Box casing is constructed in 22 BWG G90 Galvanised steel with round inlet and outlet.
- Hanger brackets provided for easy installation. Bypass
- Uniquely designed control box with sliding door gives it advantage as accessibility for maintenance and installation is highly increased.
- VAV ranges from 0- 7500 CFM sizing from 6" to 22".

DAMPERS:

The units are provided with 22 BWG Galvanised steel rectangular balancing damper with a sturdy design. The damper blade is tightly sealed with neoprene gasket.

ACOUSTIC LINING:

Bypass VAV casing are internally lined with 1/2" thick fiber free liner to achieve low NC levels for various applications, optional acoustic liners like fiber glass insulation is also available on request.

CONTROLS

VAV unit is provided with a modulating electronic control package. The 24 Volt modulating actuator is factory mounted direct to the damper shaft and includes an adjustable minimum air volume end stop as a standard feature. A 220 Volt to 24 Volt step down transformer is required and shall be supplied as a package. ON-OFF Type controls are available as an option. Make of Actuator and thermostat shall be Neptonic, Canada. However, other makes like Belimo, Siemens can also be arranged as an option.



DIGITAL THERMOSTAT

Intertek



MODULATING ACTUATOR

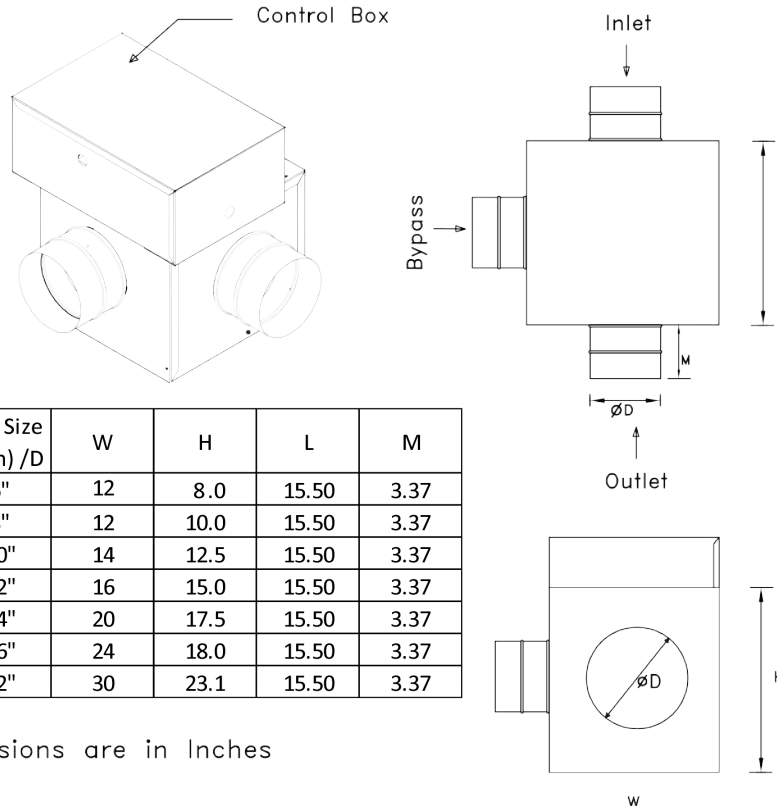
PRODUCT FEATURES

- Easy to install
- Can used to add zones control to various areas of the existing building
- These units can easily be located to suit interior requirements.
- These units are provided with integral inlet and bypass balancing dampers
- Special acoustic treatment helps to achieve low NC levels for various applications
- Design ensures low pressure drops on air side
- Electronic digital thermostat ensures precise temperature control
- Minimum air volume stop is provided which requires field adjustment to suite the application

BY PASS TYPE VAV UNITS



BYPASS VAV UNIT



VAV Model	Inlet Size (inch) / D	W	H	L	M
BVAV 06	6"	12	8.0	15.50	3.37
BVAV 08	8"	12	10.0	15.50	3.37
BVAV 10	10"	14	12.5	15.50	3.37
BVAV 12	12"	16	15.0	15.50	3.37
BVAV 14	14"	20	17.5	15.50	3.37
BVAV 16	16"	24	18.0	15.50	3.37
BVAV 22	22"	30	23.1	15.50	3.37

All Dimensions are in Inches

RADIATED & DISCHARGE SOUND POWER LEVEL

RADIATED SOUND POWER

Unit Size	CFM	Min Ps in. wg	Min Ps						$\Delta P_s = 1.0$ in. wg					
			Octave Band Sound Power, Lw, dB						Octave Band Sound Power, Lw, dB					
			2	3	4	5	6	7	2	3	4	5	6	7
6 Inch	200	0.05	48	41	37	37	30	20	58	49	44	44	36	24
	300	0.08	59	52	49	49	43	34	71	62	59	59	52	41
	400	0.08	67	60	57	57	52	44	80	72	68	68	62	53
	600	0.3	73	67	63	64	59	51	88	80	76	77	71	61
8 Inch	400	0.02	44	36	32	30	24	14	53	43	38	36	29	17
	500	0.08	58	50	47	45	40	31	70	60	56	54	48	37
	700	0.08	67	60	56	55	50	42	80	72	67	66	60	50
	1000	0.3	74	67	64	62	58	51	89	80	77	74	70	61
10 Inch	800	0.05	46	37	34	31	25	16	55	44	41	37	30	19
	800	0.03	55	47	43	41	36	27	66	56	52	49	43	32
	1100	0.06	57	49	45	40	33	28	78	68	65	61	56	47
	1600	0.1	72	64	61	59	55	48	86	77	73	71	66	58
12 Inch	1100	0.05	43	34	30	27	21	11	52	41	36	32	25	13
	1200	0.06	57	49	45	42	38	29	68	59	54	50	46	35
	1500	0.08	68	60	56	53	50	41	82	72	67	64	60	49
	2200	0.15	76	68	65	61	59	51	91	82	78	73	71	61
14 Inch	1500	0.05	47	37	34	30	25	16	56	44	41	36	30	19
	2100	0.08	58	49	46	41	38	29	70	59	55	49	46	35
	2400	0.13	66	57	54	50	47	39	79	68	65	60	56	47
	3000	0.2	72	63	61	56	54	46	86	76	73	67	65	55
16 Inch	2000	0.06	45	35	32	26	22	12	54	42	38	31	26	14
	2800	0.08	56	46	43	38	34	26	67	55	52	46	41	31
	3600	0.21	67	58	55	50	47	40	80	70	66	60	56	48
	4000	0.25	75	66	63	58	56	49	90	79	76	70	67	59
22 Inch	3000	0.2	38	36	33	27	23	14	46	43	40	32	28	17
	4500	0.3	53	48	45	39	36	28	64	58	54	47	43	34
	6000	0.08	64	56	53	47	45	37	77	67	64	56	54	44
	7500	0.5	76	65	62	57	55	48	91	78	74	68	66	58

DISCHARGE SOUND POWER

Unit Size	CFM	Min Ps in. wg	Min Ps						1.0 In Wg Ps					
			Octave Band Sound Power, Lw, dB						Octave Band Sound Power, Lw, dB					
			2	3	4	5	6	7	2	3	4	5	6	7
6 Inch	200	0.05	34	31	29	23	18	17	41	37	35	28	22	20
	300	0.08	46	42	39	35	30	23	55	50	47	42	36	28
	400	0.08	54	51	47	43	39	33	65	61	56	52	47	40
	600	0.3	61	57	53	49	45	41	73	68	64	59	54	49
8 Inch	400	0.02	31	28	25	20	16	16	37	34	30	24	19	19
	500	0.08	46	42	38	35	31	26	55	50	46	42	37	31
	700	0.08	65	59	56	53	45	38	66	61	56	53	49	44
	1000	0.3	63	58	54	52	48	45	76	70	65	62	58	54
10 Inch	800	0.05	34	31	27	24	20	13	41	37	32	29	24	16
	800	0.03	44	40	36	34	30	25	53	48	43	41	36	30
	1100	0.06	66	62	58	54	46	41	65	60	55	53	49	44
	1600	0.1	62	57	53	51	48	46	74	68	64	61	58	55
12 Inch	1100	0.05	38	34	30	29	25	19	46	41	36	35	30	23
	1200	0.06	50	45	41	40	37	34	60	54	49	48	44	41
	1500	0.08	58	53	49	48	46	44	70	64	59	58	55	53
	2200	0.15	65	59	55	54	52	52	78	71	66	65	62	62
14 Inch	1500	0.05	36	32	28	27	24	19	43	38	34	32	29	23
	2100	0.08	48	43	39	39	36	33	58	52	47	47	43	40
	2400	0.13	57	52	47	47	45	43	68	62	56	56	54	52
	3000	0.2	63	58	53	53	51	51	76	70	64	64	61	61
16 Inch	2000	0.06	35	31	26	26	23	18	42	37	31	31	28	22
	2800	0.08	47	42	37	37	35	32	56	50	44	44	42	38
	3600	0.21	58	53	48	49	47	46	70	64	58	59	56	55
	4000	0.25	67	61	56	57	56	56	80	73	67	68	67	67
22 Inch	3000	0.2	37	33	28	28	26	21	44	40	34	34	31	25
	4500	0.3	49	44	39	40	38	35	59	53	47	48	46	42
	6000	0.08	57	52	47	48	46	46	68	62	56	58	55	55
	7500	0.5	66	60	55	57	56	57	79	72	66	68	67	68

Highlighted ratings are listed by AHRI.

- Radiated sound is the noise transmitted through the unit casing
- Min ΔP_s is the static pressure drop from the unit inlet to the unit outlet with primary damper full open
- Sound power levels are in dB, ref 10-12 watts
- All performance based on tests conducted in accordance with AHRI 880.
- All NC levels determined using AHRI 885.



Leminar Pressure Independent VAV units are an innovative solution manufactured with the greatest precision and latest manufacturing techniques.

This unit is served by a central air handler and modulates the amount of 'primary' cooling air to the space between a minimum set point and the design airflow. The components of the unit include an acoustically lined sheet metal box, round inlet damper with Neoprene gasket, cross flow sensor and a rectangular outlet. The model has a unique Neptronic, Canada make Nepcross cross flow sensor which is located in the upstream section of the VAV chamber. The sensing points collectively average the primary air velocity pressure across the entire inlet area.

CONSTRUCTION FEATURES:

CASING:

- Box casing is constructed in 22 BWG G90 Galvanised steel with round inlet and rectangular outlet conforming to ASTM A 653, LFQ and G90 coating.
- Uniquely designed control box with sliding door gives it advantage as accessibility for maintenance and installation is highly increased.
- Hanger brackets provided for easy installation.
- PI VAV ranges from 0- 7500 CFM sizing from 6" to 22".
- Full range of options and accessories available (heating coils , attenuators etc)

DAMPERS:

The units are provided with 22 BWG Galvanised steel round damper with a sturdy design. The damper blade is tightly sealed with neoprene gasket.

ACOUSTIC LINING:

PI VAV casing are internally lined with 1/2" thick fiber free liner to achieve low NC levels for various applications, optional acoustic liners like fiber glass insulation is also available on request.

CONTROLS

VAV unit is provided with electronic control package consisting of thermostat and EVC which is a combination of an actuator and a controller. The EVC is available in two versions: a BTL listed BaCnet application specific version(EVCB) and a stand-alone version (EVC). The 24 Volt modulating actuator is factory mounted direct to the damper shaft, actuators are imported from Neptronic Canada along with Nepcross Cross flow sensor. A 220 Volt to 24 Volt step down transformer is required and shall be supplied as a package. Make of Actuator and thermostat shall be Neptronic, Canada. However, other makes likes Belimo, Siemens can also be arranged as an option.

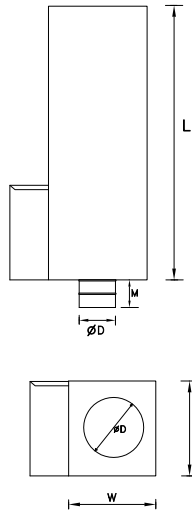
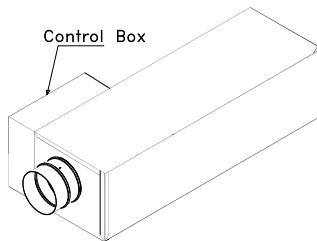


Intertek



MODULATING ACTUATOR

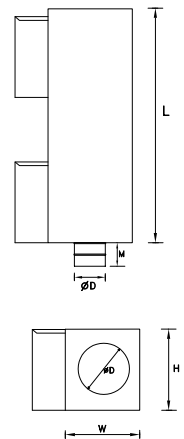
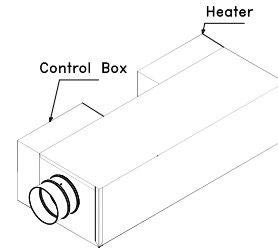
PRESSURE INDEPENDENT VAV WITH ATTENUATOR



VAV Model	Inlet Size (inch) /D	W	H	L	M
PIVAV 06	6"	12	8	39.4	3.37
PIVAV 08	8"	12	10	39.4	3.37
PIVAV 10	10"	14	12.5	39.4	3.37
PIVAV 12	12"	16	15	39.4	3.37
PIVAV 14	14"	20	17.5	39.4	3.37
PIVAV 16	16"	24	18	39.4	3.37
PIVAV 22	22"	30	23.1	39.4	3.37

All Dimensions are in Inch

PRESSURE INDEPENDENT VAV WITH ATTENUATOR & HEATER



VAV Model	Inlet Size (inch) /D	W	H	L	M
PIVAV 06	6"	12	8	39.4	3.37
PIVAV 08	8"	12	10	39.4	3.37
PIVAV 10	10"	14	12.5	39.4	3.37
PIVAV 12	12"	16	15	39.4	3.37
PIVAV 14	14"	20	17.5	39.4	3.37
PIVAV 16	16"	24	18	39.4	3.37
PIVAV 22	22"	30	23.1	39.4	3.37

All Dimensions are in Inch



Nepcross Flow Station

Nepcross has been developed in order to give Independent Box Manufacturers the ability to participate in the lucrative VAV pressure independent market.

Now, the Independent Box Manufacturers have the choice to use the Nepcross with different VAV controllers or use the Nepcross with Neptronic pressure independent controllers.

The Neptronic Pressure Independent controllers (and corresponding thermostats) are available in free standing mode EVC or BACnet configuration mode EVCB.

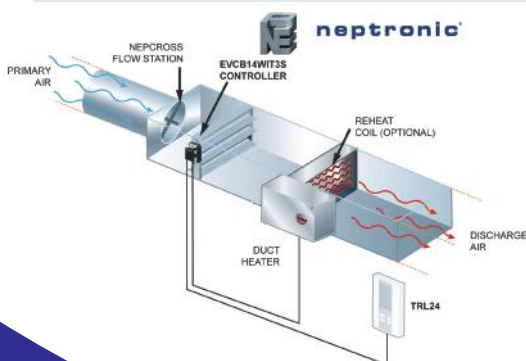


VAV Single Duct Controller & Actuator

The VAV package consists of 2 parts, namely the thermostat and the EVC which is a combination of an actuator and a controller, which mounts directly to the damper jackshaft on the side of the VAV box.



The EVC is available in two versions: a BTL listed BACnet application specific version (EVCB) or a stand-alone version (EVC).



Typical Single Duct Application

Single duct air handling systems utilize one main supply air duct from the central fan. Typically the central fan is supplying cool air and then the discharge air is heated using reheat coils as defined by the controller and the thermostat in the controlled space

CERTIFICATIONS



Galloway

AHRI CERTIFIED®
www.ahrirectory.org

Certificate of Product Ratings

AHRI Certified Reference Number: 10512758 Date: 9/8/2017 †Status: Active

Product: Bypass Air Terminal Units
Model Number: BVAV-08
Manufacturer: LEMINAR AIR CONDITIONING INDUSTRIES L.L.C.
Country of Origin: UAE
Trade/Brand name: LEMINAR

Rated as follows in accordance with the latest edition of ANSI/AHRI Standard 880 (I-P), Performance Rating of Air Terminals and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Rated Duct Width x Height (decimal inches):	12.00 X 10.00	
Fan Powered:	No	
Primary Air Flow Rate (CFM):	700	
Minimum Supply Operating Pressure Required:	0.08	

125: 60	250: 53	500: 45	1000: 40	2000: 31	4000: 27
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125: 65	250: 59	500: 56	1000: 53	2000: 45	4000: 38
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† Models with an 'Active' status are those that are currently in production. Models with a 'Discontinued' status are those that the manufacturer has elected to stop producing, yet stock is still available. Models with an 'Obsolete' status are those that the manufacturer is required to stop manufacturing due to an AHRI certification program test failure.
 * Ratings followed by an asterisk (*) indicate a voluntary resale of previously published data, unless accompanied with a W&S, which indicates an involuntary resale.

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CERTIFICATE NO.: 131493346854879612

AHRI CERTIFIED®
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Certificate of Product Ratings

AHRI Certified Reference Number: 10512750 Date: 9/8/2017 †Status: Active

Product: Single Duct Terminal Units (Supply)
Model Number: PI-VAV-06
Manufacturer: LEMINAR AIR CONDITIONING INDUSTRIES L.L.C.
Country of Origin: UAE
Trade/Brand name: LEMINAR

Rated as follows in accordance with the latest edition of ANSI/AHRI Standard 880 (I-P), Performance Rating of Air Terminals and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Rated Duct Width x Height (decimal inches):	12.00 X 8.00	
Fan Powered:	No	
Primary Air Flow Rate (CFM):	400	
Minimum Supply Operating Pressure Required:	0.05	

125: 58	250: 53	500: 49	1000: 44	2000: 41	4000: 36
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125: 67	250: 64	500: 60	1000: 53	2000: 49	4000: 49
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CERTIFICATE NO.: 131493347104010015

PROJECT LIST

- Compus Service Centre & Youth Centre @ American University, Sharjah
- Al RahbaHosital @ AUH (MRI ROOM)
- Construction of G+5 Office Building and Other Associateed Building @ Warsan 2nd Dubai
- Construction of Male and Female High School at MadinatZayed City, Abu Dhabi
- Male & Female School and Accommodation Complex at MadinatZayed
- Private Villa for the Chairman of the Khan-saheb Group
- Euro Offices
- FSU Warehouse Facility @ Nad Al Sheba
- Construction of Warehouse of Office Building (G+M)
- Ruwais Housing Complex Expansion Phase III, Bachelor Accommodation
- Workshop+Office Building, Dubai
- HRD Office @ Old Zabeel
- Primary School At MadinatZayed City in Western Area
- G+1 Anoohi Villa on Plot No. 263-849
- Dubai Police General HQ-Reception Bldg
- Proposed Warehouse Storage Cell At Dubai Logistic City Village II
- Bainounah Production Fitout
- Corporate Office @ Al Barsha
- Military Facility @ Al Aweer
- Additional Expansion of Dubai Ladies Club Plot 342-782 @ Jumeirah Village II
- Regional Offices @ Dubai Healthcare City
- 2 Nos. Admin Bldg at Madam and Bataveh
- K&L Gates Office Fitout Currency House Building, Level-4 DIFC
- Dalkia Mall of Emirates
- Nanaden Warehouse Work
- New RTA HQ Building at Al Garhoud MEP Modification & Upgrading Works.
- Abraj Capital C-3, C-4 at DIFC
- G+1 Villa for SaeedGhuloom
- Schaeffler ME FZE
- The Sundial's Village (46 Villas), Jumeirah Golf Estate
- D.M. Offices at Dragon Mart
- 2 Nos. Admin Bldg at Madam and Bataveh
- Velosi Certification
- G+15 Bldg. At Al Nahda
- Roshan Head Office
- Dubai Modern High School
- H.H. Sheikh Majid Office, DIFC
- The World Showroom Al Nakheel at Palm Jumeirah
- E I B Burj Al Arab
- Ministry of Finance- Muscat
- Offices for M/s. ICD at DIFC, Dubai
- G+1, 4 Nos Schools at Rashidiya / Warqa / Barsha / Muhais
- Arab Investment Bank, Festival City
- First Gulf Bank, Sheikh Zayed Road
- G+1 - 6 Villas
- Dubai Health Care City
- Office at Dubai Festival City
- PWC Office at Al Sufouh Tower Tecom
- G+1-6 Villas
- Central Laboratory
- 07 B126, Al Quoz
- J 1491
- 2B+G+M+3, Dubai
- SVC
- Population Registration I.D Card Building
- G+1 Office
- Additional Building at Le Meridien Hotel, Dubai
- Al Noor Training Centre
- Higher College of Technology At Ibri, Oman
- G+1, 8 Villas
- Police Centre at Sharjah
- G+1 Villa at Emirates Hill
- Knowledge Village, Dubai
- Technical College at Shinas Oman
- B+G+1 Villa on Plot No.394-332, Emirates Hills, Dubai
- Liberty Automotive Showroom, Sharjah
- Sultan Qaboos University Oman
- Sultan Qaboos University Oman
- G+3 Bldg. in Dubai for Mr. Al Baker (152 Nos. VAV Units)
- Sports Complex / Youth Centre at Al Dhaid
- College of Science, Oman
- Nissan Car Showroom in Oman
- MW-OU-006-2003 Abu Dhabi U.A.E Armed Forces
- G+1, 14 Villas in Jumeirah
- Mr. Mohd Ali Villa-Muscat Oman
- (3B+G+3+Gym) Building on Plot no. 3130405 at Al Hamriya, Dubai





OUR PRODUCTS



**GALLOWAY
ACOUSTICS**

- Sound attenuators
- Acoustic louvres
- Acoustic enclosures
- Screens and bespoke products (under exclusive manufacturing licensee of Galloway Acoustics, UK) for UAE, Oman, Qatar, Bahrain & Kuwait.
- Tested to BS 4718 (ISO 7235) on UKAS accredited test rig in the UK



**FENLAND
FIREDUCT
SYSTEMS**

- Coated type fire-rated ductwork under exclusive licensee from FFC (UK)



- Spiral round ducts and fittings produced on dedicated SPIRO Switzerland machineries such as the Tubeformer, Gorelocker, EPDM Fixer, Stitchwelder.



- Galvanised ducts with CGF1 integral flange system. Tested to DWTM1 standards by BSRIA, UK for its highest joint rating (J6) in the industry.
- Mild steel and stainless steel welded ducts.
- Aluminium ducts



- Control dampers
- Access doors
- Bypass and Pressure Independent type VAV units tested as per AHRI-880.

Leminar Air Conditioning Industries L.L.C, UAE:

T: +971 4 456 1292 | F: +971 4 456 1293 | A: P.O.Box: 33539, Dubai, UAE
E: info@leminar.ae | www.leminarindustries.com

Leminar Air Conditioning Industries Co. Qatar W.L.L.

(A joint venture with Dyarco International, Qatar)

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E: leminar@dyarco.com



- Non-Coated Fire Rated Ducts
- UL 555 listed fire dampers (single & multisection)