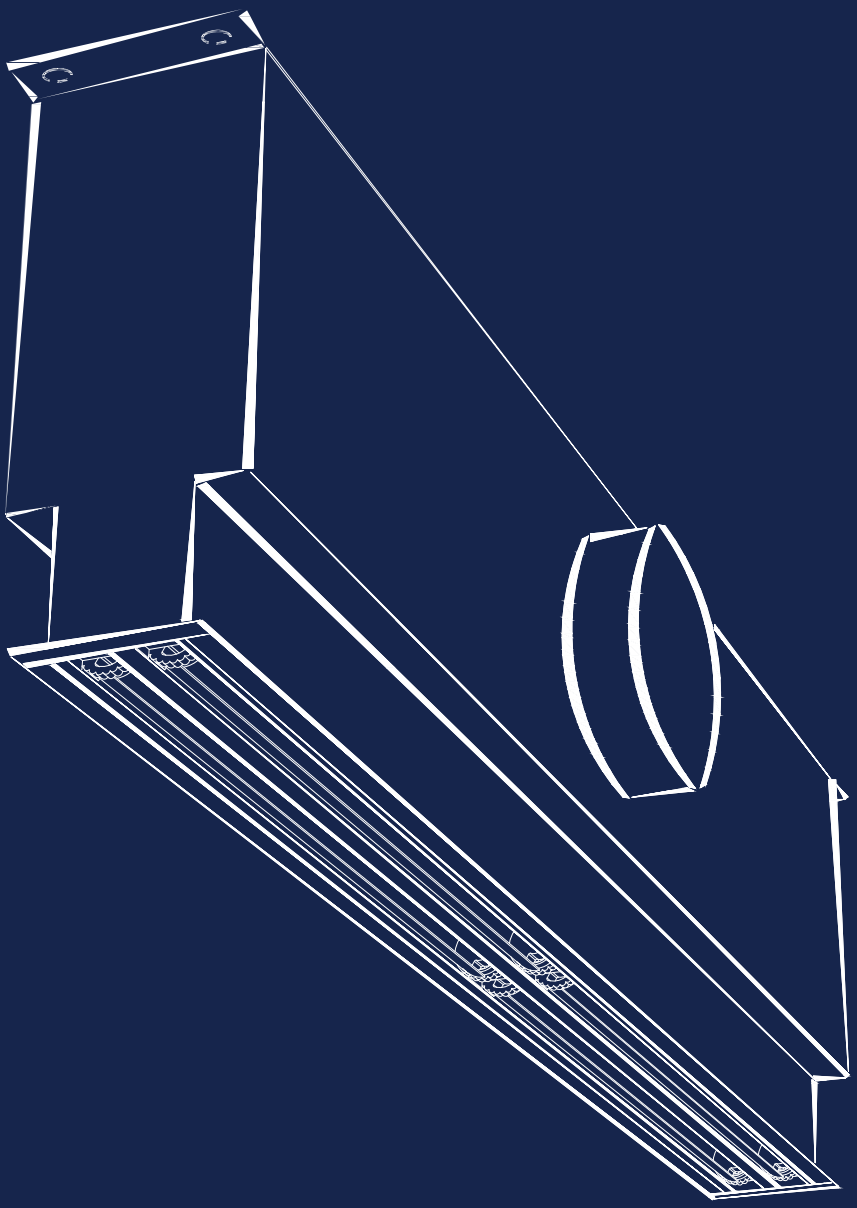


CLV Linear Adjustable Jet Flow Diffusers

BARCOL-AIR

CLV Linear Adjustable Jet Flow Diffusers

Table of contents

CLV Linear Adjustable Jet Flow Diffusers

Model definition

C - L - V - 2 - 3 - 0 - 0 - 4 - 1500

CLV Position 1, 2, 3: Product group

CLV = Linear Adjustable Jet Flow Diffusers

2 Position 4: Number of slots

The standard product has 1 to 4 slots, more than 4 slots are available in special order basis.

3 Position 5: Plenum configuration

0 = without Plenum
1 = plenum without insulation
3 = plenum with insulation
9 = non standard, specify separately

0 Position 6: Installation format

0 = non detachable
1 = detachable

0 Position 7: End plate format

0 = L-shaped end plate
1 = flat end plate
2 = non standard, specify separately

4 Position 8: Diffuser surface treatment

4 = the outer frame is white and the blade is black
1 = non standard, specify separately

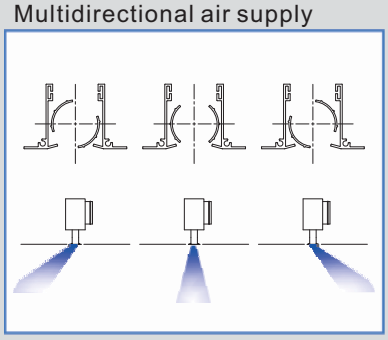
1500 Position 9: Length of diffuser, unit: mm

Model selection example:

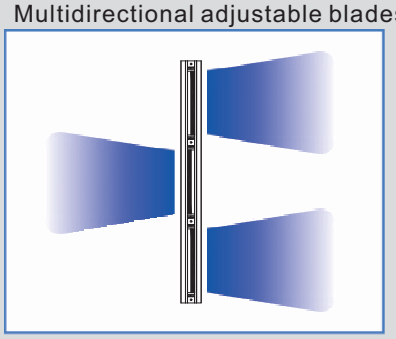
CLV-23004-1500 signifies:
CLV adjustable linear jet flow type diffuser, 2 slots, with thermal insulation plenum, non detachable diffuser installation, end plate is L-shaped, the outer frame of the diffuser is painted white, the air guide blade is black, and the length of the air outlet is 1500mm.

CLV Linear Adjustable Jet Flow Diffusers

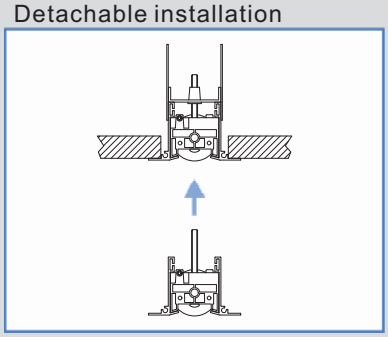
Multidirectional air supply



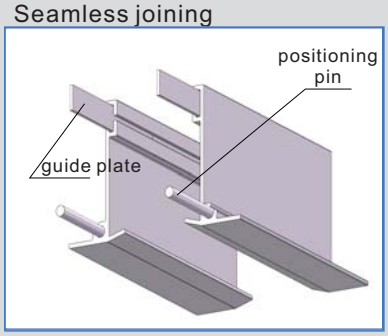
Multidirectional adjustable blades



Detachable installation



Seamless joining



Main technical features

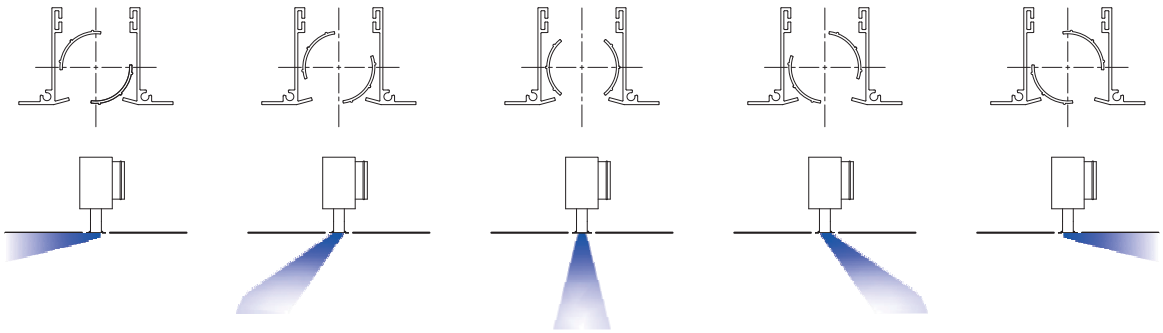
- The air volume supply range is large, the length of diffuser can be selected from 300mm to 2000mm, with 1 slot to 4 slots.
- The recommended air volume range is 100m³/h to 300m³/h per meter per slot.
- High quality aluminum diffuser, with attractive appearance.
- The internal deflection blade sections can be rotated 180 degrees to change the air supply direction from vertical to horizontal and any positions in between.
- Diffuser are available with non detachable and detachable diffuser inset according to the project need.
- The diffuser panel is provided with a flanged edge, which is well matched with the ceiling opening to achieve a beautiful decorative effect.
- L-shaped end plates can be selected at both ends of the diffuser or without end plates, and multiple diffusers can be seamlessly joined using accessary guide plates and positioning pins.
- The air plenum can be internally insulated to prevent condensation.
- The inlet of the plenum can be equipped with a regulating damper to facilitate system commissioning and balancing of the air supply pressure.
- The diffuser can be installed in the ceiling for vertical air supply or on the wall for horizontal air supply.

CLV Linear Adjustable Jet Flow Diffusers

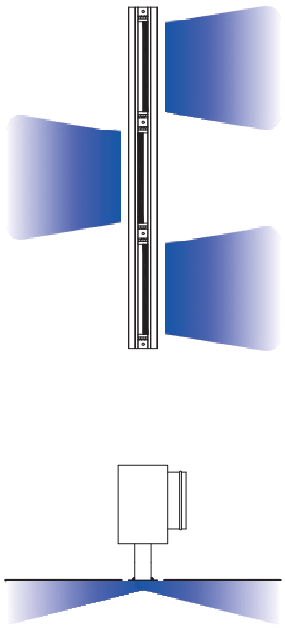
Air supply direction

By rotating the internal air deflection blade in each section of diffuser, the air supply direction can be changed from vertical to horizontal or any direction between.

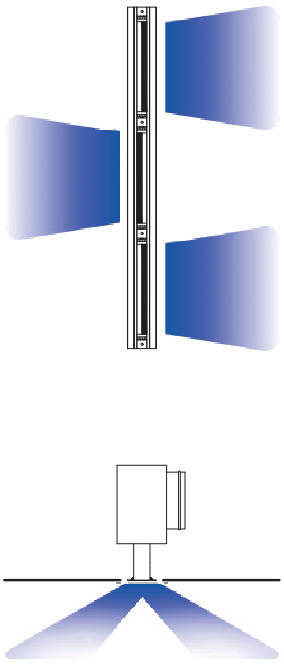
Multidirectional air supply



Alternate horizontal air supply



Alternate oblique air supply



CLV Linear Adjustable Jet Flow Diffusers

Application description

Barcol-Air CLV series adjustable linear jet flow type diffuser, with linear design and beautiful appearance, is suitable for office buildings, hotels, theatres, libraries, exhibition centers, shopping malls, home and other application sites. There are one to four slots for customers to choose. Providing a large air supply volume and long air throw range. The diffuser is made of high-quality aluminum with powder paint finish. Multiple diffusers can be connected end to end seamlessly to provide a continuous diffuser appearance. The air supply direction can be adjusted by rotating the internal air deflection blade 180 degrees to allow vertical to horizontal air discharge or any position between. This allows achieving a perfect any distribution in the room ensuring the comfort of the occupant. The diffuser can be used for supply air or return air together with insulated or uninsulated air plenums.

Materials and surface treatment

- The diffuser is made of high-quality aluminum, and the surface is finished with epoxy polyester powder paint.
- Plastic parts are made of flame retardant ABS.
- The standard color of the diffuser frame is RAL9010 white, and the diffuser blade are anodized RAL9006 black.
- The plenum is made of galvanized steel plate.

CLV Linear Adjustable Jet Flow Diffusers

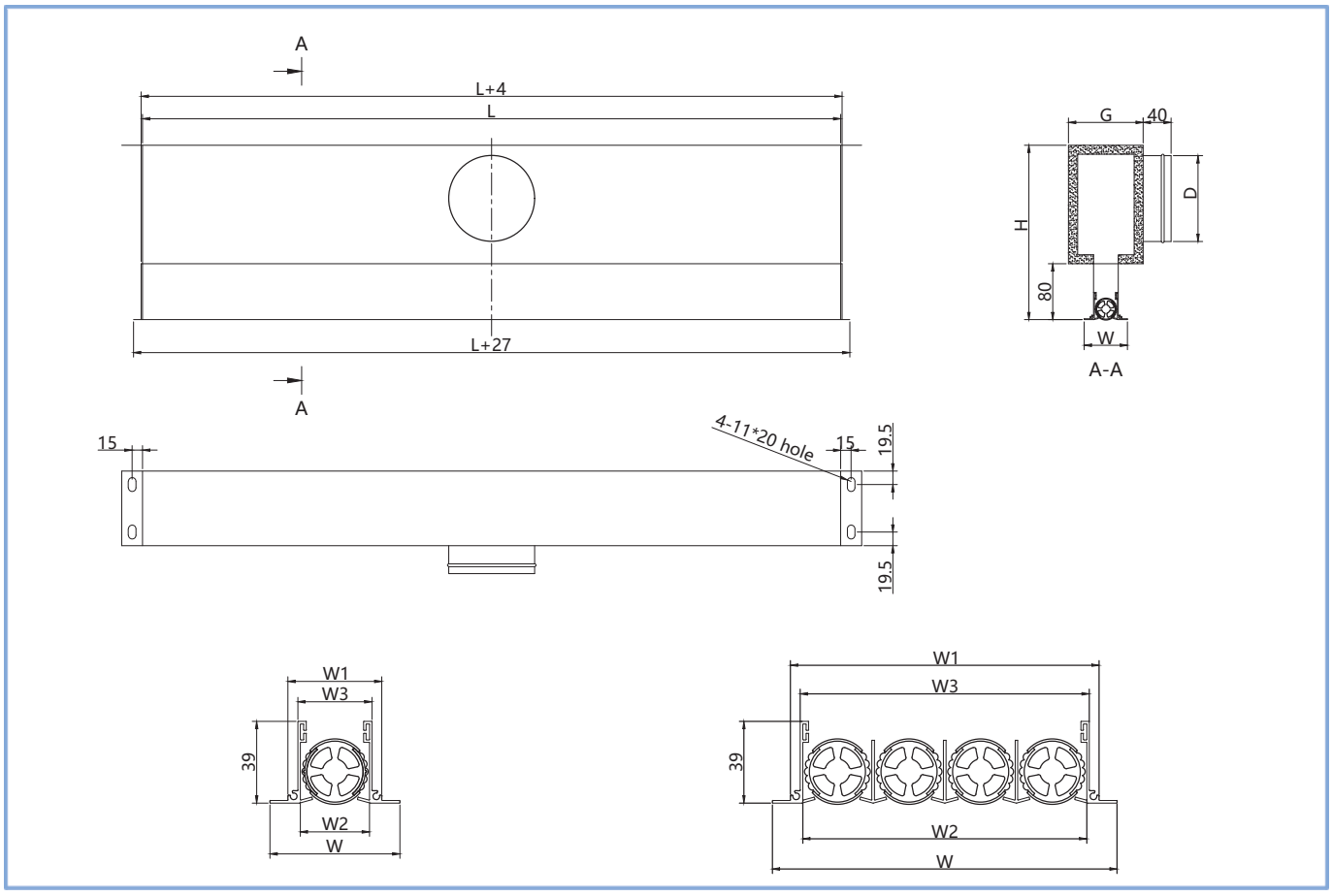
Dimensions

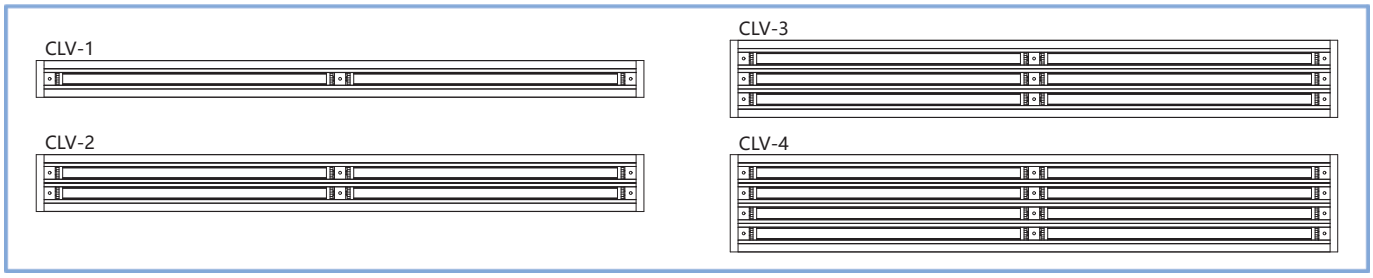
Table 1 (unit: mm)

Model	H	G	W	W1	W2	W3
CLV-1	260	103	62.0	44.8	33.0	35.4
CLV-2	300	119	96.2	79.0	67.2	69.6
CLV-3	350	144	130.4	113.2	101.4	103.8
CLV-4	350	178	164.6	147.4	135.6	138.0

Table 2 (unit: mm)

Air connection spigot quantity * diameter Φ				
L	CLV-1	CLV-2	CLV-3	CLV-4
300	1*125	1*125	1*125	1*160
600	1*125	1*160	1*200	1*200
900	1*160	1*200	1*250	1*250
1200	1*160	1*200	1*250	1*250
1500	2*160	2*200	2*250	2*250
1800	2*160	2*200	2*250	2*250
2000	2*160	2*200	2*250	2*250



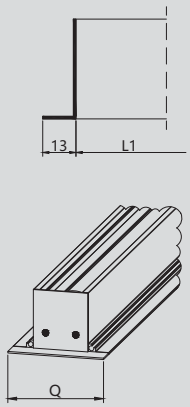


CLV Linear Adjustable Jet Flow Diffusers

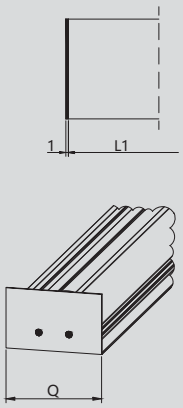
Dimensions

End plate form

L-shaped end plate



Flat end plate



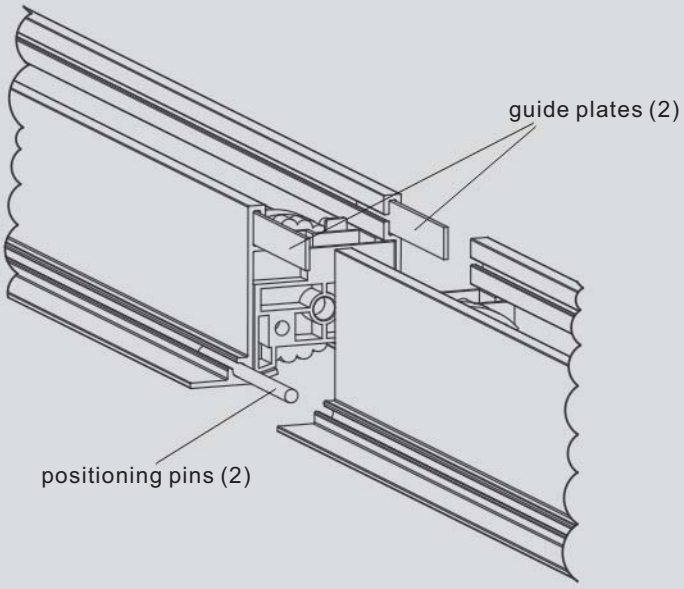
End closure mode

- The diffuser end is not closed (in order to realize seamless joining of multiple diffusers).

- End is closed on both ends using accessary end plates.

Connection mode of diffuser

When the diffusers are connected end to end and combined into a continuous strip, accessary guide plates and positioning pins are used to splice the two adjacent diffusers together.



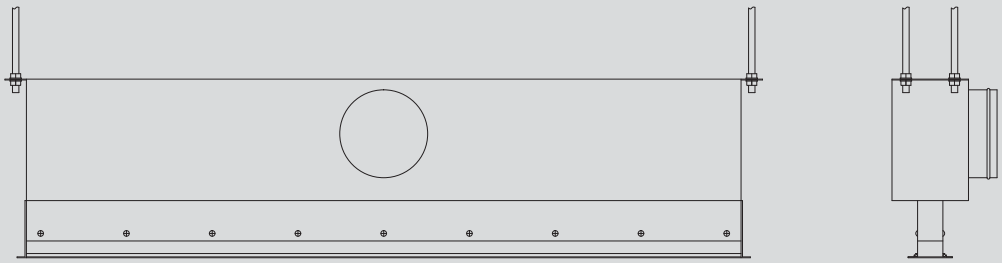
CLV Linear Adjustable Jet Flow Diffusers

Installation instructions

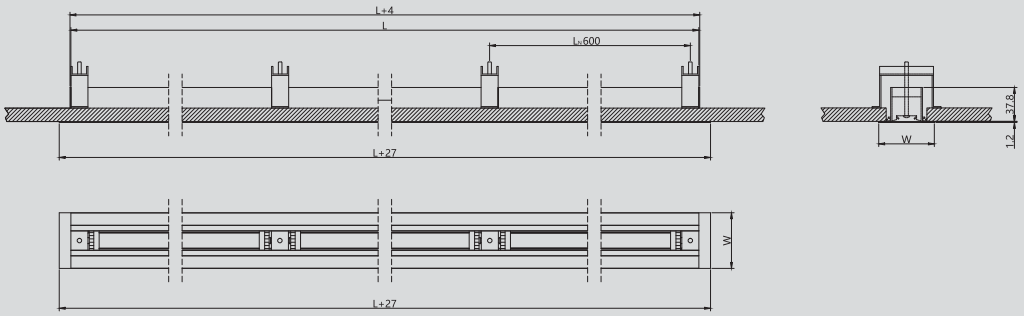
1.The plenum of diffuser is installed by suspension. The end plate lugs are provided on the plenum to ensure the installation effect.

2.The linear diffuser with flanged edge can well match the ceiling opening, avoid the bad appearance caused by oversized openings and make the decorative effect beautiful. Meanwhile, the diffuser has two alternative types: non-detachable and detachable, which can be flexibly selected according to the site installation conditions.

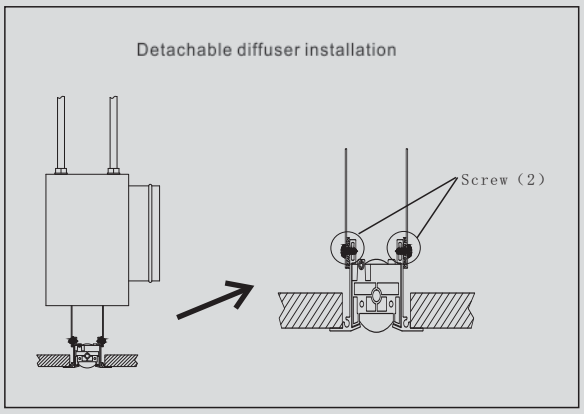
A. Diffuser with Plenum

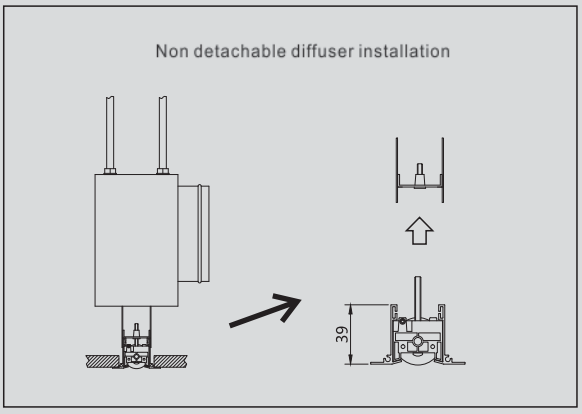


B. Diffuser without Plenum



C. Diffuser Installation





CLV Linear Adjustable Jet Flow Diffusers

Performance data

Table 3

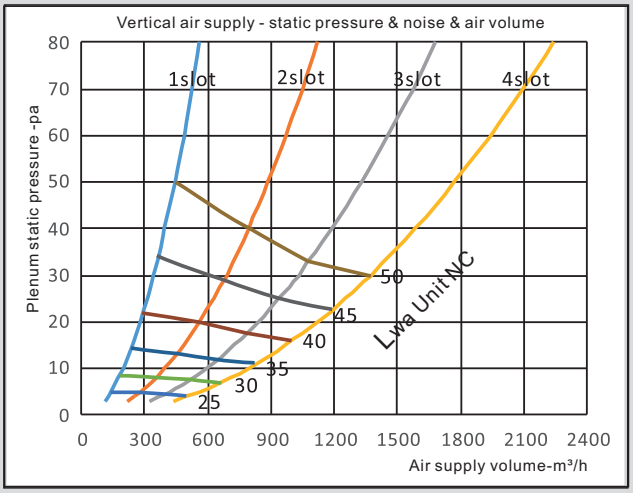
Specifications	Plenum static pressure loss		Pa	3	4	5	8	10	15	20	25	30	40	50	60	70	80
CLV-1	Vertical	Air supply volume	m³/h	108	125	140	177	198	243	280	313	343	396	443	485	524	560
		Air supply distance	m	2.0	2.3	2.6	3.3	3.9	4.7	5.5	6.1	6.6	7.6	8.5	9.3	10.1	10.7
		Air supply noise	LWA	26.6	28.7	30.4	34.3	37.3	41.7	44.9	47.6	49.8	53.3	56.0	62.9	65.4	67.6
			NC	21.6	23.7	25.4	29.3	32.3	35.7	38.9	41.6	43.8	47.3	50.0	56.9	59.4	61.6
	Horizontal	Air supply volume	m³/h	57	66	73	92	102	125	144	160	175	201	224	245	264	282
		Air supply distance	m	0.5	0.7	0.9	1.4	1.6	2.2	2.7	3.1	3.5	4.2	4.7	5.3	5.8	6.2
		Air supply noise	LWA	25.1	26.6	27.8	30.5	32.8	35.6	37.6	39.1	40.3	42.0	43.1	48.5	49.7	50.7
			NC	21.1	22.6	23.8	26.5	28.8	31.6	33.6	35.1	35.3	37.0	38.1	43.5	44.7	45.7
CLV-2	Vertical	Air supply volume	m³/h	217	250	280	354	396	485	560	626	686	792	886	970	1048	1120
		Air supply distance	m	2.1	2.4	2.7	3.4	3.9	4.8	5.5	6.2	6.8	7.9	8.8	9.7	10.4	11.2
		Air supply noise	LWA	26.9	29.1	30.9	35.1	38.0	42.7	46.3	49.2	51.8	56.0	59.3	65.3	68.2	70.8
			NC	21.9	24.1	25.9	30.1	33.0	36.7	40.3	43.2	45.8	50.0	53.3	59.3	62.2	64.8
	Horizontal	Air supply volume	m³/h	114	131	146	184	205	250	287	320	350	402	448	490	528	564
		Air supply distance	m	0.7	0.9	1.1	1.6	1.9	2.6	3.1	3.6	4.0	4.7	5.4	5.9	6.5	7.0
		Air supply noise	LWA	25.4	27.0	28.3	31.3	33.5	36.6	38.9	40.8	42.3	44.6	46.4	50.9	52.5	53.9
			NC	21.4	23.0	24.3	27.3	29.5	32.6	34.9	35.8	37.3	39.6	41.4	45.9	47.5	48.9
CLV-3	Vertical	Air supply volume	m³/h	325	376	420	531	594	728	840	939	1029	1188	1328	1455	1572	1680
		Air supply distance	m	2.2	2.5	2.8	3.6	4.1	5.0	5.8	6.5	7.1	8.3	9.2	10.1	11.0	11.7
		Air supply noise	LWA	27.2	29.5	31.4	35.9	38.7	43.7	47.6	50.9	53.8	58.6	62.7	67.7	71.0	74.0
			NC	22.2	24.5	26.4	30.9	33.7	37.7	41.6	44.9	47.8	52.6	56.7	61.7	65.0	68.0
	Horizontal	Air supply volume	m³/h	171	197	219	276	307	374	431	480	525	603	673	735	792	845
		Air supply distance	m	0.8	1.1	1.3	1.9	2.2	2.8	3.3	3.8	4.2	5.0	5.6	6.2	6.8	7.3
		Air supply noise	LWA	25.7	27.4	28.8	32.1	34.2	37.6	40.3	42.4	44.3	47.3	49.7	53.3	55.3	57.1
			NC	21.7	23.4	24.8	28.1	30.2	33.6	35.3	37.4	39.3	42.3	44.7	48.3	50.3	52.1
CLV-4	Vertical	Air supply volume	m³/h	434	501	560	708	792	970	1120	1252	1372	1584	1771	1940	2096	2240
		Air supply distance	m	2.4	2.7	3.0	3.8	4.3	5.2	6.0	6.7	7.4	8.5	9.5	10.4	11.3	12.0
		Air supply noise	LWA	27.5	29.9	31.9	36.7	39.3	44.7	48.9	52.6	55.8	61.3	66.0	70.1	73.8	77.2
			NC	22.5	24.9	26.9	31.7	34.3	38.7	42.9	46.6	49.8	55.3	60.0	64.1	67.8	71.2
	Horizontal	Air supply volume	m³/h	228	263	293	368	410	499	574	640	699	805	897	980	1056	1127
		Air supply distance	m	1.0	1.3	1.5	2.1	2.5	3.2	3.9	4.4	4.9	5.8	6.6	7.3	7.9	8.5
		Air supply noise	LWA	26.0	27.8	29.3	32.9	34.8	38.6	41.6	44.1	46.3	50.0	53.1	55.7	58.1	60.3
			NC	22.0	23.8	25.3	28.9	30.8	34.6	36.6	39.1	41.3	45.0	48.1	50.7	53.1	55.3

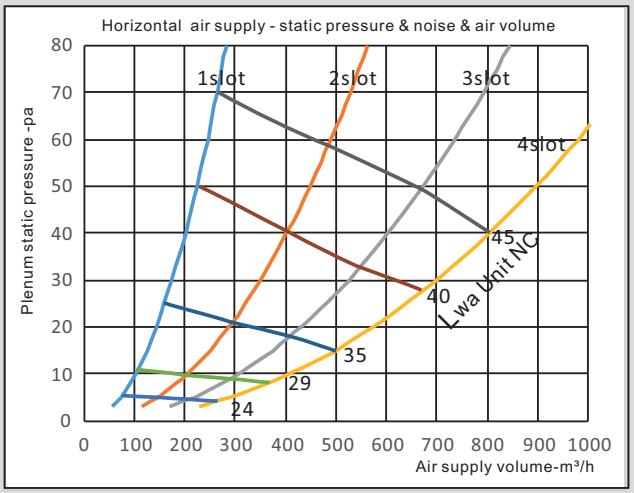
Remarks:

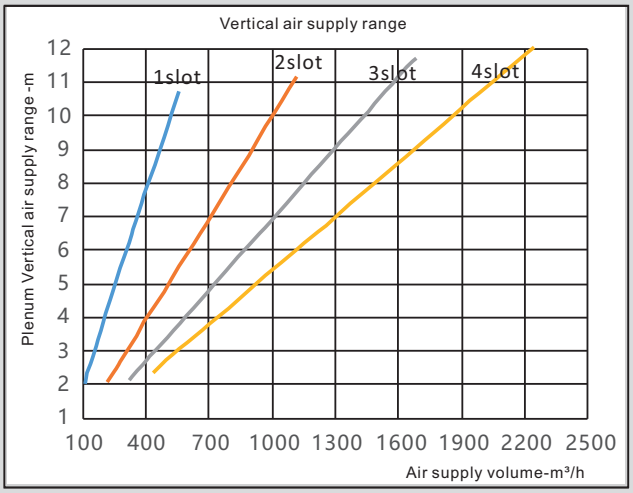
- The above data are based on 1m long diffuser, and the air supply temperature is tested under normal atmospheric temperature air supply condition.
- The vertical air supply distance refers to the straight line distance to achieving an air velocity of 0.5 m/s at the centre of the air flow when the diffuser is applied for vertical discharge and the diffuser is fully open.
- The horizontal air supply distance refers to the distance to achieving an air velocity of 0.5 m/s at the centre of the air flow.
- The noise data is based on the sound power noise level.

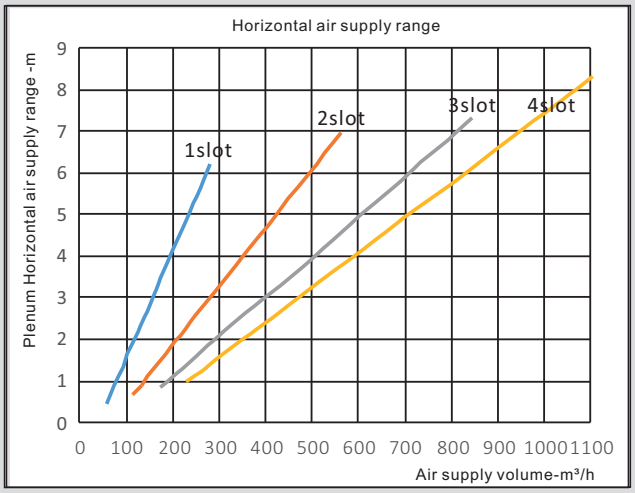
CLV Linear Adjustable Jet Flow Diagrams

Performance data







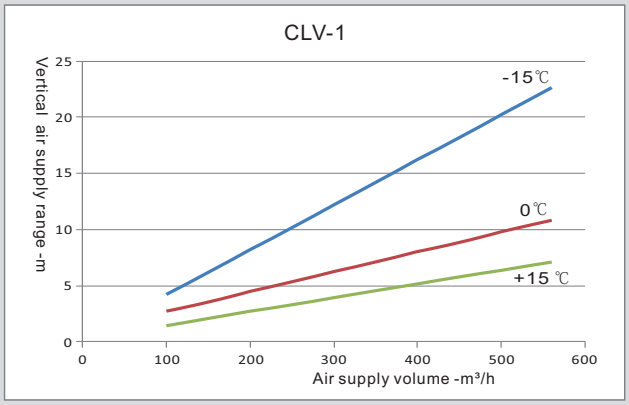


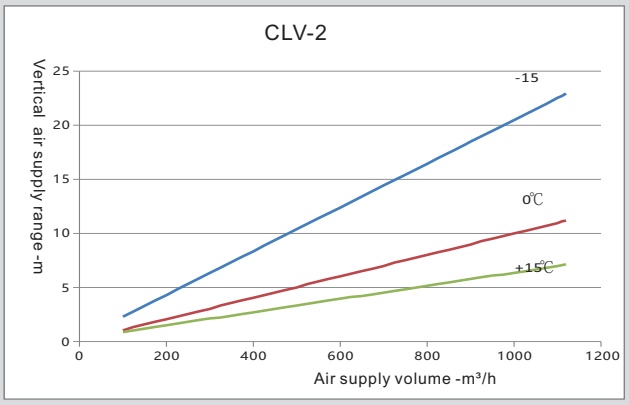
The air supply distance in the above charts is based on 1m long diffuser and achieving a 0.5 m/s air velocity at the centre of the air flow. Other lengths of diffuser can be corrected according to the following table.

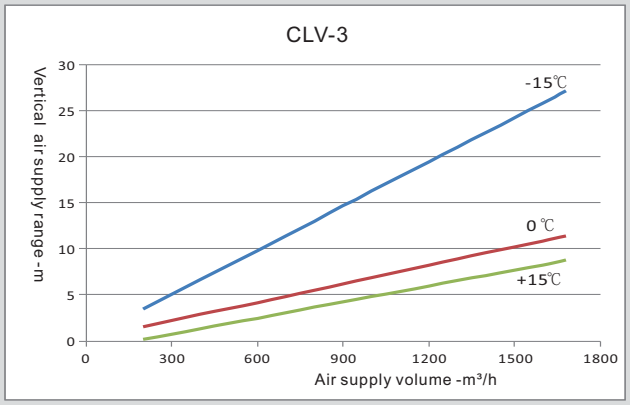
Modify factor		
Length of diffuser	Air supply distance modify	Noise modify
300 < L_N < 1000 mm	× 0.85	- 1
L_N = 1000 mm	× 1.00	+ 0
1000 < L_N ≤ 2000 mm	× 1.25	+ 3

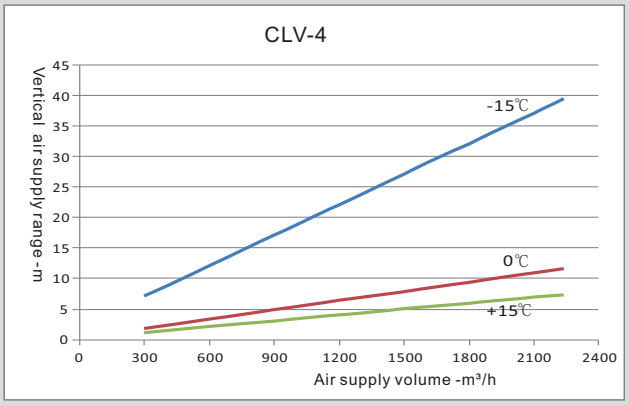
CLV Linear Adjustable Jet Flow Diagrams

Airflow data at different temperatures









Remarks:

1. The temperature differences on the graphs above are the differences between the air supply temperatures and the room temperatures.
2. Vertical air supply range refers to the straight-line distance from the diffuser to the position where the centre of the airflow stream reduces to 0.5 m/s when the diffuser is applied with vertical discharge and the diffuser is fully open.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