

ALANDALOSIA

FOR AIR OUTLET



CATALOGUE **NO 15**

BALL JET NOZZLE



Air Outlet

Andalosalosia

OUR PRODUCTS

SELECTION GUIDE

- 1- SQUARE CEILING DIFFUSER
- 2- ROUND CEILING DIFFUSER
- 3- SWIRL DIFFUSER
- 4- PERFORATED CEILING DIFFUSER
- 5- LINEAR SLOT DIFFUSER
- 6- LINEAR CEILING DIFFUSER
- 7- LINEAR BAR GRILL
- 8- REGISTER
- 9- FLOOR & PERFORATED FLOOR GRILL
- 10- TRANSFER GRILL
- 11- ACCESS PANEL
- 12- LOUVER
- 13- SAND TRAP LOUVER
- 14- JET NOZZLE

15 - BALL JET NOZZLE

- 16- DRUM JET NOZZLE
- 17- DISC VALVE
- 18- NON RETURN DAMPER (SHUTTER)
- 19- VOLUME DAMPER
- 20- FIRE DAMPER
- 21- SMOKE DAMPER
- 22- DUCT ACCESS DOOR

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INTERTEK

INTRODUCTION

BALL JET NOZZLES

Ball Jet nozzles are used for Air conditioning system in large rooms, in general ball jet nozzles are arranged in the side wall areas.

This is the case in large rooms (halls, assembly rooms etc.) particularly when the distribution of air via ceiling

diffusers is not possible or not practical, as that it is better to choose ball jet nozzles.

Ball Jet nozzles are arranged in the side wall areas to supply air.

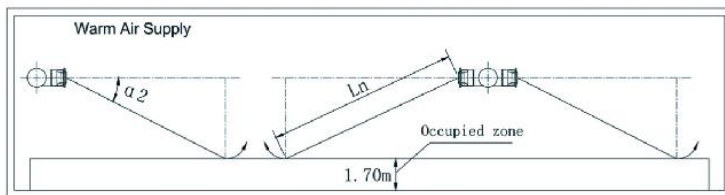
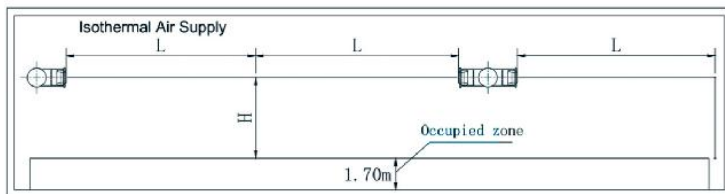
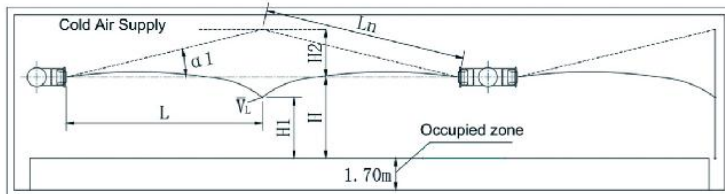
When the temperature difference between the supply air and the room air changes as the season changes, making the supply air stream deflected upwards (cold air) or downwards (warm air) to mix the air stream symmetrical and fast.



CHARACTERISTICS

- Ball Jet nozzles suitable for long throw distances with optimum acoustic properties, easy to install, adjust and so on. The direction of the supply air flow is also affected by other factors, on this condition in order to change the discharge, we design revolving type of ball jet nozzles can be adjusted manually, or motorized or by thermostat.
- Ball Jet nozzle consists of discharge nozzle with spherical outlet mounted in a housing, mounting flange and in a circular duct rear connection spigot for direct connection to a circular duct.
- When use thermostat ball jet nozzle, which can recognize supply air temperature automatically. Do not need to adjust deflection angle by manual as the season changes.
- Standard color is RAL9010, clients also can choose other RAL colors.

THREE TYPE OF AIR



Nomenclature (in: m)

L-Horizontal distance from nozzles to the two air streams point ,for isothermal conditions.

B-Sapcing distance between two nozzles in a row.

H-Nozzle installation height above occupied zone.

H1-Height of collision point of two air streams above occupied zone ,for isothermal conditions.

H2-Height of collision point of two air streams above mounting position of nozzles ,for isothermal conditions when supply cold air.

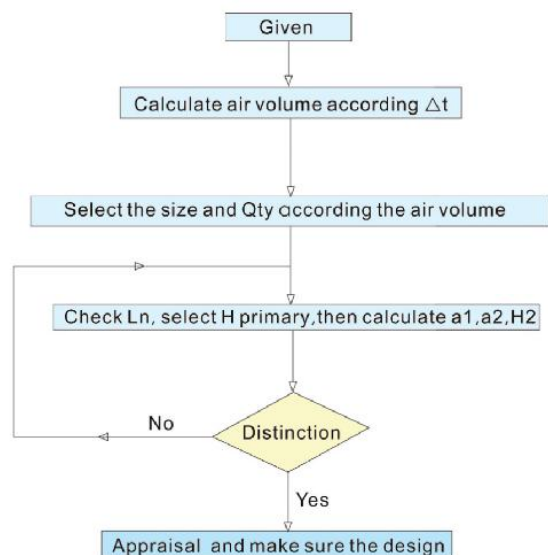
Ln-Length of air stream for isothermal conditions.

a1、 a2- Discharge angle for cold and warm ai.

Δt -Temperature differences of air supply and indoor. . (in: $^{\circ}C$)

SELECTION METHOD

- 1) Given ,room's length,width and height .The installation height of jet nozzles, indoor temperature and total volume flow in Summer and Winter.
- 2) According the temperature difference between supply air and room air , room burthen to calculate the volume flow rate.
- 3) Preliminary selection ,according the volume flow ,room's size and the nomenclature of three types of air ,to choose the size and quantity of jet nozzles.
- 4) According the size of jet nozzle to check from diagram 1 and relation diagram to confirm the Ln and other parameters.
- 5) According height of the room and Ln, to confirm the H' value height for installation and calculate the a1,a2 and H2's value for warm or cold ai.
- 6)If the selection result is paradoxical ,so can adjust the jet nozzle's size or make a new value of H (height for installation) over again ,then check Ln,a1,a2 and H2's value.
- 7) Evaluate and confirm the project's design to confirm the size ,quantity and other parameter of jet nozzles.



TECHNICAL PARAMETER

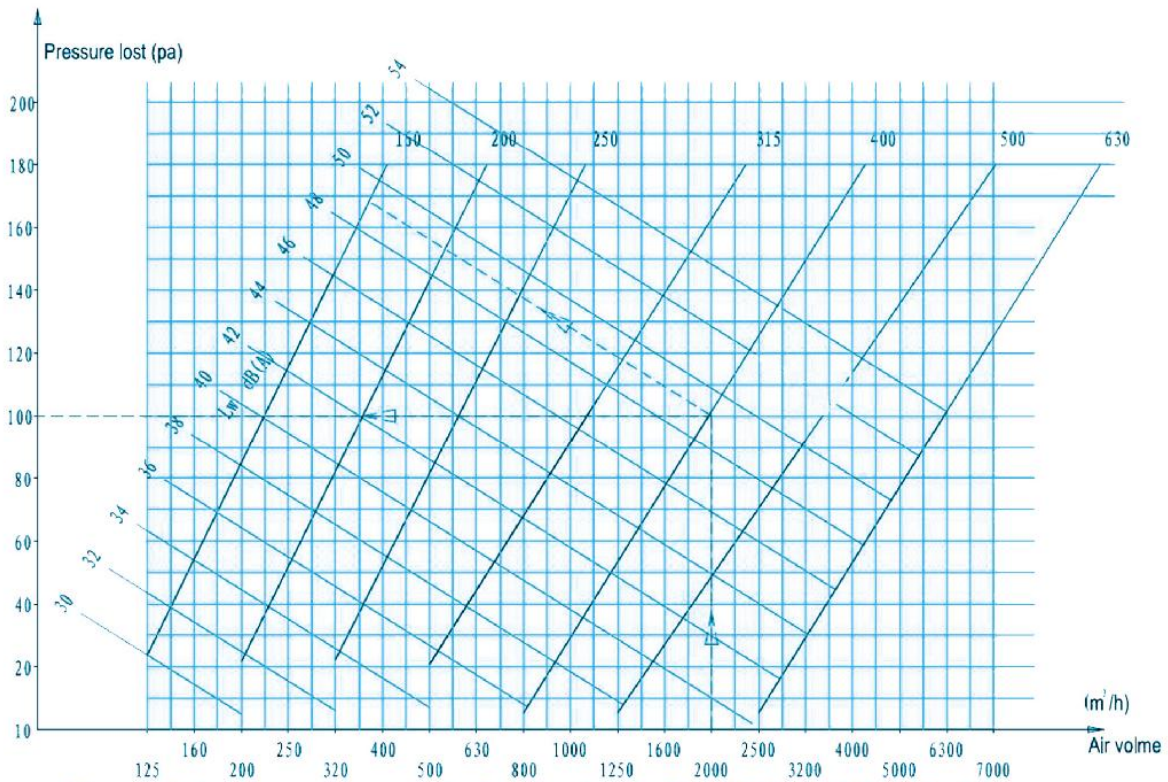
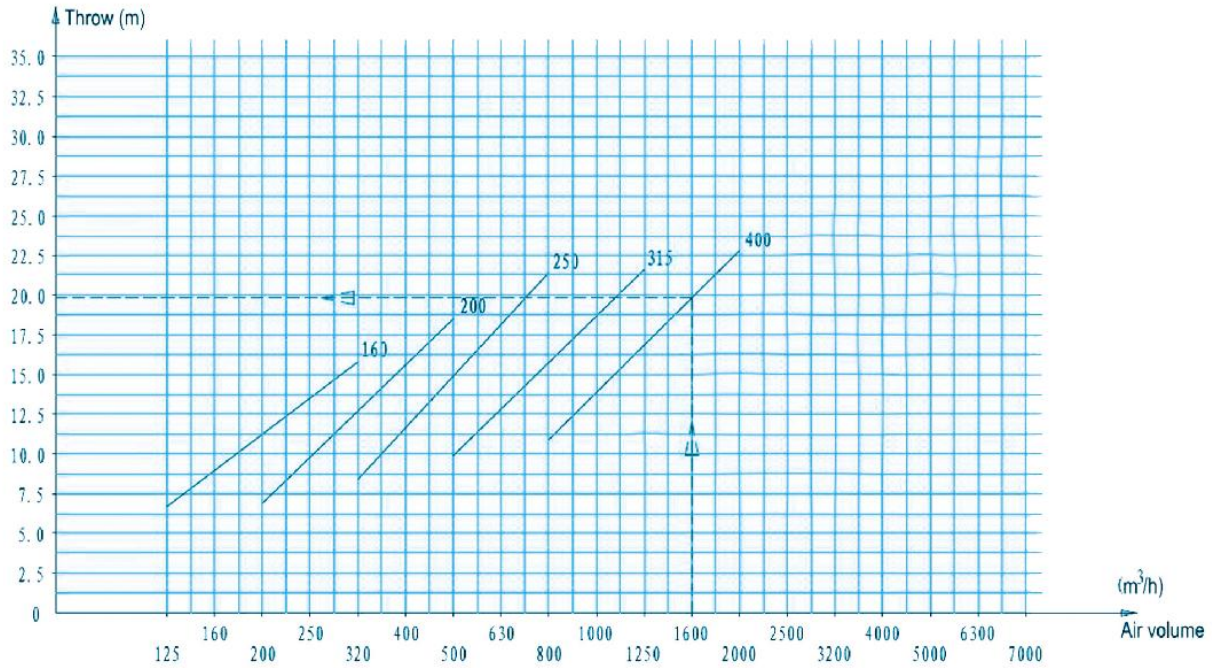
Table 1

Size	Effective Air Area m ²	Air Volume m ³ /h	Pressure loss pa	Noise dB	Isothermal condition's air length (Ln) m	End Air Velocity m/s
160	0.005	100	18.5	26	10.7	0.25
		125	22.8	30	13.5	
		160	56	34	17.4	
		200	82	39	22.2	
		250	116	43	27.3	
		125	22.8	30	6.7	0.5
		160	56	34	8.6	
		200	82	39	10.8	
		250	116	43	13.5	
		320	144	48	16.3	
200	0.009	160	10	30	12.7	0.25
		200	21	33	16	
		250	54	38	20	
		320	82	41	25.7	
		400	116	45	32.2	
		200	21	33	7.9	0.5
		250	54	38	9.9	
		320	82	41	12.6	
		400	116	45	16	
		500	142	49	18.5	
250	0.0145	250	11	29	12.9	0.25
		320	22	34	16.9	
		400	55	39	25.2	
		500	81	42	31.5	
		630	116	46	37.5	
		320	22	34	8.4	0.5
		400	55	39	12.5	
		500	81	42	15.6	
		630	116	46	18.6	
		800	142	50	21.4	
315	0.023	400	12.8	26	16	0.25
		500	21	34	20	
		630	46	38	25	
		800	68	42	30.2	
		1000	94	46	37	
		500	21	34	9.9	0.5
		630	46	38	12.5	
		800	68	42	15	
		1000	94	46	18.4	
		1250	148	50	21.6	
400	0.0415	630	8	32	17.6	0.25
		800	17	36	22.2	
		1000	31	39	28.4	
		1250	58	43	34	
		1600	80	46	40	
		800	17	28	10.9	0.5
		1000	31	39	14	
		1250	58	43	16.8	
		1600	80	48	19.7	
		2000	102	49	22.8	

NOTES:

- Above table is reference to choose the size. If the volume flow is corresponding to other sizes, we can use division insertion method to confirm correlative parameter. If end air velocity is not same with the list, at the time, we also can use division insertion method to confirm the throw. You can confirm the technical parameter according the relation curve.
- The technical parameters listed is confirmed the testing condition which is free air streams for isothermal condition. When use condition is different from the testing condition, the technical parameters in the samples may have a little windage.

INTERPOLATION CHARTS FOR ACCURATE SELECTION



JET NOZZLES OCTAVE BAND AND SOUND POWER LEVEL CORRECTION

Table 2								
Center frequency Hz	63	125	250	500	1000	2000	4000	6300
Correction dB(A)	-3	-7	-9	-13	-13	-17	-21	-18

SIZE TABLE

Table 3							
Size	D1	D2	D3	E	F	L3(Manual)	L3(thermostat)
160	197.5	158	95	16	19	90	335
200	260	198	105	25	22	95	335
250	302.5	247	135	25	28	122	335
315	382	312	186	29	32	150	360
400	487	397	230	37	41	185	400

Table 4				
Size	Suitable Circular Duct Dia. (D)			
	315	500	630	800
160	•	•	•	•
200		•	•	•
250		•	•	•
315		•	•	•
400			•	•

