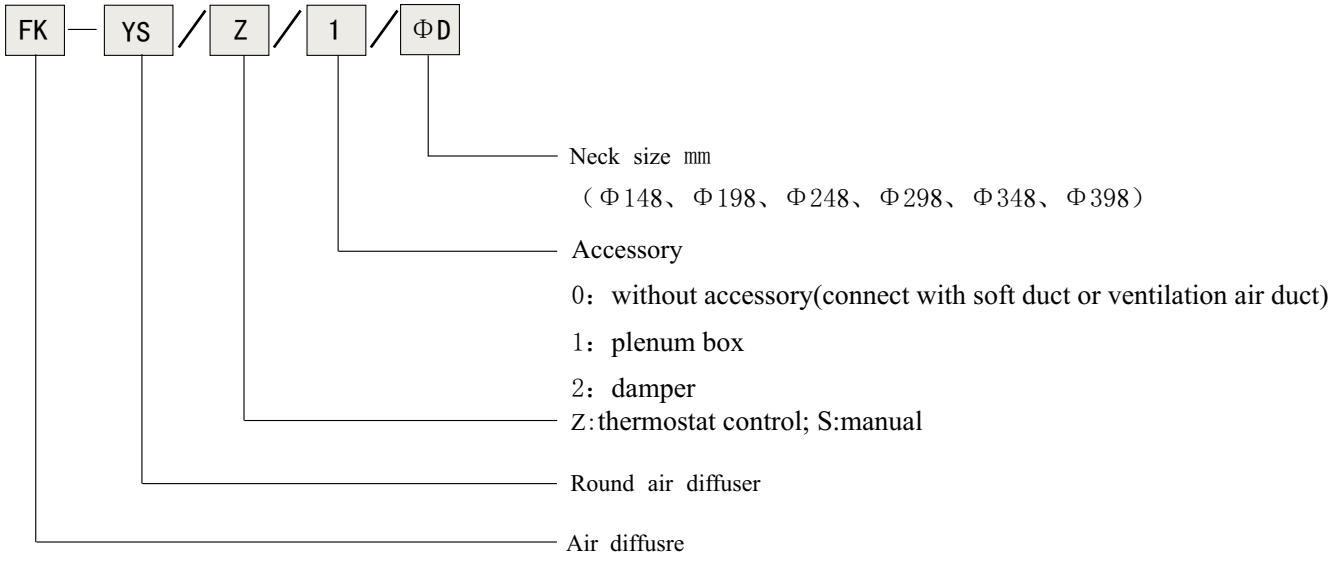
1.General description

Common supply air ceiling diffuser supply air horizontal the ceiling in order to satisfied with supply cold air in Summer , but in Winter need to supply warm air ,because of the air stream struction of ceiling diffuser which make warm air is hard to send down with rapidly and efficient convection.There will be short circuit of air stream when use ceiling extract air .

In order to solve the above question, Foundation developed thermostat round diffuser series product: it can recognise supply air temperature automatically when season changes , according the temperature to adjust the height between inner core and frame to change the air discharge . As that it is possible for you to make your project perfectly.

2.Symbol Explanation



Example:FK-YS/Z/ ϕ 250 means Thermostat round diffuser whose neck size is 248mm, and with plenum box

3.Characteristic

Thermostat round diffuser
FK-YS/Z

(1)For different types of air ,the inner guide blade can move upward or downward automatically in order to change the air discharge

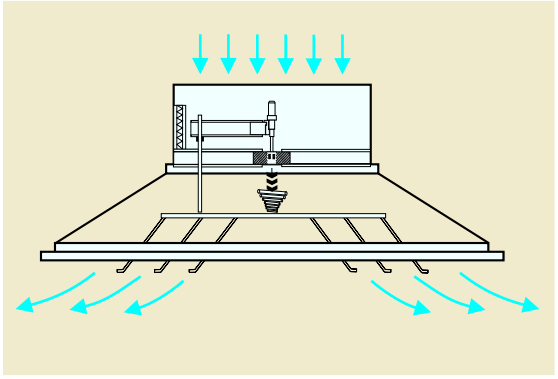
(2) The frame and inner core can be installed easily and debug with dismantle structure.

(3) The velocity is lower than neck velocity,it can restrain exorbitant velocity effectively.

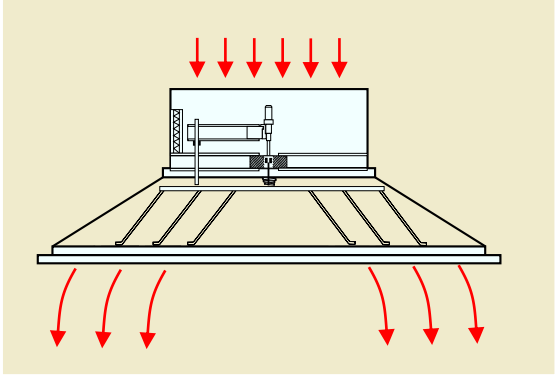
(4)Plenum box are available.Do not need power supply ,when installation ,do not need to place electric wire and electric control device.

(5) Thermostat control system works credible ,no need to maintain.

4, Two type working condition of supply air



(Summer working condition)



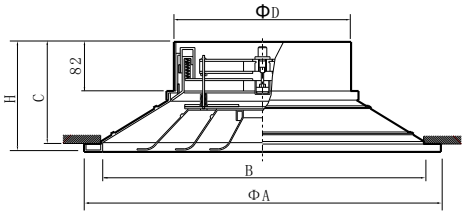
(Winter working condition)

Characteristic

For cold air ,when temperature ≤17℃,guide blade can move vertical downward 8-10mm , as that cold air will supply horizontal the ceiling

Fir warm air ,when temperature ≥27℃, guide blade can move vertical upward 8-10mm, as that warm air which is downward and diffused to mix the air fast and effective.

5.Size



Size table

Unit: mm

Model	ΦD1	ΦD(Neck size)	ΦD2(Hole size)	C	H
150	300	148	255	142	162
200	382	198	330	150	170
250	472	248	412	160	180
300	562	298	500	180	200
350	650	348	575	185	205
400	742	398	660	195	215

6.Technical parameter

Size	Neck air velocity m/s		2	2.5	3	3.5	4	5	6
	Pressure loss(Pa)	Supply cold air	3	4	6	8	9	15	22
		Supply hot air	6	9	12	16	21	32	48
150	Air volume CMH	Q	118	148	177	208	236	296	354
0.0165	Diffuse radius m	Rx	0.5	0.6	0.75	0.85	1	1.2	1.5
M2	Throw m	L	1	1.2	1.5	1.75	2	2.4	3
	Noise dB(A)		-	-	23	27	31	37	42
200	Air volume CMH	Q	220	275	330	383	440	550	660
0.0304	Diffuse radius m	Rx	0.7	0.85	1	1.2	1.35	1.7	2
M2	Throw m	L	1.2	1.6	1.9	2.2	2.6	3.2	3.8
	Noise dB(A)		-	-	24	29	33	41	47
250	Air volume CMH	Q	344	430	516	602	688	860	1032
0.0478	Diffuse radius m	Rx	0.8	1	1.2	1.4	1.6	2	2.4
M2	Throw m	L	1.6	2	2.4	2.8	3.2	4	4.8
	Noise dB(A)		-	-	27	33	38	42	48
300	Air volume CMH	Q	496	620	744	869	992	1240	1488
0.069	Diffuse radius m	Rx	0.9	1.2	1.4	1.6	1.9	2.4	2.8
M2	Throw m	L	1.8	2.2	2.8	3.3	3.8	4.6	5.4
	Noise dB(A)		-	23	30	36	41	44	51
350	Air volume CMH	Q	676	846	1014	1184	1353	1692	2028
0.094	Diffuse radius m	Rx	1	1.3	1.5	1.8	2	2.5	3
M2	Throw m	L	2.2	2.8	3.4	4	4.5	5.4	6.2
	Noise dB(A)	-	22	24	31	37	42	45	52
400	Air volume CMH	Q	886	1108	1329	1550	1772	2216	2658
0.123	Diffuse radius m	Rx	1.2	1.6	1.9	2.2	2.5	3.2	3.8
M2	Throw m	L	2.8	3.6	4.2	4.8	5.4	6.6	8.2
	Noise dB(A)	22	27	32	37	41	44	48	54

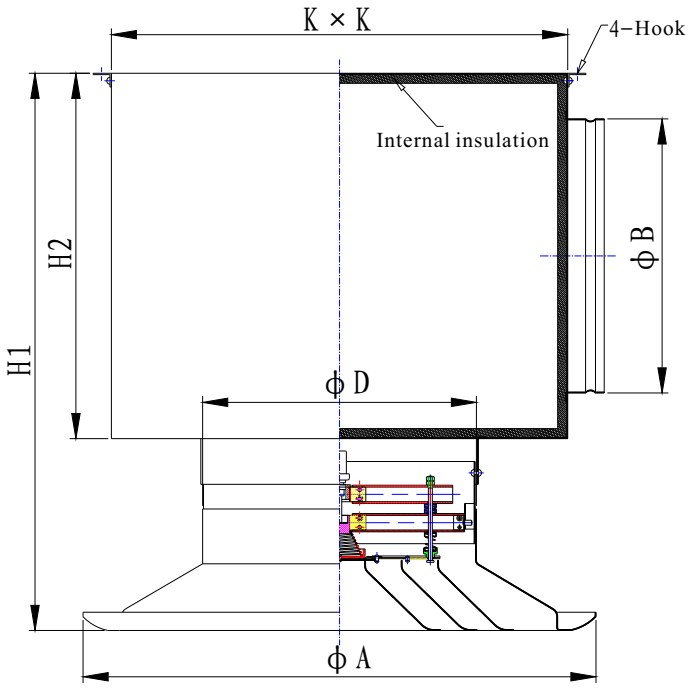
Note:

(1)Diffuse radius is relative to cold air , corresponding end air velocity is 0.25m/s. Throw distance is relative to warm air, throw distance means the distance from the diffuser to the poinst whose air velocity is 0.5m/s.

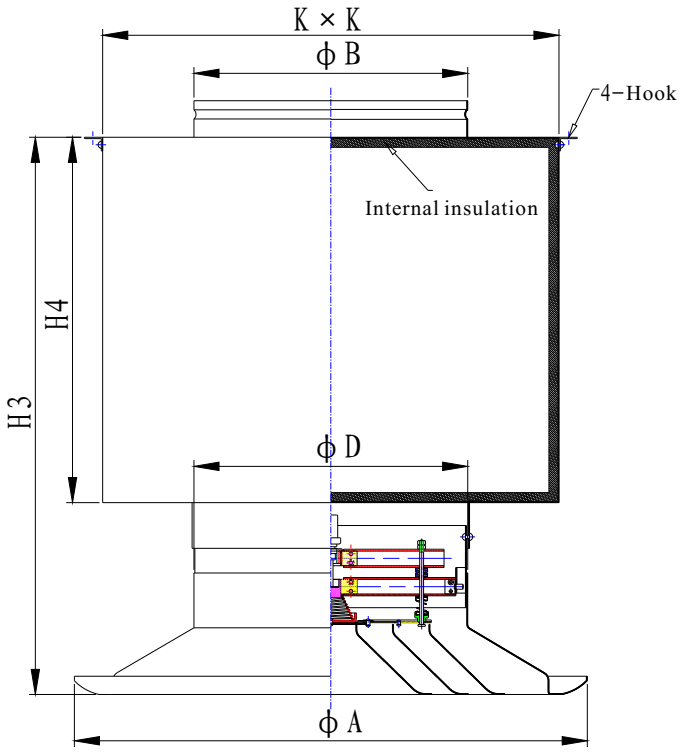
(2)Two datum of the size on the above table, above data is nominal neck size , nether data is effective area of supply air .

(3)Temperature difference between supply air and indoor is not 10℃, the technical parameters in the table have a little windage.

7.Appearance size with plenum box



Horizontal plenum box



Vertical plenum box

Size	ΦD	ΦA	ΦB	H1	H2	H3	H4	K
150	148	300	148	360	198	312	150	250
200	198	382	198	418	248	370	200	300
250	248	472	248	478	298	430	250	350
300	298	562	298	548	348	500	300	400
350	348	650	348	603	398	555	350	450
400	398	742	398	663	448	615	400	500

8.Material and Surface

Material of inner core and frame are aluminum. Surfcae are available paint on difference colors on request . In general ,color are accordance RAL standard series.

9.Installation

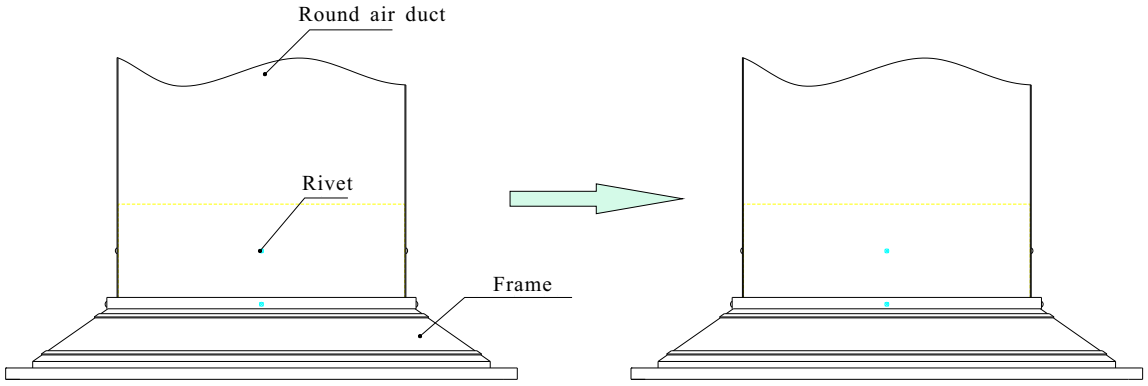


Fig. 1

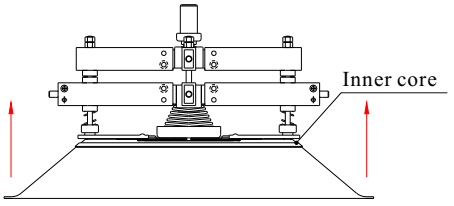


Fig. 2

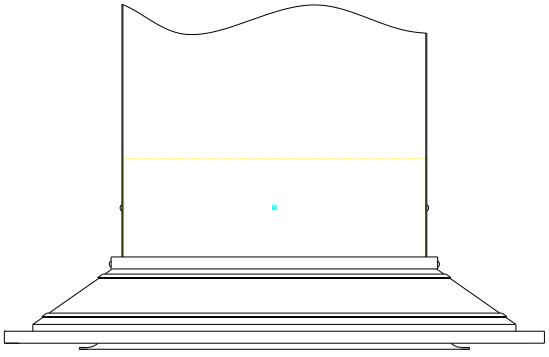


Fig. 3

For example

(1)before installing the celing diffuser,you must confirm the air duct can bear definite pull with fixing fastness.

(2)install order are ,chart 1,chart 2,chart 3.

(3)When install as chart 2, you must push upward the inner on horizontal of thermostat round diffuser , and confirm it is fastness with the frame (Avoid the inner brush off and harm persons).

10. Order details

(1) The technical parameters listed in are reckoned in special working conditions. Testing condition is air stream for isothermal conditions. When use condition is different from the testing condition, the technical parameters in the samples may have a little windage.

(2)Our company retains the rights of interpretation and revision of this sample.