CRP – Ceiling Round Adjustable Plaque Diffuser

Model: **CRP**

Adjustable Supply Air Pattern, from Horizontal to Vertical Projection.
Manual, or Automatic adjustment via a Thermal Power Pill.

The CRP diffuser is an adjustable supply air plaque diffuser that offers an alternative appearance to the CRA range with visually appealing styling and a strong ceiling effect. All of the diffusers in the CRP range have a circular plaque core to maintain a uniformity of appearance. In standard form the diffuser is manually adjustable to change the supply air pattern from horizontal for cooling to vertical discharge for heating. The adjustment is made by turning the circular plaque core centre to provide horizontal throw in the down position and vertical throw in the up position.

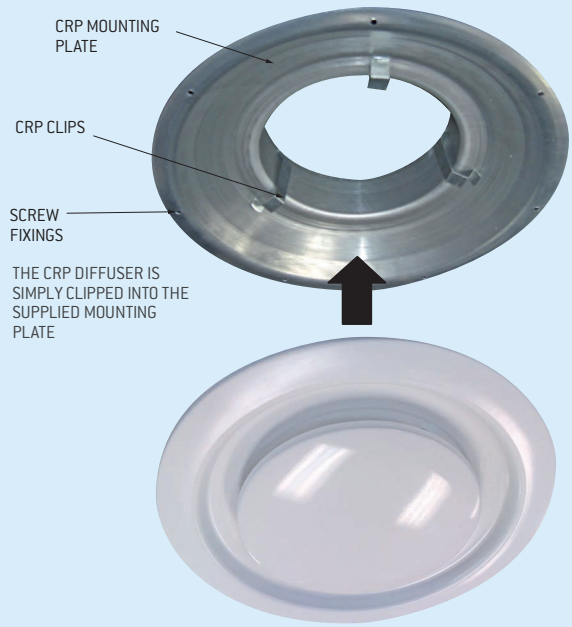
The radial supply air pattern and slim flange of the CRP means the diffuser achieves an excellent ceiling effect. This makes the diffuser suitable for variable air volume applications.

CRA - Ceiling Round Adjustable Plaque

Model: **CRP-T**

The CRP can also be supplied with the ability to change the supply air pattern automatically. This is coded CRP-T. In this form the diffuser will throw air horizontally with a supply air temperature below 24ºC and air with a temperature above 28ºC will be thrown vertically. This is achieved with a thermal power pill. No wiring is required[1].

Mounting System



Installation

The CRP comes complete with an installation system, of spun aluminium construction, designed to provide a perfect finish irrespective of the ceiling design. Each size of diffuser has a complimentary mounting plate that has been designed to fix the diffuser in solid ceilings, suspended ceiling tiles and in the case where no ceiling is present, exposed duct arrangements.

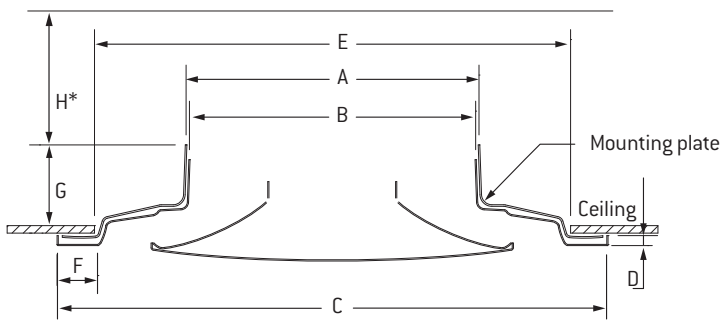
Construction

CRP diffusers are constructed from aluminium spinnings supported by aluminium arms holding the screw thread adjustment mechanism.

Features

- Compact flange for superior ceiling effect.
- Adjustable Supply Air pattern Plaque, for Horizontal, or Vertical Projection.
- Installation mounting plate.
- Spun aluminium construction.
- Automatic thermal option.
- Suitable for use with exposed duct installations.

CRP Size	Weight in Kg
200	1.1
250	1.25
300	1.8
350	2.15
400	2.8
CRP - T	Add 0.8



CRP								
Nominal Duct Size	A	B	C	D	E	F	G	H
200	195	187	387	8	335	27	88	230
250	245	237	463	8	410	27	88	230
300	295	287	552	10	490	41	91	230
350	345	337	600	10	545	41	91	230
400	395	387	650	10	585	41	91	230

Notes

1. **Thermal power pill on CRP-T versions extends 230mm above the assembly and suitable clearance is required.**

2. **Seismic restraints required, but not supplied.**

Model: **CRP**

Nominal Duct Size 200mm Diameter	**Flow Rate (l/s)**	**50**	**75**	**100**	**125**	**150**	**175**	**200**
	Neck Velocity (m/s)	1.84	2.76	3.68	4.60	5.52	6.44	7.36
	Velocity Pressure (Pa)	2	5	7	12	20	25	32
	Total Pressure (Pa)	17	24	30	38	43	50	55
	Throw (m) @ 0.75 m/s	1.5	1.8	2.3	2.6	2.8	3.0	3.5
	Throw (m) @ 0.50 m/s	2.0	2.3	2.7	3.0	3.3	3.5	3.8
	Throw (m) @ 0.25 m/s	2.5	2.8	3.2	3.5	3.8	4.2	4.8
	NC	**20**	**26**	**30**	**35**	**38**	**42**	**45**
Nominal Duct Size 250mm Diameter	**Flow Rate (l/s)**	**100**	**125**	**150**	**175**	**200**	**225**	**250**
	Neck Velocity (m/s)	2.29	2.86	3.43	4.00	4.57	5.15	5.72
	Velocity Pressure (Pa)	4	5	8	10	11	14	16
	Total Pressure (Pa)	20	28	40	50	60	68	75
	Throw (m) @ 0.75 m/s	1.8	2.4	2.8	3.0	3.2	3.4	3.5
	Throw (m) @ 0.50 m/s	2.5	2.8	3.3	3.4	3.8	4.2	4.3
	Throw (m) @ 0.25 m/s	3.3	3.4	3.8	3.9	4.5	4.8	4.9
	NC	**22**	**25**	**29**	**32**	**34**	**37**	**40**
Nominal Duct Size 300mm Diameter	**Flow Rate (l/s)**	**150**	**175**	**200**	**225**	**250**	**300**	**325**
	Neck Velocity (m/s)	2.34	2.73	3.11	3.50	3.89	4.67	5.06
	Velocity Pressure (Pa)	3	6	7	10	12	15	18
	Total Pressure (Pa)	18	22	30	35	50	60	70
	Throw (m) @ 0.75 m/s	2.8	3.1	3.1	4.0	4.2	4.3	4.5
	Throw (m) @ 0.50 m/s	3.8	3.9	4.0	4.2	5.0	5.2	5.5
	Throw (m) @ 0.25 m/s	4.5	4.7	4.7	4.9	6.0	6.1	6.2
	NC	**25**	**27**	**30**	**32**	**34**	**35**	**37**
Nominal Duct Size 350mm Diameter	**Flow Rate (l/s)**	**200**	**225**	**250**	**275**	**300**	**325**	**350**
	Neck Velocity (m/s)	2.26	2.54	2.82	3.10	3.39	3.67	3.95
	Velocity Pressure (Pa)	2	3	4	6	7	8	10
	Total Pressure (Pa)	17	22	25	28	32	39	45
	Throw (m) @ 0.75 m/s	2.2	2.5	2.6	2.8	3.0	3.2	3.3
	Throw (m) @ 0.50 m/s	2.8	3.2	3.4	3.6	3.8	3.9	4.0
	Throw (m) @ 0.25 m/s	3.7	4.0	4.2	4.3	4.5	4.7	4.9
	NC	**22**	**24**	**25**	**27**	**30**	**32**	**34**
Nominal Duct Size 400mm Diameter	**Flow Rate (l/s)**	**275**	**300**	**325**	**350**	**375**	**400**	**425**
	Neck Velocity (m/s)	2.35	2.56	2.78	2.99	3.21	3.42	3.63
	Velocity Pressure (Pa)	3	5	6	6.5	7	8	9
	Total Pressure (Pa)	16	20	24	26	28	30	32
	Throw (m) @ 0.75 m/s	2.3	2.6	2.8	2.9	3.2	3.4	3.5
	Throw (m) @ 0.50 m/s	3.4	3.5	3.7	3.9	4.0	4.2	4.3
	Throw (m) @ 0.25 m/s	4.2	4.5	4.8	5.1	5.3	5.4	5.5
	NC	**22**	**24**	**26**	**27**	**28**	**29**	**30**

Notes on Performance Data

1. All pressures are in Pascals.
2. Minimum radii of diffusion are to a terminal velocity (Vt) of 0.75 m/s and maximum to 0.25 m/s. If diffuser is mounted on an exposed round duct, multiply radii of diffusions shown by 0.70.
3. The NC values are based on a room absorption of 8dB re 10^{-12} Watts.
4. For effect of dampering see page 12A, table 9.
5. Performance data shown is for the diffuser with cones in the 'down' position for horizontal throw. Performance for the cones in the 'up' position for vertical downwards throw, can be approximated by the use of the following factors:

Total Pressure	**X 1.6**
Radii of Diffusion	X 0.9
NC	+ 5

ECO-A, ECO-M, CRA & CRP

Product Ordering Key and Suggested Specifications

CRA – 200 – FINISH

- CRA: Series
- 200: Nominal Duct Size
- FINISH: Holyoake White Mill Aluminium Powder Coat

Circular Ceiling Diffusers shall be Holyoake Model CRA with compact flange and adjustable air pattern. Diffusers shall be manufactured from spun aluminium with threaded adjustable core mechanism. The air pattern shall be radial and adjustable from horizontal to vertical. Circular Ceiling Diffuser to be supplied with integral mounting system. Diffusers shall be finished in powdercoat and fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

CRA-T – 200 – FINISH

- CRA-T: Series
- 200: Nominal Duct Size
- FINISH: Holyoake White Mill Aluminium Powder Coat

Circular Ceiling Diffusers shall be Holyoake Model CRA-T with compact flange and thermal core adjustment. Diffusers shall be of spun aluminium construction with Holyoake thermal power pill. With supply air temperatures below 24 degrees the supply air pattern is diffused horizontally. With supply air temperatures above 28 degrees the core is automatically lifted to produce a supply air pattern diffused vertically. Circular Ceiling Diffuser to be supplied with integral mounting system. Diffusers shall be finished in powdercoat and fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

CRP – 200 – FINISH

- CRP: Series
- 200: Nominal Duct Size
- FINISH: Holyoake White Mill Aluminium Powder Coat

Circular Ceiling Diffusers shall be Holyoake Model CRP with compact flange and adjustable supply air plaque. Diffusers shall be manufactured from spun aluminium with threaded adjustable plaque core. The air pattern shall be radial and adjustable from horizontal to vertical. Circular Ceiling Diffusers to be supplied with integral mounting system. Diffusers shall be finished in powdercoat and fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

CRP-T – 200 – FINISH

- CRP-T: Series
- 200: Nominal Duct Size
- FINISH: Holyoake White Mill Aluminium Powder Coat

Circular Ceiling Diffusers shall be Holyoake Model CRP-T with compact flange and thermal core adjustment. Diffusers shall be of spun aluminium construction with Holyoake thermal power pill. With supply air temperatures below 24 degrees the supply air pattern is diffused horizontally. With supply air temperatures above 28 degrees the core is automatically lifted to produce a supply air pattern diffused vertically. Circular Ceiling Diffuser to be supplied with integral mounting system. Diffusers shall be finished in powdercoat and fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

ECO – M – 150 / 200 / 250

- ECO: Series
- M: Manual
- 150 / 200 / 250: Duct Size

Ceiling diffusers shall be Holyoake Series ECO-M, manufactured from injection moulded tough U.V. stabilised and fire rated engineering polymer, in self coloured white as standard. Series ECO-M shall have the ability to regulate the airflow via an adjustable central cone.

A round and square face option is available.

All shall be as manufactured by Holyoake.

ECO – A – 200 / 250 / 300

- ECO: Series
- A: Automatic
- 200 / 250 / 300: Duct Size

Ceiling diffusers shall be Holyoake Series ECO-A, manufactured from injection moulded tough U.V. stabilised and fire rated engineering polymer, in self coloured white as standard.

Series ECO-A shall have the ability to regulate the airflow via an adjustable central cone and automatically direct a portion of the airflow downwards, when supplying air above 30°C.

All shall be as manufactured by Holyoake.

ECO – R – 150

- ECO: Series
- R: Return/Exhaust
- 150: Duct Size

Ceiling diffusers shall be Holyoake Series ECO-R, manufactured from injection moulded tough U.V. stabilised and fire rated engineering polymer, in self coloured white as standard. The exhaust air can be regulated via an adjustable central cone.

All shall be as manufactured by Holyoake.