

Diffusers

All models are designed to control the temperature in a space by having the ability to change the supply air volume.

All diffusers have a standard outer body that is sized to lay-in to a standard 600mm wide ceiling grid (Frame Type 2).

The outer body is shaped to give a radial diffusion pattern and strong ceiling effect across a wide range of flow rates.

Model: CSRD

The CSRD is a manually adjustable diffuser. It is fitted with an adjustable volume balancing disc damper.

Model: CSRV

The CSRV is an externally controlled VAV diffuser. It contains an adjustable disc damper which is driven open and closed by a 24 V AC electric actuator. Control of the damper can be from a wall mounted controller, or from a building management system.

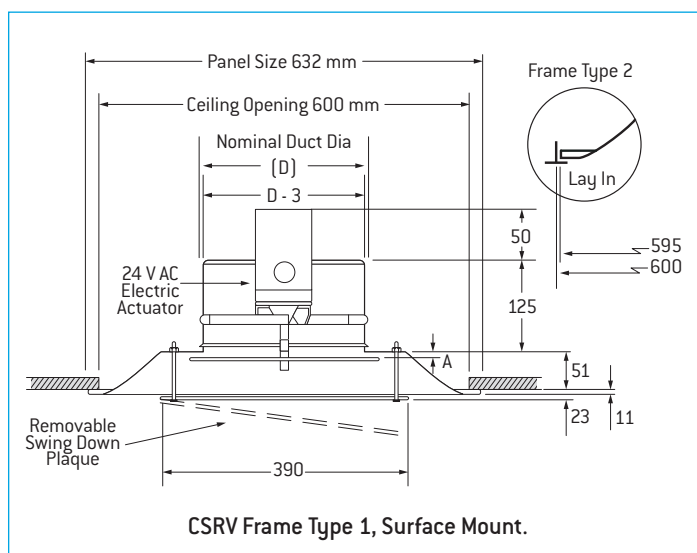
CSRV Features:

- Stand Alone Control.
- Fully Modulating Damper.
- Excellent Air Distribution.

The outer body of the CSRV diffuser is constructed from a single piece of pressed steel. This pressing has been specifically designed to maintain a strong ceiling effect irrespective of the flow rate. This design feature gives the diffuser the excellent air distribution performance that is required for a variable volume diffuser. The airflow performance for the CSRV diffuser is detailed on the following page.



CSRV shown. CSRD & CSRV have a choice of either a flat face plate, or a profiled face plate.



DUCT DIA (D)	Damper Position 'A'	
	Minimum Opening	Maximum Opening
150	10	42
175	10	42
200	10	42
250	15	42
300	15	42
350	15	42

Standard Set-Up/Performance Data Notes

1. The performance data for the CSRD and CSRV diffusers relates to two different damper positions, Minimum and Maximum (Dimension 'A'), for each size of diffuser.
2. CSRD and CSRV diffusers are available with neck sizes ranging from 150 mm up to 350 mm diameter.
3. All sizes of diffuser, by default, have a face size designed to 'lay-in' to a standard 600 mm wide "T-Rail" ceiling System (Frame Type 2).
4. The diffuser can be supplied suitable for surface mounting (Frame Type 1).
5. The Standard version has by default a 230 V AC Supply Pack (Transformer). Specify 230 V AC, or 24 V AC when ordering.

Models: CSRD & CSRV

Inlet Static Pressure 13 Pa											
Nominal Duct Dia (D)	Minimum Opening					Maximum Opening					NC at Maximum Opening
	Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			
		Pa	0.25	0.5	0.75		Pa	0.25	0.5	0.75	
150	0.016	0.6	0.6	0.4	0.3	0.033	2.8	0.9	0.6	0.4	17
175	0.019	0.5	0.7	0.4	0.3	0.051	2.7	1.2	0.7	0.5	17
200	0.021	0.3	0.8	0.5	0.3	0.068	2.6	1.5	0.8	0.6	17
250	0.037	0.4	1.4	0.7	0.5	0.089	2.2	2.0	1.2	0.8	17
300	0.044	0.3	1.4	0.8	0.6	0.117	1.9	2.3	1.3	0.9	17
350	0.058	0.2	1.5	0.9	0.7	0.157	1.7	2.7	1.5	1.1	17

Inlet Static Pressure 25 Pa											
Nominal Duct Dia (D)	Minimum Opening					Maximum Opening					NC at Maximum Opening
	Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			
		Pa	0.25	0.5	0.75		Pa	0.25	0.5	0.75	
150	0.024	1.4	0.9	0.5	0.4	0.047	5.5	1.2	0.8	0.6	20
175	0.028	1.0	1.0	0.6	0.4	0.065	5.2	1.5	1.0	0.7	20
200	0.030	0.6	1.3	0.6	0.5	0.083	4.8	1.7	1.1	0.8	20
250	0.052	0.8	1.8	1.0	0.6	0.121	4.0	2.6	1.5	1.0	20
300	0.061	0.5	1.9	1.1	0.7	0.160	3.6	2.7	1.8	1.2	20
350	0.084	0.4	2.0	1.2	0.8	0.220	3.6	3.3	2.1	1.5	20

Inlet Static Pressure 38 Pa											
Nominal Duct Dia (D)	Minimum Opening					Maximum Opening					NC at Maximum Opening
	Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			
		Pa	0.25	0.5	0.75		Pa	0.25	0.5	0.75	
150	0.029	2.1	0.9	0.6	0.5	0.058	8.3	1.5	0.9	0.6	27
175	0.035	1.6	1.1	0.7	0.5	0.081	7.9	1.9	1.2	0.7	27
200	0.038	1.0	1.4	0.9	0.6	0.103	7.5	2.3	1.4	0.8	27
250	0.065	1.5	2.0	1.2	0.8	0.148	6.1	2.9	1.8	1.3	27
300	0.075	0.8	2.2	1.3	0.8	0.197	5.5	3.0	2.2	1.5	27
350	0.103	0.6	2.3	1.4	1.0	0.270	5.1	3.7	2.9	2.3	27

Inlet Static Pressure 50 Pa											
Nominal Duct Dia (D)	Minimum Opening					Maximum Opening					NC at Maximum Opening
	Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			Flow m ³ /s	Vp	Throw (m) at Vt (m/s)			
		Pa	0.25	0.5	0.75		Pa	0.25	0.5	0.75	
150	0.033	2.7	1.2	0.7	0.5	0.066	10.8	1.6	0.9	0.7	33
175	0.040	2.1	1.3	0.8	0.6	0.092	10.3	2.1	1.2	0.9	33
200	0.045	1.4	1.5	1.0	0.7	0.118	9.8	2.5	1.5	1.0	33
250	0.074	1.5	2.2	1.4	0.8	0.169	7.9	3.2	2.0	1.4	33
300	0.087	1.1	2.3	1.5	0.9	0.226	7.2	3.3	2.4	1.6	33
350	0.119	0.7	2.4	1.6	1.1	0.310	7.2	3.5	2.5	1.9	33

Performance Note

The air volume performance for pressure dependent diffusers is only valid if the pressure behind the diffuser is finely maintained.

600 x 600 Nominal Size	Approximate Weight Kg
CSRD	5.0
CSRV	5.4

Product Ordering Key and Suggested Specifications

Diffusers - Ceiling Square Face Round Neck

CSRD	–	PROFILED	–	200 DIA	–	600 x 600*	–	TYPE 2	–	FINISH
Ceiling Square Round Neck Plaque Diffuser		Face Plate, Flat, or Profiled		Neck Size		Module Size		Frame Type 1 = Surface 2 = Lay-in		Holyoake White Powder Coat

Series CSRD Plaque type diffusers shall be of steel construction with a manual disc damper for volume control adjustment. The Plaque shall have horizontal retaining clips to prevent accidental removal and shall swing down for easy access to the damper. All shall be as manufactured by Holyoake.

CSRV	–	FLAT	–	300 DIA	–	600 x 600*	–	TYPE 2	ACTUATOR	–	FINISH
Ceiling Square Round Neck Variable Volume Plaque Diffuser		Face Plate, Flat, or Profiled		Neck Size		Module Size		Frame Type 1 = Surface 2 = Lay-in	24 VAC/230 VAC Electric		Holyoake White Powder Coat

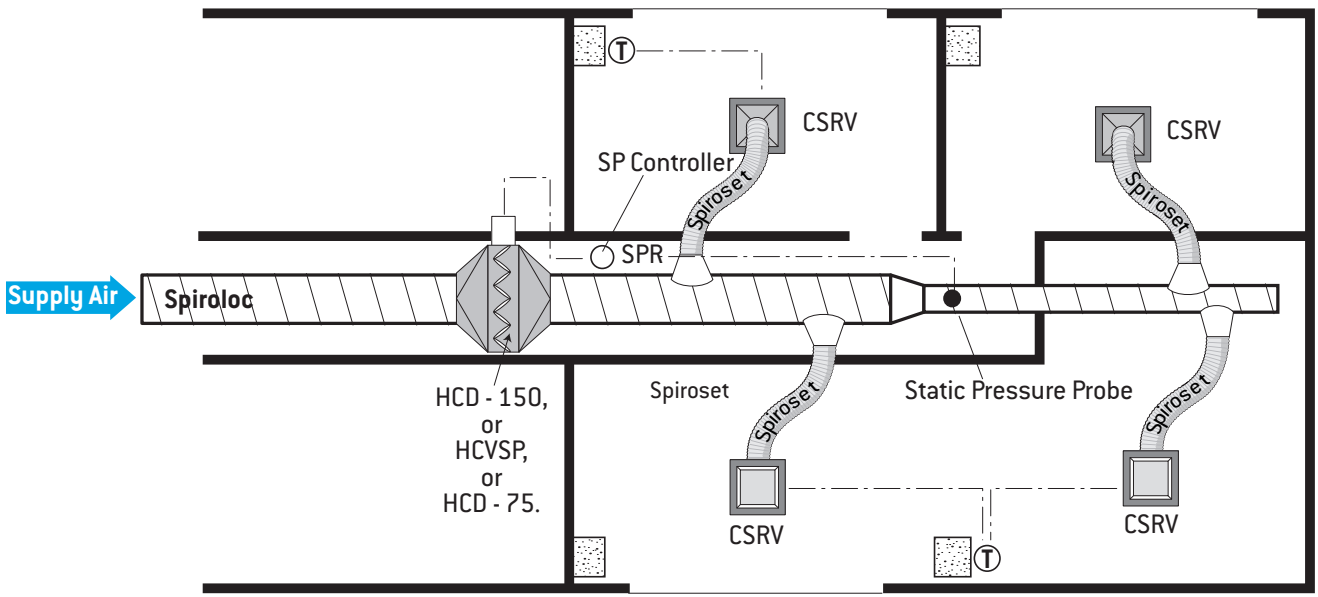
Series CSRV Plaque type diffusers shall be of steel construction with electric disc damper for automatic, or adjustable volume control. The CSRV Plaque shall have horizontal retaining clips to prevent accidental removal and shall swing down for easy access to actuator. All shall be as manufactured by Holyoake.

Note

Seismic restraints will be required, but not supplied.

* Only Nominal Face Size Available.

Typical Application of VAV System Components



Application Notes

1. Zone sizes normally range from one to ten diffusers.
2. Thermostat (T) may be mounted on diffuser face.
3. Static pressure sensing should be from a point acceptable as average zone duct pressure.