CPS & CPR – Perforated Diffusers

Models: **CPS & CPR**

The Holyoake Series CPS and CPR perforated supply and return diffusers are designed for heating, cooling and ventilating, ceiling applications.

The Series CPS comprises of a perforated face plate mounted in a removable core frame, which blends suitably into many ceiling types. Concealed, adjustable pattern controllers on the rear, provide efficient airflow distribution and can be easily adjusted, by simply removing the fascia, unlocking and repositioning. Then any desired distribution pattern can be obtained, without any change in airflow, or noise levels. This simplifies ordering procedures and eliminates the need to re-balance the system. Series CPR are identical, without patterns. Minimal ceiling plenum height is required, (dependant on connecting spigot style); which is available with a varied choice of round, or square inlet sizes, see table below.

Construction

Extruded aluminium frames. Aluminium perforated face and galvanised adaptor pan.

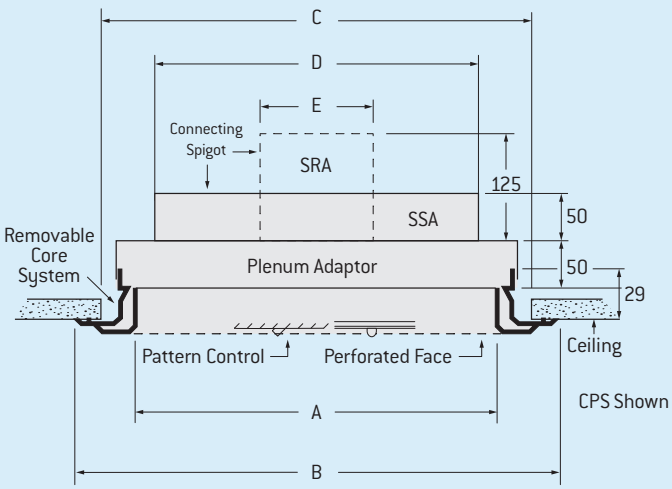
Installation

The CPS plenum adaptor is independently supported, built in to the ceiling and then connected and sealed to the ductwork.
The Removable core system allows the preset pattern controllers to be suitably positioned and then the perforated face is simply pushed into the installed frame and clipped into place.

Features

- Aesthetically pleasing design.
- Fully adjustable concealed pattern controllers.
- Infinite range of distribution patterns.
- Compact assembly height and Removable Core frame.
- Plaster ceiling and 'T' Rail installation options.
- Circular, or square inlets in a range of sizes.

CPS Supply and CPR Return



SSA (Square to Square Adaptor) *
SRA (Square to Round Adaptor) *
* Refer to Accessories Section K.

A = Nominal Diffuser Size.
B = Overall Frame Size (A + 80mm).
C = Overall Plenum Adaptor Size (Ceiling Opening).
D = Square Adaptor Neck Size.
E = Round Adaptor Neck Size.

A Nominal Diffuser Size		250 x 250	350 x 350	450 x 450	550 x 550	250 x 550	550 x 850	250 x 850	250 x 1150	550 x 1150
C* Overall Plenum Adaptor Size		300 x 300	400 x 400	500 x 500	600 x 600	300 x 600	600 x 900	300 x 900	300 x 1200	600 x 1200
Nominal Neck Size D*	150 x 150	●●	●●	●●	●●	●●	●●	●●	●●	●●
	200 x 200		●●	●●	●●		●●			●●
	250 x 250			●●	●●		●●			●●
	300 x 300				●●		●●			●●
Nominal Neck Diameter E*	150 x 450					●●		●●	●●	
	125 DIA	●●	●●	●●	●●	●●	●●	●●	●●	●●
	150 DIA	●●	●●	●●	●●	●●	●●	●●	●●	●●
	175 DIA	●●	●●	●●	●●	●●	●●	●●	●●	●●
	200 DIA		●●	●●	●●		●●			●●
	250 DIA		●●	●●	●●		●●			●●
CPS & CPR with Adaptor	300 DIA			●●	●●		●●			●●
	350 DIA			●●	●●		●●			●●
	400 DIA				●●		●●			●●

Ceiling Module and Duct Sizes* ● Indicates available combination

Note

1. For other frame styles and module sizes and for the performance of sizes not shown in the capacity tables, contact your local Holyoake branch.
2. Seismic restraints are required, but not supplied.

Options

Heavy gauge galvanised perforated face, available against special order.
OBD-2 – Opposed blade damper.

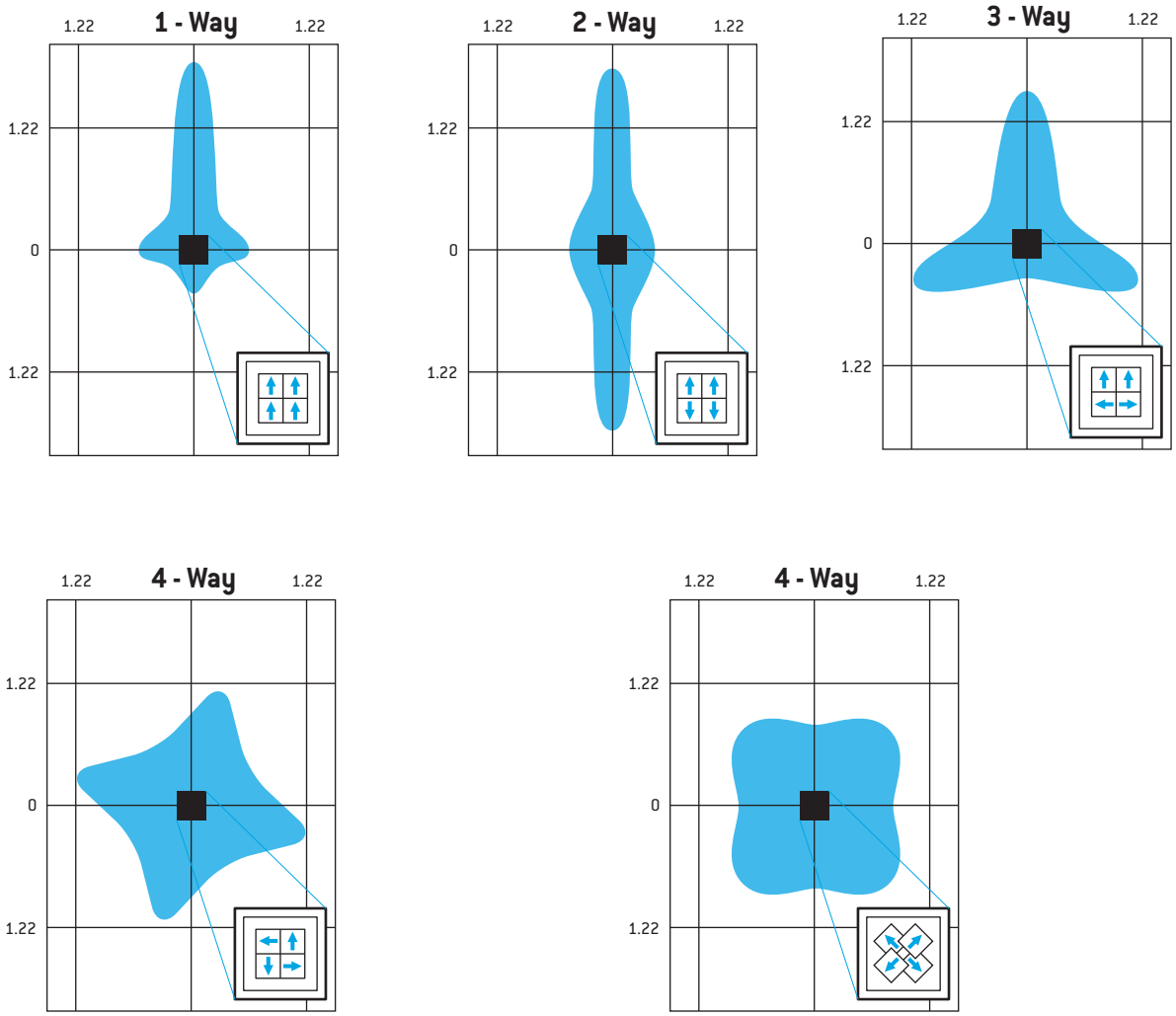
Finish

Standard Finish is Holyoake White, or can be powder coated to specific requirements.

Air Pattern Controller Adjustment Notes

1. Extract the Removeable Core from the CPS diffuser.
2. The pattern controls are mounted on the rear of the Removable Core and are now visible. Loosen stud tubing and rotate the air pattern controller to the desired flow direction. Tighten the stud tubing on the controller.
3. Replace the Removable Core assembly.

Versatile Air Distribution for most Applications



Throw values for above pattern will be 0.6 times the values shown in the peformance tables.

Performance Notes

1. Refer to Performance Data Tables on the following pages.
2. CPR – Return Data is shown in Dark Blue shaded area at the bottom of each table.
3. Throw values are given for terminal velocities of 0.75 and 0.25 m/s.

CPS & CPR – Performance Data

300 x 300 Module Size

Duct Size	Neck Velocity, m/s Vel. Press., Pa	1.53 2	2.04 3	2.55 4	3.06 6	3.57 8	4.08 10	5.1 16	6.12 23	7.14 31
125 mm RD	**Tot. Press., Pa**	**3**	**5**	**8**	**11**	**15**	**19**	**30**	**43**	**59**
	Flow Rate, m³/s	**0.019**	**0.026**	**0.033**	**0.038**	**0.045**	**0.052**	**0.064**	**0.078**	**0.090**
	NC	**-**	**-**	**15**	**20**	**24**	**28**	**34**	**39**	**43**
	Throw, m 4-WAY	0.3-1.2	0.6-1.5	0.6-1.8	0.6-2.1	0.9-2.1	0.9-2.4	1.5-2.7	1.8-3.1	1.8-3.1
	Throw, m 3-WAY	0.3-1.2	0.6-1.8	0.6-2.1	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.1	1.8-3.7	1.8-4.0
	Throw, m 2-WAY	0.3-1.5	0.6-1.8	0.6-2.4	0.9-3.1	1.2-3.1	1.2-3.7	1.8-4.0	2.1-4.3	2.1-4.6
	Throw, m 1-WAY	0.6-1.8	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.4	1.8-4.0	1.8-4.0	2.4-4.3	2.7-4.6
150 mm RD	**Tot. Press., Pa**	**4**	**7**	**10**	**15**	**20**	**25**	**40**	**57**	**77**
	Flow Rate, m³/s	**0.028**	**0.038**	**0.047**	**0.057**	**0.066**	**0.076**	**0.092**	**0.111**	**0.130**
	NC	**-**	**-**	**17**	**22**	**26**	**30**	**36**	**41**	**45**
	Throw, m 4-WAY	0.3-1.2	0.6-1.5	0.9-2.1	0.9-2.4	0.9-2.4	0.9-2.7	1.5-3.1	1.8-3.1	2.1-3.4
	Throw, m 3-WAY	0.3-1.2	0.6-1.8	0.9-2.4	0.9-2.7	0.9-3.1	1.2-3.1	1.5-3.4	1.8-4.0	2.1-4.3
	Throw, m 2-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.2-3.7	1.8-4.3	2.1-4.6	2.4-5.2
	Throw, m 1-WAY	0.6-1.8	0.9-2.7	0.9-3.4	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.2
175 mm RD	**Tot. Press., Pa**	**6**	**10**	**15**	**21**	**29**	**37**	**58**	**83**	**113**
	Flow Rate, m³/s	**0.038**	**0.050**	**0.064**	**0.076**	**0.090**	**0.102**	**0.127**	**0.151**	**0.177**
	NC	**-**	**15**	**21**	**26**	**30**	**34**	**40**	**45**	**49**
	Throw, m 4-WAY	0.3-1.5	0.6-1.8	0.9-2.7	0.9-3.1	1.2-3.1	1.2-3.4	1.8-3.7	2.4-4.0	2.7-4.3
	Throw, m 3-WAY	0.3-1.5	0.6-2.1	0.9-3.1	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.9	2.7-5.2
	Throw, m 2-WAY	0.3-1.8	0.6-2.7	0.9-3.4	1.2-3.7	1.5-4.3	1.5-4.6	2.1-5.2	2.7-5.5	3.1-6.1
	Throw, m 1-WAY	0.6-2.4	0.9-3.4	1.2-3.7	1.5-3.4	1.8-4.3	2.4-4.6	2.7-5.2	3.4-5.5	3.7-6.1
150 x 150	**Tot. Press., Pa**	**5**	**8**	**13**	**19**	**25**	**33**	**50**	**73**	**99**
	Flow Rate, m³/s	**0.035**	**0.047**	**0.059**	**0.071**	**0.083**	**0.094**	**0.118**	**0.142**	**0.165**
	NC	**-**	**13**	**19**	**24**	**28**	**32**	**38**	**43**	**47**
	Throw, m 4-WAY	0.3-1.5	0.6-1.8	0.9-2.4	0.9-2.7	1.2-2.7	1.2-3.1	1.8-3.7	2.1-3.7	2.4-4.0
	Throw, m 3-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.5-3.7	1.8-4.3	2.1-4.6	2.4-2.9
	Throw, m 2-WAY	0.3-1.8	0.6-2.4	0.9-3.1	1.2-3.7	1.5-4.0	1.5-4.3	2.1-5.2	2.4-5.2	2.7-5.8
	Throw, m 1-WAY	0.6-2.1	0.9-3.1	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.3	2.7-5.2	3.1-5.2	3.4-5.8
* **250 x 250**	**Neg Stat. Press., Pa**	**8**	**13**	**19**	**28**	**39**	**50**	**78**	**113**	**154**
	Flow Rate, m³/s	**0.099**	**0.132**	**0.163**	**0.198**	**0.229**	**0.262**	**0.328**	**0.392**	**0.458**
	NC	**-**	**17**	**24**	**30**	**35**	**39**	**46**	**53**	**58**

* performance data for CPR.

300 x 600 Module Size

Duct Size	Neck Velocity, m/s Vel. Press., Pa	1.53 2	2.04 3	2.55 4	3.06 6	3.57 8	4.08 10	5.1 16	6.12 23	7.14 31
125 mm RD	**Tot. Press., Pa**	**3**	**5**	**7**	**10**	**14**	**18**	**27**	**39**	**54**
	Flow Rate, m³/s	**0.019**	**0.226**	**0.033**	**0.038**	**0.045**	**0.052**	**0.064**	**0.078**	**0.090**
	NC	**-**	**-**	**14**	**19**	**23**	**27**	**33**	**38**	**42**
	Throw, m 4-WAY	0.3-1.2	0.6-1.5	0.6-1.8	0.6-2.1	0.9-2.1	0.9-2.4	1.5-2.7	1.8-3.1	1.8-3.1
	Throw, m 3-WAY	0.3-1.2	0.6-1.8	0.6-2.1	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.1	1.8-3.7	1.8-4.0
	Throw, m 2-WAY	0.3-1.5	0.6-1.8	0.6-2.4	0.9-3.1	1.2-3.1	1.2-3.7	1.8-4.0	2.1-4.3	2.1-4.6
	Throw, m 1-WAY	0.6-1.8	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.4	1.8-4.0	1.8-4.0	2.4-4.3	2.7-4.6
150 mm RD	**Tot. Press., Pa**	**4**	**6**	**9**	**12**	**17**	**21**	**33**	**48**	**65**
	Flow Rate, m³/s	**0.028**	**0.038**	**0.047**	**0.057**	**0.066**	**0.076**	**0.092**	**0.111**	**0.130**
	NC	**-**	**-**	**17**	**22**	**26**	**30**	**36**	**41**	**45**
	Throw, m 4-WAY	0.3-1.2	0.6-1.5	0.9-2.1	0.9-2.4	0.9-2.4	0.9-2.7	1.5-3.1	1.8-3.1	2.1-3.4
	Throw, m 3-WAY	0.3-1.2	0.6-1.8	0.9-2.4	0.9-2.7	0.9-3.1	1.2-3.1	1.5-3.4	1.8-4.0	2.1-4.3
	Throw, m 2-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.2-3.7	1.8-4.3	2.1-4.6	2.4-5.2
	Throw, m 1-WAY	0.6-1.8	0.9-2.7	0.9-3.4	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.2
175 mm RD	**Tot. Press., Pa**	**4**	**7**	**10**	**15**	**19**	**25**	**39**	**56**	**76**
	Flow Rate, m³/s	**0.038**	**0.050**	**0.064**	**0.076**	**0.090**	**0.102**	**0.127**	**0.151**	**0.177**
	NC	**-**	**14**	**20**	**25**	**29**	**33**	**39**	**44**	**48**
	Throw, m 4-WAY	0.3-1.5	0.6-1.8	0.9-2.7	0.9-3.1	1.2-3.1	1.2-3.4	1.8-3.7	2.4-4.0	2.7-4.3
	Throw, m 3-WAY	0.3-1.5	0.6-2.1	0.9-3.1	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.9	2.7-5.2
	Throw, m 2-WAY	0.3-1.8	0.6-2.7	0.9-3.4	1.2-3.7	1.5-4.3	1.5-4.6	2.1-5.2	2.7-5.5	3.1-6.1
	Throw, m 1-WAY	0.6-2.4	0.9-3.4	1.2-3.7	1.5-3.4	1.8-4.3	2.4-4.6	2.7-5.2	3.4-5.5	3.7-6.1
150 x 150	**Tot. Press., Pa**	**5**	**8**	**12**	**18**	**24**	**31**	**48**	**69**	**94**
	Flow Rate, m³/s	**0.035**	**0.047**	**0.059**	**0.071**	**0.083**	**0.094**	**0.118**	**0.142**	**0.165**
	NC	**-**	**13**	**19**	**24**	**28**	**32**	**38**	**43**	**47**
	Throw, m 4-WAY	0.3-1.5	0.6-1.8	0.9-2.4	0.9-2.7	1.2-2.7	1.2-3.1	1.8-3.4	2.1-3.7	2.4-4.0
	Throw, m 3-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.4-4.9
	Throw, m 2-WAY	0.3-1.8	0.6-2.4	0.9-3.1	1.2-3.7	1.5-4.0	1.5-4.3	2.1-4.9	2.4-5.2	2.7-5.8
	Throw, m 1-WAY	0.6-2.1	0.9-3.1	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.3	2.4-4.9	3.1-5.2	3.4-5.8
150 x 450	**Tot. Press., Pa**	**11**	**17**	**28**	**40**	**53**	**69**	**108**	**153**	**210**
	Flow Rate, m³/s	**0.106**	**0.142**	**0.177**	**0.212**	**0.248**	**0.282**	**0.354**	**0.425**	**0.496**
	NC	**17**	**25**	**31**	**36**	**40**	**44**	**50**	**55**	**59**
	Throw, m 4-WAY	1.5-4.6	1.8-5.2	2.4-5.8	3.1-6.4	3.4-6.7	4.0-7.3	4.9-8.2	5.2-9.2	5.8-9.8
	Throw, m 3-WAY	1.5-4.6	2.1-5.2	2.4-5.8	3.1-6.4	3.7-6.7	4.0-7.3	4.9-8.2	5.2-9.2	5.8-9.8
	Throw, m 2-WAY	1.5-4.6	2.1-5.2	2.7-5.8	3.4-6.4	4.0-6.7	4.3-7.3	4.9-8.2	5.2-9.2	5.8-9.8
	Throw, m 1-WAY	2.4-6.4	3.1-7.3	4.0-8.2	4.6-9.2	5.5-9.8	6.1-10.4	6.7-11.9	7.3-12.8	8.2-14.0
* **250 x 500**	**Neg Stat. Press., Pa**	**8**	**13**	**19**	**28**	**39**	**50**	**78**	**113**	**154**
	Flow Rate, m³/s	**0.217**	**0.288**	**0.363**	**0.434**	**0.510**	**0.578**	**0.722**	**0.864**	**1.010**
	NC	**-**	**19**	**25**	**31**	**36**	**41**	**48**	**55**	**60**

* performance data for CPR.

Performance Data – CPS & CPR

400 x 400 Module Size

Duct Size	Neck Velocity, m/s / Vel. Press., Pa		1.53 / 2	2.04 / 3	2.55 / 4	3.06 / 6	3.57 / 8	4.08 / 10	5.1 / 16	6.12 / 23	7.14 / 31
125 mm RD	Tot. Press., Pa		3	5	7	10	14	18	28	40	54
	Flow Rate, m^3/s		0.019	0.026	0.033	0.038	0.045	0.052	0.064	0.078	0.090
	NC		-	-	14	19	23	27	33	38	42
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.6-1.8	0.6-2.1	0.9-2.1	0.9-2.4	1.5-2.7	1.8-3.1	1.8-3.1
		3-WAY	0.3-1.2	0.6-1.8	0.6-2.1	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.1	1.8-3.7	1.8-4.0
		2-WAY	0.3-1.5	0.6-1.8	0.6-2.4	0.9-3.1	1.2-3.1	1.2-3.7	1.8-4.0	2.1-4.3	2.1-4.6
		1-WAY	0.6-1.8	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.4	1.8-4.0	1.8-4.0	2.4-4.3	2.7-4.6
150 mm RD	Tot. Press., Pa		4	6	9	12	17	21	33	48	65
	Flow Rate, m^3/s		0.028	0.038	0.047	0.057	0.066	0.076	0.094	0.110	0.130
	NC		-	-	17	22	26	30	36	41	45
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.9-2.1	0.9-2.4	0.9-2.4	0.9-2.7	1.5-3.1	1.8-3.1	2.1-3.4
		3-WAY	0.3-1.2	0.6-1.8	0.9-2.4	0.9-2.7	0.9-3.1	1.2-3.1	1.5-3.4	1.8-4.0	2.1-4.3
		2-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.2-3.7	1.8-4.3	2.1-4.6	2.4-5.2
		1-WAY	0.6-1.8	0.9-2.7	0.9-3.4	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.2
175 mm RD or 150 x 150	Tot. Press., Pa		4	7	10	15	19	25	39	56	76
	Flow Rate, m^3/s		0.038	0.050	0.064	0.076	0.090	0.102	0.127	0.151	0.177
	NC		-	14	20	25	29	33	39	44	48
	Throw, m	4-WAY	0.3-1.5	0.6-1.8	0.9-2.7	0.9-3.1	1.2-3.1	1.2-3.4	1.8-3.7	2.4-4.0	2.7-4.3
		3-WAY	0.3-1.5	0.6-2.1	0.9-3.1	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.9	2.7-5.2
		2-WAY	0.3-1.8	0.6-2.7	0.9-3.4	1.2-3.1	1.5-4.3	1.5-4.6	2.1-5.2	2.7-5.5	3.1-6.1
		1-WAY	0.6-2.4	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.4-4.6	2.7-5.2	3.4-5.5	3.7-6.1
200 mm RD	Tot. Press., Pa		5	7	12	17	22	29	45	64	88
	Flow Rate, m^3/s		0.050	0.066	0.083	0.099	0.116	0.132	0.165	0.198	0.231
	NC		-	16	22	27	31	35	41	46	50
	Throw, m	4-WAY	0.3-1.8	0.6-2.4	1.2-3.1	1.2-3.4	1.2-3.7	1.5-3.7	1.8-4.0	2.4-4.3	2.7-4.9
		3-WAY	0.3-1.8	0.6-2.4	1.2-3.4	1.2-4.0	1.5-4.0	1.5-4.3	2.1-4.9	2.7-5.5	3.1-5.8
		2-WAY	0.3-2.1	0.6-3.1	1.2-3.7	1.2-4.3	1.5-4.6	1.8-5.2	2.4-5.8	3.1-6.4	3.7-6.7
		1-WAY	0.9-2.7	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.6	2.4-5.2	3.1-5.8	4.0-6.4	4.0-6.7
250 mm RD	Tot. Press., Pa		6	10	16	23	30	39	61	87	119
	Flow Rate, m^3/s		0.078	0.104	0.127	0.153	0.179	0.205	0.257	0.309	0.359
	NC		11	19	25	30	34	38	44	49	53
	Throw, m	4-WAY	0.3-2.4	0.6-3.1	1.2-3.7	1.2-4.0	1.8-4.3	2.1-4.3	2.4-5.2	3.1-5.5	3.4-6.1
		3-WAY	0.3-2.4	0.6-3.1	1.2-4.0	1.8-4.6	2.1-5.2	2.1-5.5	2.7-6.1	3.4-6.7	3.7-7.0
		2-WAY	0.3-2.7	0.6-3.7	1.2-4.3	1.8-5.5	2.1-5.8	2.4-6.4	3.1-7.0	3.7-7.6	4.3-8.5
		1-WAY	0.3-3.4	1.2-4.3	2.1-5.2	2.4-5.5	2.7-5.8	3.1-6.4	3.7-7.0	4.6-7.6	4.6-8.5
200 x 200	Tot. Press., Pa		5	9	14	20	27	34	54	76	104
	Flow Rate, m^3/s		0.064	0.085	0.104	0.125	0.146	0.168	0.210	0.253	0.295
	NC		9	17	23	28	32	36	42	47	51
	Throw, m	4-WAY	0.3-2.1	0.6-2.7	1.2-3.4	1.2-3.7	1.5-4.0	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.5
		3-WAY	0.3-2.1	0.6-2.7	1.2-3.7	1.5-4.3	1.8-4.6	1.8-4.9	2.4-5.5	3.1-6.1	3.4-6.4
		2-WAY	0.3-2.4	0.6-3.4	1.2-4.0	1.5-4.9	1.8-5.2	2.1-5.8	2.7-6.4	3.4-7.0	4.0-7.6
		1-WAY	0.9-3.1	1.2-4.0	1.8-4.6	2.1-4.9	2.4-5.2	2.7-5.8	3.4-6.4	4.3-7.0	4.3-7.6
* 350 x 350	Neg Stat. Press., Pa		8	13	19	28	39	50	78	113	154
	Flow Rate, m^3/s		0.194	0.257	0.321	0.385	0.449	0.515	0.642	0.770	0.897
	NC		-	18	25	31	36	40	47	54	59

* performance data for CPR.

Guide Product Weights		
Approximate Weight in Kg.		
Size	CPR	CPS
300 x 300	1.35	1.75
600 x 600	1.98	2.38

CPS & CPR – Performance Data

500 x 500 Module Size

Duct Size	Neck Velocity, m/s Vel. Press., Pa		1.53 2	2.04 3	2.55 4	3.06 6	3.57 8	4.08 10	5.1 16	6.12 23	7.14 31
125 mm RD	**Tot. Press., Pa**		**3**	**5**	**7**	**10**	**14**	**18**	**28**	**40**	**54**
	Flow Rate, m^3/s		**0.019**	**0.026**	**0.033**	**0.038**	**0.045**	**0.052**	**0.064**	**0.078**	**0.090**
	NC		**-**	**-**	**14**	**19**	**23**	**27**	**33**	**38**	**42**
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.6-1.8	0.6-2.1	0.9-2.1	0.9-2.4	1.5-2.7	1.8-3.1	1.8-3.1
		3-WAY	0.3-1.2	0.6-1.8	0.6-2.1	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.1	1.8-3.7	1.8-4.0
		2-WAY	0.3-1.5	0.6-1.8	0.6-2.4	0.9-3.1	1.2-3.1	1.2-3.7	1.8-4.0	2.1-4.3	2.1-4.6
		1-WAY	0.6-1.8	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.4	1.8-4.0	1.8-4.0	2.4-4.3	2.7-4.6
150 mm RD	**Tot. Press., Pa**		**4**	**6**	**9**	**12**	**17**	**21**	**33**	**48**	**65**
	Flow Rate, m^3/s		**0.028**	**0.038**	**0.047**	**0.057**	**0.066**	**0.076**	**0.094**	**0.110**	**0.130**
	NC		**-**	**-**	**17**	**22**	**26**	**30**	**36**	**41**	**45**
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.9-2.1	0.9-2.4	0.9-2.4	0.9-2.7	1.5-3.1	1.8-3.1	2.1-3.4
		3-WAY	0.3-1.2	0.6-1.8	0.9-2.4	0.9-2.7	0.9-3.1	1.2-3.1	1.5-3.4	1.8-4.0	2.1-4.3
		2-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.2-3.7	1.8-4.3	2.1-4.6	2.4-5.2
		1-WAY	0.6-1.8	0.9-2.7	0.9-3.4	1.4-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.2
175 mm RD or 150 x 150	**Tot. Press., Pa**		**4**	**7**	**10**	**14**	**18**	**23**	**37**	**52**	**71**
	Flow Rate, m^3/s		**0.038**	**0.050**	**0.064**	**0.076**	**0.090**	**0.102**	**0.127**	**0.151**	**0.177**
	NC		**-**	**13**	**19**	**24**	**28**	**32**	**38**	**43**	**47**
	Throw, m	4-WAY	0.3-1.5	0.6-1.8	0.9-2.7	0.9-3.1	1.2-3.1	1.2-3.4	1.8-3.7	2.4-4.0	2.7-4.3
		3-WAY	0.3-1.5	0.6-2.1	0.9-3.1	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.9	2.7-5.2
		2-WAY	0.3-1.8	0.6-2.7	0.9-3.4	1.2-3.7	1.5-4.3	1.5-4.6	2.1-5.2	2.7-5.5	3.1-6.1
		1-WAY	0.6-2.4	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.4-4.6	2.7-5.2	3.4-5.5	3.7-6.1
200 mm RD	**Tot. Press., Pa**		**4**	**6**	**10**	**14**	**19**	**24**	**38**	**54**	**74**
	Flow Rate, m^3/s		**0.050**	**0.066**	**0.083**	**0.099**	**0.116**	**0.132**	**0.165**	**0.198**	**0.231**
	NC		**-**	**16**	**22**	**27**	**31**	**35**	**41**	**46**	**50**
	Throw, m	4-WAY	0.3-1.8	0.6-2.4	1.2-3.1	1.2-3.4	1.2-3.7	1.5-3.7	1.8-4.0	2.4-4.3	2.7-4.9
		3-WAY	0.3-1.8	0.6-2.4	1.2-3.4	1.2-4.0	1.5-4.0	1.5-4.3	2.1-4.9	2.7-5.5	3.1-5.8
		2-WAY	0.3-2.1	0.6-3.1	1.2-3.7	1.2-4.3	1.5-4.6	1.8-5.2	2.4-5.8	3.1-6.4	3.7-6.7
		1-WAY	0.9-2.7	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.6	2.4-5.2	3.1-5.8	4.0-6.4	4.0-6.7
250 mm RD or 200 x 200	**Tot. Press., Pa**		**5**	**8**	**13**	**18**	**24**	**31**	**49**	**70**	**95**
	Flow Rate, m^3/s		**0.078**	**0.104**	**0.127**	**0.153**	**0.179**	**0.205**	**0.257**	**0.309**	**0.359**
	NC		**11**	**19**	**25**	**30**	**34**	**38**	**44**	**49**	**53**
	Throw, m	4-WAY	0.3-2.4	0.6-3.1	1.2-3.7	1.2-4.0	1.8-4.3	2.1-4.3	2.4-5.2	3.1-5.5	3.4-6.1
		3-WAY	0.3-2.4	0.6-3.1	1.2-4.0	1.8-4.6	2.1-5.2	2.1-5.5	2.7-6.1	3.4-6.7	3.7-7.0
		2-WAY	0.3-2.7	0.6-3.7	1.2-4.3	1.8-5.5	2.1-5.8	2.4-6.4	3.1-7.0	3.7-7.6	4.3-8.5
		1-WAY	0.9-3.4	1.2-4.3	1.2-5.2	2.4-5.5	2.7-5.8	3.1-6.4	3.7-7.0	4.6-7.6	4.6-8.5
300 mm RD	**Tot. Press., Pa**		**6**	**10**	**15**	**22**	**30**	**38**	**60**	**85**	**116**
	Flow Rate, m^3/s		**0.111**	**0.149**	**0.184**	**0.222**	**0.260**	**0.297**	**0.371**	**0.446**	**0.516**
	NC		**14**	**22**	**28**	**33**	**37**	**41**	**47**	**52**	**56**
	Throw, m	4-WAY	0.6-2.1	0.9-3.7	1.5-4.3	1.5-4.9	1.8-5.2	2.1-5.5	2.7-6.1	3.7-6.4	4.3-7.0
		3-WAY	0.6-3.1	0.9-4.0	1.5-4.9	1.8-5.5	2.1-6.1	2.4-6.4	3.4-7.0	4.0-8.2	4.6-8.5
		2-WAY	0.6-3.4	0.9-4.6	1.5-5.5	2.1-6.1	2.4-7.0	2.7-7.6	3.7-8.5	4.6-9.5	5.2-10.1
		1-WAY	0.9-4.3	1.5-5.5	2.1-6.1	2.4-6.4	3.4-7.0	3.4-7.6	4.6-8.5	5.5-9.5	9.5-10.1
350 mm RD	**Tot. Press., Pa**		**8**	**13**	**20**	**29**	**38**	**49**	**77**	**110**	**151**
	Flow Rate, m^3/s		**0.151**	**0.201**	**0.250**	**0.300**	**0.349**	**0.401**	**0.500**	**0.600**	**0.699**
	NC		**19**	**27**	**38**	**38**	**42**	**46**	**52**	**57**	**61**
	Throw, m	4-WAY	0.6-3.1	1.2-4.0	1.8-4.9	1.8-5.5	2.1-5.8	2.4-6.1	3.4-7.0	4.0-7.3	4.9-7.9
		3-WAY	0.6-3.4	1.2-4.3	1.8-5.5	2.1-6.1	2.4-7.0	3.1-7.3	3.7-7.9	4.3-9.2	5.2-9.5
		2-WAY	0.9-3.7	1.2-5.2	1.8-6.1	2.4-7.0	3.1-7.9	3.4-8.8	4.0-9.5	5.2-10.7	5.8-11.3
		1-WAY	1.2-4.9	1.8-6.1	2.4-7.0	3.1-7.3	3.7-7.9	4.0-8.8	5.2-9.5	6.1-10.7	6.7-11.3
250 x 250	**Tot. Press., Pa**		**6**	**9**	**15**	**21**	**28**	**36**	**56**	**80**	**109**
	Flow Rate, m^3/s		**0.099**	**0.132**	**0.165**	**0.196**	**0.229**	**0.262**	**0.328**	**0.394**	**0.460**
	NC		**13**	**21**	**27**	**32**	**36**	**40**	**46**	**51**	**55**
	Throw, m	4-WAY	0.6-2.4	0.9-3.4	1.5-4.0	1.5-4.6	1.8-4.9	2.1-5.2	2.7-5.8	3.4-6.1	4.0-6.7
		3-WAY	0.6-2.7	0.9-3.7	1.5-4.6	1.8-5.2	2.1-5.8	2.4-6.1	3.1-6.7	3.7-7.6	4.3-7.9
		2-WAY	0.6-3.1	0.9-4.3	1.5-5.2	2.1-5.8	2.4-6.7	2.7-7.3	3.4-7.9	4.3-8.8	4.9-9.5
		1-WAY	0.9-4.0	1.5-5.2	2.1-6.8	2.4-6.1	3.1-6.7	3.4-7.3	4.3-7.9	5.2-8.8	5.5-9.5
* **450 x 450**	**Neg Stat. Press., Pa**		**8**	**13**	**19**	**28**	**39**	**50**	**78**	**113**	**154**
	Flow Rate, m^3/s		**0.319**	**0.425**	**0.529**	**0.637**	**0.746**	**0.850**	**1.060**	**1.270**	**1.490**
	NC		**10**	**19**	**26**	**32**	**37**	**41**	**48**	**55**	**60**

* performance data for CPR.

Performance Data – CPS & CPR

600 x 600 Module Size

Duct Size	Neck Velocity, m/s / Vel. Press., Pa		1.53 / 2	2.04 / 3	2.55 / 4	3.06 / 6	3.57 / 8	4.08 / 10	5.1 / 16	6.12 / 23	7.14 / 31
125 mm RD	Tot. Press., Pa		3	5	7	10	14	18	28	40	54
	Flow Rate, m^3/s		0.019	0.026	0.033	0.038	0.045	0.052	0.064	0.078	0.090
	NC		-	-	14	19	23	27	33	38	42
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.6-1.8	0.6-2.1	0.9-2.1	0.9-2.4	1.5-2.7	1.8-3.1	1.8-3.1
		3-WAY	0.3-1.2	0.6-1.8	0.6-2.1	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.1	1.8-3.7	1.8-4.0
		2-WAY	0.3-1.5	0.6-1.8	0.6-2.4	0.9-3.1	1.2-3.1	1.2-3.7	1.8-4.0	2.1-4.3	2.1-4.6
		1-WAY	0.6-1.8	0.6-2.4	0.9-2.7	1.2-3.1	1.5-3.4	1.8-4.0	1.8-4.0	2.4-4.3	2.7-4.6
150 mm RD	Tot. Press., Pa		4	6	9	12	17	21	33	48	65
	Flow Rate, m^3/s		0.028	0.038	0.047	0.057	0.066	0.076	0.094	0.110	0.130
	NC		-	-	17	22	26	30	36	41	45
	Throw, m	4-WAY	0.3-1.2	0.6-1.5	0.9-2.1	0.9-2.4	0.9-2.4	0.9-2.7	1.5-3.1	1.8-3.1	2.1-3.4
		3-WAY	0.3-1.2	0.6-1.8	0.9-2.4	0.9-2.7	0.9-3.1	1.2-3.1	1.5-3.4	1.8-4.0	2.1-4.3
		2-WAY	0.3-1.5	0.6-2.1	0.9-2.7	0.9-3.1	1.2-3.4	1.2-3.7	1.8-4.3	2.1-4.6	2.4-5.2
		1-WAY	0.6-1.8	0.9-2.7	0.9-3.4	1.2-3.4	1.5-3.7	1.8-4.0	2.1-4.6	2.7-4.9	3.1-5.2
175 mm RD or 150 x 150	Tot. Press., Pa		4	6	10	14	18	23	37	52	71
	Flow Rate, m^3/s		0.038	0.050	0.064	0.076	0.090	0.102	0.127	0.151	0.177
	NC		-	13	19	24	28	32	38	43	47
	Throw, m	4-WAY	0.3-1.5	0.6-1.8	0.9-2.7	0.9-3.1	1.2-3.1	1.2-3.4	1.8-3.7	2.4-4.0	2.7-4.3
		3-WAY	0.3-1.5	0.6-2.1	0.9-3.1	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.9	2.7-5.2
		2-WAY	0.3-1.8	0.6-2.7	0.9-3.4	1.2-3.7	1.5-4.3	1.5-4.6	2.1-5.2	2.7-5.5	3.1-6.1
		1-WAY	0.6-2.4	0.9-3.4	1.2-3.7	1.5-4.0	1.8-4.3	2.4-4.6	2.7-5.2	3.4-5.5	3.7-6.1
200 mm RD	Tot. Press., Pa		4	6	10	14	19	24	38	54	74
	Flow Rate, m^3/s		0.050	0.066	0.083	0.099	0.116	0.132	0.165	0.198	0.231
	NC		-	17	23	28	32	36	42	47	51
	Throw, m	4-WAY	0.3-1.8	0.6-2.4	1.2-3.1	1.2-3.4	1.2-3.7	1.5-3.7	1.8-4.0	2.4-4.3	2.7-4.9
		3-WAY	0.3-1.8	0.6-2.4	1.2-3.4	1.2-4.0	1.5-4.0	1.5-4.3	2.1-4.9	2.7-5.5	3.1-5.8
		2-WAY	0.3-2.1	0.6-3.1	1.2-3.7	1.2-4.3	1.5-4.6	1.8-5.2	2.4-5.8	3.1-6.4	3.7-6.7
		1-WAY	0.9-2.7	1.2-3.7	1.5-4.0	1.8-4.3	2.1-4.6	2.4-5.2	3.1-5.8	4.0-6.4	4.0-6.7
250 mm RD or 200 x 200	Tot. Press., Pa		4	7	11	16	21	28	43	61	83
	Flow Rate, m^3/s		0.078	0.104	0.127	0.153	0.179	0.205	0.257	0.309	0.359
	NC		11	19	25	30	34	38	44	49	53
	Throw, m	4-WAY	0.3-2.4	0.6-3.1	1.2-3.7	1.2-4.0	1.8-4.3	2.1-4.3	2.4-5.2	3.1-5.5	3.4-6.1
		3-WAY	0.3-2.4	0.6-3.1	1.2-4.0	1.8-4.6	2.1-5.2	2.1-5.5	2.7-6.1	3.4-6.7	3.7-7.0
		2-WAY	0.3-2.7	0.6-3.7	1.2-4.3	1.8-5.5	2.1-5.8	2.4-6.4	3.1-7.0	3.7-7.6	4.3-8.5
		1-WAY	0.3-3.4	1.2-4.3	2.1-5.2	2.4-5.5	2.7-5.8	3.1-6.4	3.7-7.0	4.6-7.6	4.6-8.5
300 mm RD or 250 x 250	Tot. Press., Pa		5	9	14	19	26	33	52	75	102
	Flow Rate, m^3/s		0.111	0.149	0.184	0.222	0.260	0.297	0.371	0.446	0.519
	NC		14	22	28	33	37	41	47	52	56
	Throw, m	4-WAY	0.6-2.4	0.9-3.7	1.5-4.3	1.5-4.9	1.8-5.2	2.1-5.5	2.7-6.1	3.7-6.4	4.3-7.0
		3-WAY	0.6-3.1	0.9-4.0	1.5-4.9	1.8-5.5	2.1-6.1	2.4-6.4	3.4-7.0	4.0-8.2	4.6-8.5
		2-WAY	0.6-3.4	0.9-4.6	1.5-5.5	2.1-6.1	2.4-7.0	2.7-7.6	3.7-8.5	4.6-9.5	5.2-10.1
		1-WAY	0.9-4.3	1.5-5.5	2.1-6.1	2.4-6.4	3.4-7.0	3.4-7.6	4.6-8.5	5.5-9.5	9.5-10.1
350 mm RD	Tot. Press., Pa		6	10	16	22	28	39	61	86	118
	Flow Rate, m^3/s		0.151	0.201	0.250	0.300	0.349	0.401	0.500	0.600	0.699
	NC		16	24	30	35	39	43	49	54	58
	Throw, m	4-WAY	0.6-3.1	1.2-4.0	1.8-4.9	1.8-5.5	2.1-5.8	2.4-6.1	3.4-7.0	4.0-7.3	4.9-7.9
		3-WAY	0.6-3.4	1.2-4.3	1.8-5.5	2.1-6.1	2.4-7.0	3.1-7.3	3.7-7.9	4.3-9.2	5.2-9.5
		2-WAY	0.9-3.7	1.2-5.2	1.8-6.1	2.4-7.0	3.1-7.9	3.4-8.8	4.0-9.5	5.2-10.7	5.8-11.3
		1-WAY	1.2-4.9	1.8-6.1	2.4-7.0	3.1-7.3	3.7-7.9	4.0-8.8	5.2-9.5	6.1-10.7	6.7-11.3
400 mm RD	Tot. Press., Pa		8	12	19	28	37	48	75	108	147
	Flow Rate, m^3/s		0.198	0.264	0.331	0.397	0.463	0.529	0.661	0.793	0.924
	NC		19	27	33	38	42	46	52	57	58
	Throw, m	4-WAY	0.6-3.7	1.5-4.6	1.8-5.8	2.4-6.1	2.7-6.4	3.4-7.3	4.0-7.9	4.6-8.5	5.5-9.5
		3-WAY	0.9-3.7	1.5-5.2	1.8-6.1	2.4-7.6	2.7-7.9	3.4-8.5	4.3-9.8	5.2-10.4	5.8-11.6
		2-WAY	1.2-4.3	1.5-5.8	1.8-7.3	2.7-8.5	3.4-9.5	4.0-10.1	4.6-11.3	5.8-12.2	6.4-13.4
		1-WAY	1.5-5.5	2.4-7.3	2.7-7.9	3.4-8.5	4.0-9.5	4.6-10.1	5.8-11.3	7.3-12.2	7.6-13.4
300 x 300	Tot. Press., Pa		6	10	15	21	29	37	58	83	113
	Flow Rate, m^3/s		0.142	0.189	0.236	0.283	0.331	0.378	0.472	0.567	0.661
	NC		16	24	30	35	39	43	49	54	58
	Throw, m	4-WAY	0.6-3.1	1.2-4.0	1.5-4.9	2.1-5.2	2.4-5.5	2.7-6.1	3.4-6.7	4.0-7.3	4.6-7.9
		3-WAY	0.6-3.1	1.2-4.3	1.5-5.2	2.1-6.4	2.4-6.7	2.7-7.3	3.7-8.2	4.3-8.8	4.9-9.8
		2-WAY	0.6-3.7	1.2-4.9	1.5-6.1	2.4-7.3	2.7-7.9	3.4-8.5	4.0-9.5	4.9-10.4	5.5-11.3
		1-WAY	1.2-4.6	2.1-6.1	2.4-6.7	3.1-7.3	3.4-7.9	4.0-8.5	4.9-9.5	6.1-10.4	6.4-11.3
* 550 x 550	Neg Stat. Press., Pa		8	13	19	28	39	50	78	113	154
	Flow Rate, m^3/s		0.472	0.637	0.793	0.954	1.100	1.270	1.590	1.900	2.220
	NC		11	20	27	33	38	42	49	56	61

* performance data for CPR.

CPR, CPS, CPMS, CPSHS, CPSS, CPT & CPTR

Product Ordering Key and Suggested Specifications

CPS / CPR	–	600 x 600	–	300 x 300/300 DIA	–	OPTIONS	–	ACCESSORIES	–	FINISH
Ceiling Perforated Supply. Ceiling Perforated Return.		Plenum Adaptor Size (Ceiling Opening).		Nominal Neck Size/ Nominal Neck Diameter.		OBD-2 Opposed Blade Damper / Heavy Gauge Galvanised Perforated Plate.		SRA 300 x 300/ 250 DIA. Square to Round Adaptor.		Holyoake White. Powder Coat.

Ceiling Perforated diffusers shall be Holyoake Series CPS, or CPR and shall consist of an extruded aluminium frame with close mitred corners and 0.75 mm aluminium perforated face in an extruded aluminium sub-frame. The face shall be removable, by means of a separate mounting frame, which if used for supply air shall be furnished with field adjustable pattern control louvers and a galvanised steel plenum with duct connection. All shall be as manufactured by Holyoake.

CPMS	–	200 x 200	–	FINISH
Ceiling Perforated Maximum Security.		Neck Size.		304 Stainless Steel Mill

Ceiling Perforated Maximum Security Grilles (CPMS) shall be constructed of Stainless Steel type 304 for easy wash down. The faceplate shall be constructed from a single piece with 2mm holes, with no ledges or face fixings. They shall be tested to ASTM F254 and meet a minimum grade 2 rating. All shall be as manufactured by Holyoake.

CPSHS	–	200 x 200	–	FINISH
Ceiling Perforated Supply High Secure.		Neck Size.		304 Grade Stainless Steel Mill Finish.

Ceiling Perforated Supply High Secure diffusers shall be Holyoake Series CPSHS. These shall be constructed from a single piece of Stainless Steel 304 Grade face plate, with small 2mm diameter holes, with no ledges, or face fixings. Complete with a long welded neck sleeve for full floor penetration and neck clamping flanges, ensuring no face fixings are required. All shall be as manufactured by Holyoake.

CPSS	–	600 x 600	–	2 / 3	–	ACCESSORIES	–	FINISH
Ceiling Perforated Supply Secure.		Nominal Neck Size.		Perforated Hole Size and Plate Thickness.		SSA, SRA & RRA Neck Adaptors, Premi-Aire™, or Galvanised Cushion Head Boxes.		Holyoake White. Powder Coat.

Ceiling Perforated Supply Secure diffusers shall be Holyoake Series CPSS and shall be constructed from heavy section aluminium surround to provide maximum security. 2 or 3 mm thick steel plate shall provide 30, or 40 % free area. Finished in a durable Powder Coat. All shall be as manufactured by Holyoake.

Note Seismic restraints are required, but not supplied.