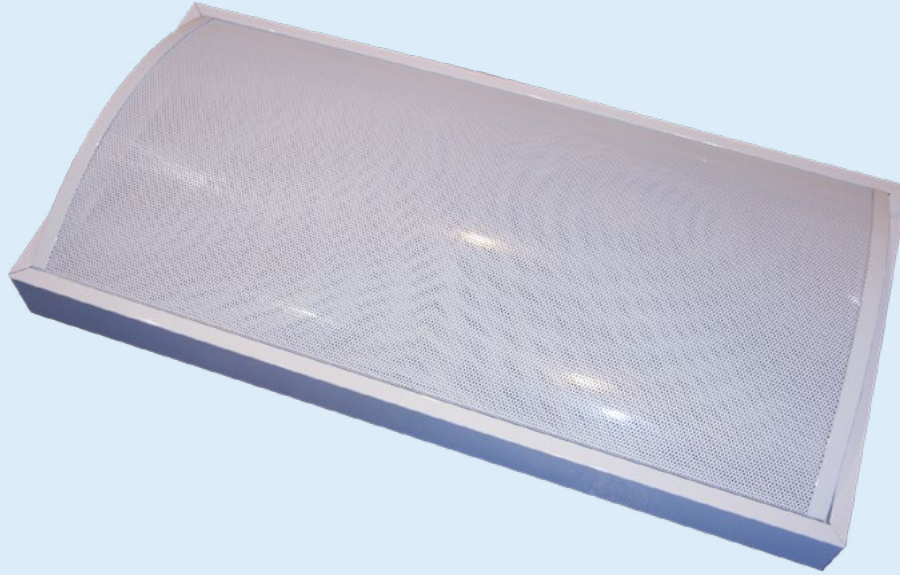


# KCD

## Kitchen Ceiling Diffuser



- Durable stainless steel construction
- Low sound levels
- Low pressure drop across diffuser
- Can be installed within 2 feet of exhaust hoods
- T.A.B.™ (testing and balancing) ports, which allow accurate and effective commissioning.

The Halton model KCD Kitchen Ceiling Diffuser provides for a high volume of supply air ideally within 2 feet of the hood(s) or flush mounted with the hood without disrupting hood performance. Tested performance of supply air discharge ensures that airflow, pressure drop, and N.C. specifications are met .

The KCD diffuser works in concert with Halton VAV boxes and airflow measuring stations, combined with MARVEL+ control system to provide an integrated Demand Based variable volume exhaust and supply package with zone control for commercial kitchens.

### Operation and Description

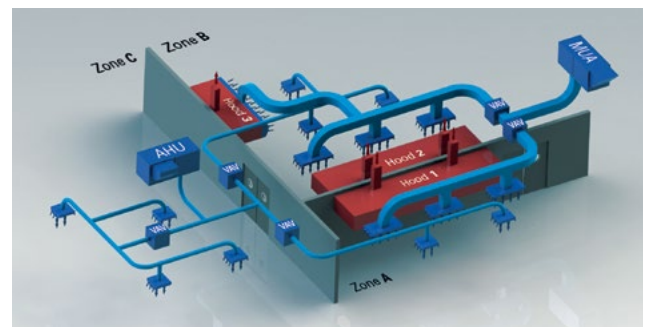
With Demand Controlled Ventilation (DCV) becoming the norm rather than the exception, managing the changes in exhaust and supply air volumes for a specific group of hoods (or zone) has been a challenge.

The M.A.R.V.E.L.+ system is unique among DCV systems as it measures exhaust rates in each hood and the associated supply air in real time. This capability ensures that proper space balance is maintained as the system varies the exhaust airflows during operation.

The majority of capture and containment problems occur because of two issues:

- high velocity discharge from diffusers (such as 4-way louvered diffusers) causing poor hood performance
- unbalanced supply air in kitchens around hoods.

The KCD design from Halton addresses both of these issues. No longer will designers have to rely on office

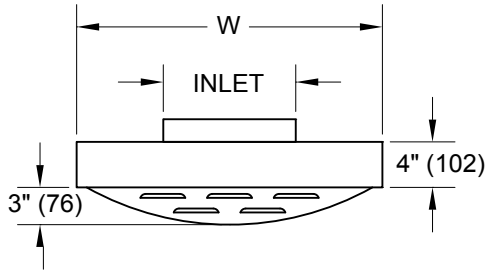


building type diffusers, but can select from a series of high volume diffusers that are appropriate for kitchen supply air distribution.

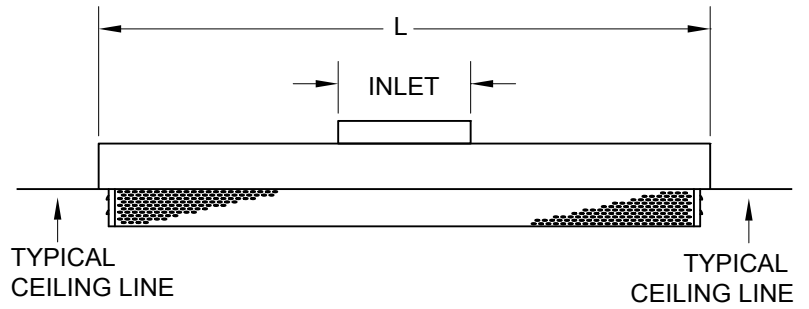
The system is self balancing and automatically adjusts exhaust air volumes and the appropriate makeup air requirement to each zone and/or hood and delivers it in a way that does not interfere with the cooking operation. For the first time ever the design team can provide a complete exhaust and air distribution system that is synchronized and encompasses all the design criteria needed to excel in the commercial kitchen setting.

**Dimensions**

Side View



Front View

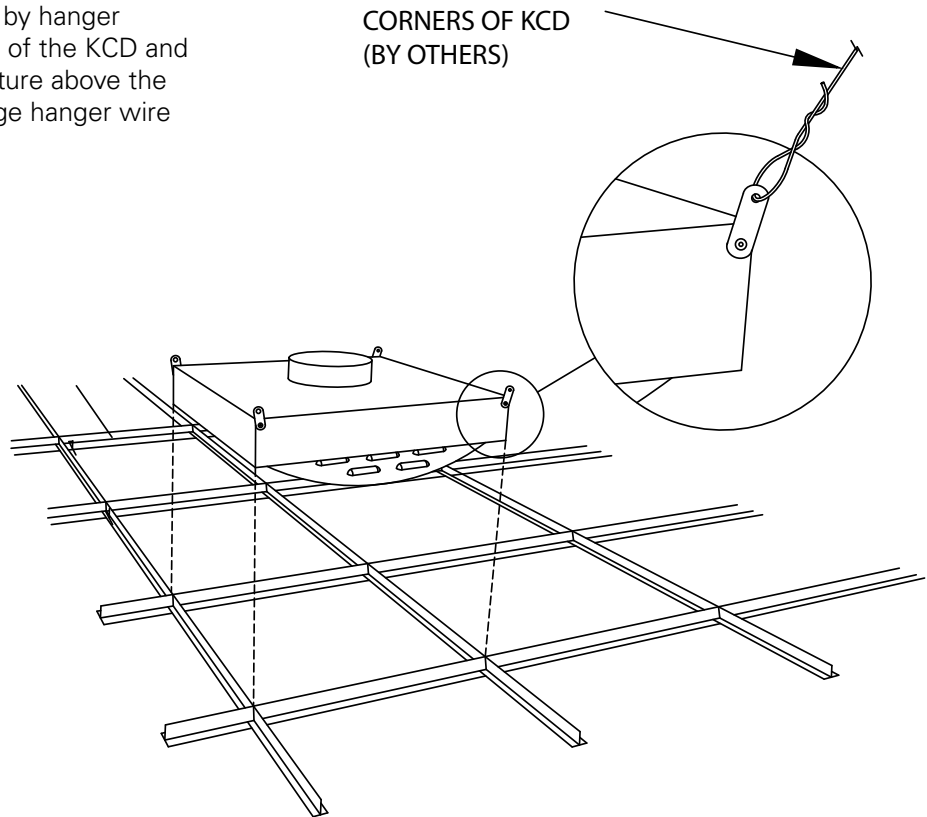


	Weight
24 (W) x 24 (L)	20 lbs
24 (W) x 48 (L)	32 lbs

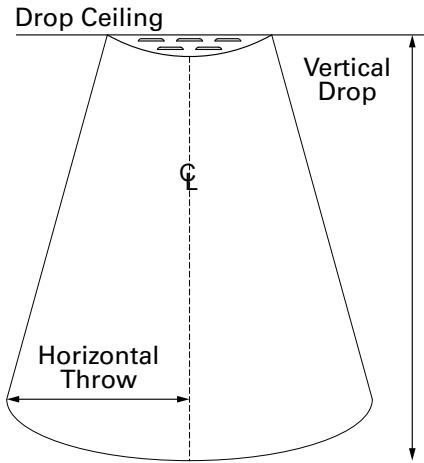
**Support Detail**

The KCD is a 24" by 24" or 24" by 48" ceiling diffuser which will drop into ceiling grid systems. The KCD unit should be supported by hanger wires connected to all four corners of the KCD and fastened securely to the roof structure above the ceiling grid. A minimum of 12 gauge hanger wire should be used.

HANGER WIRE  
TYPICAL ALL FOUR  
CORNERS OF KCD  
(BY OTHERS)



## Performance Data



### Panel Size: 24" x 24"

Inlet Dia.	CFM	Neck Velocity (FPM)	Ptotal "w.c."	Pstatic w.c.	Noise Criteria	Horizontal Throw, ft (100-75-50 FPM)	Vertical Throw, ft (100-75-50 FPM)
6"	250	1273	0.22"	0.12"	28	* - * - *	0.3 - 0.5 - 1.0
8"	375	1074	0.20"	0.12"	32	* - * - 1.7	0.6 - 1.2 - 6.5
8"	500	1432	0.34"	0.21"	37	* - 1.3 - 2.5	1.0 - 3.5 - 7.5
10"	625	1146	0.25"	0.16"	38	1 - 2.2 - 3.2	2.3 - 7.4 - 12.0
10"	750	1375	0.35"	0.24"	43	1.5 - 2.5 - 3.6	7.0 - 8.0 - 12.0

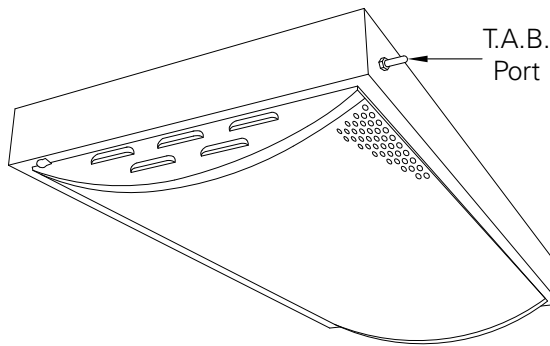
### Panel Size: 24" x 48"

Inlet Dia.	CFM	Neck Velocity (FPM)	Ptotal "w.c."	Pstatic w.c.	Noise Criteria	Horizontal Throw, ft (100-75-50 FPM)	Vertical Throw, ft (100-75-50 FPM)
8"	500	1432	0.28"	0.15"	35	* - * - *	0.3 - 0.5 - 1.0
10"	750	1375	0.25"	0.13"	40	* - * - 1.7	0.6 - 1.2 - 6.5
10"	1000	1833	0.44"	0.23"	49	* - 1.3 - 2.5	1.0 - 3.5 - 7.5
12"	1000	1273	0.16"	0.06"	42	* - 1.3 - 2.5	1.0 - 3.5 - 7.5
12"	1250	1592	0.26"	0.10"	50	1 - 2.2 - 3.2	2.3 - 7.4 - 12.0
12"	1500	1910	0.36"	0.13"	54	1.5 - 2.5 - 3.6	7.0 - 8.0 - 12.0

## T.A.B.™ Port Data

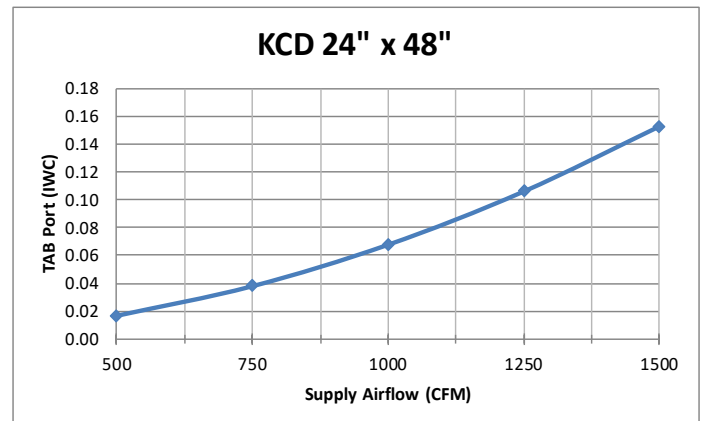
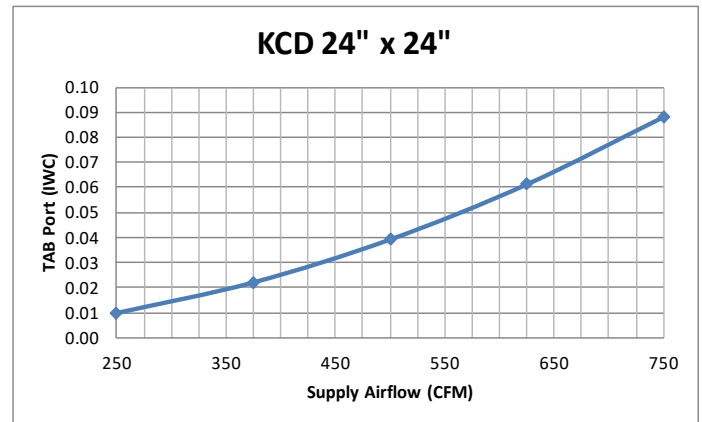
### Balancing of KCD Diffusers

Air flows are easily and accurately determined by measuring the pressure difference from the T.A.B. port mounted in each diffuser. Corresponding air flows can be read from the diagrams provided.



### Maximum Volume Measured at KCD T.A.B. Port

Installed Configuration	24" x 24" KCD	24" x 48" KCD
<24" from hood face	450 CFM	900 CFM
24" from hood face	600 CFM	1200 CFM
≥ 72" from hood face	750 CFM	1500 CFM



## Suggested Specification

Furnish and Install Halton Model KCD kitchen ceiling supply diffuser as indicated on the drawings and diffuser schedule.

The model KCD diffuser shall be constructed of 22 ga. Aluminized body with 20ga aluminized internal baffle and perforated face with a power coat baked enamel standard white finish or 20 ga. stainless steel body and perforated face with aluminized internal baffle. The unit shall have a hinged perforated face panel with flush latching mechanism for ease of cleaning. The internal structure shall include internal angled baffles and a 29% perforated face with louvered ends.

KCD diffuser shall include T.A.B. testing and balancing port for measuring the pressure difference. Corresponding air flows can be read from pressure versus airflow chart provided.

Performance data shall include, neck velocity, air volume, pressure loss, sound level data, horizontal and vertical throw as tested in accordance with the following standards.

Sound testing was completed in accordance with ISO Standard 3741. Performance testing was per ANSI/ASHRAE Standard 70.

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The company has a policy of continuous product development, therefore we reserve the right to modify design and specifications without notice.

For more information, please contact your nearest Halton agency. To find it: [www.halton.com](http://www.halton.com)