

HORD

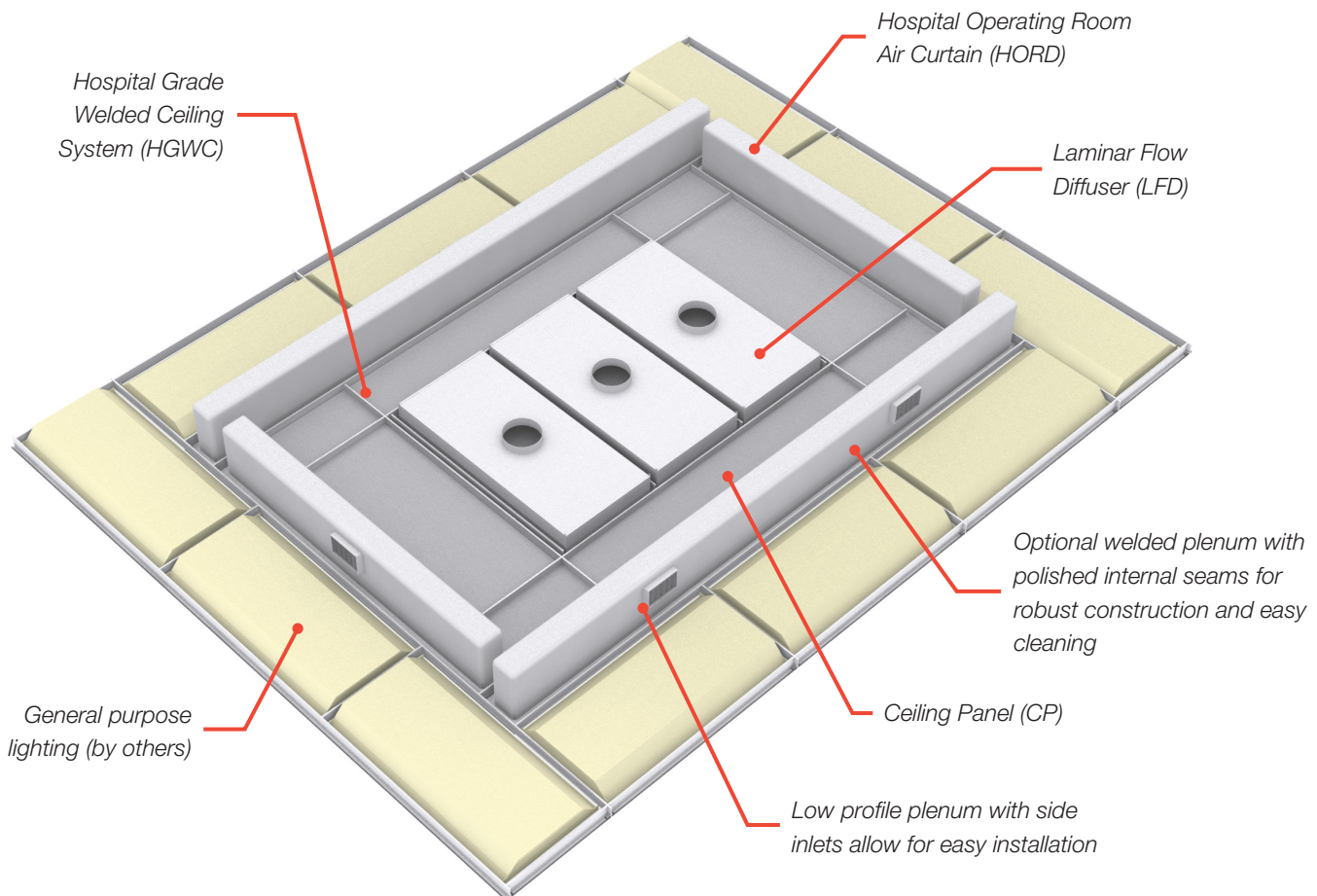
HOSPITAL OPERATING ROOM AIR CURTAIN



HORD

Hospital Operating Room Air Curtain

The Hospital Operating Room Diffuser (HORD) air curtain system is engineered specifically for the demanding needs of operating room environments. The HORD air curtain system is fully customizable and integrates seamlessly with laminar flow diffusers and low-level exhaust grilles to minimize mixing of room and supply air in the operating area. This customizable air curtain system can be fabricated with aluminum or stainless steel, with mechanically fastened or continuously welded end caps to suit project requirements.



Typical operating room with HORD (top view)

SURGICAL ZONE ISOLATION

- + Located at the perimeter of the critical zone, the HORD is a 2-slot linear diffuser that discharges a four-sided “air curtain” to create a room-within-a-room environment. The air curtain creates a barrier that prevents contaminants at the room perimeter from traveling into the sterile surgical zone.

FULLY CUSTOMIZABLE ENGINEERED SOLUTION

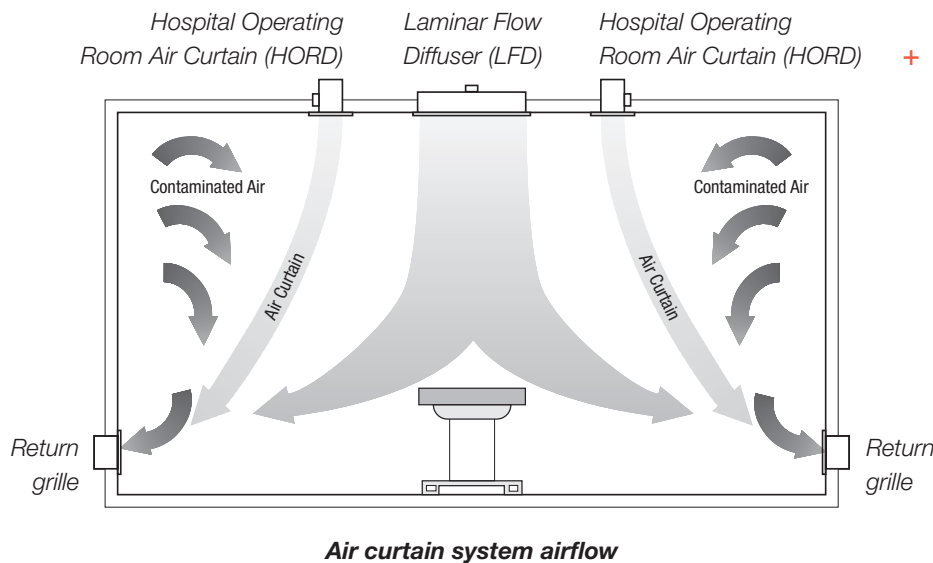
- + The HORD air curtain system, along with laminar flow diffusers and hospital-grade ceilings are available in custom sizes and configurations for a fully engineered solution to satisfy unique operating room requirements.
- + The use of an air curtain allows the size of the laminar array to be reduced to the ASHRAE 170 minimum for table coverage, effectively freeing up valuable ceiling space for other ceiling mounted equipment such as light fixtures, equipment booms and medical gas columns.
- + The optional 8 in. low profile plenum height allows the HORD to be installed where ceiling interstitial space is limited.

TYPICAL APPLICATIONS

The HORD air curtain system is designed to meet the stringent ventilation requirements of modern operating rooms. This system provides a room-within-a-room environment, creating a sterile work area at the patient table. The HORD is classified as an ASHRAE group E diffuser and meets ASHRAE 170 standard for ventilation of healthcare facilities.

CONSTRUCTION

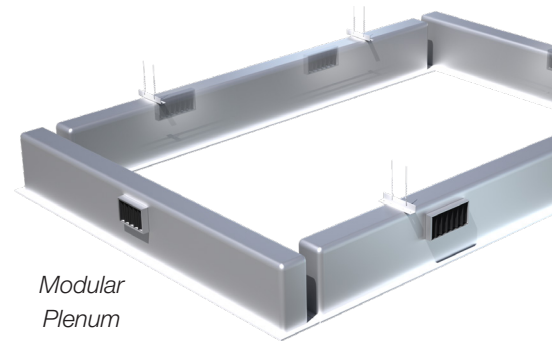
- + Plenum Configuration
 - Modular, multi-piece plenum
 - Continuous ring plenum
- + Material
 - Aluminum
 - Stainless steel
- + Options
 - Welded construction
 - Face adjustable stainless steel inlet damper





FLEXIBLE SYSTEM LAYOUTS

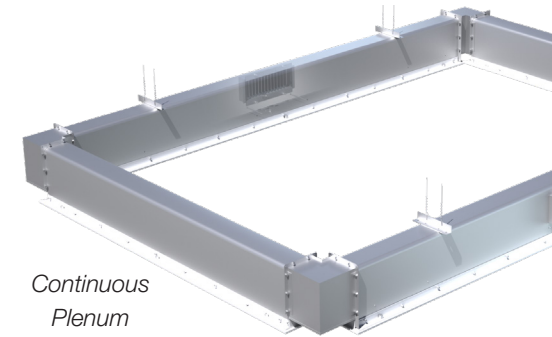
- + The HORD is available with two plenum configurations, allowing for flexible ductwork layouts.
 - **Modular Plenum** - uses four separate modules that each require at least one inlet for supply air ducting.
 - **Continuous plenum** - utilizes corner elbows to transfer air between modules, creating a self-balancing common ring plenum. For this system, only two inlets are required to ensure equalized airflow throughout the entire plenum.



*Modular
Plenum*

EASILY REMOVABLE FACE

- + The diffuser face is attached using spring-loaded quarter-turn fasteners for easy removal and access to the internal surfaces for cleaning and inspection.



*Continuous
Plenum*

FACE ADJUSTABLE INLET DAMPER

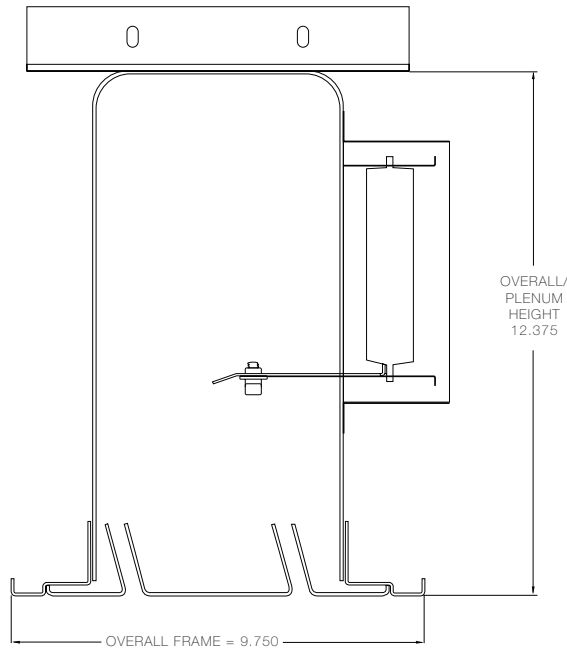
- + Optional, factory installed stainless steel dampers allow for simple adjustment and system balancing without removal of the diffuser face.

CLEANING & MAINTENANCE

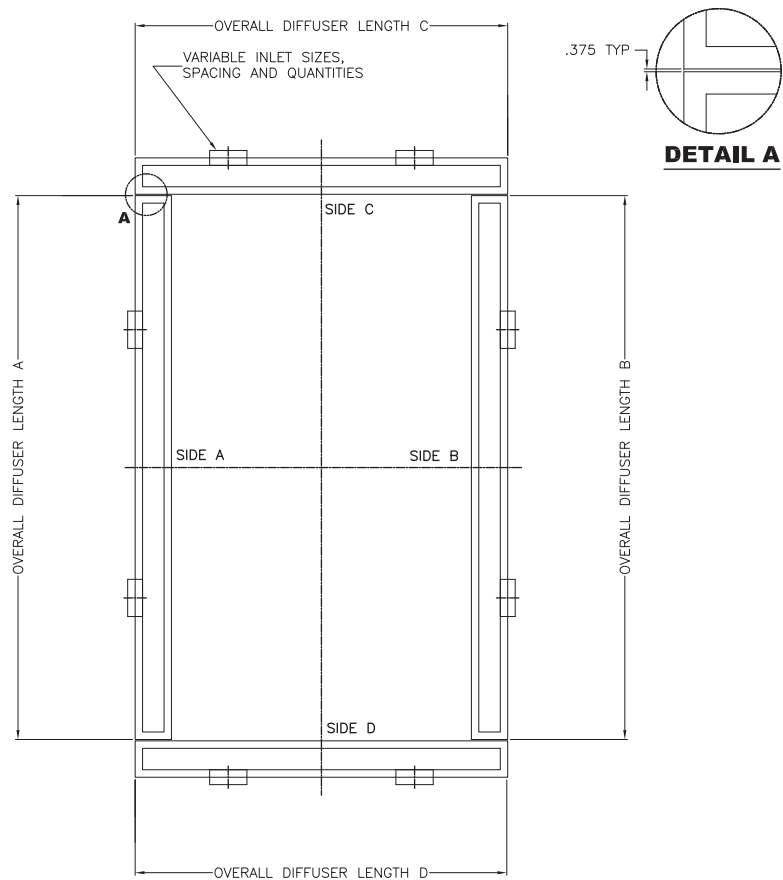
- + HORD units satisfy all ASHRAE 170 requirements for diffuser cleaning and maintenance.
- + Powder coat paint finish formulated for routine exposure to hospital grade cleaning solutions and disinfectants.
- + Stainless steel 1/4 turn fasteners and retainer cables provide straightforward and convenient access to the plenum for cleaning.
- + Superior cleanability is achieved with the optional welded plenum with polished internal seams.

DIMENSIONAL DATA

Cross Section



Example Modular System Layout



PERFORMANCE DATA

Nominal Length (ft.)	Airflow (cfm/ft.)	Total Airflow (cfm)	Static Pressure (in. w.g.)	Sound (NC)	Throw (ft.) 100 - 75 - 50 fpm
6	25	150	0.031	-	0-1-4
	30	180	0.045	-	1-1-5
	35	210	0.045	-	1-2-6
	40	240	0.059	17	1-2-6
	45	270	0.074	21	1-3-7
7	25	175	0.048	-	0-1-4
	30	210	0.070	-	1-2-6
	35	245	0.054	-	1-2-6
	40	280	0.070	19	1-3-7
	45	315	0.088	24	2-4-7
8	25	200	0.051	-	1-1-5
	30	240	0.074	-	1-2-6
	35	280	0.061	16	1-2-7
	40	320	0.080	21	1-3-7
	45	360	0.101	25	2-4-8
9	25	225	0.054	-	1-1-5
	30	270	0.078	-	1-2-7
	35	315	0.056	18	1-3-7
	40	360	0.073	23	2-3-8
	45	405	0.093	27	2-4-8
10	25	250	0.049	-	1-1-6
	30	300	0.071	-	1-2-7
	35	350	0.065	18	1-3-7
	40	400	0.084	23	2-4-8
	45	450	0.107	28	2-5-8
11	25	275	0.052	-	1-2-6
	30	330	0.075	-	1-2-7
	35	385	0.071	20	1-3-8
	40	440	0.092	25	2-4-8
	45	495	0.117	29	2-5-9
12	25	300	0.066	-	1-2-7
	30	360	0.095	15	1-2-8
	35	420	0.066	21	1-3-8
	40	480	0.086	26	2-4-9
	45	540	0.109	31	2-5-9
14	25	350	0.069	-	1-2-7
	30	420	0.099	18	1-3-8
	35	490	0.076	23	2-4-9
	40	560	0.099	28	2-5-10
	45	630	0.126	33	3-6-10

Performance Notes

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cubic feet per minute per foot, cfm/ft.
3. All pressures are in inches of water, in. w.g.
4. Throw values are given in feet to terminal velocities of 150-100-50 fpm based on 10°F cooling.
5. Blanks "-" indicate an NC level below 15.



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