Spring Air
Engineering Energy Savings

KES ENVIRO ODOUR CONTROL

Commercial Kitchen Exhaust

OP **Odour reducing Pellets module**

SP **Odour reducing Spray module**

General Description
The **OP** and **SP** odor-reducing module are used in conjunction with a **KES-ISH** filter box and **KESF** fan unit. The KES units are installed to clean the commercial kitchen exhaust air of airborne grease, lint and particulate. The ULC listing allows the use of non-welded exhaust ductwork downstream of the KES-ISH exhaust discharge. In addition, the exhaust may be discharged at low levels. When the odour from the exhaust discharge can be a nuance, **SP** or **OP** modules are required.

Operation
The grease-laden air rises from the cooking equipment into the NFPA-96 commercial kitchen exhaust hood. The exhaust hood will remove some of the airborne grease, lint and dirt particulate. The exhaust air is then ducted directly to the inlet of the KES-ISH.

Within the KES-ISH the exhaust air travels through three stages of particulate filters and the exhaust air is cleaned of airborne grease, lint and dirt particulate. Once through the KES-ISH the exhaust air enters KESF.

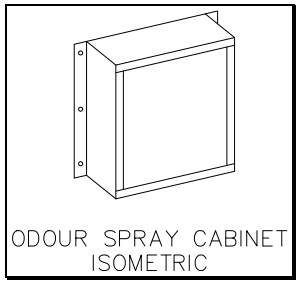
The KESF is a separate package containing the exhaust fan, motor, belts, drives, motor starter, disconnect and the optional odour removal section. After leaving the *KES Enviro Fan Unit* the air is either discharged to atmosphere or recirculated to the commercial kitchen. Recirculation is achieved with a KRS Recirculation Unit. See the KRS Engineering Manual.

The OP module is normally located between the KES-ISH and KESF fan unit. The SP module can be incorporated into the KESF fan unit or installed in the ductwork as a remote unit.

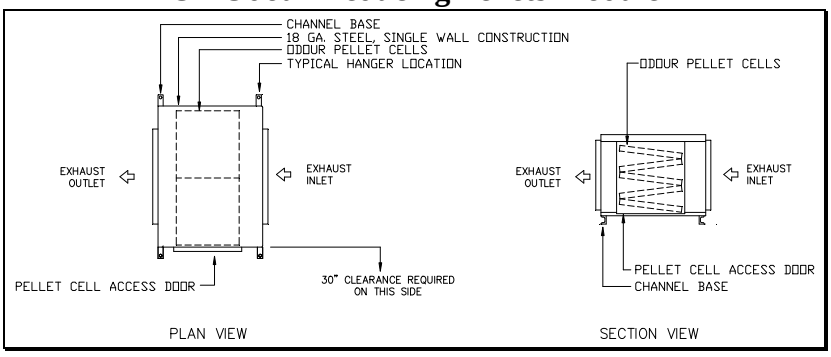
ODOR REDUCTION: Odor reduction is required if the exhaust discharge is to be located in an area where the smell could be a nuisance. The choice of Pellets or Spray is a personal preference. The Pellets are generally changed once a year while the Spray bottle is changed every one to two months.

OP-PELLETS:
The section consists of metal cells filled with activated alumna pellets impregnated with potassium permanganate. The odour is controlled through a combination of sorption and a chemical modification of the gaseous contaminates. The odour media is non-toxic and non-flammable. **OP-Pellets** are contained in 24" x 24" x 2" and 12" x 24" x 2" perforated cells located in a separate odour reduction section normally located between the KES-ISH filter box and the KESF fan box. There are no moving parts and the odour reduction is continuous. All of the exhaust air is drawn over the pellets whenever the fan is operating. The cells are removed through a side access door on the odour section. The cells split in two to remove the used pellets and add new pellets.

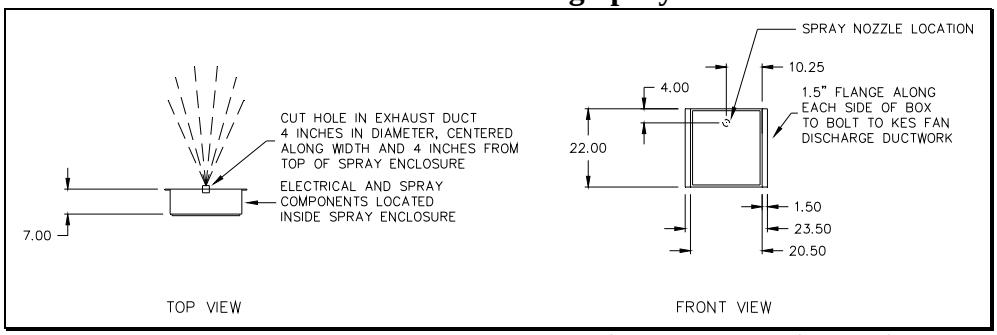
OP-SPRAY: The section consists of an atomizing air nozzle, air compressor, a container of *Spring Fresh* deodorizer and associated piping. The *Spring Fresh* solution is sprayed for an adjustable cycle, for an adjustable spray time into the exhaust ductwork to reduce the commercial kitchen odors. The **SP-Spray** system requires 120V/1/60 power from the KESF fan motor starter. The spray unit is located in the KESF fan unit or in a separate remote package. When the spray unit is located on the KESF fan unit the wiring is completed by Spring Air. When the remote odour spray unit is used a 120V/1/60 supply is required from the KESF unit. The spray is cycled every 0 to 10 minutes for a preset spray time when the exhaust fan is operating. Both the cycle time and the spray time are adjustable from the remote RPD panel. The time settings relate to the type of cooking and appliances under the hood.


ODOUR SPRAY CABINET ISOMETRIC

OP Odour Reducing Pellets Module



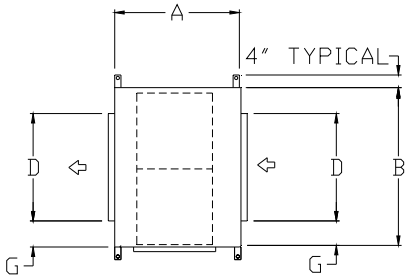
Remote OS Odour Reducing Spray Module*



* The OS remote module is installed in the ductwork between the KES-ISH and the KESF fan unit or downstream of the KESF fan unit. The OS module can be factory installed in any KESF fan unit with a DWDI fan. When the unit is factory installed see the KES Enviro Engineering manual for dimensions of the KESF.

OP Odour Reducing Pellets Module Dimensions

MODEL	CFM	A	B	C	D	E	F	G
10	1000	34	26.5	24.5	23	18	4.75	1.75
20	2000	34	26.5	32	23	25	5.	1.75
30	3000	34	38.5	32	34	25	5	2.25
40	4000	40	50.5	32	34	25	5	8.25
50	5000	40	5.05	44	34	25	5	8.25
50F	5000	48	62.5	32	34	25	5	14.25
60	6000	40	50.5	44	44	25	5	3.25
60F	6000	48	62.5	32	44	25	5	9.25
80	8000	44	50.5	58	44	36	7	3.25
100	10000	44	62.5	58	44	48	7	9.25
120	12000	48	74.5	58	44	48	7	15.25
140	14000	68	74.5	70	56	54	7	9.25
160	16000	68	74.5	70	56	54	7	9.25
180	18000	68	74.5	82	60	54	7	7.25
200	20000	68	98.5	70	60	54	7	19.25
240	24000	68	98.5	82	72	54	7	13.25
280	28000	82	98.5	94	72	60	7	13.25
320	32000	88	98.5	106	72	72	7	13.25
360	36000	88	98.5	110.5	72	72	7	19.25
400	40000	88	106	122.5	84	72	7	19.25



Spring Air Systems OP Odour Pellet Module Specification

The OP Odour Module shall include 2" perforated cells filled with activated alumina pellets impregnated with potassium permanganate. The module duct section casing shall be constructed of 18 GA steel with channel support base and include an access door for removal of the odour cells. The odour module shall provide odour removal continuously during exhaust fan operation. The odour module is controlled through a combination of sorption and the chemical modification of the gaseous contaminants. The odour media shall be non-flammable and non-toxic.

Spring Air Systems OS Odour Spray Module Specification

The OS Odour module Remote/Factory mounted on KESF, shall include an 18 GA painted steel enclosure, a reverse spray nozzle, an air compressor unit and associated piping, 1 gallon, 4 litres of *Spring Fresh* spray solution and a control panel. When the OS unit is remote from the KESF unit odor cabinet shall include a cycle timer, adjustable from 0-10 minutes, and a spray timer, adjustable from 0-60 seconds. A 120V/1/60 - 5 amps power supply is required when the OS module is shipped for remote installation.