

LABORATORY INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

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General Specifications

1. **A pre-approval application is required; review instructions on the standard and custom incentives pre-approval and final application form. Wait for pre-approval before starting your project.**
2. Adequate adjustments must be made to the supply air system to maintain proper laboratory air balance as a result of the reduction in exhaust CFM.
3. Existing system must be a 100% outside air system.
4. The laboratory containing the fume hood must have a fume hood density high enough that the hood airflow drives the airflow rate for the laboratory (typically 2% to 10% of the floor space).
5. The new or retrofitted system must meet all state and local codes, as well as applicable Environmental Health and Safety requirements.
6. **Note: Some combinations of system types and sash management behaviors may result in energy savings that are not large enough to qualify for an incentive.**

High Performance Low Flow Fume Hood

\$400 per linear foot of hood

Installation of new or retrofit high performance low flow fume hood capable of operating at 50-60 feet per minute (FPM) face velocity.

Specification:

High performance low flow fume hood must be installed on constant air volume (CAV), variable air volume (VAV) or two-state exhaust system.

(A) HOOD WIDTH (NOMINAL) IN FEET	EXHAUST SYSTEM TYPE	TYPICAL SASH OPENING (HEIGHT) WHEN IN USE (INCHES)	HOOD CLOSED WHEN NOT IN USE?	COOLING SYSTEM TYPE	(B) NUMBER OF HOODS	(A x B = C) TOTAL HOOD WIDTH	(D) \$400 INCENTIVE PER LINEAR FOOT OF HOOD	(C x D) INCENTIVE
example: 5	1C	24N	75	CW	10	50	\$400	\$20,000
INCENTIVE SUBTOTAL							\$	

Exhaust System Type

- 1C - Single speed constant volume
- 2C - Two speed constant volume
- VV - Variable volume

Typical Sash Opening (Height)

- 6N - 6 inches
- 12N - 12 inches
- 18N - 18 inches
- 24N - 24 inches
- 28N - ≥ 28 inches

Hood Closed When Not in Use?

- 90 - ≥ 80% almost always
- 75 - 50-79% often
- 50 - <50% sometimes

Cooling System Type

- CW - Chiller, water cooled
- DX - DX unit
- OT - Other

Customer Name:

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Variable Air Volume (VAV) Fume Hood

\$250 per linear foot of hood

Retrofit of constant air volume (CAV) bypass fume hood with a variable air volume (VAV) fume hood.

Specifications:

1. Retrofitted fume hood must be able to vary the volume flow rate through the hood based on sash opening.
2. Controls should include audible and visual alarms that are triggered when either:
 - The sash is open more than 25% and no occupancy at the hood has been detected for 15 minutes, or
 - The sash is open at any position and the adequate air volume flow rate (FPM) is not being maintained at the sash opening.
3. Existing fume hood cannot have any variable air volume controls.

(A) HOOD WIDTH (NOMINAL) IN FEET	TYPICAL SASH OPENING (HEIGHT) WHEN IN USE (INCHES)	HOOD CLOSED WHEN NOT IN USE?	COOLING SYSTEM TYPE	(B) NUMBER OF HOODS	(A x B = C) TOTAL HOOD WIDTH	(D) \$250 INCENTIVE PER LINEAR FOOT OF HOOD	(C x D) INCENTIVE
example: 5	24N	75	CW	10	50	\$250	\$12,500
INCENTIVE SUBTOTAL						\$	

Typical Sash Opening (Height)

6N - 6 inches
12N - 12 inches
18N - 18 inches
24N - 24 inches
28N - ≥ 28 inches

Hood Closed When Not in Use?

90 - ≥ 80% almost always
75 - 50-79% often
50 - <50% sometimes

Cooling System Type

CW - Chiller, water cooled
DX - DX unit
OT - Other

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Fume Hood Occupancy Control

\$100 per linear foot of hood

Installation of an occupancy-sensor-based two-position control on a fume hood with constant air volume (CAV), variable air volume (VAV) or two-state exhaust system.

Specifications:

- The new equipment must reduce the fume hood face velocity from 100 FPM when the hood is occupied to 75 FPM or less when the new hood is unoccupied.
- The fume hood occupancy control must be installed in a system where there was no fume hood occupancy control installed previously.

(A) HOOD WIDTH (NOMINAL) IN FEET	EXHAUST SYSTEM TYPE	TYPICAL SASH OPENING (HEIGHT) WHEN IN USE (INCHES)	HOOD CLOSED WHEN NOT IN USE?	COOLING SYSTEM TYPE	(B) NUMBER OF HOODS	(A x B = C) TOTAL HOOD WIDTH	(D) \$100 INCENTIVE PER LINEAR FOOT OF HOOD	(C x D) INCENTIVE	
example: 5	1C	24N	75	CW	10	50	\$100	\$5,000	
INCENTIVE SUBTOTAL							\$		

Exhaust System Type

1C - Single speed constant volume

2C - Two speed constant volume

VV - Variable volume

Typical Sash Opening (Height)

6N - 6 inches

12N - 12 inches

18N - 18 inches

24N - 24 inches

28N - ≥ 28 inches

Hood Closed When Not in Use?

90 - ≥ 80% almost always

75 - 50-79% often

50 - <50% sometimes

Cooling System Type

CW - Chiller, water cooled

DX - DX unit

OT - Other

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Automatic Fume Hood Sash Closer

\$150 per linear foot of hood

Installation of an automatic fume hood sash closer on a fume hood with a variable air volume (VAV) system.

Specifications:

The automatic fume hood sash closer must have all of the following features:

- A sensor to stop a closing sash before it hits any protrusion
- The option to open based on occupancy or manually
- A user-selected time delay before the sash closes

(A) HOOD WIDTH (NOMINAL) IN FEET	TYPICAL SASH OPENING (HEIGHT) WHEN IN USE (INCHES)	HOOD CLOSED WHEN NOT IN USE?	COOLING SYSTEM TYPE	(B) NUMBER OF HOODS	(A x B = C) TOTAL HOOD WIDTH	(D) \$150 INCENTIVE PER LINEAR FOOT OF HOOD	(C x D) INCENTIVE
example: 5	24N	75	CW	10	50	\$150	\$7,500
INCENTIVE SUBTOTAL						\$	

Typical Sash Opening (Height)

- 6N** - 6 inches
- 12N** - 12 inches
- 18N** - 18 inches
- 24N** - 24 inches
- 28N** - ≥ 28 inches

Hood Closed When Not in Use?

- 75** - 50-79% often
- 50** - <50% sometimes

Cooling System Type

- CW** - Chiller, water cooled
- DX** - DX unit
- OT** - Other

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Sash Stops

\$5 per linear foot of hood

Installation of new sash stops on a new or existing fume hood with a variable air volume (VAV) system.

Specifications:

Sash stops must be installed on a fume hood where there are no sash stops currently.

(A) HOOD WIDTH (NOMINAL) IN FEET	PROPOSED SASH STOP HEIGHT	HOOD CLOSED WHEN NOT IN USE?	COOLING SYSTEM TYPE	(B) NUMBER OF HOODS	(A x B = C) TOTAL HOOD WIDTH	(D) \$5 INCENTIVE PER LINEAR FOOT OF HOOD	(C x D) INCENTIVE
example: 5	12N	75	CW	10	50	\$5	\$250
INCENTIVE SUBTOTAL						\$	

Proposed Sash Stop Height

12N - 12 inches

18N - 18 inches

Hood Closed When Not in Use?

75 - 50-79% often

50 - <50% sometimes

Cooling System Type

CW - Chiller, water cooled

DX - DX unit

OT - Other

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Low Pressure Drop HEPA Filters

\$50 per 1,000 CFM

Installation of low pressure drop HEPA filters in a VAV air handler system with variable speed drive-equipped supply fans, in place of conventional HEPA filters with standard pressure drop rating.

Specifications:

1. The supply fan in the same air handling unit or rooftop unit as the HEPA filter must be controlled by a functional variable speed drive.
2. The air filtration system must comprise at least the following two stages to be eligible:
 - One stage of pre-filter with MERV 14 rating or above;
 - One stage of HEPA filter.
3. The MERV rating and initial pressure drop rating of the HEPA filter and the pre-filter products must comply with ASHRAE Standard 52.2-2007. Evidence of compliance with the standard must be provided with the final application.
4. The HEPA filter must remove at least 99.97% of the particles of 0.3 microns in diameter.
5. The initial pressure drop of the filter products rated at 500 FPM must meet both of the following criteria:
 - The initial pressure drop of the HEPA filter must be no more than 0.8 inches H2O
 - The total initial pressure drop of all the pre-filters and the HEPA filter must be no more than 1.55 inches H2O
6. The face velocity must be 380 FPM or more.

EXHAUST FAN HP (NOMINAL)	COOLING SYSTEM TYPE	(A) CFM	(B) \$50 INCENTIVE PER 1,000 CFM	(A x B) / 1000 INCENTIVE
example: 30	CW	15,000	\$50	\$750
INCENTIVE SUBTOTAL			\$	

Cooling System Type

CW - Chiller, water cooled

DX - DX unit

OT - Other

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Low Pressure Drop High Efficiency (Non-HEPA) Air Filters

\$15 per 1,000 CFM

Installation of low pressure drop high-efficiency air filters in a VAV air-handler system with variable speed drive-equipped supply fans, in place of conventional high efficiency filters with standard pressure drop rating.

Specifications:

1. The supply fan in the same air handling unit or rooftop unit as the high-efficiency filter must be controlled by a functional variable speed drive.
2. The air filtration system must comprise at least the following two stages to be eligible:
 - One stage of pre-filter with MERV 7 rating or above;
 - One stage of high efficiency filter with MERV rating of 14 or above
3. The MERV rating and initial pressure drop rating of the high efficiency filter and the pre-filter products must comply with ASHRAE Standard 52.2-2007. Evidence of compliance with the standard must be provided with the final application.
4. The initial pressure drop of the filter products rated at 500 FPM must meet both of the following criteria:
 - The initial pressure drop of the high efficiency filter must be no more than 0.48 inches H₂O;
 - The total initial pressure drop of all the pre-filters and the high efficiency filter must be no more than 0.78 inches H₂O
5. The face velocity must be 380 FPM or more.

EXHAUST FAN HP (NOMINAL)	COOLING SYSTEM TYPE	(A) CFM	(B) \$15 INCENTIVE PER 1,000 CFM	(A x B) / 1000 INCENTIVE
example: 30	CW	15,000	\$15	\$225
INCENTIVE SUBTOTAL			\$	

Cooling System Type

CW - Chiller, water cooled

DX - DX unit

OT - Other

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Reduce/Optimize Air Changes per Hour (ACH) in Laboratory Space

\$0.75 per CFM reduced

Reduction of ventilation rates in a laboratory space to lower air changes per hour (ACH) by a minimum of 10%.

If applying for any other supply reduction measure within the laboratory worksheet, this measure will not be applicable. The listed incentive is available for reducing air flow during both occupied and unoccupied times. Please include both to take full advantage of incentive.

Specifications:

1. The application must include a detailed scope of work describing proposed changes to the ventilation system and how those changes will reduce the ventilation rate. The scope also must reference the best practices that are applicable to the type and/or uses of the laboratory space.
2. Verification of the baseline and after-project ventilation rates for the laboratory space by an independent testing, adjusting and balancing (TAB) agent is required.
3. The TAB agent must be certified by either the Associated Air Balance Council (AABC) or National Environmental Balancing Bureau (NEBB).

VENTILATION SYSTEM ID	COOLING SYSTEM TYPE	OCCUPIED OR UNOCCUPIED?	(A) BASELINE SUPPLY VENTILATION CFM	(B) EXPECTED SUPPLY VENTILATION CFM	(C = A - B) BASELINE CFM - EXPECTED CFM	(D) \$0.75 INCENTIVE PER CFM REDUCED	(C x D) INCENTIVE
example: SF-1	CW	OC	40,000	24,000	16,000	\$0.75	\$12,000
example: SF-1	CW	UN	40,000	20,000	20,000	\$0.75	\$15,000
INCENTIVE SUBTOTAL						\$	

Cooling System Type

- CW** - Chiller, water cooled
- DX** - DX unit
- OT** - Other

Occupied or Unoccupied?

- OC** - Baseline and expected CFM are for times when the lab is occupied and in use.
- UN** - Baseline and expected CFM are for times when the lab is not occupied.

GRAND TOTAL INCENTIVE REQUESTED

Incentive cannot exceed 100 percent of the incremental measure cost and 75 percent of the total project cost and must meet all program terms and conditions.

Terms and conditions apply
Actual savings will vary by customer's energy usage and rate.
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