Fume Hood Sound Level Reports

4′ Concept – 54 through 62 Series

Sound level recordings were conducted on a Concept 4′ – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 485 and the room was supplied with 320. The hood static pressure loss as measured in a 10″ duct was .09″ w.g.

First Condition:

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition:

Decibel:	54	59	55	52	48	51	49	48	50	56	52	54	57

4′ Pioneer – 61 Series

Sound level recordings were conducted on a Pioneer 4′ – 61 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 485 and the room 320. The hood static pressure loss as measured in an 8″ duct was .12″ w.g.

The third condition is similar to the second with the exception for the laminar airflow control (directed air flow barrier/supply) on and functional, supplying 55 cfm. The data collected under the third condition does not take in account the audible alarm.

First Condition:

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition:

Decibel:	54	59	55	52	48	51	49	48	50	56	52	53	55

Third Condition

Decibel:	54	61	57	55	55	54	53	54	52	58	54	56	59

5′ Concept – 54 through 62 series

Sound level recordings were conducted on a Concept 5′ – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 540 and the room 410. The hood static pressure loss as measured in a 10″ duct was .10″ w.g.

First Condition:

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition:

Decibel:	53	59	55	52	51	51	50	50	51	60	53	56	59

5′ Pioneer – 61 series

Sound level recordings were conducted on a Pioneer 5′ – 61 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 635 and the room 450. The hood static pressure loss as measured in a 10″ duct was .10″ w.g.

The third condition is similar to the second with the exception for the laminar airflow control (directed air flow barrier/supply) on and functional, supplying 85 cfm. The data collected under the third condition does not take in account the audible alarm.

First Condition:

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	55	42	41	49

Second Condition:

Decibel:	53	59	55	52	51	51	50	50	51	57	53	54	54

Third Condition:

Decibel:	54	60	57	56	55	54	53	53	52	59	56	56	57

6′ Concept – 54 through 62 series

Sound level recordings were conducted on a Concept 6′ – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 650 and the room 460. The hood static pressure loss as measured in a 12″ duct was .11″ w.g.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition

Decibel:	53	59	55	52	51	51	50	50	51	63	53	57	62

6′ Pioneer – 61 series

Sound level recordings were conducted on a Pioneer 6′ – 61 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The hood exhaust measured 785 and the room 570. The hood static pressure loss as measured in a 12″ duct was .11″ w.g.

The third condition is similar to the second with the exception for the laminar airflow control (directed air flow barrier/supply) is on and functional, supplying 135 cfm. The data collected under the third condition does not take into account the audible alarm.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	55	42	41	49

Second Condition

Decibel:	53	59	55	56	51	51	50	50	50	58	53	54	55

Third Condition

Decibel:	54	60	56	55	55	52	53	52	52	60	55	55	56

7′ Concept – 54 through 62 series

Sound level recordings were conducted on a Concept 7′ – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The hood exhaust measured 935 and the room 780. The hood static pressure loss as measured in a 12″ duct was .15″ w.g.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition

Decibel:	53	59	55	56	51	51	50	50	51	60	53	60	63

7′ Pioneer – 61-series fume hood

Sound level recordings were conducted on a Pioneer 7′ – 61-series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The hood exhaust measured 940 and the room 770. The hood static pressure loss as measured in a 12″ duct was .17″ w.g.

The third condition is similar to the second with the exception for the laminar airflow control (directed air flow barrier/supply) is on and functional, supplying 160 cfm. The data collected under the third condition does not take in account the audible alarm.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition

Decibel:	53	59	55	56	51	51	50	50	51	57	53	54	55

Third Condition

Decibel:	55	62	60	61	58	55	57	56	54	61	60	55	57

8′ Concept – 54 through 62 Series

Sound level recordings were conducted on a Concept 8′ – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20-uPa. The meter was calibrated prior to starting the testing using a 100-db/1K-octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The hood exhaust measured 1085 and the room 920. The hood static pressure loss as measured in a 14″ duct was .10″ w.g.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition

Decibel:	53	59	55	56	51	51	50	50	51	61	54	61	63

8′ Pioneer – 61 series fume hood

Sound level recordings were conducted on a Pioneer 8′ – 61 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The hood exhaust measured 1080 and the room 930. The hood static pressure loss as measured in a 14″ duct was .13″ w.g.

The third condition is similar to the second with the exception for the laminar airflow control (directed air flow barrier/supply) is on and functional, supplying 160 cfm. The data collected under the third condition does not take in account the audible alarm.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	55	42	41	49

Second Condition

Decibel:	53	59	55	56	51	51	50	50	51	59	54	57	59

Third Condition

Decibel:	55	60	59	59	55	55	57	56	54	66	65	66	67

3′ SafeAire II – 54 through 62 series

Sound level recordings were conducted on a 3′ SafeAire II – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 520 and the room was supplied with 400. The hood static pressure loss as measured in a 8″ duct was .22″w.g.

First Condition:

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition:

Decibel:	59	64	60	54	56	55	49	48	50	62	51	53	57

4′ SafeAire II – 54 through 62 series

Sound level recordings were conducted on a 4′ SafeAire II – 54 through 62 series fume hood. The test was conducted in the fume hood test lab, cell #2, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

CEL Instrument Model 266 Sound Level meter, Serial No 3/1074708C
CEL Instruments Model CEL-284/2 Acoustical Calibrator, Serial No 2/09718094

All readings were recorded 36 inches from the front of the hood and 5-feet from the floor. The sash was placed in the open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100 db/1K octave band calibrated source.

The first condition recorded was with the exhaust and room supply systems off for initial background noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell,)

The second condition was recorded with the room supply and hood exhaust running at the following volumes. The recorded hood exhaust measured 760 cfm and the room was supplied with 610. The hood static pressure loss as measured in a 10″ duct was .18″ w.g.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	53	53	54	55	43	50	46	39	31	59	42	41	49

Second Condition

Decibel:	54	59	55	57	48	51	49	48	50	62	52	54	57

5′ SafeAire II – 54 through 62 series

Sound level recordings were conducted on a 5′ SafeAire II –54 through 62 series fume hood. The testing was performed in the fume hood test lab, at the Columbus Street plant in Two Rivers, Wisconsin.

Equipment used to record the sound levels:

Quest Electronic Model 215 Sound Level meter No 505024M
Quest Electronic Model OB-45 Octave Band Filter No 505024M

All readings were recorded 36-inches from the front of the hood and 5-feet from the floor. The sash was placed in the normal open position during the test procedure. Sound pressure levels in decibels re 20 uPa. The meter was calibrated prior to beginning the testing using a 100-db/1K-octave band calibrated source.

The first condition was recorded with the exhaust and supply systems off to determine initial back ground noise levels. (The baseline decibel levels are somewhat high due to factory noise from the area surrounding the test cell.)

The second condition was recorded with the exhaust connected to the hood and pulling 1000 cfm. The room supply was set at 725 cfm providing a negative .02″ w.g. room pressure.

First Condition

Frequency:	**31.5**	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**L**	**A**	**B**	**C**
Decibel:	52	52	53	54	43	50	46	39	31	58	42	41	49

Second Condition

Decibel:	61	64	59	55	58	56	51	44	36	61	55	56	58