

# AL ARABIA INDUSTRIES LLC

## TEST REPORT

### SCOPE OF WORK

This report gives the results of tests conducted on an AR-SLD20-3S.

The test results include Static Pressure, Area Factor, Throw and Sound Power Level.

The sample was selected and supplied by the client and was received at the laboratories on: February 19, 2026

The sample appeared to be in new unused condition upon receipt.

### MODEL NUMBER

AR-SLD20-3S SUPPLY LINEAR SLOT DIFFUSER

### PROJECT NUMBER

G106483741

### REPORT NUMBER

106483741CRT-003

### ISSUE DATE

March 23, 2026

### REVISED DATE

None

### TEST DATE:

March 18, 2026

### DOCUMENT CONTROL NUMBER

DIFF.PKT.2022

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**REPORT NUMBER**  
106483741CRT-003

**ISSUE DATE**  
March 23, 2026

**MODEL NUMBER(s)**  
AR-SLD20-3S SUPPLY LINEAR SLOT DIFFUSER

**REPORT RENDERED TO:**  
AL ARABIA INDUSTRIES LLC  
ICAD3 MUSSAFFAH  
ABU DHABI - UAE.

**AUTHORIZATION**

The testing performed was authorized by signed quote number SWA.

**TEST STANDARDS**

ASHRAE 70-2023 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets".

In Charge of Testing:



Gerald Gray  
Associate Engineer  
Acoustical Testing

Reviewer:



Brian Cyr  
Engineer  
Acoustical Testing

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**SAMPLE INFORMATION**

**REPORT NO. 106483741CRT-003**

**DATE: March 23, 2026**

**ITEMS RECEIVED**

Item No.	Control No.	Model No.	Description	Received
1	CRT2602191421-002	AR-SLD20-3S	SUPPLY LINEAR SLOT DIFFUSER	February 19, 2026

**DESCRIPTION OF TEST SPECIMEN**

The sample consisted of a model AR-SLD20-3S SUPPLY LINEAR SLOT DIFFUSER. The sample measured 40.25 x 6.875 inches at the face. The sample measured 39 x 4.5 inches at the inlet.

**SAMPLE PHOTOS**



**TEST METHODS**

The sample was tested in accordance with the ASHRAE 70-2023 Standard "Method of Testing the Performance of Air Outlets and Inlets". Acoustical data was obtained employing a Bruel & Kjaer Pulse Digital Frequency Analyzer. The reference sound source used for this test was a calibrated Bruel & Kjaer Type 4204, which conforms to the above standard. The octave band sound power levels were plotted on graph of Noise Criteria Curves. These curves are reprinted with permission from the ASHRAE Handbook and Product Directory, 2017. The sample was installed in the facility and supplied with measured volumes of air. The static pressure was measured upstream of the sample. The testing was done with isothermal air.

**EQUIPMENT LIST**

**REPORT NO. 106483741CRT-003**

#	Equipment	Model No	Control No.	Last Cal	Cal Due
2	Pulse Analyzer	3110	E553	5/5/2025	5/5/2026
3	Microphone/Pre - DF	4942	E550	5/5/2025	5/5/2026
4	Reference Sound Source	4204	A230	11/20/2024	11/20/2027
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

**Temperature:**

Dry Bulb            72.2 °F  
Wet Bulb            60.3 °F

**Barometric Pressure:**    28.43 inHg

ASHRAE 70 - 2023 Edition

**AREA FACTOR A<sub>k</sub> - FOR AIR OUTLETS**

Free Area, ft<sup>2</sup>:            0.70  
Neck Area, ft<sup>2</sup>:            1.22  
Face Area, ft<sup>2</sup>:            1.92

**RESULTS OF TESTS**

**REPORT NO. 106483741CRT-003**

**DATE: March 23, 2026**

**SOUND POWER LEVEL**

**1/3 Octave Band Center  
Frequency Hertz**

**SUPPLY LINEAR SLOT DIFFUSER AR-SLD20-3S  
Sound Power Level dB re 10-12 Watt**

125	43.2*	42.3*	42.8	45.1	47.6	50.3
250	36.9	43.6	46.7	48.4	52.0	54.2
500	32.3*	38.0	41.9	43.6	48.1	51.2
1000	30.6*	34.1	38.6	41.3	46.7	50.5
2000	23*	26.8	33.5	36.4	43.6	48.4
4000	23.1*	23*	25.9*	29.3	38.4	44.6
8000	27*	27.2*	27.1*	27.1*	27.1*	30.2*
Supply Air Volume, CFM	125	175	200	225	275	325
Inlet Static Pressure, in. H2O	0.04	0.07	0.09	0.11	0.17	0.22
**Noise Criteria (NC)	16	22	27	30	35	39

\* Sound Power Level data has reached ambient levels in the test room or is determined by instrument limitations. Actual levels are less than or equal to the levels indicated.

\*\* Noise Criteria ratings were determined by subtracting a room absorption of 10dB from the Sound Power Level data.

**RESULTS OF TESTS**  
**THROW**

**REPORT NO. 106483741CRT-003**  
**DATE: March 23, 2026**

Maximum Horizontal Inlet Static Pressure 0.01 " H2O Air Volume 60 CFM

Distance From Ceiling	Distance From Diffuser (Ft)																		
	0'	1'	2'	4'	6'	8'	10'	12'											
1"	141	202	171	121	97	67	51	27											
6"	38	52	74	112	94	57	47	25											
9"	27	25	54	87	83	58	45	30											
12"	19	16	28	61	63	52	44	29											
18"	--	--	16	23	23	36	34	27											
24"	16	--	--	--	--	--	17	21											
30"	22	--	--	--	--	--	--	17											

Maximum Horizontal Inlet Static Pressure 0.04 " H2O Air Volume 130 CFM

Distance From Ceiling	Distance From Diffuser (Ft)																		
	0'	1'	2'	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'						
1"	46	200	240	232	195	166	149	121	111	100	83	73	59						
6"	34	50	82	172	183	173	141	125	108	99	83	72	51						
9"	43	40	49	132	144	141	115	107	97	90	75	72	47						
12"	41	27	27	61	101	121	97	91	91	84	66	66	36						
18"	30	20	18	17	37	66	60	57	75	63	52	54	27						
24"	--	16	17	--	15	28	29	34	51	39	35	25	18						
30"	--	15	--	--	--	--	17	20	40	22	20	16	16						

Maximum Horizontal Inlet Static Pressure 0.09 " H2O Air Volume 200 CFM

Distance From Ceiling	Distance From Diffuser (Ft)																		
	0'	1'	2'	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'						
1"	210	316	370	252	229	181	214	196	163	138	114	100	96						
6"	49	68	111	149	189	182	211	201	173	155	121	110	102						
9"	55	38	40	111	136	179	182	178	149	140	105	103	97						
12"	57	30	25	91	111	163	163	157	129	132	99	93	91						
18"	47	29	21	56	69	123	136	122	109	119	79	81	68						
24"	24	29	19	26	35	62	87	83	72	82	54	52	51						
30"	--	30	30	21	30	32	56	37	44	50	35	25	34						

NOTE: All throw values are in feet per minute.  
The testing was done with isothermal air.