

LIGHT TROFFER DIFFUSERS

- SINGLE OR DOUBLE SIDE
- SUPPLY AND RETURN

Models:

Supply:

5410 Single Side

5420 Double Side

Return:

5410R Single Side



Models 5410 and 5420

The **Series 5400 Light Troffer Diffusers** have been designed to provide an inconspicuous appearance with high engineering performance.

The **Series 5400 Diffusers** attach easily to standard air handling fluorescent light troffers. Custom fabrication is available to suit individual light troffer designs. Lighting and air distribution are provided through a single ceiling opening. The air opening is an unobtrusive slot at the side of the light troffer.

FEATURES:

- Diffusers are available in single or double side configurations.
- Standard design is for use with flush slot type (non-regressed) light troffers and fits most models.
- Custom fabrication is available to suit individual light troffer designs.
- Available to suit light troffer lengths of 24", 36", 48" and 60" (600, 900, 1200 and 1500) for both imperial and metric ceiling grids.
- Adjustable piano-type hinge pattern controllers.
- Top inlet or low profile side inlet models.
- Inlet collars are sized for nominal duct connection.
- Return models are available.
- Available with adjustable telescopic cross-over for field sizing to suit light troffer (low profile models only).
- Units are shipped knocked down for field assembly.

Options:

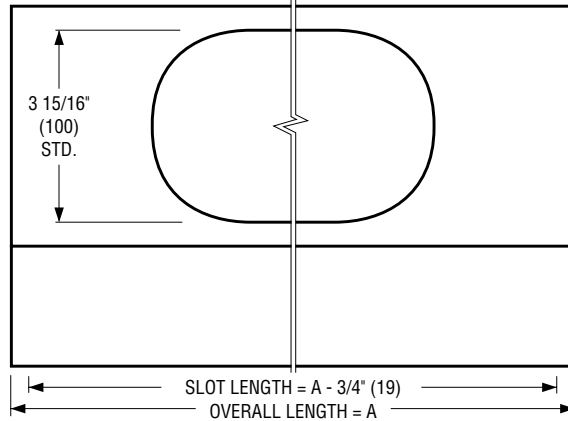
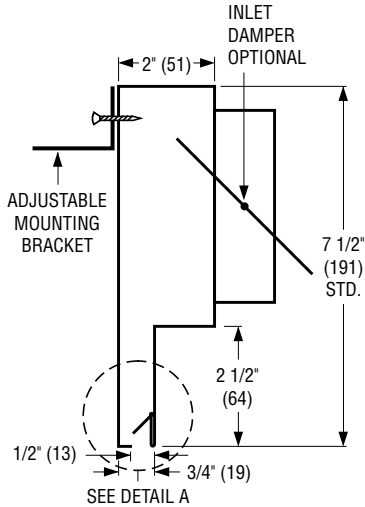
- RS Regressed slot option (pattern controller and horizontal lip are reversed).
- IN Internal insulation.
- EX External foil back insulation.
- HC High clearance option on double side units.
- TE Telescopic adjustable cross-over.
- ID Inlet damper (side inlets only).

Material: Corrosion-resistant steel.

Finish: BK Black on exposed surfaces.

Dimensional Data

Model 5410 • Supply • Single Side



PLENUM SLOT AND LIGHT TROFFER DIFFUSERS

INLET SELECTION:

Side Inlet

S4 4" (102) Round

S5 5" (127) Oval

S6 6" (152) Oval

STANDARD DIMENSIONAL DATA:

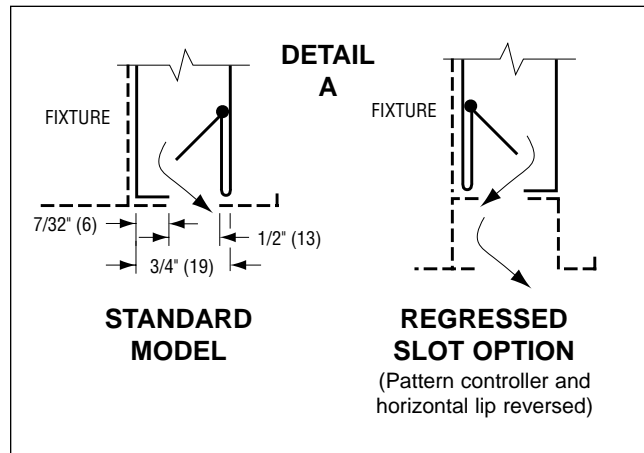
TROFFER SIZE (CEILING MODULE)			
IMPERIAL MODULES (INCHES)		METRIC MODULES (MM)	
FIXTURE NOM. LENGTH	A	FIXTURE NOM. LENGTH	A
24	17 1/2	600	445
36	25 3/4	900	654
48	41 1/2	1200	1054
60	49 3/4	1500	1264

SPECIFY:

'A' dimension
(if non-standard) _____ .

NOTE:

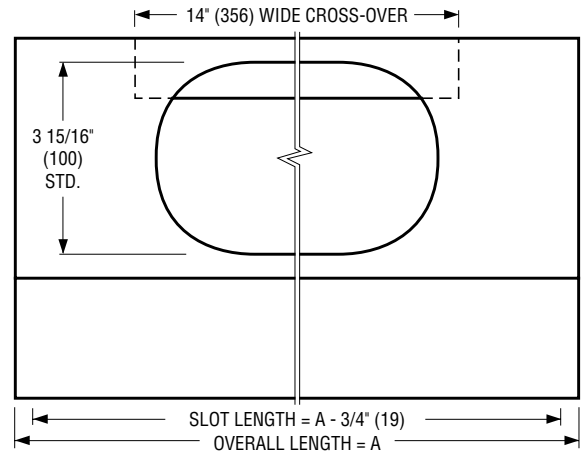
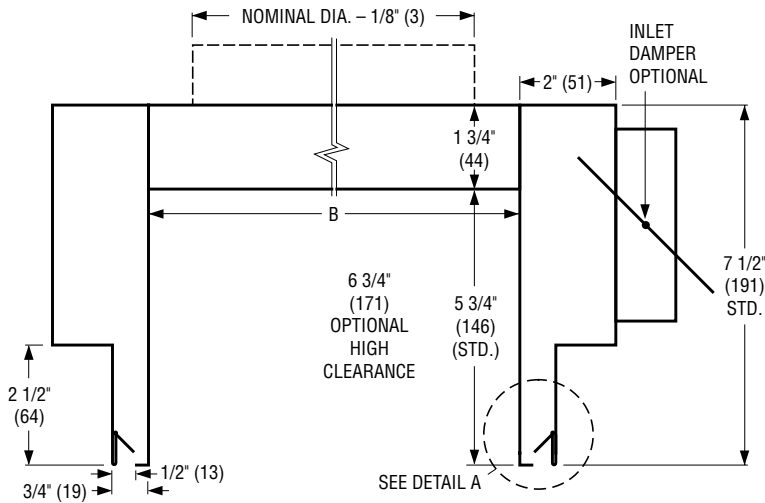
The light troffer manufacturer should provide an approved fully dimensioned drawing to ensure compatibility. In some cases, a sample light fixture will be required to be sent to the factory.



Dimensions are in inches (mm).

Dimensional Data

Model 5420 • Supply • Double Side

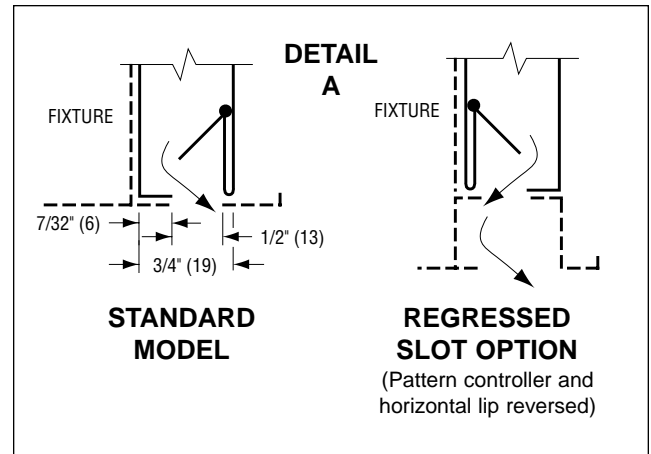


INLET SELECTION:

Side Inlet		Top Inlet	
S4	4" (102) Round	T4	4" (102) Round
S5	5" (127) Oval	T5	5" (127) Round
S6	6" (152) Oval	T6	6" (152) Round
S8	8" (203) Oval	T7	7" (178) Round
		T8	8" (203) Round

STANDARD DIMENSIONAL DATA:

TROFFER SIZE (CEILING MODULE)			
IMPERIAL MODULES (INCHES)		METRIC MODULES (MM)	
FIXTURE SIZE W x L	A	FIXTURE SIZE W x L	A
12 x 48	41 1/2	300 x 1200	1054
20 x 60	41 1/2	500 x 1500	1054
24 x 24	17 1/2	600 x 600	445
24 x 48	41 1/2	600 x 1200	1054
30 x 30	23 1/2	750 x 750	597
36 x 36	25 3/4	900 x 900	654



SPECIFY:

'B' dimension (always required unless TE Telescopic adjustable cross-over option specified) _____ .

'A' dimension (if non-standard) _____ .

NOTE:

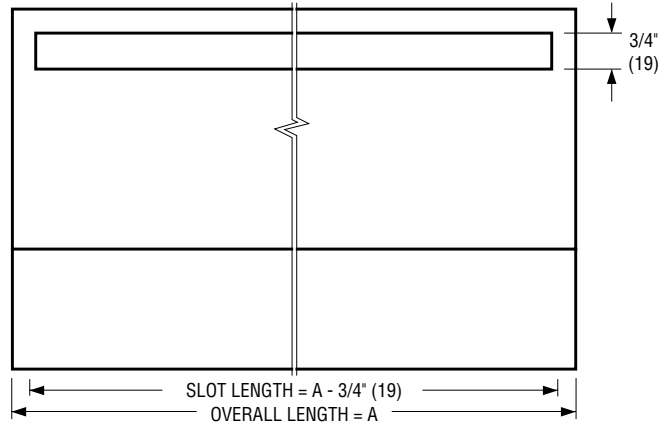
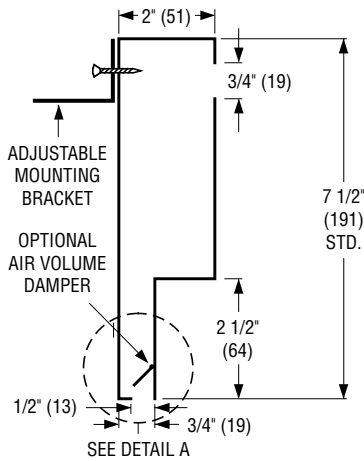
The light troffer manufacturer should provide an approved fully dimensioned drawing to ensure compatibility. In some cases, a sample light fixture will be required to be sent to the factory.



PLENUM SLOT AND LIGHT TROFFER DIFFUSERS

Dimensional Data

Model 5410R • Return • Single Side



PLENUM SLOT AND LIGHT TROFFER DIFFUSERS

STANDARD DIMENSIONAL DATA:

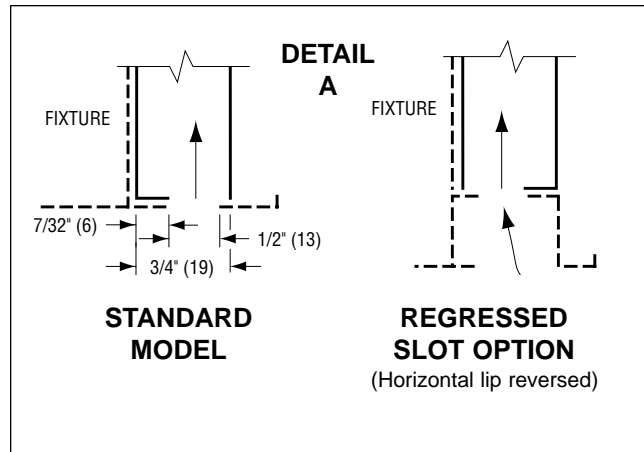
TROFFER SIZE (CEILING MODULE)			
IMPERIAL MODULES (INCHES)		METRIC MODULES (MM)	
FIXTURE SIZE W	A	FIXTURE SIZE W	A
24	17 1/2	600	445
36	25 3/4	900	654
48	41 1/2	1200	1054
60	49 3/4	1500	1264

SPECIFY:

'A' dimension
(if non-standard) _____ .

NOTE:

The light troffer manufacturer should provide an approved fully dimensioned drawing to ensure compatibility. In some cases, a sample light fixture will be required to be sent to the factory.



Dimensions are in inches (mm).

HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Light Troffer Diffusers – Model Series 5400

5420 - S6 - 24 x 48 - TE

MODEL

- Supply	Single Side	5410
	Double Side	5420
- Return	Single Side	5410R

INLET TYPE/SIZE (Supply)

Side Inlet:

4" Oval	S4
5" Oval	S5
6" Oval	S6
8" Oval	S8

Top Inlet:

4" Round	T4
5" Round	T5
6" Round	T6
7" Round	T7
8" Round	T8

(Returns are non-ducted) —

OPTIONS AND ACCESSORIES

- Internal Insulation	IN
- External Insulation	EX
- High Clearance	HC
- Regressed Slot Light Fixture	RS
- Telescopic Cross-Over (double side/side inlet models only)	TE
- Inlet Damper (side inlet only)	ID

CEILING MODULE SIZE

Double Side

Imperial (inches):

12 x 48, 20 x 60, 24 x 24,
24 x 48, 30 x 30, 36 x 36

Metric (mm):

300 x 1200, 500 x 1500, 600 x 600,
600 x 1200, 750 x 750, 900 x 900

Single Side

Imperial (inches):

24, 36, 48, 60

Metric (mm):

600, 900, 1200, 1500

Notes:

1. If non-standard overall length is required 'A' dimension is to be specified.
2. For double side units, specify 'B' dimension unless TE Telescopic Cross-Over has been selected.
3. In all cases the light fixture manufacturer should supply an approved fully dimensioned drawing to ensure compatibility. In some cases (recommended), a sample light fixture will be required to be sent to the factory.
4. Double side (saddle) units are shipped knocked-down for field assembly.



PLENUM SLOT AND LIGHT TROFFER DIFFUSERS

SUGGESTED SPECIFICATION:

Single Side, Supply

Furnish and install **Nailor Model 5410 Light Troffer Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a side inlet. The slot opening shall incorporate a piano-type hinge pattern controller. The diffuser shall fit a flush slot type light troffer (RS regressed slot is optional). The pattern controller and all exposed surfaces shall have a BK Black finish.

The manufacturer shall provide published performance data for the light troffer supply diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

Double Side, Supply

Furnish and install **Nailor Model 5420 Double Side Light Troffer Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a top or side inlet as specified. The slot openings shall incorporate piano-type hinge pattern controllers. The diffuser shall fit a flush slot type light troffer (RS regressed slot is optional). The pattern controller and all exposed surfaces shall have a BK Black finish.

The manufacturer shall provide published performance data for the light troffer supply diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

Single Side Return

Furnish and install **Nailor Model 5410R Single Side Light Troffer Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and have a rectangular return opening. The diffuser shall fit a flush slot type light troffer (RS regressed slot is optional). All exposed surfaces shall have a BK Black finish.

The manufacturer shall provide published performance data for the light troffer return diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.



Performance Data

Model 5410

Single Side • 24" Long Light Troffer • 5" Oval Inlet

Airflow, CFM	30	40	50	60	70	80	90
TP	.04	.06	.10	.13	.17	.22	.36
SP	.03	.05	.09	.12	.15	.20	.33
NC	15	23	29	34	38	43	46
T	2-5	3-7	4-8	5-10	6-11	7-12	8-13

Single Side • 36" Long Light Troffer • 5" Oval Inlet

Airflow, CFM	40	50	60	70	80	90	100	110
TP	.05	.07	.11	.14	.18	.22	.26	.32
SP	.04	.06	.10	.12	.16	.19	.23	.28
NC	—	20	25	29	33	37	40	43
T	3-6	3-7	4-8	5-10	6-12	6-14	8-15	9-16

Single Side • 48" and 60" Long Light Troffer • 6" Oval Inlet

Airflow, CFM	40	50	60	70	80	90	100	110	120
TP	.03	.06	.08	.11	.13	.16	.22	.28	.30
SP	.03	.05	.07	.10	.12	.15	.20	.26	.28
NC	—	—	17	21	25	29	34	36	40
T	2-5	3-7	4-7	5-9	6-11	7-12	7-14	8-15	9-16

CFM - cubic feet per minute

TP - total pressure - inches w.g.

SP - static pressure - inches w.g.

T - throw in feet under isothermal conditions

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Performance data is based on typical samples of light troffers. Performance may vary with other makes and models of light troffers.
- Throws are given at 150 and 50 fpm terminal velocities, under isothermal conditions.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Length in feet	Ak Factor per foot	
	Single	Double
2	.057	.093
3	.089	.145
4	.120	.197



Performance Data

Model 5420

Double Side • 24" Long Light Troffer • 5" Round Inlet • Top Inlet

Airflow, CFM	60	70	80	100	120	140	160	180	200
TP	.07	.10	.12	.17	.25	.34	.37	.41	.45
SP	.06	.09	.10	.14	.20	.26	.28	.30	.31
NC	—	23	26	30	34	36	40	41	42
T	2-4	2-5	3-7	4-8	5-9	5-10	6-11	7-12	7-12

Double Side • 48" and 60" Long Light Troffer • 8" Round Inlet • Top Inlet

Airflow, CFM	60	80	100	120	140	160	180	200	220
TP	.03	.07	.08	.09	.13	.18	.23	.27	.35
SP	.03	.06	.07	.08	.12	.17	.21	.25	.32
NC	—	—	—	18	23	26	28	29	35
T	1-3	2-5	3-6	4-7	4-8	5-9	5-11	6-13	7-15

Double Side • 24" Long Light Troffer • 6" Oval Inlet • Side Inlet

Airflow, CFM	60	70	80	100	120	140	160	180	200
TP	.08	.11	.12	.17	.25	.32	.35	.37	.40
SP	.07	.10	.11	.15	.23	.29	.31	.32	.34
NC	22	25	27	33	35	37	42	43	45
T	2-4	2-5	3-7	4-8	5-9	5-10	6-11	7-12	7-12

Double Side • 48" and 60" Long Light Troffer • 6" Oval Inlet • Side Inlet

Airflow, CFM	60	80	100	120	140	160	180	200	220
TP	.04	.07	.09	.11	.16	.21	.28	.33	.41
SP	.03	.06	.08	.09	.14	.18	.24	.28	.352
NC	—	—	13	22	27	29	32	34	37
T	1-3	2-5	3-6	4-7	4-8	5-9	5-11	6-13	7-15

CFM - cubic feet per minute

TP - total pressure - inches w.g.

SP - static pressure - inches w.g.

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