DF-47-NARROW-LT

Hidden high induction linear diffuser for medium-long throw

Long throw diffusers

ISO 9001
ISO 14001
BUREAU VERITAS
Certification

INDEX

ISO 9001
ISO 14001
BUREAU VERITAS
Certification

General characteristics

DF-47-NARROW-LT

Description

Koolair hidden high induction linear diffuser for medium-long throw, model DF-47-NARROW-LT: length mm; air flow slot of mm.
Characterised by the lack of profile on show. Its narrow slot allows medium and long throw air distribution, providing comfort when supplying either hot or cold air, while having a very pleasing aesthetic appearance.
Designed for installation in both ceilings and walls.

DF-47-NARROW-LT wall installation

Use

These medium-long throw diffusers are perfect for installations which require a jet of air to be supplied over either long or medium distances at low sound levels.
They are especially suited to commercial premises, mezzanines, shops, homes, etc.
This diffuser can be used for both supply and return air. Installing supply and return diffusers alternately in one continuous line ensures a high level of aesthetics and functionality.

DF-47-NARROW-LT ceiling installation

Finishes

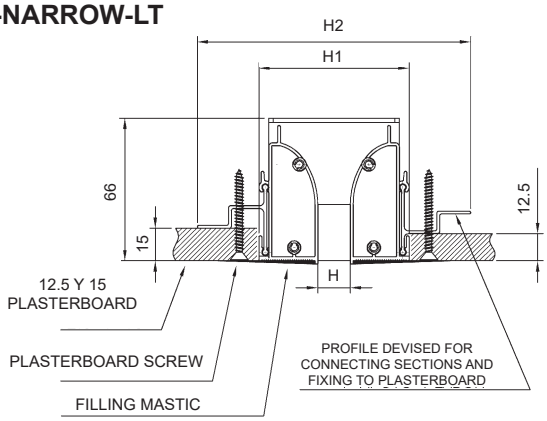
Manufactured entirely from extruded aluminium profiles.
It can be fitted with a manual blade regulation damper with opposed closing **(-O)**, directional vertical blades **(-G)** as a second deflection, sliding manual regulation damper **(-RFS06)**, plain decorative sheet metal **(-CL)** and perforated decorative sheet metal **(-PR)**. All these accessories are painted in RAL-9005 black to avoid the visibility of the interior.
It can also be fitted with a fixed top entry plenum box **(-PFS)** or side entry plenum box **(-PFL)**, available with insulation **(-A)** or without insulation.

If the plenum box is fitted, it can be fitted with a cord control damper **(-RC)** only for fixed top entry plenum box **(-PFS)** or a control damper accessible from the room **(-RL)** for fixed side entry plenum box **(-PFL)**, both overriding the control damper **(-O)** or **(-RFS06)**.

Standard painted finish in matt RAL-9005, on request painted finish in RAL to be defined.

Dimensions

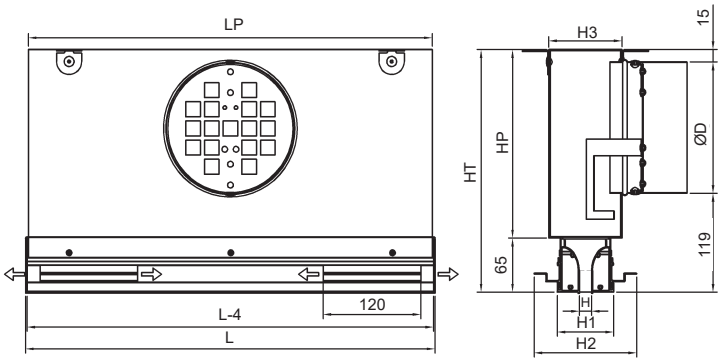
DF-47-NARROW-LT



H	H1	H2
15	69	126
20	74	131
30	84	141
40	94	151
50	104	161

H1 = NOMINAL HEIGHT (OPENING)

DF-47-NARROW-LT-PFL-RL

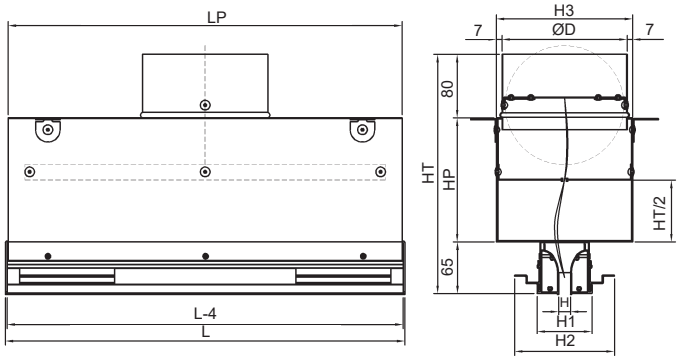


H	H1	H2	H3	ØD	HP	HT
15	69	126	90	Ø158	227	292
20	74	131	95	Ø198	267	332
30	84	141	105	Ø248	317	382
40	94	151	214	Ø313 (OVAL)	267	332
50	104	161				

L≤ 1000 (1 SPIGOT) L>1000 (2 SPIGOTS)

L = NOMINAL LENGHT (OPENING)
H1 = NOMINAL WIDTH (OPENING)
LP = PLENUM LENGHT
HP = PLENUM HEIGHT
HT = TOTAL HEIGHT
H2 = DIFFUSER WIDTH

DF-47-NARROW-LT-PFS-RC



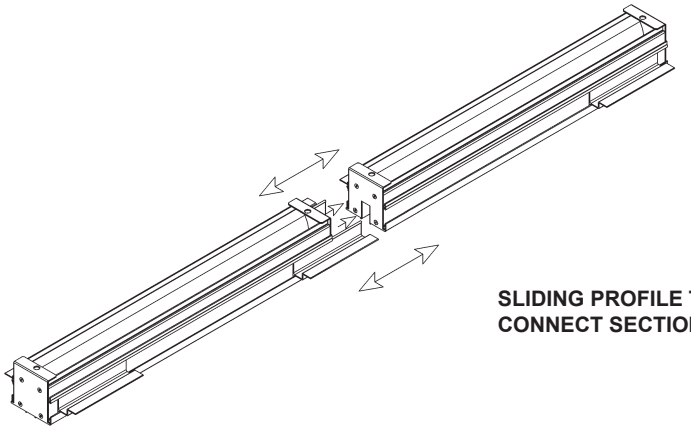
H	H1	H2	H3	ØD	HT	HP
15	69	126	172	Ø158	301	156
20	74	131	212	Ø198	321	176
30	84	141	262	Ø248	346	201
40	94	151	212	Ø313 (OVAL)	321	176
50	104	161				

L≤ 1000 (1 SPIGOT) L>1000 (2 SPIGOTS)

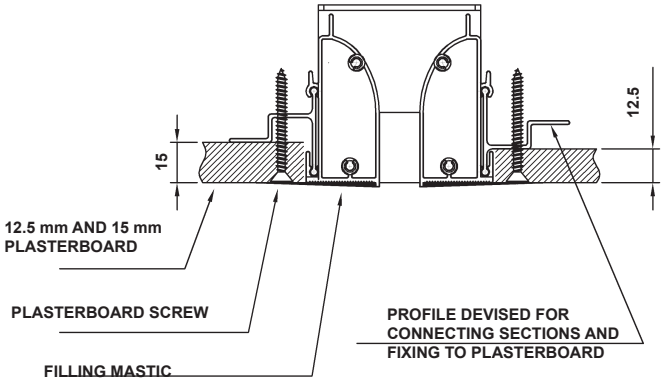
L = NOMINAL LENGHT (OPENING)
H1 = NOMINAL WIDTH (OPENING)
LP = PLENUM LENGHT
HP = PLENUM HEIGHT
HT = TOTAL HEIGHT
H2 = DIFFUSER WIDTH

Connection system, mounting and accessories

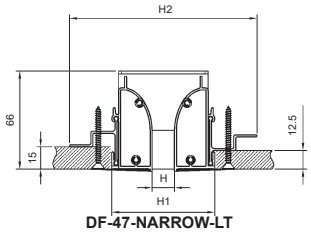
Connection system



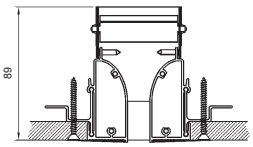
Mounting



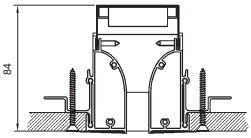
Accessories



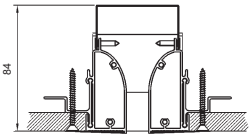
DF-47-NARROW-LT



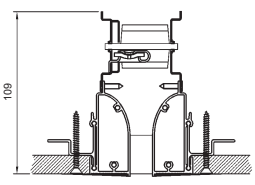
DF-47-NARROW-LT+G



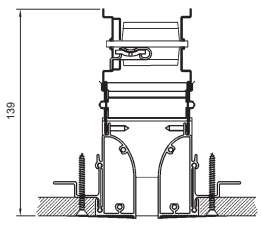
DF-47-NARROW-LT+RFS06



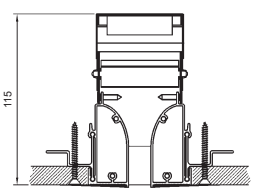
DF-47-NARROW-LT-CL
o
DF-47-NARROW-LT-PR



DF-47-NARROW-LT+O



DF-47-NARROW-LT+G+O



DF-47-NARROW-LT+G+RFS06

Selection table

HORIZONTAL IMPULSION (FROM WALL)																		
Q		**SIZE**	**15 - 1000**			**20 - 1000**			**30 - 1000**			**40 - 1000**			**50 - 1000**		
(m^3/h)	(l/s)	A_k (m^2)	0,011			0,014			0,028			0,037			0,047		
200	55,6	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	6,0	3,6	1,8												
		ΔP_{st} (Pa)		10													
		L_{wA} - dB(A)		18													
300	83,3	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	8,9	5,4	2,7	7,7	4,6	2,3									
		ΔP_{st} (Pa)		23			12										
		L_{wA} - dB(A)		25			18										
400	111,1	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	11,9	7,1	3,6	10,3	6,2	3,1	7,4	4,4	2,2						
		ΔP_{st} (Pa)		41			21			9							
		L_{wA} - dB(A)		30			24			19							
500	138,9	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	14,9	8,9	4,5	12,9	7,7	3,9	9,3	5,6	2,8	8,0	4,8	2,4			
		ΔP_{st} (Pa)		64			33			15			8				
		L_{wA} - dB(A)		34			29			25			20				
600	166,7	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	17,9	10,7	5,4	15,5	9,3	4,6	11,1	6,7	3,3	9,6	5,8	2,9	8,6	5,1	2,6
		ΔP_{st} (Pa)		91			48			21			12			8	
		L_{wA} - dB(A)		37			33			29			24			23	
700	194,4	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	20,8	12,5	6,2	18,1	10,8	5,4	13,0	7,8	3,9	11,2	6,7	3,4	10,0	6,0	3,0
		ΔP_{st} (Pa)		124			65			29			16			11	
		L_{wA} - dB(A)		40			37			33			28			26	
800	222,2	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)	23,8	14,3	7,1	20,7	12,4	6,2	14,8	8,9	4,4	12,8	7,7	3,8	11,4	6,9	3,4
		ΔP_{st} (Pa)		163			85			38			21			14	
		L_{wA} - dB(A)		42			40			36			31			29	
1000	277,8	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)				25,8	15,5	7,7	18,5	11,1	5,6	16,0	9,6	4,8	14,3	8,6	4,3
		ΔP_{st} (Pa)					133			59			33			22	
		L_{wA} - dB(A)					45			42			37			34	
1250	347,2	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)							23,2	13,9	7,0	20,0	12,0	6,0	17,9	10,7	5,4
		ΔP_{st} (Pa)								93			51			34	
		L_{wA} - dB(A)								48			42			38	
1500	416,7	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)										24,0	14,4	7,2	21,4	12,9	6,4
		ΔP_{st} (Pa)											74			49	
		L_{wA} - dB(A)											46			42	
1750	486,1	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)										28,0	16,8	8,4	25,0	15,0	7,5
		ΔP_{st} (Pa)											101			66	
		L_{wA} - dB(A)											50			45	
2000	555,6	$X_{0,3}$ $X_{0,5}$ $X_{1,0}$ (m)													28,6	17,2	8,6
		ΔP_{st} (Pa)														87	
		L_{wA} - dB(A)														48	

$X_{0.3}$, $X_{0.5}$ and $X_{1.0}$ Horizontal throw of air jet for a mean end velocity of 0.3, 0.5 and 1 m/s for isotherm air

ΔP_{st} Static pressure loss

L_{WA} Sound power level

Technical data listed in this table are for DF-47-NARROW without components.
For effective speeds (V_k) higher than 6 m/s, consider a noise increase of +4 dB (A) due to regulation behavior (without plenum), 100% open.

Selection table

VERTICAL IMPULSION (FROM ROOF)							
Q		SIZE	15 - 1000	20 - 1000	30 - 1000	40 - 1000	50 - 1000
(m^3/h)	(l/s)	A_k (m^2)	0,011	0,014	0,028	0,037	0,047
100	27,7	Y_{max}	2,0				
		ΔP_{st} (Pa)	3				
		L_{wA} - dB(A)	<20				
200	55,6	Y_{max}	3,9	3,2			
		ΔP_{st} (Pa)	10	5			
		L_{wA} - dB(A)	<20	<20			
300	83,3	Y_{max}	5,9	4,7	2,9		
		ΔP_{st} (Pa)	23	12	5		
		L_{wA} - dB(A)	25	<20	<20		
400	111,1	Y_{max}	7,8	6,3	3,8	3,1	
		ΔP_{st} (Pa)	41	21	9	5	
		L_{wA} - dB(A)	30	24	<20	<20	
500	138,9	Y_{max}	9,8	7,9	4,8	3,9	3,2
		ΔP_{st} (Pa)	64	33	15	8	5
		L_{wA} - dB(A)	34	29	25	20	<20
600	166,7	Y_{max}		9,5	5,8	4,6	3,9
		ΔP_{st} (Pa)		48	21	12	8
		L_{wA} - dB(A)		34	29	24	23
700	194,4	Y_{max}			6,7	5,4	4,6
		ΔP_{st} (Pa)			29	16	11
		L_{wA} - dB(A)			33	28	26
800	222,2	Y_{max}			7,7	6,2	5,2
		ΔP_{st} (Pa)			38	21	14
		L_{wA} - dB(A)			36	31	29
900	250,0	Y_{max}			8,7	6,9	5,9
		ΔP_{st} (Pa)			48	27	22
		L_{wA} - dB(A)			39	34	34
1000	277,7	Y_{max}				7,7	6,5
		ΔP_{st} (Pa)				33	22
		L_{wA} - dB(A)				37	34
1250	305,5	Y_{max}				9,6	8,1
		ΔP_{st} (Pa)				51	34
		L_{wA} - dB(A)				42	38
1500	333,3	Y_{max}					9,8
		ΔP_{st} (Pa)					49
		L_{wA} - dB(A)					42

Y_{max} Maximum vertical penetration of the air vein for an occupied area velocity of 0.25 m/s, a thermal jump of ΔT = +10 °C

ΔP_{st} Static Pressure Loss

L_{WA} Sound power level

Technical data listed in this table are for DF-47-NARROW without components.
For effective speeds (V_k) higher than 6 m/s, consider a noise increase of +4 dB (A) due to regulation behavior (without plenum), 100% open.

Codification

DF-47-NARROW-LT - 20 - 1000 - 12,5 - G - PFL- A - RL - 1000 - RAL 9005 matt - C5

1 2 3 4 5 6 7 8 9 10 11

1. Model:

DF-47-NARROW-LT

2. Air passage:

15 mm
20 mm
30 mm
40 mm
50 mm

3.Length:

- mm

4. Ceiling thickness:

12,5mm
15

5. Accessories:

- Without accessories
-O - Opposed blade damper control damper
-RFS06 - Slide control damper.
-G - 2nd deflection, individually movable vertical blades
-PR - perforated plate
-CL - Decorative plate

6. Plenum:

PFL - With fixed plenum lateral connection.
PFS - With fixed plenum superior connection.

7. Insulation:

- Uninsulated
A - Insulated

8. Plenum regulation:

- Without control damper
RE - With volume control damper at the inlet
RL - With volume control damper accessible from the room
RC - Rope control damper

9. Sections:

2000-part sections
1000-part sections

10. Treatment:

RAL-9005, RAL-9010 (standard)
RAL... - RAL as per note

11. Protection treatment:

C5 - Anti- corrosive finish
AB - Antibacterial treatment

*All item 5 accessories are painted black to avoid their visibility in the interior of the unit.

KOOLAIR, S.L.
Calle Urano, 26
Poligono industrial nº 2 – La Fuensanta
28936 Móstoles - Madrid - (España)
Tel: +34 91 645 00 33
e-mail: info@koolair.com

www.koolair.com