

# KOOLAIR

## series

# DF-47

# NARROW

Linear nozzles with a  
medium-to-long throw



[www.koolair.com](http://www.koolair.com)

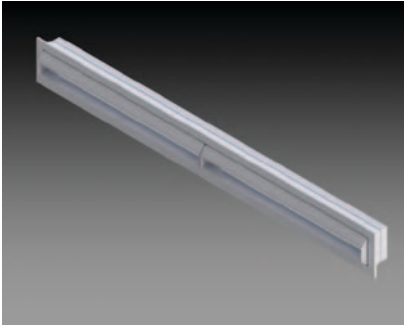


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## DF-47-NARROW high induction linear diffuser for medium-to-long throw



### Description

High induction linear diffuser for medium-to-long throw, DF-47-Narrow model, with length L mm and slot A mm for air flow.

Allows  $\pm 30^\circ$  vertical turn of core (linear nozzle), due to a narrow slot that makes it possible to cover medium and long throws, achieving comfort with both cooling and heating and providing an excellent aesthetics.

They are suitable for both ceiling and wall installation. Particularly appropriate for variable air volume, although the design allows excellent operation with constant air volume as well.

### Application

These medium-to-long throw diffusers are very appropriate in cases that require a long-distance air jet or a medium-distance air jet with low sound levels.

They are especially indicated for commercial facilities, mezzanines, shops, residences, etc.

This diffuser is suitable for both supply and return. High-quality aesthetics and performance are further enhanced by alternating the return diffusers with supply diffusers in the same continuous line.



### Finishes

Manufactured entirely of extruded aluminium sections.

The unit can include a directional (RFS06) volume control damper and plenum box (side or front) of galvanized steel sheet (internally insulated (-PFA) or uninsulated (-PF)).

There are two types of plenum box: fixed or detachable.

If a plenum box is included, a volume control damper can be included in the connection inlet, annulling the RFS06 damper.

In the DF-47-Narrow-IC and DF-47-Narrow-CC models, the frame or duct is constructed of galvanized steel and the diffuser is made of aluminium.

Standard finish in anodized or painted in RAL-9010 glossy white.

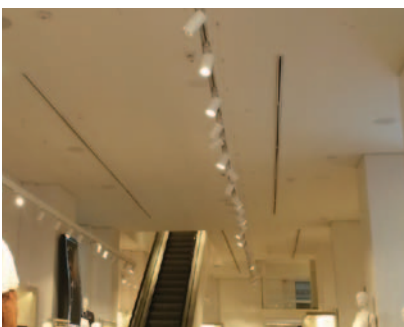
### Operating mechanisms and mounting

The mounting systems available for the diffuser element are shown in detail on page 5.

The diffuser is specified by the slot length and slot width. The -MT motor-driven mechanism moves the nozzle in the vertical direction (up and down) at an angle of approximately  $\pm 30^\circ$ .

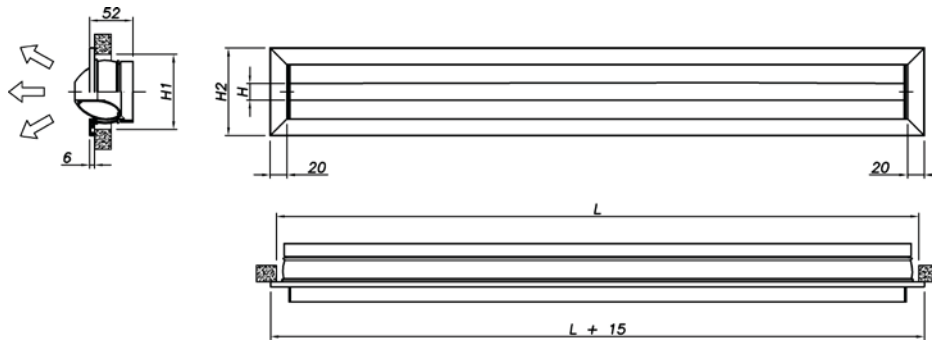
The required motorization is provided by one motor per diffuser, even in groups containing several units.

Thermal self-adjustment is also possible.



## Dimensions

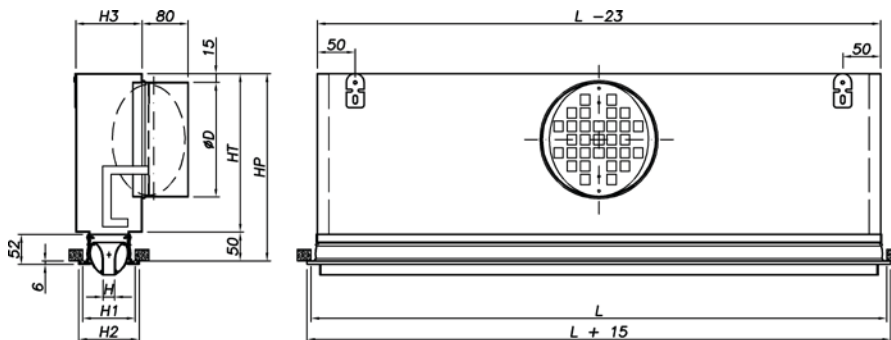
### DF-47-NARROW



H	H1	H2
15	85	100
20	90	105
30	100	115
40	110	125
50	120	135

L = NOMINAL LENGTH (OUTLET)  
H1 = NOMINAL HEIGHT (OUTLET)

### DF-47-NARROW FIXED PLENUM

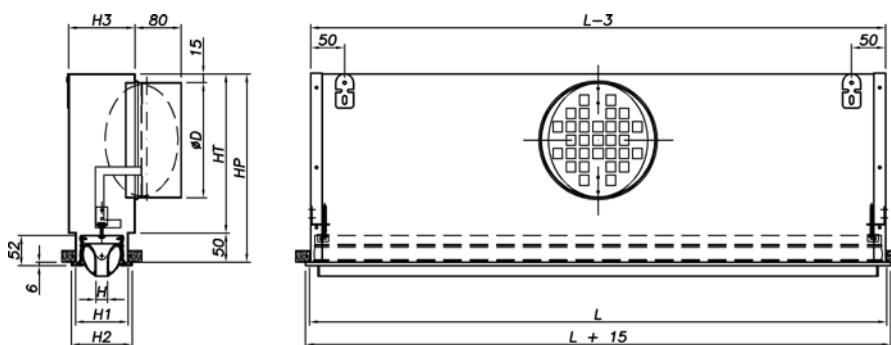


H	H1	H2	H3	ØD	HT	HP
15	85	100	110	Ø160	235	285
20	90	105	115	Ø200	275	325
30	100	115	120	Ø250	325	375
40	110	125	190	Ø315 (OVAL)	275	325
50	120	135				

L > 1001: 2 DISCHARGES

L = NOMINAL LENGTH (OUTLET)  
H1 = NOMINAL HEIGHT (OUTLET)

### DF-47-NARROW PLENUM DETACHABLE

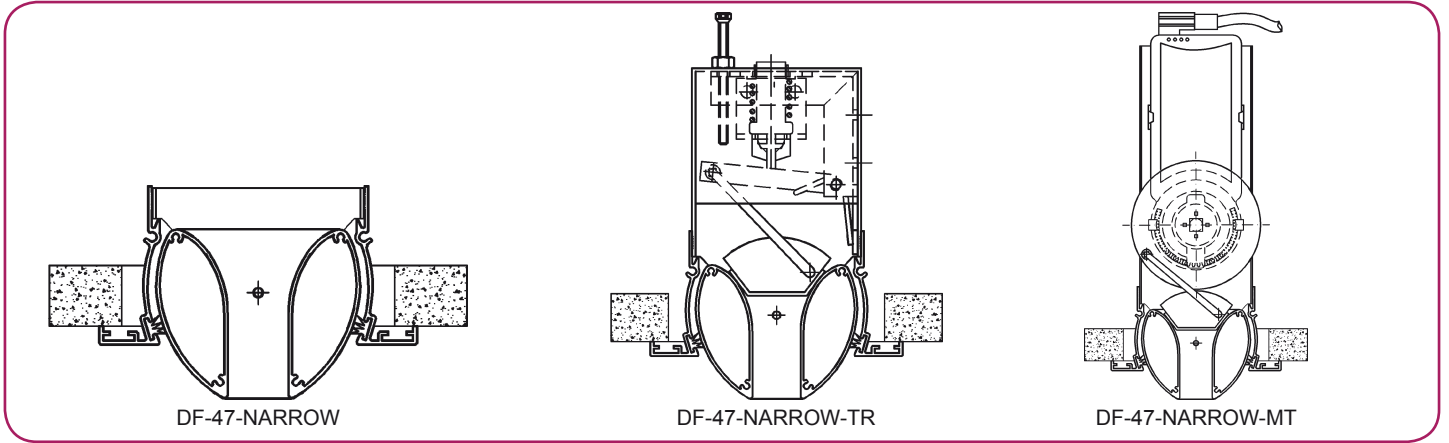


H	H1	H2	H3	ØD	HT	HP
15	85	100	110	Ø160	235	285
20	90	105	115	Ø200	275	325
30	100	115	120	Ø250	325	375
40	110	125	190	Ø315 (OVAL)	275	325
50	120	135				

L > 1001: 2 DISCHARGES

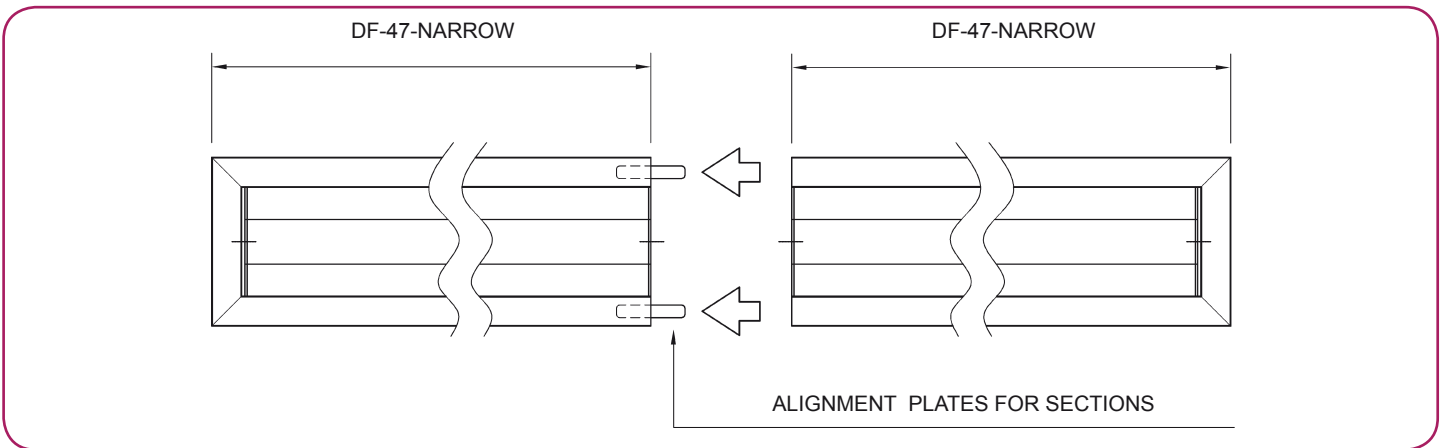
L = NOMINAL LENGTH (OUTLET)  
H1 = NOMINAL HEIGHT (OUTLET)

## Types

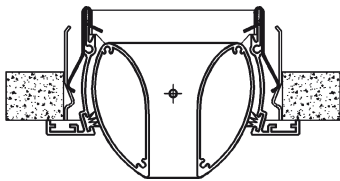


## Connection system

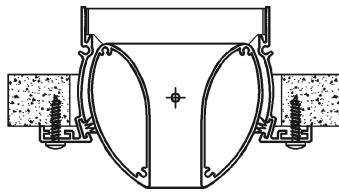
For C and AC the maximum section length is 2 m, not available for formation of continuous lines.



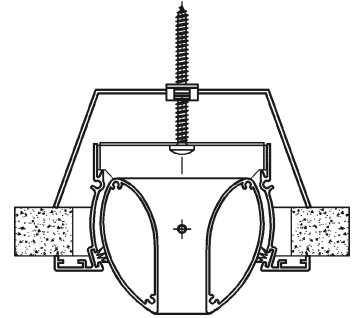
## Mounting



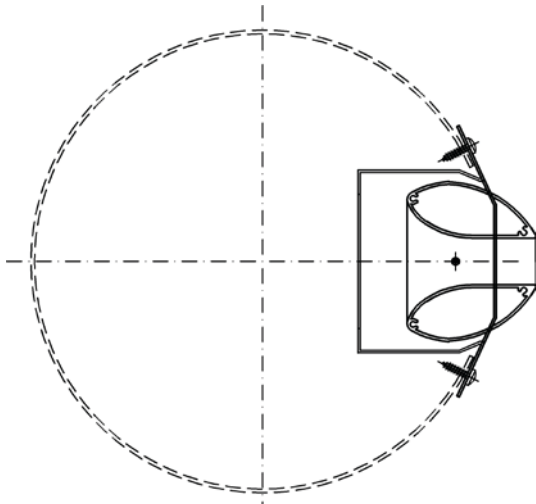
DF-47-NARROW + MM  
WITH MOUNTING FRAME (MM)



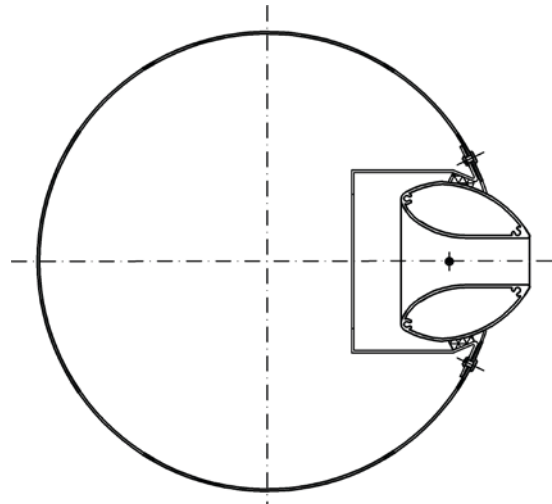
DF-47-NARROW-T  
WITH SCREWS (NOMINAL - 8)



DF-47-NARROW-PM  
WITH MOUNTING BRIDGE (PM)



DF-47-NARROW-CC  
ADAPTATION FOR DUCT



DF-47-NARROW-IC  
INTEGRATED WITH DUCT

## Selection table

Q		Size	15 - 1000			20 - 1000			30 - 1000			40 - 1000			50 - 1000		
(m <sup>3</sup> /h)	(l/s)	A <sub>k</sub> (m <sup>2</sup> )	0,011			0,014			0,028			0,037			0,047		
200	55,6	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)	6,0	3,6	1,8												
		ΔP <sub>st</sub> (Pa)	10														
		L <sub>WA</sub> - dB(A)	18														
300	83,3	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)	8,9	5,4	2,7	7,7	4,6	2,3									
		ΔP <sub>st</sub> (Pa)	23			12											
		L <sub>WA</sub> - dB(A)	25			18											
400	111,1	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)	11,9	7,1	3,6	10,3	6,2	3,1	7,4	4,4	2,2						
		ΔP <sub>st</sub> (Pa)	41			21			9								
		L <sub>WA</sub> - dB(A)	30			24			19								
500	138,9	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (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 <sub>st</sub> (Pa)	64			33			15			8					
		L <sub>WA</sub> - dB(A)	34			29			25			20					
600	166,7	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (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 <sub>st</sub> (Pa)	91			48			21			12			8		
		L <sub>WA</sub> - dB(A)	37			33			29			24			25		
700	194,4	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (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 <sub>st</sub> (Pa)	124			65			29			16			11		
		L <sub>WA</sub> - dB(A)	40			37			33			28			28		
800	222,2	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (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 <sub>st</sub> (Pa)	163			85			38			21			14		
		L <sub>WA</sub> - dB(A)	42			40			36			31			31		
1000	277,8	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (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 <sub>st</sub> (Pa)				133			59			33			22		
		L <sub>WA</sub> - dB(A)				45			42			37			36		
1250	347,2	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)							23,2	13,9	7,0	20,0	12,0	6,0	17,9	10,7	5,4
		ΔP <sub>st</sub> (Pa)							93			51			34		
		L <sub>WA</sub> - dB(A)							48			42			40		
1500	416,7	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)										24,0	14,4	7,2	21,4	12,9	6,4
		ΔP <sub>st</sub> (Pa)										74			49		
		L <sub>WA</sub> - dB(A)										46			44		
1750	486,1	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)										28,0	16,8	8,4	25,0	15,0	7,5
		ΔP <sub>st</sub> (Pa)										101			66		
		L <sub>WA</sub> - dB(A)										50			47		
2000	555,6	X <sub>0,3</sub> X <sub>0,5</sub> X <sub>1,0</sub> (m)													28,6	17,2	8,6
		ΔP <sub>st</sub> (Pa)													87		
		L <sub>WA</sub> - dB(A)													50		

X<sub>0,3</sub>, X<sub>0,5</sub> and X<sub>1,0</sub>

Horizontal throw of air jet for a mean end velocity of 0.3, 0.5 and 1 m/s for isotherm air

ΔP<sub>st</sub>

Static pressure loss

L<sub>WA</sub>

Sound power level

Technical data listed in this table are for DF-47-NARROW without components.  
Effective velocities below 5 m/s are recommended for the selection with volume control damper.

## Product Codes

### Model

-	Manual movement.
IC	Integrated with duct.
CC	With adaptation to duct.

### Air passage

15, 20, 30, 40 or 50	air passage
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### Length

1-9999	in mm
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### Components

-	w/o indication, w/o plenum box nor operating mechanism
TR	temperature regulation
MT	motor drive
RFS-06	with RFS-06 damper
PF	with fixed plenum box
PD	with removable plenum box
G	with directional blades

### Mounting

MM	with mounting frame
T	with screws
PM	with mounting bridge

### Opening angle

-	w/o indication, cooling/heating angle non adjustable
AF(-30°..30°)	cooling angle, range -3° C to 3° C
AC(-30°..30°)	heating angle, range -3° C to 3° C

### Finish

RAL 9010	finish in RAL-9010 gloss polished
RAL ...	finish in RAL to be defined

Coding example

#### DF-47-NARROW - 15 - 1500 - RFS-06 - T - AC -15° - RAL 9010

Manual DF-47-NARROW diffuser, with air passage 15, of 1500 mm with RFS-06 damper, with screws, with an opening angle for heat of -15°, finish in glossy RAL-9010.



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**CEN-DF47NARROW-0616-00**



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