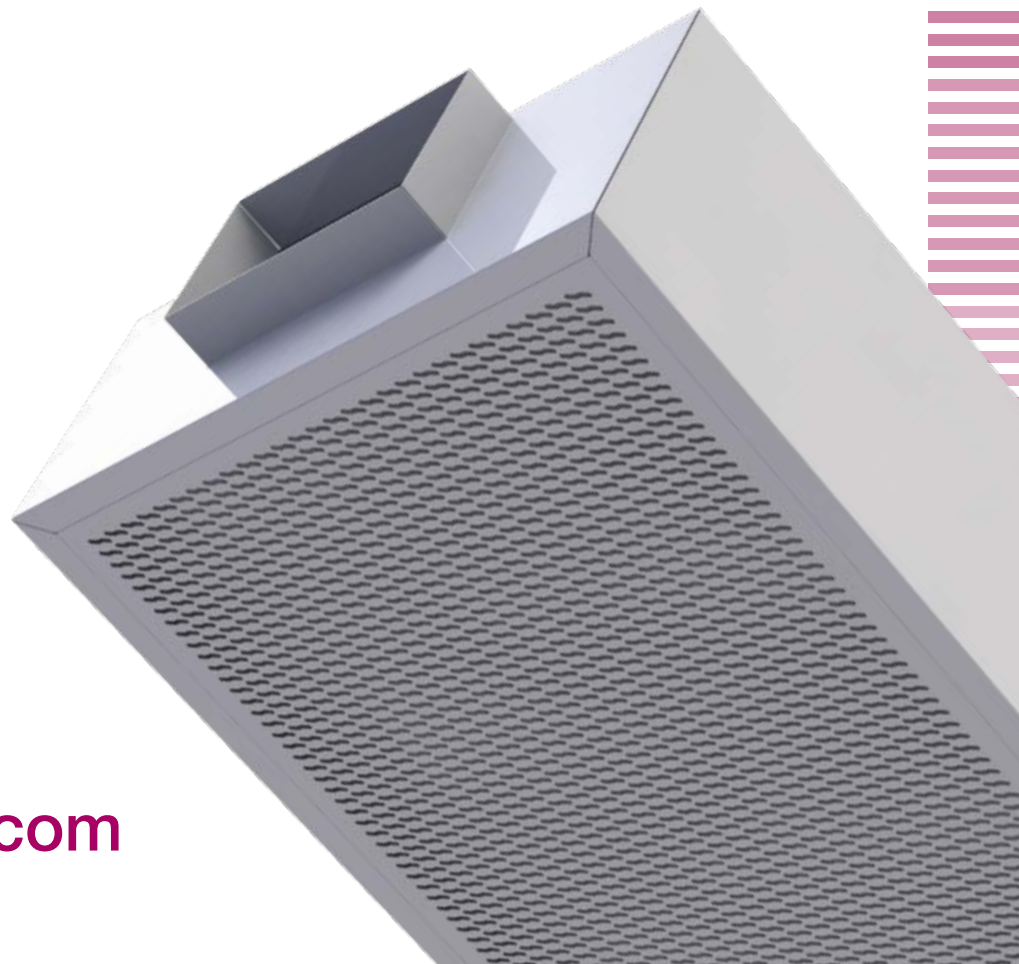


# KOOLAIR

## series

# 90

## Displacement diffusers



ISO 9001

BUREAU VERITAS  
Certification

Sistema de Gestión



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

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## S-90 Series Displacement Diffusers

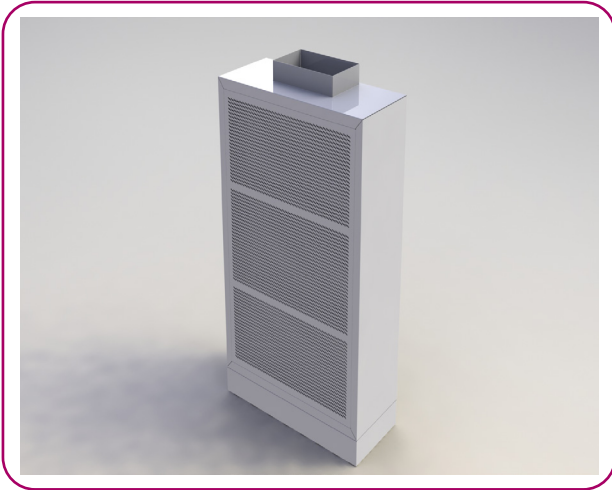
### Description

The S-90 diffusers are displacement units for floor installation.

The unit includes upper and lower covers and a perforated air distribution face plate. Connections can be made through the upper or lower cover.

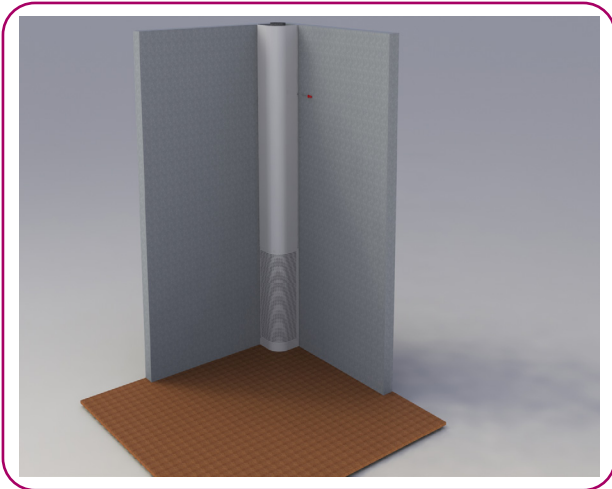
The units are of galvanised steel sheet construction with aluminium sections and include an air equalising plate (painted in black) inside, as well as static pressure measurement to obtain the supply flow rate. The standard finish is RAL 9010 white paint, although any RAL colour is available upon request.

The S-90-44 version has a larger free air outlet area than the standard S-90 diffuser to provide an outlet velocity reduction of 35%.



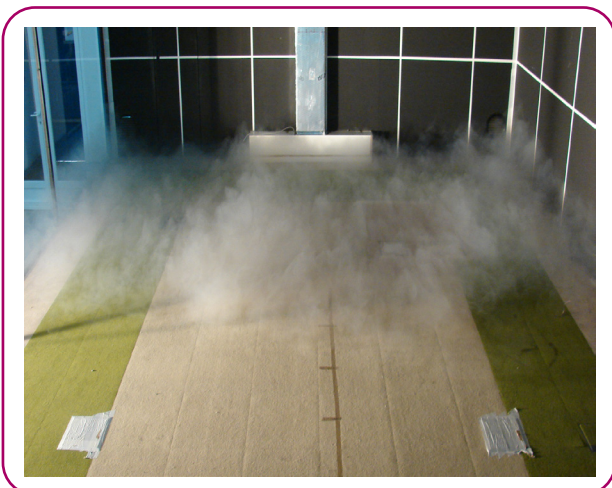
### Applications

The S-90 displacement diffusers can be used in both comfort and industrial environments. Air is supplied from the occupied area level at a slow outlet velocity (< 0.8 m/s) to minimise turbulence. Depending on the size, the units can also supply large air volumes. Air is supplied at a temperature difference of -1 to -6 °C with respect to the ambient temperature.



### S-90 Series Models

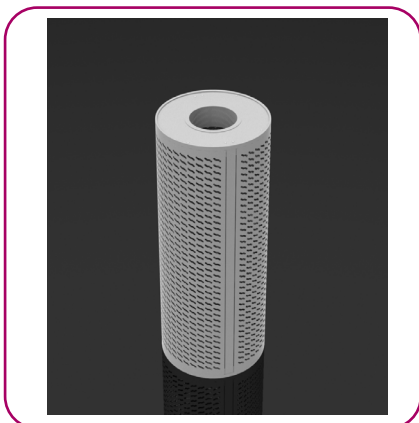
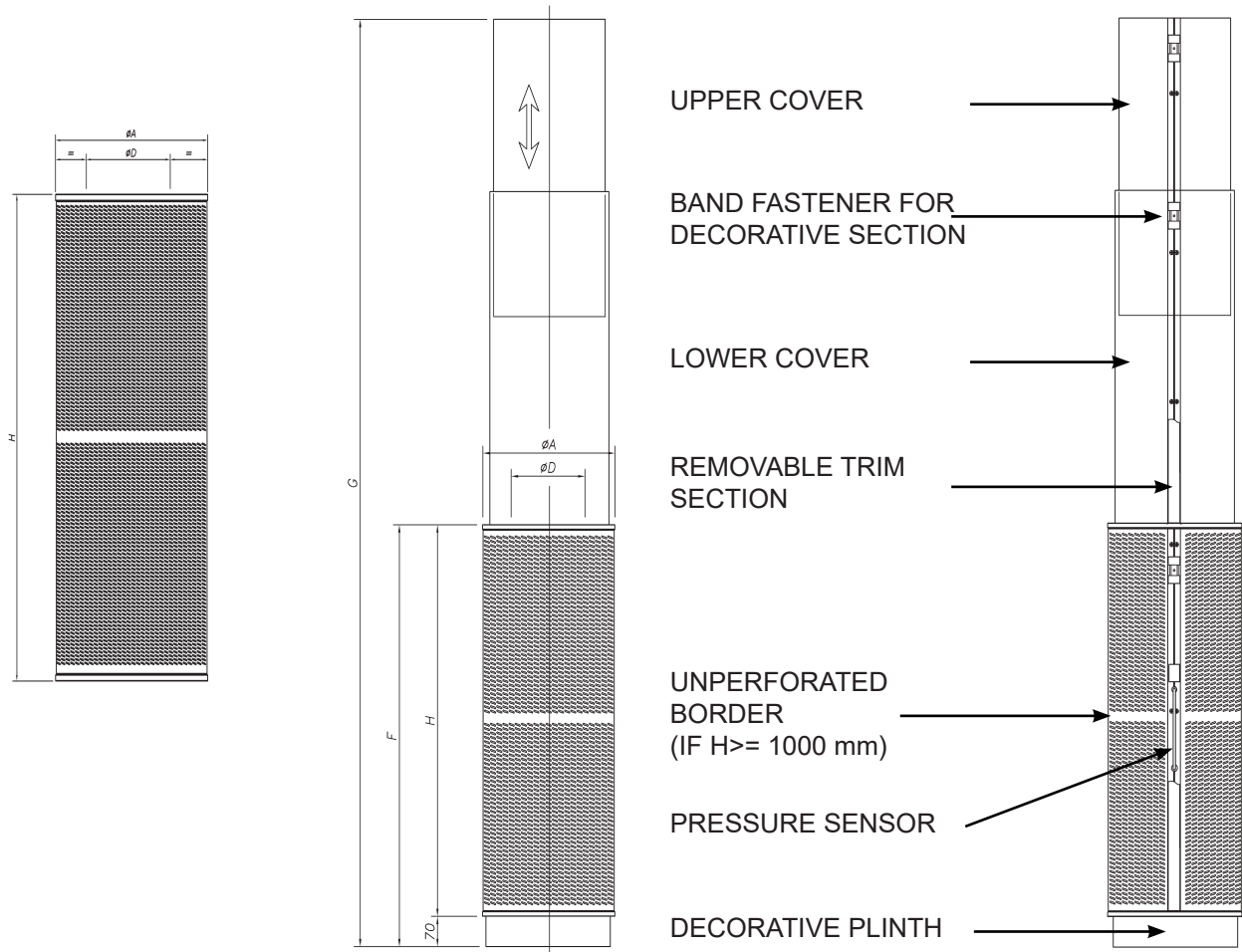
S-90-C	Round
S-90-SC	Semicircular
S-90-CC	Quadrant
S-90-R	Rectangular
S-90-R3	3-Way Rectangular
S-90-RT	Horizontal Rectangular
S-90-RE	Flush-mounte Rectangular



## S-90-C Model - Round

### Dimensions

The S-90-C diffuser is a cylindrical displacement unit that supplies air at a low velocity to the habitable area. Optional accessories include a plinth and trim.



Size	$\varnothing A$	F	G	$\varnothing D$	H
125	300	670	2400-3500	125	600
160	335	970		160	900
200	375			200	
250	430	1270	2750-3500	250	1200
315	495	1570		315	1500
400	580	1870		400	1800
500	680	2070	2800-3500	500	2000
630	810			630	

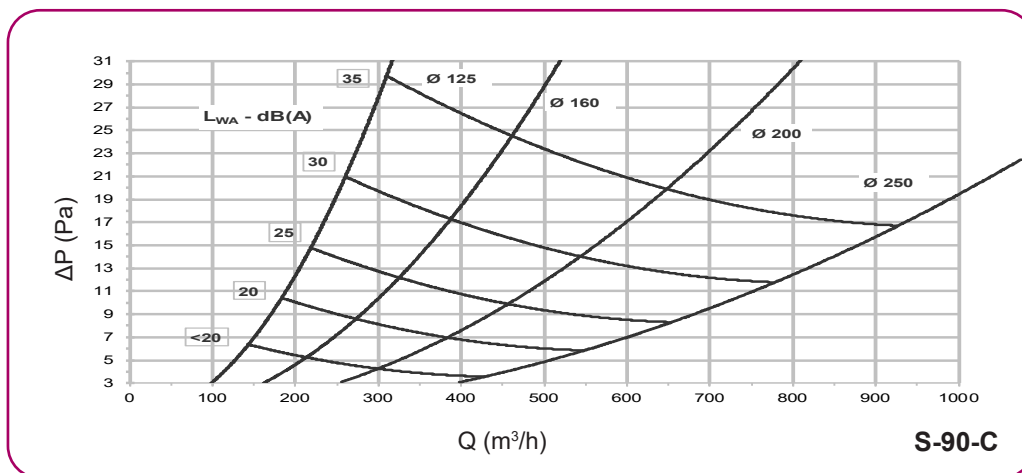
# S-90-C Model - Round

## Technical data

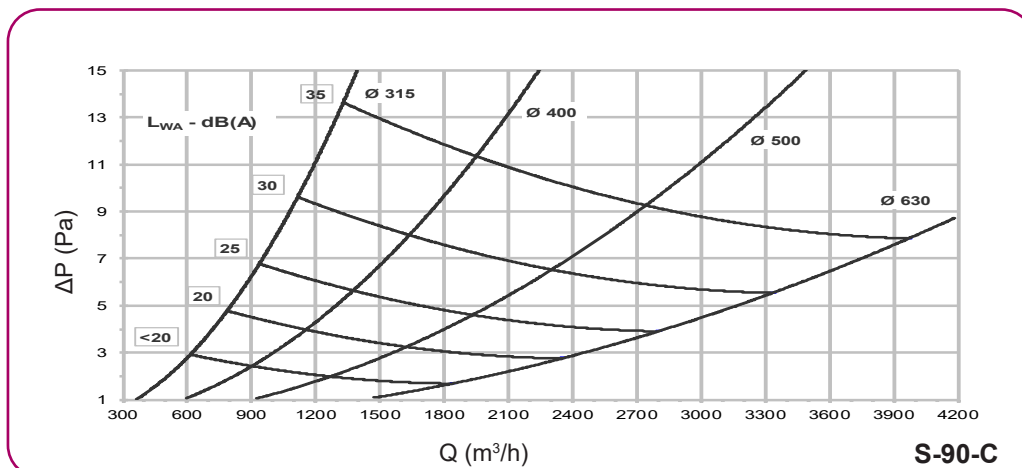
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-C Quick selection table				
Flow rate - Sound level $L_w$ - Pressure drop - Throw				
Model	$m^3/h$ (Pa) [m]			
	20 dB(A)	25 dB(A)	30 dB(A)	35 dB(A)
125	170 (9) [2,3]	225 (15) [2,7]	270 (21) [3,5]	310 (30) [4,0]
160	270 (9) [2,3]	320 (13) [2,5]	380 (17) [3,0]	460 (25) [3,6]
200	380 (7) [3,0]	460 (10) [3,0]	550 (14) [4,0]	650 (20) [4,7]
250	540 (6) [3,2]	650 (9) [3,7]	770 (12) [4,6]	930 (17) [5,5]
315	800 (5) [2,3]	1000 (7) [2,8]	1100 (10) [3,1]	1350 (14) [4,8]
400	1150 (4) [3,6]	1400 (6) [3,3]	1650 (8) [3,8]	1950 (12) [4,5]
500	1620 (3) [3,4]	1950 (5) [4,1]	2300 (7) [5,9]	2800 (10) [6,0]
630	2350 (3) [4,6]	2800 (4) [5,5]	3400 (6) [6,9]	4000 (8) [8,0]

## Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



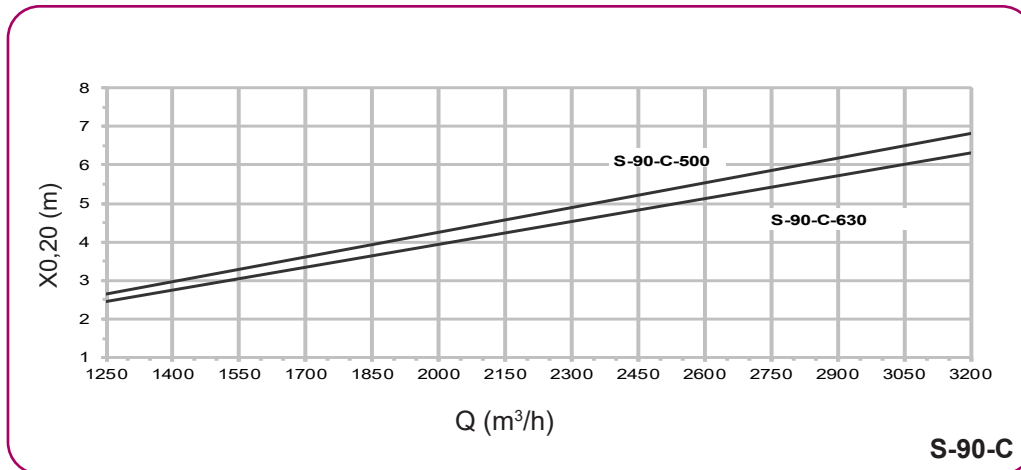
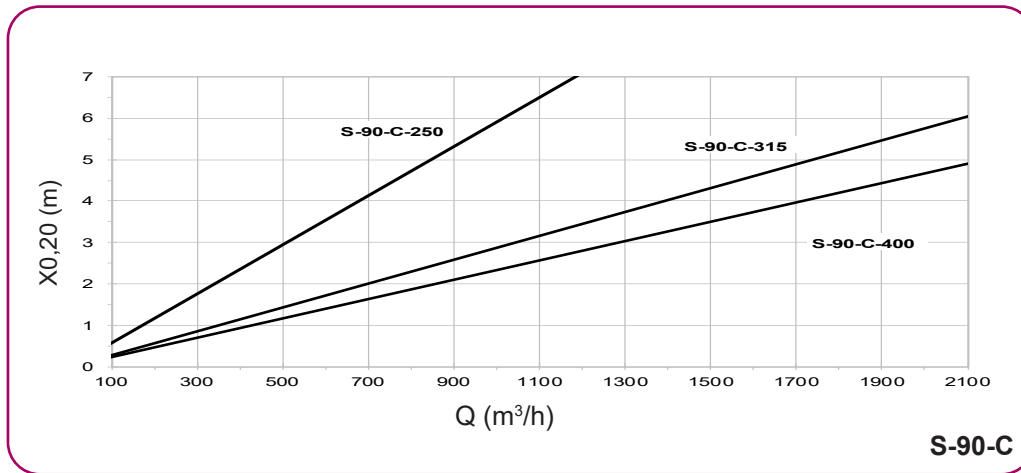
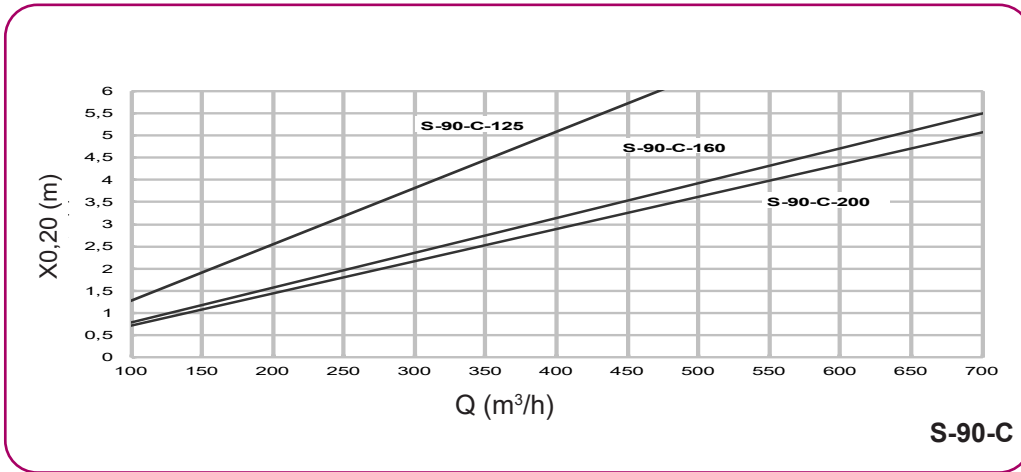
### Symbols:

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- L<sub>WA</sub>(dBA): Sound power level

## S-90-C Model - Round

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



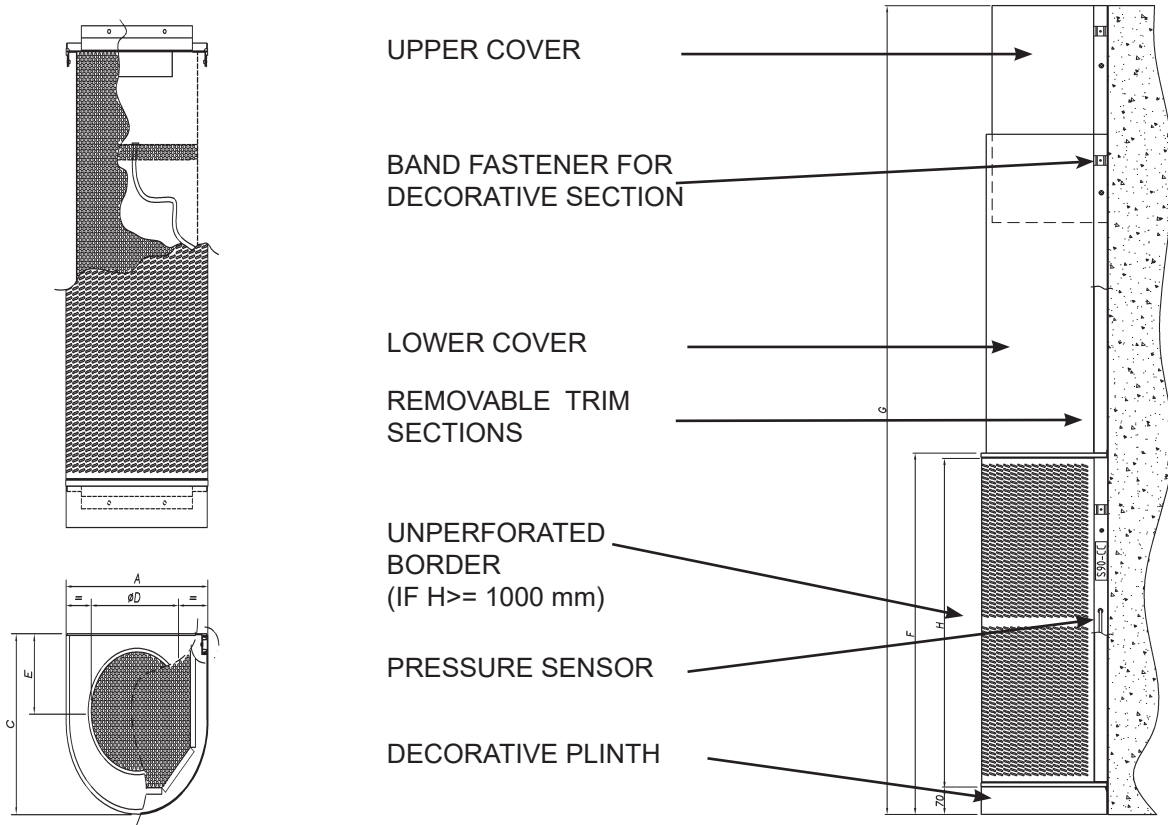
#### Symbols:

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub> (m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

## S-90-SC Model - Semicircular

### Dimensions

The S-90-SC diffuser is a semicircular displacement unit that supplies the air at low velocity to the habitable area. Optional accessories include a plinth and trim.



Size	A	H	G	ØD	C	E	F
160	335	900	2400-3500	160	325	140	970
200	375			200	365	160	
250	430	1200	2750-3500	250	420	185	1270
315	495	1500		315	480	218	1570
400	580	1800		400	565	260	1870
500	680	2000	2800-3500	500	665	310	2070
630	810			630	795	375	

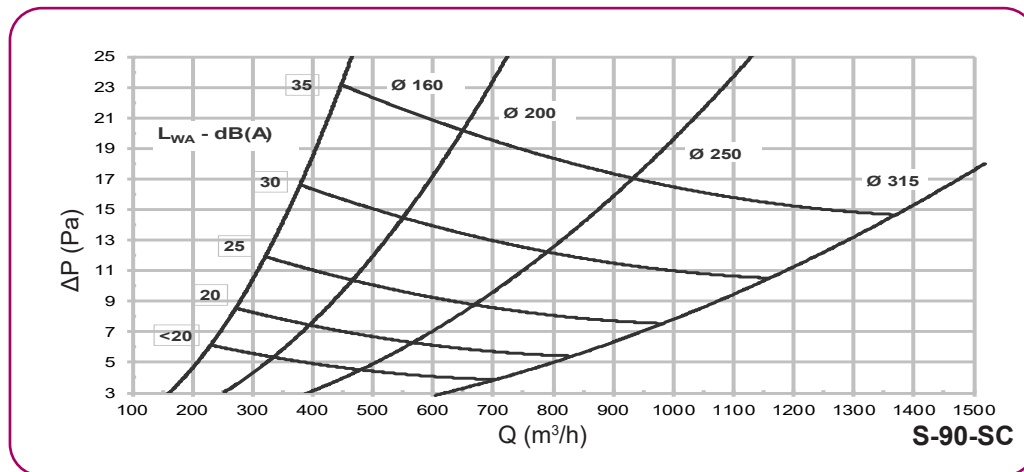
## S-90-SC Model - Semicircular

### Technical data

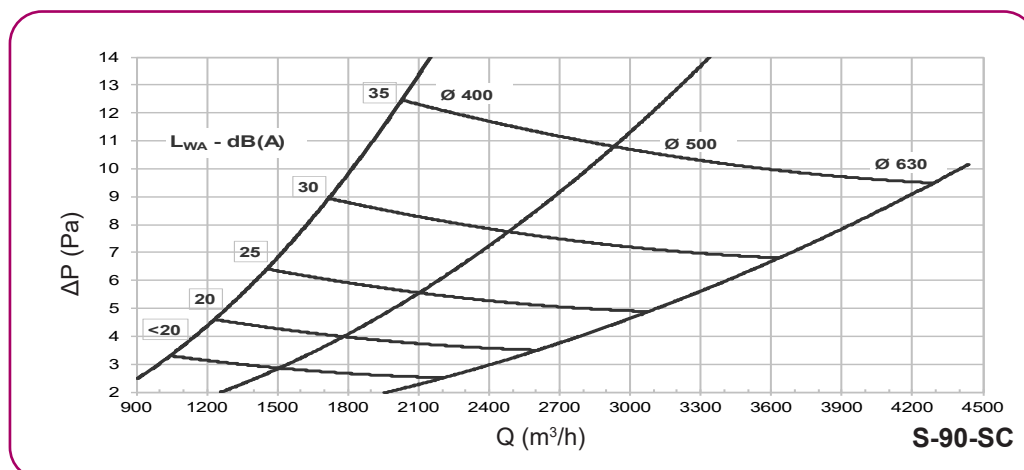
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-SC Quick selection table				
Flow rate - Sound level $L_w$ - Pressure drop - Throw				
Model	m <sup>3</sup> /h (Pa) [m]			
	20 dB(A)	25 dB(A)	30 dB(A)	35 dB(A)
160	270 (8) [4,5]	320 (12) [5,4]	380 (17) [6,3]	450 (23) [7,5]
200	390 (7) [6,1]	460 (10) [7,1]	550 (14) [8,0]	650 (20) [9,5]
250	560 (6) [5,6]	660 (9) [6,4]	800 (13) [7,1]	950 (18) [7,0]
315	840 (6) [3,0]	980 (8) [3,7]	1150 (10) [4,1]	1350 (14) [4,7]
400	1250 (5) [3,7]	1450 (6) [4,4]	1700 (9) [5,5]	2000 (12) [5,9]
500	1800 (4) [5,3]	2100 (5) [6,1]	2450 (8) [7,2]	2900 (11) [8,0]
630	2600 (3) [6,8]	3100 (5) [7,5]	3600 (7) [8,0]	4350 (10) [9,5]

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



**Symbols:**

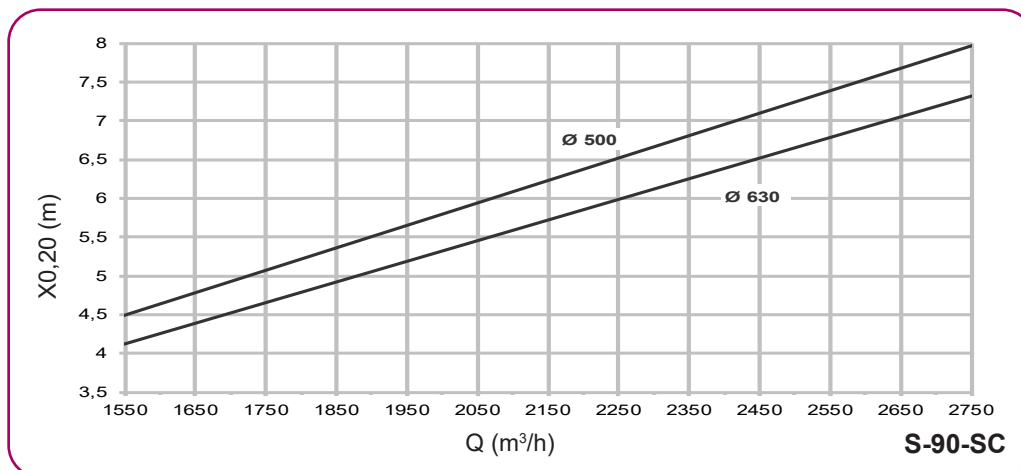
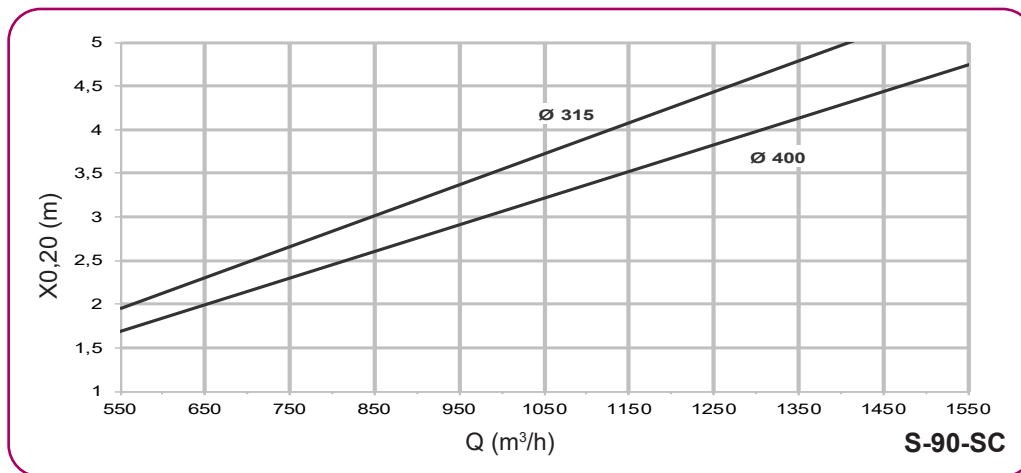
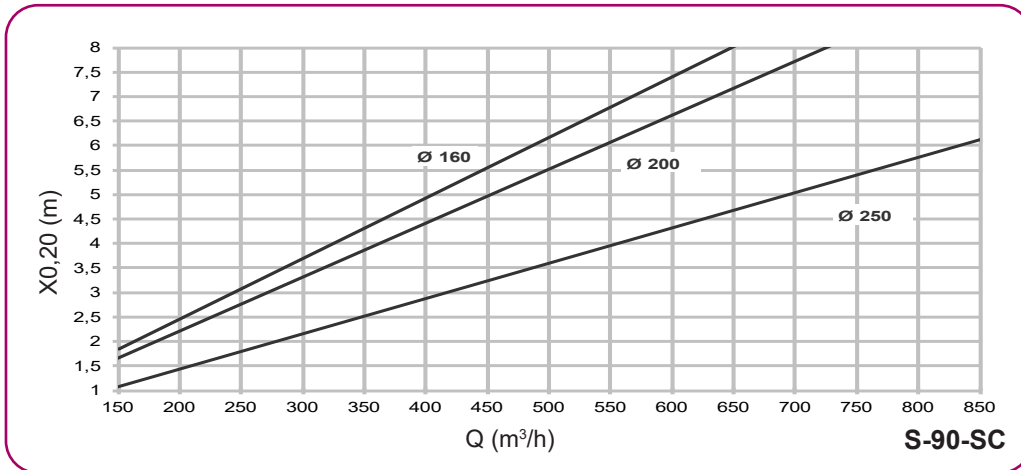
- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- $L_{WA}$  (dBA): Sound power level



## S-90-SC Model - Semicircular

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



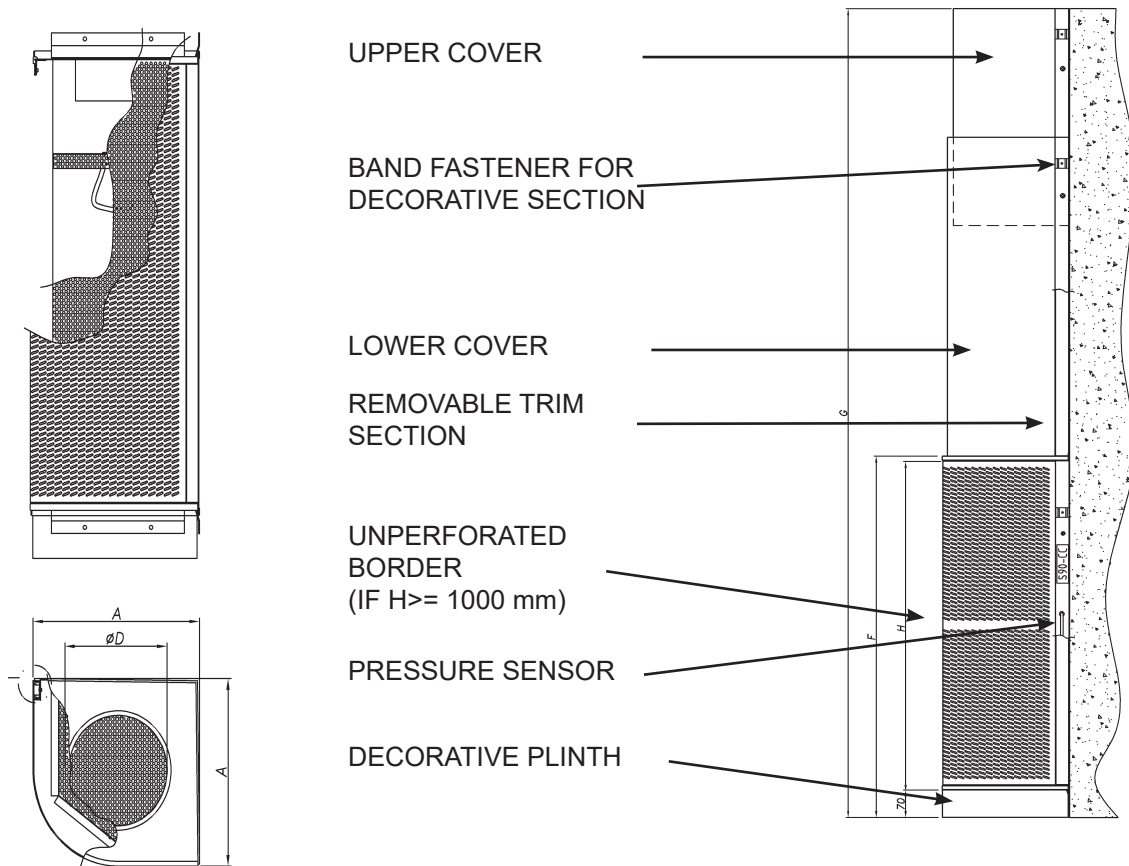
#### Symbols:

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub> (m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

## S-90-CC Model - Quadrant

### Dimensions

The S-90-CC diffuser is a quadrant displacement unit that supplies the air at low velocity to the habitable area. Optional accessories include a plinth and trim.



Size	A	H	G	ØD	F
160	335	900	2400-3500	160	970
200	375			200	
250	430	1200	2750-3500	250	1270
315	495	1500		315	1570
400	580	1800	2800-3500	400	1870
500	680	2000		500	2070
630	810		630		

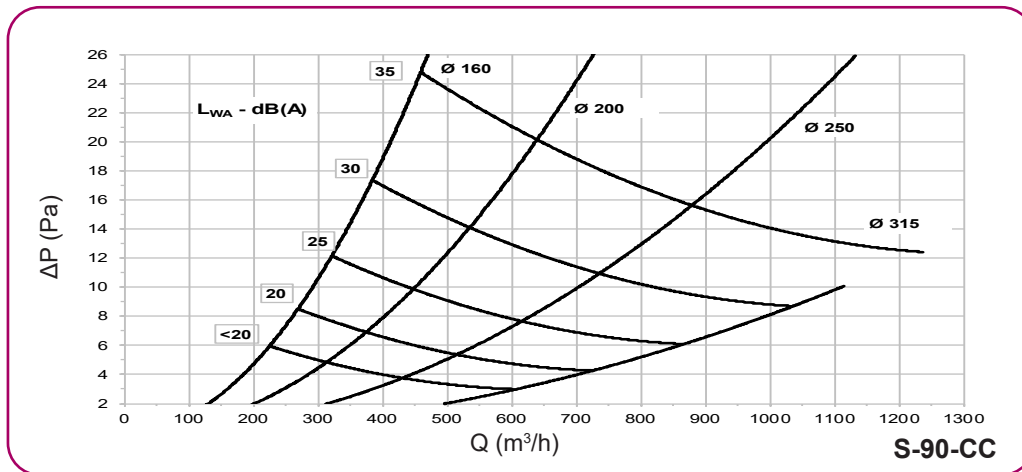
## S-90-CC Model - Quadrant

### Technical data

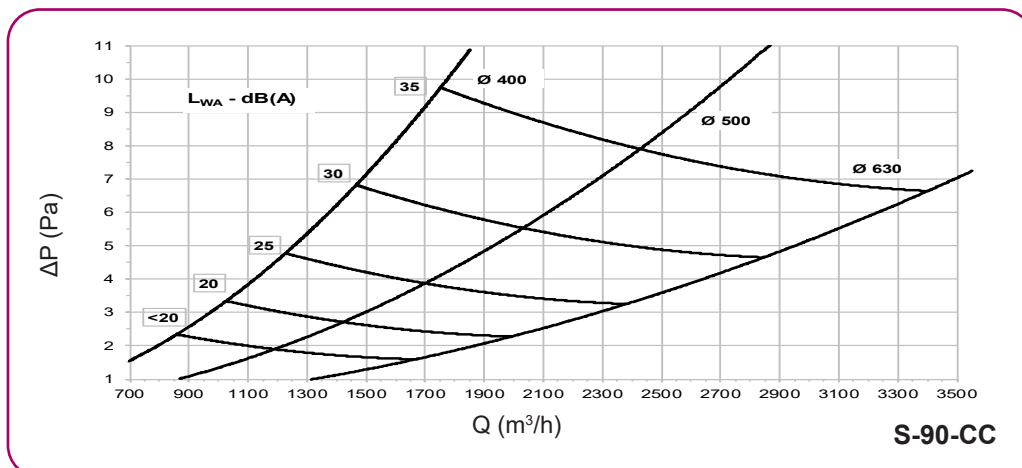
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-CC Quick selection table				
Flow rate - Sound level $L_w$ - Pressure drop - Throw				
Model	m <sup>3</sup> /h (Pa) [m]			
	20 dB(A)	25 dB(A)	30 dB(A)	35 dB(A)
160	270 (9) [4,5]	320 (12) [5,4]	390 (18) [6,5]	460 (25) [7,5]
200	370 (7) [6,0]	450 (10) [7,0]	540 (14) [8,2]	630 (20) [9,5]
250	520 (5) [5,2]	620 (8) [6,1]	740 (11) [7,0]	880 (13) [7,7]
315	730 (4) [3,7]	860 (6) [4,5]	1040 (9) [5,5]	1230 (13) [7,7]
400	975 (4) [4,2]	1250 (5) [5,4]	1450 (7) [6,5]	1770 (10) [7,3]
500	1400 (4) [6,6]	1700 (4) [6,8]	2000 (6) [8,2]	2400 (8) [9,5]
630	2000 (2) [7,5]	2400 (4) [8,7]	2850 (5) [9,8]	3400 (7) [11,2]

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



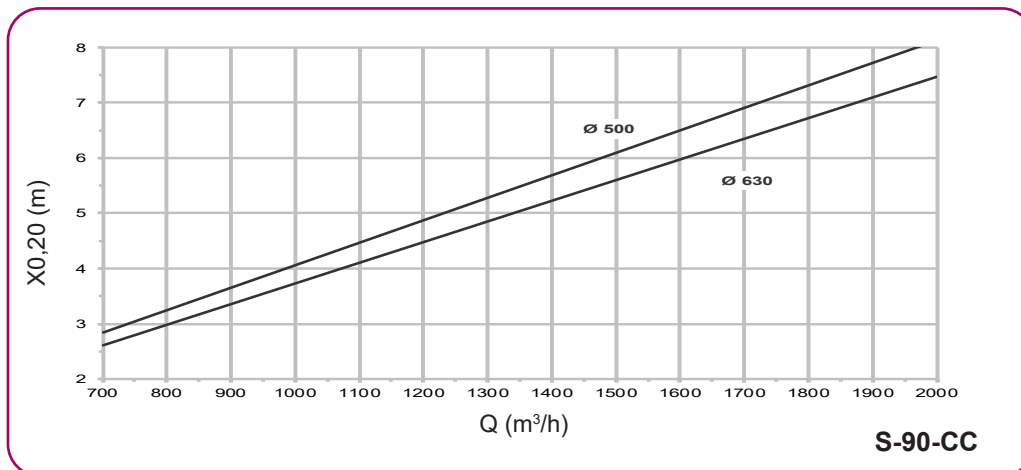
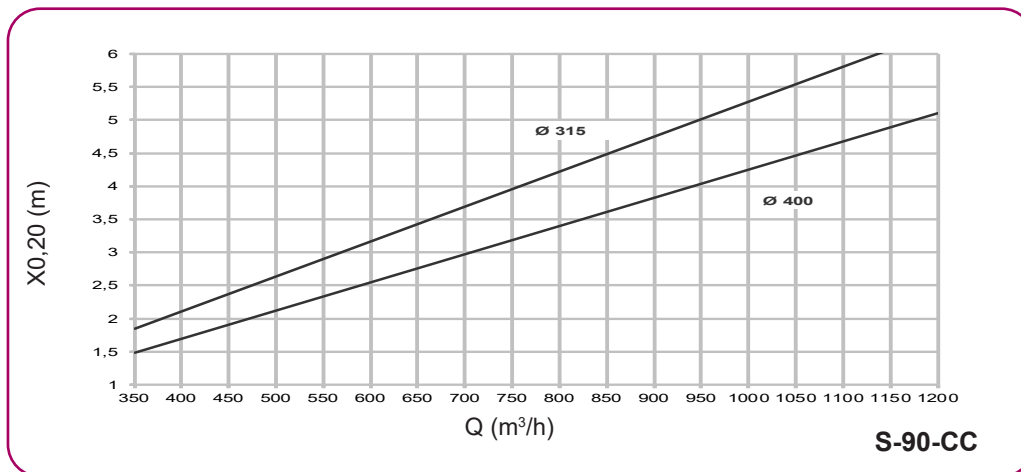
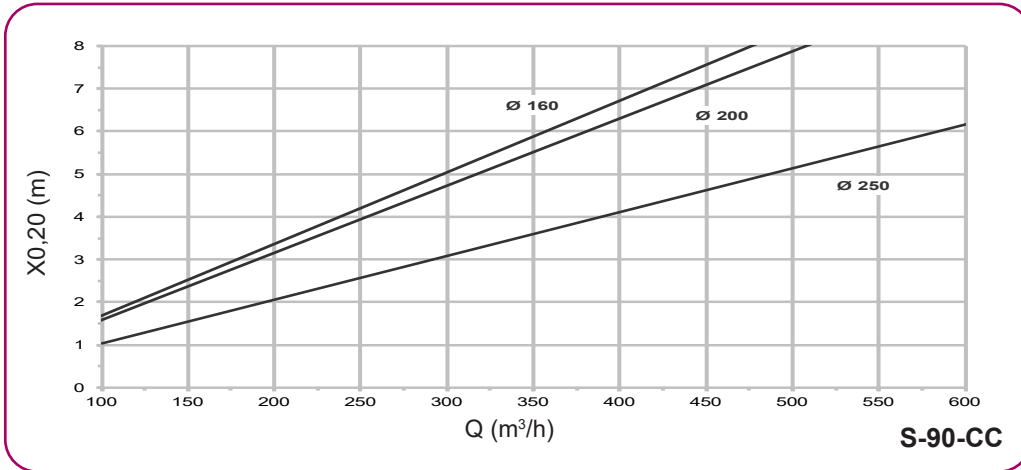
#### Symbols:

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- $L_{wA}$  (dBA): Sound power level

## S-90-CC Model - Quadrant

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



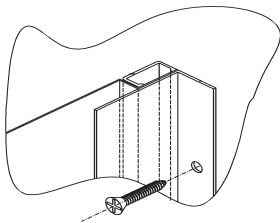
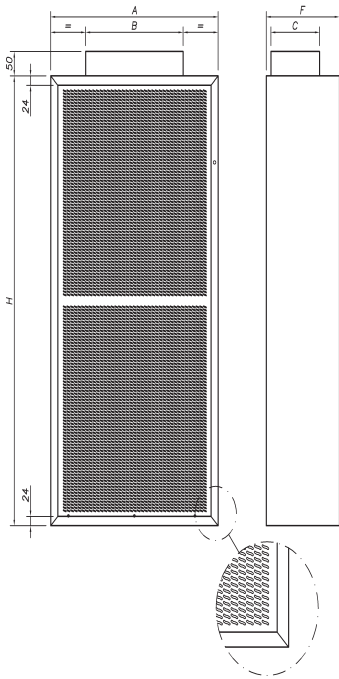
#### Symbols:

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub>(m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

## S-90-R Model - Rectangular

### Dimensions

The S-90-R diffuser is a rectangular displacement unit that supplies the air at low velocity to the habitable area. Optional accessories include a plinth and trim.

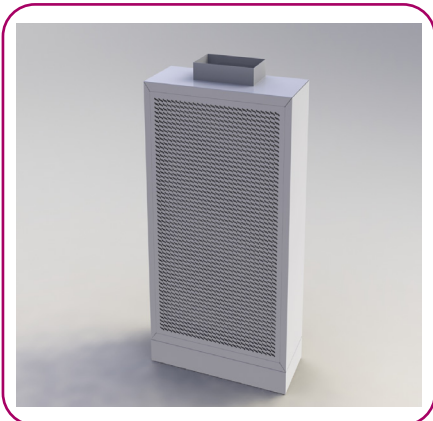
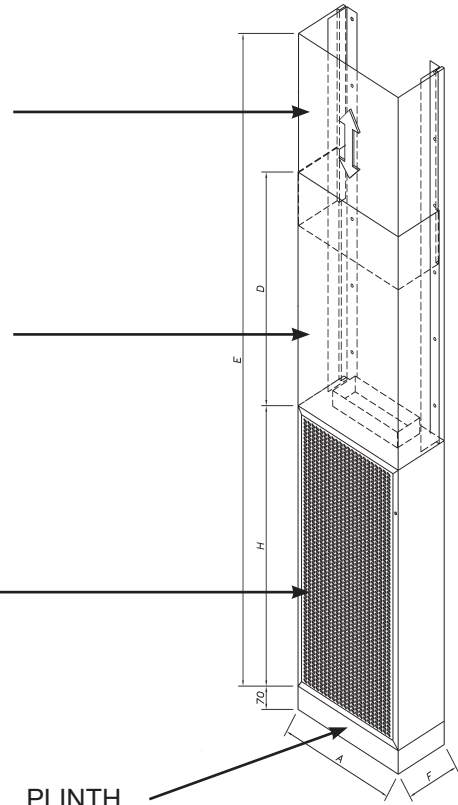


UPPER COVER

LOWER COVER

S-90-R DIFFUSER

PLINTH



Size	A	H	F	B	C	D	E
600x800-25	600	800	250	250	150	1530	
600x1000-30	600	1000	300	250	200	1300	2400 3500
600x1200-30	600	1200		270		1130	~
600x1500-30	600	1500		400		1230	2800 ~ 3500
800x800-30	800	800		300		1530	
800x1000-30	800	1000		350		1330	2400 3500
800x1200-30	800	1200		400		1130	~
800x1500-30	800	1500		500		1230	2800 ~ 3500
1000x1200-30	1000	1200		500		1130	2400 ~ 3500
1000x1500-30	1000	1500		650		1230	
1000x1800-30	1000	1800		700		930	
1200x1500-30	1200	1500	700	1230			
1200x1800-30	1200	1800	850	930	2800 ~ 3500		
1200x2000-30	1200	2000	900	730			
1500x1800-30	1500	1800	1000	930			
1500x2000-30	1500	2000	1200	730			

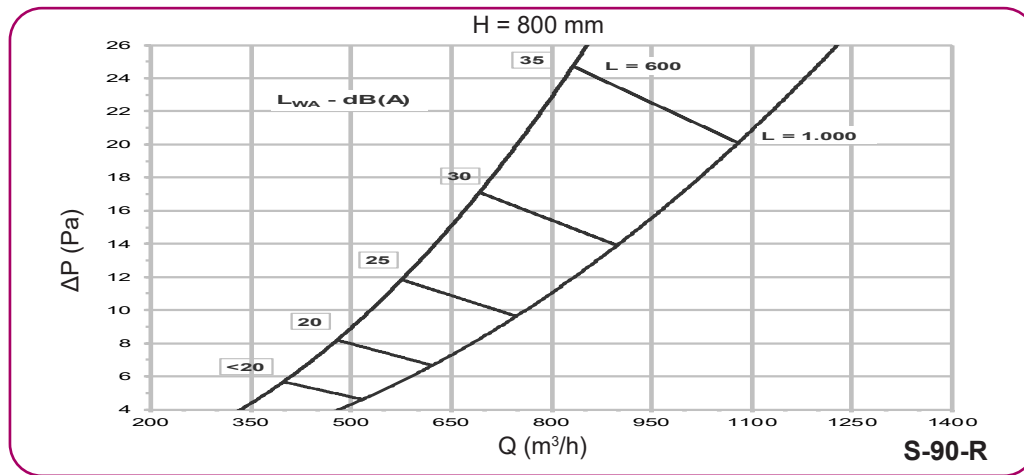
## S-90-R Model - Rectangular

### Technical data

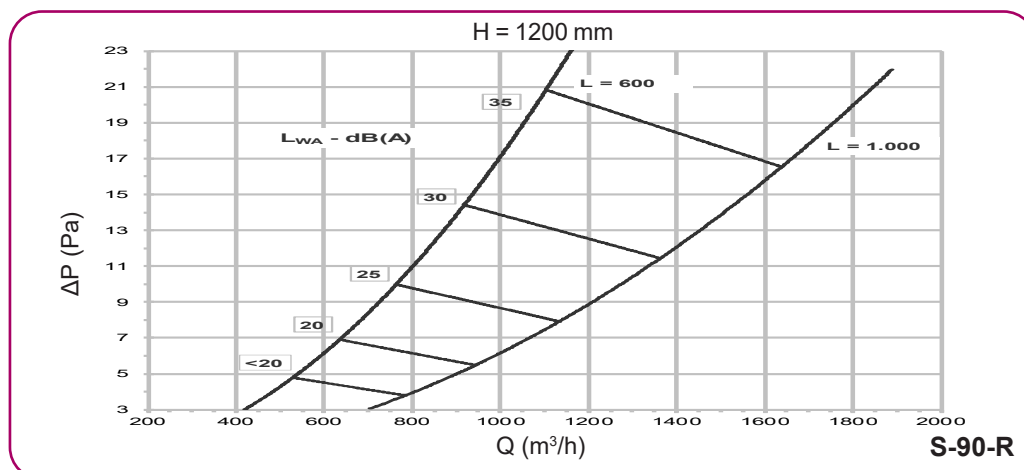
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-R Quick selection table				
Flow rate - Sound level $L_w$ - Pressure drop - Throw				
Model	$m^3/h$ (Pa) [m]			
	20 dB(A)	25 dB(A)	30 dB(A)	35 dB(A)
600x800-25	480 (8) [4,6]	570 (12) [5,5]	680 (17) [6,7]	820 (24) [7,8]
600x1200-30	650 (7) [3,6]	750 (10) [4,5]	920 (14) [5,3]	1100 (21) [6,4]
600x1500-30	870 (6) [4,3]	1050 (9) [4,7]	1270 (13) [6,3]	1500 (18) [8,0]
1000x1500-30	1250 (5) [4,0]	1500 (7) [5,0]	1800 (10) [5,5]	1170 (15) [7,0]
1200x2000-30	1600 (4) [6,0]	1950 (6) [7,3]	2330 (8) [8,5]	2800 (12) [10,1]

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



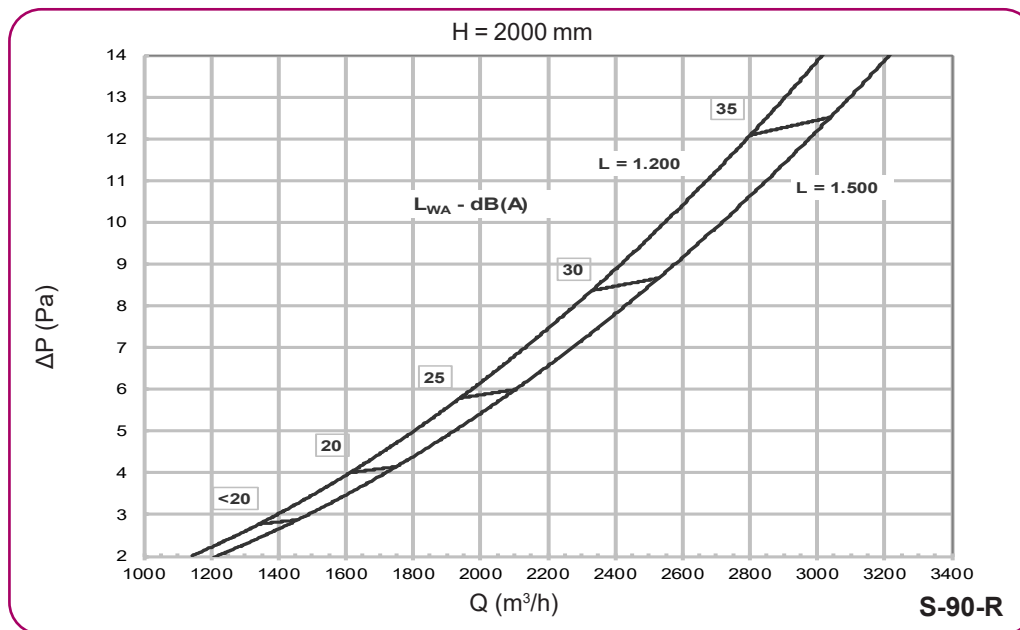
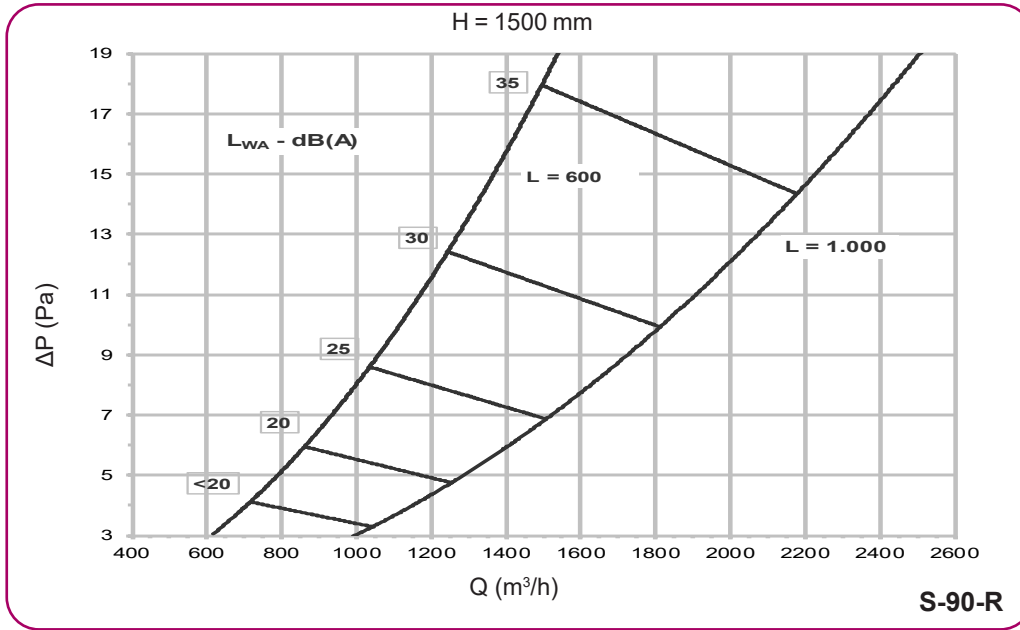
#### Symbols:

- Q ( $m^3/h$ ): Air flow per displacement unit
- $\Delta P$  (Pa): Pressure drop
- $L_{WA}$  (dBA): Sound power level

## S-90-R Model - Rectangular

### Pressure drop and sound level selection charts

These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



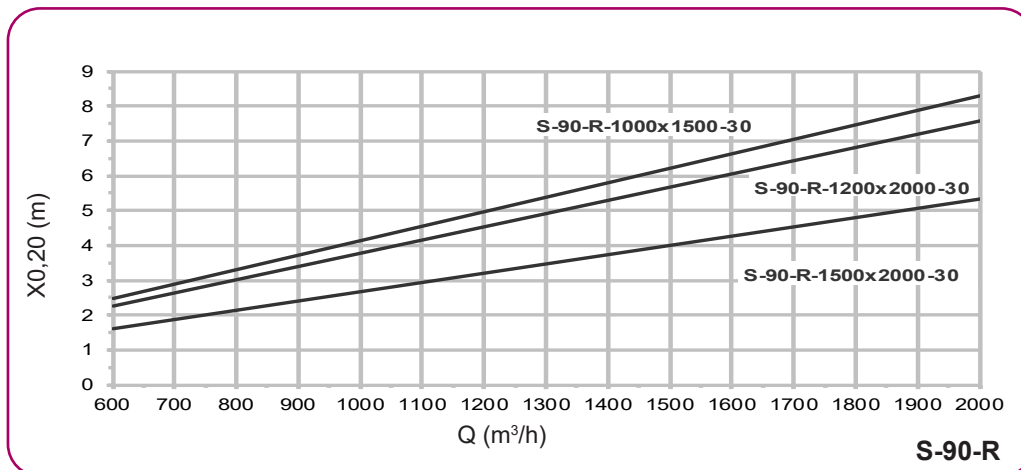
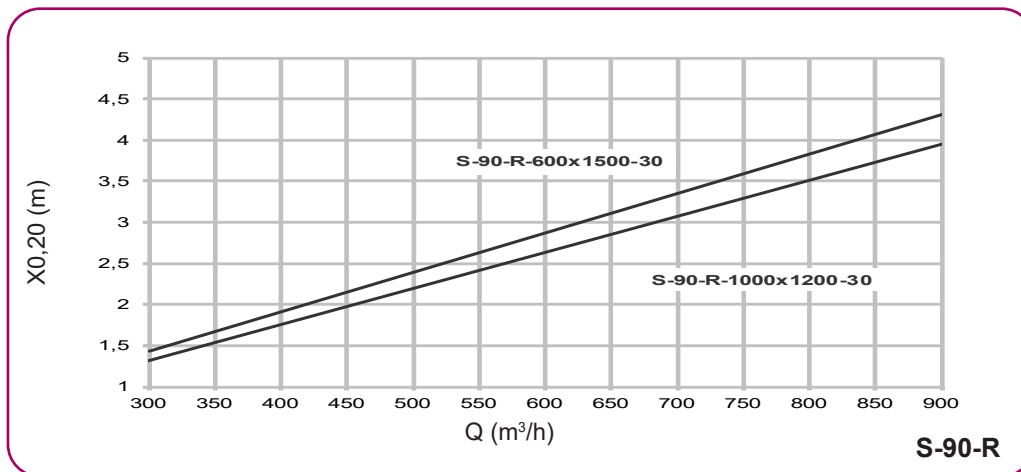
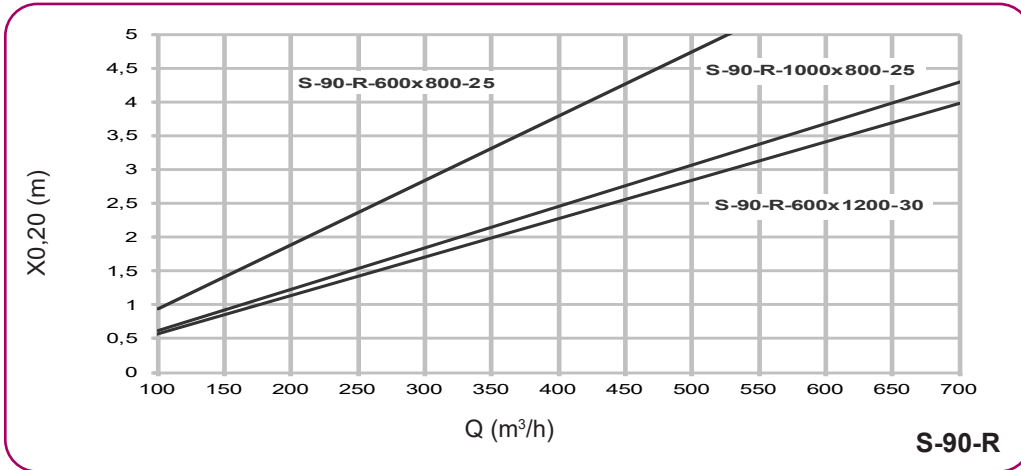
**Symbols:**

Q (m<sup>3</sup>/h): Air flow per displacement unit  
 $\Delta P$  (Pa): Pressure drop  
 $L_{WA}$  (dBA): Sound power level

## S-90-R Model - Rectangular

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



#### Symbols:

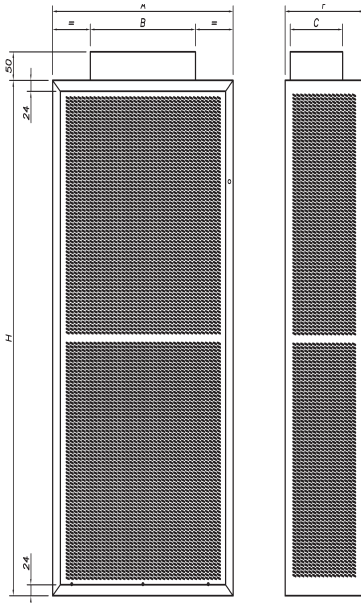
Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub>(m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C



# S-90-R3 Model - 3-Way rectangular

## Dimensions

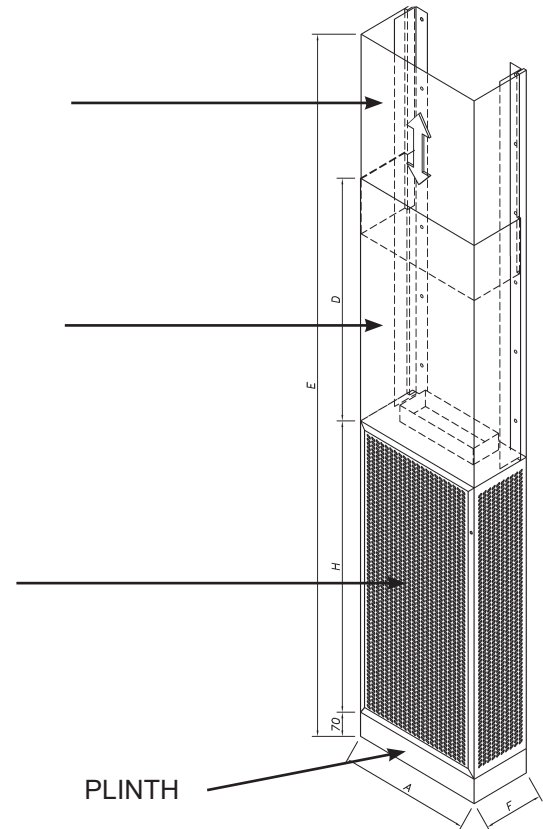
The S-90-R3 diffuser is a rectangular displacement unit that supplies the air at low velocity to the habitable area in three directions. Optional accessories include a plinth and trim.



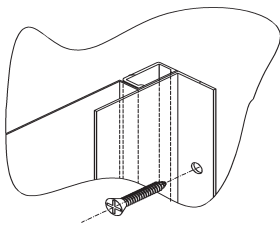
UPPER COVER

LOWER COVER

S-90-R3  
DIFFUSER



PLINTH



Size	A	H	F	B	C	D	E
600x800-25	600	800	250	250	150	1530	
600x1000-30	600	1000	300	250	200	1300	2400 3500
600x1200-30	600	1200		270		1130	~
600x1500-30	600	1500		400		1230	2800 ~ 3500
800x800-30	800	800		300		1530	
800x1000-30	800	1000		350		1330	2400 3500
800x1200-30	800	1200		400		1130	~
800x1500-30	800	1500		500		1230	2800 ~ 3500
1000x1200-30	1000	1200		500		1130	2400 ~ 3500
1000x1500-30	1000	1500		650		1230	
1000x1800-30	1000	1800		700		930	
1200x1500-30	1200	1500		700		1230	
1200x1800-30	1200	1800		850		930	2800 ~ 3500
1200x2000-30	1200	2000		900		730	
1500x1800-30	1500	1800		1000		930	
1500x2000-30	1500	2000		1200		730	

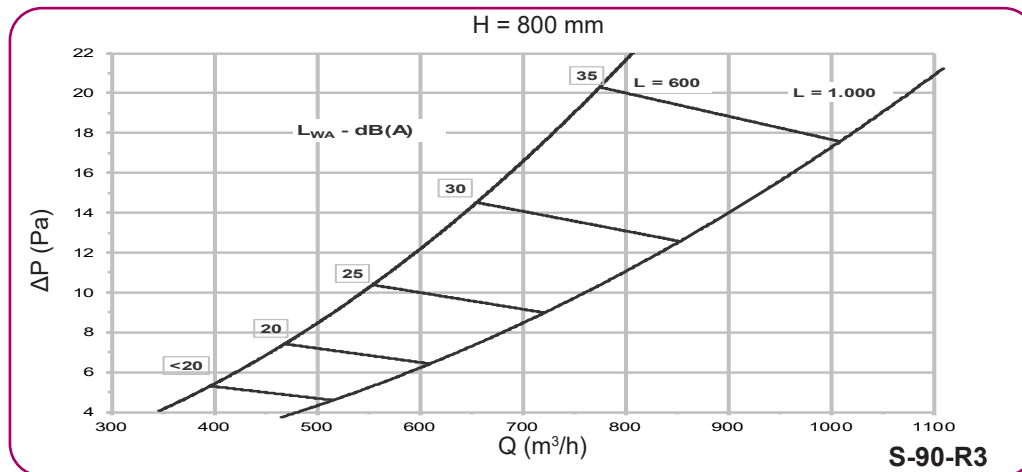
## S-90-R3 Model - 3-Way rectangular

### Technical data

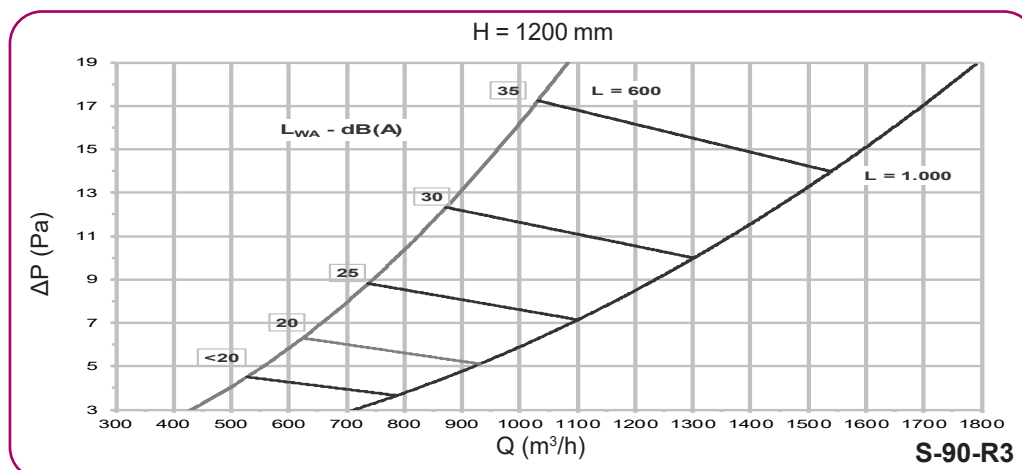
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-R3 Quick selection table				
Flow rate - Sound level $L_w$ - Pressure drop - Throw				
Model	m <sup>3</sup> /h (Pa) [m]			
	20 dB(A)	25 dB(A)	30 dB(A)	35 dB(A)
600x800-25	470 (7) [2,5]	560 (11) [3,1]	650 (14) [3,3]	780 (21) [4,0]
600x1200-30	630 (6) [2,4]	750 (9) [2,7]	870 (12) [3,3]	1020 (17) [3,8]
600x1500-30	850 (5) [1,9]	1000 (7) [2,2]	1200 (11) [2,7]	1400 (15) [3,3]
1000x1500-30	1250 (4) [2,0]	1450 (6) [2,3]	1750 (9) [2,7]	2050 (15) [3,3]
1200x2000-30	1620 (4) [1,6]	1900 (5) [1,8]	2250 (7) [2,2]	2650 (10) [2,6]
1200x2000-35	1940 (4) [1,7]	2250 (5) [2,3]	2650 (8) [2,6]	3200 (10) [3,5]

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



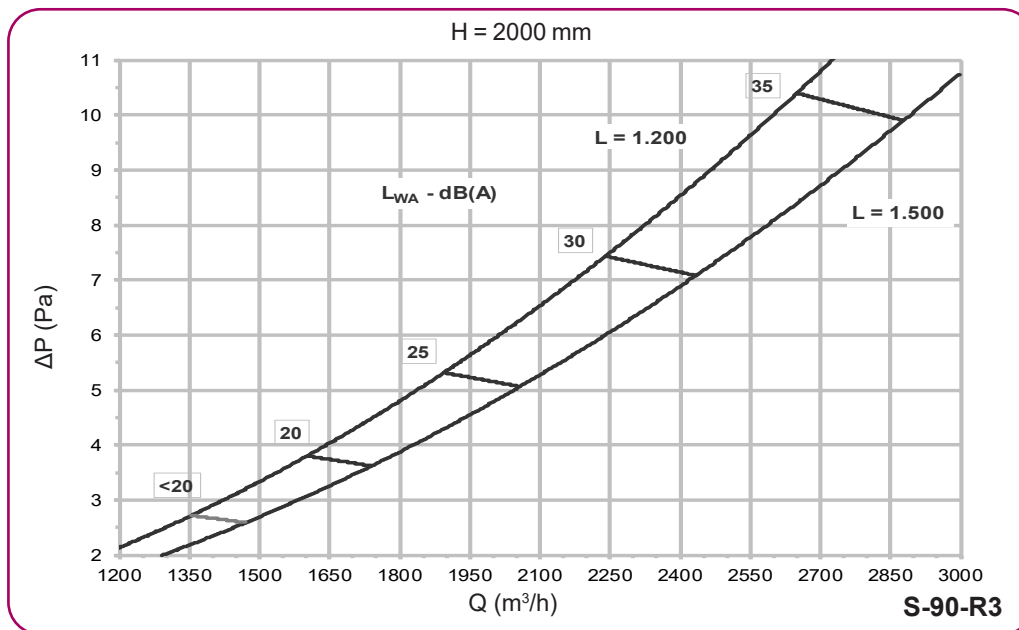
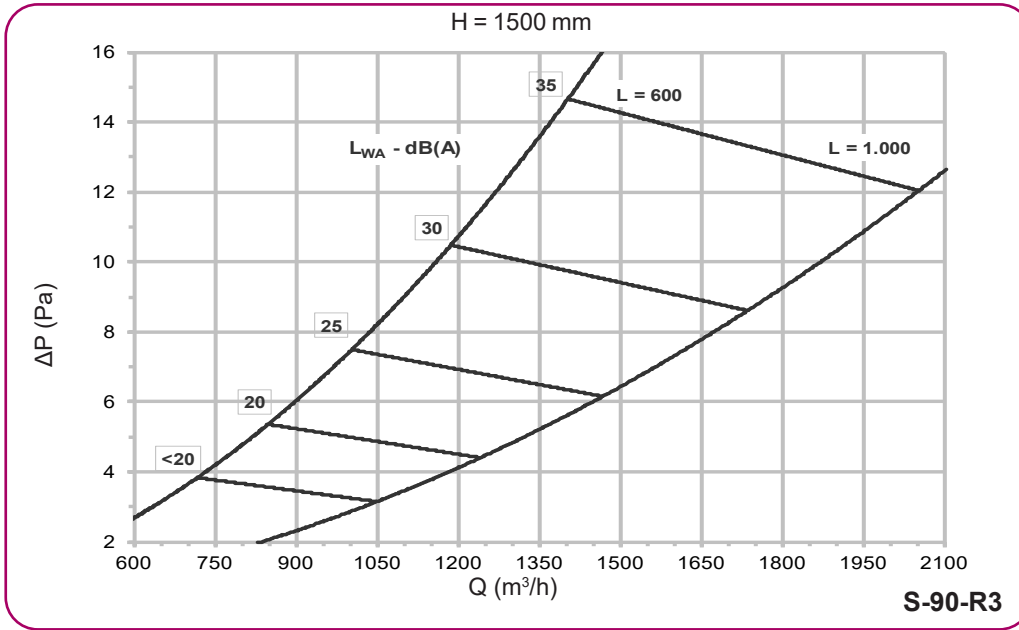
#### Symbols:

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- $L_{wA}$  (dBA): Sound power level

# S-90-R3 Model - 3-Way rectangular

## Pressure drop and sound level selection charts

These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



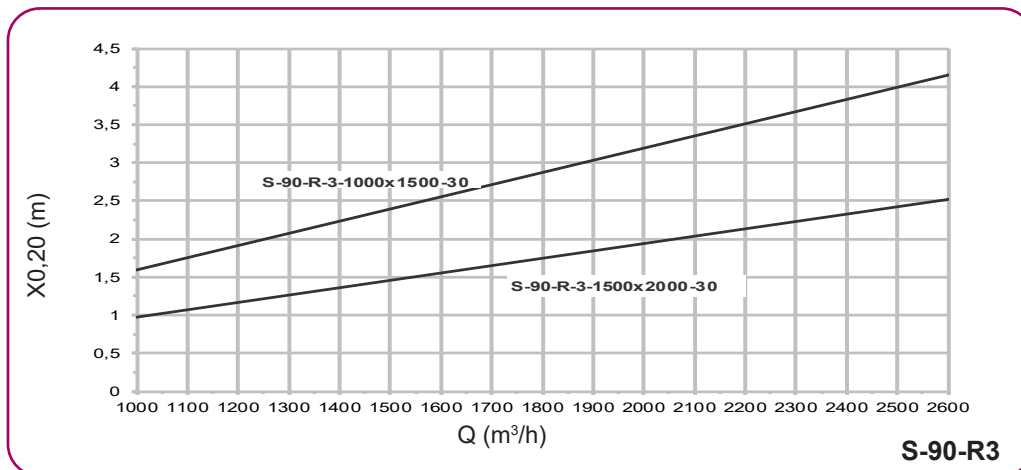
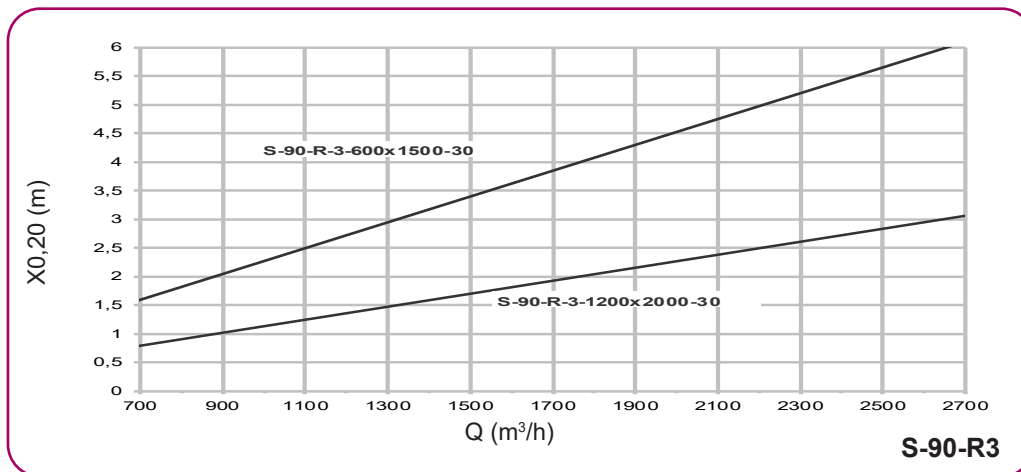
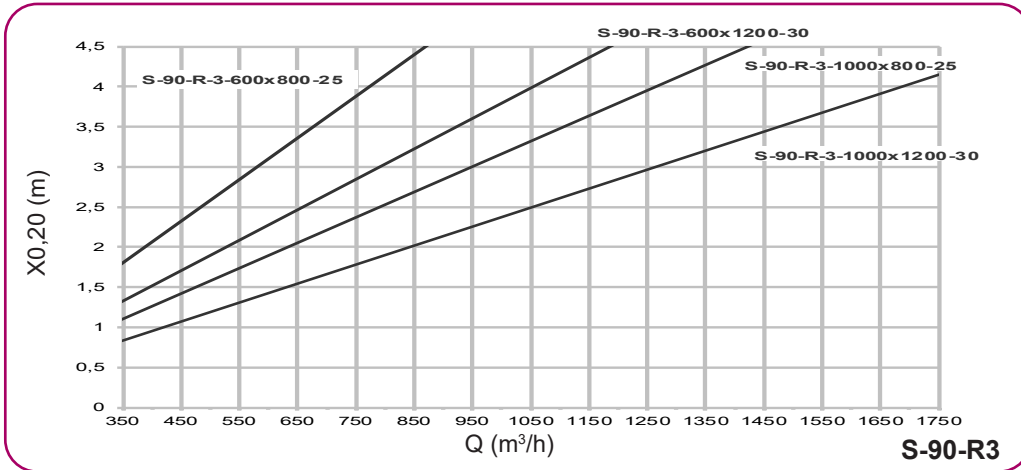
**Symbols:**

Q (m<sup>3</sup>/h): Air flow per displacement unit  
 $\Delta P$  (Pa): Pressure drop  
 $L_{WA}$  (dBA): Sound power level

## S-90-R3 Model - 3-Way rectangular

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



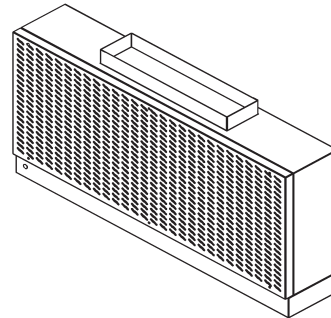
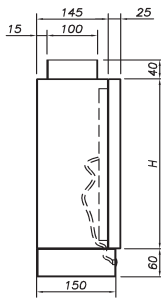
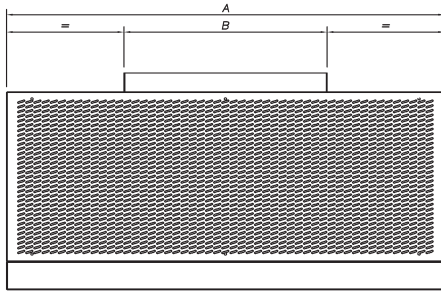
#### Symbols:

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub>(m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

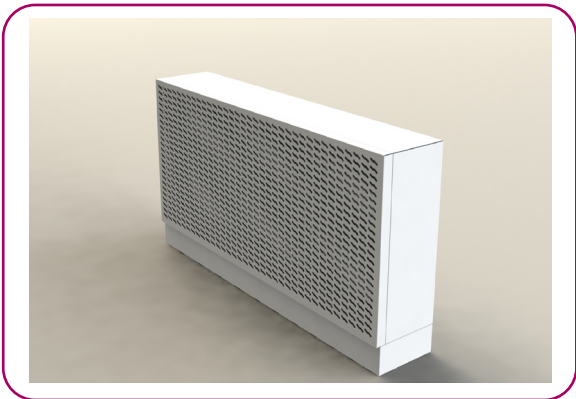
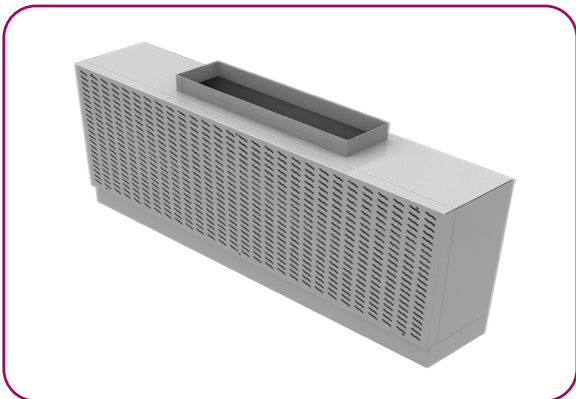
# S-90-RT Model - Horizontal rectangular

## Dimensions

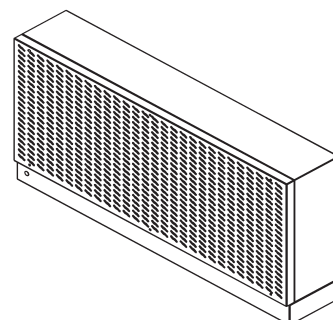
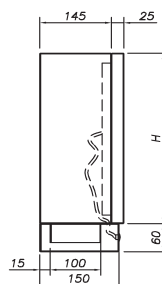
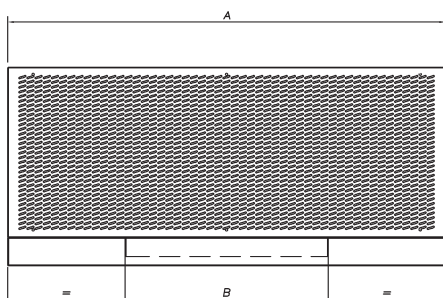
The S-90-RT diffuser is a horizontal rectangular displacement unit that supplies the air at low velocity to the habitable area. Optional accessories include a plinth and trim.



S-90-RT TOP DISCHARGE



Size	A	H	B
850x200	850	200	350
1250x200	1250	200	350
1650x200	1650	200	350
850x350	850	350	400
1250x350	1250	350	400
1650x350	1650	350	400
1050x500	1050	500	500
1450x500	1450	500	500
1850x500	1850	500	500
1050x650	1050	650	700
1450x650	1450	650	700
1850x650	1850	650	700
1250x800	1250	800	850
1650x800	1650	800	850
2050x800	2050	800	850



S-90-RT BOTTOM DISCHARGE

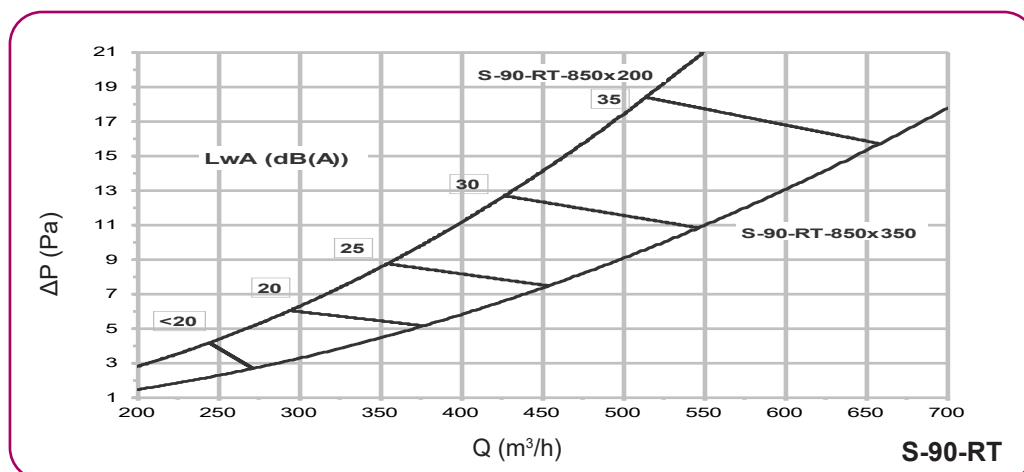
## S-90-RT Model - Horizontal rectangular

### Technical data

The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-RT Quick selection table				
Air flow - Pressure drop				
Model	m <sup>3</sup> /h (Pa) [m]			L <sub>WA</sub> (dBA)
	Vk=0,3 m/s	Vk=0,5 m/s	Vk=0,7 m/s	
850x200	50 (1)	90 (2)	120 (2)	<25
1250x200	90 (1)	120 (2)	180 (2)	
1650x200	120 (1)	180 (2)	250 (2)	
850x350	100 (1)	150 (1)	220 (2)	
1250x350	150 (1)	220 (2)	300 (3)	
1650x350	180 (1)	300 (3)	400 (5)	
1050x500	180 (1)	300 (2)	400 (3)	
1450x500	260 (1)	350 (1)	500 (5)	
1850x500	300 (1)	500 (2)	650 (8)	
1050x650	220 (1)	350 (2)	500 (3)	
1450x650	250 (1)	500 (3)	650 (4)	
1850x650	400 (1)	650 (4)	850 (7)	
1250x800	350 (1)	500 (2)	700 (3)	
1650x800	400 (1)	700 (2)	900 (5)	
2050x800	500 (2)	900 (5)	1200 (10)	

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.

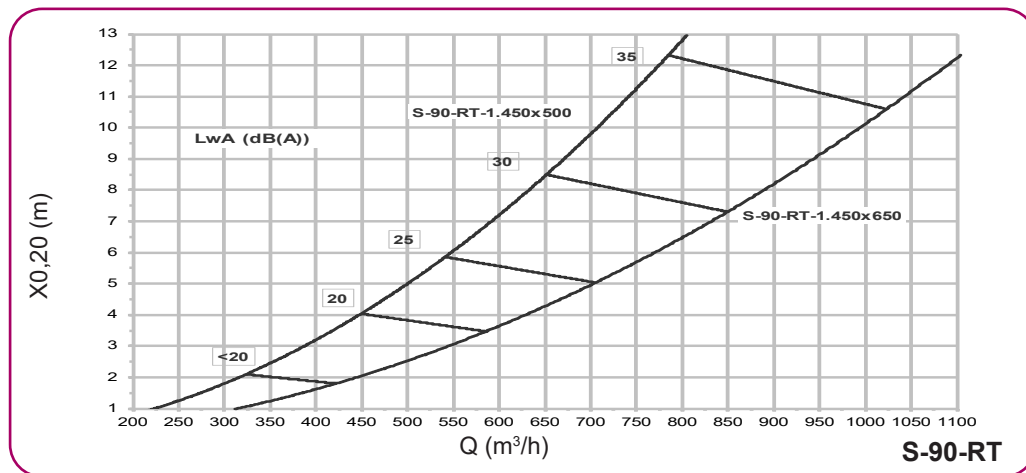
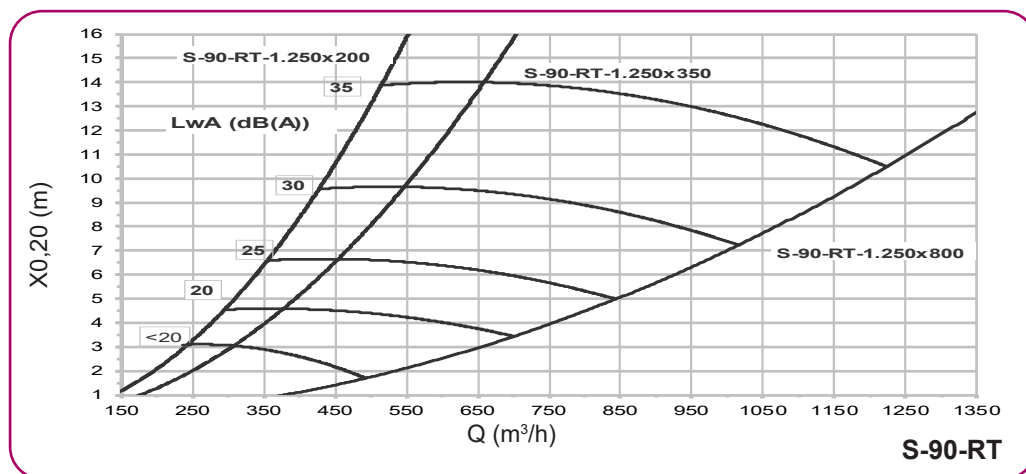
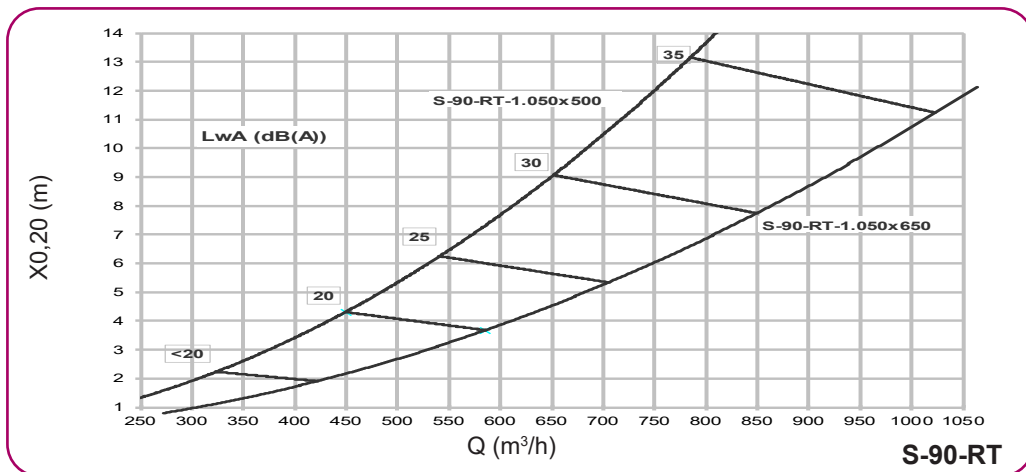
#### Symbols:

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- L<sub>WA</sub> (dBA): Sound power level

## S-90-RT Model - Horizontal rectangular

### Pressure drop and sound level selection charts

These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



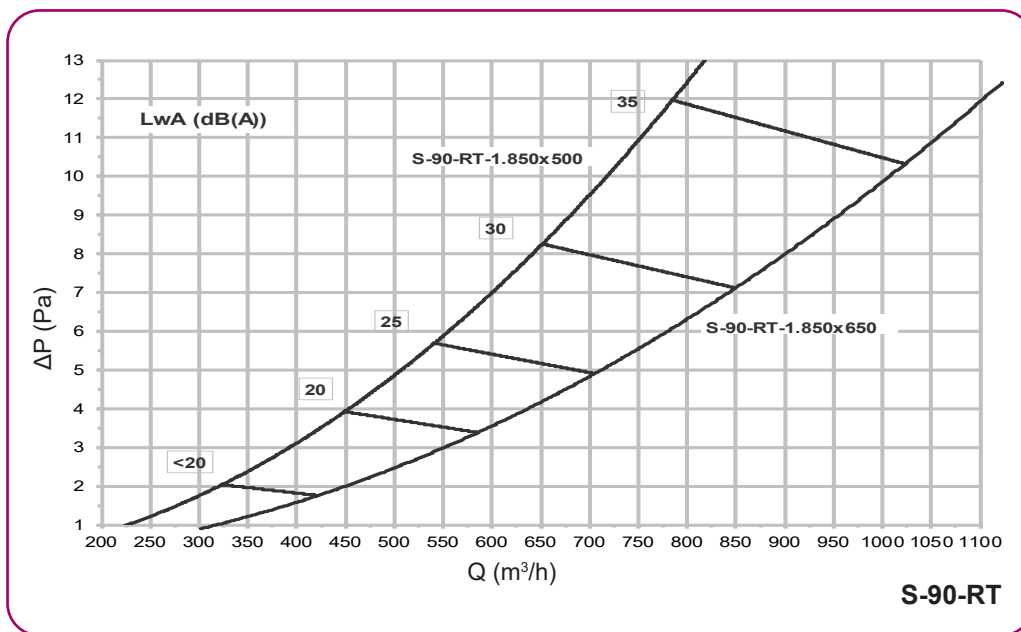
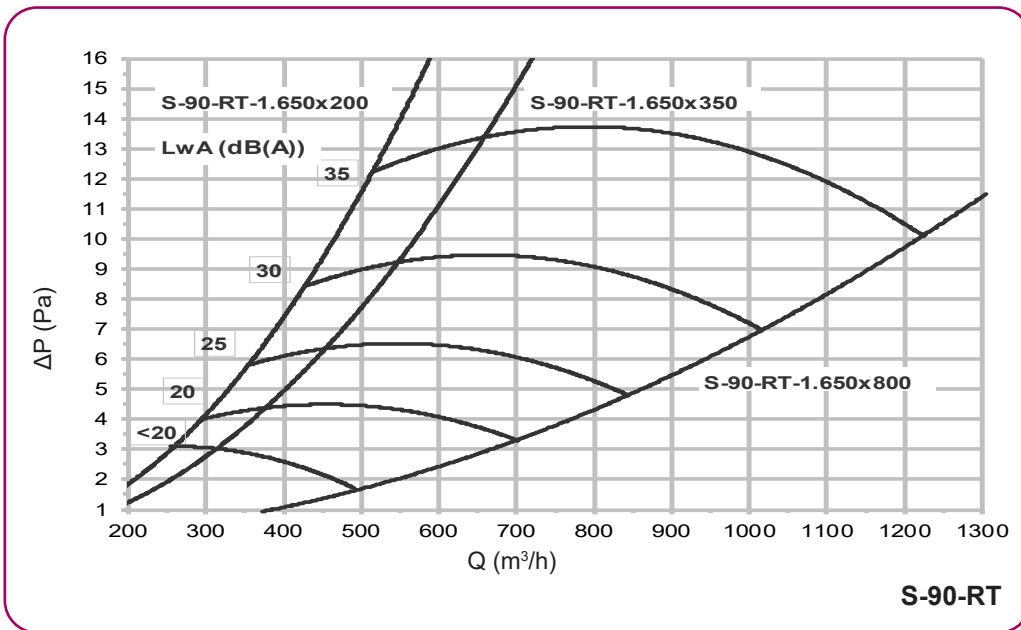
**Symbols:**

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- L<sub>wA</sub> (dBA): Sound power level

## S-90-RT Model - Horizontal rectangular

### Pressure drop and sound level selection charts

These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



**Symbols:**

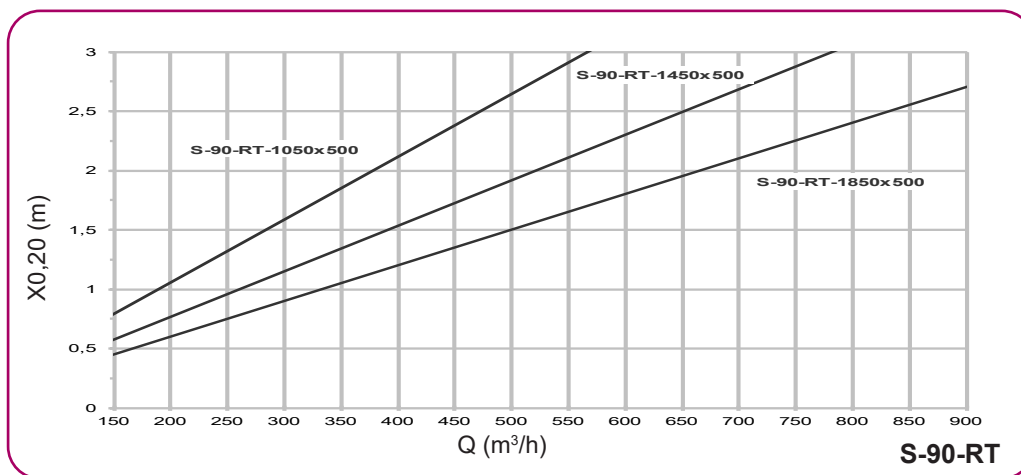
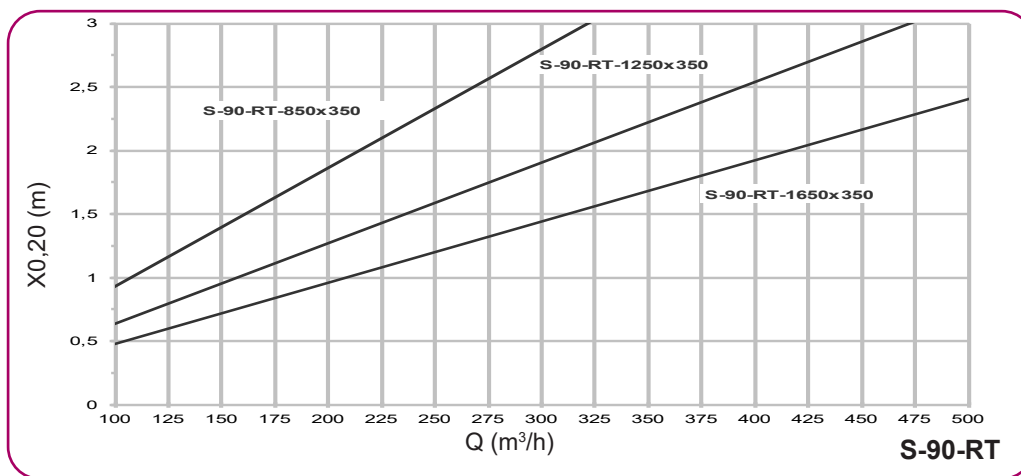
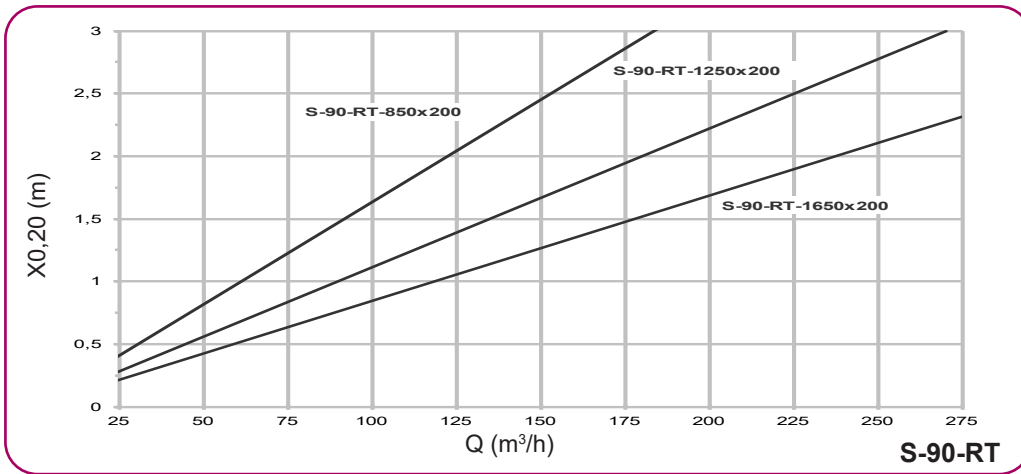
- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- L<sub>wA</sub> (dBA): Sound power level



# S-90-RT Model - Horizontal rectangular

## Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



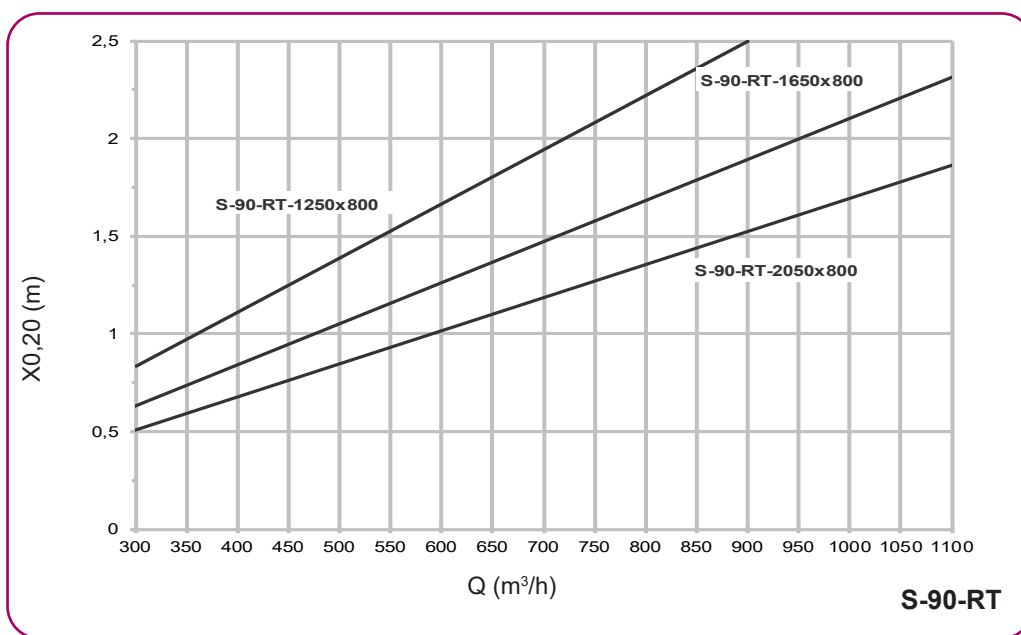
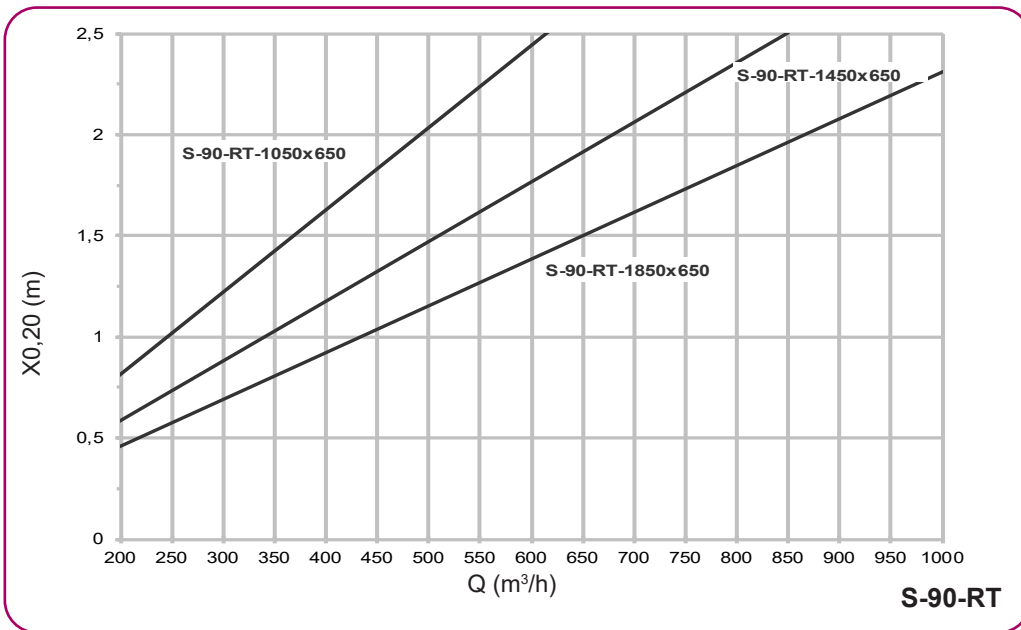
**Symbols:**

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub>(m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

## S-90-RT Model - Horizontal rectangular

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



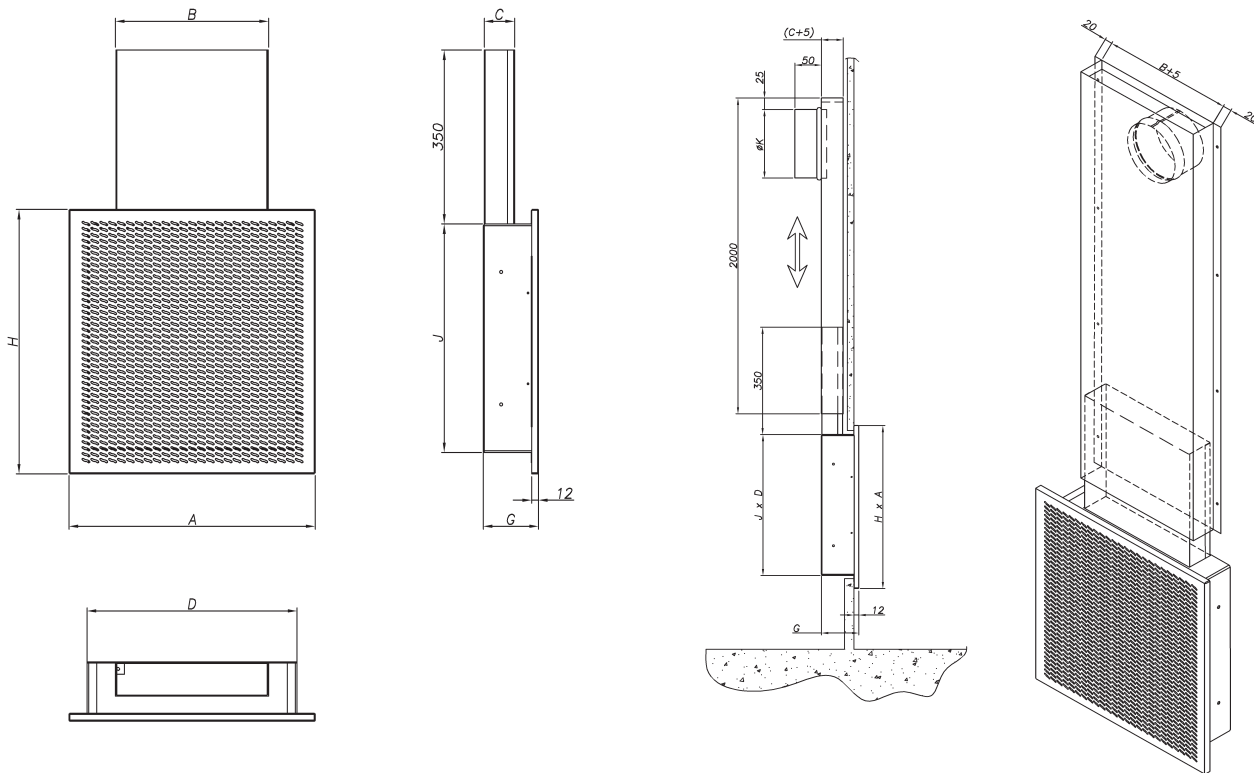
**Symbols:**

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub> (m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

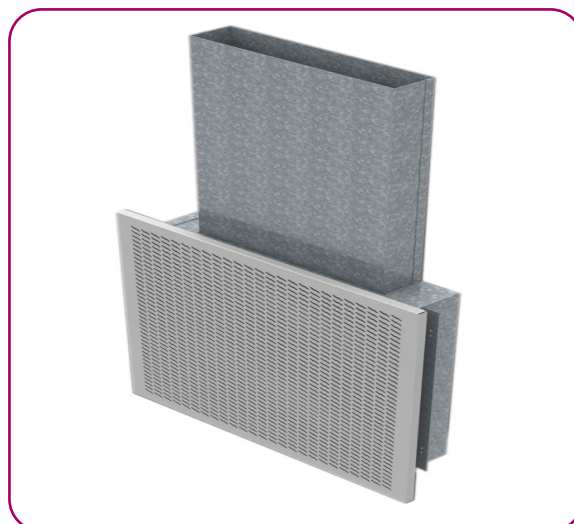
# S-90-RE Model - Flush-mounted rectangular

## Dimensions

The S-90-RE diffuser is a wall flush-mounted rectangular displacement unit that supplies the air at low velocity to the ha-bitable area. Optional accessories include a collapsible plenum.



Size	A	H	J	D	B	C	G	K
400x400	402	402	345	345	250	50	92	99
500x500	502	502	445	445	350	60	102	124
600x600	602	602	545	545	450			159
900x600	902	602	545	845	600			199



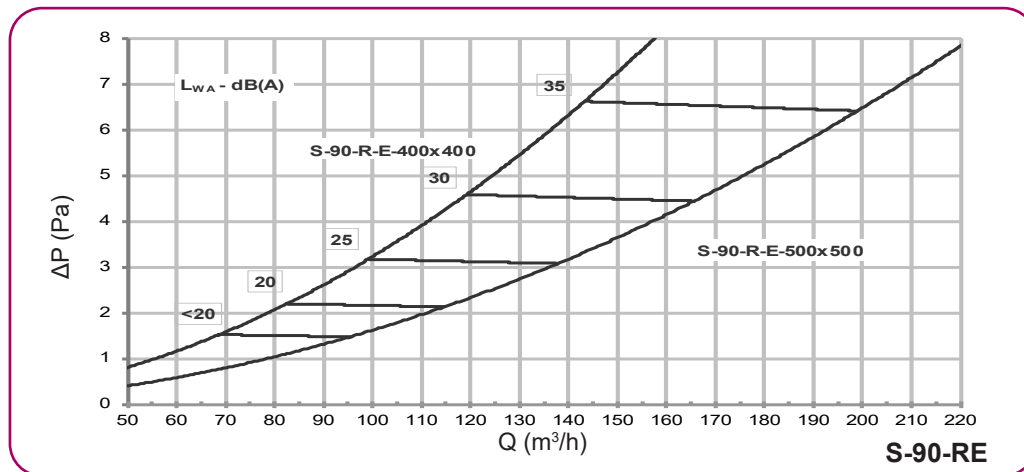
## S-90-RE Model - Flush-mounted rectangular

### Technical data

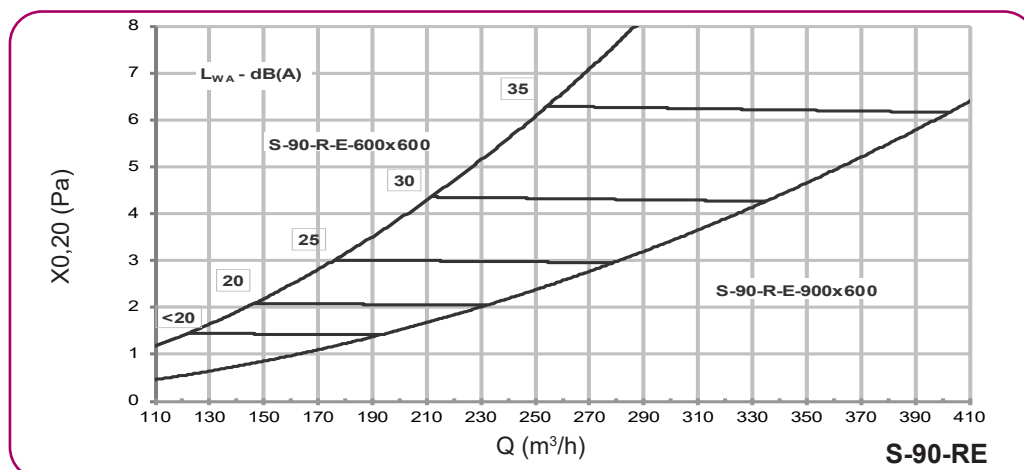
The air flow, pressure drop and horizontal throw of the air jet are listed below for a velocity of 0.20 m/s in the occupied area, based on a specific sound level.

S-90-RE Quick selection table				
Air flow - Pressure drop				
Model	m <sup>3</sup> /h (Pa) [m]			L <sub>WA</sub> (dBA)
	Vk=0,3 m/s	Vk=0,5 m/s	Vk=0,7 m/s	
400x400	50 (1)	80 (2)	120 (2)	<25
500x500	90 (1)	120 (2)	180 (5)	
600x600	130 (2)	180 (3)	250 (6)	
900x600	180 (1)	260 (3)	380 (5)	

### Pressure drop and sound level selection charts



These charts allow the sound level and pressure drop data to be obtained from the supply flow rate.



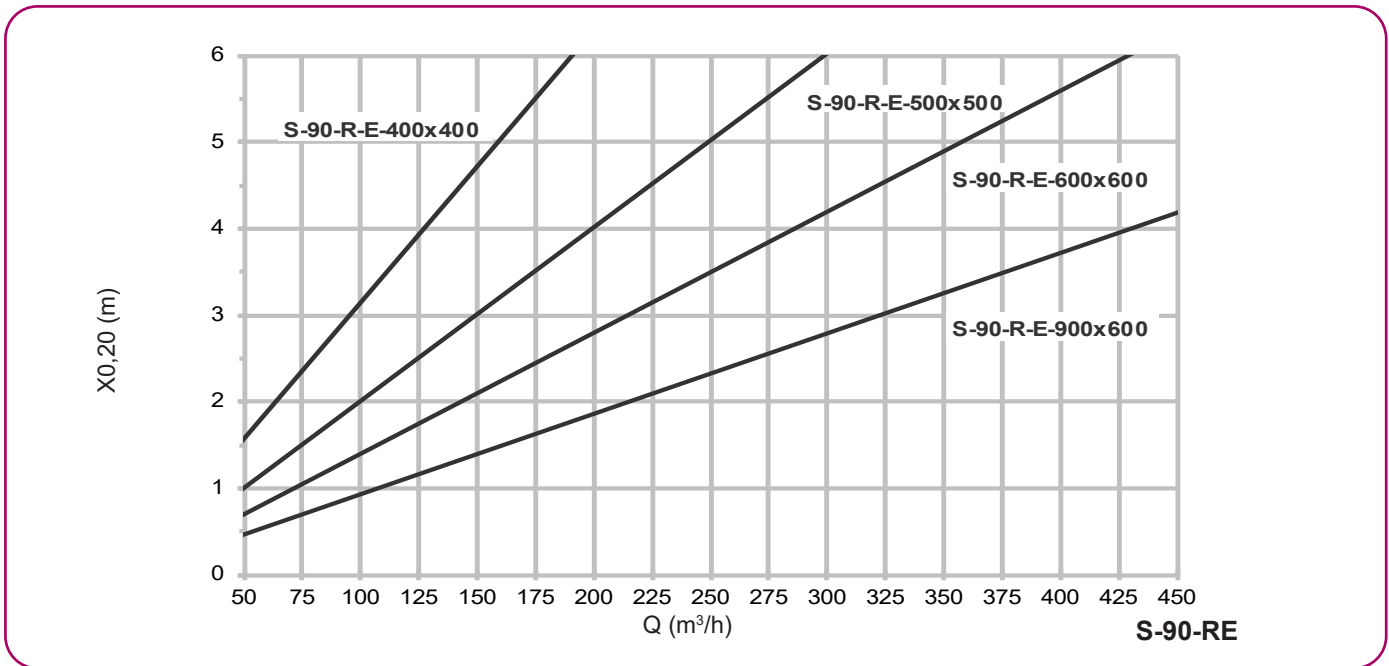
#### Symbols:

- Q (m<sup>3</sup>/h): Air flow per displacement unit
- ΔP (Pa): Pressure drop
- L<sub>WA</sub> (dBA): Sound power level

## S-90-RE Model - Flush-mounted rectangular

### Selection charts

The selection charts shown allow the horizontal throw of the air jet to be obtained from the supply flow rate, when the velocity in the occupied area is 0.20 m/s.



**Symbols:**

Q (m³/h): Air flow per displacement unit  
 X<sub>0,20</sub>(m): Horizontal throw of the air jet, when the velocity in the occupied area is 0.20 m/s for a temperature difference of T = -3 °C

## Selection example

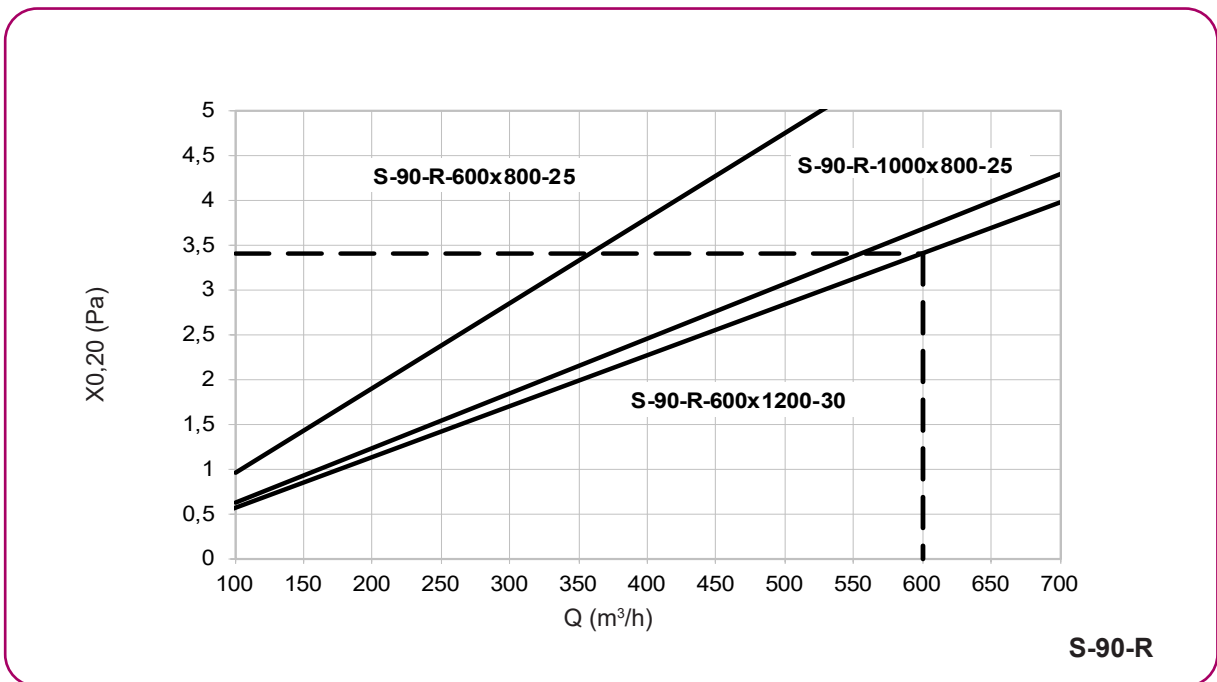
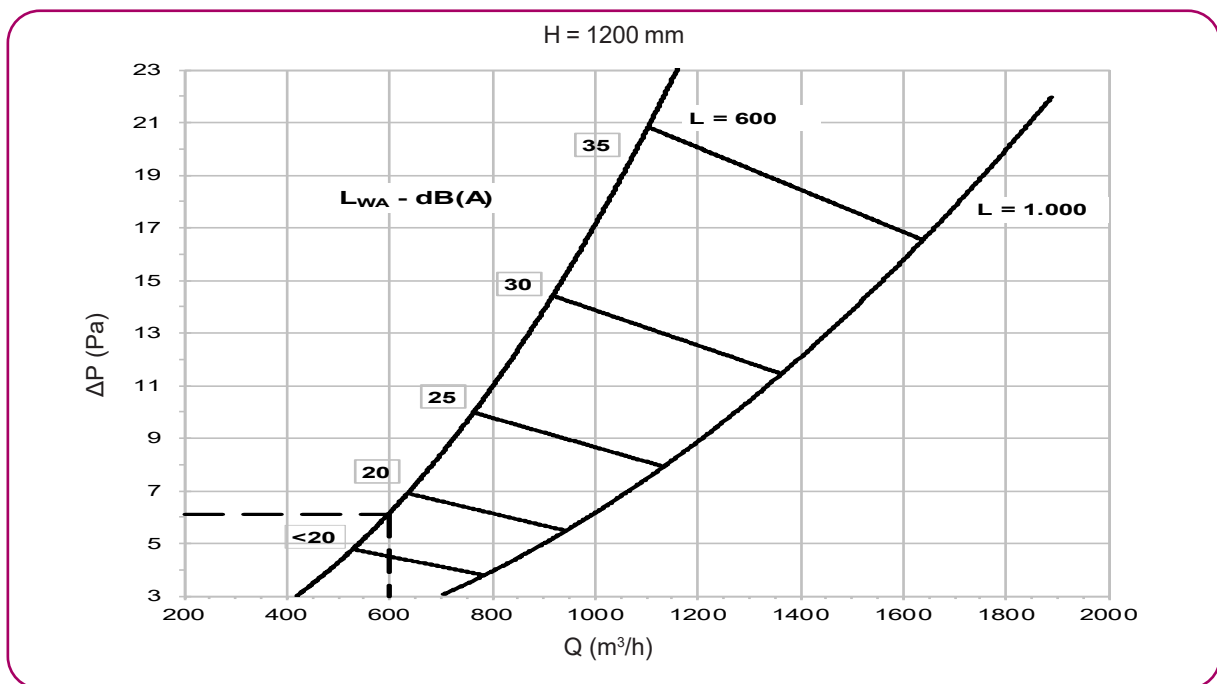
Air conditioning is to be provided to a room using a displacement system. Based on the architectural characteristics of the room, a decision was made to use the S-90-R rectangular diffuser of 600x1200 (LxH). The following data are assumed:

Unit supply air flow = 600 m<sup>3</sup>/h

Room dimensions = 10x10x4 (LxAxH)

Temperature difference (difference between supply temperature and ambient temperature) = 3 °C

The technical data for the selected diffuser is obtained from the catalogue charts:



## Results

Pressure drop: 6 Pa

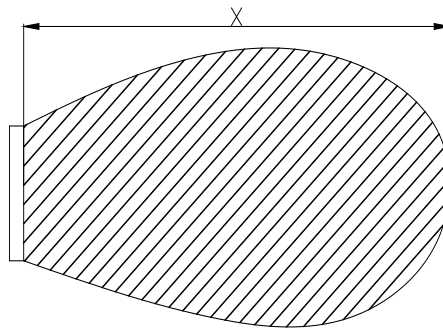
Sound power level: <20 dBA

(\*) Distance where the velocity isovel achieves  $V_x = 0.20$  m/s: 3.4 m

NOTE: (\*) This data is known as the near zone and is defined as the area near the supply terminal unit in which the air velocity is higher than the velocity of 0.20 m/s for HVAC installations.

Floor mount:

Near zone **S-90-RE**



## Correction factors

Coefficient table to correct the horizontal throw of the air jet, when the velocity in the occupied area reaches 0.20 m/s for a different temperature difference from the one used in the catalogue charts, which is  $\Delta T = -3^\circ$  C.

$\Delta T$	C
-1 °C	0,86
-2 °C	0,92
-3 °C	1,00
-4 °C	1,10
-5 °C	1,17
-6 °C	1,25

$X_{0.20 \text{ total}} = X_{0.20 \text{ Chart}} \times C$

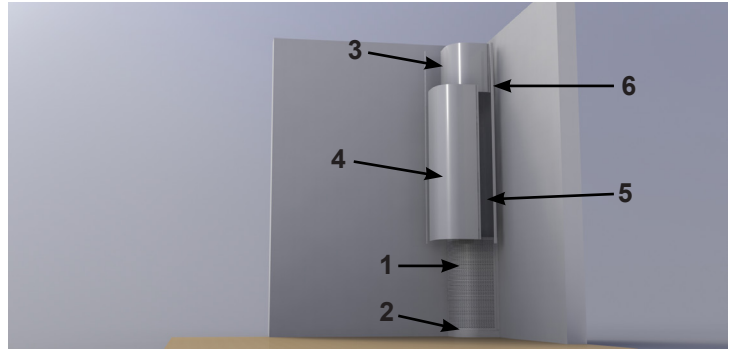
## Installation

Assembly instructions for telescopic covers and bases of S-90 series diffusers.

All S-90 diffuser models and sizes are manufactured for installation with cover and plinth, except for S-90-RE diffusers which are flush mounted in the wall. The steps to be followed for installation are shown below:

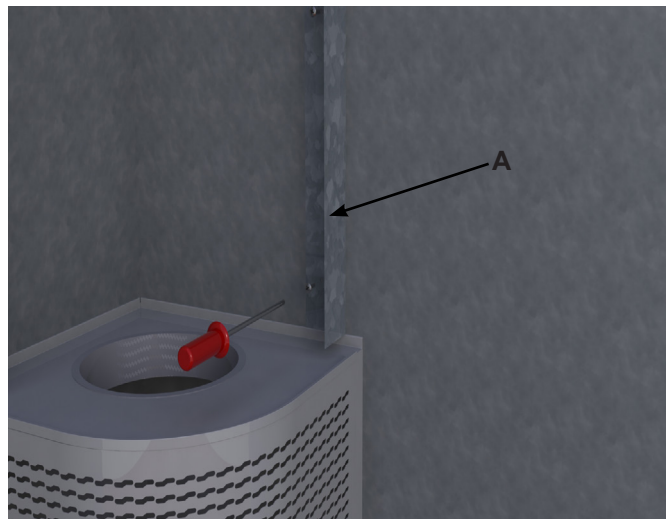
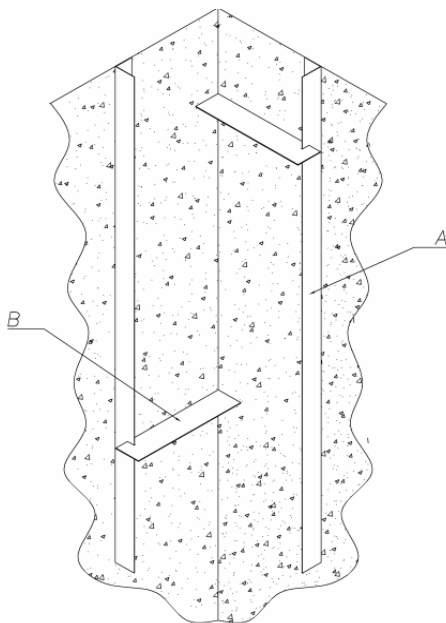
Existing components

Diffuser	1
Plinth	2
Upper cover	3
Lower cover	4
Band fasteners for trim section	5
Removable trim sections	6



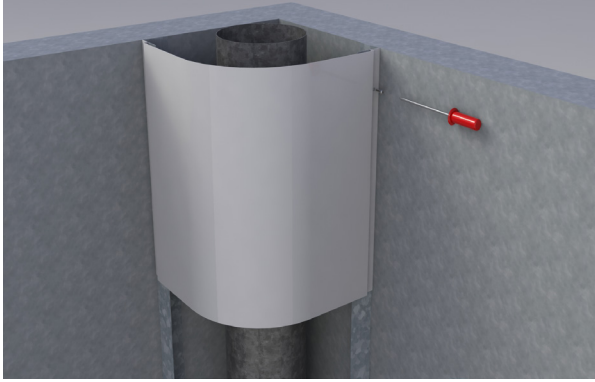
To attach the upper and lower covers, use the (A) guiding brackets previously attached to the wall by screws and aligned at the correct distance with the help of the (B) alignment parts.

Position the air ductwork, fitting it to the diffuser and the wall properly in order to prevent leaks and noise.

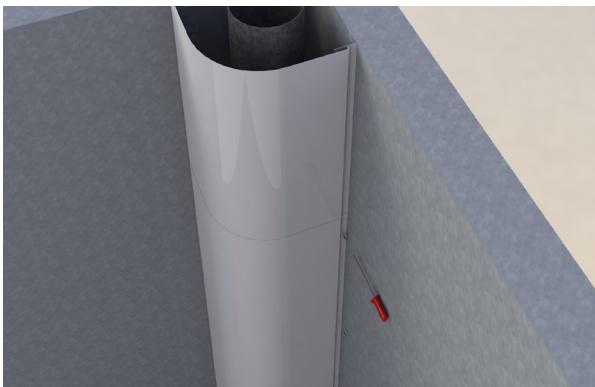




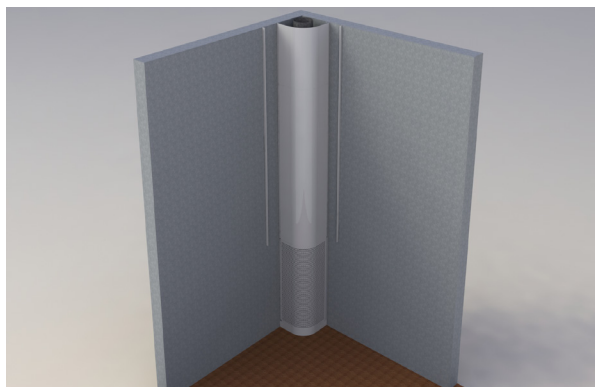
## Installation



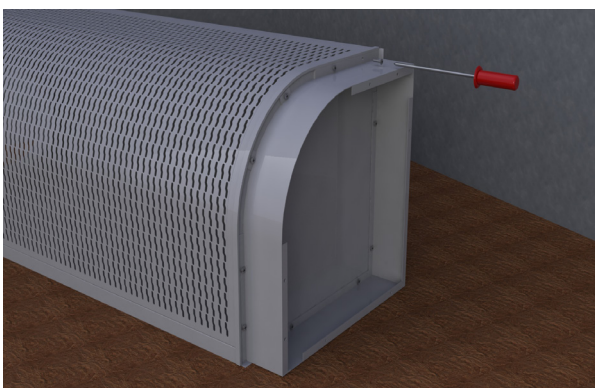
To attach the upper cover, screw it onto the (A) guiding brackets flush with the ceiling.



The lower cover will be placed in the same way and bolted to the "A" guide angles.



Lastly, place the trim sections.



To install the plinth, turn the diffuser and screw it onto the diffuser base.  
The plinth can also be attached to the floor and then screwed onto the diffuser base.

## Codification

**S-90** Displacement diffuser

**C** Circular  
**SC** Semicircular  
**CC** Quadrant  
**R** Rectangular  
**R3** 3-Way rectangular  
**RT** Horizontal rectangular  
**RE** Flush-mounted rectangular

**Z** Plinth  
**CS** Upper cover  
**CI** Lower cover  
**ET** Decorative cover  
**PT** Telescopic plenum

Finishes: standard finish in white RAL 9010 paint. Please contact us regarding other finishes.

Coding example of an order. All of the different models, sizes, accessories, etc., existing in the Koolair S-90 series are listed.

Coding example: S-90-R/600x1200/CS/CI/Z

Rectangular displacement terminal, S-90-R model, 600x1200 with upper and lower covers and plinth. Diffuser painted in white (RAL 9010).

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**CEN-S90-0711-00**



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