



AIRTECHNIC

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Air-Conditioning & Ventilation Components & Systems

- **Ceiling swirl diffuser**
SW11 / SW11.Q

περισσότερα
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V. 4

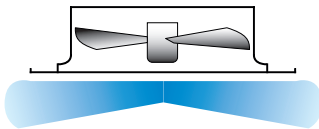
Ceiling diffusers SW11

Swirl diffusers, type **SW11**, are designed for all types of air conditioning, ventilation and heating or cooling systems. Due to the high capacity of the air stream, they are used in areas with heights of 3 to 12 m, such as industrial buildings, theaters, airports, shopping centers, gyms, etc. They are ideal for large temperature difference between the supplied air and the air in the area we want to regulate. They are suitable for ceiling installation and are recommended for air supply systems. They consist of a cylindrical body made of aluminium powder painted in RAL 9016 and adjustable, converging blades, in a helical arrangement with grouped movement, made of galvanized steel, powder painted in RAL 9016. The special **helical design** of its blades offers the possibility to swirl the air stream, which in combination with the "Coanda" effect in the internal section of the diffuser, offers high comfort air conditioning. This is achieved by adjusting the angle of the blades from horizontal air supply to angled and finally to vertical supply as the air conditioning system switches between cooling operation, isothermal air supply and heating operation.

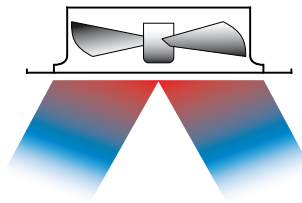


SW11

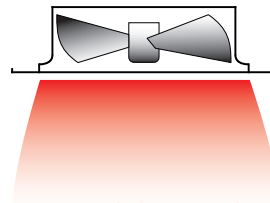
BLADE ANGLE ADJUSTMENT ACCORDING TO THE OPERATION MODE



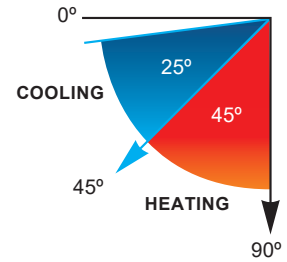
COOLING OPERATION
SUMMER
AIR TEMP. < 20 °C



TRANSITIONAL STATE
AIR TEMP. 20 ÷ 30 °C

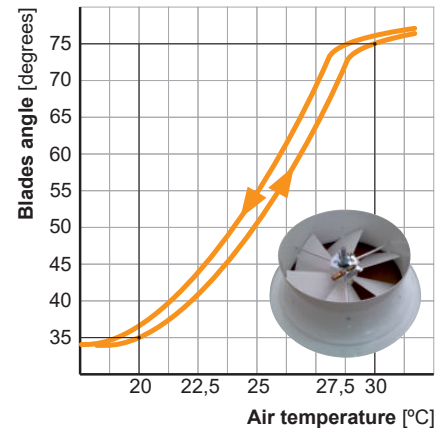


HEATING OPERATION
WINTER
AIR TEMP. > 30 °C



CONSTRUCTION OPTIONS

- SW11** Aluminium cylindrical body powder painted in RAL 9016 and adjustable converging blades made of galvanized steel, powder painted in RAL 9016. The movement of the blades is grouped and the adjustment of the supply angle is done **manually**.
- SW11+MO** Aluminium cylindrical body powder painted in RAL 9016 and adjustable converging blades made of galvanized steel, powder painted in RAL 9016. The movement of the blades is grouped and the adjustment of the supply angle is done **automatically** via **servomotor On / Off**.
- SW11+MA** Aluminium cylindrical body powder painted in RAL 9016 and adjustable converging blades made of galvanized steel, powder painted in RAL 9016. The movement of the blades is grouped and the adjustment of the supply angle is done **automatically** via **24V analog servomotor**.
- SW11+TP** Aluminium cylindrical body powder painted in RAL 9016 and adjustable converging blades made of galvanized steel, powder painted in RAL 9016. The movement of the blades is grouped and the adjustment of the supply angle is done **automatically** via **thermodynamic mechanism** (thermodynamic piston) which does not require power supply or additional automations and automatically adjusts the angle of the blades according the air supply temperature (as shown in the diagram). At temperatures below 20 °C (cooling operation) the angle of the blades remain at 35 degrees. At temperatures from 20 °C to 30 °C (transitional state) the angle of the blades changes from 35 to 75 degrees. At temperatures above 30 °C (heating operation) the angle of the blades remains at 75 degrees.



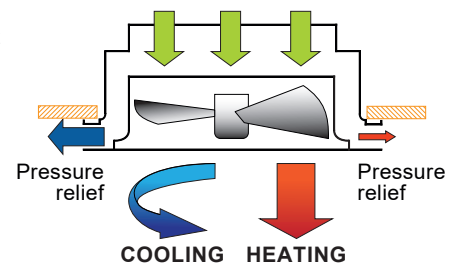
◆ **ADDITIONAL COMPONENTS:** (a) Plenum box, circular or rectangular. (b) Circular volume control damper, **mounted on the plenum box**. (c) Air duct thermostat for automatic blade angle adjustment.



◆ DOUBLE FRAME DIFFUSER SW11.Q

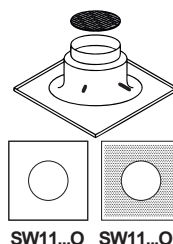
Swirl diffusers **SW11.Q** are specially designed with **double frame** in order to relieve the pressure that is increasing as the blades are closing during their angle adjustment from vertical air supply (heating operation) to horizontal air supply (cooling operation). As the blades are closing and the pressure is increasing, more and more air is escaping through the double frame opening. As a result, in cooling mode, the air stream's velocity at the diffuser's outlet is lower than in the corresponding **SW11** types. Therefore we have better air velocity and lower noise levels within the comfort zone.

SW11.Q diffusers are available with manual and automatic blade movement (similar to **SW11** types). For more information and size selection, please contact our sales department.



◆ FALSE CEILING PLATES WITH or WITHOUT PERFORATION & ROUND HOLE

Swirl diffusers **SW11.OP** and **SW11.O** are compatible with false ceiling plates (with or without perforation respectively) made of galvanized steel 1 mm thick, with outer dimensions 595 x 595 mm and round hole. The diffuser and the plate are powder painted in RAL color of your choice.



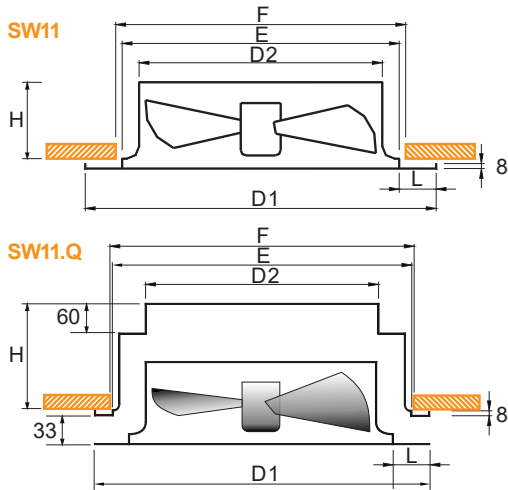
◆ SW11 & SW11.Q compatibility with false ceiling plates:

- SW11** = 200, 250, 300, 350, 400, 450
- SW11.Q** = 200, 250, 300, 350, 400

For more information, please contact our sales department.

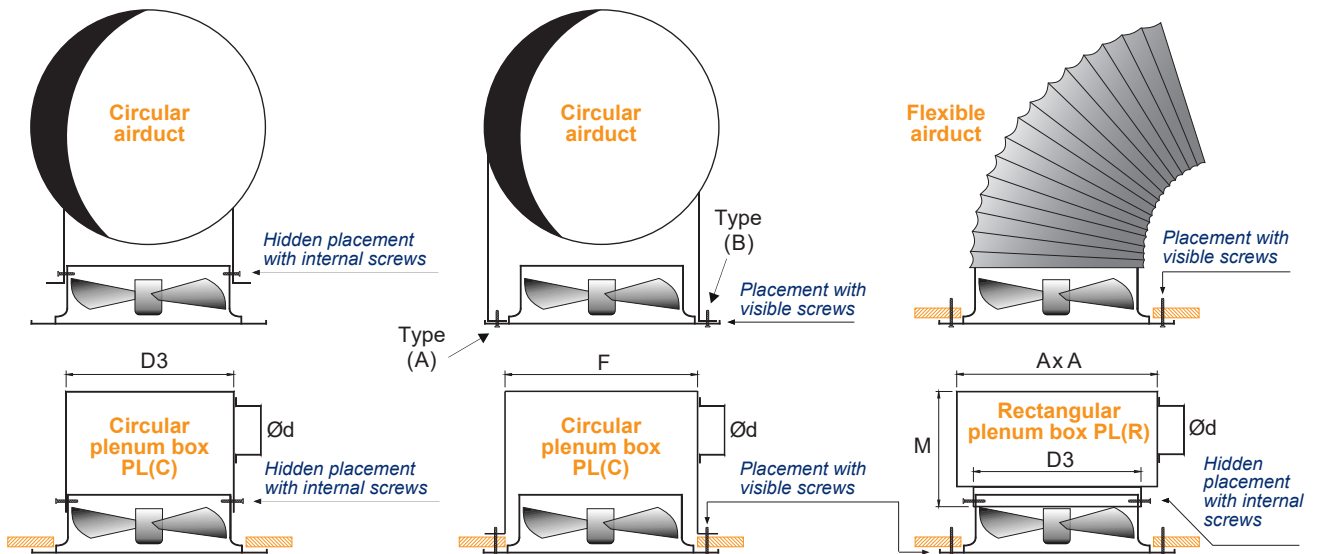
Types **SW11.Q.OP** & **SW11.Q.O** have the false ceiling plate pre-installed with the 2nd frame hidden. If the plate is ordered separately then the diffuser is placed with the 2nd frame visible as well.

DIMENSIONS - PLACEMENT METHODS - PLENUM BOXES

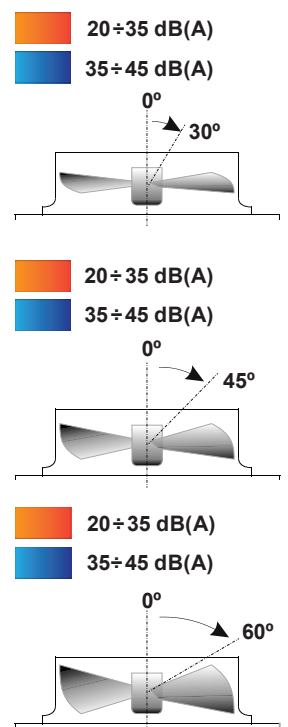
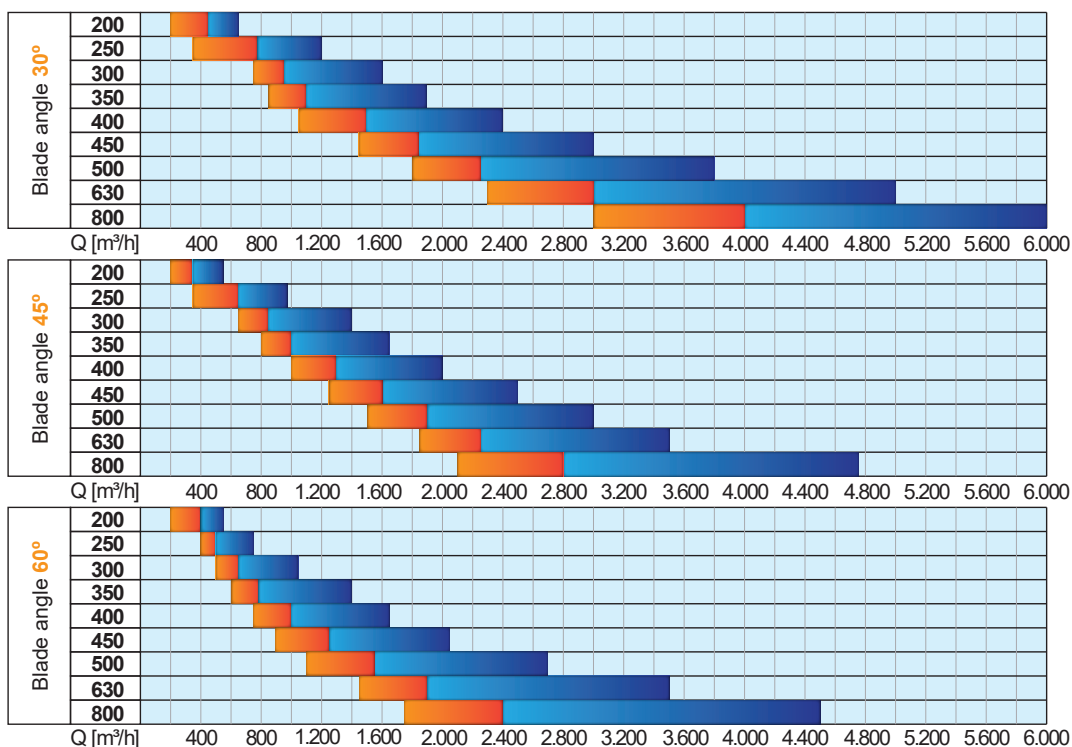


SW11	Ø D1	Ø D2	Ø D3	M	A	E	F	L	H	Ø d
200	310	195	200	250	350	250	255	30	135	178
250	360	245	250	300	400	300	305	30	135	198
300	410	295	300	400	450	350	355	30	135	248
350	460	345	350	450	500	400	405	30	135	248
400	510	395	400	450	550	450	455	30	135	298
450	560	445	450	500	600	500	505	30	135	298
500	620	495	500	600	650	553	558	34	230	348
630	750	625	630	700	790	683	688	34	250	448
800	920	795	800	900	860	853	858	34	300	498

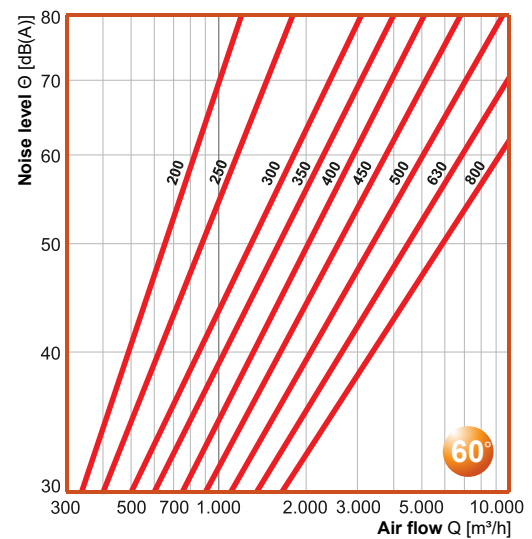
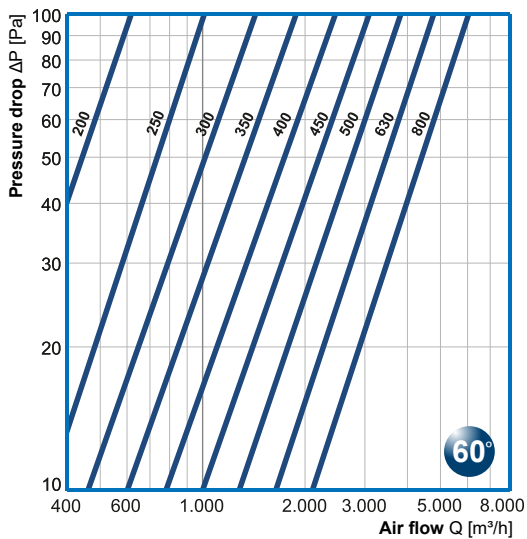
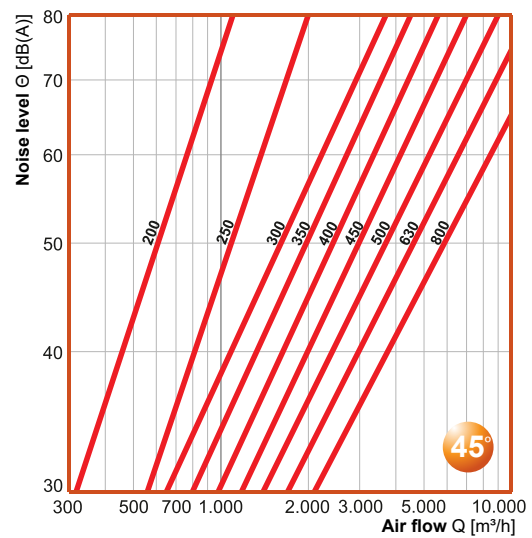
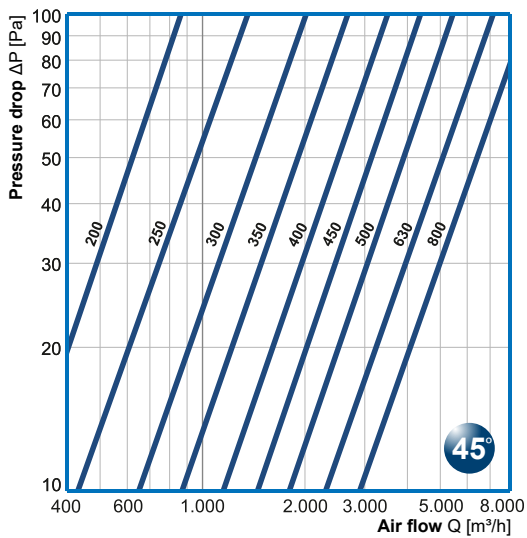
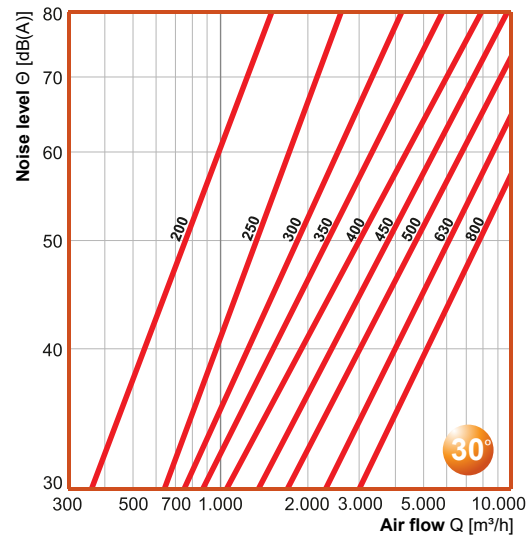
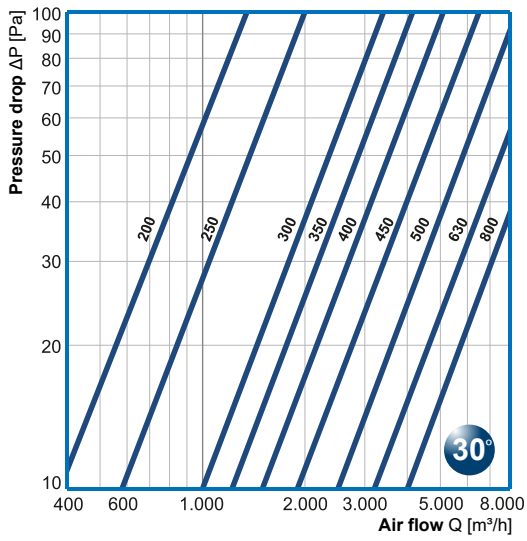
SW11.Q	Ø D1	Ø D2	Ø D3	M	A	E	F	L	H	Ø d
200	360	195	200	250	350	300	305	55	196	178
250	410	245	250	300	400	350	355	55	196	198
300	460	295	300	400	450	400	405	55	196	248
350	510	345	350	450	500	450	455	55	196	248
400	560	395	400	450	550	500	505	55	196	298
450	620	445	450	500	600	553	558	60	291	298



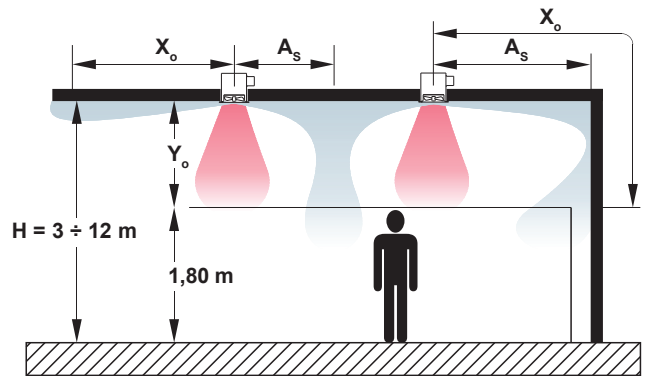
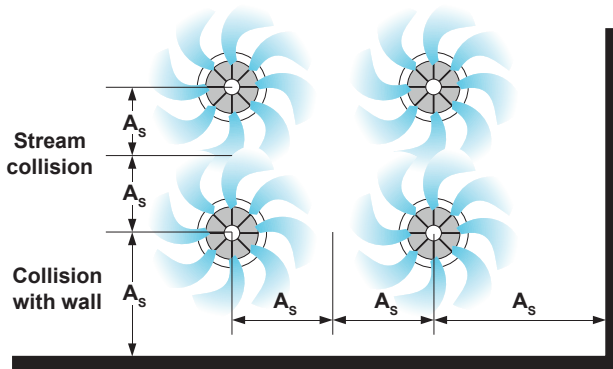
QUICK SELECTION DIAGRAMS



PRESSURE DROP & NOISE LEVEL CALCULATION for blade angle **30°**, **45°** & **60°**



CEILING SWIRL DIFFUSERS SW11 PLACEMENT



All diffusers can be powder painted in any RAL color, upon request. For the full range of RAL colors please contact us.

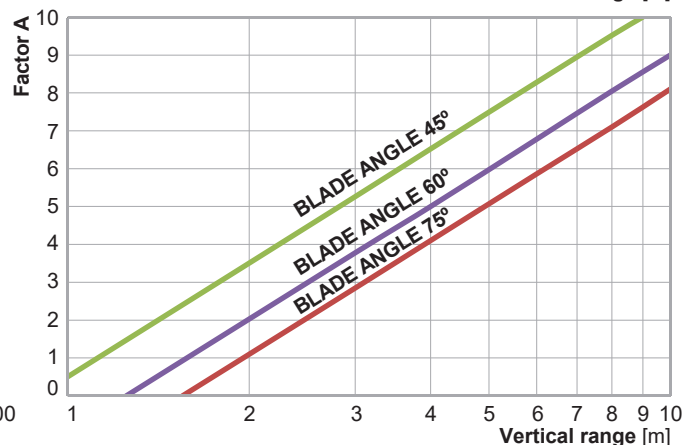
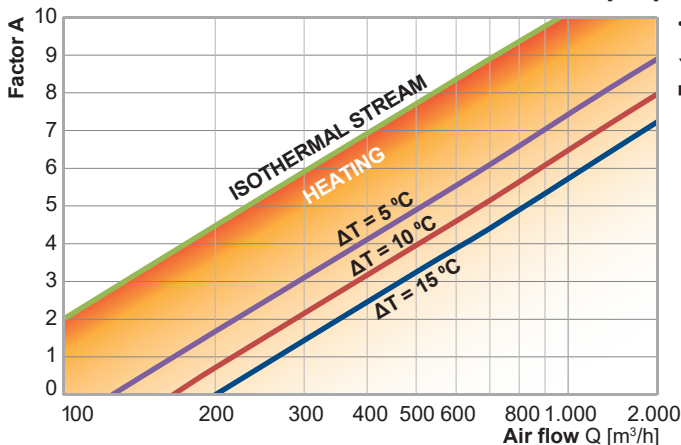
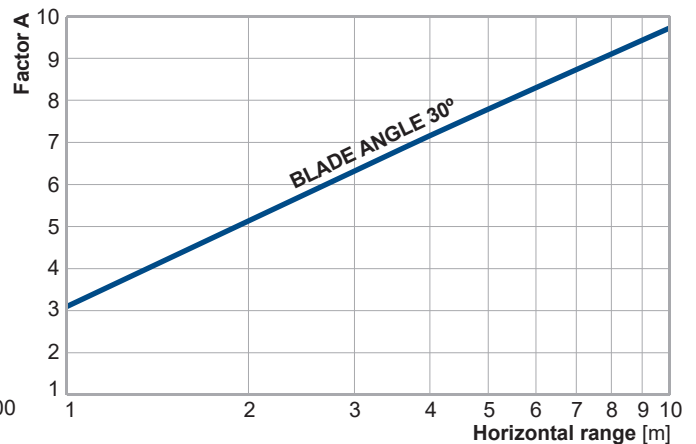
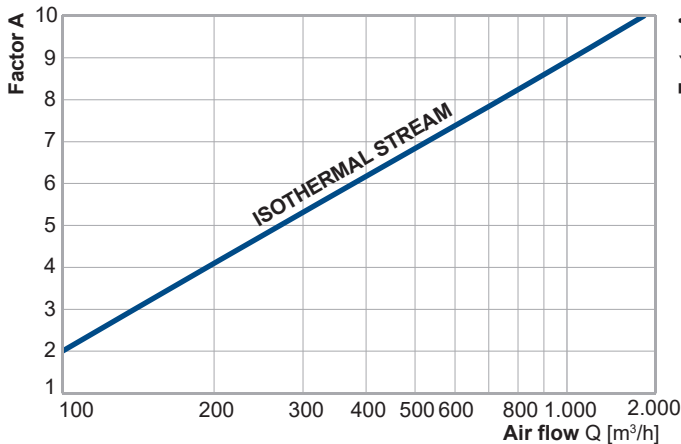


Color examples

The diffuser selection is made with the following diagrams and in accordance with the normative document: CR 1752:1998 (Ventilation for buildings - Design criteria for the indoor environment). The diagrams are an approximate selection method for SW11 diffusers. For more precise calculation, please use the AIRTECHNIC air grilles calculation software or contact us.

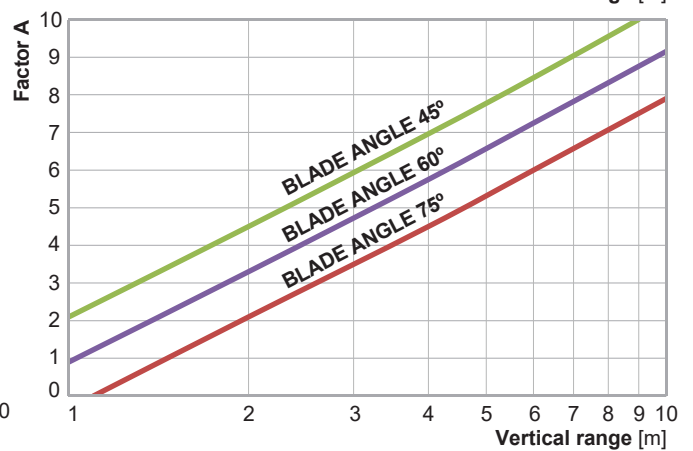
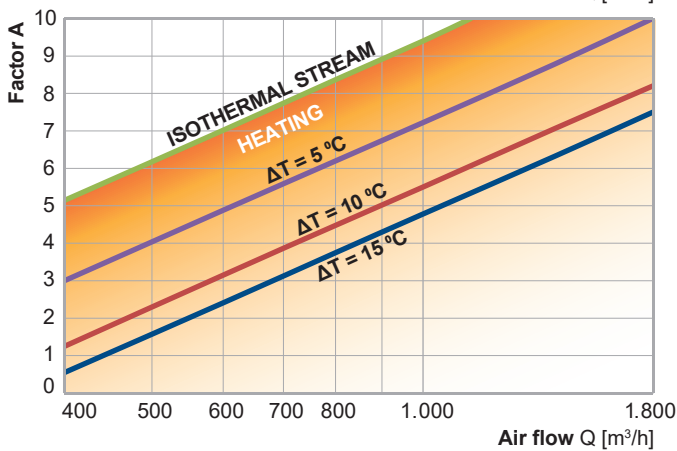
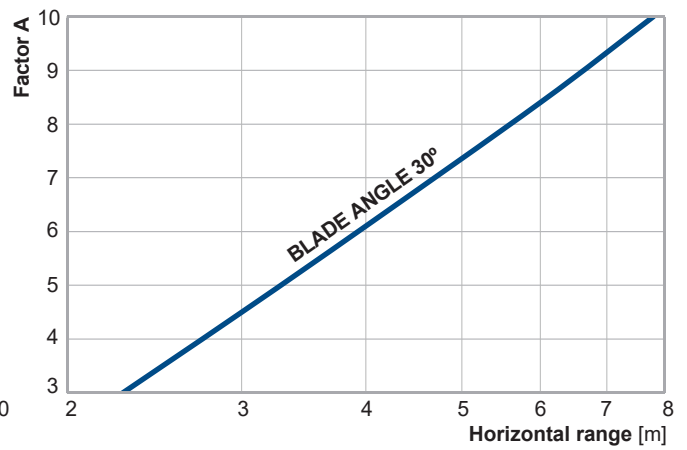
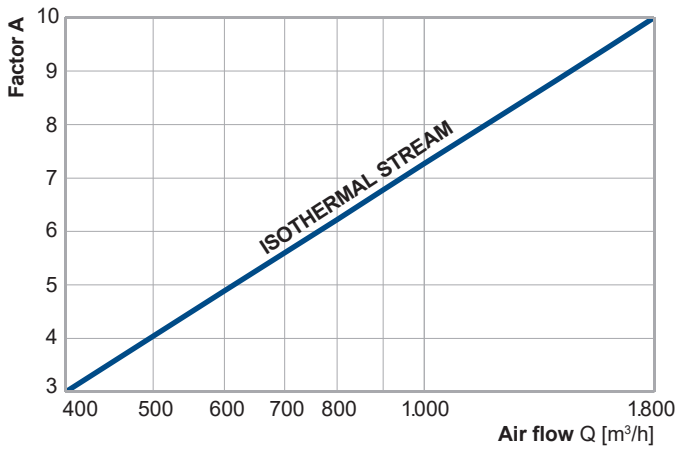
RANGE CALCULATION

Ø 250



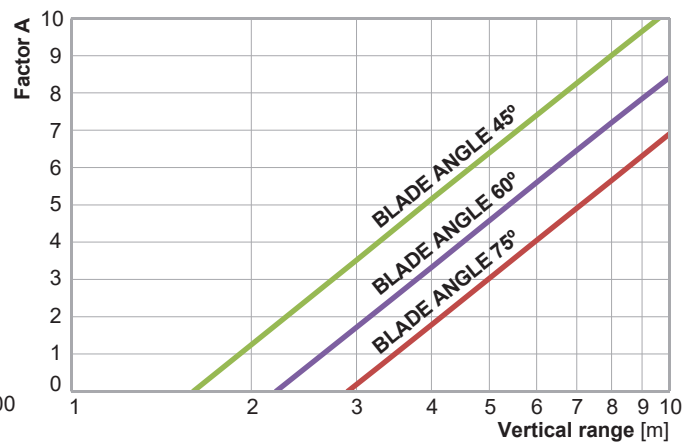
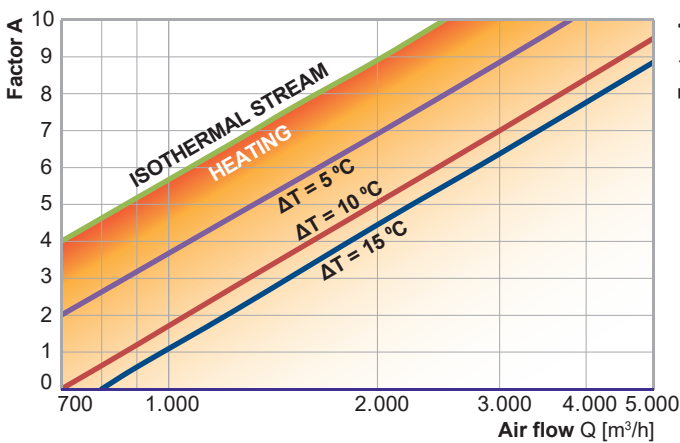
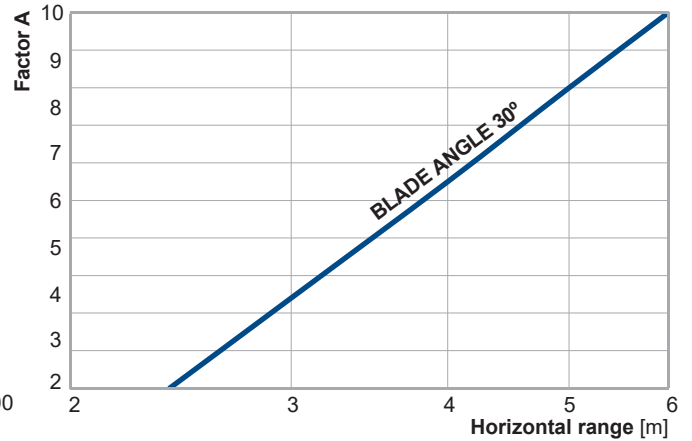
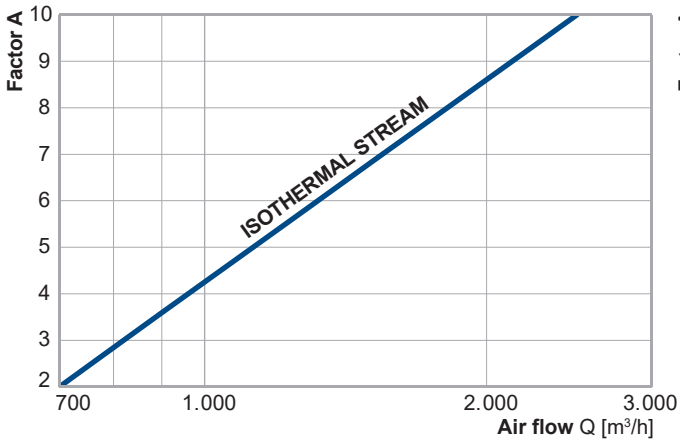
RANGE CALCULATION

Ø 315



RANGE CALCULATION

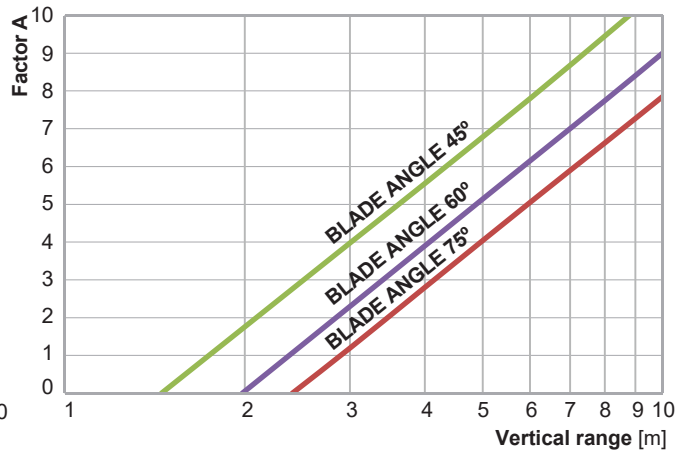
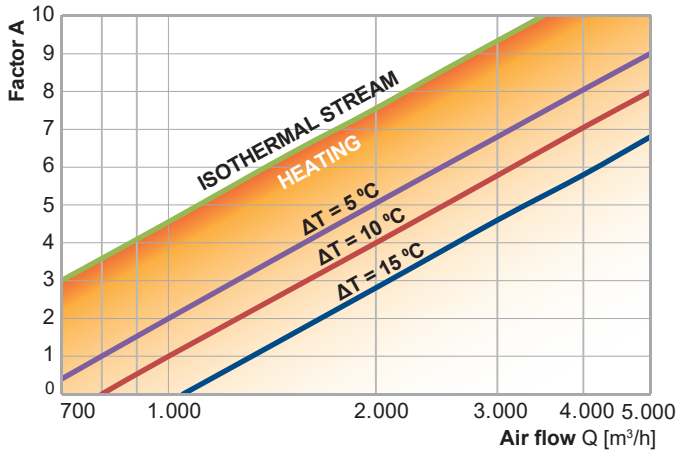
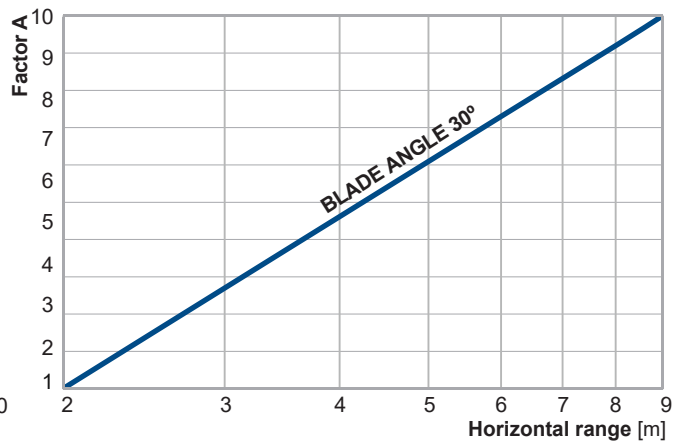
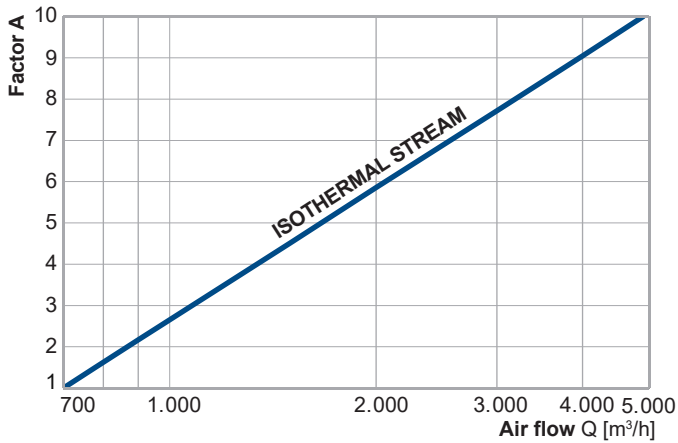
Ø 400





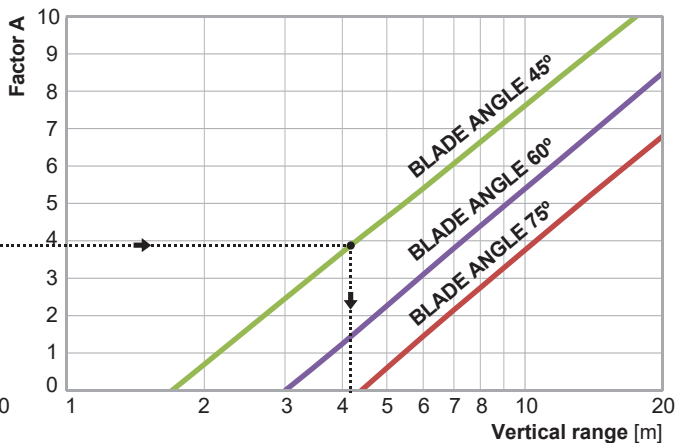
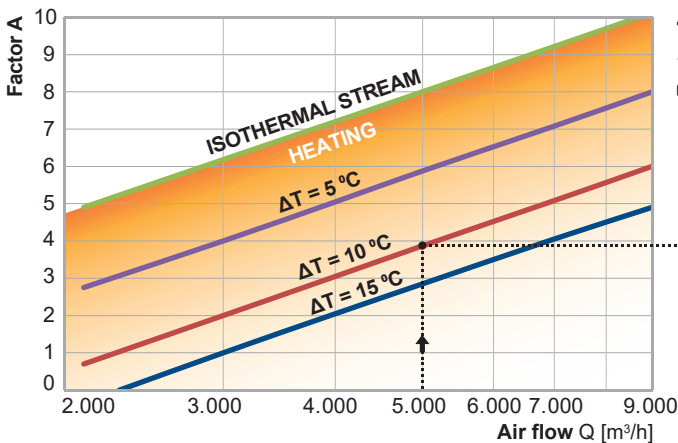
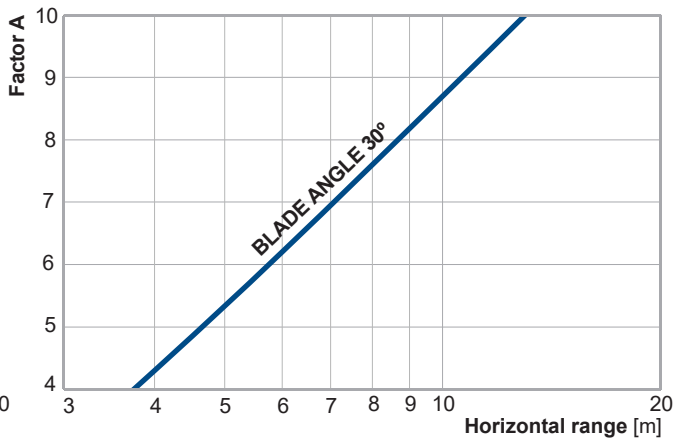
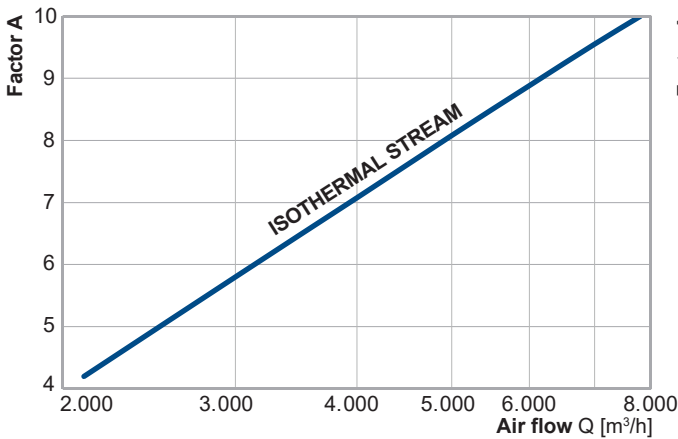
RANGE CALCULATION

Ø 500



RANGE CALCULATION

Ø 630



SW11 - ORDER

For the proper order of ceiling swirl diffusers **SW11** please use the following code :

SW11	+	TP	+	PL	250		FR.9016		BL.9016		O.9016																																												
<table border="1"> <tr> <td>O.RAL...</td> <td>= Plate powder painted in RAL color</td> </tr> <tr> <td>Blank</td> <td>= Plate powder painted in the same color as the frame</td> </tr> <tr> <td>BL.RAL...</td> <td>= Blades powder painted in RAL color</td> </tr> <tr> <td>Blank</td> <td>= Blades powder painted in the same color as the frame</td> </tr> <tr> <td>FR.RAL...</td> <td>= Frame powder painted in RAL color (standard color : RAL9016)</td> </tr> <tr> <td>Blank</td> <td>= Frame from anodized aluminium</td> </tr> <tr> <td colspan="2">Diffuser diameter [mm]</td> </tr> <tr> <td>PL(R,C)</td> <td>= with plenum box (R = rectangular, C = circular)</td> </tr> <tr> <td>PL(R,C)/D</td> <td>= with plenum box and fitted volume damper</td> </tr> <tr> <td>Blank</td> <td>= without additional accessories</td> </tr> <tr> <td>TP</td> <td>= with thermodynamic mechanism</td> </tr> <tr> <td>MO</td> <td>= with servomotor On / Off</td> </tr> <tr> <td>MA</td> <td>= with 24V analog servomotor</td> </tr> <tr> <td>Blank</td> <td>= manual blades adjustment</td> </tr> <tr> <td>SW11</td> <td>= standard construction</td> </tr> <tr> <td>SW11.Q</td> <td>= with double frame</td> </tr> <tr> <td colspan="2">For types 200, 250, 300, 350, 400, 450 :</td> </tr> <tr> <td>SW11.O</td> <td>= standard construction with false ceiling plate</td> </tr> <tr> <td>SW11.OP</td> <td>= standard construction with perforated false ceiling plate</td> </tr> <tr> <td colspan="2">For types 200, 250, 300, 350, 400 :</td> </tr> <tr> <td>SW11.Q.O</td> <td>= with double frame and false ceiling plate</td> </tr> <tr> <td>SW11.Q.OP</td> <td>= with double frame and perforated false ceiling plate</td> </tr> </table>												O.RAL...	= Plate powder painted in RAL color	Blank	= Plate powder painted in the same color as the frame	BL.RAL...	= Blades powder painted in RAL color	Blank	= Blades powder painted in the same color as the frame	FR.RAL...	= Frame powder painted in RAL color (standard color : RAL9016)	Blank	= Frame from anodized aluminium	Diffuser diameter [mm]		PL(R,C)	= with plenum box (R = rectangular, C = circular)	PL(R,C)/D	= with plenum box and fitted volume damper	Blank	= without additional accessories	TP	= with thermodynamic mechanism	MO	= with servomotor On / Off	MA	= with 24V analog servomotor	Blank	= manual blades adjustment	SW11	= standard construction	SW11.Q	= with double frame	For types 200, 250, 300, 350, 400, 450 :		SW11.O	= standard construction with false ceiling plate	SW11.OP	= standard construction with perforated false ceiling plate	For types 200, 250, 300, 350, 400 :		SW11.Q.O	= with double frame and false ceiling plate	SW11.Q.OP	= with double frame and perforated false ceiling plate
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Examples

SW11+PL(C)/D 250 | FR.9016 =

Ceiling diffuser SW11 Ø250 mm in diameter with aluminium frame and blades from galvanized steel, all powder painted in RAL9016 and circular plenum box with volume damper mounted on the plenum box.

SW11.Q.O 400 =

Aluminium double frame ceiling diffuser SW11 Ø400 mm in diameter, blades from galvanized steel and factory installed, non-perforated false ceiling plate.

SPECIFICATIONS

Ceiling swirl diffuser with adjustable blades, SW11

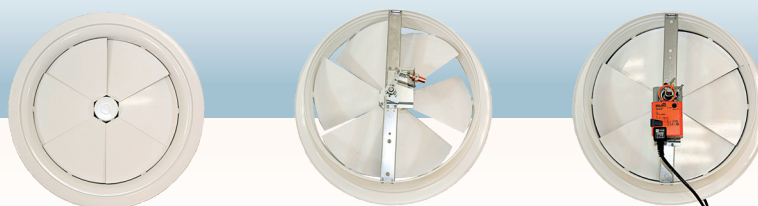
Ceiling, swirl diffuser, indicative type **SW11** by **AIRTECHNIC**, with circular body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color. The angle adjustment will be achieved manually (**SW11**) / automatically via thermodynamic piston (**SW11+TP**) / automatically via servomotor On / Off 220V (**SW11+MO**) / automatically via analog servomotor 24V (**SW11+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for ceiling or air duct placement and visible installation with screws / concealed installation with internal screws, on the side of the outer frame. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11 / SW11 +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11+TP / SW11+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11+MO / SW11+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11+MA / SW11+MA +PL(R/C), +PL(R/C)/D**



SW11

SW11+TP

SW11+MO+MA

Ceiling swirl diffuser with adjustable blades and double frame, SW11.Q

Ceiling, swirl diffuser, indicative type **SW11.Q** by **AIRTECHNIC**, with circular, double wall, body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color. The angle adjustment will be achieved manually (**SW11.Q**) / automatically via thermodynamic piston (**SW11.Q+TP**) / automatically via servomotor On / Off 220V (**SW11.Q+MO**) / automatically via analog servomotor 24V (**SW11.Q+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for ceiling or air duct placement and visible installation with screws / concealed installation with internal screws, on the side of the outer frame. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11.Q / SW11.Q +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q+TP / SW11.Q+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q+MO / SW11.Q+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q+MA / SW11.Q+MA +PL(R/C), +PL(R/C)/D**

Ceiling swirl diffuser with adjustable blades and false ceiling plate, SW11.O

Ceiling, swirl diffuser, indicative type **SW11.O** by **AIRTECHNIC**, with circular body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color and a factory installed false ceiling plate manufactured of galvanized steel 1 mm thick, with external dimensions 595 x 595 mm and round hole, painted in RAL 9016 / RAL... color. The angle adjustment will be achieved manually (**SW11.O**) / automatically via thermodynamic piston (**SW11.O+TP**) / automatically via servomotor On / Off 220V (**SW11.O+MO**) / automatically via analog servomotor 24V (**SW11.O+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for false ceiling placement. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11.O / SW11.O +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.O+TP / SW11.O+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.O+MO / SW11.O+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.O+MA / SW11.O+MA +PL(R/C), +PL(R/C)/D**

Ceiling swirl diffuser with adjustable blades and perforated false ceiling plate, SW11.OP

Ceiling, swirl diffuser, indicative type **SW11.OP** by **AIRTECHNIC**, with circular body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color and a factory installed perforated false ceiling plate manufactured of galvanized steel 1 mm thick, with external dimensions 595 x 595 mm and round hole, painted in RAL 9016 / RAL... color. The angle adjustment will be achieved manually (**SW11.OP**) / automatically via thermodynamic piston (**SW11.OP+TP**) / automatically via servomotor On / Off 220V (**SW11.OP+MO**) / automatically via analog servomotor 24V (**SW11.OP+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for false ceiling placement. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11.OP / SW11.OP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.OP+TP / SW11.OP+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.OP+MO / SW11.OP+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.OP+MA / SW11.OP+MA +PL(R/C), +PL(R/C)/D**

Ceiling swirl diffuser with adjustable blades, double frame and false ceiling plate, SW11.Q.O

Ceiling, swirl diffuser, indicative type **SW11.Q.O** by **AIRTECHNIC**, with circular, double wall, body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color and a factory installed false ceiling plate manufactured of galvanized steel 1 mm thick, with external dimensions 595 x 595 mm and round hole, painted in RAL 9016 / RAL... color. The angle adjustment will be achieved manually (**SW11.Q.O**) / automatically via thermodynamic piston (**SW11.Q.O+TP**) / automatically via servomotor On / Off 220V (**SW11.Q.O+MO**) / automatically via analog servomotor 24V (**SW11.Q.O+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for false ceiling placement. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11.Q.O / SW11.Q.O +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.O+TP / SW11.Q.O+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.O+MO / SW11.Q.O+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.O+MA / SW11.Q.O+MA +PL(R/C), +PL(R/C)/D**

Ceiling swirl diffuser with adjustable blades, double frame and perforated false ceiling plate, SW11.Q.OP

Ceiling, swirl diffuser, indicative type **SW11.Q.OP** by **AIRTECHNIC**, with circular, double wall, body manufactured of anodized aluminum / aluminum painted in RAL 9016 / in RAL... color and grouped, adjustable converging blades in a helical arrangement, manufactured of galvanized steel painted in RAL 9016 / in RAL... color and a factory installed perforated false ceiling plate manufactured of galvanized steel 1 mm thick, with external dimensions 595 x 595 mm and round hole, painted in RAL 9016 / RAL... color. The angle adjustment will be achieved manually (**SW11.Q.OP**) / automatically via thermodynamic piston (**SW11.Q.OP+TP**) / automatically via servomotor On / Off 220V (**SW11.Q.OP+MO**) / automatically via analog servomotor 24V (**SW11.Q.OP+MA**). The manufacturer will have performed measurements of the technical characteristics of the diffuser, in an independent laboratory. It will have plenum box R rectangular / C circular [PL(R/C)] / plenum box R rectangular / C circular and volume damper on the box [PL(R/C)/D]. It will be suitable for false ceiling placement. The factory will be certified according to **ISO 9001:2015** (Quality Management Systems) and according to **ISO 14001:2015** (Environmental Management Systems).

It will be manufactured by **AIRTECHNIC** type **SW11.Q.OP / SW11.Q.OP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.OP+TP / SW11.Q.OP+TP +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.OP+MO / SW11.Q.OP+MO +PL(R/C), +PL(R/C)/D**

It will be manufactured by **AIRTECHNIC** type **SW11.Q.OP+MA / SW11.Q.OP+MA +PL(R/C), +PL(R/C)/D**



ISO 9001:2015



ISO 14001:2015

Management System
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