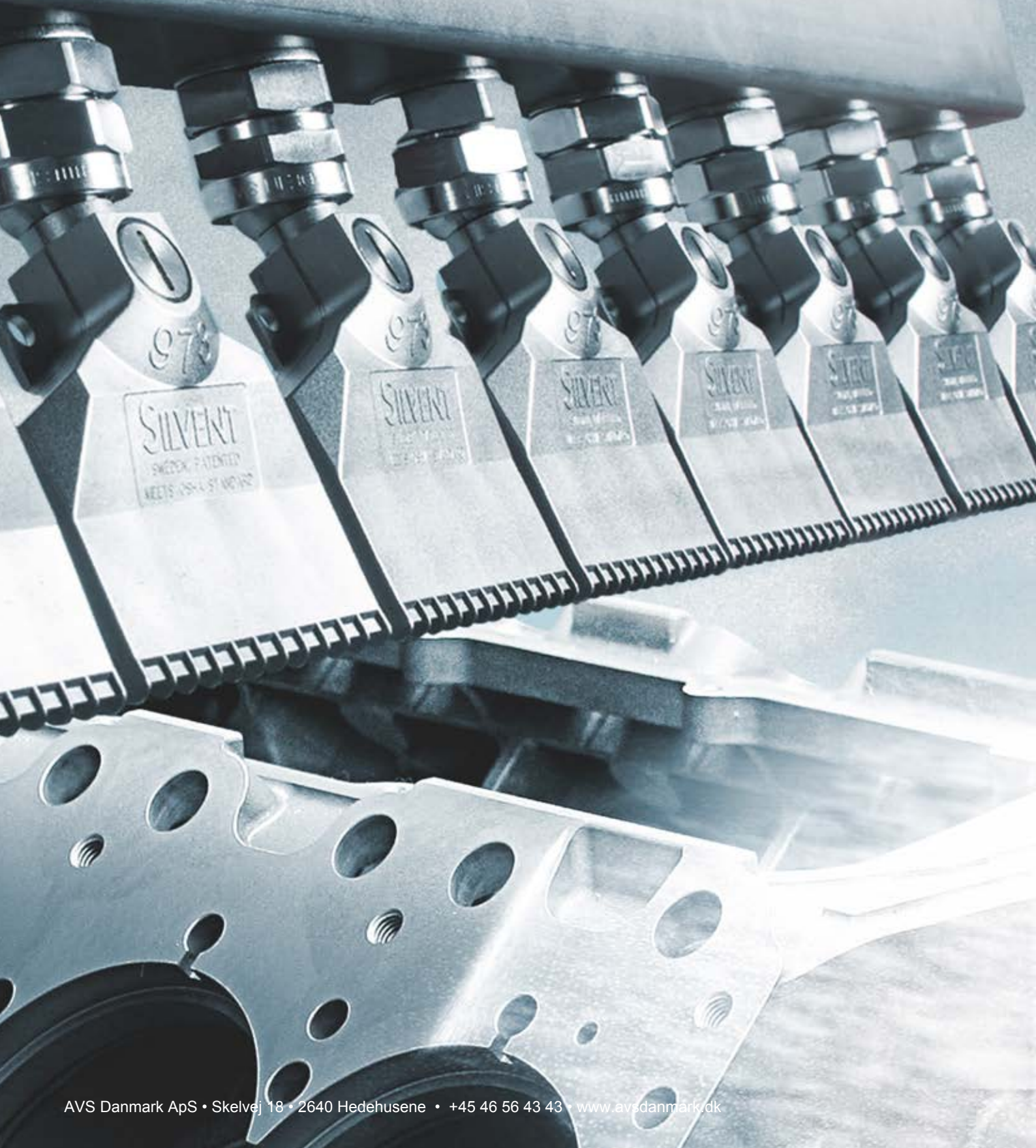


AVS

SILVENT *Acoustic Design*





AIR KNIVES

86 – 87	Examples of air knives
88	Facts about air knives
89	SILVENT 300™
90 – 91	Your application
92 – 93	SILVENT 300 Z+
94 – 97	Standard air knife models

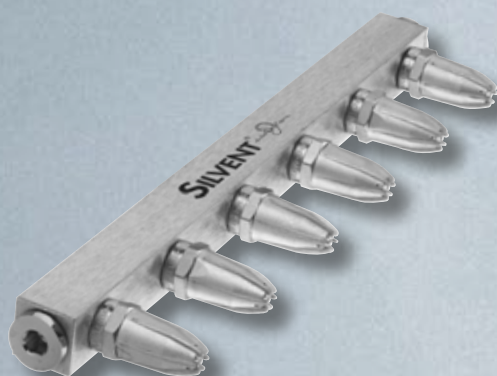


EXAMPLES

① SILVENT 300™ with 973



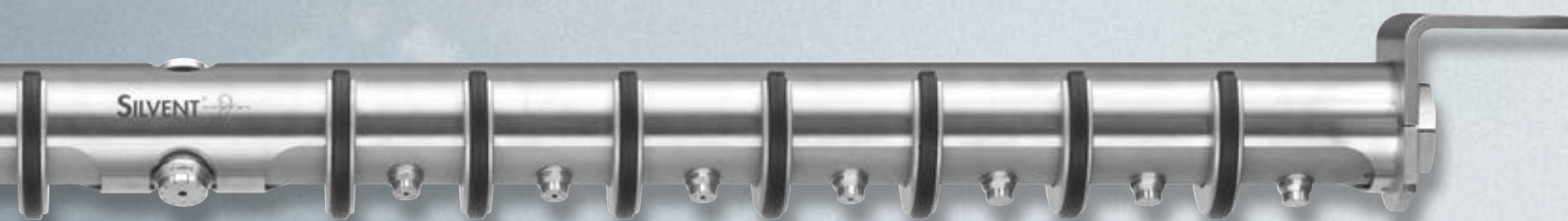
② SILVENT 300™ with 209 L



③ SILVENT AirBattery™



④ SILVENT Straight AirPlow™



⑤ SILVENT AirPlo™



⑥ SILVENT 300 Z+



⑦ SILVENT 300™ with 961



FACTS ABOUT AIR KNIVES

SILVENT AirPlow™

SILVENT AirPlow™ is the world's most advanced type of air knife with a unique patented design and construction that offers a number of setting options for optimized blowing in demanding blowing applications. Silvent InTech, a division of the Silvent Group, works with customized solutions that are integrated in the manufacturing process for products such as sheet and plate. These products, which are completely adapted for each application, can be divided into three main groups: SILVENT AirPlow™, SILVENT Straight AirPlow™ and SILVENT AirBattery™.

SILVENT 300™

The SILVENT 300™ series offers air knives designed by engineers at Silvent's head office in Sweden based on each individual application. The air knives are completely adapted to the nature of the application and the wishes of the customer. The air knives are produced and tested at Silvent's plant in Sweden before delivery to the customer. SILVENT 300™ is a stamp of quality that gives you peace of mind. Choosing SILVENT 300™ provides you with the best solution in the market, including support with information about issues such as installation and recommendations for blowing angles.

SILVENT 300 Z+

SILVENT 300 Z+ is a modular system that allows you to build your own air knife with different blowing forces and lengths. More information about SILVENT 300 Z+ can be found on pages 92 – 93.

In-house manufactured air knife with SILVENT nozzles

Customers can also buy SILVENT nozzles and then build an air knife in-house. Note how the nozzles overlap to provide homogeneous air knife blowing patterns, since internal conflicts can be created when several nozzles are mounted.

SILVENT standard models of air knives

Silvent has developed several standard models of air knives including the 396, 378 and 366. These air knives are of good quality but can never be compared with the SILVENT 300™, since each application is unique and a standard model is seldom the optimal solution. More information about SILVENT standard models can be found on pages 94 – 97.



SILVENT 300

SILVENT 300™ is a unique customized solution that provides you with access to the world's leading application engineers for compressed air blowing. Ever since the company was founded, Silvent has developed customized air knives for all types of industries, from bakeries to paper mills. Over the years, our application engineers have accumulated extensive knowledge and experience about what works best in various industries. Designing a customized air knife that not only works optimally, but also consumes a minimal amount of compressed air and has a low noise level is more complicated than you might think.

SILVENT 300™ Report

SILVENT 300™ is a collective term used for all of Silvent's customized solutions. Each SILVENT 300™ proposal is unique and is always presented in a SILVENT 300™ Report in which Silvent engineers comment on your existing equipment and suggest a new improved, completely customized solution. You will receive a drawing of the

air knife, installation tips, suggestions for appropriate accessories and technical data for the air knife. Should you have any special requirements regarding what to include in the report, this can also be arranged. We want you to feel that investing in a SILVENT 300™ air knife is a secure and convenient process.

Are you interested in SILVENT 300™, or would you like to contact Silvent's application engineers? Contact your Silvent representative or send an email message to 300@silvent.se.

SILVENT 300™ with 973



YOUR APPLICATION

SILVENT 300™ means that Silvent's application engineers at the head office in Sweden will formulate a proposal for an air knife that is completely tailored to your application. The proposal is always presented in a SILVENT 300™ Report. In addition to a detailed drawing, this report includes all technical data, making SILVENT 300™ a

secure and reliable solution. Below is a checklist of information required for the application engineers to be able to begin working with your application. The checklist can also be downloaded from silvent.com.

Description of the application

- 1.1 What type of application (e.g., cleaning, cooling, drying)?
- 1.2 What type of product is produced in the machine?
- 1.3 How large a surface needs to be blown?
- 1.4 What is the speed of production?

1

Objective What is your top priority?

- 2.1 Improved quality
- 2.2 Lower noise level
- 2.3 Reduced energy consumption
- 2.4 Combination of the above
- 2.5 Other?

2

Existing equipment If it is a completely new application – continue to point 4.

- 3.1 Open pipe or drilled holes (how many, what size)?
- 3.2 Fluid nozzles or other nozzles (how many, what type)?
- 3.3 Size of air line?
- 3.4 System pressure?
- 3.5 Blowing distance?
- 3.6 Blowing angle?

Please attach a photo or video of your current equipment.

3

Limitations

- 4.1 What is the size of the air line currently near the machine?
- 4.2 Is it possible to increase the size of the air line?
- 4.3 What is the maximum system pressure?
- 4.4 Are there any limitations regarding where the air knife can be installed?
- 4.5 Does the air knife have to tolerate a certain temperature?

Is there any additional information, other than the above, that Silvent's application engineers should know before they start working on your application?

4

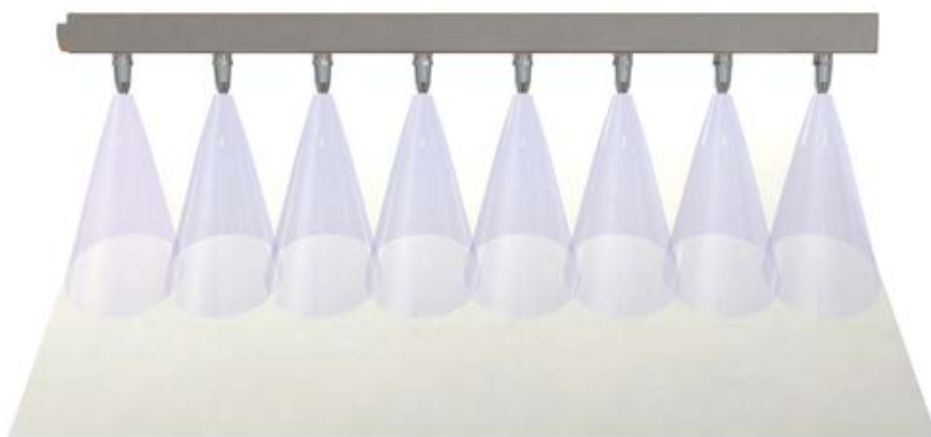
SILVENT 300™ with 973

Example of an air knife with SILVENT 973 nozzle used when the application requires high blowing force.



SILVENT 300™ with 209 L

Example of an air knife with SILVENT 209 L nozzle that provides an effective but energy-efficient blowing force.



MODULAR AIR KNIFE SYSTEM

SILVENT 310 Z+ and SILVENT 304 Z+ can easily be assembled together. All that is needed is the accessory SILVENT A 12. It has never been easier to make an air knife that fits your specific application.

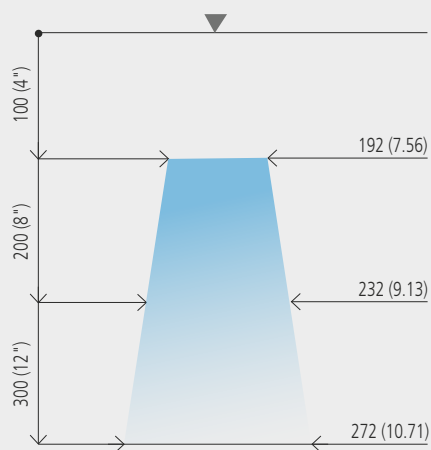


310 Z+									
310 Z+	Blowing force		Noise level	Connections	Blowing pattern				
Number	N	(lbs)	dB(A)	Number	100 (4")		200 (8")		300 (12")
1	30.0	(6.6)	90	1	192	(7.56")	232	(9.13")	272 (10.71")
2	60.0	(13.2)	93	2	336	(13.23")	376	(14.80")	416 (16.38")
3	90.0	(19.9)	95	3	480	(18.90")	520	(20.47")	560 (22.05")
4	120.0	(26.5)	96	3	624	(24.57")	664	(26.14")	704 (27.72")
5	150.0	(33.1)	97	4	768	(30.24")	808	(31.81")	848 (33.39")
6	180.0	(39.7)	98	5	912	(35.91")	952	(37.48")	992 (39.06")
7	210.0	(46.3)	98	6	1056	(41.57")	1096	(43.15")	1136 (44.72")

304 Z+									
304 Z+	Blowing force		Noise level	Connections	Blowing pattern				
Number	N	(lbs)	dB(A)	Number	100 (4")		200 (8")		300 (12")
1	12.0	(2.6)	83	1	172	(6.77")	212	(8.35")	252 (9.92")
2	24.0	(5.3)	86	1	316	(12.44")	356	(14.02")	396 (15.59")
3	36.0	(7.9)	88	1	460	(18.11")	500	(19.69")	540 (21.26")
4	48.0	(10.6)	89	2	604	(23.78")	644	(25.35")	684 (26.93")
5	60.0	(13.2)	90	2	748	(29.45")	788	(31.02")	828 (32.60")
6	72.0	(15.9)	91	2	892	(35.12")	932	(36.69")	972 (38.27")
7	84.0	(18.5)	91	2	1036	(40.79")	1076	(42.36")	1116 (43.94")


310 Z+

SILVENT 310 Z+ is a modular, energy-efficient air knife that generates an extremely strong and effective blowing force with an exceptionally low sound level. Compressed air is optimally used in this air knife. Its unique design introduced a completely new blowing technology feature. The aerodynamic nozzle design achieves the effect by maximizing entrainment of air. Each orifice is also uniquely designed to optimize the entrainment area. SILVENT 310 Z+ modules can easily be combined to achieve the desired length of the air knife (see SILVENT A 12 in accessories). Fully compliant with EU Machinery Directive noise limits and OSHA safety regulations. Patented.

BLOWING PATTERN

Order no: 310 Z+

Replace open pipe Ø	12 mm	(1/2")
Blowing force	30.0 N	(6.6 lbs)
Air consumption	152.0 Nm³/h	(89.5 scfm)
Sound level	90 dB(A)	
Blowing pattern	Flat	
Connection	G 1/2"	1/2"-14 NPT
Dimensions	153x28x80	(6.02x1.10x3.15")
Material	Zytel	
Max temp	180°C	(356 °F)

30.0 N
6.6 lbs
FLAT
ZYTEL

For more technical information, see page 146 or visit our website at silvent.com.

Noise reduction
84%
Air/cost savings
43%
ALTERNATIVES

Order no: 304 Z+
ACCESSORIES

Order no: 3902

Order no: KVM 12

Order no: A 12

Order no: SR 34

AIR KNIVES

SILVENT 378: robust stainless steel air knife with eight 973 nozzles and a specially designed manifold. Made entirely of stainless steel and thereby suitable for even the most demanding applications, such as those involving aggressive chemical environments, high ambient temperatures or the stringent requirements of the food processing industry. Creates a cone spread of 595 mm (23.43") at a distance of 150 mm (6"). Blowing force = 76.0 N (16.8 lbs). Fully complies with OSHA safety regulations and EU Machine Directive noise limitations. Patented.

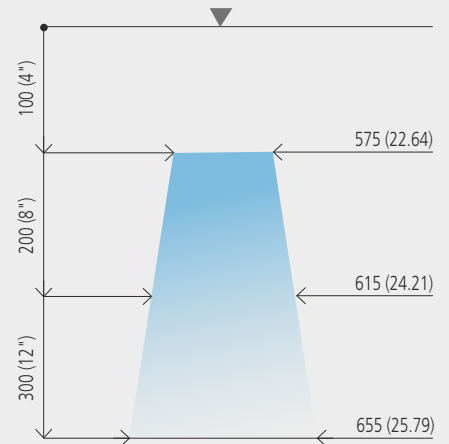


Order no: **378**

Replace open pipe Ø	20 mm	(3/4")	76.0 N
Blowing force	76.0 N	(16.8 lbs)	16.8 lbs
Air consumption	464 Nm³/h	(273.1 scfm)	
Sound level	95 dB(A)		
Blowing pattern	Flat		FLAT
Connection	G 1"	1"-11 1/2 NPT	
Dimensions	529x40x110	(20.82x1.57x4.33")	
Material	Stainless steel		STAIN-LESS
Max temp	400°C	(752 °F)	

For more technical information, see page 146 or visit our website at silvent.com.

BLOWING PATTERN



Noise reduction

88%

Air/cost savings

37%

ALTERNATIVES



Order no: **372**



Order no: **374**



Order no: **372 F - 378 F**

ACCESSORIES



Order no: **M1E**



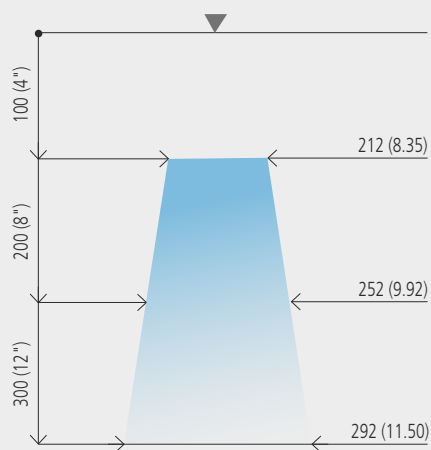
Order no: **KVM 10**



Order no: **SR 10**


366

SILVENT 366: a quiet and efficient air knife with six angled SILVENT 961 flat nozzles and a specially designed aluminum manifold. The small mounting dimensions make these air knives suitable for machine designs where space is limited. Generates a broad but flat air cone and combines the advantages of low noise level, low air consumption and high blowing efficiency. SILVENT 366 creates an air cone spread of 225 mm (8.86") at a distance of 150 mm (6"). Blowing force = 19.8 N (4.4 lbs). Fully meets OSHA safety regulations and the demands the EU Machine Directive makes on the amount of airborne noise generated by machines. Patented.

BLOWING PATTERN

Order no: 366

Replace open pipe Ø	10 mm	(3/8")
Blowing force	19.8 N	(4.4 lbs)
Air consumption	117 Nm³/h	(68.9 scfm)
Sound level	89.5 dB(A)	
Blowing pattern	Flat	
Connection	G 3/8"	3/8"-18 NPT
Dimensions	172x23x38.5	(6.77x0.90x1.52")
Material	Zinc	
Max temp	70°C	(158 °F)

19.8 N
4.4 lbs
FLAT
ZINC

For more technical information, see page 146 or visit our website at silvent.com.

Noise reduction
78%
Air/cost savings
37%
ALTERNATIVES

Order no: 362

Order no: 364
ACCESSORIES

Order no: 3302

Order no: KVM 38

Order no: SR 34

AIR KNIVES

SILVENT 396: air knife with six 920 A flat nozzles and a specially designed aluminum manifold. Air knives have been installed in a wide range of industrial applications. Cooling rollers, drying tobacco, dispersion of powdered paint, blow-off of emulsions, etc. are but a few. Creates an air cone spread of 370 mm (14.57") at a distance of 150 mm (6"). Blowing force = 33.0 N (7.3 lbs). Fully complies with OSHA safety regulations and EU Machine Directive noise limitations. Patented.



396

Order no: 396

Replace open pipe Ø	12 mm	(1/2")
Blowing force	33.0 N	(7.3 lbs)
Air consumption	180 Nm³/h	(105.9 scfm)
Sound level	89 dB(A)	
Blowing pattern	Flat	
Connection	G 3/8"	3/8" -18 NPT
Dimensions	297x23x95	(11.69x0.90x3.74")
Material	Zinc	
Max temp	70°C	(158 °F)

For more technical information, see page 146 or visit our website at silvent.com.

33.0 N

7.3 lbs

FLAT

ZINC

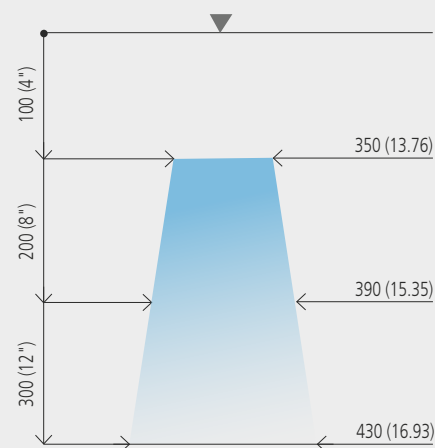
Noise reduction

85%

Air/cost savings

32%

BLOWING PATTERN



ALTERNATIVES



Order no: 392



Order no: 394

ACCESSORIES



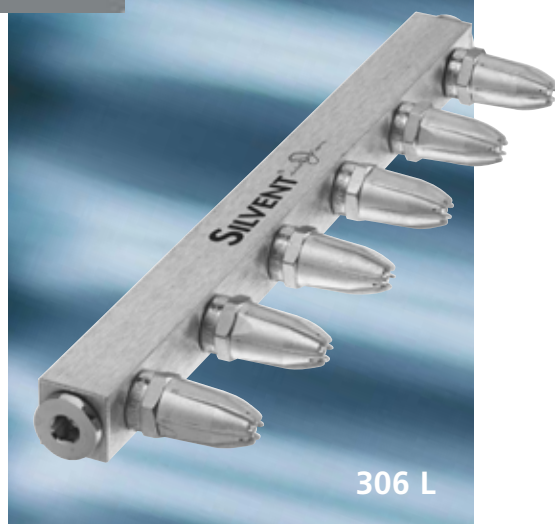
Order no: 3302



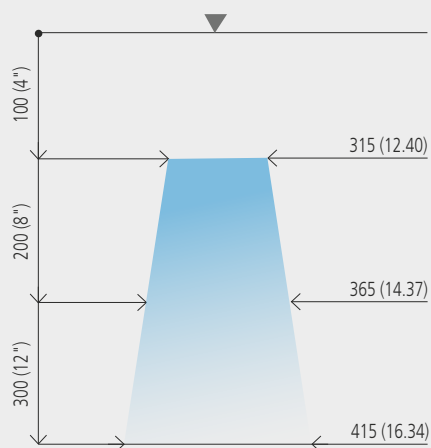
Order no: KVM 38



Order no: SR 34


306 L

SILVENT 306 L: with six 209 L nozzles. For applications that require a curtain of air across a broad surface. Typical areas of application include air cleaning, curtains around doors and entrances, paint drying, cleaning of conveyor belts, plywood sheets etc. Custom lengths are available upon request. SILVENT 306 L provides an air cone width of 340 mm (13.39") at a distance of 150 mm (6"). Fully complies with OSHA safety standards and the noise limitations of the EU Machine Directive. Patented.

BLOWING PATTERN

Order no: 306 L

Replace open pipe Ø	10 mm	(3/8")
Blowing force	20.4 N	(4.5 lbs)
Air consumption	102 Nm³/h	(60.0 scfm)
Sound level	85 dB(A)	
Blowing pattern	Flat	
Connection	G 3/8"	3/8"-18 NPT
Dimensions	297x23x61.7	(11.69x0.90x2.43")
Material	Zinc	
Max temp	70°C	(158 °F)

For more technical information, see page 146 or visit our website at silvent.com.

20.4 N
4.5 lbs
FLAT
ZINC
Noise reduction
85%
Air/cost savings
45%
ALTERNATIVES

Order no: 302 L

Order no: 304 L

Order no: 302 L-S – 306 L-S
ACCESSORIES

Order no: 3302

Order no: KVM 38

Order no: SR 34