



Technical specifications -air nozzles and safety guns

- 7.2 Test results
- 7.3 Standards for the entire catalog
- 7.3 Technical specifications at different pressures
- 7.4, 7.6 Air nozzles, SI units
- 7.5, 7.7 Air nozzles, American units
- 7.8 Safety guns, SI units
- 7.9 Safety guns, American units
- 7.10 Cone patterns and velocity distribution
- 7.13 Conversion tables
- 7.14 Blowing properties for open pipe

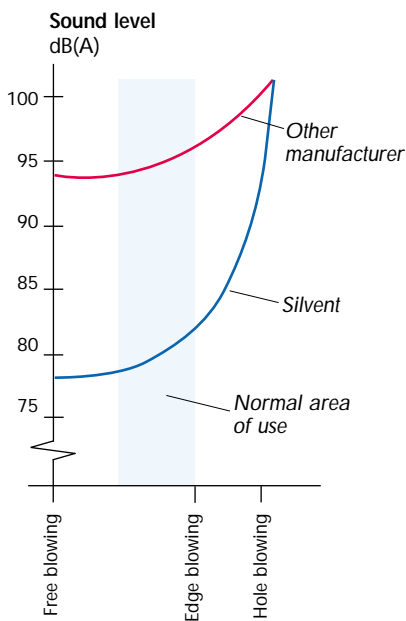
*Installing an open pipe is simply a cost.
A properly installed nozzle represents an
investment in cost reduction.*

Test results

Silvent-tested

Silvent's highly successful and internationally patented technology normally results in a halving of the noise level (approx. 10 dB(A)) in comparison with the products of other well known manufactures on the market today. Blowing force is maintained despite the low sound level, while, at the same time, the low air consumption means considerable energy savings – a combination that was long thought impossible.

The diagram below illustrates the relationship between the sound level and the type of blowing operation. When you study the diagram, bear in mind that lowering the sound level by 8-10 dB(A) is experienced by the ear as though the level has been cut in half.

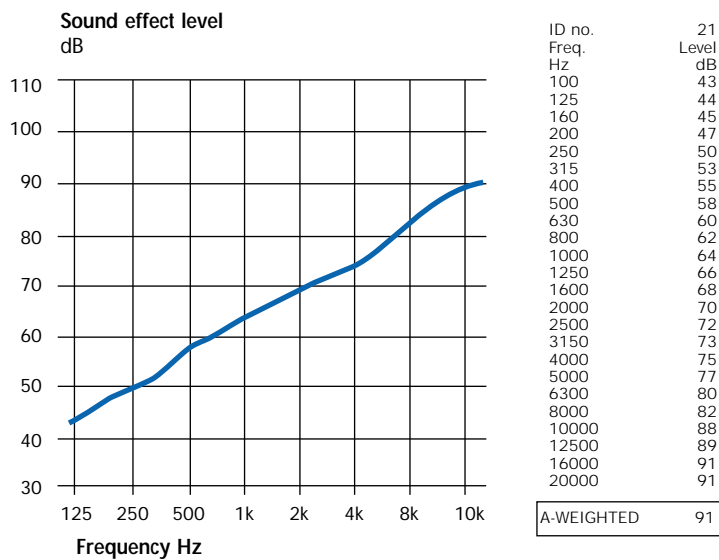


Sound analysis

An analysis of the sound generated by Silvent nozzles has been conducted by the Swedish National Testing Institute. The results of the tests were published in Report No. 8231,133.

The diagram below is an excerpt from the report and shows a frequency analysis for a Silvent 200 nozzle. The test confirms that the Silvent nozzle does not generate any distinct, pure tones. Pure tones are particularly damaging to hearing.

We will gladly forward you a copy of the report upon request.



Standards for the entire catalog

Every piece of data that is included in this catalog is based upon measurements performed under the following conditions:

Supply pressure: 500 kPa (71.5 psi).
Supply pressure is measured just before the nozzle.

Sound level is measured at a distance of 1 m (3.28 ft) from the nozzle, with the microphone held perpendicular to the direction of the air stream.

Blowing force is measured against a scale with a flat surface of 345 x 310 mm (13.58" x 12.20") at a distance of 200 mm (7.87").



The data and information presented in this catalog are based upon our current product range and existing norms. We reserve the right to make changes in accordance with new technical development and new regulations. We also deny responsibility for possible printing errors.

Technical specifications at different pressures

Areas of application

You will find the following pages useful if you want values for a nozzle at other pressures than 500 kPa or 71.5 psi. The values are presented in tables. Diagrams are available upon request.

The tables are presented in both SI and American units of measure.

The reported values are applicable under the following conditions:

The pressure measured is the pressure immediately before the nozzle.

The reported blowing force is based upon measurements made using a scale with a flat surface measuring 345 x 310 mm (13.58" x 12.20") with a distance of 200 mm (7.87") between the nozzle and the surface.

The sound level is measured with a distance of 1 m (3.28 ft) between the nozzle and the microphone.

Air nozzles

SI units

MODEL	FORCE (N)					FLOW (Nm ³ /h)					SOUND (dB(A))				
	200	400	600	800	1000	200	400	600	800	1000	200	400	600	800	1000
Micronozzles															
MJ4	0.4	0.7	1.1	1.4	1.8	1.4	3.1	4.8	6.4	8.1	66.8	74.3	76.6	80.0	81.4
MJ5	0.7	1.5	2.1	2.9	3.6	4.5	7.9	11.4	14.8	18.2	72.3	77.6	80.7	84.5	86.0
MJ6	1.1	2.1	3.0	4.0	5.0	6.8	11.6	16.6	21.4	26.2	74.6	80.5	83.6	87.5	88.4
Slot nozzles															
511	1.4	2.6	4.0	5.1	6.3	9.3	15.3	22.8	29.8	36.8	71.0	76.8	81.0	84.9	87.5
512	1.4	2.6	4.0	5.1	6.3	9.3	15.3	22.8	29.8	36.8	71.0	76.8	81.0	84.9	87.5
5001	1.4	2.6	4.0	5.1	6.3	9.3	15.3	22.8	29.8	36.8	71.0	76.8	81.0	84.9	87.5
011	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
0071	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
700-mini	1.8	3.2	5.3	7.0	8.9	12.9	21.3	31.0	40.0	48.6	75.8	82.5	86.7	88.6	90.3
701	1.4	2.6	4.0	5.2	6.3	10.0	16.5	26.5	33.2	40.0	75.3	80.0	83.6	86.2	87.5
703	4.1	7.8	11.8	15.3	19.1	29.8	49.5	71.5	90.2	106.1	83.0	87.0	90.8	93.0	94.6
705	6.3	12.1	18.3	24.0	30.0	49.8	82.0	114.0	149.0	180.0	85.6	90.6	95.0	97.6	100.0
710	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4
720	20.0	51.7	82.9	114.1	145.4	182.6	343.5	500.0	650.1	804.1	96.1	101.2	105.0	107.3	109.8
707-C	8.1	15.3	23.6	31.0	38.7	62.7	103.3	145.0	183.5	224.0	88.3	93.3	96.3	99.0	100.3
715-C	18.1	35.7	53.3	71.2	88.9	142.8	257.0	364.0	476.4	587.2	92.1	97.6	101.7	103.0	104.5
730-C	31.8	75.3	117.9	161.9	205.2	275.6	518.5	750.0	990.6	1228.3	97.3	102.5	106.3	107.7	109.1
701A	1.4	2.6	4.0	5.2	6.3	10.0	16.5	26.5	33.2	40.0	75.3	80.0	83.6	86.2	87.5
703A	4.1	7.8	11.8	15.3	19.1	29.8	49.5	71.5	90.2	106.1	83.0	87.0	90.8	93.0	94.6
705A	6.3	12.1	18.3	24.0	30.0	49.8	82.0	114.0	149.0	180.0	85.6	90.6	95.0	97.6	100.0
710A	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4
720A	20.0	51.7	82.9	114.1	145.4	182.6	343.5	500.0	650.1	804.1	96.1	101.2	105.0	107.3	109.8
2005	6.6	12.2	17.8	23.4	29.0	48.5	81.1	114.0	146.8	179.6	82.8	90.0	94.4	97.4	99.3
Hole nozzles															
200	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
208	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
209	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
209-S1	2.3	4.5	6.7	8.8	11.0	16.7	28.2	39.4	50.9	62.1	76.9	83.6	87.6	90.5	92.5
210	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
211	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
215	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
216	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
217	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
218	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
2120	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
Laval nozzles															
1011	1.9	3.6	5.3	6.9	8.5	13.0	22.1	30.9	40.0	48.3	74.0	81.2	85.5	88.6	90.7
1001	1.9	3.6	5.3	6.9	8.5	13.0	22.1	30.9	40.0	48.3	74.0	81.2	85.5	88.6	90.7
715-L	24.4	47.3	73.5	98.0	115.1	165.5	284.8	412.8	535.0	654.8	97.9	103.4	107.7	111.2	112.7
Flat nozzles															
920	2.0	4.3	7.0	9.2	11.4	12.0	25.0	38.0	50.1	62.0	72.0	79.1	83.3	86.6	88.4
921	1.2	2.4	3.6	4.8	6.0	7.9	13.5	19.8	25.8	31.8	69.2	76.4	80.8	83.5	85.7
971	1.6	3.1	4.6	6.0	7.5	10.5	17.9	24.7	31.7	38.8	71.7	79.3	82.7	85.4	87.4
971F	1.6	3.1	4.6	6.0	7.5	10.5	17.9	24.7	31.7	38.8	71.7	79.3	82.7	85.4	87.4
973	4.0	7.9	11.5	15.2	18.9	29.2	49.0	67.9	87.2	106.5	76.7	84.0	87.6	90.5	92.6
973F	4.0	7.9	11.5	15.2	18.9	29.2	49.0	67.9	87.2	106.5	76.7	84.0	87.6	90.5	92.6
Other nozzles															
8001	1.1	2.2	3.3	4.3	5.4	7.5	12.5	17.6	22.7	27.7	69.5	76.7	80.9	83.6	85.9
811	1.1	2.2	3.3	4.3	5.4	7.5	12.5	17.6	22.7	27.7	69.5	76.7	80.9	83.6	85.9
910	2.2	4.3	6.7	8.8	11.0	15.6	30.0	44.8	59.9	73.3	76.5	83.4	87.0	90.1	92.6
912	5.3	10.3	16.1	21.1	26.4	37.4	72.0	107.5	143.7	176.0	81.1	87.8	90.7	92.9	94.1
915	2.0	4.1	6.6	8.9	11.2	20.5	33.5	44.5	56.2	67.9	79.4	84.6	88.3	91.1	92.6

Air nozzles

American units

MODEL	FORCE (oz)					FLOW (scfm)					SOUND (dB(A))				
	40	60	80	100	120	40	60	80	100	120	40	60	80	100	120
Micronozzles															
MJ4	1.9	2.7	3.6	4.5	5.4	1.2	1.9	2.6	3.3	3.9	70.2	73.9	76.4	78.5	80.1
MJ5	3.5	5.3	7.0	8.8	10.5	3.4	4.8	6.2	7.6	9.0	74.8	78.4	80.8	82.8	84.3
MJ6	5.2	7.6	10.0	12.4	14.8	5.1	7.1	9.0	11.0	13.0	77.4	81.0	83.5	85.5	87.1
Slot nozzles															
511	6.5	9.5	12.5	15.5	18.6	7.1	9.8	12.6	15.4	18.0	73.3	77.0	80.1	82.8	85.2
512	6.5	9.5	12.5	15.5	18.6	7.1	9.8	12.6	15.4	18.0	73.3	77.0	80.1	82.8	85.2
5001	6.5	9.5	12.5	15.5	18.6	7.1	9.8	12.6	15.4	18.0	73.3	77.0	80.1	82.8	85.2
011	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
0071	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
700-mini	8.4	12.6	16.8	21.0	25.3	8.8	12.6	16.3	20.0	23.7	79.0	82.8	85.6	87.5	88.9
701	7.6	10.6	13.8	17.0	20.2	8.2	11.3	14.4	17.6	20.8	76.8	80.3	82.8	84.9	86.6
703	19.6	28.4	37.8	47.1	56.0	21.1	29.5	38.0	47.1	54.8	84.9	88.0	90.2	91.9	92.3
705	30.2	44.3	58.2	73.5	88.7	34.0	47.2	60.9	74.9	89.0	87.8	91.3	94.2	96.4	97.8
710	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8
720	111.8	239.4	266.9	346.1	425.3	143.7	210.0	274.1	340.0	405.9	97.7	101.3	104.2	106.1	107.5
707-C	39.0	58.0	76.9	96.0	115.0	46.7	63.3	79.8	96.4	113.0	90.7	93.8	96.0	97.6	99.0
715-C	88.6	132.3	175.7	219.5	263.2	110.8	156.5	201.9	247.6	293.3	94.9	98.1	100.3	102.1	103.5
730-C	173.2	280.3	386.7	493.8	600.9	219.2	317.3	414.6	512.6	610.6	99.9	103.0	105.1	106.8	108.1
701A	7.6	10.6	13.8	17.0	20.2	8.2	11.3	14.4	17.6	20.8	76.8	80.3	82.8	84.9	86.6
703A	19.6	28.4	37.8	47.1	56.0	21.1	29.5	38.0	47.1	54.8	84.9	88.0	90.2	91.9	92.3
705A	30.2	44.3	58.2	73.5	88.7	34.0	47.2	60.9	74.9	89.0	87.8	91.3	94.2	96.4	97.8
710A	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8
720A	111.8	239.4	266.9	346.1	425.3	143.7	210.0	274.1	340.0	405.9	97.7	101.3	104.2	106.1	107.5
2005	31.2	45.0	58.8	72.6	86.5	36.3	49.8	63.2	76.7	90.3	86.3	90.5	93.5	95.8	97.7
Hole nozzles															
200	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
208	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
209	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
209-S1	11.3	16.7	22.0	27.4	32.8	12.6	17.2	21.9	26.6	31.3	80.2	84.1	86.9	89.1	90.9
210	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
211	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
215	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
216	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
217	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
218	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
2120	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
Laval nozzles															
1011	9.1	13.2	17.2	21.3	25.3	9.8	13.5	17.1	20.8	24.4	77.5	81.7	84.7	87.1	89.0
1001	9.1	13.2	17.2	21.3	25.3	9.8	13.5	17.1	20.8	24.4	77.5	81.7	84.7	87.1	89.0
715-L	121.9	179.3	236.3	293.6	351.0	126.0	176.7	227.0	277.7	328.3	100.7	104.5	107.2	109.4	111.1
Flat nozzles															
920	10.4	16.2	22.1	27.8	33.7	10.8	15.4	20.0	24.6	29.2	75.1	79.3	82.5	85.0	87.0
921	5.9	8.9	11.8	14.8	17.8	6.0	8.5	10.9	13.4	15.9	72.7	76.9	79.8	82.1	84.1
971	7.8	11.5	16.2	18.8	22.4	7.9	10.8	13.7	16.6	19.5	75.3	79.2	82.0	84.1	85.9
971F	7.8	11.5	16.2	18.8	22.4	7.9	10.8	13.7	16.6	19.5	75.3	79.2	82.0	84.1	85.9
973	19.7	28.9	38.0	47.2	56.4	21.9	29.8	37.7	45.6	53.6	80.2	84.2	87.0	89.2	91.0
973F	19.7	28.9	38.0	47.2	56.4	21.9	29.8	37.7	45.6	53.6	80.2	84.2	87.0	89.2	91.0
Other nozzles															
8001	5.5	8.2	10.8	13.5	16.2	5.6	7.7	9.8	11.8	13.9	73.0	77.1	80.0	82.3	84.2
811	5.5	8.2	10.8	13.5	16.2	5.6	7.7	9.8	11.8	13.9	73.0	77.1	80.0	82.3	84.2
910	10.7	16.1	21.4	26.7	32.3	12.3	18.5	24.4	30.4	36.7	79.4	83.8	86.6	88.8	90.4
912	25.1	38.0	50.1	64.0	70.7	29.1	43.7	58.1	72.8	87.5	82.0	85.8	88.5	90.8	92.3
915	10.1	15.8	21.5	27.2	32.9	15.2	20.0	24.8	29.7	34.5	82.0	85.4	87.8	89.7	91.2

Air nozzles

SI units

MODEL	FORCE (N)					FLOW (Nm ³ /h)					SOUND (dB(A))				
	200	400	600	800	1000	200	400	600	800	1000	200	400	600	800	1000
Flex systems															
220-280	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
220F-280F	2.0	4.3	7.0	9.2	11.4	12.0	25.0	38.0	50.1	62.0	72.0	79.1	83.3	86.6	84.0
620-680	1.1	2.3	3.7	4.8	6.0	6.5	12.5	20.1	27.1	34.1	71.0	76.8	81.0	84.9	87.5
221-281	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
222-282	2.7	5.5	8.3	10.9	13.8	19.0	31.0	45.0	59.5	72.0	75.0	80.5	85.0	88.0	91.0
291	1.4	2.6	4.0	5.1	6.3	9.3	15.3	22.8	29.8	36.8	71.0	76.8	81.0	84.9	87.5
292	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
293	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
294	2.0	4.3	7.0	9.2	11.4	12.0	25.0	38.0	50.1	62.0	72.0	79.1	83.3	86.6	88.4
295	4.1	7.8	11.8	15.3	19.1	29.8	49.5	71.5	90.2	106.1	83.0	87.0	90.8	93.0	94.6
296	6.3	12.1	18.3	24.0	30.0	49.8	82.0	114.0	149.0	180.0	85.6	90.6	95.0	97.6	100.0
Air knives/air curtains															
302	2.7	5.5	8.3	10.9	13.8	19.0	31.0	45.0	59.5	72.0	75.0	80.5	83.7	88.0	91.0
304	5.8	11.1	16.9	22.5	27.8	40.2	63.9	90.3	116.6	140.2	78.0	83.5	86.7	91.0	94.0
306	8.5	16.7	25.0	33.4	41.9	61.1	99.8	137.5	175.1	223.9	79.8	85.3	88.5	92.8	95.8
392	4.2	8.8	14.0	17.8	23.4	25.0	50.0	75.0	100.0	125.0	75.0	82.1	86.3	89.6	91.4
394	9.1	17.6	26.1	34.6	43.1	50.0	100.0	150.0	200.0	250.0	78.0	85.1	89.3	92.6	94.4
396	16.5	26.4	39.2	49.8	69.3	75.0	150.0	225.0	300.0	375.0	79.8	86.9	91.1	94.4	96.2
372	8.0	15.8	22.9	30.3	37.8	58.4	98.0	135.8	174.4	212.9	79.7	87.0	90.6	93.5	95.6
374	16.0	31.6	45.8	60.7	75.6	116.8	196.0	271.6	348.7	425.8	82.7	90.0	93.6	96.5	98.6
378	32.0	63.2	91.6	121.4	151.1	233.6	392.0	543.2	697.4	851.7	85.7	93.0	96.6	99.5	101.6
Multi-nozzles															
404	5.8	11.1	16.9	22.5	27.8	40.2	63.9	90.3	116.6	140.2	78.5	83.8	87.6	91.7	93.5
407	9.8	19.9	29.9	40.0	49.1	59.0	108.1	155.3	204.1	250.0	80.0	87.0	92.0	94.6	96.6
412	16.8	32.6	49.9	62.2	76.4	109.2	187.5	264.2	350.0	432.4	82.6	90.0	93.1	97.0	98.6
456	9.0	15.9	24.1	30.9	38.0	45.8	89.6	132.4	176.1	218.7	81.2	88.2	92.5	95.8	97.5
462	17.5	33.1	49.5	64.4	80.0	105.8	183.3	266.7	350.0	429.2	85.0	91.6	96.0	99.0	100.3
1104	5.8	11.1	16.9	22.5	27.8	40.2	63.9	90.3	116.6	140.2	78.5	83.8	87.6	91.7	93.5
1107	9.8	19.9	29.9	40.0	49.1	59.0	108.1	155.3	204.1	250.0	80.0	87.0	92.0	94.6	96.6
1112	16.8	32.6	49.9	62.2	76.4	109.2	187.5	264.2	350.0	432.4	82.6	90.0	93.1	97.0	98.6
1204	5.8	11.1	16.9	22.5	27.8	40.2	63.9	90.3	116.6	140.2	78.5	83.8	87.6	91.7	93.5
1207	9.8	19.9	29.9	40.0	49.1	59.0	108.1	155.3	204.1	250.0	80.0	87.0	92.0	94.6	96.6
1212	16.8	32.6	49.9	62.2	76.4	109.2	187.5	264.2	350.0	432.4	82.6	90.0	93.1	97.0	98.6

Air nozzles

American units

MODELL TRYCK (psi)	FORCE (oz)					FLOW (scfm)					SOUND (dB(A))				
	40	60	80	100	120	40	60	80	100	120	40	60	80	100	120
Flex systems															
220-280	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
220F-280F	10.4	16.2	22.1	27.8	33.7	10.8	15.4	20.0	24.6	29.2	75.1	79.3	82.5	85.0	87.0
620-680	5.0	8.2	11.4	14.5	17.7	4.9	7.7	10.5	13.2	15.9	73.3	77.0	80.1	82.8	85.5
221-281	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
222-282	13.1	20.0	26.8	33.6	40.4	14.1	19.6	25.1	30.5	36.1	77.3	81.2	84.1	86.8	88.2
291	6.5	9.5	12.5	15.5	18.6	7.1	9.8	12.6	15.4	18.0	73.3	77.0	80.1	82.8	85.2
292	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
293	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
294	10.4	16.2	22.1	27.8	33.7	10.8	15.4	20.0	24.6	29.2	75.1	79.3	82.5	85.0	87.0
295	19.6	28.4	37.8	47.1	56.0	21.1	29.5	38.0	47.1	54.8	84.9	88.0	90.2	91.9	92.3
296	30.2	44.3	58.2	73.5	88.7	34.0	47.2	60.9	74.9	89.0	87.8	91.3	94.2	96.4	97.8
Air knives/air curtains															
302	13.1	20.0	26.8	33.6	40.4	14.1	19.6	25.1	30.5	36.1	77.6	81.5	84.3	86.5	88.3
304	27.9	41.4	54.8	68.7	82.5	28.0	38.1	48.2	58.5	68.9	80.6	84.5	87.3	89.5	91.3
306	40.8	61.0	81.1	100.5	120.6	41.2	57.3	73.0	89.5	105.4	82.4	86.3	89.1	91.3	93.1
392	20.8	31.9	43.4	54.6	65.7	20.0	30.1	40.1	50.3	60.7	78.5	82.7	85.6	87.9	89.8
394	48.2	68.0	87.1	106.2	126.1	40.2	61.1	81.2	101.1	121.0	81.5	85.7	88.6	90.9	92.8
396	69.8	99.7	126.5	153.6	184.5	61.6	92.1	121.4	152.1	182.9	83.3	87.5	90.4	92.7	94.6
372	39.4	57.8	76.0	94.4	112.8	43.8	59.6	75.4	91.2	107.2	83.2	87.2	90.0	92.2	94.0
374	78.8	115.6	152.0	188.8	225.6	87.6	119.2	150.8	182.4	214.4	86.2	90.2	93.0	95.2	97.0
378	157.6	231.2	304.0	377.6	451.2	175.2	238.4	301.6	364.8	428.8	89.2	93.2	96.0	98.2	100.0
Multi-nozzles															
404	27.9	41.4	54.8	68.7	82.5	28.0	38.1	48.2	58.5	68.9	80.8	84.2	87.0	89.6	91.9
407	45.2	71.4	96.2	121.7	146.5	46.5	66.0	86.1	104.5	125.1	82.1	86.4	90.0	92.4	93.6
412	81.9	120.9	161.6	202.3	242.4	81.0	103.8	147.3	180.4	213.7	85.5	90.0	93.3	95.5	96.7
456	41.8	59.3	76.8	94.1	112.5	36.5	56.0	74.5	94.1	112.0	84.3	88.4	91.5	94.2	96.3
462	83.1	120.9	159.2	196.4	235.7	81.5	103.5	146.5	178.4	210.9	87.8	91.8	95.1	97.9	99.3
1104	27.9	41.4	54.8	68.7	82.5	28.0	38.0	48.2	58.5	68.9	80.8	84.2	87.0	89.6	91.9
1107	45.2	71.4	96.2	121.7	146.5	46.5	66.0	86.1	104.5	125.1	82.1	86.4	90.0	92.4	93.6
1112	81.9	120.9	161.6	202.3	242.4	81.0	103.8	147.3	180.4	213.7	85.5	90.0	93.3	95.5	96.7
1204	27.9	41.4	54.8	68.7	82.5	28.0	38.1	48.2	58.5	68.9	80.8	84.2	87.0	89.6	91.9
1207	45.2	71.4	96.2	121.7	146.5	46.5	66.0	86.1	104.5	125.1	82.1	86.4	90.0	92.4	93.6
1212	81.9	120.9	161.6	202.3	242.4	81.0	103.8	147.3	180.4	213.7	85.5	90.0	93.3	95.5	96.7

Safety guns

SI units

MODEL	FORCE (N)					FLOW (Nm ³ /h)					SOUND (dB(A))				
	200	400	600	800	1000	200	400	600	800	1000	200	400	600	800	1000
500 series															
500-MJ4	0.4	0.7	1.1	1.4	1.8	1.4	3.1	4.8	6.4	8.1	66.8	74.3	76.6	80.0	81.4
500-MJ5	0.7	1.5	2.1	2.9	3.6	4.5	7.9	11.4	14.8	18.2	72.3	77.6	80.7	84.5	86.0
500-MJ6	1.1	2.1	3.0	4.0	5.0	6.8	11.6	16.6	21.4	26.2	74.6	80.5	83.6	87.5	88.4
500-Z	1.4	2.6	4.0	5.1	6.3	9.3	15.3	22.8	29.8	36.8	71.0	76.8	81.0	84.9	87.5
500-S	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
500-L	1.7	3.3	4.9	6.4	7.8	12.0	20.7	28.9	37.2	44.4	73.7	80.8	85.2	88.2	90.1
501	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
520-580	1.1	2.3	3.7	4.8	6.0	6.5	12.5	20.1	27.1	34.1	71.0	76.8	81.0	84.9	87.5
5920	2.0	4.3	7.0	9.2	11.4	12.0	25.0	38.0	50.1	62.0	72.0	79.1	83.3	86.6	88.4
007 series															
007-MJ4	0.4	0.7	1.1	1.4	1.8	1.4	3.1	4.8	6.4	8.1	66.8	74.3	76.6	80.0	81.4
007-MJ5	0.7	1.5	2.1	2.9	3.6	4.5	7.9	11.4	14.8	18.2	72.3	77.6	80.7	84.5	86.0
007-MJ6	1.1	2.1	3.0	4.0	5.0	6.8	11.6	16.6	21.4	26.2	74.6	80.5	83.6	87.5	88.4
007-L	1.4	2.8	4.2	5.5	6.9	11.0	18.3	25.6	32.5	37.2	71.5	78.0	83.9	86.6	88.7
007-S	1.0	2.2	3.6	4.9	6.3	6.0	12.0	19.5	26.5	33.5	71.0	78.5	81.5	83.5	84.5
007-Z	1.0	2.3	3.6	5.1	6.6	6.8	14.0	20.9	27.3	34.1	68.0	76.5	80.5	82.5	83.5
007-P	1.0	1.9	2.9	3.8	4.8	6.8	11.6	16.2	20.9	25.5	68.3	76.0	80.1	82.8	85.1
008	1.0	2.3	3.6	5.1	6.6	6.8	14.0	20.9	27.3	34.1	68.0	76.5	80.5	82.5	83.5
0971	1.3	2.6	4.0	5.3	6.6	9.2	15.6	22.0	28.4	34.8	68.6	76.9	80.2	83.1	85.1
2000 series															
2055-A	5.8	10.8	16.0	21.1	26.2	45.3	76.2	107.1	138.0	168.9	82.6	89.4	93.8	97.3	99.0
2055-S	6.3	12.1	18.3	24.0	30.0	49.8	82.0	114.0	149.0	180.0	85.6	90.6	95.0	97.6	100.0
2050-L	2.0	3.6	5.3	7.1	8.8	13.2	22.2	31.3	40.3	49.3	73.4	81.0	85.4	88.9	90.9
2050-S	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
2973	4.0	7.9	11.5	15.2	18.9	29.2	49.0	67.9	87.2	106.5	76.7	84.0	87.6	90.5	92.6
2220-2280	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
750 series															
751-S	1.4	2.6	4.0	5.2	6.3	10.0	16.5	26.5	33.2	40.0	75.3	80.0	83.6	86.2	87.5
753-S	4.1	7.8	11.8	15.3	19.1	29.8	49.5	71.5	90.2	106.1	83.0	87.0	90.8	93.0	94.6
755-S	6.3	12.1	18.3	24.0	30.0	49.8	82.0	114.0	149.0	180.0	85.6	90.6	95.0	97.6	100.0
757-S	6.7	13.6	20.4	27.2	34.0	60.9	101.3	132.3	167.0	201.7	85.8	91.4	94.8	98.1	99.8
4000 series															
4010-S	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4
4015-L		38.8	59.3	79.3	97.4		242.0	362.3	468.1	570.3		102.2	105.5	108.8	111.3
Special guns															
100	1.4	2.8	4.1	5.5	7.0	9.5	15.5	22.5	29.5	36.0	72.0	77.5	80.7	85.0	88.0
1710	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4
2710	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4
3710	11.8	23.6	35.0	47.3	58.3	93.0	175.0	250.0	340.1	412.0	91.1	96.7	100.7	103.5	105.4

Safety guns

American units

MODEL	FORCE (oz)					FLOW (scfm)					SOUND (dB(A))				
	40	60	80	100	120	40	60	80	100	120	40	60	80	100	120
500 series															
500-MJ4	1.9	2.7	3.6	4.5	5.4	1.2	1.9	2.6	3.3	3.9	70.2	73.9	76.4	78.5	80.1
500-MJ5	3.5	5.3	7.0	8.8	10.5	3.4	4.8	6.2	7.6	9.0	74.8	78.4	80.8	82.8	84.3
500-MJ6	5.2	7.6	10.0	12.4	14.8	5.1	7.1	9.0	11.0	13.0	77.4	81.0	83.5	85.5	87.1
500-Z	6.5	9.5	12.5	15.5	18.6	7.1	9.8	12.6	15.4	18.0	73.3	77.0	80.1	82.8	85.2
500-S	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
500-L	8.4	12.2	16.0	19.8	23.6	9.2	12.6	15.9	19.3	22.6	77.2	81.4	84.3	86.6	88.5
501	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
520-580	5.0	8.2	11.4	14.5	17.7	4.9	7.7	10.5	13.2	15.9	73.3	77.0	80.1	82.8	85.5
5920	10.4	16.2	22.1	27.8	33.7	10.8	15.4	20.0	24.6	29.2	75.1	79.3	82.5	85.0	87.0
007 series															
007-MJ4	1.9	2.7	3.6	4.5	5.4	1.2	1.9	2.6	3.3	3.9	70.2	73.9	76.4	78.5	80.1
007-MJ5	3.5	5.3	7.0	8.8	10.5	3.4	4.8	6.2	7.6	9.0	74.8	78.4	80.8	82.8	84.3
007-MJ6	5.2	7.6	10.0	12.4	14.8	5.1	7.1	9.0	11.0	13.0	77.4	81.0	83.5	85.5	87.1
007-L	7.0	10.4	13.8	17.2	20.6	8.4	11.1	13.9	16.6	19.4	74.9	79.4	82.5	85.0	87.0
007-S	4.7	7.9	11.1	14.2	17.4	4.9	7.7	10.5	13.2	15.9	74.2	78.7	81.3	82.8	83.7
007-Z	5.4	8.6	11.8	15.0	18.3	5.5	8.2	11.1	13.8	16.6	72.0	76.8	79.7	81.6	82.6
007-P	4.9	7.2	9.6	11.9	14.3	5.1	7.1	9.0	10.9	12.9	72.0	76.2	79.2	81.5	83.4
008	5.4	8.6	11.8	15.0	18.3	5.5	8.2	11.1	13.8	16.6	72.0	76.8	79.7	81.6	82.6
0971	6.5	9.8	13.1	16.4	19.7	6.9	9.6	12.2	14.8	17.5	72.5	76.6	79.5	81.8	83.6
2000 series															
2055-A	27.6	40.2	52.8	65.5	78.1	33.9	46.7	59.4	72.1	84.8	86.0	90.2	93.2	95.5	97.4
2055-S	30.2	44.3	58.2	73.5	88.7	34.0	47.2	60.9	74.9	89.0	87.8	91.3	94.2	96.4	97.8
2050-L	9.3	13.6	17.8	22.0	26.3	9.9	13.6	17.3	21.1	24.8	77.1	81.6	84.7	87.1	89.2
2050-S	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
2973	19.7	28.9	38.0	47.2	56.4	22.4	30.4	38.4	46.4	54.5	80.2	84.2	97.0	89.2	91.0
2220-2280	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
750 series															
751-S	7.6	10.6	13.8	17.0	20.2	8.2	11.3	14.4	17.6	20.8	76.8	80.3	82.8	84.9	86.6
753-S	19.6	28.4	37.8	47.1	56.0	21.1	29.5	38.0	47.1	54.8	84.9	88.0	90.2	91.9	92.3
755-S	30.2	44.3	58.2	73.5	88.7	34.0	47.2	60.9	74.9	89.0	87.8	91.3	94.2	96.4	97.8
757-S	33.4	50.3	67.0	83.9	100.7	45.4	59.7	73.9	88.3	102.6	88.1	91.6	94.1	96.0	97.6
4000 series															
4010-S	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8
4015-L		145.7	193.8	242.2	290.5		151.9	196.5	241.4	286.4		102.4	105.3	107.5	109.3
Special guns															
100	6.8	10.1	13.3	16.7	20.1	7.2	8.8	12.5	15.2	17.9	74.3	77.8	80.5	82.8	84.9
1710	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8
2710	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8
3710	61.5	90.9	118.7	148.0	177.4	76.5	108.7	140.0	172.3	203.0	92.5	97.0	99.8	102.3	103.8

Cone patterns and velocity distribution

Cone pattern

On the following pages you will find tables describing the air cone pattern for our different nozzles. The tables also show values representing the maximum air velocity at various distances from the nozzle.

The figure below illustrates in principle the appearance of an air cone.

The following description of the columns in the tables is intended to make it easier to interpret the tables.

The first column contains the type of nozzle that the row applies to.

The other columns show the lateral spread of the air cone and the velocity of the air at the center of the cone.

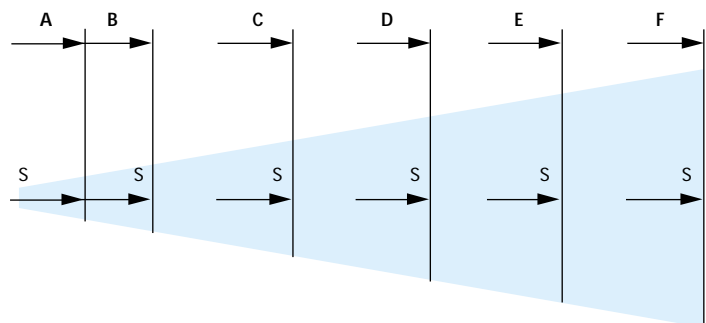
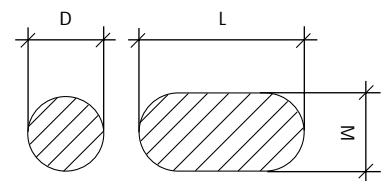
The columns labeled A-F provide the values at different distances from the nozzle opening.

Values in column D show air cones with circular lateral spread.

L and W indicate cones with rectangular lateral spread.

The velocity is given in the S column.

The cone pattern is expressed in millimeters and the velocity in m/s (for table on page 7.11) and in inches and ft/s (for table on page 7.12).



Cone patterns and velocity distribution

SI units

NOZZLE MODEL	A=50 mm				B=100 mm				C=200 mm				D=300 mm				E=400 mm				F=500 mm			
	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S
MJ4	12			129	24			104	45			57	65			40	88			36	110			33
MJ5	13			132	27			105	53			58	80			41	106			37	133			34
MJ6	20			135	35			108	65			59	95			41	125			37	155			34
511	24			121	38			101	80			56	114			39	156			35	194			32
512	24			121	38			101	80			56	114			39	156			35	194			32
011	24			122	38			102	80			56	114			39	156			35	194			32
700-mini	70			115	95			94	145			54	190			40	240			36	290			33
701	95			108	140			86	190			51	235			39	280			34	330			31
703	95			116	140			96	190			54	235			40	280			36	330			33
705	95			125	140			105	190			57	235			44	280			38	330			35
710	140			130	200			108	240			61	280			46	325			40	365			37
720	200			139	260			110	315			63	370			48	445			42	485			39
707C	95			140	140			113	190			64	235			49	280			43	330			39
715C	140			146	200			118	240			67	280			51	325			45	365			41
730C	200			155	260			126	315			72	370			55	445			48	485			44
2005	82			127	108			107	162			58	215			45	268			39	321			36
200	40			111	65			89	115			51	165			37	215			34	265			31
208	40			111	65			89	115			51	165			37	215			34	265			31
209	40			111	65			89	115			51	165			37	215			34	265			31
1011	24			244	38			197	80			109	114			79	156			57	194			52
715L	140			296	200			251	240			143	280			103	325			74	365			67
920		80	40	122		100	60	100		140	100	57		180	140	40		220	180	36		260	220	33
921		63	30	122		82	50	100		120	90	57		160	130	40		200	170	36		240	210	33
971		60	30	122		80	50	100		120	90	57		160	130	40		200	170	36		240	210	33
973		100	40	122		120	60	100		160	100	57		200	140	40		240	180	36		280	220	33
811	24			133	38			106	80			58	114			40	156			36	194			33
220	40			111	65			89	115			51	165			37	215			34	265			31
220F		80	40	122		100	60	100		140	100	57		180	140	40		220	180	36		260	220	33
620	24			121	38			101	80			56	114			39	156			35	194			32
221	40			111	65			89	115			51	165			37	215			34	265			31
291	24			121	38			101	80			56	114			39	156			35	194			32
292	24			122	38			102	80			56	114			39	156			35	194			32
293	40			111	65			89	115			51	165			37	215			34	265			31
294		80	40	122		100	60	100		140	100	57		180	140	40		220	180	36		260	220	33
295	95			116	140			96	190			54	235			40	280			36	330			33
296	95			125	140			105	190			57	235			44	280			38	330			35
302		90	40	111		115	65	89		165	115	51		215	165	37		270	220	34		325	275	31
304		190	40	111		215	65	89		265	115	51		315	165	37		370	220	34		425	275	31
306		290	40	111		315	65	89		365	115	51		415	165	37		470	220	34		525	275	31
392		130	40	122		150	60	102		190	100	58		230	140	41		270	180	37		310	220	34
394		230	40	122		250	60	102		290	100	58		330	140	41		370	180	37		410	220	34
396		330	40	122		350	60	102		390	100	58		430	140	41		470	180	37		510	220	34
372		165	40	122		185	60	102		225	100	58		265	140	41		305	180	37		345	220	34
374		295	40	122		315	60	102		355	100	58		395	140	41		435	180	37		475	220	34
378		555	40	122		575	60	102		615	100	58		655	140	41		695	180	37		735	220	34
404	80			118	110			97	165			55	220			41	280			37	340			34
407	98			126	130			106	195			58	260			45	325			39	390			36
412	127			131	165			109	245			61	325			49	405			41	485			38
1104	80			118	110			97	165			55	220			41	280			37	340			34
1107	98			126	130			106	195			58	260			45	325			39	390			36
1112	127			131	165			109	245			61	325			49	405			41	485			38
1204	80			118	110			97	165			55	220			41	280			37	340			34
1207	98			126	130			106	195			58	260			45	325			39	390			36
1212	127			131	165			109	245			61	325			49	405			41	485			38

Cone patterns and velocity distribution

American units

NOZZLE MODEL	A=2"				B=4"				C=8"				D=12"				E=16"				F=20"			
	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S	D	L	W	S
MJ4	0.47			423	0.94			341	1.77			187	2.56			131	3.46			118	4.33			108
MJ5	0.51			433	1.06			344	2.09			190	3.15			135	4.17			121	5.24			111
MJ6	0.79			443	1.38			354	2.56			194	3.74			135	4.92			121	6.10			111
511	0.94			397	1.50			331	3.15			184	4.49			128	6.14			115	7.64			105
512	0.94			397	1.50			331	3.15			184	4.49			128	6.14			115	7.64			105
011	0.94			400	1.50			335	3.15			184	4.49			128	6.14			115	7.64			105
700-mini	2.76			377	3.74			308	5.71			177	7.48			131	9.45			118	11.42			108
701	3.74			354	5.51			282	7.48			167	9.25			128	11.02			112	12.99			102
703	3.74			381	5.51			315	7.48			177	9.25			131	11.02			118	12.99			108
705	3.74			410	5.51			344	7.48			187	9.25			144	11.02			125	12.99			115
710	5.51			427	7.87			354	9.45			200	11.02			151	12.80			131	14.37			121
720	7.87			456	10.24			361	12.40			207	14.57			157	17.52			138	19.09			128
707C	3.74			459	5.51			371	7.48			210	9.25			161	11.02			141	12.99			128
715C	5.51			479	7.87			387	9.45			220	11.02			167	12.80			148	14.37			135
730C	7.87			509	10.24			413	12.40			236	14.57			180	17.52			157	19.09			144
2005	3.23			417	4.25			351	6.38			190	8.46			147	10.55			128	12.64			118
200	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
208	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
209	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
1011	0.94			801	1.50			646	3.15			358	4.49			259	6.14			187	7.64			171
715L	5.51			971	7.87			823	9.45			469	11.02			338	12.80			243	14.37			220
920		3.15	1.57	400		3.94	2.36	328		5.51	3.94	187		7.09	5.51	131		8.66	7.09	118		10.24	8.66	108
921		2.48	1.18	400		3.23	1.97	328		4.72	3.54	187		6.30	5.12	131		7.87	6.69	118		9.45	8.27	108
971		2.36	1.18	400		3.15	1.97	328		4.72	3.54	187		6.30	5.12	131		7.87	6.69	118		9.45	8.27	108
973		3.94	1.57	400		4.72	2.36	328		6.30	3.94	187		7.87	5.51	131		9.45	7.09	118		11.02	8.66	108
811	0.94			436	1.50			348	3.15			190	4.49			131	6.14			118	7.64			108
220	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
220F		3.15	1.57	400		3.94	2.36	328		5.51	3.94	187		7.09	5.51	131		8.66	7.09	118		10.24	8.66	108
620	0.94			397	1.50			331	3.15			184	4.49			128	6.14			115	7.64			105
221	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
291	0.94			397	1.50			331	3.15			184	4.49			128	6.14			115	7.64			105
292	0.94			400	1.50			335	3.15			184	4.49			128	6.14			115	7.64			105
293	1.57			364	2.56			292	4.53			167	6.50			121	8.46			112	10.43			102
294		3.15	1.57	400		3.94	2.36	328		5.51	3.94	187		7.09	5.51	131		8.66	7.09	118		10.24	8.66	108
295	3.74			381	5.51			315	7.48			177	9.25			131	11.02			118	12.99			108
296	3.74			410	5.51			344	7.48			187	9.25			144	11.02			125	12.99			115
302		3.54	1.57	364		4.53	2.56	292		6.50	4.53	167		8.46	6.50	121		10.63	8.66	112		12.80	10.86	102
304		7.48	1.57	364		8.46	2.56	292		10.43	4.53	167		12.40	6.50	121		14.57	8.66	112		16.73	10.86	102
306		11.42	1.57	364		12.40	2.56	292		14.37	4.53	167		16.39	6.50	121		18.50	8.66	112		20.67	10.86	102
392		5.12	1.57	400		5.91	2.36	334		7.48	3.94	190		9.06	5.51	135		10.63	7.09	121		12.20	8.66	112
394		9.06	1.57	400		9.84	2.36	334		11.42	3.94	190		12.99	5.51	135		14.57	7.09	121		16.14	8.66	112
396		12.99	1.57	400		13.76	2.36	334		15.35	3.94	190		16.93	5.51	135		18.50	7.09	121		20.08	8.66	112
372		6.50	1.57	400		7.28	2.36	334		8.86	3.94	190		10.43	5.51	135		12.01	7.09	121		13.58	8.66	112
374		11.61	1.57	400		12.40	2.36	334		13.98	3.94	190		15.55	5.51	135		17.13	7.09	121		18.70	8.66	112
378		21.85	1.57	400		22.64	2.36	334		24.21	3.94	190		25.79	5.51	135		27.36	7.09	121		28.94	8.66	112
404	3.15			387	4.33			318	6.50			180	8.66			135	11.02			121	13.39			112
407	3.86			413	5.12			348	7.68			190	10.24			148	12.80			128	15.35			118
412	5.00			430	6.50			358	9.65			200	12.80			161	15.94			135	19.09			125
1104	3.15			387	4.33			318	6.50			180	8.66			135	11.02			121	13.86			112
1107	3.86			413	5.12			348	7.68			190	10.23			148	12.80			128	19.35			118
1112	5.00			430	6.50			358	9.65			200	12.08			161	15.94			135	19.09			125
1204	3.15			387	4.33			318	6.50			180	8.66			135	11.02			121	13.39			112
1207	3.86			413	5.12			348	7.68			190	10.23			148	12.80			128	15.35			118
1212	5.00			430	6.50			358	9.65			200	12.08			161	15.94			135	19.09			125

Conversion tables

Below you will find conversion tables for converting between SI and American units of measure.

	SI UNITS TO AMERICAN UNITS			AMERICAN UNITS TO SI UNITS		
	multiplying	by	gives	multiplying	by	gives
Length	cm	0.3937	in	in	0.0254	m
	m	3.2808	ft	ft	0.3048	m
	m	1.0936	yd	yd	0.9144	m
	m	$0.6214 \cdot 10^3$	mile	mile	1609.3	m
Area	cm ²	0.1550	in ²	in ²	6.4516	cm ²
	m ²	10.7639	ft ²	ft ²	0.0929	m ²
	m ²	1.1960	yd ²	yd ²	0.8361	m ²
	m ²	$0.2471 \cdot 10^3$	acre	acre	4046.9	m ²
Volume	l	61.0237	in ³	in ³	16.387	ml
	l	$35.3147 \cdot 10^{-3}$	ft ³	ft ³	28.317	l
	l	$1.3080 \cdot 10^{-3}$	yd ³	yd ³	0.7646	m ³
	l	0.2200	UK gal	UK gal	4.5461	l
	l	0.2641	US gal	US gal	3.7854	l
Weight	kg	2.2046	lb	lb	0.4535	kg
	kg	35.2740	oz	oz	28.350	g
	kg	$0.9842 \cdot 10^3$	ton UK	ton UK	1016.5	kg
	kg	$1.1923 \cdot 10^3$	ton US	ton US	907.19	kg
Force	N	3.5274	oz	oz	0.2835	N
	N	0.2248	lbf	lbf	4.4482	N
	N	0.1020	kp	kp	9.8067	N
Pressure	kPa	0.0100	bar	bar	100.00	kPa
	kPa	0.0102	kp/cm ²	kp/cm ²	98.067	kPa
	kPa	0.1450	psi	psi	6.8948	kPa
Airflow	Nm ³ /s	60.0000	Nm ³ /min	Nm ³ /min	16.667	NI/s
	Nm ³ /s	3600.00	Nm ³ /h	Nm ³ /h	0.2778	NI/s
	Nm ³ /s	2118.88	scfm	scfm	0.4719	NI/s
	Nm ³ /h	0.58858	scfm	scfm	1.6990	Nm ³ /h
	Nm ³ /h	16.6667	NI/min	NI/min	0.0600	Nm ³ /h
	NI/min	0.03532	scfm	scfm	28.317	NI/min
Velocity	m/s	3.28084	ft/s	ft/s	0.3048	m/s
	m/s	2.23694	mph	mph	0.4470	m/s
	m/s	3.60000	km/h	km/h	0.2778	m/s
Temperature	For conversion between temperature scales use: From Fahrenheit (F°) to Celsius (C°): $C^{\circ} = 0.555 (F^{\circ} - 32)$ From Celsius (C°) to Fahrenheit (F°): $F^{\circ} = 1.8 C^{\circ} + 32$					

Blowing properties for open pipe

Sound levels and air consumption for different types of pipe may vary considerably. Factors that affect these values are, for example, blowing through a drilled perpendicular hole and blowing directly from a straight pipe. In addition there are great differences depending on whether the pipe is bent, straight, long or short. All these parameters affect the pipe's blowing properties in the form of blowing force, sound level, and air consumption. Therefore it is practically impossible to determine the correct sound level or air consumption for a pipe without measuring each individual application.

In the tables below we present values for an approximately 300 mm (12") long, straight pipe. If we had chosen to present values for blowing through a perpendicular hole, both the noise level and the air consumption figures would have been significantly higher. We have opted to present low values despite the fact that many "open pipe" applications within the manufacturing industry display considerably higher values than those shown in the tables.

SI-enheter

Sound level dB(A)

PRESSURE (kPa)	INSIDE PIPE Ø														
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
200	72.0	84.5	92.4	97.9	102.1	106.4	110.0	112.9	116.0	118.4	120.5	122.3	124.1	126.0	127.5
400	80.9	93.0	101.1	106.7	110.4	114.3	118.2	121.0	123.7	125.9	128.0	129.4	130.8	132.3	133.8
600	86.0	97.0	104.3	109.8	113.8	117.9	120.9	123.9	126.0	128.1	130.0	131.8	132.8	134.3	135.5
800	89.2	99.1	106.3	111.6	116.0	119.4	122.5	125.1	127.4	129.3	131.4	132.9	134.1	135.7	137.0
1000	92.1	101.2	108.2	113.5	117.4	120.6	123.5	126.1	128.3	130.2	132.2	134.0	135.4	136.8	138.1

Air consumption Nm³/h

PRESSURE (kPa)	INSIDE PIPE Ø														
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
200	4.1	13.4	27.9	47.5	72.3	102.3	137.5	177.8	223.4	274.1	329.9	391.0	457.2	528.6	605.2
400	7.0	24.1	51.5	89.1	136.9	194.9	263.1	341.5	430.1	529.0	638.0	757.3	886.7	1026.4	1176.2
600	10.4	36.1	77.1	133.6	205.3	292.5	395.0	512.8	646.0	794.6	958.5	1137.7	1332.4	1542.4	1767.7
800	13.4	47.3	101.6	176.4	271.5	387.2	523.3	679.8	856.8	1054.2	1272.1	1510.4	1769.1	2048.3	2347.9
1000	16.6	58.7	126.3	219.3	337.8	481.7	651.1	846.0	1066.3	1312.1	1583.4	1880.1	2202.3	2549.9	2923.1

The picture shows an "open pipe" application with three Ø25 mm (1") pipes.

The pipes were replaced with three SILVENT 730 Cs and the sound level was lowered 11 dB(A) and substantial amounts of compressed air were saved.



American units

Sound level dB(A)

PRESSURE (psi)	INSIDE PIPE Ø							
	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"
40	83.6	97.7	106.0	112.0	116.6	120.4	126.3	130.9
60	89.1	102.9	110.9	116.6	121.1	124.7	130.4	134.8
80	92.1	105.2	112.9	118.4	122.6	126.1	131.6	135.9
100	94.2	107.1	114.6	119.9	124.0	127.4	132.7	136.9
120	94.7	107.5	115.0	120.3	124.4	127.8	133.1	137.2

Air consumption scfm

PRESSURE (psi)	INSIDE PIPE Ø							
	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"
40	6.6	24.6	52.5	92.1	141.3	201.2	354.1	550.8
60	9.5	36.0	77.4	136.0	209.2	298.5	526.2	818.9
80	12.5	47.4	102.1	179.6	276.7	395.2	697.0	1085.2
100	15.4	58.8	127.0	223.5	344.7	492.5	869.0	1353.4
120	18.4	70.2	151.9	267.4	412.7	589.8	1041.1	1621.6



BRITISH STEEL

GENERAL MOTORS

NIPPON STEEL

VOLVO

ABB

TETRA PAK

TOYOTA

JAGUAR

COCA-COLA

FORD

BASF

GRUNDIG

BMW

MICHELIN

TUBORG

PORSCHE

BAYER AG

ROLLS-ROYCE

HASSELBLAD

PRATT & WHITNEY

SAAB

GENERAL ELECTRIC

SIEMENS

CITROËN

RENAULT

FRIGOSCANDIA

WALT DISNEY

MITSUBISHI

VOLKSWAGEN

ALUMINIUM NORF

BOEING

ORREFORS

SANDVIK

ERICSSON

PROCTER & GAMBLE

DAIMLER-BENZ

HOECHST

PHARMACIA & UPJOHN

CATERPILLAR

SSAB

MODO

SKF

JOHN DEERE

ASTRAZENECA

SCA

INTEL

GOODYEAR

HERSHEY FOODS

Applications

- 8.2 The steel and aluminum industries
- 8.4 The automotive industry
- 8.5 The food processing industry
- 8.6 The manufacturing industry
- 8.7 Machine making
- 8.7 The electronics industry
- 8.7 The chemical industry
- 8.8 Other industries
- 8.10 Safety guns
- 8.12 Silencers

*Examples of the many companies that today use
Silvent's internationally patented products.*

A robot equipped with two Silvent 511 nozzles.

The steel and aluminum industries



SILVENT products not only solved a quality problem but a large environmental problem as well. British Steel is today a steady user of SILVENT products.

British Steel's Port Talbot Hot Strip Mill had problems removing water and scale from the surface of their newly produced steel. An initial attempt to solve the problem using open pipe steam jets was unsuccessful. New environmental problems arose, with excessive noise and condensation that destroyed the electrical equipment used to measure temperature, flatness, thickness etc. SILVENT 1212s (with 12 nozzles) were installed along the whole line. These created a broad and powerful air stream that efficiently swept away the water and scale as the steel passed. The noise level was cut in half and the steam disappeared from the environment.



Nippon Steel in Japan uses SILVENT's stainless steel 973 flat nozzles to both clean and dry steel plate.



This picture shows a manifold with SILVENT 209 nozzles drying sheet metal at a steel mill in the USA. Previously, flattened open pipe was used to blow the steel dry. Installing SILVENT lowered the noise level by 50% and thanks to reduced air consumption, the installation paid for itself in less than 3 months.



This application has been a profitable investment at a steel mill in West Virginia, USA. A system of different SILVENT nozzles blows sheet metal free of water and moisture. The SILVENT system dries the steel quickly and effectively. In comparison with the open pipe system formerly used, the noise level has been dramatically lowered and a 51 % reduction of air consumption has covered the cost of the investment in just 4 months' time.



The picture shows an application at Metron Steel in Indiana, USA with 6 SILVENT 412s mounted on adjustable UBJ swivels to achieve the proper blowing angle. The nozzles are used to blow steel free of dust and moisture before it passes on to weighing and pre-cutting. Air consumption was reduced by 68% in comparison with the open pipe system previously used and the noise level was halved at the same time.

Norsk Blikkvalseverk, Scandinavia's largest producer of sheet metal for the packaging industry, has installed SILVENT air nozzles to improve the working environment at their rolling mill. The use of compressed air was considered to be one of their greatest problems due to the intolerably high noise levels it generated. After studying the various manufacturing processes involved, SILVENT proposed solutions for every application of compressed air in the mill. Different nozzles were chosen depending on the application. The most frequently used nozzles were 705, 209 and 920. Calculations have shown that the reduction in compressed air consumption at their Kvarto Works alone is as great as 1,196,000 Nm³ (1,565,000syd³) per year after implementing SILVENT's recommendations.



The picture shows the final phase of the sheet metal production process with SILVENT 920s. The nozzles dry the metal effectively, thereby preventing oxidation that lowers the quality of the steel.



Hoogovens Aluminium Huttenwerk GmbH uses approximately 250 SILVENT 209 nozzles to cool the electrolyte in their furnaces. The company has 188 furnaces in operation.



Alu-Norf, one of Germany's largest recyclers of aluminum, uses many different types of SILVENT nozzles in their production. Here is one application where a SILVENT 1207 is used for blow-off of emulsion in the aluminum making process.



The picture shows a steel mill application at Nippon Steel where a SILVENT 407 blows off scale in a welding operation. Previously open pipe was used, which generated a high and dangerous noise level.



SILVENT's 456 doughnut nozzle automatically blows every pipe clean as it passes through the nozzle during production.

The automotive industry



A manifold with SILVENT 216 nozzles is used to dry camshafts.

The picture shows how SILVENT 216 nozzles coated with chemical nickel are used to dry camshafts at a Japanese carmaker. Approximately 50 nozzles are used at every drying station to effectively blow the shafts free of water. Previously open pipe was used for this operation. The noise level near the machines was directly damaging to hearing and enormous amounts of compressed air were wasted. After installing the SILVENT nozzles, the noise level was reduced by 50% and considerable amounts of compressed were saved. Pay-off time for the investment was only 4 months and the company now enjoys a better working environment and a safer workplace. They are extremely satisfied with the results and today are steady users of SILVENT's quality products.



Jaguar uses the SILVENT 407 to blow clean prior to painting. The SILVENT nozzles provide an air cone that effectively sweeps off the car.



Suzuki Motors in Japan uses 209s for blow-off and drying of engine parts. The company has dramatically lowered both their noise level and air consumption by switching to SILVENT's air nozzles.



General Motors in Canada assembles entire batteries of SILVENT 208s for blow-off of engine blocks after casting.



SILVENT 208s are used at Ford in Germany for drying after leak testing.

The food processing industry

The picture on the right shows an air knife with twenty SILVENT 920s installed at BELIN, France's leading biscuit maker. All together the company has seven lines equipped with SILVENT's air knives to blow away cracker crumbs. The noise level in their production prior to the installation measured 90-94 dB(A). After SILVENT air knives were installed, the noise level was halved, dropping to less than 82 dB(A).



Here SILVENT 200 nozzles inflate a plastic bag, allowing bread to be packaged automatically.



Coca Cola uses SILVENT nozzles to dry bottles before applying labels.



Mineral water producer SAN BERNARDO uses the SILVENT 920 to dry PET bottles.



The picture shows a conveyor for cheese packaging. SILVENT 392 air knives dry the packages before labeling.



In this application SILVENT's stainless steel 720 nozzle is used to blow a filleting machine free of fish scraps. The 720 replaced an open pipe that generated a noise level of 102 dB(A). The noise level dropped to 79 dB(A) after the installation while the blowing force was more than sufficient.



Yamazaki Bread, with more than 40 bakeries throughout Japan, uses SILVENT's stainless steel 973 F flat nozzles with adjustable flow regulation. The nozzles are used both to transport loaves of bread along their conveyors and to remove bread from the pans. Flow regulation allows easy adjustment of the blowing force required to transport and separate different sized loaves.

The manufacturing industry



AB Sandvik Bahco has incorporated SILVENT's 700 series into their production. The installations have halved both the noise level and their energy costs.

The picture to the left shows a two-pound wrench being lifted off the die by the air stream from two SILVENT 705 nozzles. Previously this was done using the conventional blowing method – a 3/8 inch open pipe. Supply pressure was 500 kPa (71.5 psi), which resulted in each pipe generating a noise level of 110 dB(A). Air consumption was 185 Nm³/h (109 scfm) per pipe.

Installation of SILVENT nozzles more than halved the noise level and reduced air consumption by 49%.

The cost of producing 1000 scfm of compressed air at 500 kPa (71.5 psi) is calculated at 42.5 cents. At a degree of utilization of 40%, the savings per pipe per year is more than \$850 USD.



The picture shows an application at Yamaha in Japan. 35 SILVENT 011s dry cylinder heads. The company has installed 10 lines. SILVENT nozzles have saved 50% in energy costs and halved the noise level in their production. Formerly, open pipe was used for drying.



This application where parts are ejected from a press resulted in the noise level being reduced by more than 50% when a SILVENT 404 was installed.



A SILVENT 232 with a magnetic base is used for blow-off when turning piston rods. The magnetic base combined with a Flexblow hose allows easy adjustment to the most efficient and quietest blowing angle.



One of the largest wheel rim manufactures in Europe, Prins Dokkum in Holland, uses SILVENT air nozzles in a number of different blowing operations. The picture shows a manifold fitted with SILVENT 511 nozzles. The manifold is used to blow off scale and dirt after spot welding.

Machine making



Heinrich Wagner Sinto GmbH develops and manufactures fully automatic casting molds for foundries. The company builds approximately 20 units per year using 40 nozzles in each machine. They have chosen the SILVENT 209 to effectively and automatically blow the molds clean.



The picture shows a manifold fitted with 5 SILVENT 920 nozzles incorporated into Daiden flash welding machines. The nozzles keep the machines' welding surfaces free of scale and dirt. By equipping the machines with efficient compressed air nozzles that reduce noise and conserve air, their customers get a quieter and more environment-friendly product.

The electronics industry



Omron produces circuit boards using SILVENT's Micronozzles for gentle and controlled blow-off.



In this application a SILVENT MJ6 is used for spot cooling and cleaning when soldering circuit boards.

The chemical industry



Before painting Absolut Vodka Mandarin bottles, 100% stainless steel 378 air knives from SILVENT are used for drying. Since production takes place in a chemically aggressive environment, great demands are placed on both personnel and the equipment used in the production process.



Following the pickling process, hydrochloric acid is blown from parts prior to coating them with zinc – an extremely tough and corrosive environment that requires a stainless steel nozzle, in this case the SILVENT 973 F.

Other industries



For a number of years SILVENT has had the pleasure of collaborating with the world famous camera manufacturer Hasselblad. As early as 1948, these pioneers revolutionized the camera industry and have had their cameras used in space since 1962.

The picture shows blow-off at a CNC machine used for machining the sidepiece of the camera housing. The operation is accomplished with two flat nozzles mounted side by side in order to create a more uniform air jet – a SILVENT 392 air knife. Previously the sidepiece was blown clean manually, but today this is done automatically, which has further improved the working environment.



The picture shows a packaging machine that is equipped with 25 SILVENT 511s. The nozzles transport mustard lids. The noise level at the machines has been more than halved.



A SILVENT 220 is used to keep this machine clean and avoid stoppage. Previously, a 4 mm open pipe was used. Switching to the 220 cut the noise level in half and reduced air consumption by 36%.



This picture shows four SILVENT 5001 nozzles mounted around a plastic strip puller. The nozzles blow the plastic strip dry of water during continuous production. The company has confirmed that air consumption has decreased significantly and that the noise level has been reduced by 20% since switching from “open pipe blowing”.



Optimal Dimensions of Montana, USA uses SILVENT 920s to blow away water prior to measuring surface irregularities. The water must be completely removed before using a laser to measure the quality of the polished surface.



Here, a custom-made 300 manifold with SILVENT 209 nozzles is mounted in the final phase of the process in an industrial washing facility. The nozzles are intended to dry parts as well as to prevent methylene chloride fumes from spreading to the adjacent production area.



A compressed air cleaning station for plastic pipe. SILVENT 407 nozzles are mounted on a pneumatic rotor arm. The arm is automatically controlled and moves forward to the mouth of the long pipes prior to blowing clean. This installation resulted in both reduced air consumption and an improved working environment in the form of lower noise levels.



The picture shows SILVENT's 456 doughnut nozzle in action at a Japanese cable manufacturer. The doughnut nozzle allows cable, sections etc. to pass through the nozzle during continuous production.



When manufacturing wooden flooring, the material is blown clean during the sanding and polishing process using a custom-built manifold with SILVENT 920 nozzles.



Japan Railway uses connected batteries of SILVENT 920 nozzles to clean filters – a quick, efficient and quiet method compared to using open pipe.



After washing their express trains, Japan Railway uses custom-built manifolds fitted with SILVENT 920 nozzles to blow the trains dry.

Safety guns



Several years ago BMW conducted a study of energy saving and noise reducing air guns. SILVENT's safety guns were chosen as their new standard. The old guns were scrapped. Pay-off time was less than one year.

BMW saves large amounts annually by using SILVENT's safety guns. In a comprehensive test at 1300 workstations, noise levels and energy consumption were measured in blowing operations with conventional air guns and then compared with SILVENT safety guns. The results showed that SILVENT's safety guns used up to 57% less compressed air and lowered noise levels by approximately 50%.



The SILVENT 500 gun provides exceptional flexibility in allowing the wrist to be turned to the desired blowing position. Here cylinder linings are blown clean prior to mounting.



The SILVENT 755 is used in the production of the world famous "Absolut Vodka" bottle. The safety gun is used here to blow the molds free of molten glass in connection with a production stoppage. Millions of "Absolut Vodka" bottles are made every year at the works. SILVENT safety guns and fixed nozzles are used throughout the production facilities to improve compressed air safety, save air and eliminate noise.



SILVENT's 530 Flexgun is used here to blow deep inside the machine. Compressed air safety is considerably improved since the operator can keep his face away from spattering and dangerous flying particles.



The picture shows an application where a SILVENT 008 safety gun is used. The nozzle generates a broader air cone that is perfect for sweeping larger surfaces quickly and efficiently.



Here a SILVENT 2055 is used at one of the world's best-known chewing gum manufacturers. This American company utilizes the 2055's exceptional blowing force and long extension pipe to blow clean deep inside their gum machines – a cleaning job that requires extra blowing force and a high degree of efficiency as their production continues both night and day.



The SILVENT 2973 safety gun with its stainless steel flat nozzle generates a blowing force that is 3 times stronger than an ordinary air gun. Here, the broad air cone effectively blows all dirt from the roller.



SILVENT's MJ4 Microgun features a unique valve design that allows precision regulation of the blowing force. Here the world famous camera maker Hasselblad uses the Microgun in the final assembly of their camera housing – an application that requires gentle but exact blowing.



Cleaning the paper web with compressed air is often a problem. It is a job that requires extremely concentrated and high blowing force. The picture shows a SILVENT Air Bazooka fitted with an extension pipe reaching far into the machine with its highly efficient core jet of air. The extension pipe also improves compressed air safety as the operator can keep his face away from the machine.



When manufacturing fabric, the machine's cylinders must be blown clean on a regular basis. A SILVENT 753 gun fitted with a 1500 mm extension pipe reaches every nook and cranny in the machine.



SILVENT's safety gun fitted with a "protective" PEEK nozzle is used to avoid scratching or otherwise damaging sensitive parts in the final phases of the assembly process.

Silencers

Catech is a Swedish company that has found a successful niche within the sawmill industry. Their chief product is an automated edge optimizer that has enjoyed considerable success on the export market. With feed rates for these units of up to 50-60 boards per minute, the noise factor is a matter of concern. Catech has therefore been aware of the importance of noise abatement from the design stage of their product.

The problem of pneumatic noise was easy to solve with the help of SILVENT central silencers. In addition, more reliable function was achieved as the silencers eliminated the risk of the valves becoming clogged. From an environmental point of view, a further advantage provided by the silencers was a substantial reduction of the amount of harmful oil mist released into the air.



The picture shows a part of a CATECH 540 edge optimizer unit ready for delivery to Carter Holt Harvey, KOPU sawmill in New Zealand. Particularly large dimensions of the pine "Pinus radiata" are sawed in New Zealand. The picture also shows how the exhaust ports of several valves are connected to a single SILVENT central silencer.



PLM's Plastic Division has implemented a noise control program in their production facilities. The company has installed more than 50 CDs in their blow molding machines and thereby effectively solved their noise problem and eliminated a previous problem they have had with clogged silencers.



The picture shows a pneumatically powered press where hose silencers have eliminated harmful impulse noise.



SKF has used two ED2033s to solve a noise problem in a powder press. By serially connecting the silencers they got the expansion volume they needed to avoid backpressure in the system.



The picture shows two central silencers connected in parallel in an Italian bottle-making machine. Installing a CD lowered the noise level of the exhaust air an incredible 30 dB(A).

Educational material

Hear and feel the difference!

We can offer complete educational and demo material for our different product groups. Using this demonstration material you can measure both the blowing force and the sound level. You can also test some of our competitors' products to more fully appreciate just how great the difference is between what they have to offer and Silvent's products. Try it, listen, and experience the difference!



In addition to the products shown below, we offer even more educational material and products.

Contact Silvent for further information.



1



2



3



4

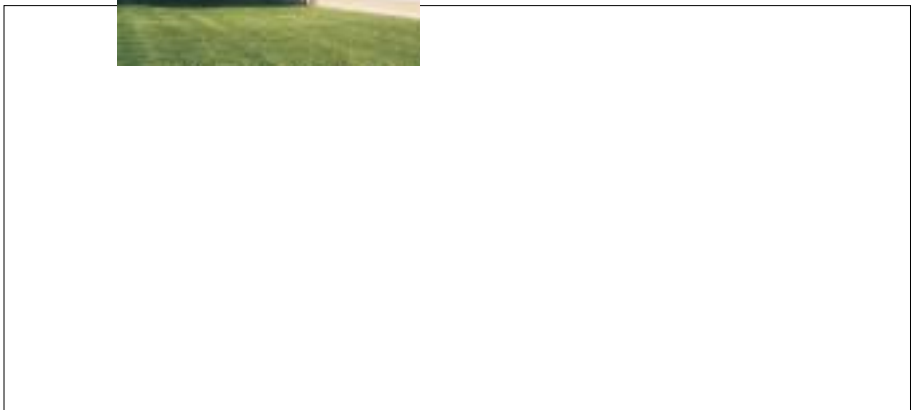
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reduce noise
conserve air
improve safety



Silvent's safety nozzles are an established concept around the globe. We are continuously developing new products and today offer the world's largest selection of air knives, safety nozzles, safe air guns and pneumatic silencers. Our safety products are distributed from our headquarters in Sweden via our agents or our own sales companies throughout the world.



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