

# jaga

CLIMATE DESIGNERS

Heating



## JAGA AVS UNIT HEATER



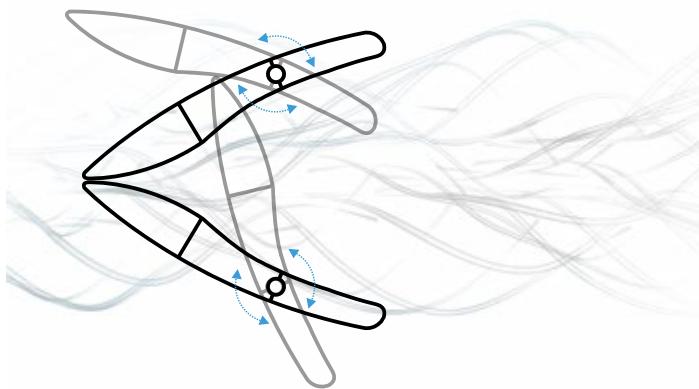
# jaga

CLIMATE DESIGNERS

## JAGA AVS® UNIT HEATER

Air Venturi System included

The Jaga Unit heater is designed specifically to heat up large spaces, quick and efficiently. The specific designed air venturi system mixes ambient air with the return air and enables a much better air distribution. Available in different sizes and configurations, the Jaga Unit Heater is a perfect fit for any project, ranging from warehouses upto sports facilities and showrooms.





# AVS® UNIT HEATER





## JAGA AVS® HYDRONIC UNIT HEATERS ARE AN ENERGY EFFICIENT AND COMFORTABLE SOLUTION FOR HEATING LARGE SPACES

### THE AIR VENTURI SYSTEM (AVS®)

The Jaga AVS® unit heater is designed for heating industrial buildings, sports halls, warehouses, garages, supermarkets, exhibition halls, commercial centres, conservatories, ... and every room that requires large airflow and heating capacities for fast response.

The Jaga unit heaters are standard equipped with the unique AVS® system (Air Venturi System). This AVS® system reduces the return air temperature without compromising the capacity which creates a significant improvement in the vertical and horizontal throw while it reduces the stratification. The AVS® system facilitates a better temperature distribution, which enables shorter operational times and thereby generates energy savings.



### EBM PABST GREENTECH EC-MOTORS

EC motors reduce operating costs, reduce the impact on the environment and impress with their quiet operation. Due to the higher efficiency of the EC motors, the energy consumption is directly linked to the fan speed and thus the flow rate of the fan. The actual power consumption is determined by the (variable) speed.

- **No expensive controls required**
- **Energy saving up to 32%**
- **Little or no maintenance (brushless)**
- **Low noise level**
- **Stepless speed control 0-10 V**
- **Long life expectancy due to low heat production**

**EC = - 32%**



# AVS® UNIT HEATER

## BETTER DISTRIBUTION WITH THE SAME POWER

All Jaga unit heaters are equipped with our unique Air Venturi System. By efficiently mixing ambient air, the temperature of the return air is reduced whilst the capacity of the unit heater does not get compromised. A lower return air temperatures facilitates a much better air distribution throughout large spaces and reduces the stratification. This results into a faster response, even distribution and reduced energy consumption.

### FASTER RESPONSE

The highly efficient air distribution by the Air Venturi System reduces the response time and ensures optimal comfort. This system offers a number of additional and innovative control options.

### LOWER ENERGY CONSUMPTION

The combination of the AVS system with efficient EC motors enable substantial energy savings. The AVS system reduces the operational time while the EC technology consumes 32% less than a standard AC motor with identical characteristics.

### HYDRONIC SYSTEM

Higher efficiency, easy installation, no exhaust fumes, safe solution.

### LOW-H<sub>2</sub>O COIL

Coils made from aluminium fins placed on mechanically expanded copper tubes, which are connected to steel collectors. The ideal combination of these materials guarantees optimum heat conductivity. 5 Coil sizes with 2 or 3 rows. Heat output from 150MBH up to 2700MBH at 160°F average water temperature.



### LOW NOISE LEVEL

Due to the single unit HyBlade® fan combined with the EC motor technology, the noise level drops by 6 dB(A).

### SIMPLE INSTALLATION AND CONTROL

Variable control 0-10 VDC. A simple line voltage connection 115V /208V and a 0-10V control are sufficient to power the Unit Heater. The EC motor has no brushes, hence there is no friction, no wear and no maintenance required.

### ATTRACTIVE FINISH

A totally new construction with no visible screws or rivets. A high quality sandblasted grey lacquered (001) scratch resistant and dirt repellent finish. Aerodynamic blades made of satin black coated aluminium.

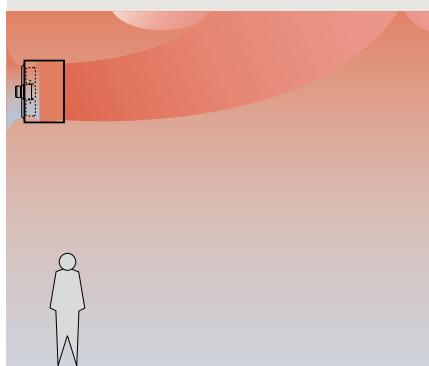
### WHY AVS®?

The main problem with unit heaters in general is the heat accumulation at the roof or ceiling level especially in high spaces. The temperature differential between the floor and the ceiling increases proportional to the return air temperature of the unit heater. A high return air temperature will rise quickly while the colder air is pushed down to the floor level.

Consequently more energy will be required to heat up the floor area in order to create a comfortable temperature. Larger air flow, lower exhaust temperature or additional fans can reduce the problem, but result in a considerable increase in operational cost, equipment cost and noise level.

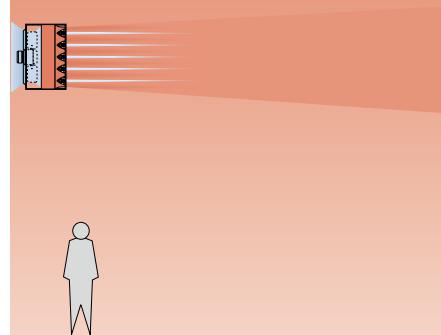
### STANDARD UNIT HEATERS WITHOUT AVS

Due to the higher return air temperature the hot air will rise too quickly and the cooler air will consequently be pushed downwards.



### THE JAGA SOLUTION: AIR VENTURI SYSTEM

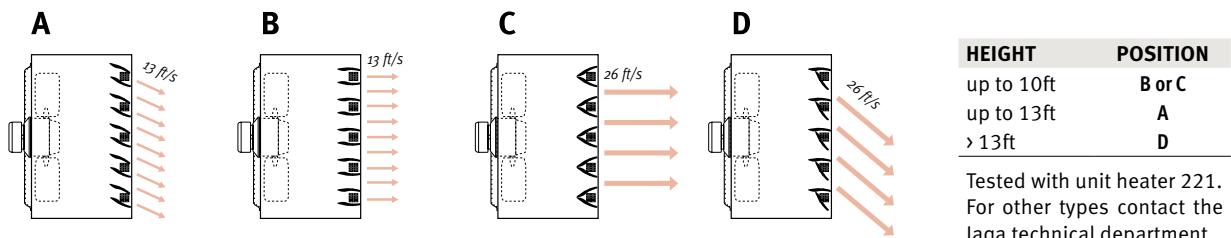
With the Air Venturi System the return air temperature is lower, which greatly reduces the stratification giving you an even temperature, faster response and better energy efficiency.



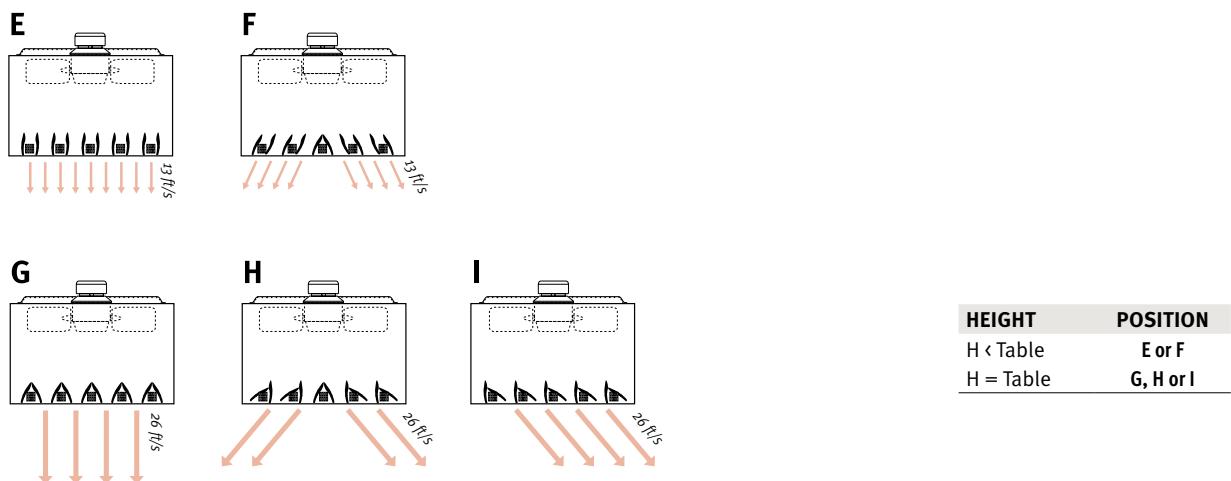
# AVS® UNIT HEATER · AIR VENTURI SYSTEM®

## POSITIONING

### Wall mounting



### Ceiling design



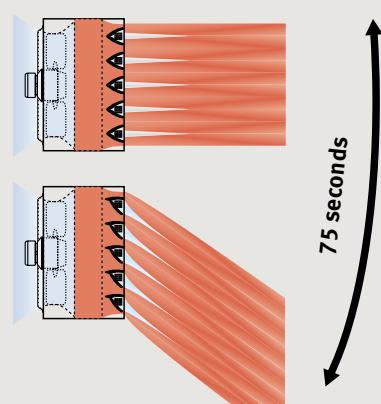
## THE MODULATING AVS® VERSION

With the modulating AVS® version the exhaust louvres are linked in pairs and connected to a servo motor. This motor produces a continuous back and forth movement of the adjustable louvres. This creates turbulence and creates provides an even better temperature distribution. The angle of movement can easily be adjusted from 0 to 90°. A complete cycle takes around 150 seconds.

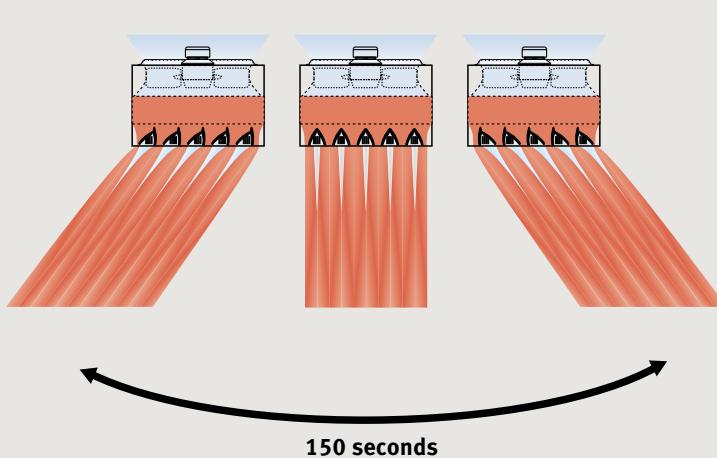
The modulating operation is integrated into the equipment and therefore must be ordered together with the unit heater. This cannot be added in the field afterwards.

Mini unit heater (code 021 and 031) are not available as a modulating version.

### Wall mounting: position 45°

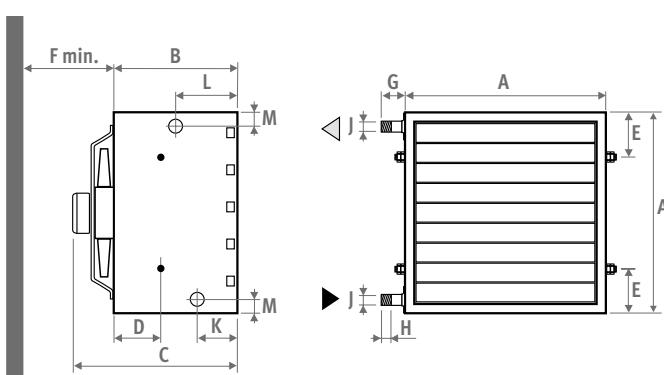


### Ceiling mounting: position 90°



# DIMENSIONS AVS® UNIT HEATER

## DIMENSIONS (inches)



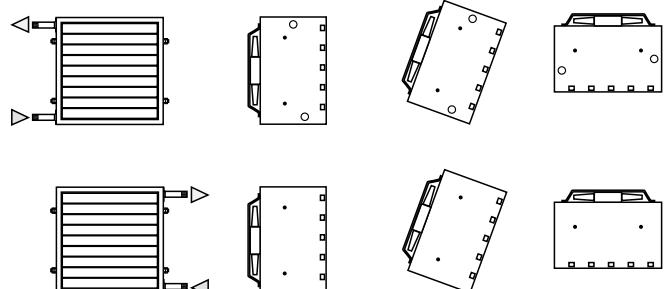
Mini unit heater

Type	021	031	121	131	221	231	321	331	421	431
A	16 9/64	16 9/64	20 55/64	20 55/64	25 19/32	25 19/32	30 5/16	30 5/16	35 3/64	35 3/64
B	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4
C	16 59/64	16 59/64	18 57/64	18 57/64	19 39/64	19 39/64	22 33/64	22 33/64	21 11/16	21 11/16
D	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16	5 15/16
E	4 9/64	4 9/64	4 17/32	4 17/32	4 59/64	4 59/64	5 5/16	5 5/16	5 45/64	5 45/64
F	11 13/16	11 13/16	13 25/32	13 25/32	17 23/32	17 23/32	22 3/64	22 3/64	25 19/32	25 19/32
G	1 57/64	1 57/64	1 57/64	1 57/64	1 57/64	2 1/64	2 1/64	2 1/64	2 1/64	2 1/64
H	0 55/64	0 55/64	0 55/64	0 55/64	0 55/64	0 63/64	0 63/64	0 63/64	0 63/64	0 63/64
Ø J*	G3/4"	G3/4"	G1"	G1"	G1"	G6/4"	G6/4"	G6/4"	G6/4"	G6/4"
K	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64	5 5/64
L	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64	7 51/64
M	1 49/64	1 49/64	1 49/64	1 49/64	1 49/64	2 3/64	2 3/64	2 3/64	2 3/64	2 3/64
kg	7 7/8	8 21/32	11 13/16	12 19/32	16 59/64	18 7/64	22 3/64	23 15/64	27 61/64	29 17/32

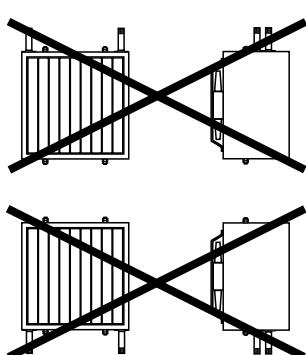
\* NPT Male

## HYDRAULIC CONNECTION

### Correct

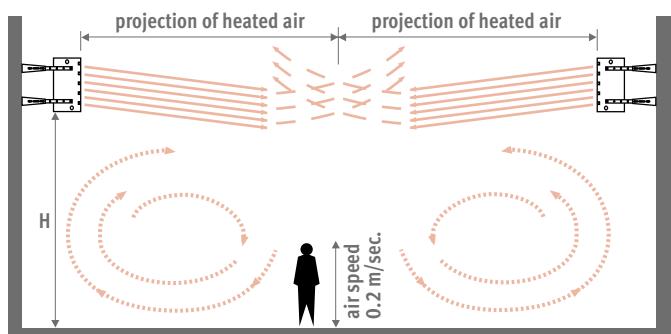


### Incorrect



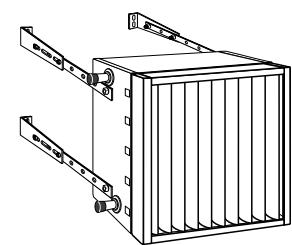
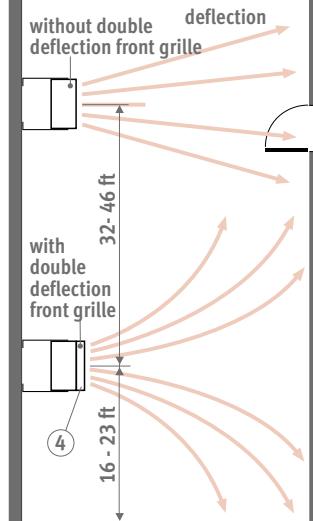
## MOUNTING

### Wall mounting



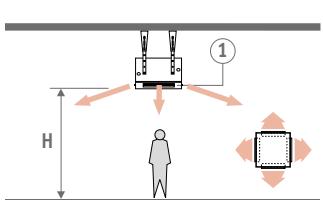
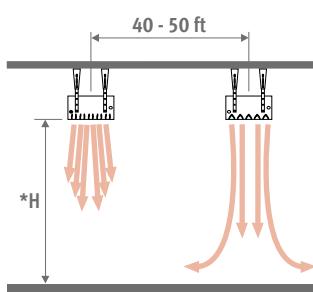
In order to maintain comfort, please avoid blowing heated air directly at people..

### Plan view

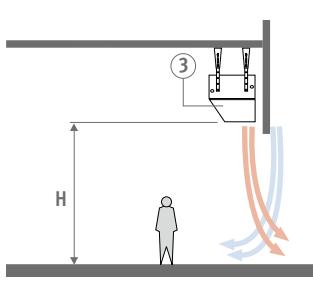


In small rooms a front grille must be fitted for double deflection to prevent hot zones at the opposite side of the room.. The louvres are assembled both vertically and horizontally.

### Ceiling design



In case of low ceilings a better horizontal diffusion should be obtained by using a 4 sided air diffuser.



With ceilings higher than 20ft an exhaust cone must be fitted on the appliance.

# AVS® UNIT HEATER WITH EC MOTOR

Type	control voltage	Output			Air exhaust temperature <sup>(1)</sup>			Revolutions	Air flow	Sound power level <sup>(2)</sup>	Sound pressure <sup>(3)</sup>	Electrical input	Hot air projection horizontal <sup>(4)</sup>			Hot air projection vertical <sup>(4)</sup>											
		AWT 158°F	AWT 122°F	AWT 90°F	RT 68°F	RT 68°F	RT 68°F						H min. ft	with AVS® ft	without AVS® ft	H max. ft	H max. ft	H max. ft	H max. ft	H max. ft	4 sides open ft	2 sides open ft					
CODE	V	MBH	MBH	MBH	°F	°F	°F	RPM	CFM	dB(A)	dB(A)	Watts															
<b>UNIT.021/EC</b>	10	25.0	15.0	6.2	95.0	69.8	69.8	1559	837	71.4	55.4	76							26.4	18.2	8.3	16.5	33.0				
	8	24.3	14.4	6.2	96.8	71.6	71.6	1469	780	69.9	53.9	63							62.7	46.2	21.5	14.9	14.9	29.7			
	6	21.9	13.0	5.5	100.4	73.4	71.6	1286	673	66.1	50.1	43							49.5	39.6	16.5	11.6	8.3	11.6	23.1		
	4	18.8	11.3	4.8	105.8	77.0	73.4	984	499	58.4	42.4	20							36.3	26.4							
	2	15.4	9.2	3.8	111.2	78.8	73.4	731	350	50.0	34.0	10							26.4	19.8							
<b>UNIT.031/EC</b>	10	32.8	19.8	8.2	107.6	77.0	73.4	1559	790	69.1	53.1	79							62.7	46.2	24.8	16.5	8.3	14.9	29.7		
	8	30.8	18.5	7.9	109.4	78.8	73.4	1469	736	68.0	52.0	65							56.1	39.6	21.5	14.9		13.2	26.4		
	6	27.7	16.4	6.8	113.0	80.6	75.2	1286	636	65.0	49.0	45							46.2	33.0	16.5	11.6	8.3	9.9	21.5		
	4	22.2	13.3	5.5	120.2	82.4	75.2	984	470	57.4	41.4	21							33.0	23.1							
	2	18.1	10.9	4.4	129.2	89.6	77.0	731	330	49.0	33.0	11							23.1	16.5							
<b>UNIT.121/EC</b>	10	53.7	32.1	13.3	105.8	77.0	73.4	1413	1426	71.2	55.2	115							75.9	59.4	26.4	18.2	11.6	29.7	8.3	19.8	41.3
	8	49.9	30.1	12.7	111.2	78.8	73.4	1143	1168	65.5	49.5	80							62.7	46.2	21.5	14.9		24.8	16.5	33.0	
	6	44.5	26.7	10.9	118.4	82.4	75.2	857	846	57.9	41.9	35							49.5	36.3	16.5	11.6	11.6	19.8	8.3	13.2	26.4
<b>UNIM.121/EC</b>	4	36.6	21.9	9.2	123.8	86.0	77.0	614	587	49.3	33.3	14							36.3	26.4							
	2	27.4	16.4	6.8	132.8	89.6	78.8	458	411	41.2	25.2	8							23.1	16.5							
<b>UNIT.131/EC</b>	10	68.7	41.0	17.1	122.0	84.2	77.0	1413	1346	71.2	55.2	118							72.6	52.8	24.8	16.5	9.9	28.1	8.3	19.8	38.0
	8	66.0	39.7	16.4	127.4	87.8	77.0	1143	1102	63.1	47.1	82							62.7	46.2	21.5	14.9		24.8	16.5	33.0	
	6	57.1	34.2	14.4	136.4	93.2	78.8	857	799	56.3	40.3	37							46.2	36.3	16.5	11.6	11.6	18.2	8.3	11.6	24.8
<b>UNIM.131/EC</b>	4	41.7	25.0	10.6	145.4	98.6	80.6	614	554	48.2	32.2	15							29.7	23.1							
	2	31.5	18.8	7.9	150.8	100.4	82.4	458	388	40.2	24.2	9							19.8	16.5							
<b>UNIT.221/EC</b>	10	104.0	62.2	26.0	102.2	73.4	71.6	1232	2733	75.2	59.2	248							122.1	92.4	33.0	19.8	14.9	36.3	8.3	36.3	71.0
	8	97.8	58.8	24.6	105.8	77.0	73.4	1117	2444	71.5	55.5	187							108.9	82.5	28.1	16.5		31.4	33.0	61.1	
	6	90.3	54.0	22.6	109.4	77.0	73.4	936	2041	67.6	51.6	115							8.25	89.1	69.3	24.8	14.9	26.4	8.3	26.4	51.2
<b>UNIM.221/EC</b>	4	74.2	44.5	18.5	118.4	82.4	75.2	703	1482	59.3	43.3	54							62.7	46.2							
	2	61.6	36.9	15.4	127.4	87.8	77.0	515	1044	57.8	41.8	27							42.9	33.0							
<b>UNIT.231/EC</b>	10	125.5	75.2	31.5	111.2	78.8	73.4	1232	2579	75.8	59.8	251							115.5	89.1	31.4	18.2	13.2	34.7	8.3	34.7	66.0
	8	118.3	71.1	29.4	116.6	82.4	75.2	1117	2307	69.6	53.6	189							99.0	75.9	26.4	16.5		29.7	56.1		
	6	106.4	64.0	26.7	123.8	86.0	77.0	936	1926	69.1	53.1	117							79.2	59.4	21.5	13.2	13.2	23.1	8.3	23.1	44.6
<b>UNIT.321/EC</b>	10	137.5	82.4	34.2	104.0	75.2	73.4	826	2893	71.1	55.1	232							132.0	99.0	34.7	21.5	16.5	38.0	9.9	41.3	74.3
	8	134.1	80.4	33.5	104.0	75.2	73.4	722	2504	67.7	51.7	158							122.1	92.4	33.0	19.8		34.7	38.0	69.3	
<b>UNIM.321/EC</b>	4	99.5	59.9	25.0	118.4	82.4	75.2	515	1765	59.1	43.1	69							99.0	75.9	26.4	16.5	16.5	28.1	9.9	31.4	56.1
	2	77.0	46.2	19.2	129.2	89.6	77.0	378	1198	51.6	35.6	34							66.0	49.5							
<b>UNIT.331/EC</b>	10	176.8	106.0	44.1	118.4	82.4	75.2	826	2731	72.3	56.3	235							118.8	89.1	31.4	19.8	14.9	34.7	9.9	38.0	67.7
	8	153.2	92.0	38.3	125.6	86.0	77.0	722	2363	65.9	49.9	160							89.1	69.3	23.1	14.9		26.4		28.1	51.2
<b>UNIM.331/EC</b>	4	121.8	73.2	30.4	132.8	91.4	78.8	515	1665	57.9	41.9	71							42.9	33.0							
	2	84.8	51.0	21.2	145.4	96.8	80.6	274	779	42.3	26.3	21							36.3	26.4							
<b>UNIT.421/EC</b>	10	223.0	133.7	55.7	105.8	77.0	73.4	972</																			

# OPTIONS AVS® UNIT HEATER

## DELIVERY

Completely preassembled apparatus for mounting against wall or ceiling, supplied in sturdy cardboard packaging:

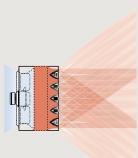
- standard with Air Venturi System
- 2 row or 3 row heat exchanger
- casing in sandblast grey (001), fine texture metallic lacquer

## ORDERING CODE

code type  
**UNIT . 021 /EC** (standard AVS®)  
└ fill in type (2 = 2 rows of pipes)  
(3 = 3 rows of pipes)

## ORDERING CODE MODULATING

code type  
**UNIM . 221 /EC** (modulating AVS®) see p. 330  
└ fill in type (2 = 2 rows of pipes)  
(3 = 3 rows of pipes)



The modulating operation is integrated into the equipment and therefore cannot be delivered as an accessory. Mini unit heater (code 021 and 031) not available as a modulating version.

Wiring diagram available on request:

## CODE

27200.20060001

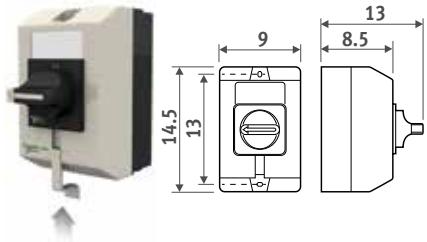
# AVS® UNIT HEATER · OPTIONS

## DISCONNECT SWITCH

For use with all unit heater models.

Pre-mounted to the side when ordered together with the unit heater

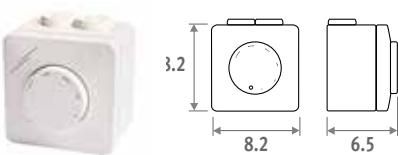
- application: safe isolation of power during maintenance or replacement of parts
- 1 switch per unit heater
- ON/OFF function
- lockable in off position for safety



Add to the code of the unit heater /LS  
Ex. UNIT.021/EC/**LS**

**Isolation switch**

## POTENTIOMETER



- variable speed control for max. 10 EC motors
- synthetic housing ASA, RAL 9010
- for wall-mounting or built-in
- splash-proof IP44
- power supply 230 VAC
- output voltage 0..10 VDC (max. 8 mA)

### CODE

8751.050008

## OTHER OPTIONS

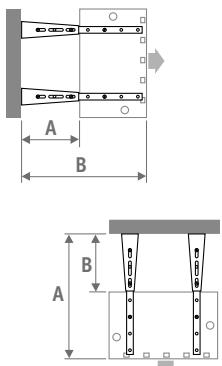
- Bracket and Fixing set
- Air exhaust options
- Air inlet options
- Servo motor

# AVS® UNIT HEATER · BRACKET AND FIXING SET

## WITCH BRACKETS AND FIXING SETS TO USE?

### Without supply air options

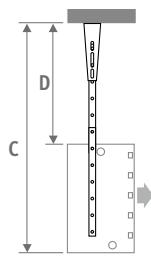
Set of brackets A



### With supply air inlet option

(not available with Mini unit heater)

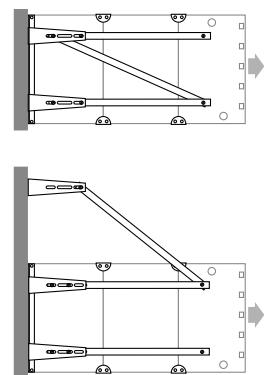
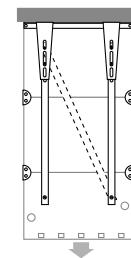
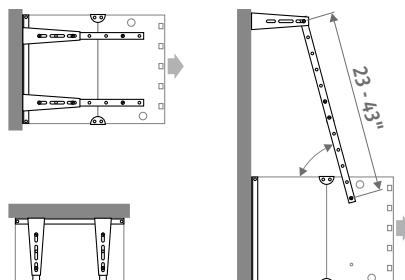
Set of brackets A + fixing set A



### With 2 supply air options

(not available with Mini unit heater)

set of brackets B + fixing set B



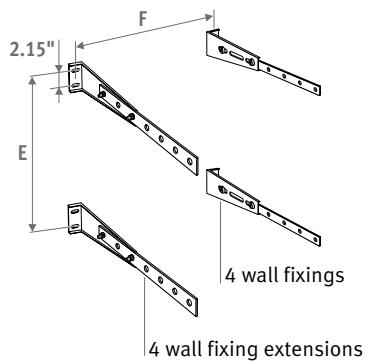
TYPE	A min. max.	B min. max.	C min. max.	D min. max.	E	F	G				
000 (Mini)	14 $\frac{11}{64}$	26 $\frac{3}{8}$	30 $\frac{5}{16}$	42 $\frac{1}{8}$	28 $\frac{35}{64}$	52 $\frac{11}{64}$	12 $\frac{13}{32}$	39 $\frac{61}{64}$	--	--	--
100	14 $\frac{11}{64}$	26 $\frac{3}{8}$	30 $\frac{5}{16}$	42 $\frac{1}{8}$	32 $\frac{7}{8}$	56 $\frac{1}{2}$	12 $\frac{1}{64}$	35 $\frac{5}{8}$	13 $\frac{31}{32}$	20 $\frac{55}{64}$	25
200	14 $\frac{11}{64}$	26 $\frac{3}{8}$	30 $\frac{5}{16}$	42 $\frac{1}{8}$	37 $\frac{13}{64}$	56 $\frac{57}{64}$	11 $\frac{39}{64}$	31 $\frac{19}{64}$	17 $\frac{29}{32}$	25 $\frac{19}{32}$	29 $\frac{23}{32}$
300	14 $\frac{11}{64}$	26 $\frac{3}{8}$	30 $\frac{5}{16}$	42 $\frac{1}{8}$	41 $\frac{17}{32}$	57 $\frac{9}{32}$	11 $\frac{7}{32}$	26 $\frac{31}{32}$	21 $\frac{27}{32}$	30 $\frac{5}{16}$	34 $\frac{29}{64}$
400	14 $\frac{11}{64}$	26 $\frac{3}{8}$	30 $\frac{5}{16}$	42 $\frac{1}{8}$	45 $\frac{55}{64}$	57 $\frac{43}{64}$	10 $\frac{53}{64}$	22 $\frac{41}{64}$	25 $\frac{25}{32}$	35 $\frac{3}{64}$	39 $\frac{11}{64}$

# BRACKET AND FIXING SET AVS® UNIT HEATER

## SET OF BRACKETS A

### For unit heater without or with one air inlet option

- carrying capacity: 330 Lbs
- finish in the same colour as the unit heater (sandblast grey metallic, colour 001).
- includes screw bolts



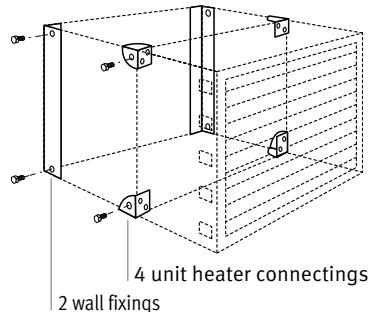
#### CODE

8376.010100

## FIXING SET A

### For mounting of 1 air inlet option

- finish in the same colour as the unit heater (sandblast grey metallic, colour 001).
- includes bolts M 8 x 16 Din 933
- includes spring washers M8 Din 127



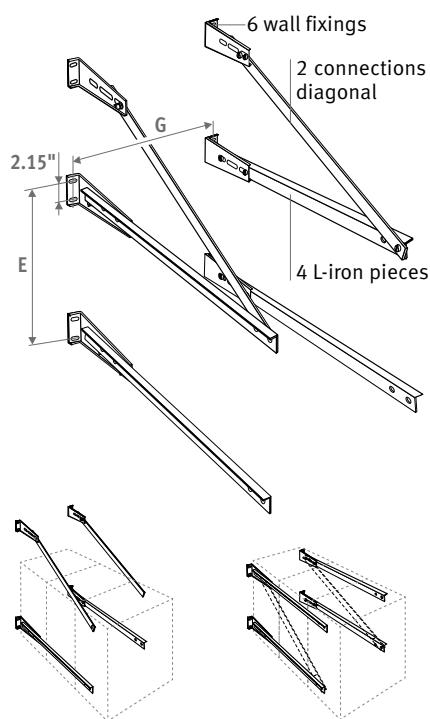
CODE	Type
8376.040001	100
8376.040002	200
8376.040003	300
8376.040004	400

to use together with set of brackets A

## SET OF BRACKETS B

### For unit heater with two air inlet options

- finish in the same colour as the unit heater (sandblast grey metallic, colour 001).
- includes screw bolts

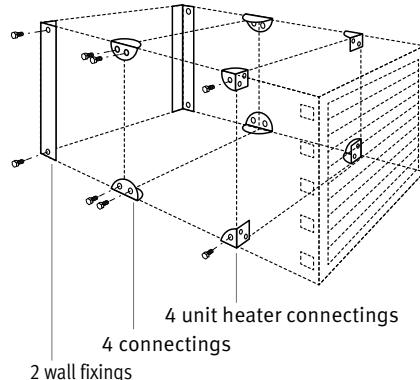


CODE	Type
8376.030101	100
8376.030102	200
8376.030103	300
8376.030104	400

## FIXING SET B

### For mounting of 2 air inlet options

- finish in the same colour as the unit heater (sandblast grey metallic, colour 001).
- includes bolts M 8 x 16 Din 933
- includes spring washers M8 Din 127

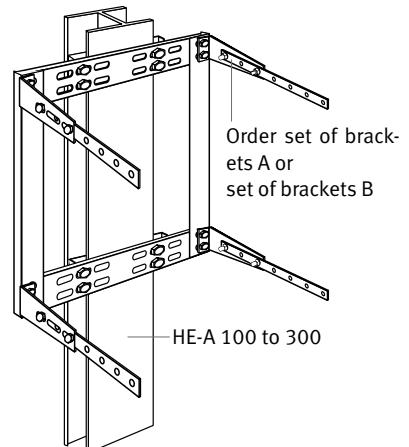


CODE	Type
8376.040101	100
8376.040102	200
8376.040103	300
8376.040104	400

To use together with set of brackets B

## FIXING ON METAL CONSTRUCTION

- finish in the same colour as the unit heater (sandblast grey metallic, colour 001).
- includes screw bolts



CODE	Type
8376.050101	100
8376.050102	200
8376.050103	300
8376.050104	400

To use together with set of brackets A or B

# AVS® UNIT HEATER · AIR EXHAUST OPTIONS

## 4-SIDED AVS® AIR DIFFUSER

- for better horizontal air diffusion in case of low ceilings
- order together with the unit heater. The unit heater needs to be adjusted
- with this option the unit heater has no air exhaust grille
- will be delivered separately. Easy to mount and disassemble through quick-acting connection
- finish identical to the unit heater (sandblast grey, colour 001)
- aerodynamic angled louvres in satin black lacquered aluminium
- maximum height = 2.5 m bottom end of the appliance.



## EXHAUST CONE

- to obtain higher exhaust speed, which enables fixing at a high level
- order together with the unit heater. The unit heater needs to be adjusted
- will be delivered separately. Easy to mount and disassemble through quick-acting connection
- finish identical to the unit heater (sandblast grey, colour 001)



## EXHAUST MOUTH PIECE

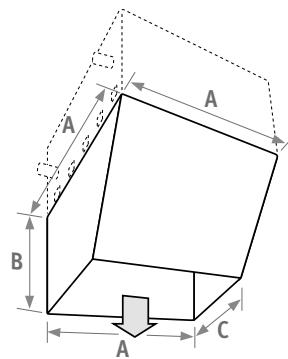
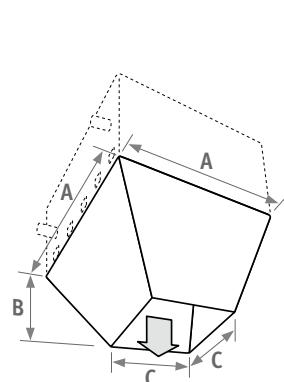
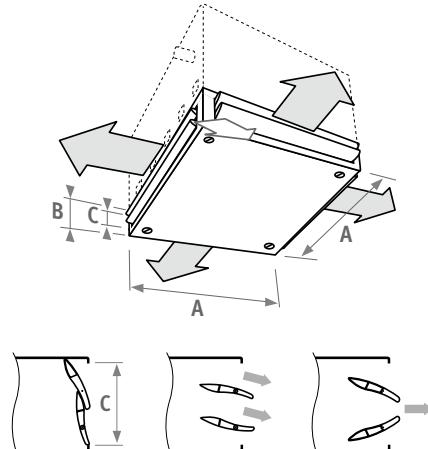
- prevent cold air entering the room door spaces etc...
- order together with the unit heater. The unit heater needs to be adjusted
- will be delivered separately. Easy to mount and disassemble through quick-acting connection
- finish identical to the unit heater (sandblast grey, colour 001)



CODE	Type
8375.060100	(Mini) 000
8375.060101	100
8375.060102	200
8375.060103	300
8375.060104	400

CODE	Type
8375.080101	100
8375.080102	200
8375.080103	300
8375.080104	400

CODE	Type
8375.070101	100
8375.070102	200
8375.070103	300
8375.070104	400



Type	A	B	C	kg
000 (Mini)	16 9/64	7 13/32	5 7/16	15.8
100	20 55/64	7 13/32	5 7/16	20.2
200	25 19/32	7 13/32	5 7/16	26.0
300	30 5/16	7 13/32	5 7/16	32.1
400	35 3/64	7 13/32	5 7/16	38.9

Type	A	B	C	kg
100	20 55/64	17 3/64	8 21/32	18.0
200	25 19/32	18 5/32	12 19/32	23.5
300	30 5/16	21 31/32	14 9/16	32.6
400	35 3/64	25 9/32	16 59/64	41.6

Type	A	B	C	kg
100	20 55/64	21 29/64	4 9/64	21.3
200	25 19/32	23 5/8	7 3/32	38.1
300	30 5/16	28 35/64	7 31/64	52.8
400	35 3/64	40 3/4	9 27/32	80.7

# AIR EXHAUST OPTIONS • AVS® UNIT HEATER

## DOUBLE DEFLECTION FRONT GRILLE

- prevents too high a temperature developing at the opposite wall
- not suitable for use with the modulating version
- easy to mount through quick-acting connection at the top
- finish identical to the unit heater (sandblast grey, colour 001)
- aerodynamic angled louvres in satin black lacquered aluminium

## PROTECTION GRILLE FOR SPORT CENTERS

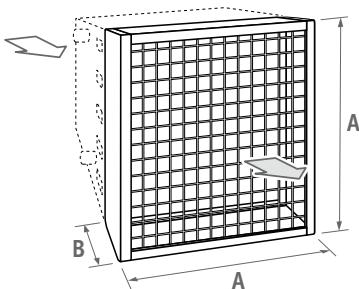
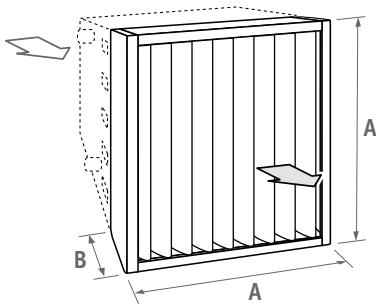
- easy to mount through quick-acting connection at the top
- not suitable for use with the modulating version
- finish identical to the unit heater (sandblast grey, colour 001)

For losses of air flow and/or capacity when using air exhaust options: see [www.jaga.com](http://www.jaga.com)



CODE	Type
8375.110100	(Mini) 000
8375.110101	100
8375.110102	200
8375.110103	300
8375.110104	400

CODE	Type
8375.100101	100
8375.100102	200
8375.100103	300
8375.100104	400



Type	A	B	kg
000 (Mini)	9 27/32	3 31/32	11.0
100	20 55/64	3 31/32	13.4
200	25 19/32	3 31/32	17.8
300	30 5/16	3 31/32	22.9
400	35 3/64	3 31/32	28.6

Type	A	B	kg
100	20 55/64	3 31/32	12.5
200	25 19/32	3 31/32	14.7
300	30 5/16	3 31/32	18.5
400	35 3/64	3 31/32	19.4

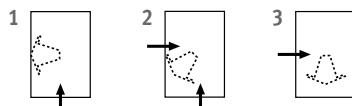
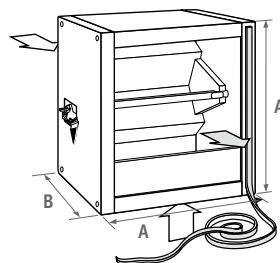
# AVS® UNIT HEATER ■ AIR INLET OPTIONS



Supply air options are not possible with unit heater 021 / 031!

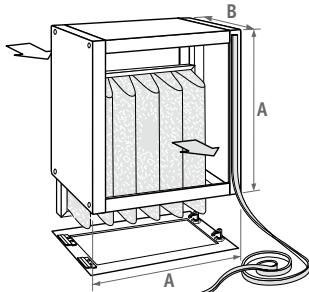
For losses of air flow and/or capacity when using air exhaust options: see [www.jaga.com](http://www.jaga.com)

## AIR MIXING BOX



Option for fresh air supply, air mixing.  
Please contact Jaga for further information

## FILTER BOX WITH FILTER ELEMENT



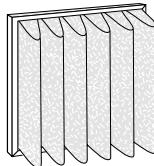
- unlacquered galvanized steel, or lacquered in the same colour as the unit heater (sandblast grey, colour 001)
- when ordering a filter box it is recommended to order a spare filter element.

CODE	Type
8375.140101	100
8375.140102	200
8375.140103	300
8375.140104	400

CODE	Type
83751.140101	100
83751.140102	200
83751.140103	300
83751.140104	400

Type	A	B	kg
100	20 <sup>55</sup> / <sub>64</sub>	13 <sup>25</sup> / <sub>32</sub>	39.8
200	25 <sup>19</sup> / <sub>32</sub>	17 <sup>23</sup> / <sub>32</sub>	49.3
300	30 <sup>5</sup> / <sub>16</sub>	21 <sup>21</sup> / <sub>32</sub>	58.7
400	35 <sup>3</sup> / <sub>64</sub>	26 <sup>3</sup> / <sub>16</sub>	70.2

## FILTER ELEMENT



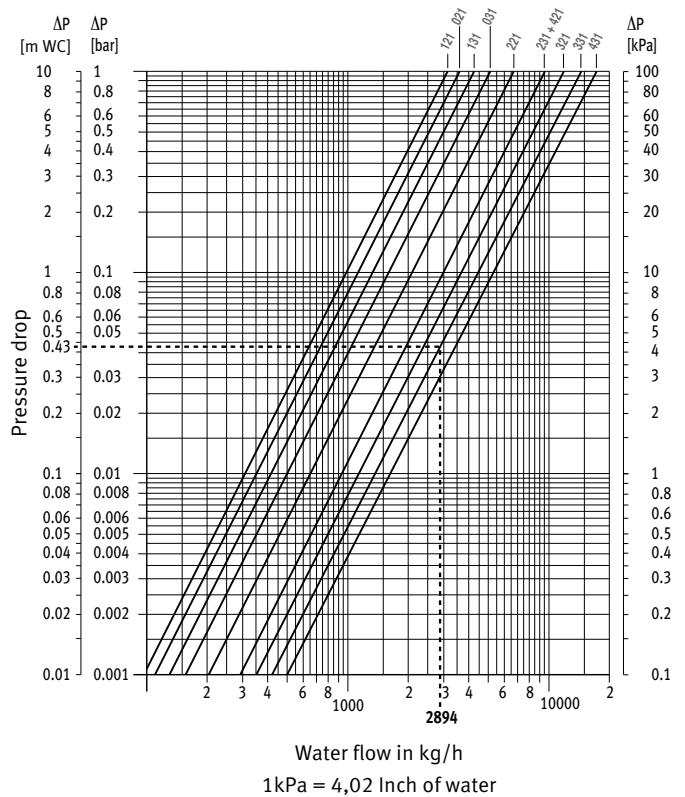
**Caution! A polluted filter will reduce the output and the air flow of the unit heater.**

- efficiency: Ashrae-tissue 90 %
- self-extinguishable in accordance to DIN 53438-1
- heat resistant up to 100 °C
- complies to classification G4 in accordance DIN EN 779

CODE	Type
8375.150101	100
8375.150102	200
8375.150103	300
8375.150104	400

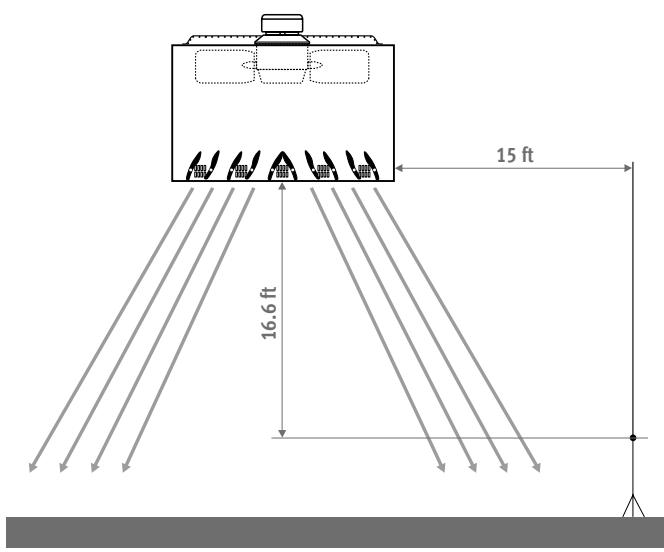


# AVS® UNIT HEATER • HYDRAULIC PRESSURE DROP

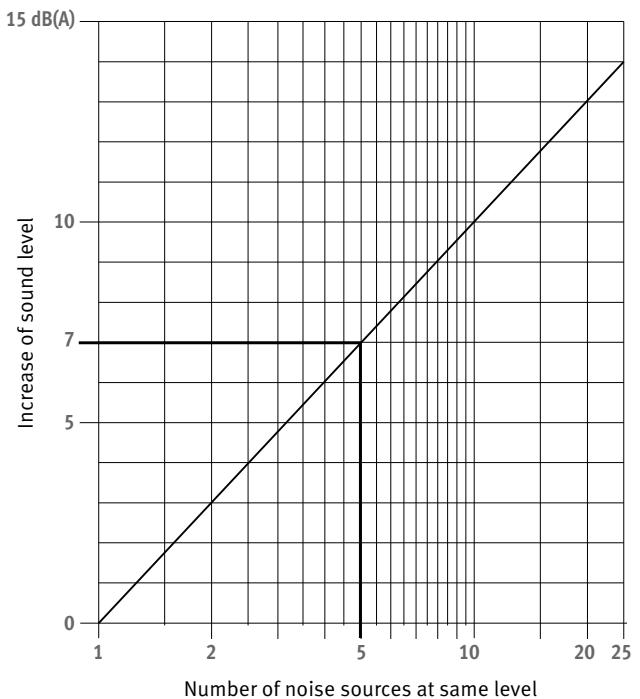


# CORRECTION FACTORS SOUND - AVS® UNIT HEATER

## SOUND PRESSURE



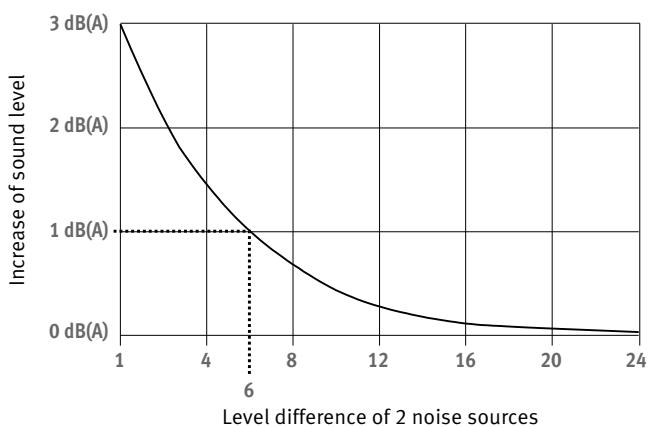
## COMBINATION OF DIFFERENT NOISE SOURCES AT THE SAME SOUND LEVEL



Example:

- given: 5 sound sources of each 53 dB(A)
- asked: the total sound intensity
- the total sound intensity:  $53 \text{ dB(A)} + 7 \text{ dB(A)} = 60 \text{ dB(A)}$

## COMBINATION OF DIFFERENT NOISE SOURCES WITH DIFFERENT SOUND LEVELS



Example:

- given: 2 sound sources 53 dB(A and 59 dB(A)
- difference = 6 dB(A)
- asked: the total sound intensity
- the total sound intensity :  $59 \text{ dB(A)} + 1 \text{ dB(A)} = 60 \text{ dB(A)}$



# jaga

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