

# SELECT - Performance curves

Selected by Paul Jindra, Jindra Energy Conversions Pty.Ltd

30/11/2010

## Impeller description:

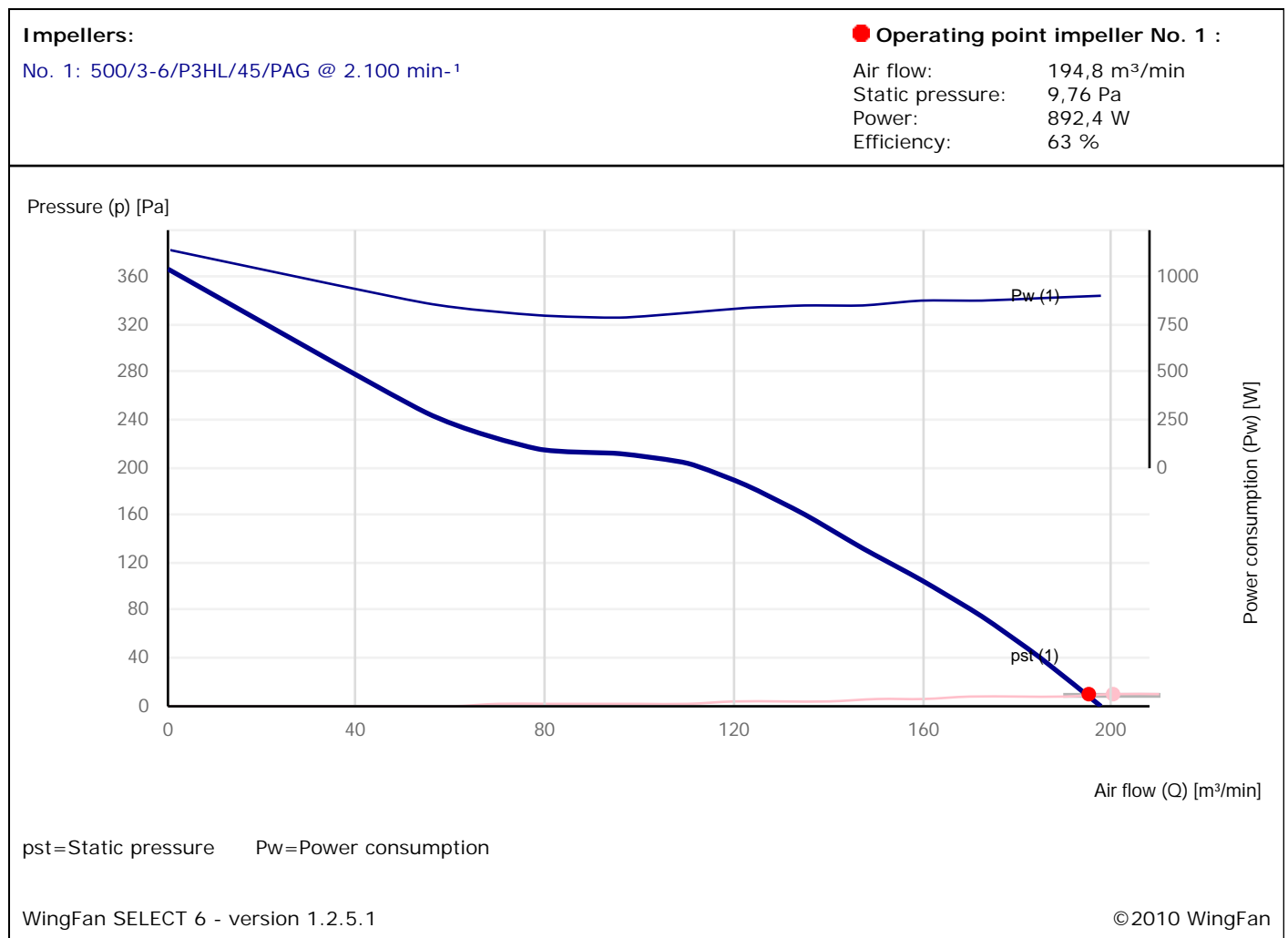
Diameter: 500 mm  
 No. of blades: 3  
 Hub size: 6  
 Blade profile: P3H  
 Rotation direction: L  
 Pitch angle: 45°  
 Blade material: PAG

## General:

Application: Mobile cooler  
 Drive type: Combustion engine  
 Simulation: none

## Application data:

Installation: Nozzle  
 Tip clearance: 1 %  
 Rpm: 2.100 min<sup>-1</sup>  
 Temperature: 20 °C  
 Altitude: 0 m  
 Air density: 1,2 kg/m<sup>3</sup>



**Remarks:**  
 Direct assembly on the crank shaft is not admissible. An appropriate isolation is to be provided.

# SELECT - Mechanical data

Selected by Paul Jindra, Jindra Energy Conversions Pty.Ltd

30/11/2010

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**Impeller: 500/3-6/P3HL/45/PAG**

### ● Operating point:

Air flow: 194,8 m<sup>3</sup>/min  
 Static pressure: 9,76 Pa  
 Power: 892,4 W  
 Efficiency: 63 %

### Impeller

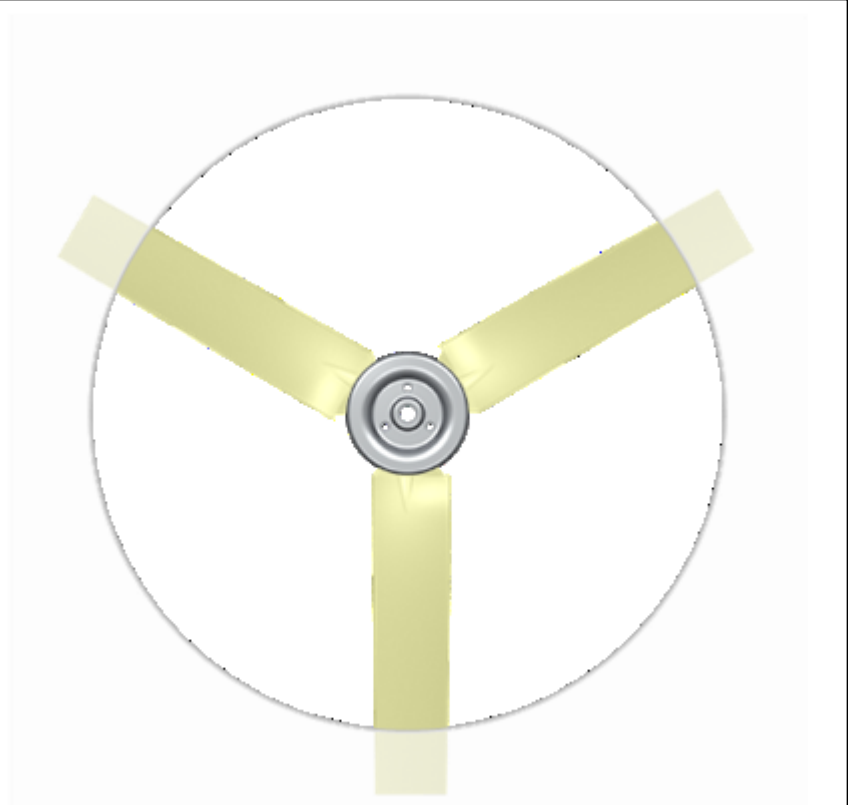
Diameter range: 173 - 600 mm  
 Temperature range: -40 - 110 °C  
 Tip-speed: 55 m/s  
 Max. tip-speed (20 °C): 110 m/s  
 Air velocity: 16,2 m/s  
 Torque: 4,06 Nm  
 Moment of inertia: 0,00535 kgm<sup>2</sup>  
 Axial thrust: 67,8 N  
 Performance/blade: 297,47 W  
 Weight (approx.): 0,5 kg

### Hub

Bearing surface Ø: 50 mm  
 Total thickness: 6 mm  
 Outer diameter: 97 mm

### Blade

v: 22 mm  
 h: 41 mm  
 v1: 6 mm  
 h1: 23 mm



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# SELECT - Sound data

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No. of blades: 3  
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Air density: 1,2 kg/m<sup>3</sup>

### Impeller: 500/3-6/P3HL/45/PAG

Number of impellers: 1  
Distance to sound source: 3 m  
Number of reflectors: 1

### ● Operating point:

Air flow: 194,8 m<sup>3</sup>/min  
Static pressure: 9,76 Pa  
Power: 892,4 W  
Efficiency: 63 %

Octave band [Hz]	63	125	250	500	1k	2k	4k	8k	Lin
Sound power LW [dB]	79	86	82	81	79	76	73	70	<b>89</b>
Sound power LWA [dB]	53	70	73	78	79	77	74	69	<b>84</b>
Attenuation [dB]	-10	-10	-10	-10	-10	-10	-10	-10	
Sound pressure Lp [dB]	69	76	72	71	69	66	63	60	<b>79</b>
Sound pressure LpA [dB]	43	60	63	68	69	67	64	59	<b>74</b>

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The obtained sound values are to be regarded as a guideline. They are based on aerodynamic ideal conditions and free sound propagation. The values are not transferrable to entire facilities with additional noise sources caused by drive or structure-borne noise.

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# SELECT - Sound power LW [dB]

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30/11/2010

## Impeller description:

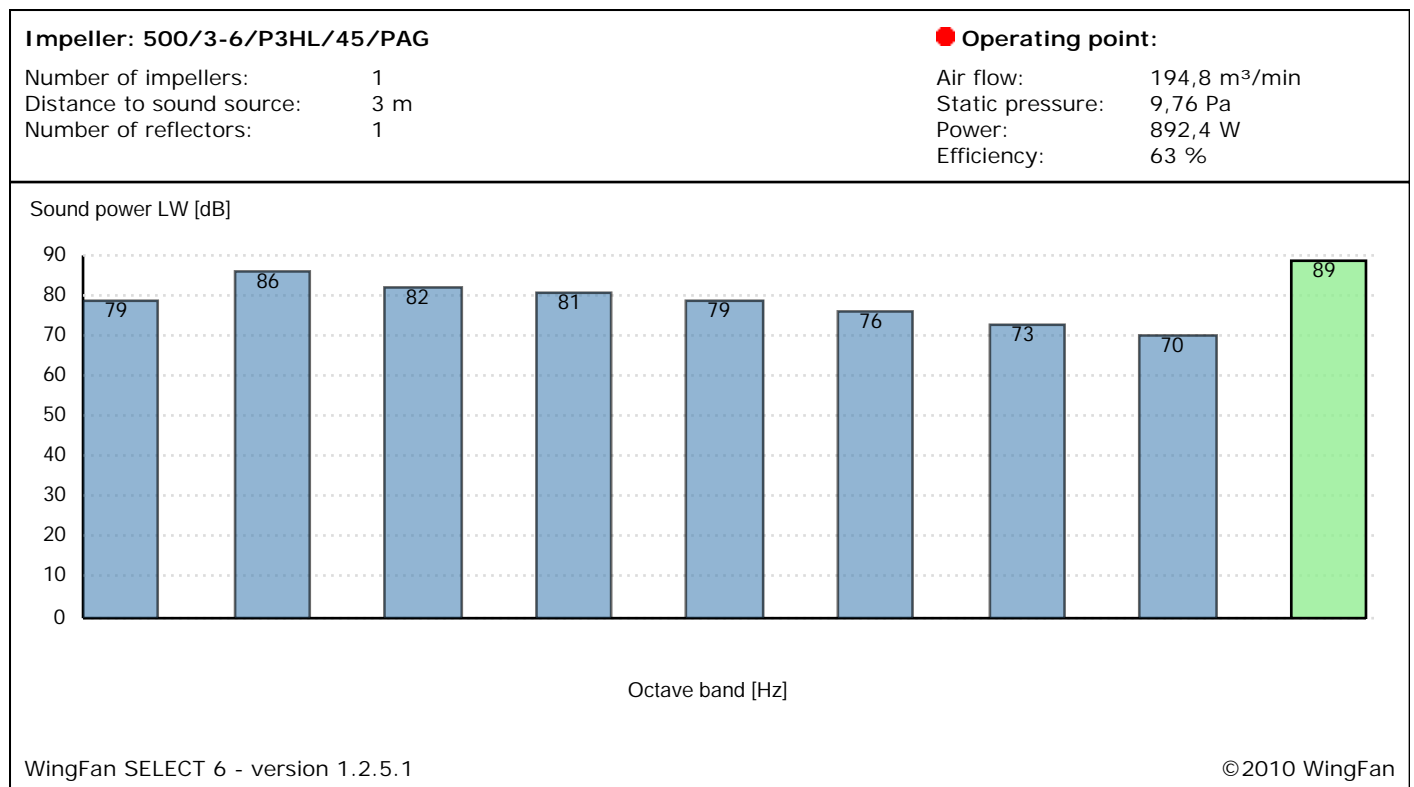
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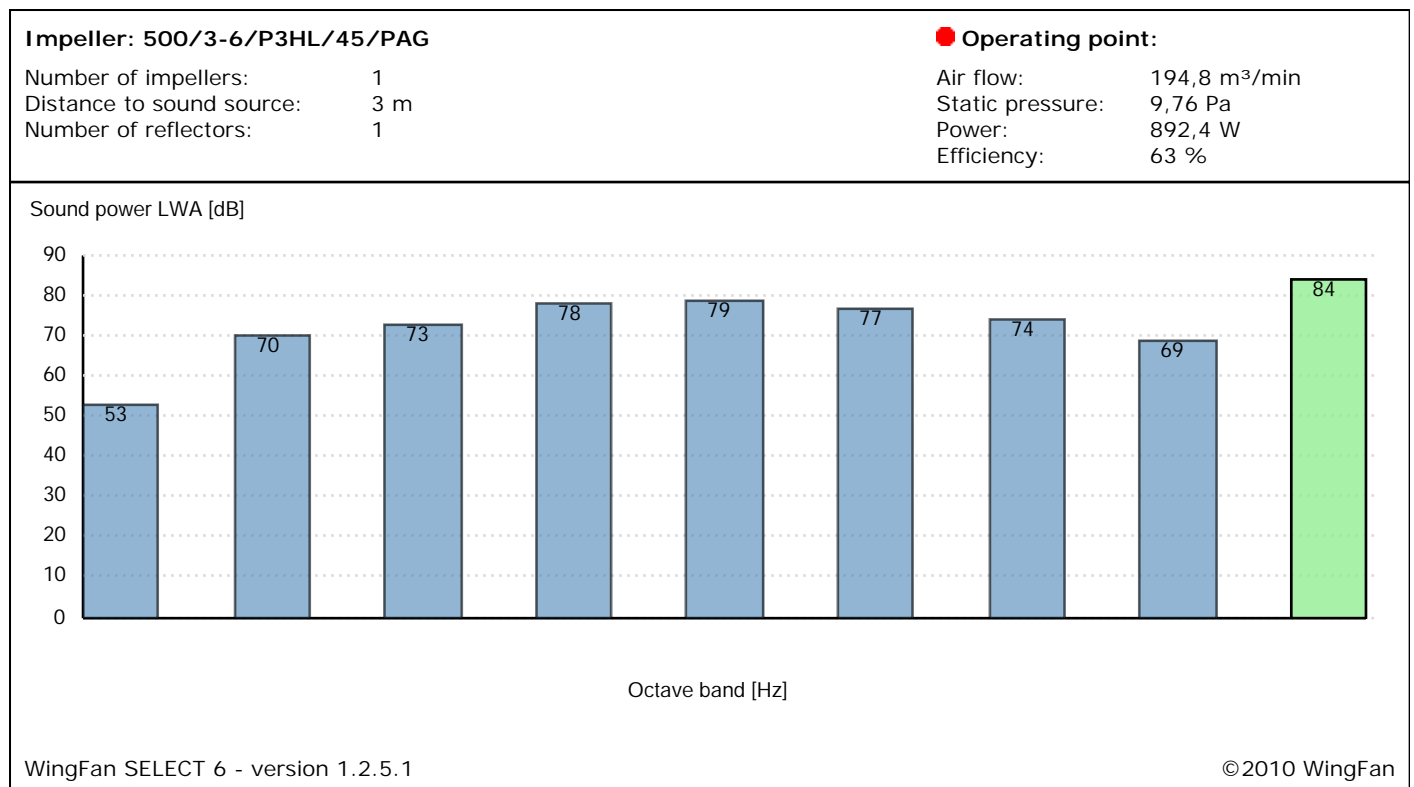
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# SELECT - Sound pressure Lp [dB]

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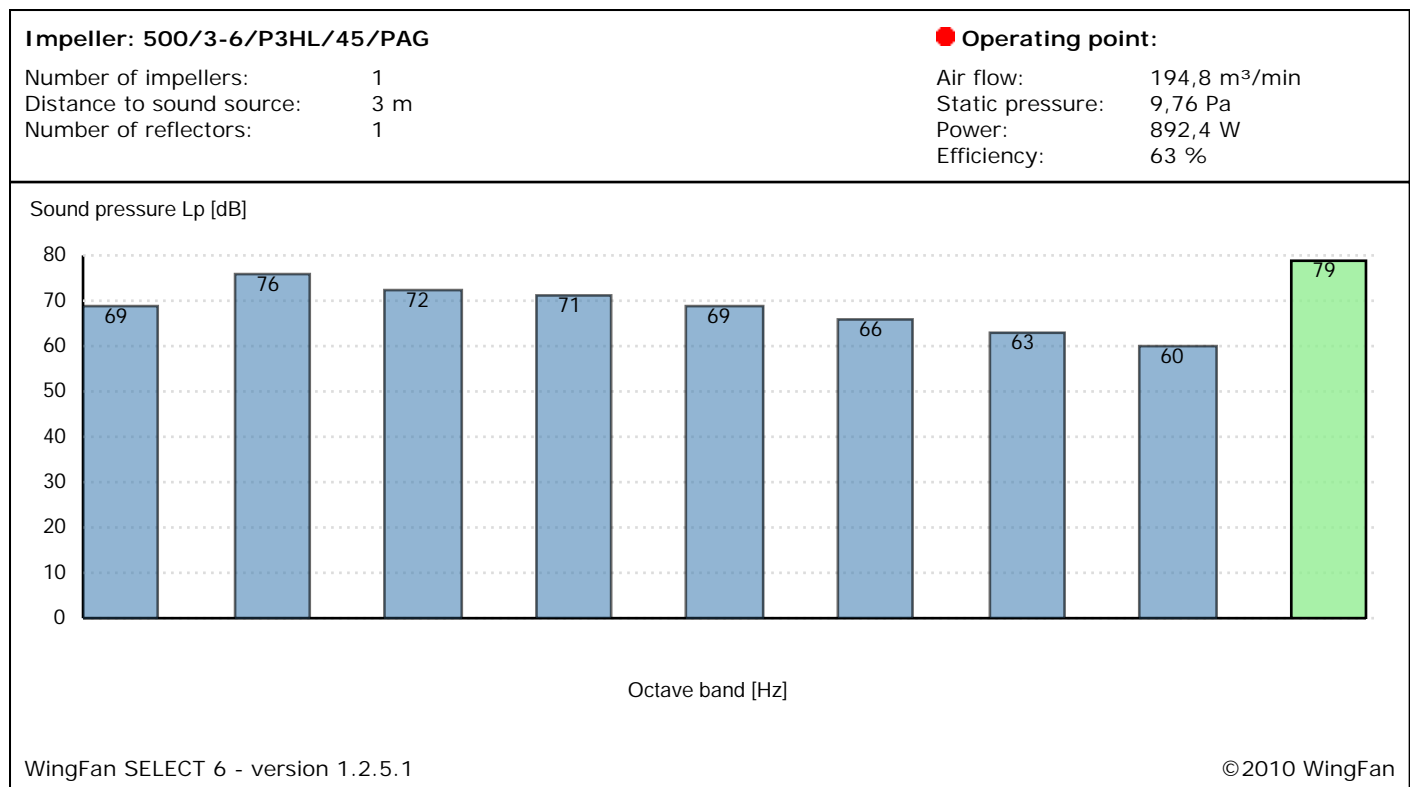
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# SELECT - Sound pressure LpA [dB]

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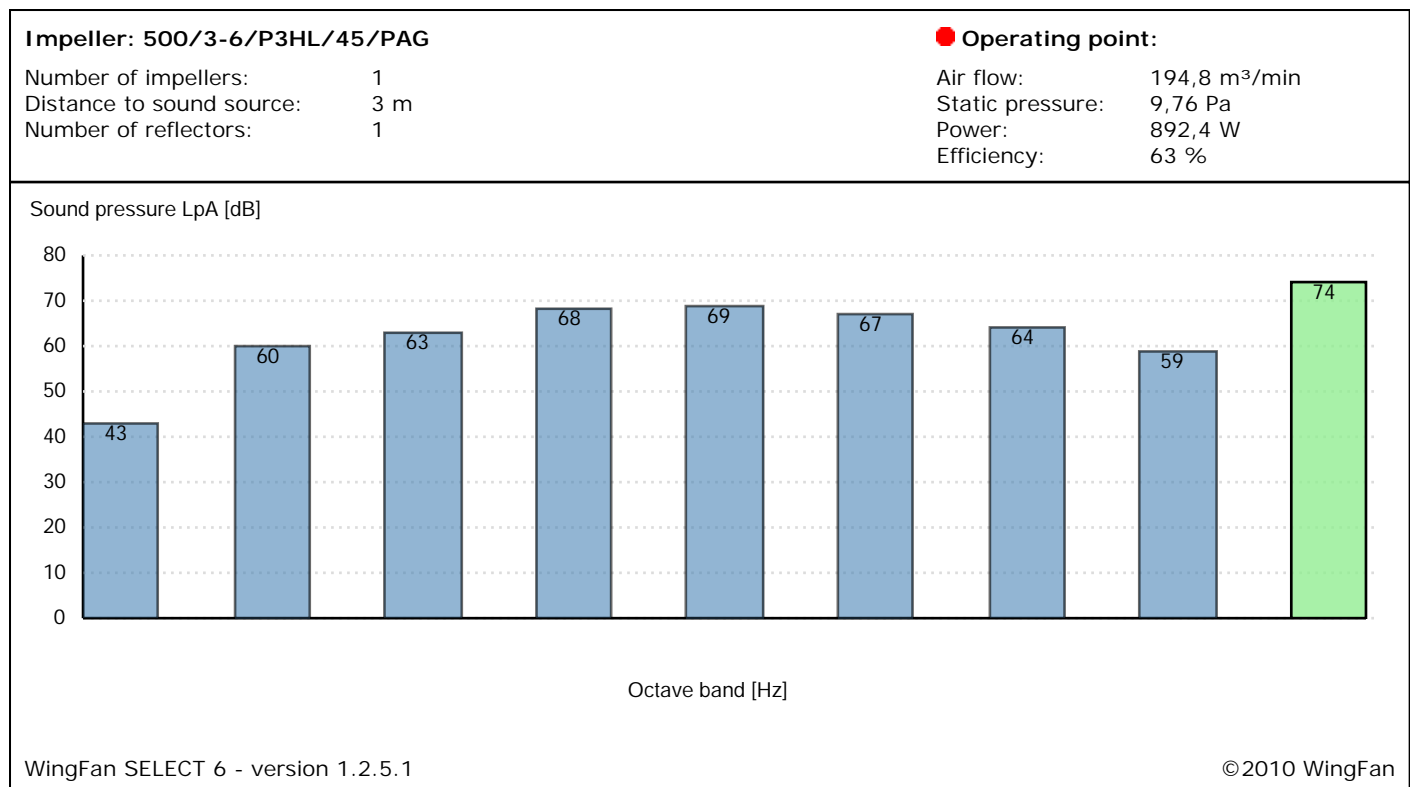
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