Benefits:
- Saving up to 70% air consumption
- Maintenance free – no moving parts
- Simple and easy to operate

Air Amplifier
Series ZH-X185
Air Amplifier

What is an Air Amplifier?

It is a simple, light, cost effective tool that takes energy from a small volume of compressed air to produce high velocity, high volume, low pressure output airflow.

How does it work?

In simple terms: it multiplies the flow. For one unit of air you feed into the device, it creates output flow 4 times greater.

Blowing is possible at a flow rate quadruple that of the supplied air. Suctioning is possible at a flow rate triple the supplied air.

The Air Amplifier uses the Coanda effect, the phenomena in which a jet flow attaches itself to a nearby surface and remains attached when the surfaces curves away from the initial jet direction. Using a small amount of compressed air as their power source, Air Amplifiers pull in large volumes of surrounding air to produce high volume, high velocity outlet flow.

Features

- Energy efficiency – 1:4
- Instant on-off control
- Air driven – no electrical supply required
- It is a flow amplifier not a pressure booster
- It can replace a fan/s

Benefits

- Air consumption saving – reduces air consumption for air blows by 70%
- Maintenance free – no moving parts
- Simple and easy to operate
- Quiet
- Safe

Application examples

Blow

Dispersal of water droplets
Blowing off cutting chips

Vacuum

Extraction of solder fumes

Transportation

Transportation of materials such as pellets and powders
Objects that have been sucked in may be discharged with the exhaust air, so make sure the exhaust port is not facing towards people or equipment.

Do not use in an environment containing corrosive gases, chemicals, organic solvents, sea water or steam, or where it will come into contact with these fluids.

For safety precautions and common precautions for vacuum equipment, refer to "SMC Product Handling Precautions" (M-E03-3B).

⚠️ Warning

1. Objects that have been sucked in may be discharged with the exhaust air, so make sure the exhaust port is not facing towards people or equipment.
2. Do not use in an environment containing corrosive gases, chemicals, organic solvents, sea water or steam, or where it will come into contact with these fluids.

⚠️ For safety precautions and common precautions for vacuum equipment, refer to "SMC Product Handling Precautions" (M-E03-3B).

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>ZH10-X185</th>
<th>ZH20-X185</th>
<th>ZH30-X185</th>
<th>ZH40-X185</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body material</td>
<td>Aluminium alloy</td>
<td>NBR</td>
<td>NBR</td>
<td>NBR</td>
</tr>
<tr>
<td>Seal material</td>
<td>NBR</td>
<td>NBR</td>
<td>NBR</td>
<td>NBR</td>
</tr>
<tr>
<td>Passage diameter</td>
<td>ø13</td>
<td>ø21.6</td>
<td>ø30</td>
<td>ø42</td>
</tr>
<tr>
<td>Fluid used</td>
<td>Air</td>
<td>Air</td>
<td>Air</td>
<td>Air</td>
</tr>
<tr>
<td>Supply pressure range</td>
<td>0 – 0.7MPa</td>
<td>0 – 0.7MPa</td>
<td>0 – 0.7MPa</td>
<td>0 – 0.7MPa</td>
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<tr>
<td>Weight [g]</td>
<td>110</td>
<td>430</td>
<td>970</td>
<td>2000</td>
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<tr>
<td>Bracket assembly</td>
<td>ZH-BK1-10-A</td>
<td>ZH-BK1-20-A</td>
<td>ZH-BK1-30-A</td>
<td>ZH-BK1-40-A</td>
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</tbody>
</table>

### Flow rate characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>ZH10-X185</th>
<th>ZH20-X185</th>
<th>ZH30-X185</th>
<th>ZH40-X185</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply pressure [MPa]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum pressure [kPa]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suction flow rate [l/min(ANR)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge flow rate [l/min(ANR)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air consumption [l/min(ANR)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) Suction flow rate is a theoretical value.
Note 2) The characteristics above show the values when the discharge pressure is atmospheric pressure.
Note 3) If the filter is installed to collect dust in the outlet side piping, make sure it does not cause back pressure.
External Dimensions Drawing

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### ZH10–20–□–X185

**Model**
- ZH10–□–X185: 119.5, 55
- ZH20–□–X185: 119.5, 55

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>A (mm)</th>
<th>øB (mm)</th>
<th>øC (mm)</th>
<th>D (mm)</th>
<th>E (mm)</th>
<th>F (mm)</th>
<th>G (mm)</th>
<th>H (mm)</th>
<th>I (mm)</th>
<th>J (mm)</th>
<th>K (mm)</th>
<th>L (mm)</th>
<th>M (mm)</th>
<th>N (mm)</th>
<th>P (mm)</th>
<th>Q (mm)</th>
<th>R (mm)</th>
<th>Sa (mm)</th>
<th>Sb (mm)</th>
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</thead>
<tbody>
<tr>
<td>ZH10–□–X185</td>
<td>73</td>
<td>34</td>
<td>19</td>
<td>13.2</td>
<td>16.2</td>
<td>69.8</td>
<td>31</td>
<td>35</td>
<td>27</td>
<td>4.5</td>
<td>35</td>
<td>18</td>
<td>1</td>
<td>13</td>
<td>28</td>
<td>M3x0.5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZH20–□–X185</td>
<td>119.5</td>
<td>55</td>
<td>32</td>
<td>15.5</td>
<td>23.5</td>
<td>111</td>
<td>48</td>
<td>56</td>
<td>48</td>
<td>4.5</td>
<td>56.5</td>
<td>29</td>
<td>21.6</td>
<td>Rc 1/8</td>
<td>44</td>
<td>M4x0.7</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1)** Do not use this threaded part for mounting.

---

### ZH30–40–□–X185

**Model**
- ZH30–□–X185: 158, 70
- ZH40–□–X185: 203, 90

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>A (mm)</th>
<th>øB (mm)</th>
<th>øC (mm)</th>
<th>D (mm)</th>
<th>E (mm)</th>
<th>F (mm)</th>
<th>G (mm)</th>
<th>H (mm)</th>
<th>I (mm)</th>
<th>J (mm)</th>
<th>K (mm)</th>
<th>L (mm)</th>
<th>M (mm)</th>
<th>N (mm)</th>
<th>P (mm)</th>
<th>Q (mm)</th>
<th>R (mm)</th>
<th>Sa (mm)</th>
<th>Sb (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZH30–□–X185</td>
<td>158</td>
<td>70</td>
<td>50</td>
<td>20</td>
<td>24.5</td>
<td>28.5</td>
<td>146.5</td>
<td>60.5</td>
<td>5</td>
<td>70</td>
<td>60</td>
<td>5.5</td>
<td>72</td>
<td>37</td>
<td>2</td>
<td>30</td>
<td>Rc 1/4</td>
<td>59</td>
<td>M4x0.7</td>
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<tr>
<td>ZH40–□–X185</td>
<td>203</td>
<td>90</td>
<td>64</td>
<td>25</td>
<td>27.2</td>
<td>33.5</td>
<td>196.8</td>
<td>74.5</td>
<td>6</td>
<td>90</td>
<td>78</td>
<td>6.5</td>
<td>92</td>
<td>47</td>
<td>2.3</td>
<td>42</td>
<td>Rc 3/8</td>
<td>76</td>
<td></td>
</tr>
</tbody>
</table>

**Note 1)** Do not use this threaded part for mounting.

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**We love energy-saving products that save money and help the environment!**

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