



### Howden's engineered solution to uncontrollable blade regulation caused by low ambient temperatures



New thermal insulation ensures adequate oil flow at cold ambient temperatures.

### Howden has now developed a solution to ensure sufficient return oil flow to the hydraulic skid at very cold ambient temperatures.

#### The problem:

Howden VARIAX® fans that operate in cold ambient temperatures may be exposed to an increase in oil viscosity, effectively plugging the hydraulic vent oil line between the diffuser and hydraulic skid. The flow through the vent line is very low which causes the vent line to cool during cold conditions and raises the viscosity of the hydraulic oil flowing through the vent line. This causes the pressure in the venting system to increase. If the pressure in the vent line increases and the cavity behind the pilot valve reaches approximately 80 psi, the pilot will be pushed out of the hydraulic cylinder valve housing and the blades will be forced into fully opened position.

#### The Solution

Howden Engineering has developed a solution by working closely with the GOWA who specialize in the thermal and noise insulation. Together we have found a viable solution (see figure 1 and 2: Isolation details).

Based on this solution no heat tracing of the hydraulic lines will be required. The radiant heat inside the thermal envelop will keep the vent line warm and prevent the viscosity of the oil changing

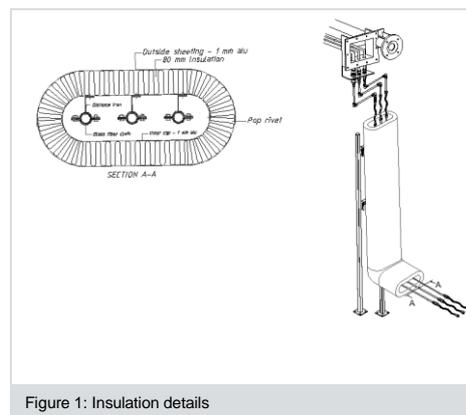


Figure 1: Insulation details

Isolation type	Weigt	Lamda λ	Product example
Wired mats with alu folio, 80mm thickness	100 kg/m <sup>3</sup>	0,045 W/mK (100 °C )	ProRox WM 960 ALUSC or equivalent

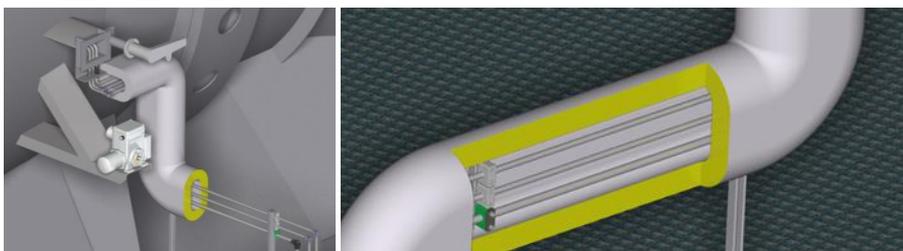


Figure 2: Insulation details

#### Mounting

Bolts and pop rivets: Pop rivets, diameter 3,3 x 8mm in stainless steel used for insulations mats / sheeting.

Bolts for distance iron, M8 x 15 mm.

Sub construction: Support 30 x 3 mm, St Grey zinc silicate HEMPEL ZS 1589.

For more information please **contact your local Howden office.**

This bulletin has been released by:

**Howden Axial Fans ApS**, Industrivej 23, DK-4700, Næstved, Denmark

Tel: +45 55 77 62 62

Web: [www.howden.com](http://www.howden.com)

Email: [howdenaxialfans@howden.com](mailto:howdenaxialfans@howden.com)

**Revolving Around You™**