

case study



case study 08

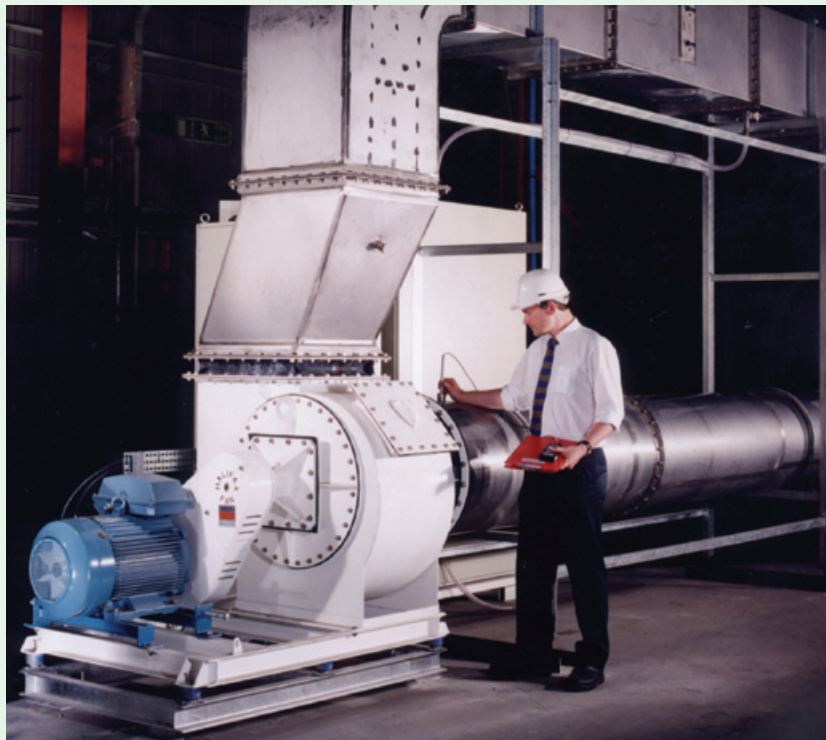
## Nuclear standards demanded for contaminated extract ventilation

Designed for a hazardous nuclear extract ventilation application, this bespoke gas-tight Beaufort “F” 24 extract fan was built to AESS 6019 Type B Specification for use with corrosive, toxic and radioactive ventilation systems, meeting the requirements of the AECIP 1054 Standard for Ventilation of Radioactive Areas.

Fitted with a self cleaning backward inclined impeller the fan design included a bespoke Halifax Fan bearing unit incorporating an integral gas-tight seal arrangement which was necessary to satisfy stringent pneumatic leak testing and balancing to grade G2.5. Vibration readings were required not to exceed 2.8mm/s RMS in accordance with BS 4675 Part 1 : Class II Range B.

To avoid any possibility of dismantling contaminated ductwork at fan inlet and outlet, the impeller was designed to be removable from the drive side. Integrity in design and build including a fully welded construction was essential to satisfy the minimum working life requirement of 25 years with continuous operation.

During manufacture, special paint was applied internally and



Halifax Fan Assembly designed for hazardous environment

externally to comply with BS 4247 Part 1 : Test A, thereby providing a Decontamination Factor of 5849.

Following manufacture witnessed performance testing was carried out to the complete requirements of BS 848 : Part 1 : 1980 Type D.

Finally, a comprehensive documentation package was provided adhering to a stringent quality plan, which included full documentation on all tests carried out.

### Application benefits

- Built to Nuclear Industry standards
- Gas tight design
- Decontaminating paint
- Rigorous testing
- Comprehensive documentation

### Halifax Fan Limited

Mistral Works, Unit 11, Brookfoot Business Park, Elland Road, Brighouse, West Yorkshire, HD6 2SD, UK  
T: +44 (0)1484 475123 F: +44 (0)1484 475122 E: sales@halifax-fan.co.uk

### Halifax-Fan (Shenzhen) Co Ltd

1 & 2F, No. 4 Building, Creative Industrial Park, Shang Xia Wei, ShaJing, ShenZhen, GuangDong Province, China  
Telephone No. 0086 755 8149 0059 Fax No. 0086 755 8149 0019

[www.halifax-fan.co.uk](http://www.halifax-fan.co.uk)

Produced by Kirk-MarCom Ltd e: eddie@kirk-marcom.com