Quickmix Injectors

Simplicity in design delivers long-life reliability with the Wozair Quickmix Injector.

Wozair reserves the right to make changes to this datasheet without notice.

Quickmix Injectors

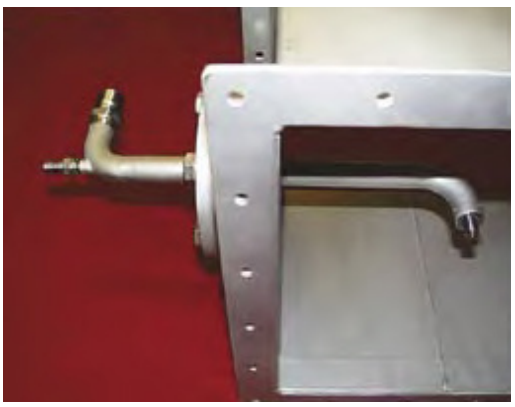
Wozair Limited manufactures the patented QMI, for in-situ filter testing using dispersed oil test aerosols. The QMI was designed and developed at AEA Technology's Harwell Laboratory as an active aerosol injector to enable well mixed mist to be produced from aerosol generators. It uses the energy of compressed air to enhance the mixing of test aerosol with the ventilation system airflow. It is to be located upstream of the filters.

For industries which use hazardous or toxic materials in their processes, it is essential to regularly and accurately demonstrate filter systems continue to meet their stated performance standards. Such in-situ testing will typically be conducted under normal flow conditions and it is essential that the aerosol has mixed fully with the flow of air to adequately challenge the filter.

The advantage of the QMI over other injection methods is that mixing is achieved in short ducting lengths up to 6 duct diameters compared to more than 10 duct diameters for conventional methods such as natural mixing and Stairmand disc.

The QMI consists of a small diameter pipe contained within a 25 mm diameter tube. Aerosol such as Ondina X420 is passed down the larger tube whilst a small quantity of compressed air is injected down the smaller tube, discharging radially into the duct via a number of injection holes. The number, size and arrangement of holes, in conjunction with the operational settings of the aerosol generator and compressed air supply, combine to give the injector its unique performance characteristics.

The smoke generator and compressed air supply are connected to the QMI using Guyson quick connect couplings. This allows the generator to be moved from one QMI to another on the site.



Technical Data

Material of Construction

Stainless steel AISI 304L (1.4307) or 316L (1.4404)

Pressure Drop

The QMI will usually be permanently installed within the duct. For a 350 mm diameter duct with an airflow of 950 l/s, which is representative of a standard single circular HEPA filter housing, the duct velocity is approx. 10 m/s. When non-operational the pressure drop is 20 Pa and when operational the pressure drop is 30 Pa.

Volume of Injected Air

The additional volume of air injected into the duct under operational conditions and at a duct velocity of 10m/s is approximately 1% of the ventilation system volume airflow rate.

Settings

Duct Size Diam (mm) or W x H (mm x mm)	Duct Velocity (m/s)	Minimum distance between injector and sampling device (duct diam.)	Mixing Air Setting (psi)
350 mm diam	5	4	20
350 mm diam	10	4	50
350 mm diam	15	4	55
400 x 300 mm	5	4	40
500 x 600 mm	6	4	40
1600 x 500 mm	8	6	50
1600 x 800 mm	10	6	60
1600 x 1200 mm	10	6	70

Achilles JQS QUALIFIED

FPAL empowered by Achilles Registered

wozair HVAC SPECIALISTS

Wozair reserves the right to make changes to this datasheet without notice.

Wozair Limited
Grosvenor Road
Gillingham Business Park
Gillingham
Kent
ME8 0SA
United Kingdom

Phone +44 (0)1634 790 336
Email hvac@wozair.com

Wozair (USA) Ltd
3601 North Loop
336 West
Conroe
Texas
77304
United States of America

Phone +1 936 521 5990
Email houstonhvac@wozair.com

Wozair (Asia) Pte Ltd
2 Venture Drive
8-23 Vision Exchange
608526
Singapore

Phone +65 6890 6506
Email hvac@wozair.com.sg

Wozair Middle East
Office 202
LOB 17 Building JAFZA
Next to Gate 4
Dubai
P.O. Box 262404
United Arab Emirates

Phone +971 (0) 4 887 0147
Email dubaihvac@wozair.com

wozair.com

wozair
HVAC SPECIALISTS