



Intertek
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Order No. 3063712

September 13, 2004

REPORT NO. 3063712-001

**TEST OF AREA FACTOR, THROW PATTERN,
STATIC PRESSURE AND SOUND POWER LEVEL
ON A 300 X 150 MM DOUBLE DEFLECTION
SUPPLY AIR REGISTER**

**RENDERED TO
FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a Double Deflection Supply Air Register. The test results include Static Pressure, Area Factor, Throw and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The register appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 24, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The register was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The register was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the register inlet.

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Order No. 3063712

September 13, 2004

REPORT NO. 3063712-002

**TEST OF AREA FACTOR, THROW PATTERN,
STATIC PRESSURE AND SOUND POWER LEVEL
ON A 750 X 200 MM DOUBLE DEFLECTION
SUPPLY AIR REGISTER**

**RENDERED TO
FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a Double Deflection Supply Air Register. The test results include Static Pressure, Area Factor, Throw and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The register appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 24, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The register was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The register was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the register inlet.

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Order No. 3063712

September 15, 2004

REPORT NO. 3063712-003

**STATIC PRESSURE, SOUND POWER LEVEL,
AREA FACTOR AND THROW PATTERN TESTS ON A
DOUBLE DEFLECTION SUPPLY LINEAR BAR GRILLE**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a size 1000 x 150 mm, double deflection supply Linear Bar Grille. The test results include Static Pressure, Area Factor, Throw Pattern and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The register appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The grille was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The unit was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the grille inlet.

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Order No. 3063712

September 20, 2004

REPORT NO. 3063712-004

**STATIC PRESSURE, SOUND POWER LEVEL,
AREA FACTOR AND THROW PATTERN TESTS ON A
DOUBLE DEFLECTION SUPPLY LINEAR BAR GRILLE**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a size 1000 x 250 mm, double deflection supply Linear Bar Grille. The test results include Static Pressure, Area Factor, Throw Pattern and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The register appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The grille was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The unit was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the grille inlet.

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Order No. 3063712

September 15, 2004

REPORT NO. 3063712-005

**RETURN AIR VOLUME VERSUS STATIC PRESSURE
AND SOUND POWER LEVEL TEST ON A
DOUBLE DEFLECTION RETURN AIR GRILLE**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a Double Deflection Return Air Grille. The test results include Air Volume versus Negative Static Pressure and Sound Power Level. The sample was selected and supplied by the client and was received at the laboratories on August 5, 2004. The return air grille appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The sample was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets", which incorporates ADC 1062: GRD-84 Test Code for Grilles, Registers and Diffusers. The unit was installed in the facility and tested at various measured volumes of return air. Acoustical data was obtained employing a Bruel & Kjaer Digital Frequency Analyzer Type 2131 and analyzed on a CompuAdd 286 Computer and Epson LQ-850 printer. The reference sound source used for this test was a calibrated B&K Type 4204 (Serial No. 2036621). The octave band sound power levels were plotted to determine the point of tangency with the highest rank Noise Criteria Curve (NC) to establish the NC. These curves, which are in the ADC Test Code, were reprinted with permission from ASHRAE, Handbook and Product Directory, 1976.

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Order No. 3063712

September 16, 2004

REPORT NO. 3063712-006

**TEST OF AREA FACTOR, THROW PATTERN,
STATIC PRESSURE AND SOUND POWER LEVEL OF
A LINEAR THREE SLOT SUPPLY DIFFUSER**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a linear three slot supply diffuser. The test results include Area Factor, Throw Pattern, Static Pressure and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The diffuser appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The diffuser was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The diffuser was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the diffuser.

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Order No. 3063712

September 21, 2004

REPORT NO. 3063712-007

**TEST OF AREA FACTOR, THROW PATTERN,
STATIC PRESSURE AND SOUND POWER LEVEL OF
A LINEAR TWO SLOT SUPPLY DIFFUSER**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a linear two slot supply diffuser. The test results include Area Factor, Throw Pattern, Static Pressure and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The diffuser appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The diffuser was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The diffuser was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the diffuser.

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Order No. 3063712

September 15, 2004

REPORT NO. 3063712-008

**RETURN AIR VOLUME VERSUS STATIC PRESSURE
AND SOUND POWER LEVEL TESTS ON A
SQUARE RETURN AIR FOUR-WAY CEILING DIFFUSER**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a Square Return Air Four-Way Ceiling Diffuser. The test results include Air Volume versus Negative Static Pressure and Sound Power Level. The sample was selected and supplied by the client and was received at the laboratories on August 5, 2004. The diffuser appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The sample was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets", which incorporates ADC 1062: GRD-84 Test Code for Grilles, Registers and Diffusers. The unit was installed in the facility and tested at various measured volumes of return air. Acoustical data was obtained employing a Bruel & Kjaer Digital Frequency Analyzer Type 2131 and analyzed on a CompuAdd 286 Computer and Epson LQ-850 printer. The reference sound source used for this test was a calibrated B&K Type 4204 (Serial No. 2036621). The octave band sound power levels were plotted to determine the point of tangency with the highest rank Noise Criteria Curve (NC) to establish the NC. These curves, which are in the ADC Test Code, are reprinted with permission from ASHRAE, Handbook and Product Directory, 1976.

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Order No. 3063712

September 23, 2004

REPORT NO. 3063712-009

**STATIC PRESSURE, SOUND POWER LEVEL,
AREA FACTOR AND THROW TESTS ON A 225X225MM
SQUARE FOUR-WAY CEILING DIFFUSER**

RENDERED TO

**FLOWTECH
PO BOX 1871
DUBAI, U.A.E.**

INTRODUCTION

This report gives the results of tests conducted on a supply air, square four-way ceiling diffuser. The test results include Static Pressure, Area Factor, Horizontal Throw Pattern and Sound Power Level. The sample was selected and supplied by the client and received at the laboratories on August 5, 2004. The diffuser appeared to be in new unused condition upon receipt.

AUTHORIZATION

Purchase Order No. GD-02-04 dated July 27, 2004 from Faisal Jassim Trading Co (L.L.C).

TEST METHOD

The diffuser was tested in accordance with the ASHRAE 70-1991 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets". The diffuser was installed in the facility and supplied with measured volumes of air. The static pressure was measured 1½ duct diameters upstream of the diffuser inlet.

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