



# EASYFLEX

ENGINEERING INDIA



# AIR HANDLING SYSTEMS

**Capital Equipments, Piping and Ducting - related to Air Conditioning Systems experience changes in Pressure and Temperature.**

**Easyflex engineers multiple product lines to ensure Safety, efficient operations of overall systems and a benchmark of quality standards for our customers and the People impacted by development in the world at large.**

**AIR HANDLING UNITS**

**FANS**

**BLOWERS**

**DUCTS**



# Kanwal Industrial Corporation

Operating under the Brand name Easyflex, we design, manufacture and engineer

**Flexible Piping Components**

**Vibration & Noise Control Technology**

Our Engineers also specialize in

Piping Stress Analysis

Shock Isolation Design

Seismic Design & Engineering

VIBRATION ELIMINATION

MANUFACTURING & TESTING

QUALITY ASSURANCE



# Vibration Isolation

**Mechanical Vibration** and **Vibration-Induced Noise** are common sources of occupant complaints in modern buildings.

**Vibration** is caused by reciprocating motion from rotating components within **Mechanical Equipment**.

All reciprocating, or rotating, equipment should be isolated to reduce transmission of vibration into the structure.

Easyflex provides technical assistance in the **Selection and Specification of Isolation systems and Vibration Isolation products** that enable building owners to install complex heating, ventilation, and air-conditioning systems without the worry of vibration problems.

# Vibration Elimination

## 1.0 Vibration Isolators

1.1 Open Spring Mounts

1.2 Spring Hangers

1.3 Restrained Spring Mounts

## 2.0 Flexible Connections

2.1 Duct Connectors

2.2 Rubber Bellows

## 3.0 Flat Roof Supports





# Fans & Blowers

Reducing and Isolation Noise and Vibration sources, produced by Mechanical Equipments is a critical application in Construction today.

All Mechanical Equipment is mounted on Vibration Isolators to prevent transmission of noise and vibration to the Building Structures

The Selection of Vibration Isolators and Mounting methods for installation depend on

- **Equipment Application**
- **RPM**
- **Mounting Points Available**
- **Operating Weight**



**Centrifugal Fan installed with Vibration Isolators**

# Floor Mounted Applications

Equipments like Axial Flow Fans, Centrifugal Fans and Blowers that are used for **Floor Mounted Applications** should be mounted using either of

- Open Spring Mount
- Turret Mount
- Restrained Spring Mount

By inserting isolators between the machine and supporting structure, the magnitude of transmitted vibration is greatly reduced.



**Axial Fan installed with Open Spring Mounts**



# Ceiling Suspended Applications



**Spring Hangers installed with Axial Fan**

**Fans, FCU's, AHU's and Chilled water pipes** are common applications for these Spring Hangers.

Hangers are available in Spring, Rubber and a combination of both.



**Axial Fans installed with Spring Hangers and Flexible Duct Connectors**

**For high temperature applications, Spring Hangers are available in Stainless Steel and Hot dip Galvanised for anti corrosive properties**

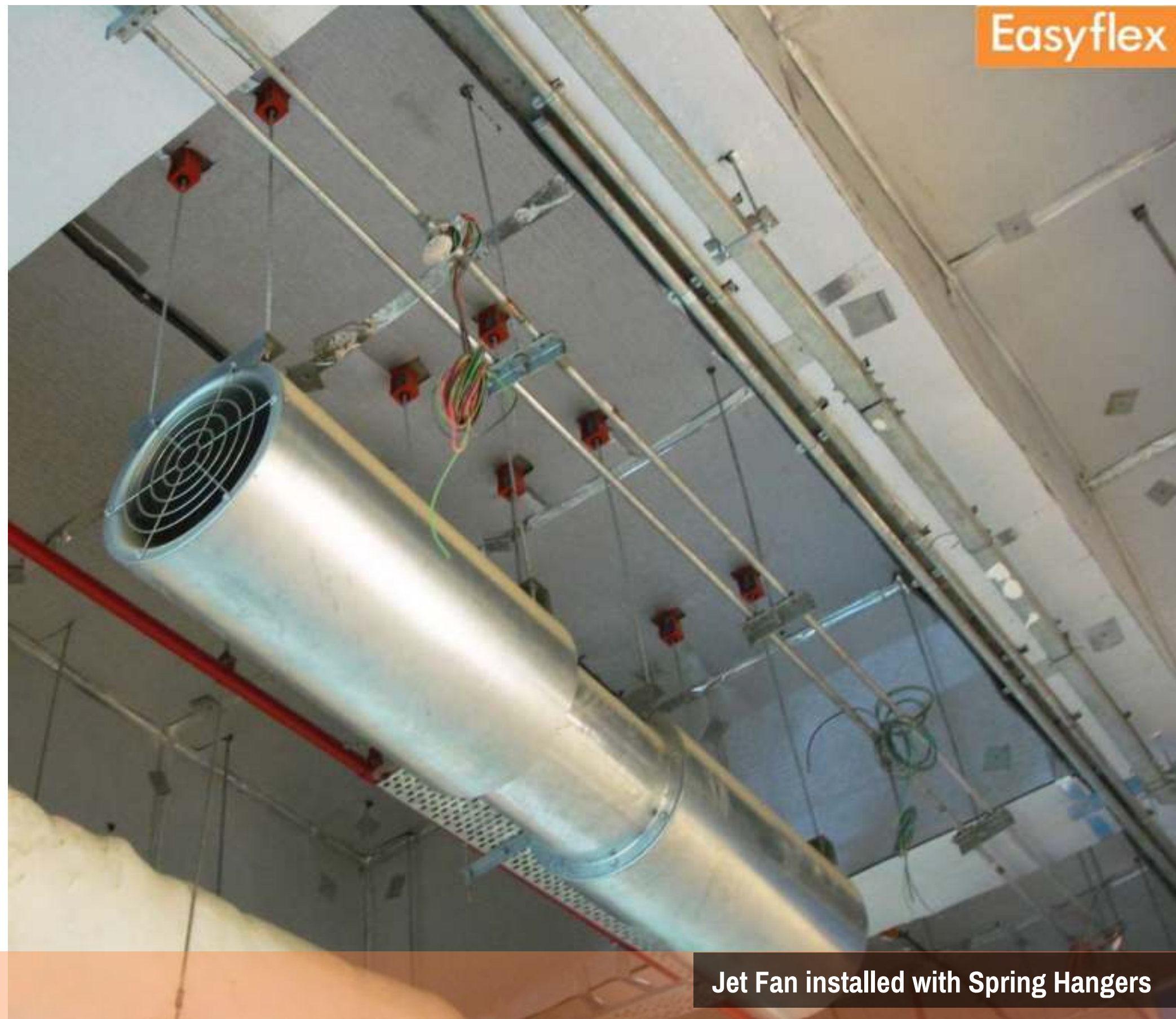


# Ceiling Suspended Applications

By Using Spring Hangers for installation of Fans, the cycle life can be prolonged and also help in smoother operations over long periods of time.

**Easyflex Spring Hangers are recommended for Ceiling suspended applications with**

- **Air Handling Units**
- **Tunnel Ventilation Fans**
- **Axial Fans**
- **Centrifugal Fans**
- **Jet Fans**
- **Fan Coil Units**



Jet Fan installed with Spring Hangers



# Ceiling Suspended Applications

Easyflex is OEM Supplier to Greenheck, Edgetech, Zeco Aircon, Flaktwoods, Nicotra and Kruger Ventilation.

The Spring Hanger Range is used to isolate suspended sources of both noise & vibration.



Spring and Neoprene combination Hangers



Neoprene Hangers



Fan Coil Unit installed with Spring Hangers



# Seismic Isolators

## Restrained Spring Mounts

In cases where vibration isolation of the mechanical equipment is required **in a Seismic Application**.

Seismic Isolators and Restraints restrict the overall movement of the equipment in these installations, so that equipment remains in place during a seismic event.

Equipments located at Rooftop level can be successfully mounted on the EFRSM range as any movements caused by High Wind loads will be limited by the Vertical and Lateral Restraints provided.



Axial Flow Fans installed with Restrained Spring Mounts





# Seismic Restraints





# Vibration Isolators for Special Applications



SS Spring Hangers for Tunnel Ventilation



SS Enclosed Spring Isolator



Spring Hangers with HDG for Marine Applications



Open Spring Mounts for Marine Applications



# Vibration Isolators for Special Applications



Spring & Neoprene Hanger with Brackets



Isolators designed for Zeco Aircon



Spring Isolator for High Temperature Applications



Wire Rope Isolators for Shock Isolation



Metal Sandwich Pad with Rubber Bush



# Vibration Isolators for HVAC Equipment



Waffle Pad



Ribbed Mounting Pad



Metal Sandwich Pad



Enclosed Spring Isolator



Cased Spring Mount



Closed Spring Isolator



# Flexible Duct Connectors

Flexible connections are made of a variety of Fabric to help provide flexibility along the duct by isolating and alleviating stress when connected to rotating equipment like Fans & Blowers.

Blowers inside the Air Handling Units usually require Flexible Duct connectors to **compensate for High Temperatures and movement** occurring inside.

## KEY APPLICATIONS

- Fans
- Air Handling Units
- Air Pollution Control Systems
- Blowers

They compensate with Axial and Lateral movements or both.





# Flexible Duct Connectors

Duct Connectors being flexible elements are able to isolate and absorb the expansion in the fan due to rise in temperature.

They also help to accommodate for misalignment of the connection between the fan and duct for a smoother installation.



**These Connectors are designed to handle high temperature, high pressure or vacuum and aggressive chemicals present in an airstream**



# Flexible Duct Connectors

Air Duct installations connected with **Fans, Blowers** and **Air Handling Units** transmit noise and vibration throughout the entire ducting.

Flexible connections help by providing flexibility along the duct and absorb movements arising due to rise in temperature.



Flexible Connections in the form of **Fabric Rolls** or **Flanged Connectors** help to isolate transmission of noise and vibrations from these equipments.

- UL Listed Fabrics
- NFPA Approved
- Fire Rated & Retardant
- **Available in 2 Ply Fabric**
- Available in Rox, Neoprene, Silicone and Insulated Fibre Glass
- For temperature ranges upto 260°C
- Customised to Round, Rectangular and Square connectors
- **Also available for Double Duct applications**





# Braided Hose Connections

Braided Hose Connections are flexible joints that are designed to withstand the **Pressure of the System** with enough **Flexibility to compensate for movements** required by the system.

- Lateral Movement
- Axial Elongation
- Axial Compression

These flexible connectors also compensate for misaligned piping ensuring leakage free installations of Piping with Air Handling Units.



**Ceiling suspended Air Handling Units installed with Flexible Braided Hose connections for Chilled water pipes**





# Braided Hose Connections

Corrugated Metallic Hoses and SS braids combined with custom end fittings make up for Flexible Connections for

- **Air Handling Units**
- **Fan Coil Units**
- **Steam Generation**
- **Oil & Gas applications**

**End Fittings - Fixed / Rotating Flanges, Couplings, Pipe ends and more.**

**Stainless steel grades of SS304, SS316, SS321**





# Flexible Rubber Bellows

Common applications for Rubber Expansion Joints are in **Chilled Water HVAC Systems**.

Piping connected with Pumps, Chillers and Air Handling Units often experience changes in pressure and temperature during operation which generate noise and vibration across the system.

Rubber Expansion Joints are flexible elements that compensate for movements in piping systems due to thermal expansion and contraction by absorbing accompanying noise, vibration and water hammer.

The Selection and Design process of Easyflex Rubber Expansion joints are in compliance with the **Expansion Joints Manufacturer's Association (EJMA)** and **Fluid Sealing Association (FSA)**.





# Flat Roof Supports for HVAC Equipments

Easyflex-StrutFoot's HD System has been designed to carry large **Air Handling Units, Chiller Systems** and other heavy plant loads, when installed on Roof tops.

## Rooftop Supports for MEP Equipments

- **Modular System**
- **Easy & Quick Installation**
- **Anti Vibration Rubber Pads attached**
- **Drilling or penetration of Waterproof Roof membrane is not required**
- **Made from Recycled Rubber and adds to Carbon Credits for Green Buildings.**



**Air Handling Unit mounted on the Easyflex-Strutfoot H Frame**





**H-FRAME with Strut Channel  
and Recycled Rubber Feet for  
Cooling Towers**



# Project References

High Court - Lucknow  
Gift City - Ahmedabad  
BHEL - Haridwar  
Bulgarian Embassy - New Delhi  
Canadian High Commission  
National Institute of Biologicals  
Khalsa Heritage Project - Punjab  
Wave One - Noida  
Wave City - Noida  
DLF Hotels & Apartments  
AIIMS - New Delhi

Delhi Metro Rail Corporation  
Hyderabad Metro Rail Corporation  
Jaipur Metro Rail Corporation  
Mumbai Metro Rail Corporation  
Chennai Metro Rail Corporation  
Noida Metro Rail Corporation  
Bangalore Metro Rail Corporation  
Rajiv Gandhi International Airport  
Delhi International Airport Limited - DIAL  
Cochin International Airport Limited  
Bengaluru International Airport Limited

Sir Ganga Ram Hospital - New Delhi  
LNJP Hospital - New Delhi  
Dada Dev Sahib Hospital - New Delhi  
Artemis Hospital - Gurgaon  
Columbia Asia Hospital - New Delhi  
Inorbit Mall - Mumbai  
Hotel Holiday Inn - New Delhi  
ITC Hotels - Bangalore  
ITC Hotels - Calcutta  
GMR Hotel - Andhra Pradesh  
American Embassy School - New Delhi

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