

# VOLUME CONTROL DAMPER

## Introduction

Selecting the right damper is important to assure good operating characteristics in any airflow system, helping you maximize energy efficiency and minimize installation costs.

Air Dampers of superior quality are being manufactured by COSMOS to meet varied requirements of air ventilation systems. These dampers constitute of fire damper, volume control damper and duct dampers. We manufacture Air Dampers which includes Volume Control Damper (VCD), Fire Damper and Duct Dampers.

COSMOS is the reliable manufacturer and supplier of duct dampers which includes air distribution duct damper, aluminum duct damper, galvanized duct damper, motorized air distribution duct damper.

Air Volume Control Dampers that we offer are known for their high tensile strength, application, specific design and long service life. These are formulated to provide accurate control of airflow within ventilating and air conditioning systems.

COSMOS Square, Rectangular and round Volume Control Dampers (VCD) are the specific types of dampers designed for purpose of controlling air flow and pressure in HVAC systems.

For square and rectangular VCD's, standard damper construction comes with opposed blade arrangement with external linkage. However, parallel blade arrangement is also available as alternatives. COSMOS dampers can operate manually as well as powered by electric actuators.

The damper blades are formed single skin construction with groove blade tips to provide an interlocking blade closure. Airfoil shape blade comes with single piece as well as double piece. Blade tip seals can be provided if required for maintaining a low closed blade leakage.



VCD ("V" groove blade)

VCD (Airfoil shape blade)

## Damper Selection

In HVAC installations two different types of rectangular dampers are used to modulate air flow. These are parallel and opposed blade dampers. Parallel blade dampers are constructed so all the blades moves in the same direction and parallel. Opposed blade dampers are constructed so blades next to each other move in opposite directions.

COSMOS standard volume control dampers are come with opposed blade arrangement with external linkage. However, parallel blade arrangement is also available as alternative. Each style has distinguishing characteristics in regard to the type of operation required.

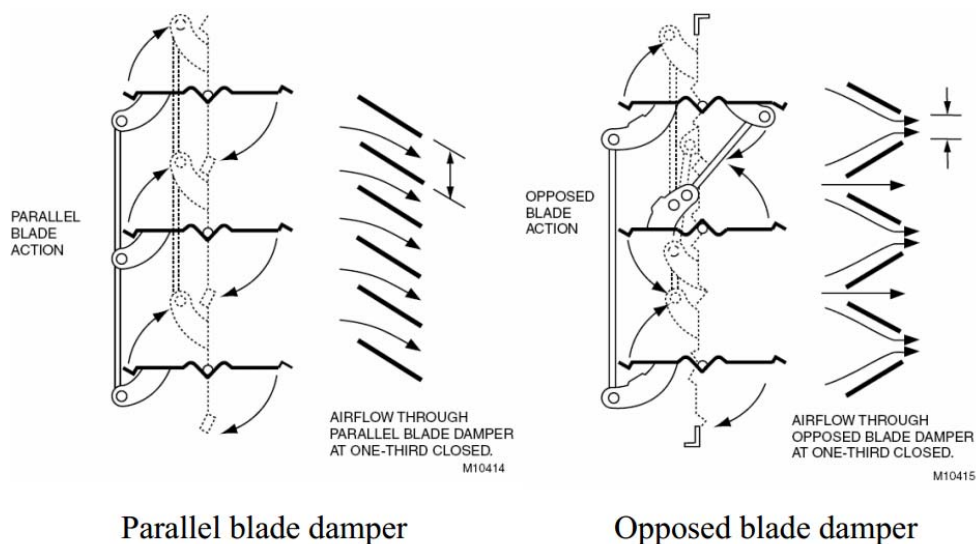
## Parallel and Opposed Blade Operation

### Opposed blade operation

Damper blades are rotate in opposite direction to one another under opposed blade configuration. Opposed blade configuration is typically used on dampers that modulate airflow.

### Parallel blade operation

In this case damper blades are rotate in the same direction, parallel to one another. Parallel blade orientation is typically used when the damper operates in two positions, open or closed.



## Blades

Any combination of 100mm, 125mm and 150mm blade widths are used in a single damper. 3V groove blades are fabricated from 20 gauge (1 mm) galvanized steel, incorporating three longitudinal V-Type grooves running the full length of the blade to increase strength. This blade is standard on damper models, designed for velocity and pressure applications.

Airfoil blades are constructed of double-skin galvanized steel, heavy-gauge extruded aluminum. This blade design results in lower resistance to airflow and increased strength that is typically used in high pressure systems. Airfoil blades are standard on damper models.

## Frame

COSMOS control dampers utilize a 150mm x 30mm C- channel frame made of 18 gauge (1.2mm) galvanized steel, heavy duty extruded aluminum.

## Linkage

COSMOS control dampers have blade linkages constructed from steel, concealed in the frame to prevent additional pressure drop and unwanted noise.

## Galvanized Volume Control Damper

- Models:** 1) VCD (**Manual VCD**)  
2) VCD-M (**Motorized VCD**)



We are a reliable manufacturer and exporter of Volume Control Duct Dampers which are widely used in HVAC, Pollution control Industries.

COSMOS Volume Control Damper are manufactured with high quality Galvanized material as per the industries norms. Models VCD and VCD-M are COSMOS standard volume control dampers, used for manual or motorized volume control in ducts.

These volume control dampers are installed in branches of Air Distribution duct. The Opposed Blade Dampers are used to carry out a rough air system balance with closer control being carried out at the individual grilles or diffuser.

Frame in 18 G and blades are manufactured in 20 G galvanized mild steel. Blades are mounted in nylon bushes operated by an exterior linkage which allow the damper to be opened and closed with a minimum of air disturbance. The dampers are manufacturer in sections up to 1200x1000 mm.

### Features

- V groove 20 G opposed blades (Option: Aluminum aerofoil blade)
- Gear driven or conventional linkage.
- Double nylon bushes.

## Optional extras

- Manual control quadrant position indicator.
- Support plate for a servo motor mounted in place of the quadrant damper.
- Operated by servo motor directly compiled to the shaft.
- Servo motor - 230 V, 24V actuator.
- Aerofoil shaped blade as option.

## Aluminum Aerofoil Volume Control Damper

- Models: 1) VCD-AF (Extruded aluminum aerofoil VCD)**  
**2) VCD-AF-M (Motorized extruded aluminum aerofoil VCD)**



Aluminum Duct Dampers are used in supply or return air and fresh air duct to regulate air as desired or required. These dampers are available at manual control or automatic actuator control.

Models VCD-AL and VCD-AL-M are COSMOS standard volume control dampers. COSMOS Volume control Dampers are made of high quality extruded aluminum profiles. Its aerodynamic shape and precise workmanship reduces the leakage of air. Thus it reduces the usage of energy and saves time and money. With concealed gear mechanism, COSMOS offers better durability and total peace of mind.

Installed in branches of Air Distribution duct, these Opposed Blade Dampers are used to carry out a rough air system balance with closer control being carried out at the individual grilles or diffuser.

Frame and blades are manufactured aluminum extrusion. Moving opposed blades are on 100 mm pitch center. They are mounted in nylon bushes operated by an exterior linkage which allow the damper to be opened and closed with a minimum of air disturbance. The dampers are manufacturer in sections up to 1200x1000 mm.

## Features

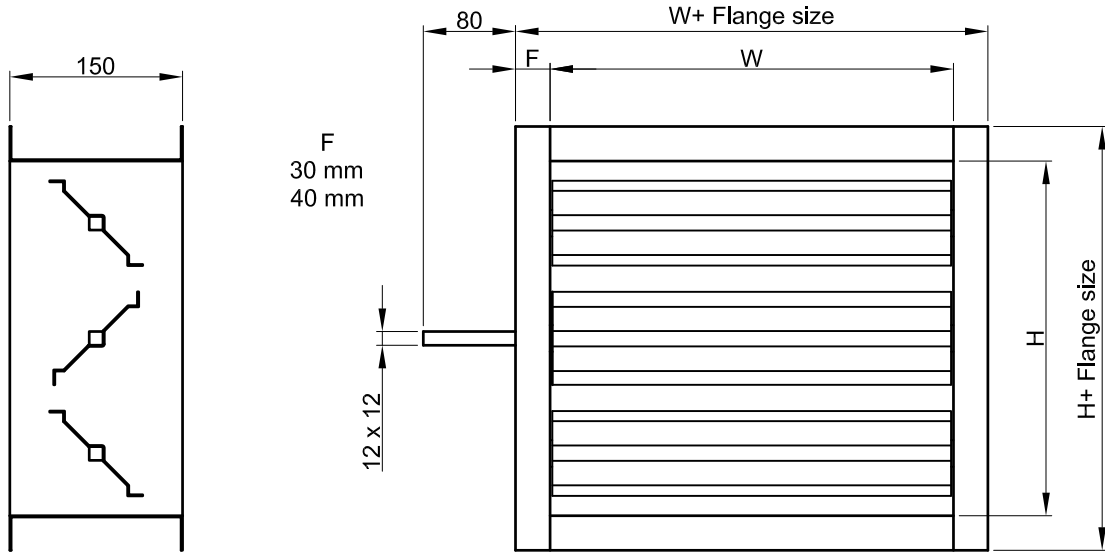
- Aerofoil profile opposed blades.
- Opposed blade operation for optimum air distribution and control.
- Extruded aluminum low leakage damper.
- Gear driven.
- Special design rubber gasket.
- Double nylon bushes.
- Electric or manual control options.

## Optional extras

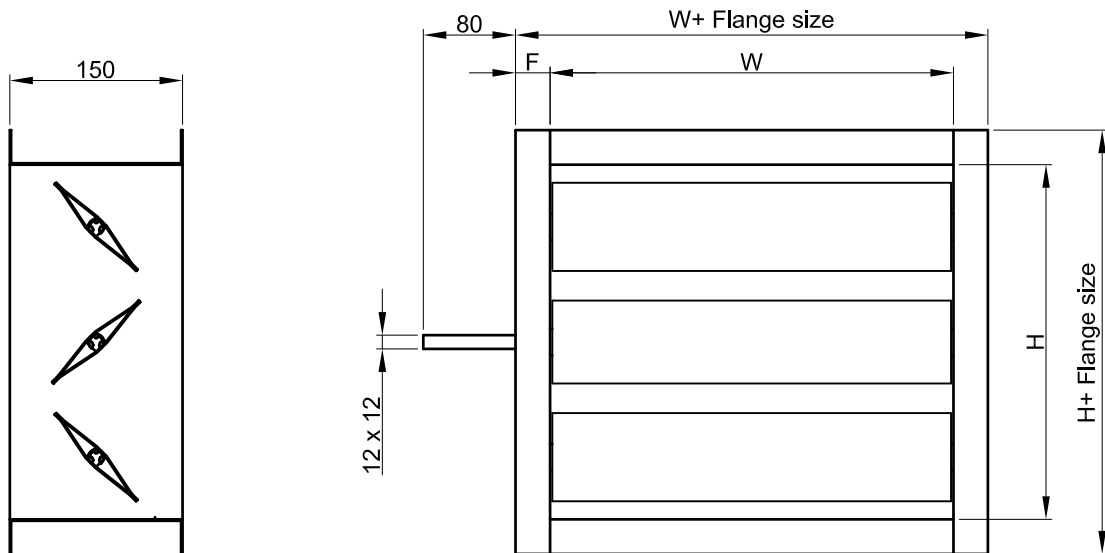
- Manual control quadrant position indicator.
- Support plate for a servo motor mounted in place of the quadrant damper.
- Operated by servo motor directly compiled to the shaft.
- Servo motor - 230 V, 24V actuator.

Dimensional data

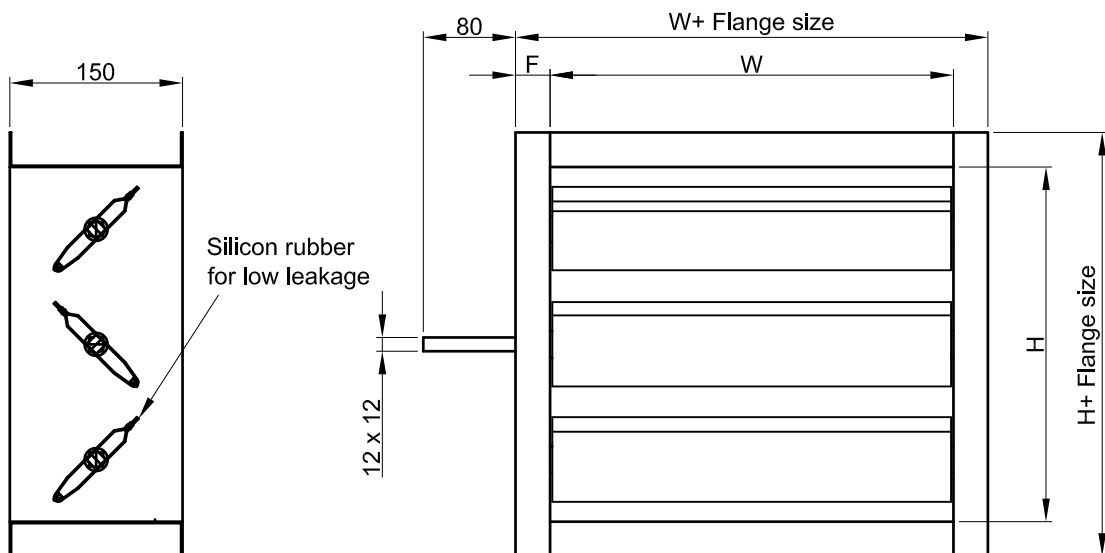
VOLUME CONTROL DAMPER



GI V groove blades



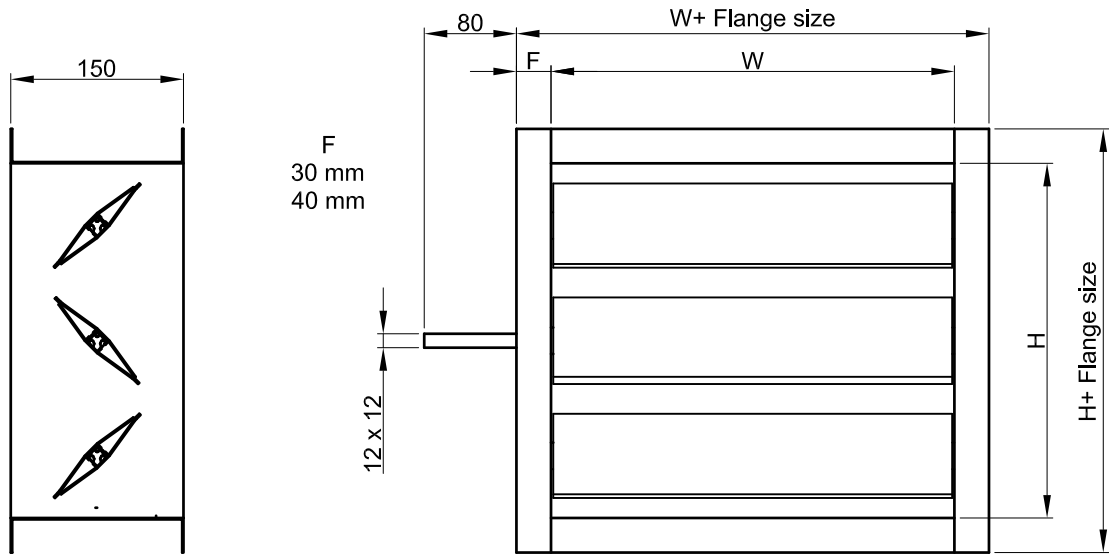
GI Aerofoil blades



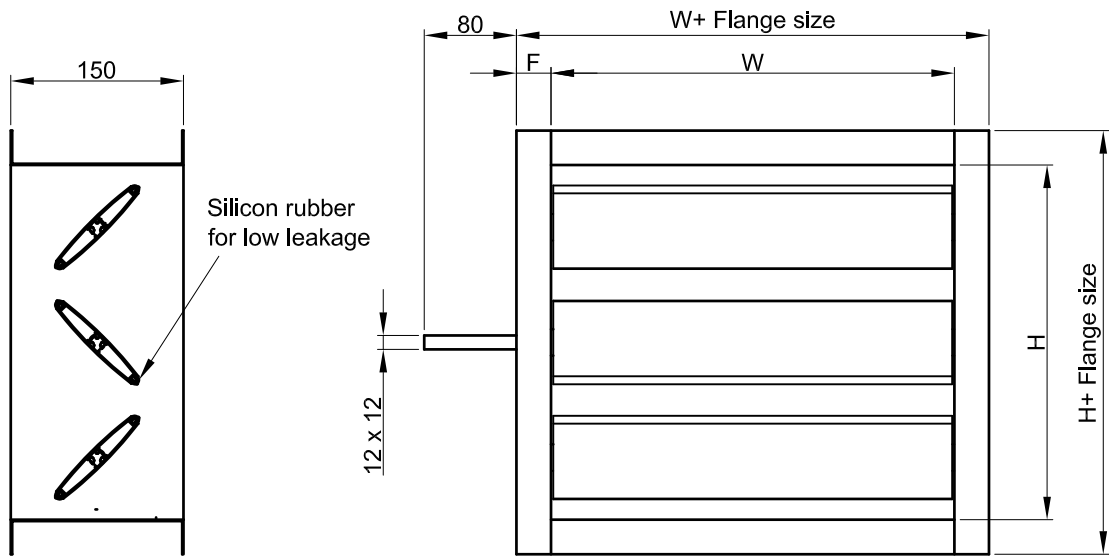
GI Aerofoil with low leakage blades

Dimensional data

VOLUME CONTROL DAMPER



Aluminum Aerofoil blades



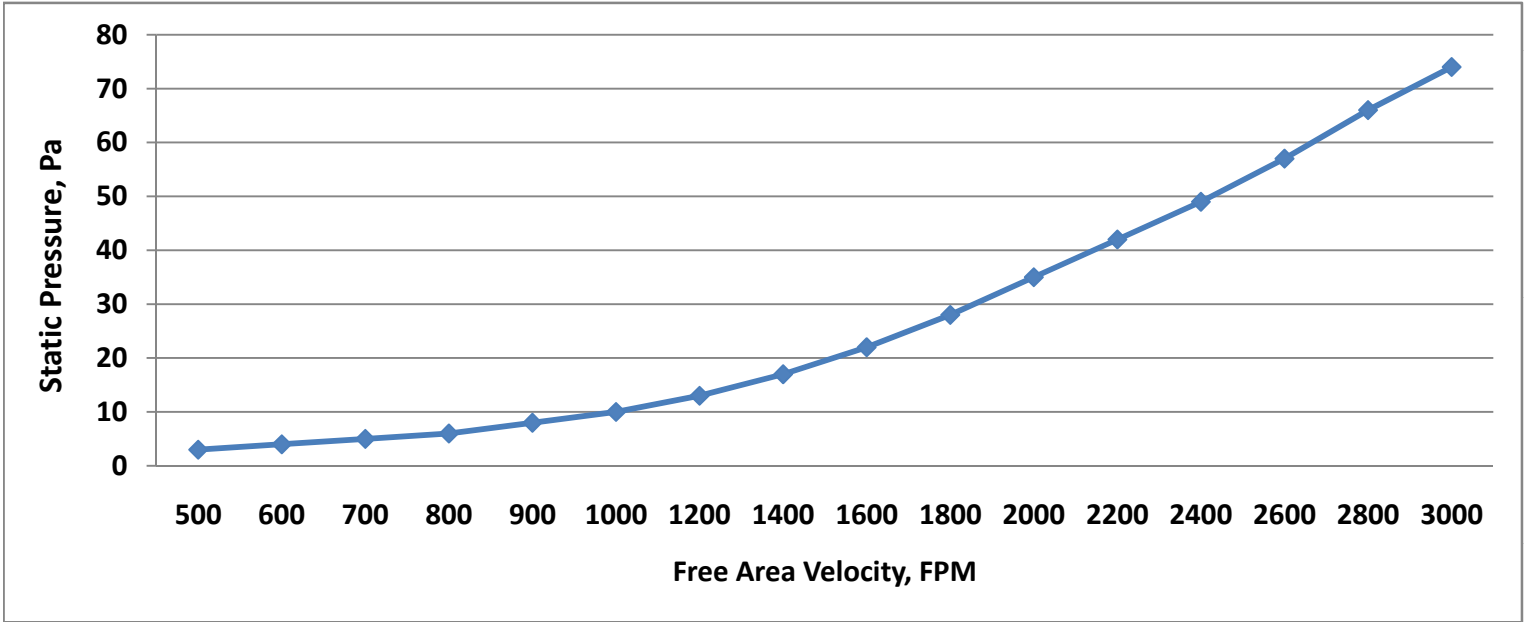
Aluminum Aerofoil with low leakage blades



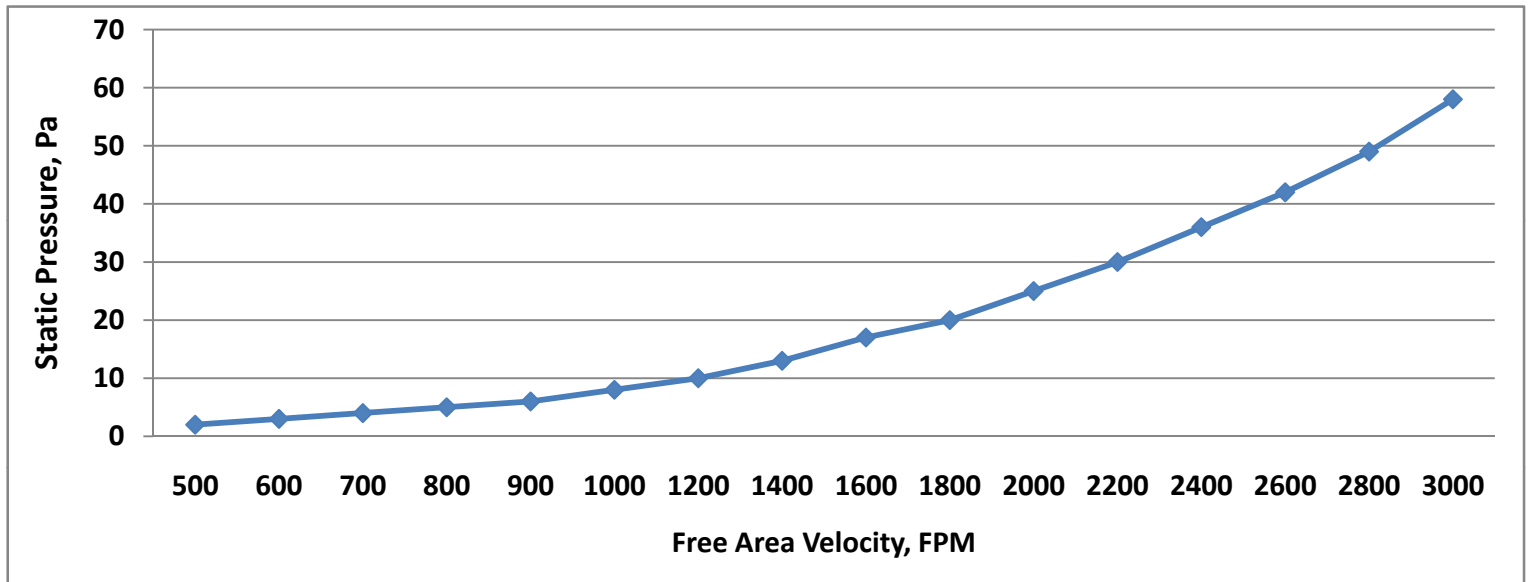
**Performance Data:**

**Velocity vs. Pressure Drop**

Model: **VCD-G**

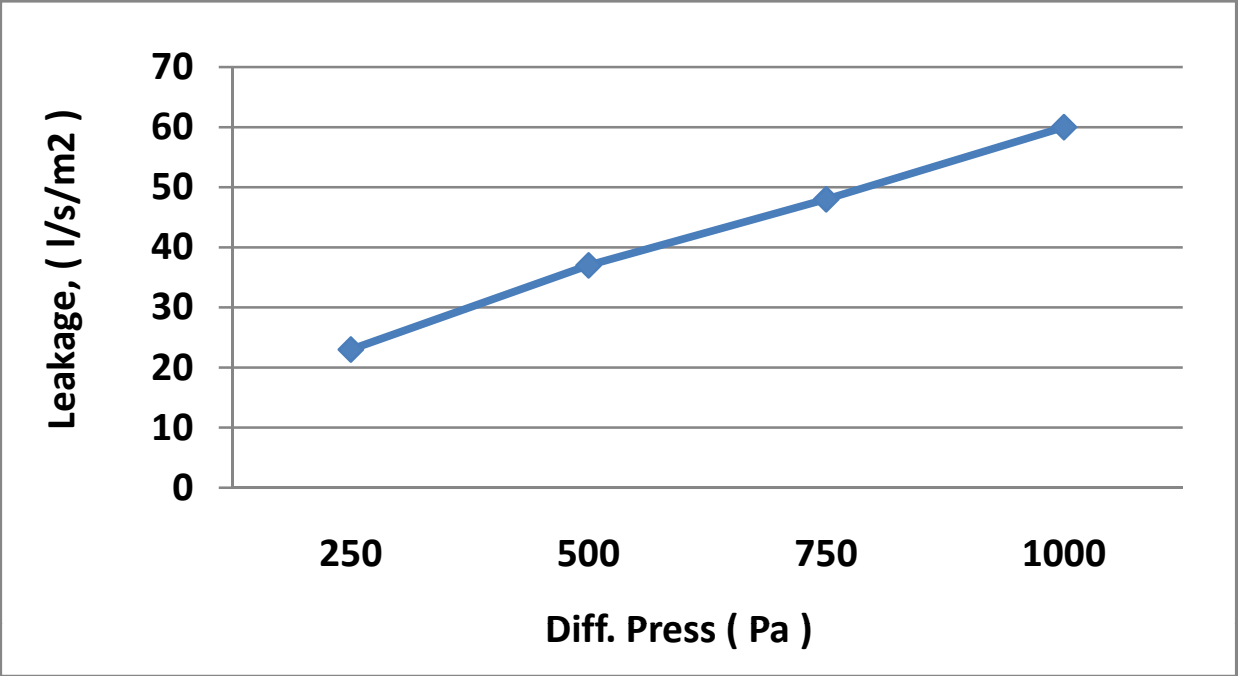


Model: **VCD-AL**



# Leakage Data

## VCD-G



## VCD-AL

