



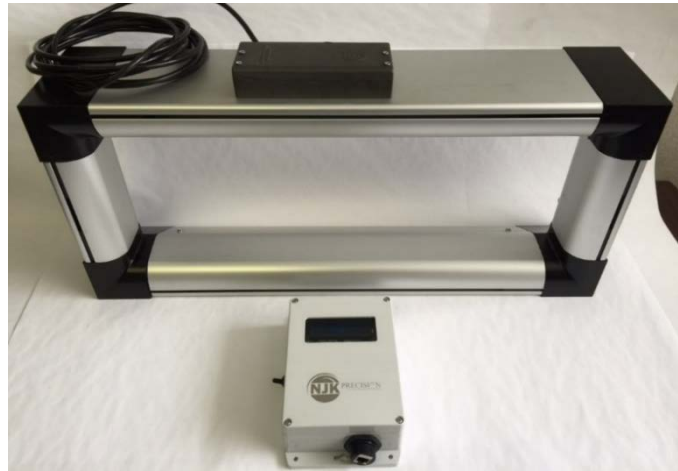
# AIR FLOW MEASUREMENT SOLUTIONS

- OUTDOOR AIR FLOW MEASUREMENT
- SUPPLY, RETURN, AND EXHAUST AIR FLOW MEASUREMENT
- FLOOR LEVEL AIR FLOW MEASUREMENT
- LABORATORY AIR FLOW MEASUREMENT
- CLEAN ROOM AIR FLOW MEASUREMENT
- PRECISE CONTROL OF BUILDING AND ROOM PRESSURIZATION

**NJK Precision**, a division of **Von Weise LLC**, offers mass air flow sensing products for HVAC air flow measurement utilizing our patented dual chambered airfoil design and perimeter air flow sampling. This technology was brought over from the PMAS-MAF division of Von Weise where a similar air flow measurement product is manufactured for high performance automotive engines and large commercial equipment and turbulent air measurement is very common.

## NJK Precision Measurement Theory:

Whenever there is air flow movement in a duct there will be a corresponding pressure and flow on the outer edge of that ductwork. Air on the perimeter of a duct is less turbulent than the air in the center of a duct and a more dependable area for sampling the total air that is flowing through the ductwork. The NJK Precision Sensor samples the air flow from the outer edge of the ductwork.



## NJK Precision Sensor Operation:

The NJK Precision air flow measurement station utilizes its patented dual chambered airfoil design to dynamically normalize turbulent airflows inherent within the ductwork. All measured air flows from the Mass Air Flow sensing probe and is channeled into the outlet chamber. Air is drawn from the outlet chamber through a continual outlet aperture.

## NJK-02 Sensor Flow Frame:

The Sensor Flow Frame consists of four extruded aluminum airfoil pieces sized to fit the required duct opening. These extrusion pieces will be assembled with four matching corner pieces to form the NJK Flow Frame. The sensor assembly (Flow Frame) will usually be delivered disassembled and will need to be assembled at the site. The sensor assembly will be manufactured slightly smaller than the duct opening to allow for ease of installation. The aluminum corner pieces can then be adjusted outward up to 1-1/4 inch to ensure a proper fit inside of the opening. The Sensor Flow Frame can be attached to the ductwork by mounting brackets or by screws directly into the corner pieces from the exterior of the ductwork.



NJK Sensor Flow Frame



The aluminum corner pieces can be adjusted outward up to 1-1/4 inch to ensure a proper fit inside of the opening.

The standard NJK Sensor is 5-1/2 inches in depth. On sensor applications smaller than 15 inch there is an available small profile Flow Frame which is half the size of the standard NJK Sensor profile.



## NJK-02 Sensor Module Location:

The Sensor Module will need to be mounted to the Sensor Flow Frame. This can be ordered where precision mounting holes are drilled either internally or externally to the Sensor Flow Frame based on individual installation requirements.



## NJK-02 Display/Operator Interface Features:

- Internal Terminal Connections
- Internal RJ-45 Connection for Sensor
- Water Tight NEMA-4X IP-65 / UL-94 HB Rated
  - On Board Sensor Fuse and Switch
  - Water Tight Cable Access
  - High Visibility Display



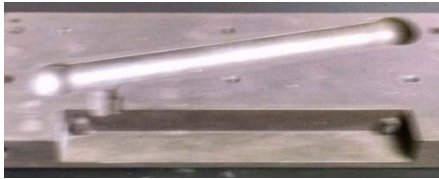
## Keypad Programmable:

- Sensor Area
- Output Filter Processing
- Signal Update Processing
  - Minimum Flow
  - Flow Correction Factor
- Multiple Signal Output Ranges

## NJK-02 Sensor Module (Probe and Transmitter):

All sampled air is channeled through a single Mass Air Flow sensing probe. The Sensor Module is a two piece aluminum fixture with an integral five inch channel to allow for more straightening of the measured air prior to reaching the sensing probe. The exposed area of the sensing probe is 6.9 x 2.4 x 0.2 millimeters in size. The small size of the sensing probe makes it difficult for dirt or debris to become attached to the probe and effecting sensor performance.

In the event that the sensor probe would need cleaning the sensing probe and channel can be flushed with a small amount of air, water, or electrical contact cleaner. NJK Precision recommends replacing the sensor module inlet and outlet seals after module removal to ensure an accurate air tight seal through the sensing probe.



### Measurement:

Working Range	30 – 3000 Ft / Min
Sensor Accuracy	+/- 0.5% of Reading
Installed Accuracy	+/- 0.5% of Reading
Response Time	+/- 0.2% of Reading
Output	1- 10 VDC – Direct in CFM

### General:

Power Supply	24 VDC / VAC +/- 20%
Power Consumption	DC / AC max 75mA
Electrical Connections	Screw Terminal
Protection class	IPGS NEMA 4 Sensor probe IP20
Working Temperature	-25F – 230F

## NJK-02 Sensor Mounting Options:

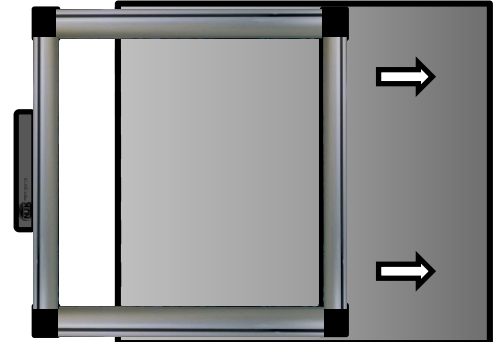
### SLEEVE-TDF



### NJK END PLATE



### CUT-AND-SLIDE



The NJK-02 Air Flow Measuring Station is proudly Made in the USA in our NJK Factory located in Eaton Rapids, Michigan.