

## PLC FLOW CONTROL SYSTEM (PLCFC)

Minimizes compressed air use for blowoff, cooling, cleaning, conveying, drying and static control applications to dramatically save on compressed air use.

### WHAT IS IT - REASONS TO USE

The Nex Flow™ user-friendly PLC flow control system (PLCFC) for compressed air is truly advanced and uses the most modern technology available today and can be used as a stand alone unit or interfaced with other automated systems. The PLCFC is a PLC based system - not just a simple, sensor and timer. The PLCFC combines a photo electric sensor to turn on the air when the target passes the sensor and to turn off the air when it leaves the sensor. (The unit is set to have a 2 second delay after it leaves the sensor but turns on instantaneously when it sees the target). We can supply an optional timer if the customer wants to set the unit to turn off based on time rather than using the sensor to turn it off.

Some competitive units only offer a simple on-off with timer that does not really optimize the air use if the timer is set wrong and leaves the system running far longer than necessary. We can control not only solenoid valves for on-off but can control any electrical devices such as motors, fans, conveyor motors that carry the parts, etc. Also, our systems which come complete with one sensor, can operate with up to eight sensors (not just optical, but proximity switches and other kinds of sensing devices) for a multiple of independent tasks. Each task can be programmed. Nex Flow™ can offer the service of special programming according to customer needs.

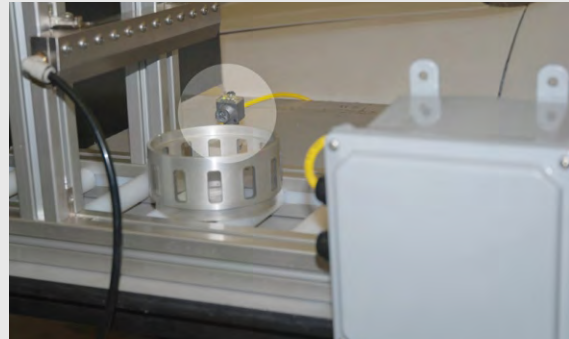
In addition, you have a choice of any one of two types of sensors - a 500 mm sensing range diffuse type (no reflector needed) or a 3000 mm sensing range reflector type - all depending on the need. Other special sensors can be supplied on request such as laser sensors.

All this comes in a simple package at almost the same cost as the competition!

The system can be programmed to suit any special application the customer may have for blowoff systems, other automation applications or it can be tied into existing automated systems.

It is easily connected for either 110V or 220V making it suitable for worldwide use. The package is designed for all types of industrial environments including wash downs. This rugged unit is easy to install in tight places and is flexible and easy to use.

A stainless steel Silent X-Stream™ Air Blade™ Air Knife is turned on and off automatically as the part to be dried passes under it.



### ADVANTAGES:

- ▶ Easy to install and hook up - 110V to 220V
- ▶ Suitable for NEMA 4/IP56 environments
- ▶ Compact sensor for mounting in tight spaces
- ▶ Optional timer if desired - unit comes preset for tight on-off control for best results in saving air - a true optimizer
- ▶ Box has four mounting lugs for easy mounting
- ▶ Choice of sensors for use up to 3000 mm (10 feet)
- ▶ Sensors withstand water, dust, oil and coolant
- ▶ Sensors have superior immunity to noise and Inductive loads

**THE BEST CHOICE FOR OPTIMIZING YOUR OPERATION AND SAVING COMPRESSED AIR**



Photoelectric sensor withstands dirt and water - two types of sensors are available, diffuse type or reflector type

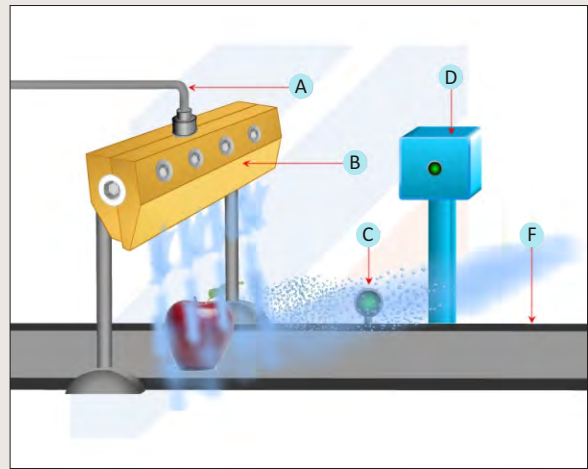


**SMART N CLEVER™ OPTIMIZATION PRODUCTS**



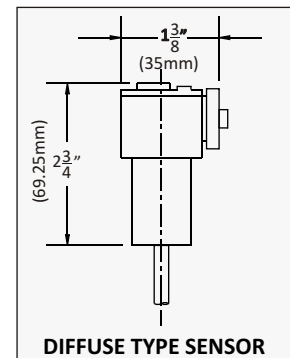
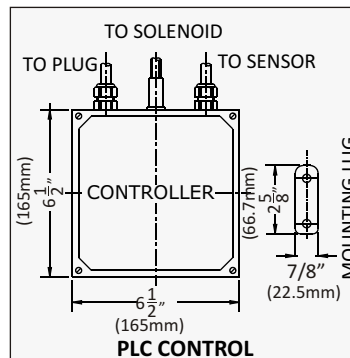
**PLCFC - HOW IT WORKS**

**PLC Flow Control Systems (PLCFC)** - The PLCFC combines a photo electric sensor to turn on the air when the target passes the sensor and to turn off the air when it leaves the sensor. (The unit is set to have a 2 second delay after it leaves the sensor but turns on instantaneously when it sees the target). In one example using an Air Knife, compressed air enters at point (A) into the Air Knife (B) only when the sensor (C) sees the target. The PLCFC is located at point (D). The target part (E) passes the sensor activating a solenoid to turn on the air flow to the Air Knife. The target travels on the conveyor (F). Two seconds after the target has passed the sensor, the air supply is turned off conserving energy. Different sensors are available for different applications and the units can be programmed for special applications.



**APPLICATIONS :**

- ▶ Parts dust and debris blowoff
- ▶ Drying of parts
- ▶ Cleaning of parts before packaging
- ▶ Filing operations
- ▶ Cooling hot parts
- ▶ Static elimination & cleaning of plastic parts

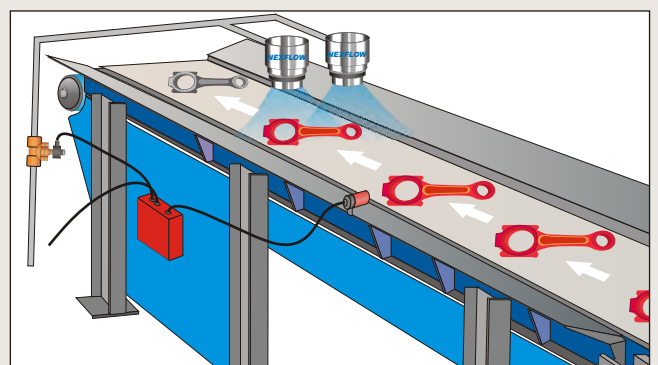


**PLC FLOW CONTROLLER SYSTEM**

PART NO.	DESCRIPTION
90055-40D	40 SCFM SYSTEM (includes one diffuse type sensor)
90055-40R	40 SCFM SYSTEM (includes one reflector type sensor)
90055-100D	100 SCFM SYSTEM (includes one diffuse type sensor)
90055-100R	100 SCFM SYSTEM (includes one reflector type sensor)
90055-200D	200 SCFM SYSTEM (includes one diffuse type sensor)
90055-200R	200 SCFM SYSTEM (includes one reflector type sensor)
90055-350D	350 SCFM SYSTEM (includes one diffuse type sensor)
90055-350R	350 SCFM SYSTEM (includes one reflector type sensor)

**PLCFC APPLICATION** - Compressed air use is reduced by 70% utilizing the PLCFC. Two Air Amplifiers used to cool castings only operate when the sensor “SEES” the castings and shuts them off two seconds after the castings are cooled. No timers need to be set.

Air Amplifiers cool the castings as they move along a conveyor. The sensor detects the part to turn on the amplifiers. The air turns off after 2 seconds after the castings have passed - an ideal “Plug and Play” solution to save compressed air.



**SMART N CLEVER™ OPTIMIZATION PRODUCTS**

**ULTRASONIC LEAK DETECTOR**

Locate costly compressed air leaks with optimum designed unit

**WHAT ARE THEY - REASONS TO USE**

The Flex.US Ultrasonic Leak Detector is a hand held, high quality compressed air leak detection system that has all the features necessary for flexible use in finding costly air leaks.

The FLEX.US ultrasonic leak detector kit comes with the FLEX.US unit, carrying case, and manual and utilizes two AA alkaline batteries (included). The FLEX.US is a complete kit - the high quality flexible sensor is mounted on the end of a flexible steel pipe so the ultrasonic sound can access hard to reach areas. The unit converts the ultrasonic noise of a leak into a sound humans can hear (hissing sound) and not just some beeping sound or LED display that may not distinguish a leak sound from other phenomenon.

The headset has excellent noise attenuation for use in the noisiest of environments.

A rugged carrying case protects your FLEX.US when not in use.

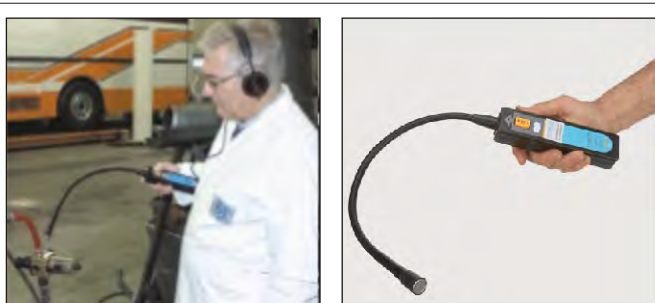
The FLEX.US is a solid tool - built to last, it is easy to use and will provide many years of service.



The Flex.US Ultrasonic Leak Detector has the sensor on the end of a flexible pipe to allow detection of leaks in difficult to reach areas.



The Ultrasonic Leak Detector comes in a handy carrying case to store the unit and quality headphones. The headphones are durable and of high quality to cut out extraneous noise that would make it difficult to detect leaks.



Above shows use of quality headphones and flexible pipe with sensor to get to a difficult spot to find an air leak.

**HOW ULTRASOUND WORKS**

Ultrasound is beyond human hearing capacity. Most humans hear frequencies from 2- Hz to 20 kHz. Ultrasonic sound is beyond this range at 20 kHz to 100 kHz. The FLEX.US unit converts the ultrasonic sound to an audible range to humans. Compressed air leaks generate this range of ultrasound “noise” that the unit picks up.



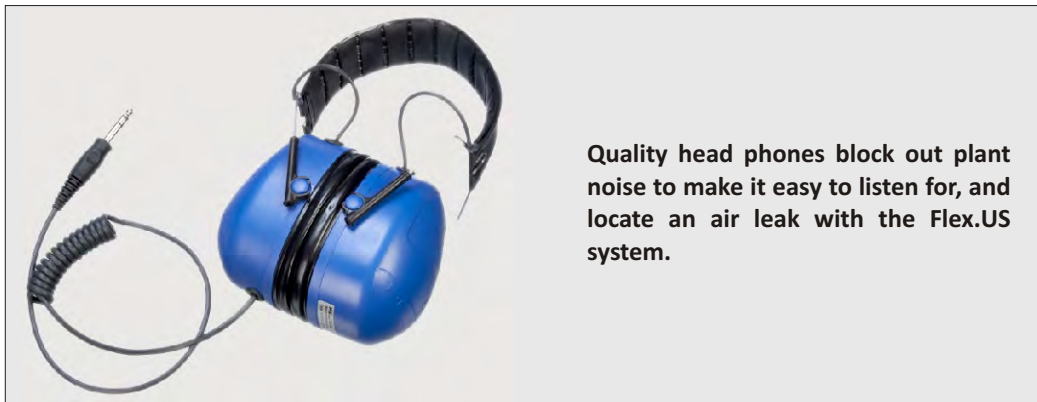
**WHY OUR ULTRASONIC LEAK DETECTOR DOES THE JOB AND WHY OTHERS MAY NOT**

**REMEMBER:**

The better the system, the more leaks you find and the more money you save! Always beware of cheap ultrasonic leak detectors that just may not do the job. Ours does the job because of the following:

**FIRST:**

Look at the headphones. If they are an open walkman style, these will be useless in a noisy plant because they offer absolutely NO protection from the ambient noise which can be at high levels! (After all, why else would you need an ultrasonic lead detector!) So how can you hear the leak in the headphone without protection from the ambient audible noise in the plant? Our headphones completely cover the ear providing 130 dBA hearing protection. Some competitive units would not be useable in a typical factory where hearing protection is mandatory because the inspector would have to insert ear plugs in his ears. Our headphones don't require this.



**Quality head phones block out plant noise to make it easy to listen for, and locate an air leak with the Flex.US system.**

**SECOND:**

Look at frequency range. Our frequency is centered at 38.4 kHz with an open window of +/- 2 kHz. By having a bandwidth this narrow we are able to eliminate other sources of ultrasonic parasite noise. It is absolutely critical that you amplify just this narrow single harmonic band of sound. Some detectors amplify every frequency from 20 kHz up to 100 kHz. That's because the manufacturer did not include any low pass filters. This also affects the output signal in the headphones. It also affects the directionality of the device. At low frequency it is much more difficult to know where the sound is coming from because the wavelength is larger and more reflective.

**THIRD:**

Extension tubes. For accessing tight areas some firms suggest using a hollow tube (tubular extension) with their system. Ultrasound will not travel well into this tube so the equipment will be less sensitive in hard to reach areas. If the tube is 6" long for example, that means the sensor is always a minimum of 6" away from the source. The Nex Flow™ system sensor is at the end of the flexible extension so the sensor is "always" directly exposed to the leak making our equipment much more sensitive. If more sensitive of course you will more easily detect the leak (one you may not even find with another system.)

**THE BETTER THE SYSTEM THE MORE LEAKS YOU FIND THE MORE YOU SAVE.**

**ULTRASONIC LEAK DETECTOR**

PART NO.	DESCRIPTION
90061	ULTRASONIC LEAK DETECTOR SYSTEM

**Nex Flow™ aims to be the lowest cost where possible but NOT at the expense of sacrificing quality.**

**X-STREAM™ FLOW METER**

Check air flow - monitor usage and waste!!!

**WHAT ARE THEY - REASONS TO USE**

**THE X-STREAM™ FLOW METER IS**

- ▶ Reliable, durable thermal mass flow technology
- ▶ Milliamp and pulse outputs for logging and remote monitoring
- ▶ 100:1 turndown capability
- ▶ Available for steel pipe, ½" through 2"
- ▶ No calibration or setup required
- ▶ Complete flow meter in one package



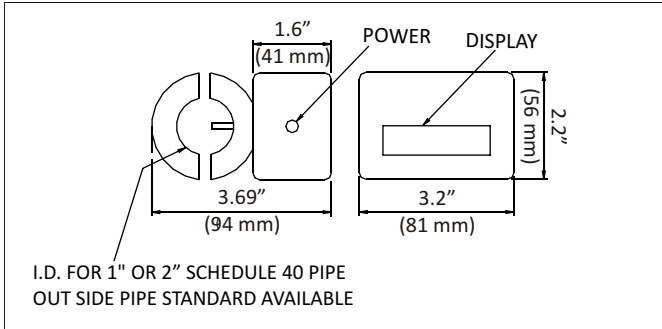
The X-Stream™ Flow Meter measures mass flow based on heat and on pipe diameter. Accurate flow rate tracks air consumption.



The X-STREAM™ FLOW METER represents a radical departure from conventional flow meter designs, providing easy installation, low cost, and accurate placement of the probes in the air stream. The meter clamps around a pipe with its probes projecting into the pipe through drilled holes. The low cost of the meter makes it ideal for installation at points throughout an air distribution system to track valuable compressed air and assess system operation.

**SPECIFICATIONS:**

- Accuracy** : 5 percent of reading plus one percent of full scale at air temperatures between 40°F and 120°F
  - Fluids** : Compressed air and nitrogen
  - Operating pressure** : 30 to 170 psig for best accuracy 200 psig maximum on Schedule 40 steel.
  - Input power** : 250 mA at 18 to 24 Vdc
  - Output resistance** : 400 Ohms max.
  - Wetted materials** : Stainless steel, gold, thermal epoxy and Viton (seal)
  - Ring material** : Aluminum
  - Display** : Four-digit LED display
  - Response time** : One second to 63 percent of final value
- US Patent 6,802,217**



The X-Stream™ Flow Meter clamps onto a pipe, with two flow sensing probes projecting into the pipe through 3/16-in. drilled holes. It seals directly to the pipe; no cutting or welding is required for installation. Because each flow meter is made and calibrated for a specific size of pipe, the digital display indicates flow directly, with no setup or adjustment. The meter measures flow by maintaining one probe warmer than the other. It calculates the mass velocity from the amount of heat required, and then calculates the flow on the basis of pipe area. The flow rate, in SCFM, is shown on a large, four-digit display; a 4-20 mA output and a pulse output permit remote display, totalizing and data collection. Metric display is optional.

**ULTRASONIC LEAK DETECTOR**

PART NO.	DESCRIPTION
90092	1" (Schedule 40 iron pipe) 1 - 80 SCFM without Drill Guide Kit
90093	1.5" (Schedule 40 iron pipe) 2 - 200 SCFM without Drill Guide Kit
90095	2" (Schedule 40 iron pipe) 3 - 300 SCFM without Drill Guide Kit
DRG-9	Drill Guide Kit Only
90092-DRG-9	1" (Schedule 40 iron pipe) 1 - 80 SCFM with Drill Guide Kit
90093-DRG-9	1.5" (Schedule 40 iron pipe) 2 - 200 SCFM with Drill Guide Kit
90095-DRG-9	2" (Schedule 40 iron pipe) 3 - 300 SCFM with Drill Guide Kit

ABOVE FOR AMERICAN STANDARD STEEL PIPING - CAN ALSO SUPPLY TO DIN STANDARD OTHER PIPE SIZES & COPPER. QUOTE ON REQUEST



**X-STREAM™ SOUND LEVEL METER**

Monitor sound levels to assure worker safety

**WHAT ARE THEY - REASONS TO USE**

NEX FLOW™ X-Stream™ Sound Level Meters measure and monitor the sound level in all types of industrial environments. Used for compressed air exhaust noise measurement it can identify areas where costly and inefficient blow off can be replaced by energy efficient Nex Flow™ blow off products. In many instances, noise may be reduced using amplification products as much as 10 dBA, to protect workers from excessive and damaging noise levels and reduce energy use.

**Model 91004 Low/High Range Sound Level Meter**  
Dual-range Type 2 digital sound level meter with backlit LCD



**FEATURES:**

- ▶ High accuracy meets ANSI and IEC 651 type 2 standards
- ▶ High and Low measuring ranges
- ▶ Data Hold and Max Hold functions
- ▶ Backlit display to view in dimly lit area
- ▶ Complete with microphone wind screen and 9V Battery

**SPECIFICATIONS:**

- ▶ Display Counts 2000 count LCD
- ▶ Range Low: 35 to 100 dBA
- ▶ High: 65 to 130 dBA
- ▶ Basic Accuracy ±1.5 dBA
- ▶ Weighting (A & C) Yes
- ▶ Response Time (Fast/Slow) Yes
- ▶ Condenser Microphone 0.5" (12.7 mm)
- ▶ Dimensions 8.2x2.1x1.25" (210x55x32 mm)
- ▶ Weight 8.1 Oz (230 gm)

**X-STREAM™ SOUND LEVEL METER**

PART NO.	DESCRIPTION
91004	Standard Sound Level Meter
91005	Sound Meter with data logging

**Model 91005 Data logging Sound Level Meter**  
Stores up to 20,000 records with real date and time Stamp Meets ANSI and IEC61672-1 Type 2 standards



**FEATURES:**

- ▶ 30 to 130 dBA range with 1.4 dBA accuracy
- ▶ Meets ANSI and IEC61672-1 Type 2 standards
- ▶ Data logging capability up to 20,000 records at speed from 1/sec to 1/59sec
- ▶ Capture up to 10 reading/sec when connected to a PC
- ▶ MIN/MAX, Data Hold, Auto power off
- ▶ Built-in USB port, double molded housing with built-in stand
- ▶ Complete with AC adaptor, Windows® compatible software, USB cable, wind cover, tripod, 9V battery and hard carrying case

**SPECIFICATIONS:**

- ▶ Range 30 to 130 dBA
- ▶ Basic accuracy ±1.4 dBA
- ▶ Weighting A and C
- ▶ Response Time Fast/Slow
- ▶ Analog Output AC/DC
- ▶ Data logging 20,000 points
- ▶ PC Interface USB
- ▶ Dimensions 10.9 x 3 x 2" (278 x 76 x 50 mm)
- ▶ Weight 12.3 Oz (350 gm)

**SMART N CLEVER™ OPTIMIZATION PRODUCTS**

