

brands you trust.



Crane ChemPharma & Energy

Saunders-VUE  
Intelligent Sensing Technology

[www.cranecpe.com](http://www.cranecpe.com)

## Saunders-VUE: Your New Automation Solution



**Saunders-VUE portfolio offers industry leading automation technology that adds intelligence to a diaphragm valve, delivering savings to the customer.**

### **TOTAL COST OF OWNERSHIP**

DELIVERS \$1.3M SAVINGS  
IN 5 YEARS FOR 2800 SENSOR FACILITY

### **ZERO MAINTENANCE**

CONTACTLESS OPERATION WITHOUT ANY  
ROUTINE MAINTENANCE

### **RELIABLE & ACCURATE**

STATE OF THE ART CONTINUOUS SENSING  
MAGNETIC TECHNOLOGY

### **INTELLIGENT**

OFFERS REMOTE DIAGNOSTICS TO  
OPTIMIZE PREVENTIVE MAINTENANCE

As the inventor of the diaphragm valve, Saunders<sup>®</sup> has been a key player in the evolution of high purity valve technology. Continuing the lead in aseptic valve technology, Saunders<sup>®</sup> has engineered a suite of automation products that add intelligence to a diaphragm valve offering new possibilities to our customers.

Saunders-VUE offers intelligent solutions for diaphragm valves in the Life Science Industry. Saunders-VUE platform is designed to maximize plant efficiency by eliminating false alarms and reducing set-up times. Saunders-VUE valve sensors provide a wide variety of diagnostic features that help in continuous monitoring and preventative maintenance. All the unique features can be operated remotely over an industrial network or locally using a magnetic key to extract diagnostics and facilitate safe, secure and efficient processing and maintenance.

Saunders-VUE range of valve sensors are designed to provide positive and accurate confirmation of valve position while delivering a wide variety of diagnostics to enable continuous monitoring and preventative maintenance.

- Saunders-VUE Sensors are contactless and operated either by a magnetic key or remotely through an industrial network.
- Focused on delivering valve intelligence, Saunders-VUE sensors offer millions of dollars of savings to the customer throughout the lifetime of the sensor.
- Saunders-VUE sensors are available in point-to-point (P2P), AS-i and DeviceNet versions.
- \$1.3 million in savings over approximately five years for a 2800 sensor facility.

**Saunders-VUE automation solution adds intelligence to a diaphragm valve!**

# Value Proposition

**Saunders-VUE sensors maximize plant efficiency by increasing accuracy and eliminating false alarms.**

**The innovative self-calibration feature allows the sensor to identify open and close valve positions without opening the enclosure.**

### Assumptions

- A switchbox is calibrated every time a diaphragm is changed.
- Labor rate is \$100 per hour.
- Diaphragm change-outs are performed once a year.

### Saving Time Per Calibration

Saunders-VUE sensors can be calibrated by one person in under 3 minutes, while a traditional switchbox is calibrated by two people in 30 minutes.

### Pre-Commissioning

In pre-commissioning, a valve is calibrated four times: during Factory Acceptance Test (FAT), passivation, start-up and pre-calibration.

Based on model assumptions:

- One Saunders-VUE sensor saves \$45 per calibration.
- Overall pre-commissioning savings is \$180 per sensor.
- Saunders-VUE sensors can be calibrated by one person in under 3 minutes, while a traditional switchbox is calibrated by two people in 30 minutes.

### Post-Commissioning

In post-commissioning, a valve is calibrated two times: during routine maintenance and diaphragm change-outs.

Based on model assumptions:

- One Saunders-VUE sensor saves \$95 per calibration.

**A 2800 valve facility can save \$1.3 million in 5 years**

**Payback time for Saunders-VUE Sensors is only four diaphragm change-outs**

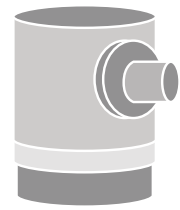
## SAUNDERS-VUE SENSORS

Save your facility \$1.3 million in five years\*



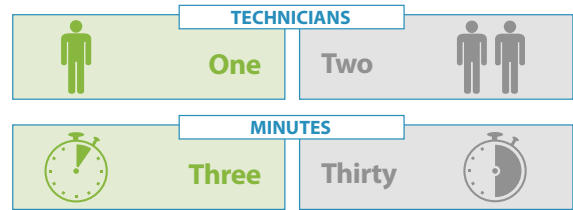
Saunders-VUE Sensors

VS.



Traditional Switchbox

### REQUIREMENTS PER CALIBRATION



**Saunders-VUE sensors require half of the manpower and a tenth of time per calibration.**

### PRE-COMMISSIONING

In pre-commissioning, a sensor is calibrated **FOUR** times:



#### COST PER CALIBRATION



**Saunders-VUE Sensors deliver 90% savings in pre-commissioning!**

### POST-COMMISSIONING

In post-commissioning, a sensor is calibrated **TWO** times:



#### COST PER CALIBRATION



**Saunders-VUE Sensors deliver 95% savings in post-commissioning!**

Payback time = **FOUR** diaphragm changeouts

\*Based on the assumptions that a switchbox is calibrated every time a diaphragm is changed and labor rate is \$100<sup>00</sup> an hour.  
\* For a facility consisting of 2800 diaphragm valves with switchbox replacing diaphragms once a year.

## Saunders<sup>®</sup> M-VUE Sensor Key Features



### CONTINUOUS SENSING TECHNOLOGY

SOLID STATE HALL EFFECT SENSORS

### REMOTE CALIBRATION

SAVING MAINTENANCE COSTS

### SELF CALIBRATION

SIMPLE OPERATION

### VISUAL INDICATOR

MECHANICAL AND LED

### COMPACT DIAPHRAGM VALVE SENSOR

EASY & QUICK INSTALLATION

### ACCURATE OPERATION

NO MECHANICAL PARTS



### Accurate Operation

Saunders<sup>®</sup> M-VUE uses Continuous sensing technology via solid state hall effect sensors, providing accuracy of 0.3 millimeters. Continuous sensing technology eliminates false alarms by detecting the exact status of the valve.

### Self Calibration

Saunders<sup>®</sup> M-VUE can perform self calibration to set the open and closed position of the valve. Using this feature, a valve position can be calibrated by one person in three minutes, either at the valve (using magnetic key) or remotely via industrial network (without the need to open the switch enclosure).



## Saunders<sup>®</sup> M-VUE Sensor Technical Details

Saunders<sup>®</sup> M-VUE has been engineered to compensate for the behavior of diaphragm valves under multiple processing conditions including process, CIP, SIP and varying operating air supply.

<b>Valve Size Range</b>	0.25"–2.00" (DN8–DN50)
<b>Sensing Technology</b>	Continuous sensing via five solid state reed sensors
<b>Target</b>	Composite ferrous magnet
<b>Stroke</b>	3–22mm
<b>Sensitivity</b>	Less than 0.3mm (0.012")
<b>Position Indication</b>	Green LEDs - Open Red LEDs - Closed Physical position indicator
<b>Feedback Options</b>	24VDC P2P AS-i version 2.0 standard access AS-i version 2.1 extended access AS-i version 2.0 extended access (optional) DeviceNet
<b>Local Programming</b>	Via magnetic key
<b>Remote Programming</b>	At control panel (networking versions only)
<b>Standard Connection</b>	P2P: M12.5 pin
<b>Approvals</b>	NEMA 4X, IP66, CE



### Materials of Construction

<b>Mounting Base</b>	Glass Reinforced Polybutylene Terephthalate (PBT)
<b>Electronics Module</b>	Polycarbonate (PC)
<b>Target</b>	Composite Ferrous Magnet
<b>Seals</b>	Buna N (Nitrile)

### Optional Integral Solenoid

<b>Solenoid Case</b>	PBT
<b>Type</b>	3/2 way
<b>Voltage</b>	24VDC, 2.5W
<b>Air Connections</b>	1/8" BSP or 1/8" NPT
<b>Optional</b>	Solenoid exhaust block



## Saunders<sup>®</sup> I-VUE Sensor Key Features



### CONTINUOUS SENSING TECHNOLOGY

SOLID STATE HALL EFFECT SENSORS

### REMOTE CALIBRATION

SAVING MAINTENANCE COSTS

### SELF CALIBRATION

SIMPLE OPERATION

### VISUAL INDICATOR

MECHANICAL & LED

### DIGITAL CYCLE COUNTER

TO ASSIST IN PREDICTIVE MAINTENANCE

### ENHANCED DIAGNOSTICS

ADDING INTELLIGENCE TO A DIAPHRAGM VALVE

### Self Calibration

Saunders<sup>®</sup> I-VUE can perform self calibration to set the open and closed position of the valve. Using this feature, a valve position can be calibrated by one person within three minutes—either at the valve (using a magnetic key) or remotely via industrial network (without the need to open the switch enclosure).



### Digital Cycle Counter

This feature counts the number of cycles completed by a valve. Users can generate an alarm when a specified number of cycles are reached, notifying the operator to perform preventive maintenance. The Digital Cycle Counter feature can also be used to identify the life of a diaphragm for any particular applications.



## Saunders® I-VUE Sensor Technical Details

The Saunders® I-VUE has been engineered to compensate for the behavior of diaphragm valves under multiple processing conditions including: process, CIP and SIP, and varying operating air supply.

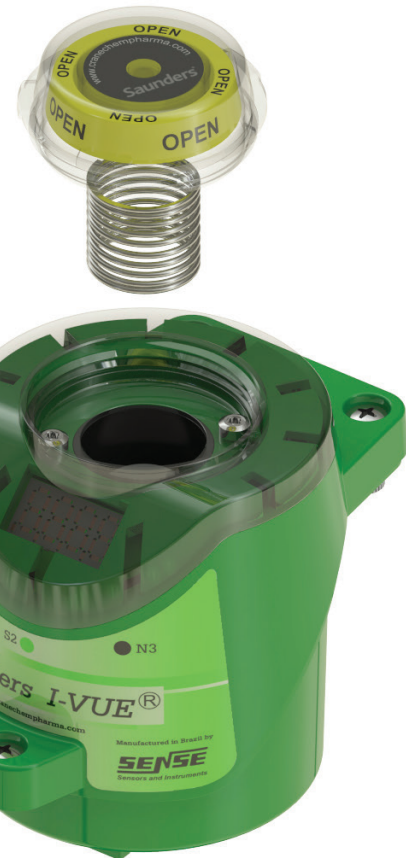
<b>Valve Size Range</b>	0.25"–4.00" (DN8-DN100)
<b>Sensing Technology</b>	Continuous sensing via five electro-magnetic coils
<b>Target</b>	Composite ferrous magnet
<b>Sensitivity</b>	Less than 0.2mm (0.008")
<b>Position Indication</b>	Green LEDs - Open Red LEDs - Closed Physical position indicator
<b>Feedback Options</b>	24VDC P2P AS-i version 2.0 standard access AS-i version 2.1 extended access AS-i version 3.0 extended access (optional) DeviceNet
<b>Local Programming</b>	Via magnetic key
<b>Remote Programming</b>	At control panel (Networking versions only)
<b>Standard Connection</b>	P2P with SOV:M12 5 pin P2P without SOV:M12 4 pin AS-i:M12 4 pin DeviceNet: Mini 5 pin
<b>Approvals</b>	NEMA 4x, IP66, CE, Class 1 Div 2 (FM approved), ATEX Zone 2

### Materials of Construction

<b>Module Housing</b>	Polycarbonate
<b>Connection Box</b>	Polycarbonate
<b>Target</b>	Composite Ferrous Magnet
<b>Seals</b>	Buna N (Nitrile)

### Optional Integral Solenoid

<b>Body</b>	Anodized Aluminum or Stainless Steel
<b>Type</b>	Piloted, 3/2
<b>Voltage</b>	24VDC 0.6W
<b>CV</b>	0.9 (0, 8 Kv)
<b>Flow Rate</b>	400 NI/m
<b>Air Connections</b>	1/8" BSP, 1/8" NPT
<b>Manual Override</b>	Standard design with lock out feature



# Saunders®

*the science inside* 

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