



First choice when quality counts.™

# Husky™ 750 (3/4 in.) and 2000 (2 in.) Surge Suppressors



239-134

239-128

239-091

239-095

**Process solutions for increased efficiency, reliability, and safety with diaphragm pumps and piping systems**

Diaphragm and piston pumps produce their pumping action by capturing liquid in a chamber and pushing it out the discharge outlet. This pump category is called positive displacement. With positive displacement pumping action, the discharge flow is in low frequency, high amplitude pulsation, rather than a steady flow typical of centrifugal pumps.

The pulsations are units of uncontrolled fluid energy, which may express themselves as vibration, pressure surges and water hammer. The vibrations and surges from these pulsations have the potential to not only damage pipes, fittings, joints, and meters, but also shorten the life of pump components, such as diaphragms, check balls and valve seats. Surge suppressors are used to smooth the flow to and from positive displacement pumps and increase their effectiveness.

To get more use out of your diaphragm pump system, buy a Husky Surge Suppressor.

#### Processes include:

- Transfer
- Metering
- Filtering
- Spraying
- Printing
- Coating
- Dosing, injecting
- Filling
- Mixing

#### Typical Fluids Handled

- Chemical process
- Pulp, paper, textile
- Paint and coating
- Gas, oil, petrochemical
- Biotech/pharmaceutical
- Consumer products
- Food and beverage
- Water treatment

COMPONENTS

# Principles of Operation

When operating on the principle that volume is inversely proportional to pressure ( $P_1V_1 = P_2V_2$ ), these actions occur when operating the Husky Surge Suppressor:

1. Compressed air or gas is introduced into the air chamber of the Husky Surge Suppressor to a specified pressure.
2. The gas is entrapped by the elastomeric bladder, which prevents contact between the process fluid and compressed gas. (Without the bladder, the gas would dissolve into the fluid and lose its effectiveness).
3. When a pulse is created, fluid enters the wetted chamber of the Husky Surge Suppressor displacing the bladder, compressing the gas and absorbing the shock.
4. When the liquid pressure decreases, the gas expands, pushing the fluid back into the process line, smoothing the fluid flow.

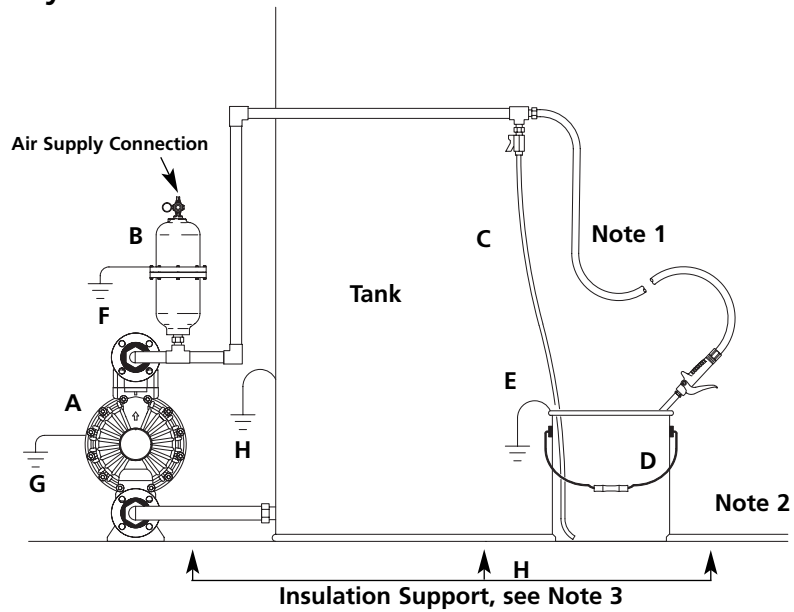
## Typical Installations

### Grounding a Surge Suppressor (used with conductive flammable fluids)

#### Tank Feed System

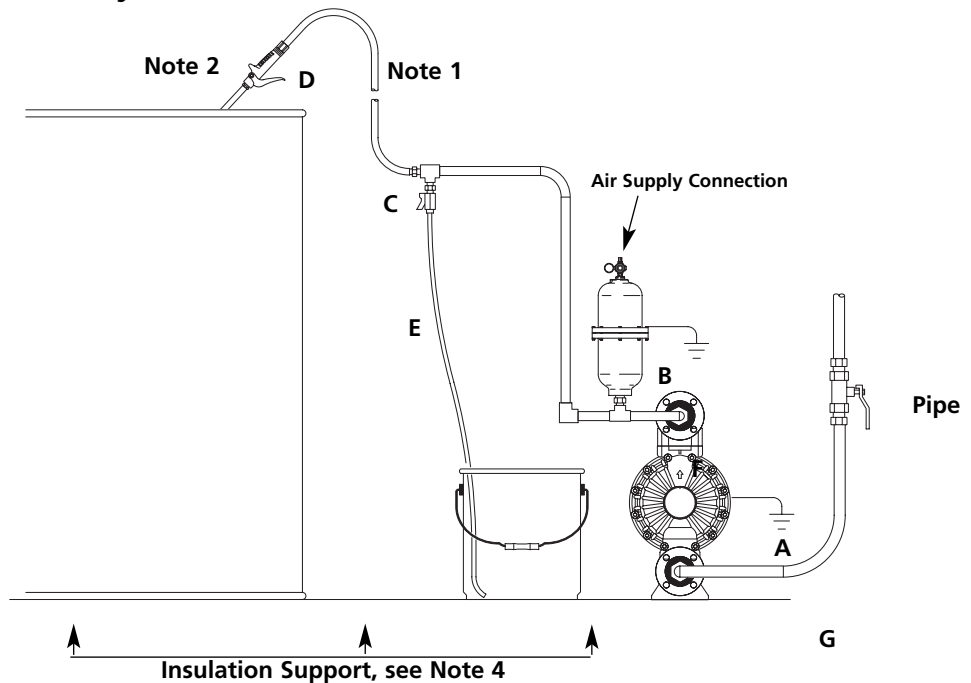
**Key**

- A** Husky Pump
- B** Husky Surge Suppressor
- C** Fluid Drain Valve (required)
- D** Dispense Valve
- E** Fluid Drain Valve
- F** Surge Suppressor Ground Wire (required when pumping flammable liquids)
- G** Air Motor Ground Wire (required)
- H** Container Ground Wire (required)



- Note 1** Hose may be either conductive or non-conductive
- Note 2** Dispense valve nozzle must be in contact with the container. No other bonding is necessary.
- Note 3** Insulating support:  $10^6$  Ohms or more
- Note 4** Insulating support: Less than  $10^6$  Ohms

#### Pipe Feed System

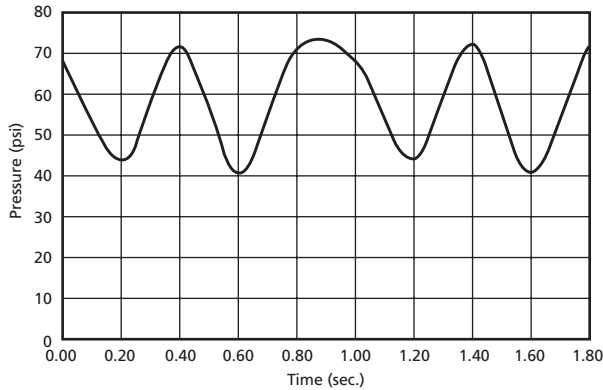


# Surge Suppression Charts

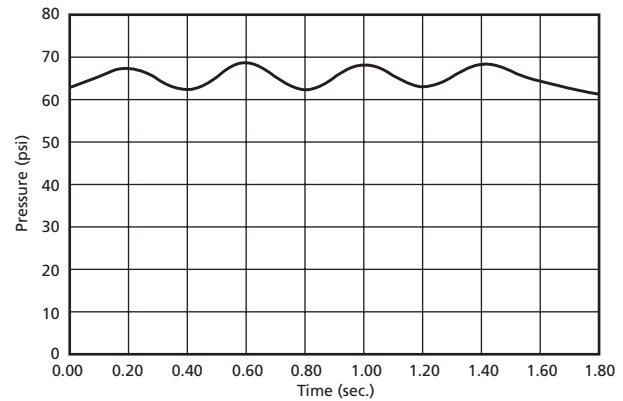
## Air Control Options: Automatic or Adjustable.

**Automatic models** are equipped with an automatic valve in the air chamber. The automatic model requires a permanent supply of compressed air and is self-adjusting to varying system pressures. Used on the discharge side of air-operated pumps in varying pressure systems. *(All units include a pressure gauge.)*

**Adjustable models** are equipped with a self-relieving regulator. The adjustable model requires a permanent supply of compressed air and allows for easy adjustment of internal air pressure. Used on the discharge and inlet sides of air-operated pumps, in constant pressure systems.



2 in. AOD undampened



2 in. AOD dampened

## Features/Benefits of the Husky Surge Suppressors

- **Used on a pump inlet, surge suppressors control pressure fluctuations and acceleration loss leading to cavitation caused by pump loading characteristics.**
- **Surge suppressors create an even fluid flow to the process when placed directly at the discharge of a positive displacement pump.**
- **Accumulates expanded fluids in a closed system, reducing potentially dangerous high pressures.**
- **Absorbs "water hammer" pressure spikes (created from quick closing valves) when surge suppressor is placed upstream close to the valve.**
- **Protects filter media from loosening and eventually tearing apart.**
- **Absorbs initial fluid surge when pump starts, which prevents pipe fitting breakage and destroyed instrumentation.**

# Technical Specifications

- Max. air input pressure . . . . . 120 psi (0.84 MPa, 8.4 bar)
- Air line connection . . . . . 1/4 npt
- Fluid inlet size
  - Husky 2000 models . . . . . 2 npt
  - Husky 750 models . . . . . 3/4 npt
- Wetted parts . . . . . See Ordering Information
- Weight . . . . . See Ordering Information
- Instruction manual . . . . . 308-703

# Ordering Information

## Automatic Husky 750, 3/4 in. Surge Suppressors

*Polypropylene wetted bottom housing and non-wetted top housing*

*Weight: 9 lbs. (4.1 kg)*

- 239-096 with Buna-N bladder
- 239-121 with Teflon® bellows
- 239-122 with Viton® bladder

*SST wetted bottom housing and non-wetted top housing*

*Weight: 16 lbs. (7.3 kg)*

- 239-095 with Buna-N bladder
- 239-123 with Teflon® bellows
- 239-124 with Viton® bladder

*Acetal wetted bottom housing and non-wetted top housing*

*Weight: 9 lbs. (4.1 kg)*

- 239-094 with Buna-N bladder
- 239-125 with Teflon® bellows

## Adjustable Husky 750, 3/4 in. Surge Suppressors

*Polypropylene wetted bottom housing and non-wetted top housing*

*Weight: 9 lbs. (4.1 kg)*

- 239-091 with Buna-N bladder
- 239-129 with Teflon® bellows
- 239-130 with Viton® bladder

*SST wetted bottom housing and non-wetted top housing*

*Weight: 16 lbs. (7.3 kg)*

- 239-090 with Buna-N bladder
- 239-131 with Teflon® bellows
- 239-132 with Viton® bladder

*Acetal wetted bottom housing and non-wetted top housing*

*Weight: 9 lbs. (4.1 kg)*

- 239-089 with Buna-N bladder
- 239-133 with Teflon® bellows

## Automatic Husky 2000, 2 in. Surge Suppressors

*SST wetted bottom housing, polypropylene non-wetted top housing*

*Weight: 36 lbs. (16.3 kg)*

- 239-093 with Buna-N bladder
- 239-126 with Teflon® bellows
- 239-127 with Viton® bladder

*Polypropylene wetted bottom housing and non-wetted top housing*

*Weight: 18 lbs. (8.2 kg)*

- 239-092 with Buna-N bladder
- 239-128 with Teflon® bellows

## Adjustable Husky 2000, 2 in. Surge Suppressors

*SST wetted bottom housing, polypropylene non-wetted top housing*

*Weight: 36 lbs. (16.3 kg)*

- 239-088 with Buna-N bladder
- 239-134 with Teflon® bellows
- 239-135 with Viton® bladder

*Polypropylene wetted bottom housing and non-wetted top housing*

*Weight: 18 lbs. (8.2 kg)*

- 239-087 with Buna-N bladder
- 239-136 with Teflon® bellows