

# INSTRUMENT ASSOCIATES CLIP™ CLEANED-IN-PLACE PUMP SUCTION STRAINERS

## Optimum Insurance for Long Life of Close Fitted Pumps

### HOW USED:

Can be used as a permanent strainer in the line or only for the duration of startup.

If for startup only, they can be removed from line and replaced by a spoolpiece or left in line and either a larger opening screen be substituted or the screen simply removed from the strainer body. They are cleaned merely by opening the valve to the floor drain.

They can also be backwashed whenever the line is dewatered without removing from the line by the use of the water or steam lance.

### \*INSTANT IN PLACE CLEANING ELIMINATES DANGEROUS PUMP CAVITATION

The "CLIP" Strainer can instantly be cleaned without pump shutdown. Other strainers such as cone type require pump shutdown. Delays until this shutdown can be obtained may cause cavitation of pump which causes loss of life of pump impellers, casing, wear rings, mechanical seals and bearings. This jeopardizes the 40 year design life of pump.

### \*INSTANT IN PLACE CLEANING SAVES AT LEAST 72 MAN HOURS PER PUMP ON STARTUP

Pumping service does not have to be interrupted in order to clean the strainer of accumulated erosive dirt. The drain valve merely is opened to blowdown the accumulated welding beads, etc. and requires virtually no time. Using a "CLIP" Strainer vs. a cone type saves at least 72 man hours and 24 hours of pump shutdown per strainer startup for cleaning.

### \*BACKWASH NOZZLE SCREWED IN FROM OUTSIDE (CANNOT GO DOWNSTREAM & DAMAGE THE PUMP)

Other strainer designs have internally mounted steel nozzles. These have vibrated loose and caused extensive pump damage of approximately \$75,000 damage.

### \*PATENTED RESISTANCE WELDED STRONG S.S. SCREEN (100 TIMES STRONGER AGAINST SCREEN PULLOUT THAN OTHER DESIGNS)

Conventional weak screen supporting systems can pull out of place unnoticed and thus allow erosive material to bypass the strainer. This continuous recycling erosive action can seriously damage pump impellers, casings, wear rings, mechanical seals and other expensive valves and mechanical equipment.

### \*LARGE INSPECTION FLANGES

Screen can be inspected without removing strainer from pipeline.

### \*BACKWASH

Solid cone spray nozzle can backwash screen without removing strainer from pipeline.

## BENEFITS:

1. "CLIP" is the best choice of strainer that can be cleaned without pump shutdown. The only other options are (a) double basket type which is 9 times as heavy and bulky, and several hundred percent more expensive; and (b) continuous backwash types which are several times more expensive and bulky than even the double basket types.

2. "CLIP" protects your pumps from cavitation.

3. "CLIP" saves high expense of shutdown, dewatering and

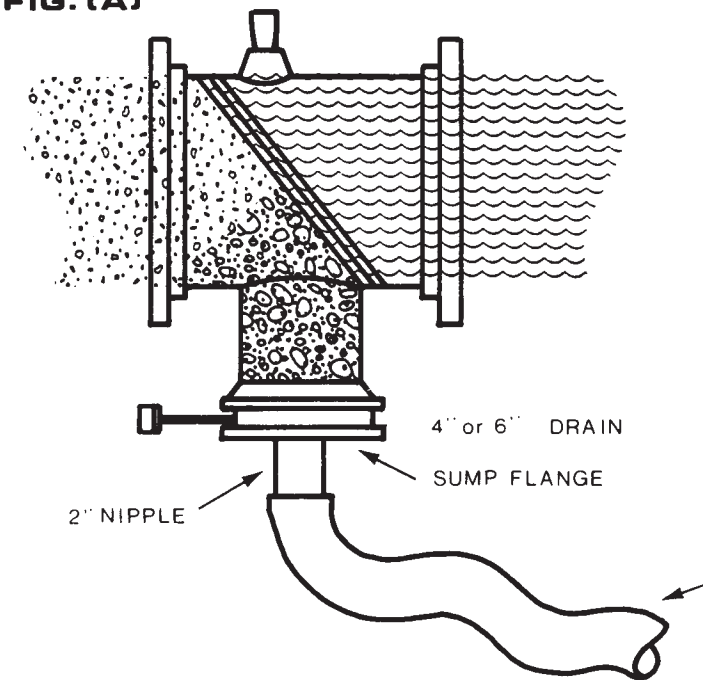
### WHERE USED:

These compact, economical strainers are used on any pump suction application to protect not only the pump but all other vulnerable equipment in horizontal or vertical lines.

### EASY INSTALLATION:

No huge basket type, heavy tee type or flimsy cone type strainer to complicate the installation.

FIG. (A)



### NORMAL STRAINING FIG. A

Liquid flow occurs across inclined, low pressure drop screen, which is of patented high-strength design. This patented feature offers the user the highest resistant strength to screen pullout in the strainer field.

All foreign matter is stopped by the screen face, and dropped into the sump chamber by the patented action of the vibrating screen.

When the large sump chamber becomes full, the particulate will begin to cover a portion of the screen and increase the differential pressure across the screen.

When the differential pressure exceeds a design value it can actuate an alarm. This will indicate "cleaning is necessary" (Fig. B).

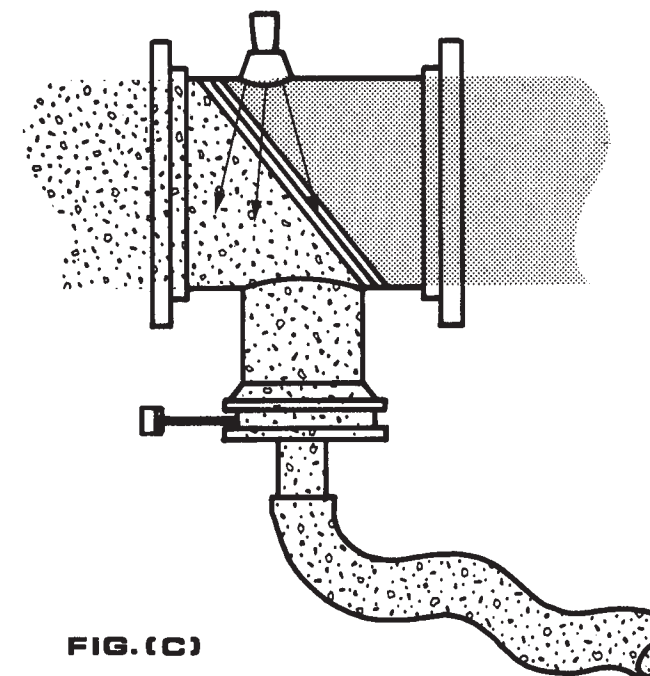
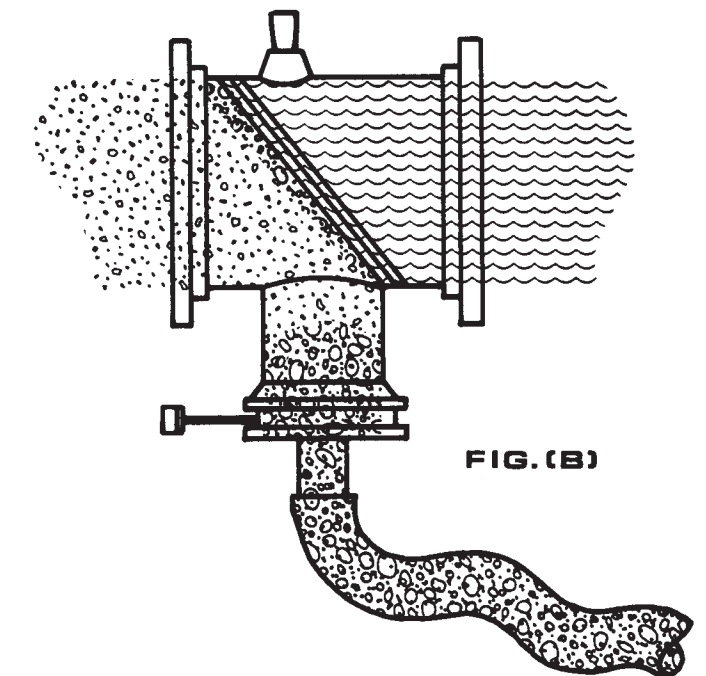
### INSTANT CLEANING FIG. B

(Without Pump Shutdown)

This can usually be accomplished in a few seconds, with minimal loss to system efficiency.

Opening of the drain valve (automatic or manual) will cause the fluidized solid matter to flow out through the drain. This is achieved without interrupting pump operation.

2" HOSE TO FLOOR DRAIN



### BACKWASH CLEANING FIG. C

A pressure lance is provided in order to dislodge strained particles which are impinged on the screen face. This is done on a dewatered line wherever standard system outages occur.

A large size drain sump flange is provided so that the screen face can be reached for inspection and cleaning without removing strainer from the line.

cleaning as is necessary with cone strainers, which is approximately 72 man hours per pump startup.

4. "CLIP" requires less frequent cleaning than cone type.

5. "CLIP" is stronger than cone and can stop heavy objects from crashing into the pump. Cone strainers are not strong enough to accomplish this protection from startup debris.

**FINDING YOUR PRESSURE DROP**

Using a given flow in GPM, read to the right until the strainer size is intersected, then find the pressure drop below.

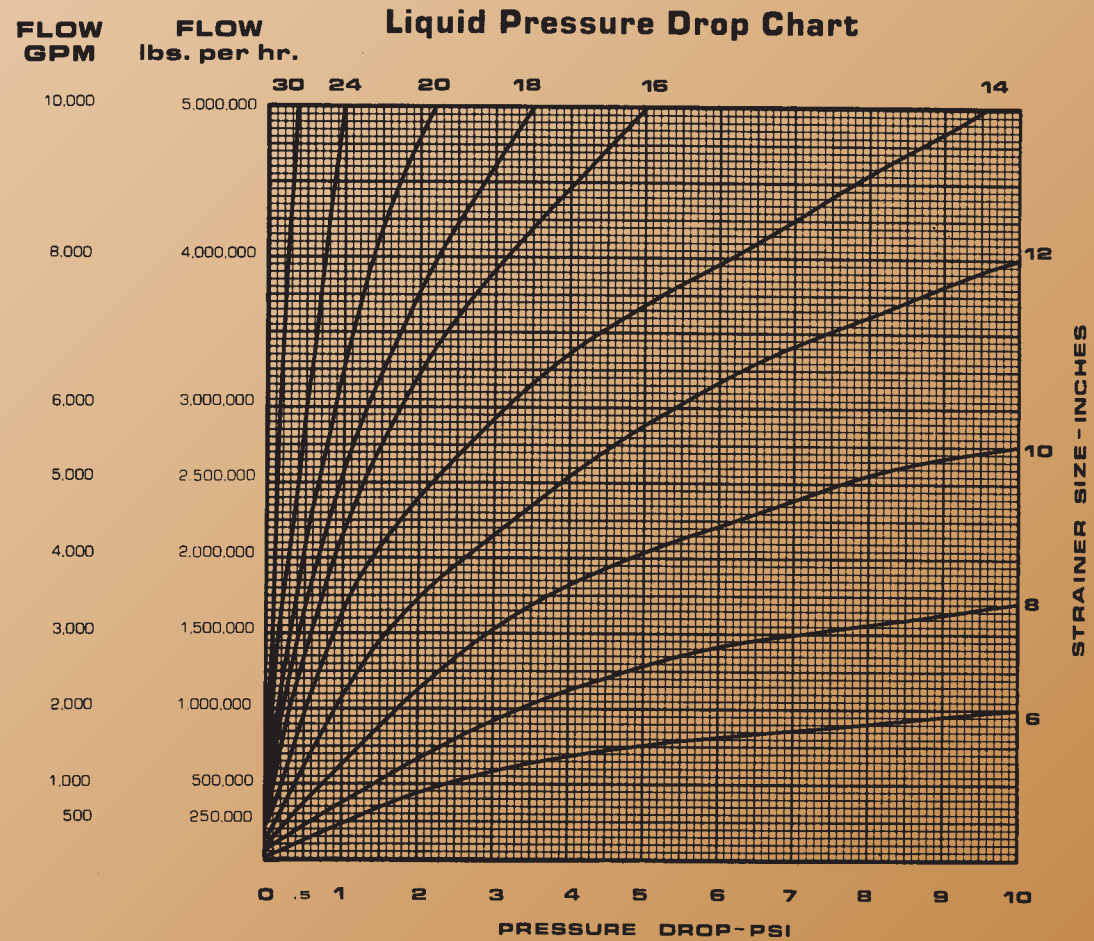
**EXAMPLE:**

8" "CLIP" Strainer A — A flow of 500 GPM (249,865 PPH) has a pressure drop of .5 PSI

**Note:**

Pressure taps are provided in order to check this differential pressure across the screen.

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**CLIP™**

(cleaned-in-place)  
pump suction strainers



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