# PUMPGARD SAND SHIELDS™



Protect Your Investment on all Low Producing Wells

# YOU NEVER KNOW WHEN SAND WILL KILL THE PUMP

## THE SAND SHIELD™

The PumpGard Sand Shield is designed for low producing wells. Operators save money when Sand Shield's are used in all wells. Compare the small cost of the Sand Shield to your workover cost per year. Many operators report their pumping cost per barrel is reduced by more than 75%. Protect your Pump with Sand Shields. Pump more oil.

C A P A C I T Y ...FOR WELLS UP TO 50 BARRELS PER DAY... ....ALL STAINLESS STEEL CONSTRUCTION.... DO YOU REQUIRE A BYPASS? SPRING & BALL OVER-PRESSURE CONTROL 75 PSI SPRING FOR STANDARD USE or USE YOUR OWN BULL PLUG FOR LOW PSI STREN RECOMMENDS A STRAINER NIPPLE.



STAINLESS STEEL SAND SHIELD™			SAND SHIELD BYPASS MODULAR		
ROD PUMP SIZE	2-3/8"	a 2-7/8"	ROD PUMP SIZE SAND SHIELD P/N	2-3/8" SSD20	2-7/8" SSD25
PART NUMBER Connection = MNPT CONN. Diameter	SSD20 1" 1.64" 4.16CM	SSD25 1-1/4" 2.08" 5.28CM	Insert Bypass inside box end of Sand Shield. Alloy Ball over Metal Seat. Held in place by strainer nipple		
Length	24" 60.8CM	24" 60.8CM	RS SERIES MODU 75 PSI Spring Typ	JLAR BYPASS SY De RS20	STEMS/ RS25

### THE NEW BACK PRESSURE RELIEF VALVE (BYPASS)

Although the Sand Shield may be used in some low pressure wells with only a bull plug in the bottom end, we recommend the NEW over-pressure control relief valves designed for the Sand Shield. <u>Suggested Assembly:</u> (1) Insert the small end of the relief valve into the Sand Shield. The metal shoulder of the relief valve will seat on the internal metal shoulder in the box end of the Sand Shield. (2) Thread a strainer nipple in the bottom (box) end of the Sand Shield. The new relief valve (bypass) is a unique "tattle tale" gauge. It tells when the Sand Shield is loaded. Stren recommends servicing the Sand Shield "before" the over-pressure control relief valve opens and allows sandy fluid to flow into the pump.

\*\*CAUTION = FOR WELLS WITH SCALE TENDENCIES, PLEASE CONSULT STREN.

Patent Number 4969518 and other patents pending

15045 Woodham Dr., Houston, Texas 77073



Phone: 281-820-0202 Fax: 281-820-5909

\*\*Engineered Products for Industry\*\*







#### CALCULATING HYDROSTATIC PRESSURE

- 1. The weight of a column of fluid will normally range from a density of 7 lbs/gal for gas cut fluid, 8 lbs/gal for crude and like oils, 8.33 lbs/gal for fresh water to 9.3 for salt water.
- 2. To estimate hydrostatic pressures, (or the PSI (weight) of fluid above line pump), use 0.052 as the common conversion factor for water (or fluids of similar weight). Use 0.052 as the multiplier.
- 3. Multiply the weight of water (8.33) by 0.052.
- 4. Multiply file answer in item 3 by the depth of the well.
- 5. The answer in item 4 is the approximate hydrostatic pressure (PSI) being exerted on the down-hole equipment and pump intake.

#### WHAT EFFECT DOES PRESSURE (PSI) HAVE ON THE SAND SHIELD

- A. The Sand Shield is affected very little by reservoir PSI. Remember that reservoir PSI is not the same as differential pressure. The Sand Shield is rated to 500 "differential PSI". To protect the Sand Shield from damage by higher differential PSI, the safety relief valve (bypass) will open and relieve the pressure.
- B. The rat-hole should always have enough free space to prevent the Sand Shield from accidentally being pushed into a bed of sand fill.
- C. The bypass is also a "tattle tale" gauge. When trash is found inside the pump, you may be certain the bypass had opened and relieved excessive PSI.

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