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DON·NAN

Stroke-Thru Solids Pump

Effectively produce through sand, scale, and trash

APPLICATIONS

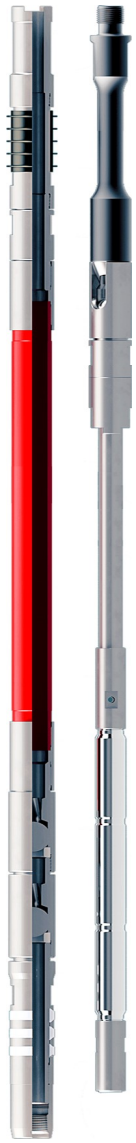
- High-sand wells
- High-scale wells
- Deep wells

BENEFITS

- Excellent efficiency in high solids-laden fluids
- Improves runlife
- Reduces well intervention frequency

FEATURES

- Thermal-sprayed grooved-body plunger
- Heavy-walled barrel
- Sand Shield specialty part
- Double-valved
- Hollow valve rods



Stroke-Thru Solids Pump

The Don-Nan Stroke-Thru Solids Pump is specially designed to provide maximum run-life in wells that produce large amounts of varying types of solids such as scale, trash, and sand. One of the primary contributing factors to lower than expected run times is abrasion and scoring damage to the internal components of a rod pump by solid material. In severe cases, rod pumps can become inoperable due to extreme amounts entering the pump. Developed with this specific scenario in mind, the Stroke-Thru Solids Pump vastly reduces jamming and scoring damage when compared to API pump designs.

Design

The Stroke-Thru Solids Pump is designed unlike any other insert sucker rod pump. Utilizing a grooved-body plunger, any solids that have accumulated inside the pump are collected into the grooves; similar to scooping sand with a cup. In order to create space between the barrel and plunger to allow sand to enter the grooves, we must loosen the plunger-to-barrel fit.

Tightness of plunger-to-barrel fit is critical for maintaining an efficient fluid seal and optimizing slippage, therefore our plunger is sized to maintain proper fit and extensions with larger inside diameters are added to the top and bottom ends of the barrel. The addition of barrel extensions provides adequate space to collect and remove solids while the barrel simultaneously maintains a proper fluid seal.

An additional benefit of this pump design is that upon its return to the shop for maintenance, the plunger can often be flipped and reinstalled without any loss of performance, effectively doubling its useful life. In pumps that utilize smooth-body plungers, scoring will often run the length of the plunger; however, the grooves in the grooved-body plunger excel at limiting the damage to the top end as solids are not only collected in the grooves, but also released when the plunger is near the top of the stroke.

LUFKIN Don-Nan is an API 11AX certified manufacturer for 25 continuous years and counting.

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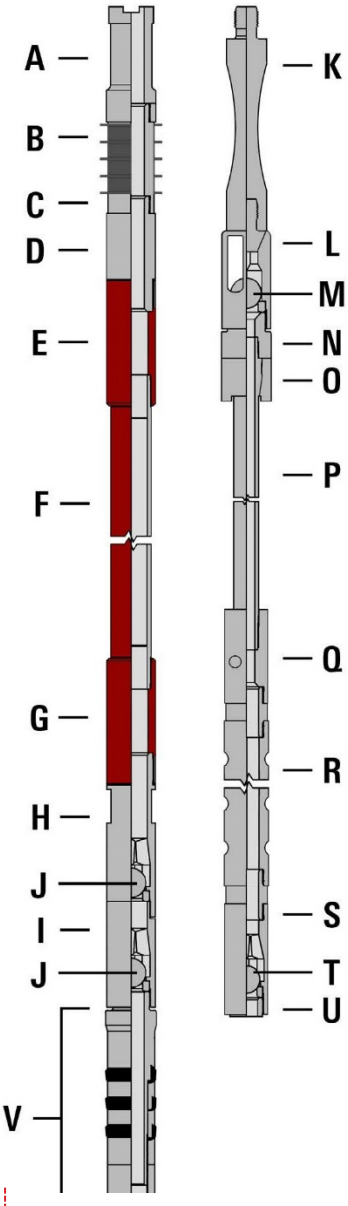
Having achieved our primary objective of handling solids effectively within the pump, we must also consider secondary issues. In wells that produce high amounts of sand, solid material, and scale, there is high potential for a bottom hold-down configured pump to become stuck in the tubing. To solve this issue and make pulling from the well an easier task, we have added a Sand Shield to the top portion of the pump to keep sand and solids from packing in around the hold-down between the pump and tubing ID.

Stroke-Thru Solids Pump Specifications

			Tubing x Pump Bore Size, in		
			$2\,^{3}/_{8} \times 1\,^{1}/_{4}$	$2\,^{7}/_{8} \times 1\,^{1}/_{2}$	$2\,^{7}/_{8} \times 1\,^{3}/_{4}$
Description	**Item**	**Req.**	**Part Number**		
Stationary Assembly					
Guide, valve rod	A		GT119-F	GT229-F	GT249-F
Sand Shield	B		0100	0104	0105
Accessory Mandrel	C		80SS1	80SS2	80SS3C-2
Connector, barrel	D		C222	C332	N/A
Coupling, extension	E	1	EN216	EN316	EN416
Barrel, heavy wall	F		BT0420C	BT0720C	BT0820C
Coupling, extension	G		EN214	EN314	EN414
Cage, closed barrel	H		CF522	CF62	CF62
Cage, closed barrel (double valve)	I		CF532-S	CF63	CF63
Valve, ball and seat	J	2	047 + 05	048 + 06	048 + 06
Traveling Assembly					
Lift Sub	K		38SB1	38SB1	38SB1
Cage, top open	L		CF440-1	CF640-1	CF640-1
Valve, ball and seat	M		047 + 04	049 + 06	049 + 06
Bushing, HVR Collet	N		BC1C	BC260C	BC40C
Nut, Collet	O		NC54	NC64	NC740
Pull Tube	P	1	PT19-233	PT29-233	PT39-233
Plunger Adapter	Q		CT1114	CT2124	CT4134
Plunger, Grooved Body	R		P225M-5	P325M-5	P425M-5
Cage, closed plunger	S		CF21	CF31	CF41
Valve, ball and seat	T		042 + 02	044 + 03	046 + 04
Plug, seat (internal)	U		PS22	PS32	PS42
Seating Assembly					
API, 3-cup*	V	1	HD422-3	HD51-4	HD51-4

Barrel, plunger, and valve rod must all be specified in length.
All components may be specified by material and coating type.
*API mechanical-type seating assembly also available.



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Made to Perform

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