

Thermal Liner Hanger System

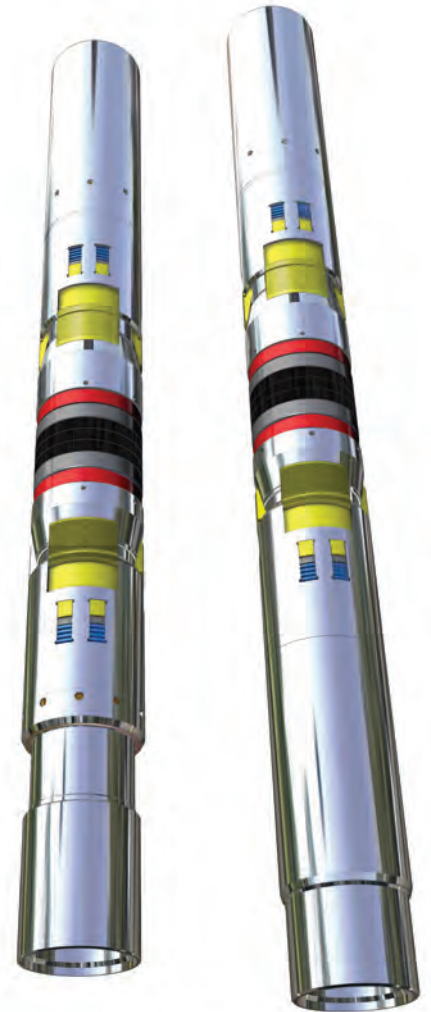
Type E Thermal SuperSet Liner Hanger Packer

- SurRated at 1,200°F and 3,000 psi
- THERMOnator™ thermal element developed over 20 years of thermal experience and testing. Smallest footprint of any comparable hanger
- Innovative pre-heating manufacturing process, resulting in less than 1% minimal initial seal degradation upon thermal shocking
- Tie-back adapter kit eliminates need for long tie-back, good to 10,000 psi
- Pre-energized slips remain securely in position for conveyance and retrieval
- Maximum torque
- SureSet™ seal energized to replace seal efficiency over time, seal cannot be accidentally unset
- SafeSlip™ top and bottom loading stacks reduce risk of slip and casing damage by storing excess setting force.
- One-piece mandrel, SuperSet retrieved from the ID to ensure both bottom and tops safely unset during retrieval
- Sequential slip release reduces pulling force during retrieval, slips loaded with energy to aid in retrieval
- Soft and hard release options available
- Design meets ISO 14310

Logan Completion Systems' heavy-duty SuperSet is a full-bore, opposed-slip, hydraulically set hanger solution available in common bore sizes. The SuperSet provides the smallest profile of any comparable hanger, including the smallest available OD and setting sleeve. If desired, a 10,000 psi thermal and primary tie-back adapter can tie-back the SuperSet's setting sleeve and leave the length of the hanger as short as possible. The SuperSet is also designed with a one-piece internal mandrel, which when retrieved, the hanger can be safely pulled from the ID of the mandrel to allow the bottom slips to fall away to ensure they are unset when the SuperSet is retrieved.

THERMOnator Sealing Technology

The THERMOnator Seal was tested to 700°F and 2,500 psi at the world renowned CFER Technologies test facility. The THERMOnator's seal material is chemically inert, rated at 1,200°F and 3,000 psi, and is processed and heat treated to remove all filler materials to result in a seal that both seals better with solids impregnation in a dynamic state and also eliminates any risk of losing set force due to volume loss caused by material evaporation.



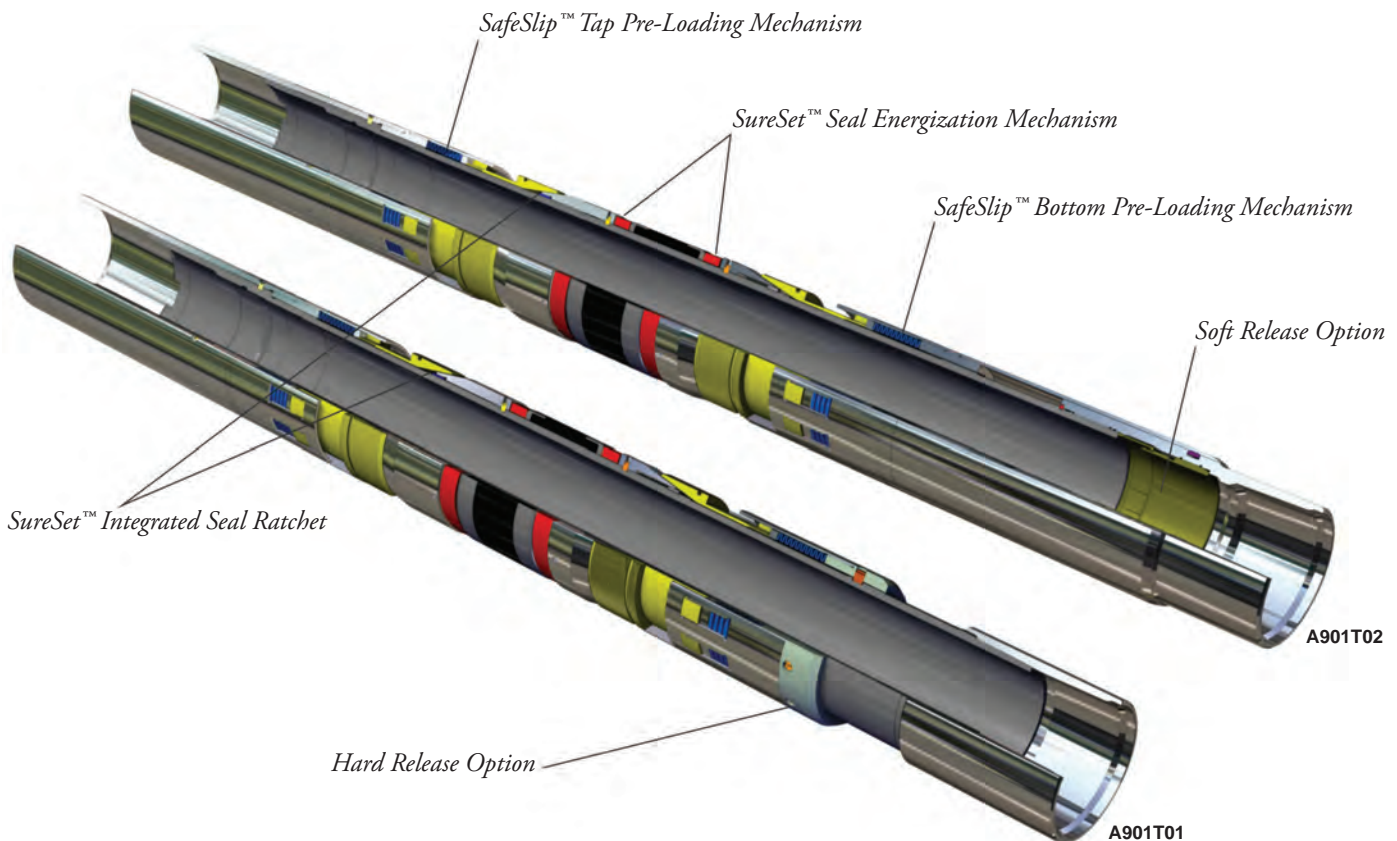
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SureSet

The SureSet feature ensures that once set that the Solace's THERMONator sealing element is secured in the maximum extruded position and energized from both the top and bottom of the seal providing maximum sealing efficiency over time. The SureSet's energizing mechanism is designed to maintain sealing efficiency by transferring stored energy to the seal over the life of the install. An integral ratchet mechanism secures the set seal ensuring that regardless of top or bottom pressure that no energy is lost from the Solace's dovetail slips once set.

Thermonator™ Sealing Technology SureSet™ feature SafeSlip™ feature SafeSlip™ feature, The Solace's unique dovetail slips are neatly housed into the hanger during conveyance, The SafeSlip™ mechanism ensures that the hangers slips are engaged into the casing wall with maximum extension regardless of pressure into the seal top or bottom.



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SuperSet Liner Hanger Packer Specifications

Liner x Casing (in)	Casing Size (in)	Casing Weight (lb/ft)	Liner Size (in)	Liner Weight (lb/ft)	Max OD (in)	Liner x Casing (mm)	Casing Size (mm)	Casing Weight (kg/m)	Liner Size (m)	Liner Weight (kg/m)	Max OD (mm)
4-1/2 x 6-5/8	6.63	28.00 – 32.00	4.50	9.50 – 15.10	5.38	114.3 x 177.8	168.4	41.67 – 47.62	114.3	14.14 – 22.47	136.60
	6.63	35.00	4.50	9.50 – 15.10	5.35		168.4	52.09	114.3	14.14 – 22.47	135.90
4-1/2 x 7	7.00	23.00 – 26.00	4.50	9.50 – 15.10	6.05	114.3 x 177.8	177.8	34.23 – 38.69	114.3	14.14 – 22.47	153.67
	7.00	26.00 – 29.00	4.50	9.50 – 15.10	5.95		177.8	38.69 – 43.16	114.3	14.14 – 22.47	151.13
	7.00	29.00 – 38.00	4.50	9.50 – 15.10	5.69		177.8	43.16 – 56.55	114.3	14.14 – 22.47	144.53
5 x 7	7.00	23.00 – 26.00	5.00	11.50 – 18.00	6.05	127.0 x 177.8	177.8	34.23 – 38.69	127.0	17.11 – 26.79	153.67
	7.00	26.00 – 29.00	5.00	11.50 – 18.00	5.95		177.8	38.69 – 43.16	127.0	17.11 – 26.79	151.13
	7.00	29.00 – 38.00	5.00	11.50 – 18.00	5.69		177.8	43.16 – 56.55	127.0	17.10 – 26.79	144.53
5 x 7-5/8	7.63	33.70 – 39.00	5.00	11.50 – 18.00	6.37	127.0 x 193.7	193.7	50.15 – 58.04	127.0	17.10 – 26.79	161.80
5-1/2 x 7-5/8	7.63	24.00 – 29.70	5.50	14.00 – 23.00	6.65	139.7 x 193.7	193.7	35.72 – 44.20	139.7	20.83 – 34.23	168.91
	7.63	29.70 – 33.70	5.50	14.00 – 23.00	6.56		193.7	44.20 – 50.15	139.7	20.83 – 34.23	166.62
	7.63	33.70 – 39.00	5.50	14.00 – 23.00	6.41		193.7	50.15 – 58.04	139.7	20.83 – 34.23	162.81
	9.63	29.30 – 40.00	7.00	17.00 – 35.00	8.43		244.5	43.60 – 59.53	177.8	25.30 – 52.09	214.12
7 x 9-5/8	9.63	40.00 – 53.50	7.00	17.00 – 35.00	8.25	177.8 x 244.5	244.5	59.53 – 79.62	177.8	25.30 – 52.09	209.50
	9.63	53.50 – 58.40	7.00	17.00 – 35.00	8.16		244.5	79.62 – 86.91	177.8	25.30 – 52.09	207.26
	9.63	29.30 – 40.00	7.63	24.00 – 47.30	8.59		193.7 x 244.5	244.5	43.60 – 59.53	193.7	35.72 – 67.41
9.63	47.00 – 53.50	7.63	24.00 – 47.30	8.31	244.5	69.94 – 79.62		193.7	35.72 – 67.41	211.07	

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