

MAXIMUM
Strength
INCREASED
Torque
AND
CAPACITY

The Oilfield's

Liner Hanger Experts

Features & Benefits

- Smallest OD of any comparable Retrievable Liner Hanger
- Rating of 650°F and 3,000 PSI thermal and up to 10,000 PSI and 400°F primary.
- Thermal sealing element developed over 20 years of thermal experience and testing
- Volume Compensation seal energizing mechanisms maintain full set force in the seal over life of the hanger
- Proven reliable Running, Setting and Retrieval Tools
- 360° Collet Slips endure maximum contact and highest available hanging and compression load capacity
- Centralizing slips ensure proper element positioning providing maximum extension and seal integrity.
- Slip shear rings retain slips radially and tightly in position, mitigating potential premature setting during conveyance
- Mechanisms divert set force through solid members rather than slip arms and exerts only the desired force to initiate setting of the slips
- De-energizing section dissipates energy between slips during unsetting and allows for each component of the hanger to release eliminating any friction and hang-up points
- Shortest available PBR with the retrievable Tie-Back Nipple designed for thermal (650°F, 3,000 PSI) and primary (up to 10,000 PSI)

The heavy duty ProTherm Liner Hanger Packer is a full-bore, hydraulically set hanger solution designed to effectively eliminate the problems associated with setting and retrieving conventional Liner Hangers.

The ProTherm's reliability is provided by its Engineered features, included in the first opposing slip hanger design that can be retrieved by latching into a one piece mandrel with the same Running/Retrieval tool.

The ProTherm's mandrel not only provides maximum torque capabilities but also eliminates a sealing point in the hanger ensuring maximum integrity of the tie-back by removing a common source of leaks. The ProTherm is comparable in length to other hangers, but also features the smallest comparable OD including the shortest available PBR which can be adapted with PRO-ESI Tie-Back Nipple. The elimination of a long and rigid tie-back results in significantly less friction when circulating to clean out the hole, and also leads to more success when trying to convey hangers to depth into tight radius horizontal wells. The Tie-Back Nipple can be released and re-engaged to simplify spacing out of the completion.

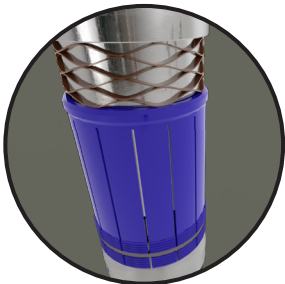
All PRO-ESI Hangers are conveyed and retrieved via tubing or drill pipe with the PRO-ESI Running/Setting Tools. The Running/ Setting Tools are designed for extreme high torque operations, including rotating and drilling the liner into position.

Built by industry professionals, the ProTherm finally provides true Liner Hanger innovation.





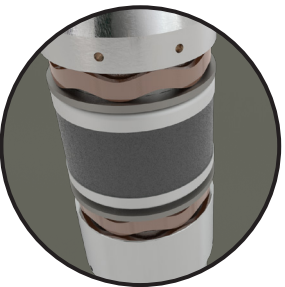
De-energization section eliminates friction on the components maximizing the successful removal of the hanger from casing.



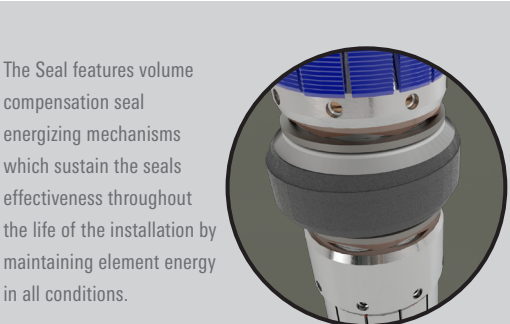
Slip shear rings retain slips radially and tightly in position during conveyance



Loading of the Energizing mechanism; greatly reduces slip/casing failures/damage



Proven Seal element with seal backups; Loading of the Volume Compensation Mechanisms.



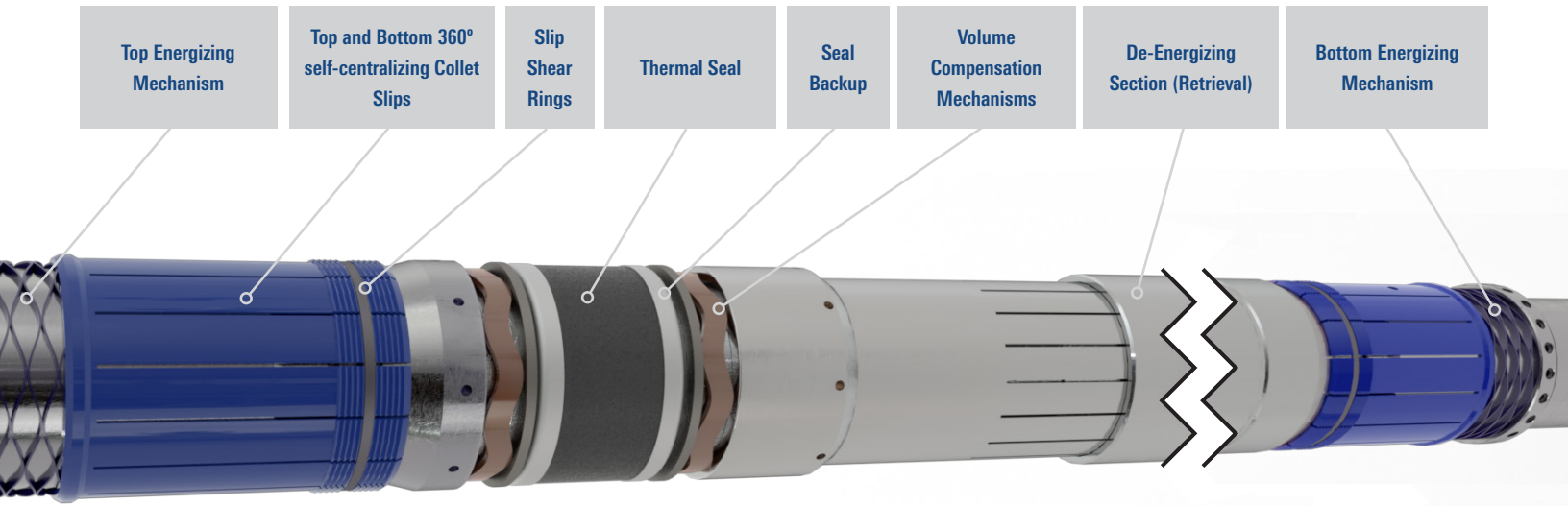
The Seal features volume compensation seal energizing mechanisms which sustain the seals effectiveness throughout the life of the installation by maintaining element energy in all conditions.

Easy Retrieval

The ProTherm's retrieval feature eliminates many of the issues associated with pulling conventional Thermal Liner Hangers. The ProTherm is retrieved with the same Running Combo Tool which can be latched into the ProTherm's one piece mandrel. By retrieving the hanger from its one piece mandrel, the following problems of pulling conventional top and bottom slip style Liner Hangers from their tie-back receptacle are mitigated:

- Conventional long tie-back receptacles are often hooked causing premature unsetting
- Damage to top slips, slip arms and casing during unsetting
- Pulling the hanger from its weakest point
- Bottom slips are not unset when the hanger is pulled from the top slips
- Top Slips are difficult to unset if seal energy has not dissipated over time

The ProTherm's de-energizing section allows all energy between the hangers slips to be dissipated but only once activated during the unsetting procedure. The retrieval feature allows the mandrel to begin moving upwards after the unsetting shear pins have been sheared, the individual components of the hanger are then secured by the mandrel and held in a position that eliminates any friction significantly reducing the risk of resetting the hanger.



IMPERIAL						METRIC					
Liner Hanger Size	Casing		Liner			Liner Hanger Size	Casing		Liner		
Liner x Casing (in)	Casing Size (in)	Weight (lb/ft)	Size (in)	Weight (lb/ft)	Max OD (in)	Liner x Casing (mm)	Casing Size (mm)	Weight (kg/m)	Size (mm)	Weight (kg/m)	Max OD (mm)
5 x 7	7	23 - 26	5	11.5 - 18	6.05	127.0 x 177.8	177.8	34.23 - 38.69	127	17.10 - 26.79	153.67
		26 - 29	5	11.5 - 18	5.95			38.69 - 43.16	127	17.10 - 26.79	151.13
		29 - 38	5	11.5 - 18	5.69			43.16 - 56.55	127	17.10 - 26.79	144.53
5.5 x 7	7	17 - 20	5.5	13 - 23	6.13	139.7 x 177.8	177.8	25.30 - 29.7	139.7	19.34 - 34.22	155.70
		20 - 26	5.5	13 - 23	5.95			29.76 - 38.69	139.7	19.34 - 34.22	150.88
6.625 x 8.625	8.625	24 - 32	6.625	17 - 32	7.625	168.1 x 219	219	35.71 - 47.62	168.1	25.30 - 47.62	193.68
7 x 9.625	9.625	29 - 40	7	17 - 35	8.43	177.8 x 244.5	244.5	43.60 - 59.52	177.8	25.30 - 52.08	214.12
		40 - 53.5	7	17 - 35	8.30			59.52 - 79.61	177.8	25.30 - 52.08	210.82
8.625 x 11.75	11.75	42 - 54	8.625	24 - 49	10.44	219 x 298.4	298.4	62.50 x 80.35	219	35.71 - 72.91	265.18
9.625 x 13.375	13.375	48 - 61	9.625	29.30 - 53.5	12	244.5 x 339.7	339.7	71.42 - 90.77	244.5	43.60 - 79.61	304.8
		61 - 72	9.625	29.30 - 53.5	11.88			90.77 - 107.14	244.5	43.60 - 79.61	301.75
		72 - 85	9.625	29.30 - 53.5	11.69			107.14 - 126.49	244.5	43.60 - 79.61	296.92
10.75 x 13.375	13.375	48 - 61	10.75	32.75 - 55.5	12.06	273.0 x 339.7	339.7	71.42 - 90.77	273.0	48.73 - 82.58	306.32
		61 - 68	10.75	32.75 - 55.5	11.91			90.77 - 101.18	273.0	48.73 - 82.58	302.51

Copyright © Pro-Leading Energy Solutions
All rights reserved.