



Innovex **Inflatable Casing Packers (ICP)** are a reliable, efficient solution for zonal isolation over the life of the well. Installed in the casing/wellbore annulus or casing/casing annulus, our ICP tools are engineered for high performance isolation in critical oil, gas, and geothermal applications.

Applications

- Isolation assurance in cemented wellbores
- Zonal isolation in open-hole completions
- Selective reservoir stimulation
- Isolation of oil, gas, and water zones
- Regulatory compliance
- Support for the slurry column to ensure cement competency in conventional and staged cementing operations

Options

- Standard tools in 4', 10' and 20' lengths
- Continuous (4') and discontinuous (10' & 20') elements
- Standard and special element O.D.
- Standard and high temperature elements

Features & Customer Benefits

- Discontinuous ribbed elements in the 10 and 20 ft. lengths that facilitate optimum job evaluation as well as conformation in washed out and irregular hole profiles
- Application specific elastomers that optimize performance in temperature extremes up to 350 degrees F and wellbore chemical environments
- Advanced valve system with lock out inflation control valve assures accurate packer inflation and closing for life-of-well zonal isolation
- Inflation with mud, water, or cement





The **Hydraulic Stage Collar** allows for cementing casing in multiple stages at any inclination with a hydraulically opened sleeve system. Incorporating state-of-the-art design provides for a robust tool that ensures optimal performance in even the harshest environments. Years of experience have enabled our engineers to develop a tool that takes every possible variable that may affect performance into account

Composite Seat

Composite seat option allows for quick drill out with conventional BHA, or with a bent sub, mud motor and PDC bit, saving valuable rig time.

Aluminum Seat

Standard aluminum seat provides a robust tool ensuring optimal performance in even the harshest environments.

Features & Customer Benefits

- **Available in 2 or 3 stage systems**
- Setting annulus casing packers in conjunction with stage collars
- Stage collar may be opened immediately after first stage shut-off plug is landed
- Minimal moving parts
- Reduces risk of first stage cement setting above tool before opening
- Large pump through diameters
- High burst and collapse pressure after closure of tool
- Robust dual snap ring locking mechanism
- Well protected components
- Multiple high pressure seals engaged around ports after closure
- Standard stage collar materials are suitable for sour service applications
- Suitable for operating at temperatures up to 300° F, High Temp version rated to 400° F
- All internal components within casing drift are PDC and Tri-cone bit drillable
- Optional opening may be used to open stage collar





PRODUCT

Mechanical Stage Cementing
Collar



This **Mechanical Stage Collar** allows for **cementing** to be completed in long casing strings, where low cement displacement pressure is required due to weak formations. The robust double snap ring locking mechanism ensures the tool does not open after it is closed and is able to withstand an upward force of 100,000 lb. minimum. Innovex's Mechanical Series has minimal moving parts, which reduces the chance of failure.

Composite Seat

Composite seat option allows for quick drill out with conventional BHA, or with a bent sub, mud motor and PDC bit, saving valuable rig time.

Aluminum Seat

Standard aluminum seat provides a robust tool ensuring optimal performance in even the harshest environments.

Features & Customer Benefits

—Available in 2 or 3 stage systems

- Large pump through diameter
- Anti-rotation system for the inner sleeve does not require holes through the tool body
- Single inner-sleeve design eliminates pressure traps and increases reliability
- API box threads are integrated into the body of the stage tool
- Short close tolerance seal length allows operations within well curvatures with dog leg severity (DLS) up to 12° per 100 ft.
- High temperature seals are available for temperatures above 300° F
- Pump-down opening plug systems are available for highly inclined wells
- Shut-off plug systems are available for setting casing packers and testing casing to high pressures
- Stage Collar - Patent Pending

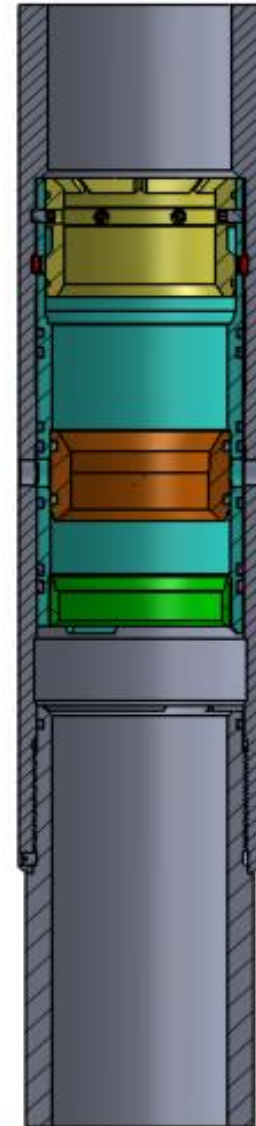




PRODUCT NAME	MECHANICAL 2-STAGE TOOL
DOCUMENT NUMBER	TDS500-244-0310-0006-XX
PART NUMBER	500-244-0310-0006-XX
REVISION DATE	2018-04-26

DESCRIPTION
STAGE TOOL, 9.625" 2-STAGE 47.00-53.50# API BC BXP L80/N80

CASING SIZE (IN):	9.625
CONNECTION UP:	API BC BOX
CONNECTION DOWN:	API BC PIN
MATERIAL GRADE:	L80/N80
SEAT CONFIGURATION:	MECHANICAL 2-STAGE
DRILLABILITY:	PDC DRILLABLE
BODY OD (IN):	11.125
DRILLOUT ID (IN):	8.535
OVERALL LENGTH (IN):	36.12
OPENING SEAT ID (IN):	7.250
CLOSING SEAT ID (IN):	7.750
CEMENTING PORTS:	SIX 1" PORTS
BURST RATING (PSI):	7,930
COLLAPSE RATING (PSI):	7,950
SAFE LOAD W/ 1.5 SF (LBF):	857,000
OPENING PRESSURE (PSI):	900 ± 200
CLOSING PRESSURE (PSI):	1,500
TEMPERATURE RATING (°F):	400
SEAL MATERIAL:	FKM
WEIGHT (LBS):	330


NOTES:

- 1: DO NOT EXCEED CASING AND CONNECTION BURST, COLLAPSE, AND TENSILE LOAD RATINGS.
- 2: LOAD RATING IS LIMITED BY CONNECTION RATING SHOWN WITH 1.5 SF.
- 3: TEMPERATURE RATING IS LIMITED BY SEAL MATERIAL RATING.
- 4: STAGE TOOL PLUGS MAY BE LIMITED TO 300° F OR LOWER TEMPERATURE RATING.

PREPARED BY	VERIFIED/ APPROVED BY	DATE
DONOVAN PIÑA	BRENT LIRETTE	2015-03-16

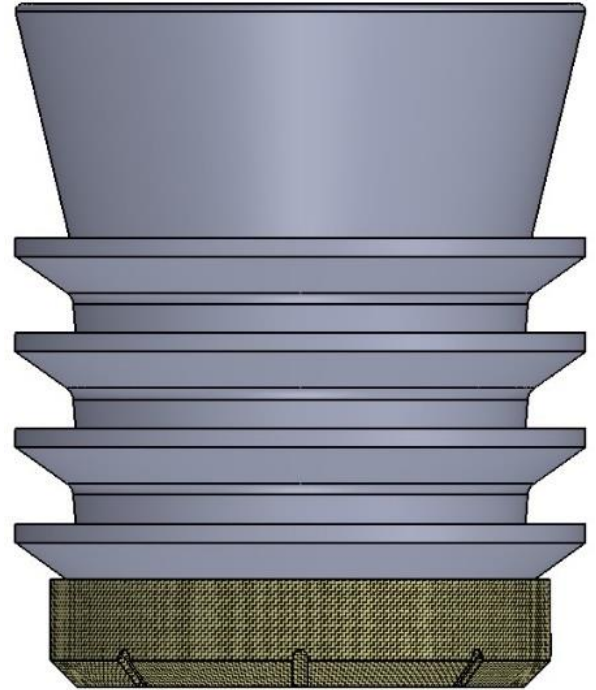




PRODUCT NAME	CLOSING PLUG
DOCUMENT NUMBER	TDS501-244-3835-S4CP
PART NUMBER	501-244-3835-S4CP
REVISION DATE	2018-03-28

DESCRIPTION
PLUG, CLOSING, 9.625", SBR WITH COMPOSITE NOSE

NOMINAL SIZE (IN):	<input type="text" value="9.625"/>
MATERIAL FIN:	<input type="text" value="SBR"/>
MATERIAL NOSE:	<input type="text" value="COMPOSITE"/>
FIN OUTSIDE DIA (IN):	<input type="text" value="9.26"/>
NOSE OUTSIDE DIA (IN):	<input type="text" value="8.12"/>
OVERALL LENGTH (IN):	<input type="text" value="11.10"/>
SERVICE TEMPERATURE (° F):	<input type="text" value="300"/>
BUMP PRESSURE (PSI):	<input type="text" value="1,500"/>
WEIGHT (LBS):	<input type="text" value="19"/>



PREPARED BY	VERIFIED/APPROVED BY	DATE
TYLER TINNIN	BRENT LIRETTE	17-FEB-16



PRODUCT NAME	FIRST STAGE FLEX PLUG
DOCUMENT NUMBER	TDS501-244-3427-S4FS
PART NUMBER	501-244-3427-S4FS
REVISION DATE	2018-03-28

DESCRIPTION

PLUG, FIRST STAGE FLEX, 9.625" STAGE TOOL, 4.00" NOSE, NITRILE HC W/ ALUMINUM CORE

NOMINAL SIZE (IN):

MATERIAL FIN:

MATERIAL CORE:

FIN OUTSIDE DIA (IN):

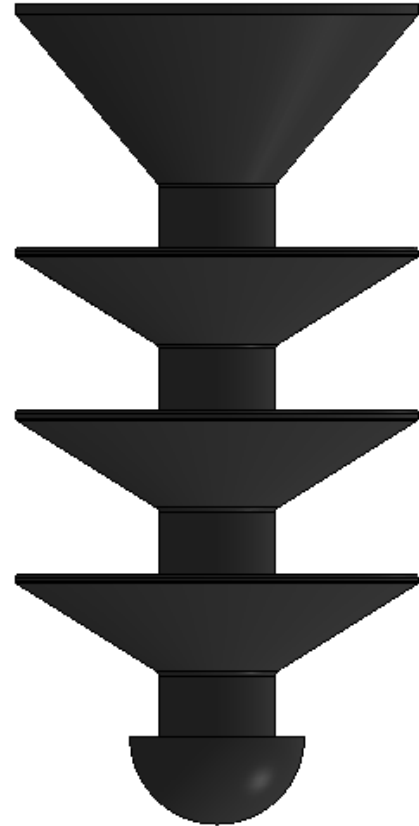
NOSE OUTSIDE DIA (IN):

OVERALL LENGTH (IN):

SERVICE TEMPERATURE (°F):

BUMP PRESSURE (PSI):

WEIGHT (LBS):



PREPARED BY	VERIFIED/APPROVED BY	DATE
DONOVN PIÑA	BRENT LIRETTE	30-MAR-15

