



## Davis Inflatable Packers

The Davis line of inflatable packers features a non-welded design that provides a strong and effective seal. They are available for virtually all drilling, completion and workover requirements, as well as for pipeline testing and repair and offshore platform installation.

### **Inflatagrip Longseal\* Packers**

These Davis Packers, available with 20- or optional 40-foot length seals, provide a positive seal against fluid or gas movement in the annulus of vertical, deviated or horizontal wells. They are recommended for use where naturally occurring fracture systems and high permeability streaks require a longer seal for more positive zone isolation.

Mud or cement filled Inflatagrip Longseal Packers will conform to and seal in washed-out, elliptical or other irregularly shaped wellbores. They are of the limited steel rib reinforcing type in that the ribs do not extend completely from one end of the seal to the other. This feature allows the non-reinforced center portion of the packer to expand and seal in larger, irregularly shaped wellbores and still be retained at the ends by the overlapping steel Inflatagrip reinforcing ribs.

Features/Benefits of Types 202 and 402 Inflatagrip Longseal Packers:

- Patented Inflatagrip ® end reinforcing metal ribs anchor against wall of well for positive end containment during and after inflation.
- Reinforcing metal ribs mechanically attached at each end of the element, along with the single durometer rubber element, assure a uniform inflation between the metal ribs to displace a maximum amount of mud from the seal area.
- Mechanical anchoring of reinforcing metal ribs in end subs, together with the Inflatagrip feature, greatly improves the pressure differential holding ability of the packers.
- Dual inflation valve system provides 56% greater inlet area for the inflation fluid than dual valve systems of competition.
- Longer reinforcing ribs bonded to a rubber cover, in addition to surface preparation of the mandrel, minimize any wadding of packer element during running.
- Premium threads are available internally throughout the packers, eliminating the need for welding or the use of crossover sub.
- No welding or epoxy, which might cause premature failure, is used in manufacturing Davis packers.



## **Unique Application Large Diameter Inflatagrip Longseal Packers**

Davis sales/engineering personnel have designed and implemented a method on several wells in a deepwater drilling environment, which employs the Inflatagrip Longseal Packers for the purpose of containing troublesome shallow salt-water flows. This system has been utilized on 20" and 16" casing strings at the present time. Packer placement, inflation pressure settings, and the use of specialty float equipment to receive a drop ball have been instrumental in the success of this method. For more complete details please contact your local Davis representative.

\*Patented

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### **Packers with Continuous Reinforcing**

The inflatable element of these packers has steel strips that run from end to end of the seal and are mechanically attached to end subs. Available in standard 3-, 7- and 10- foot lengths, the continuous strip element will centralize the casing in the wellbore and withstand maximum differential pressure. It can be inflated with water, mud or cement. The 7- and 10-foot elements may be preferred for added seal length in fractured or highly permeable zones or where packer placement is critical for success.

The inflatable element consists of an innertube protected by the continuous, mechanically end-anchored, spring-steel reinforcing strips. These strips are totally encased in an oil-resistant outer rubber. Expansion is achieved by injecting fluid into the innertube. The fluid expands the strips, stretching the outer rubber and effecting a full-length seal against the bore wall, in cased or open hole.

### **Inflatagrip® Feature**

When it is desirable for a continuous reinforced packer to act as an anchor, Davis recommends its patented Inflatagrip system, which consists of raised grippers stamped into the steel reinforcing strips. The grippers can be profiled so that, when expanded and in contact with the wellbore, they prevent axial or rotational movement, in either cased or open hole. The grippers are heat treated to a hardness that enables them to bite into P-110 grade casing. The anchoring mechanism can be built into any Davis continuous reinforced packer regardless of diameter.

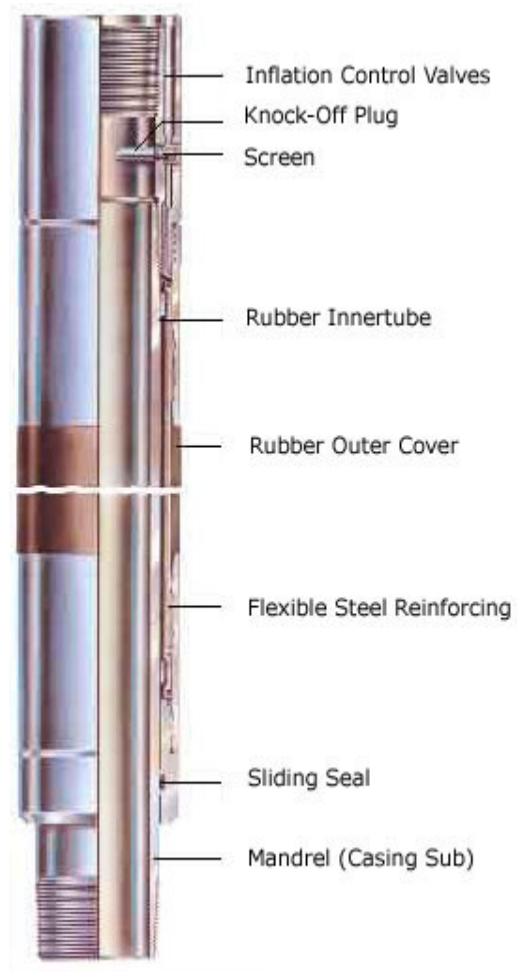
## Davis Type 100 Integral Casing Packer

The Type 100 is a permanent, steel-reinforced packer that is run as an integral part of the casing string. The mandrel through the packer is the same size, weight, and grade as the casing. The packer is threaded with connections identical to those of the casing string.

The Integral Casing Packer is available with a single sealing element, or with dual straddle elements. It can be run in a multi-tude of arrangements for numerous applications. When inflated, the packer element will effectively seal between concentric casing strings or between casing and open hole.

This packer can be used to:

- Control wellbore migration of gas and fluid.
- Separate multiple zones.
- Prevent unwanted water intrusion.
- Allow gravel packing of multiple zones.
- Reduce hydrostatic pressure during stage cementing.
- Centralize casing.



## Packer Selection Table

The Packer Selection Table shows maximum recommended differential pressure across the Integral Casing Packer for any given hole size. For pressure or hole sizes falling between the cited values, the method of interpolation for an approximate value can be used. The sizes tagged with asterisks are termed "Special Clearance." They are used where the combination of casing diameter and drilled hole size requires that the diameter of the packer be reduced. These reduced OD sizes are available through special order. For casing sizes smaller than 3 1/2" and larger than 20", please consult your Davis representative.

Nominal Casing Size	diameter of Packer (inches)	Type No. 100-	1000	Maximum Recommended Differential Pressure (PSI) Across Packer in Various Hole Sizes (In.)					
				1500	2000	2500	3000	3500	4000
3 -1/2	4.25	350-425	9.00	8.50	7.80	6.50	5.50	5.25	4.75
4- 1/2	5.75	450-575	10.75	10.25	9.75	9.25	8.75	8.25	7.75
4 -1/2 *	5.63	450-563	9.75	9.00	8.00	7.25	6.75	6.50	6.00
5	6.38	500-638	11.25	10.75	10.25	9.75	9.25	8.75	8.25
5 *	6.13	500-613	10.25	9.75	9.25	8.75	8.25	7.50	7.00
5 -1/2	7.00	550-700	12.00	11.5	11.00	10.50	10.00	9.50	9.00
5 -1/2*	6.75	550-675	11.00	10.50	10.00	9.50	8.50	8.00	7.50
6 -5/8	8.00	663-800	13.00	12.50	12.00	11.50	11.00	10.50	10.00
6 -5/8*	7.75	663-775	11.25	10.75	10.25	9.75	8.75	8.25	8.00
7	8.25	700-825	13.25	12.75	12.25	11.75	11.25	10.75	10.25
7*	8.06	700-806	12.00	11.00	10.50	10.00	9.00	8.75	8.50
7 -5/8	9.00	763-900	14.00	13.50	13.00	12.00	12.00	11.50	11.00
7- 5/8*	8.88	763-888	13.00	11.50	11.00	10.50	10.00	9.50	9.25
8 -5/8	10.25	863-1025	15.25	14.75	14.25	13.75	13.25	12.75	12.25
9 -5/8	11.25	963-1125	16.25	15.75	15.25	14.75	14.25	13.75	13.25
10- 3/4	12.75	1075-1275	17.75	17.25	16.75	16.25	15.75	15.25	14.75
13 -3/8	15.75	1338-1575	22.25	21.75	21.25	19.75	19.25	18.75	18.25
16	18.00	1600-1800	28.00	26.50	25.00	23.50	22.00	20.50	19.50
18- 5/8	20.88	1863-2068	33.00	31.25	29.50	22.75	26.00	24.25	22.50
20	23.00	2000-2300	36.00	34.00	32.00	30.00	28.00	26.00	24.00