



# Borehole Packers



RST Instruments Borehole Packers are pneumatically or hydraulically inflatable packers that incorporate one fixed and one sliding head attached to a center shaft. This sliding head allows the packer gland to retract about the center shaft as it inflates.

The packer heads are constructed of either plated steel or aluminum while the shaft is polished stainless steel or aluminum. The packer gland consists of a rubber membrane reinforced with either polyester fabric or steel. Packers made from steel heads, stainless steel shaft and a steel reinforced gland are suitable for medium pressure applications, while packers made from aluminum heads, aluminum shaft and a polyester reinforced gland are suitable for low pressure applications.

## operating principle

RST Borehole Packers are suitable for monitor well sampling, zone testing and monitoring, permeability testing, hydrofracturing of formations, pressure grouting, and sealing off artesian flows in open and cased holes.

One packer in an open borehole or well screen isolates a zone from the packer to the bottom of the well. This allows water to be pumped under pressure to below the packer for permeability testing or hydrofracturing, and allows samples to be taken or pressure to be monitored in the zone below the packer.

Two packers, separated by a specified length of perforated spacer pipe, can be used to test a zone or formation at a specific depth. By using two packers, only the zone between the packers is affected. Two packers can also be used with a wireline system. Water can be pumped down the drill rods for zone testing below the second packer, eliminating the need to pull the rods for each test, therefore minimizing in-hole disturbance and costly redrilling.

Multiple packers can be combined for testing and monitoring an unlimited number of zones. By utilizing multiple packer setups in several boreholes, horizontal and vertical extents of groundwater contamination can be investigated. All packers in a multiple set up are identical, maximizing inter-changeability of parts. Packer glands can be replaced in the field. RST borehole packers can be combined with integral pumps and pressure transducers. Packer heads can include sealed pass throughs for instrumentation leads, pump leads, etc.

Specifications for RST packers are included in the table shown. Specifications are for standard models and sizes and are meant as guidelines only. Alternate sizes and materials are available, please consult RST Instruments. RST will custom design and manufacture borehole packers to suit any application or specification.



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## applications

- Permeability testing
- Hydro-fracturing of formations
- Monitor well sampling
- Sealing artesian flows in open or cased boreholes
- Packer piezometers
- Pressure grouting

## features

- Steel reinforced, or fabric reinforced, abrasion resistant glands that are easily replaced in the field.
- Hollow center shaft for placement of sampling and monitoring equipment, or for passing water through the packer during permeability testing or hydrofracturing.
- RST packers are suitable for a wide variety of applications in open or cased holes.
- Optional sealed instrument and/or pump pass through.





specifications + ordering info

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## medium pressure packer specifications

Steel reinforced gland, plated steel heads, stainless steel shaft.

MODEL	PART #	DEFLATED DIAMETER		MAX. INFLATED DIAMETER		MAX. UNCONFINED WORKING PRESSURE*		STANDARD GLAND LENGTHS**		CENTRE SHAFT I.D.		SHAFT THREAD SIZE
		cm	in.	cm	in.	kPa	psi	mm	in.	mm	in.	
B	BP0004	3.3	1.30	7.06	2.78	2895	420	1000	(40 in.)	9.1	0.36	1/4 NPT
N	BP0053 BP0054	4.3	1.69	8.25	3.25	2482	360	635	(25 in.) 1000	1.25	0.493	3/8 NPT
H	BP0103 BP0104	5.7	2.25	11.05	4.35	1930	280	635	(25 in.) 1000	2.09	0.824	3/4 NPT
P	BP0153 BP0154	7.2	2.83	14.78	5.82	1172	170	635	(25 in.) 1000	3.51	1.38	1 1/4 NPT
1-85	BP0203 BP0204	8.5	3.35	16.26	6.4	1103	160	635	(25 in.) 1000	4.09	1.61	1 1/2 NPT
P5-9	BP0224	11.9	4.7	25.65	10.1	965	140	1250	(49 in.)	5.26	2.07	2 NPT
P6-10	BP0254	14.3	5.63	28.96	11.4	965	140	1250	(49 in.)	5.26	2.07	2 NPT
P8-12	BP0304	19.4	7.63	35.43	13.95	827	120	1500	(59 in.)	10.2	4.03	4 NPT
P10-16	BP0324	24.8	9.75	41.40	16.3	1,034	150	1778	(70 in.)	12.8	5.04	5 NPT
P12-20	BP0354	29.7	11.7	57.91	22.8	965	140	2000	(79 in.)	15.4	6.07	6 NPT

\* The working pressures are specified in free air. \*\* Non standard lengths are available for specialized applications.

## low pressure packer specifications

Polyester reinforced gland, aluminum heads, aluminum shaft. \* Differential pressure ratings are guidelines only, actual field results may vary.

PART #	DEFLATED DIAMETER		SUITABLE HOLE OR PIPE SIZE		CENTRAL SHAFT I.D.		STANDARD GLAND LENGTH		STANDARD DIFFERENTIAL PRESSURE RATING	
	cm	in.	cm	in.	cm	in.	m	in.	kPa	psi
BP1000	4.75	1.87	5.1	2.0	1.25	0.49	1	40	690	100
BP1002	5.72	2.25	7.6	3.0	2.09	0.82	1	40	690	100
BP1004	6.99	2.75	9.5	3.75	2.67	1.05	1	40	690	100
BP1006	8.89	3.50	10.2	4.0	3.51	1.38	1	40	690	100
BP1008	12.7	5.00	15.2	6.0	5.26	2.07	1	40	690	100

## borehole packer accessories

PART#	DESCRIPTION	PART#	DESCRIPTION
BP0001	B Spare Gland, 635 mm (25 in.)	BP0550	BQ Seating Cone
BP0002	B Spare Gland, 1 m (40 in.)	BP0501	NQ Seating Cone
BP0051	N Spare Gland, 635 mm (25 in.)	BP0502	HQ Seating Cone
BP0052	N Spare Gland, 1 m (40 in.)	BP0503	PQ Seating Cone
BP0101	H Spare Gland, 635 mm (25 in.)	BP0510	BQ Stuffing Box
BP0102	H Spare Gland, 1 m (40 in.)	BP0511	NQ Stuffing Box
BP0151	P Spare Gland, 635 mm (25 in.)	BP0512	HQ Stuffing Box
BP0152	P Spare Gland, 1 m (40 in.)	BP0513	PQ Stuffing Box
BP0201	1-85 Spare Gland, 635 mm (25 in.)	BP0520	BQ Lifting Bale
BP0202	1-85 Spare Gland, 1 m (40 in.)	BP0521	NQ Lifting Bale
BP0226	P5-9 Spare Gland, 1250 mm (49 in.)	BP0522	HQ Lifting Bale
BP0253	P6-10 Spare Gland, 1250 mm (49 in.)	BP0560	Inflation Regulator 0-359 psi
BP0303	P8-12 Spare Gland, 1500 mm (59 in.)	BP0560HP	Inflation Regulator 0-1500 psi
BP0323	P10-16 Spare Gland, 1778 mm (70 in.)	BP0566	Water Inflation System
BP0353	P12-20 Spare Gland, 2000 mm (79 in.)	BP0561	Inflation Tag Line
BP0555	Inflation Tubing (2500 psi burst)		

\* For additional accessories, please see the brochure "Packer Accessories."

## optional equipment

Sampling pumps
Pressure transducers
Dataloggers
Air driven water inflation pumps
Flow meters
Inflation regulator
Perforated spacer pipe

## ordering info

Hole diameter
Accessories needed
Differential pressure
Model no. / Part no.
Gland length (if other than standard required)

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