

# AS- I Retrievable Packer

The AS-I Retrievable Packer is one of the most reliable and versatile mechanically set packer. It may be used in any production application and is best suited for treating, testing, and injecting in shallow to deep pumping or flowing wells. It features a large internal bypass to reduce swab- bing when running or retrieving. When the packer is set the bypass closes and when retrieving the bypass opens before releasing the upper slips to allow pressure equalization.

## Features

- Bypass below upper slips to wash debris when valve is open
- Bypass is open before upper slips released
- Can be set with tension for shallow well
- Can be left in tension, compression, or neutral
- Quater-turn right-hand set, right-hand release



AS-1 Retrievable Packer						
O.D.	Weight	Casing I.D. Range		Packer		EUE Thread Connection
In	lbs/ft	Min. In	Max. In	O.D. In	I.D. In	Box Up/Pin Down
4-1/2	18.8	3.640	3.640	3.437	1.50	1.900
4-1/2	15.1 - 16.9	3.740	3.826	3.594	1.50	1.900
4-1/2	15.1	3.826	3.826	3.656	1.94	2-3/8
4-1/2	9.5 - 13.5	3.920	4.090	3.750	1.94	2-3/8
4-1/2	15.1	3.826	3.826	3.641	1.94	2-3/8
5	11.5 - 15	4.408	4.560	4.125	1.94	2-3/8
5	18 - 20.8	4.156	4.276	4.000	1.94	2-3/8
5-1/2	14 - 20	4.778	5.044	4.625	2.00	2-3/8
5-1/2	15.5 - 17	4.892	4.950	4.625	2.38	2-7/8
5-1/2	20 - 23	4.670	4.778	4.500	2.00	2-3/8
5-1/2	13 - 14	5.012	5.044	4.813	2.38	2-7/8
5-1/2	20 - 23	4.670	4.778	4.500	2.38	2-7/8
6	17 - 20	5.352	5.450	5.188	2.38	2-7/8
6	14 - 16	5.500	5.552	5.188	2.38	2-7/8
6-5/8	24 - 32	5.675	5.920	5.500	2.50	2-7/8
6-5/8	32 - 34.5	5.575	5.675	5.312	2.50	2-7/8
6-5/8	17 - 24	5.921	6.135	5.750	2.50	2-7/8
6-5/8	20 - 24	5.921	6.049	5.750	3.00	3-1/2
6-5/8	20	6.049	6.049	5.812	3.00	3-1/2
7	26 - 32	6.094	6.276	5.875	2.50	2-7/8
7	29 - 35	6.004	6.184	5.812	2.50	2-7/8
7	17 - 26	6.276	6.538	6.062 *	2.50	2-7/8
7	26 - 32	6.094	6.276	5.875	3.00	3-1/2
7	17 - 26	6.276	6.538	6.125 *	3.00	3-1/2
7-5/8	24 - 29.7	6.875	7.025	6.672	2.50	2-7/8
7-5/8	33.7 - 39	6.625	6.765	6.453	2.50	2-7/8
7-5/8	33.7 - 39	6.625	6.765	6.453	3.00	3-1/2
7-5/8	24 - 29.7	6.875	7.025	6.672	3.00	3-1/2
8-5/8	28 - 40	7.725	8.017	7.500	4.00	4-1/2
8-5/8	24 - 40	7.725	8.097	7.500	2.50	2-7/8
8-5/8	44 - 49	7.511	7.625	7.312	2.50	2-7/8
8-5/8	28 - 40	7.725	8.017	7.500	3.00	3-1/2
9-5/8	43.5 - 53.5	8.535	8.755	8.250	4.00	4-1/2
9-5/8	32.3 - 43.5	8.755	9.001	8.500	4.00	4-1/2
10-3/4	32.75 - 45.5	9.560	10.192	9.700	4.00	4-1/2
10-3/4	45.5 - 51	9.85	9.950	9.625	4.00	4-1/2
10-3/4	51 - 65.7	9.560	9.850	9.312	4.00	4-1/2
11-3/4	42 - 65	10.682	11.084	10.438	4.00	4-1/2
13-3/8	54.5 - 77	12.275	12.615	12.000	4.00	4-1/2

# ADI Tension Packer

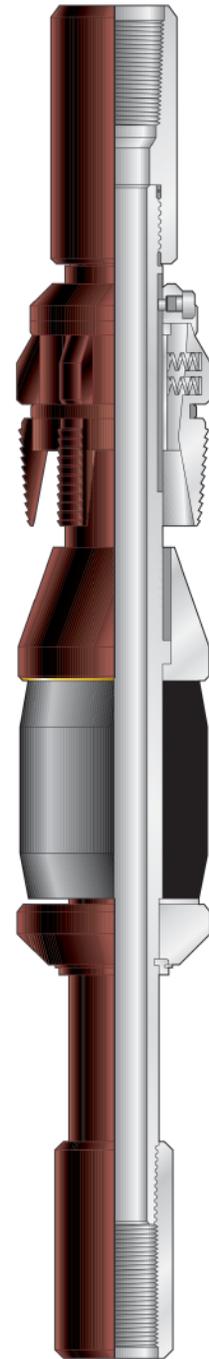
The AD-I tension packer is a compact, economical, retrievable packer. Primarily used in waterflood applications, it can also be used for production, treating operations, and when a set-down packer is impractical. And because the AD-I is tension-set, it is ideally suited for shallow wells where set-down weight is not available.

## Features

- **Rugged rocker-type slips**
- **Bore-through-the-packer mandrel is larger than drift**
- **Simple, low cost packer for fluid injection**
- **Three release methods ensure retrievability**
- **Uses proven one-piece packing element**

## Additional Information

Wellfirst also offers a large-bore version of the AD-I and offers the same features and benefits; running and retrieving operations are also the same.



The Coiled Tubing Packer Isolation Tool is used with coiled tubing to isolate a given interval of a well bore to facilitate stimulation operations such as hydraulic fracturing or acid injection. The isolated interval may be adjusted using standard tubing pup joints. Although designed for use on coiled tubing, the packer-type selective tool may also be used on conventional tubing. The Coiled Tubing Packer Isolation Tool employs a compression set packer to isolate the bottom portion of the well.

The packer utilizes a continuous J system that is operated simply by reciprocating the tubing string. Each full reciprocation moves the packer from set to released position and/or from released to set position. The packer also incorporates a bearing system that ensures free and reliable operation of the J. The upper seal is maintained with a reinforced packer cup. It is recommended that a Coiled Tubing Safety Sub be run with the selective isolation tool.

### Features

- Large fluid bypass area around the packer
- May be used in horizontal wells
- Easily spaced out with conventional EUE tubing
- Large ports to insure no pressure drop between tubing and the isolated interval during hydraulic fracturing treatments
- Packer utilizes internal bearings to ensure trouble-free operation of the packer J

Coiled Tubing Packer Isolation Tool			
Casing Size	Casing Weight	Minimum Spacing	Connection
in	lbs/ft	in	in
mm	kg/m	mm	mm
4-1/2	9.5 – 11.6	18	2-3/8 EUE
114.3	14.1 - 20.1		
5-1/2	13 – 15.5		
139.7	19.3 – 23.1	457	60.30 EUE
5-1/2	15.5 – 17		
127.0	23.1 – 25.3		



The Coiled Tubing Selective Packer is used with coiled tubing to isolate a given interval of a wellbore to facilitate stimulation operations such as hydraulic fracturing or acid injection, or for flow testing operations. The isolated interval may be adjusted using standard tubing pup joints. Although designed for use on coiled tubing, the cup-type selective tool may also be used on conventional tubing. The Coiled Tubing Selective Packer utilizes reinforced packer cups to reliably isolate the desired interval. The use of packer cups results in an economical and reliable tool that does not require any system to set or unset the tool. It is recommended that a Safety Shear Sub be run with the selective isolation tool.

### Features

- **No setting or unsetting procedures**
- **May be used in horizontal wells**
- **Easily spaced out with conventional EUE tubing**
- **Large ports to insure no pressure drop between tubing and the isolated interval during hydraulic fracturing treatments**

Coiled Tubing Selective Packer			
Casing Size	Casing Weight	Minimum Spacing	Connection
in	lbs/ft	in	in
mm	kg/m	mm	mm
4-1/2	9.5 – 11.6	12	2-3/8 EUE
114.3	14.1 – 20.1		
5-1/2	13 – 15.5		
139.7	19.3 – 23.1	305	60.30 EUE
5	15.5 – 17		
127.0	23.1 – 25.3		



## Coiled Tubing Tension Packer

## Service Equipment

The Coiled Tubing Tension Packer is a tension set mechanical packer designed to be used on coiled tubing, but may also be run on conventional tubing if required. The unique design of the Coiled Tubing Packer allows the packer to be set and released without tubing rotation. The packer also incorporates a secondary adjustable shear release that may be used to unset the packer if normal releasing procedures don't work.

The packer operates on a continuous automatic J system. Each time the packer is moved downward and then up in the well bore the J system automatically moves from either the running to the set position or alternately from the set to running positions. For example, when running the packer in the well if the tubing is stopped and then moved upward the packer will be in the set position and the slips will engage the casing as the packer moves up and stop the upward movement. The application of additional tension force on the tubing will cause the packer element to extrude and seal against the casing. After setting if downward movement is applied the packer element will relax and the slips will disengage from the casing and continued downward movement will automatically move the J into the running position, which will allow the packer to then be moved up the well bore without the slips engaging the casing. Following this with downward movement will again move the J back to the set position. The Coiled Tubing Packer is available with a variety of top subs to accommodate most type of coiled tubing connectors.



Coiled Tubing Tension Packer			
Casing Size	Casing Weight	Packer O.D.	Maximum I.D.
in	lbs/ft	in	in
mm	kg/m	mm	mm
4-1/2	9.5 - 13.5	3.771	1.933
114.3	14.1 - 20.1	95.8	
5-1/2	13 - 15.5	4.781	49.1
	19.3 - 23.1	121.4	
139.7	15.5 - 17	4.641	
	23.1 - 25.3	117.9	
7	17 - 20	6.266	2.441
	25.3 - 29.8	159.2	
	23 - 26	5.968	
177.8	34.2 - 38.7	154.4	62.0
	26 - 29	5.812	
	38.7 - 43.1	151.6	

# AR-10 Double-Grip Mechanical Packer

# Service Equipment



The AR-10 Packer combines high performance with retrievability. This mechanical double-grip packer is designed for applications in which high differential pressures of up to 10,000 psi (69,000 kPa) are anticipated. This makes the AR-10 an ideal choice for use in completing wells that are to undergo hydraulic fracturing treatments, or for use with tubing conveyed perforating systems. The AR-10 is available in a wireline set version as well as the standard tubing set version.

## Features

- **10,000 psi (69,000 kPa) pressure rating on most sizes which makes the AR-10 suitable for hydraulic fracturing and TCP applications.**
- **The packer both sets and releases with 1/3 turn right-hand rotation (at the packer).**
- **When set, the pack-off force is locked into the packer independent of tubing forces.**
- **Pressure differentials directly load the slips on the low-pressure side of the packer, which allows the packer to reliably hold high differential pressures.**
- **The AR-10 has the largest available through bore diameter, which allows for the easy passage of wireline devices through the packer.**
- **A pressure equalizing system allows for safe and easy releasing of the packer.**
- **The packer contains an integral secondary safety release, which may be activated by right-hand rotation if the packer cannot be released normally.**
- **The design allows the packer to be set shallow using tubing tension to fully set the packer.**
- **Reliable field proven three-element pack-off system.**

AR-10 Double-Grip Mechanical Packer									
Casing Size		Casing Weight		Packer O.D.		Packer I.D.		Connections	
in	mm	lbs/ft	kg/m	in	mm	in	mm	in	mm
4-1/2	114.3	9.5 - 13.5	14.1 - 20.1	3.75	95.3	1.93	49.2	2-3/8	60.3
5	127	11.5 - 13	17.1 - 19.3	4.25	108.0				
		15 - 18	22.3 - 26.8	4.12	104.8				
5-1/2	139.7	13 - 15.5	19.5 - 23.1	4.78	119.7	2.375	60.33	2-7/8	73.0
		15.5 - 20	23.1 - 25.3	4.64	117.9				
6-5/8	168.3	24 - 28	35.7 - 41.7	5.62	142.9	2.441	62.0	2-7/8	73.0
		28 - 32	41.7 - 47.6	5.484	139.3				
7	177.8	20 - 26	29.8 - 38.7	6.08	154.4	2.441	62.0	2-7/8	73.0
		26 - 29	38.7 - 43.1	5.97	151.6				
7-5/8	193.7	32 - 35	47.6 - 52.17	5.81	147.6	2.441	62.0	2-7/8	73.0
		24 - 29.7	35.7 - 44.2	6.67	169.5				
7-5/8	193.7	33.7 - 39	50.1 - 58.0	6.45	163.9	2.441	62.0	2-7/8	73.0
		20 - 28	29.8 - 41.7	7.78	197.6				
8-5/8	219.1	32 - 40	47.6 - 59.5	7.531	191.3	3.00	76.2	3-1/2	88.9
		44 - 49	65.5 - 72.9	7.312	185.7				
9-5/8	244.5	29.3 - 36	43.6 - 53.6	8.593	218.3	3.00	76.2	3-1/2	88.9
		40 - 47	59.5 - 69.9	8.437	214.3				
9-5/8	244.5	47 - 53.5	69.9 - 79.6	8.218	208.7	3.00	76.2	3-1/2	88.9

# HydroSeal Dual Retrievable Packer

The HydroSeal Dual Retrievable Packer is a high performance hydraulic set, dual string, and double grip production packer. This packer is utilized for most dual zone production or injection applications. The HydroSeal Dual Retrievable Packer can run as the upper packer where the bottom packer normally is a single string seal bore packer, or in tandem dual completions that require selective setting. The wellhead can be installed and flanged up before setting the packer.

## Features

- No tubing movement during the setting sequence
- Can be used in conjunction with packer penetrators for ESP installations
- Sequential upper slip releasing system reduces the releasing force
- Long string set
- Optional short string set
- Straight pull release
- Variety of tubing connections and anchor seal assemblies are available for the short string
- Multiple piece packing element system
- May be used for tandem packer installations
- Selective set
- Economical

## Operation

Run as per supervision.

HydroSeal Dual Retrievable Packer									
Casing				Tool	Min Bore		Thread Spec.		Part No.
O.D. mm	Weight kg/m	I.D. Min mm	I.D. Max mm	O.D. Max mm	F/Long String mm	F/Short String mm	F/Long String mm	F/Short String mm	
177.80	34.23 - 47.62	154.79	161.70	150.80	49.23	49.23	60.33 EU 8RD	60.33 EU 8RD	20-009A-7023
	25.30 - 43.15	157.07	166.07	152.40					
244.48	69.94 - 79.61	216.79	220.50	211.33	74.65	74.65	88.90 EU 8RD or NEW VAM	88.90 EU 8RD or NEW VAM	20-009A-9535
	53.57 - 69.94	220.50	226.59	215.90					
O.D. in	Weight lb/ft	I.D. Min in	I.D. Max in	O.D. Max in	F/Long String in	F/Short String in	F/Long String in	F/Short String in	
7	23 - 32	6.09	6.36	5.94	1.93	1.93	2-3/8 EU 8RD	3 8RD	20-009A-7023
	17 - 29	6.18	6.53	6.00					
9-5/8	47 - 53.5	8.53	8.68	8.32	2.93	2.93	3-1/2 EU 8RD or NEW VAM	3-1/2 EU 8RD or NEW VAM	20-009A-9535
	36 - 47	8.68	8.92	8.50					



# Limit 75 Double-Grip Mechanical Packer

Retrievable Packers & Accessories



The Limit 75 Double-Grip Mechanical Packer is an economical and reliable medium performance retrievable production packer. This packer is suitable for most standard production, testing, isolation, and injection applications.

## Features

- **7,500 psi (51,000 kPa) pressure rating on most sizes**
- **Packer both sets and releases with 1/3 turn right-hand rotation**
- **Setting fully locks the pack-off force into the packer independent of tubing forces**
- **Pressure differential directly load the slips on the low-pressure side of the packer**
- **The Limit 75 has the largest available through bore diameter**
- **A pressure equalizing system allows for safe and easy releasing of the packer**
- **Packer contains an integral secondary safety release**
- **Design allows the packer to be set shallow using tubing tension**
- **One-piece mandrel minimizes possible weak points of leak paths**

Limit 75 Double-Grip Mechanical Packer									
Casing Size		Casing Weight		Packer O.D.		Packer I.D.		Connections	
in	mm	lbs/ft	Kg/m	in	mm	in	mm	in	mm
4-1/2	114.3	9.5 – 13.5	14.1 – 20.1	3.75	95.3	1.93	49.02	2-3/8	60.3
5-1/2	139.7	13 – 17	19.3 – 25.3	4.688	119.7	2.375	60.33	2-7/8	73.0
7	177.8	17 – 20	25.3 – 29.8	6.25	158.7	2.441	62.00		
7	177.8	20 – 26	29.8 – 38.7	6.05	153.6	2.441	62.00		

# Shear Set/Shear Release Tension Packer

Packers & Accessories

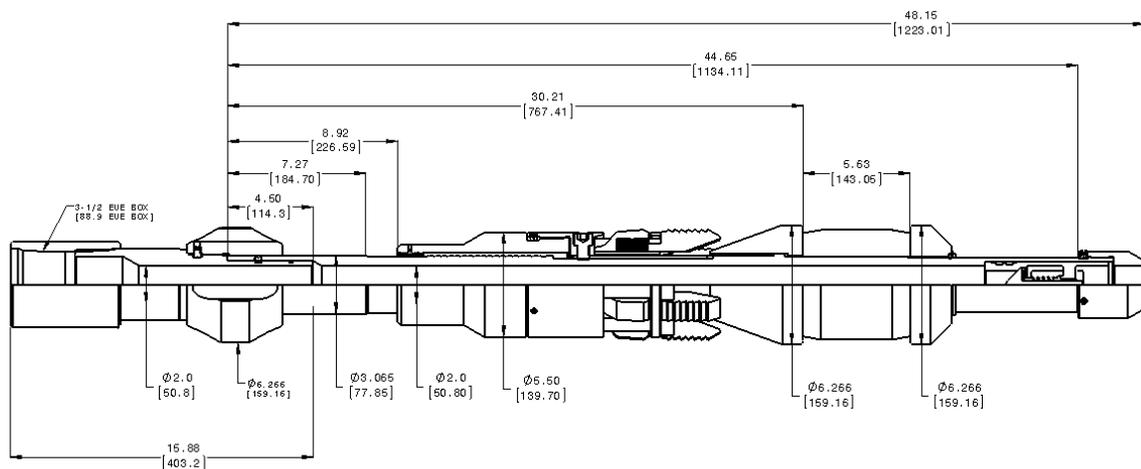
Shear Set/Shear Release Tension Packer is an economical, tension set, packer that is designed to be run on the Shear Set/Shear Release Tension Packer Running Tool. The packer is designed for low pressure applications where circulating the packer into the hole is desired yet the packer must act as a bridge plug to prevent fluid intrusion from below after the running string has been removed from the well. An example application may be chasing and holding down a wiper plug that has migrated up hole.

## Features

- **Proven slip and element design interchangeable with other manufacturers.**
- **Mechanical set design with j-slot for simple jointed tubing movement during setting.**
- **Tension set with adjustable shear mechanism for limiting pack-off force applied to the element.**
- **Locking ring holds pack-off set force into the element and slips after the packer is set and the running tool has been retrieved from the hole.**
- **Straight pull tension release using industry standard fishing overshot.**
- **Industry standard float valve allows circulation through the packer while running in and prevents fluid intrusion from below when the packer is left in downhole in the set position.**

Casing		Packer				Running Tool		
OD mm (in)	Weight kg/m (lb/ft)	Max OD mm (in)	Fish Neck OD mm (in)	Max Working Pressure Below Element kPa (psi)	Part No	Max OD mm (in)	Thread Up	Part No
177.8 (7)	25.30-29.76 (17.0-20.0)	159.16 (6.266)	77.85 (3.065)	7,000 (1,015)	102762	159.16 (6.266)	88.9 EUE Box (3-1/2 EUE Box)	104265

Packer 177.8mm (25.30-29.76kg/m): **102762**  
Running Tool: **104265**



# SR-3 Double-Grip Retrievable Packer

The SR-3 Double-Grip Retrievable Packer is a truly versatile setdown-type packer. Proven by its worldwide use, it performs reliably in production, stimulation, and testing operations.

## Features

- **Hydraulic button-type hold down located below the bypass valve**
- **Unique, built-in differential lock helps keep the bypass valve closed**
- **Effective bypass design speeds equalization and resists swab-off**
- **Field-proven, three-element packing system and rocker-type slips**

## To Set the Packer

The SR-3 Double-Grip Retrievable Packer is set by picking up, rotating to the right and then slack- ing off on the tubing. Setdown weight closes the seal on the bypass, sets the slips and packs off the packing elements.

## To Release Packer

Picking up the tubing releases the packer (no rotation required). When the tubing is raised, the bypass valve opens to permit circulation through and around the packer. When the tubing string is raised the full length of the packer, the J-pins (on the bottom sub) are oriented for automatic reengagement. By then lowering the tubing slightly, the J-pin engages the J-slot thus assuring complete release and preventing accidental resetting while retrieving the packer.

SR-3 Double-Grip Retrievable Packer					
Tubing O.D. in	Tubing Weight lb/ft	Tool Size	Gauge, Guide Ring O.D.	Nominal Tool I.D. in	Approx. Tool Length in
7	20 – 26	47B4	6.078	2.5	96.2



# XT-2 Service Packer

# Service Equipment

The XT-2 Service Packer is a quarter-turn, compression set, retrievable packer that is capable of holding high pressure from above and below. It is used for acidizing, fracturing, cementing, and casing pressure tests.

## Features

- Full opening packer bore
- Hydraulic hold down pistons for pressure from below
- Built in unloader system
- Large by-pass area
- Left-hand manual J is standard
- Other J systems are available
- Internal latch mechanism allows circulation at high rates of speed



XT-2 Service Packer							
Casing				Packer		Thread Connection	
Size in	Weight Range lb/ft	Min in	Max in	Size	Max O.D. in		
4-1/2	9.5 – 13.5	3.920	4.090	43A	3.75	2.375 EU 8RD	
5	15 – 18	4.408	4.276	43B	4.110		
5-1/2	20 – 23	4.670	4.778	45A2	4.500		
	15.5 – 20	4.778	4.892	45A4	4.640		
	13 – 15.5	4.892	5.044	45B	4.760		
7	32 – 35	6.004	6.094	47A4	5.812	2.875 EU 8RD	
	26 – 29	6.094	6.276	47B2	5.950		
	20 – 26	6.276	6.538	47B4	6.078		
7-5/8	33.7 – 39	6.625	6.765	47C4	6.453		2.875 EU 8RD
	26.4 – 33.7	6.765	6.969	47C6	6.593		
	24 – 29.7	6.875	7.025	47D2	6.672		
	20 – 24	7.025	7.125	47D4	6.812		
mm	kg/ft	mm	mm	Size	mm		
114.3	14.14 – 20.09	99.57	103.89	43A	95.25	66.33 EU 8RD	
127	22.32 – 26.78	111.96	108.61	43B	104.39		
139.7	29.76 – 34.22	118.62	121.36	45A2	114.30		
	23.06 – 29.76	121.36	124.26	45A4	117.86		
	19.34 – 23.06	124.26	128.12	45B	120.90		
177.8	47.62 – 52.08	152.50	154.79	47A4	147.62	73.03 EU 8RD	
	38.69 – 43.15	154.79	159.41	47B2	151.43		
	29.76 – 38.69	159.41	166.07	47B4	154.38		
193.68	50.15 – 58.03	168.28	171.83	47C4	163.91		73.03 EU 8RD
	39.28 – 50.15	171.83	177.01	47C6	167.46		
	35.71 – 44.19	174.63	178.44	47D2	169.47		
	29.76 – 35.71	178.44	180.98	47D4	173.02		

## Stage Simulation Tool

## Service Equipment

The Stage Stimulation Tool (SST) is a cup-type packer assembly specifically designed to isolate and selectively acidize predetermined intervals of perforations. The SST can be set to isolate an interval as small as 12 inches. The specially designed cups and a large built-in annular by-pass, make the SST easy to run and retrieve. Drag blocks, using Inconel springs, provide drag for a positive method of opening and closing the by-pass valve. The SST uses a retrievable drop bar to blank off the bottom of the tool. If used in highly deviated wells, a blow plug may be substituted.

### Features

- Long-lasting, heavy-duty, basket-type casing cups with full backup
- Simple operation
- Retrievable drop bar
- If required, a drop bar may be retrieved on wireline
- Large interval by-pass for ease of running and pulling

Stage Stimulation Tool					
Casing		Packer			Thread Connection
Size in	Weight Range lb/ft	Product Number	Min Bore in	Thimble O.D. in	
4-1/2	9.5 – 13.5	10-027-4500	1.25	3.771	2-3/8 EUE
5-1/2	20 – 23	10-027-5501	1.75	4.500	
	15.5 – 17	10-027-5502		4.625	
	13 – 15.5	10-027-5503		4.781	
7	32 – 35	10-027-7001	2.25	5.780	2-7/8 EUE
	23 – 26	10-027-7002		5.940	
	17 – 20	10-027-7003		6.210	
8-5/8	40 – 49	10-027-8500		8.410	
9-5/8	47 – 53.5	10-027-9500		8.250	
mm	kg/m		mm	mm	
114.3	14.1 - 20.19	10-027-4500	31.8	95.8	2-3/8 EUE
139.7	29.8 - 34.2	10-027-5501		114.3	
	23.1 - 25.36	10-027-5502		117.5	
	19.3 - 23.1	10-027-5503		121.4	
177.8	47.6 - 52.1	10-027-7001	44.5	146.8	2-7/8 EUE
	34.2 - 38.7	10-027-7002		150.9	
	25.3 - 29.8	10-027-7003		157.7	
219.1	59.5 - 72.9	10-027-8500	57.2	213.6	
244.5	69.9 - 79.6	10-027-9500		209.6	



# Straddle Packer Selective Acidizing Tool

# Service Equipment

The Straddle Packer Selective Acidizing Tool is an ideal straddle packer for applications involving short intervals. The design of the packer allows spacing from 1 ft (0.3m) up to 3.3 ft (1m). It works equally well for selective stimulation work, as well as for selective testing of perforations. The Three-Turn Rotational Circulating Valve is usually run in conjunction with this tool. Often a fluid Control Valve and/or a Type C Collar Locator is used in conjunction with the Straddle Packer.

## Features

- **Reliable three-element pack-off system**
- **Spacing as small as 1 ft (0.3m)**
- **Simplicity of operation**

Straddle Packer Selective Acidizing Tool						
Casing				Packer		Thread Connection
Size	Weight Range	Min	Max	Size	Max O.D.	
in	lb/ft	in	in		in	
4-1/2	9.5 - 13.5	3.920	4.090	43A	3.75	2.375 EU 8RD
5	15 - 18	4.408	4.276	43B	4.110	
5-1/2	20 - 23	4.670	4.778	45A2	4.500	
	15.5 - 20	4.778	4.892	45A4	4.640	
	13 - 15.5	4.892	5.044	45B	4.760	
7	32 - 35	6.004	6.094	47A4	5.812	2.875 EU 8RD
	26 - 29	6.094	6.276	47B2	5.950	
	20 - 26	6.276	6.538	47B4	6.078	
7-5/8	33.7 - 39	6.625	6.765	47C4	6.453	
	26.4 - 33.7	6.765	6.969	47C6	6.593	
	24 - 29.7	6.875	7.025	47D2	6.672	
	20 - 24	7.025	7.125	47D4	6.812	
mm	kg/ft	mm	mm		mm	
114.3	14.14 - 20.09	99.57	103.89	43A	95.25	66.33 EU 8RD
127	22.32 - 26.78	111.96	108.61	43B	104.39	
139.7	29.76 - 34.22	118.62	121.36	45A2	114.3	
	23.06 - 29.76	121.36	124.26	45A4	117.86	
	19.34 - 23.06	124.26	128.12	45B	120.9	
177.8	47.62 - 52.08	152.5	154.79	47A4	147.62	73.03 EU 8RD
	38.69 - 43.15	154.79	159.41	47B2	151.43	
	29.76 - 38.69	159.41	166.07	47B4	154.38	
193.68	50.15 - 58.03	168.28	171.83	47C4	163.91	
	39.28 - 50.15	171.83	177.01	47C6	167.46	
	35.71 - 44.19	174.63	178.44	47D2	169.47	
		178.44	180.98	47D4	173.02	

