



Always Striving Beyond Reaching

CHENGDU ASBR TECHNOLOGY CO., LTD.
Well Completion Tools Product Manual



B4-3, No. 199, Hugiao Road, Industrial East District, Xindu District, Chengdu
www.asbrtec.com
Email: sales@asbrtec.com
Tel: +86 028-83660791

Tools research & development
Manufacture, test & maintenance
Tools sale, rental & service
Filed engineering support & solution



CONTENT

I Bridge Plug & Cement Retainer System

1.1 DB Dissolvable Bridge Plug	01
1.2 DB-M Full-Metal Dissolvable Bridge Plug	03
1.3 CFB Series Composite Bridge Plug	05
1.4 CIB-W Cast Iron Bridge Plug	07
1.5 CIB-M Cast Iron Bridge Plug	09
1.6 CIB-HM Integrated Cast Iron Bridge Plug	11
1.7 ASB-R Retrievable Bridge Plug	13
1.8 CIB-T Thru Tubing Bridge Plug	15
1.9 CIR Series Cement Retainer	17
1.10 ST-E Wireline Setting Tool	19
1.11 ST-J Hydraulic Setting Tool	21
1.12 ST-K Mechanical Setting Tool	23
1.13 SS-B Insert Seal Nipple	25
1.14 BS-S Spring Centralizer	25

II Permanent Packer System

2.1 PS Seal Bore Packer	27
2.2 PD Seal Bore Packer	29
2.3 PHS Hydraulic Packer	31
2.4 PHD Hydraulic Packer	33
2.5 PRH Hydraulic Packer	35
2.6 SS-G Series Insert Seal Assembly	37
2.7 SS-K Series Anchor Seal Assembly	38
2.8 EJ-N Expansion Joint	39
2.9 Seal Bore Extension	41
2.10 Milling Extension	42

III Retrievable Packer System

3.1 RHS-Y Hydraulic Packer (Y341)	43
3.2 RHS-K Hydraulic Packer (K341)	45
3.3 RHS-B Hydraulic Packer (Y441)	47
3.4 RHS-C Hydraulic Packer (Y441)	49
3.5 RHS-F Hydraulic Packer (Y541)	51

IV Re-settable Packer System

4.1 RTTS Mechanical Packer	53
4.2 MMS-W Mechanical Packer (Y211)	55
4.3 MRS-HP Mechanical Packer (Y422)	57
4.4 MRS-LS Mechanical Packer (Y422)	59
4.5 MRS-CS Mechanical Packer (Y521)	61
4.6 MRS-JS Mechanical Packer (Y521)	63
4.7 MHS-K Hydraulic Packer (K344)	65
4.8 MHS-Y Hydraulic Packer (Y344)	67

BRIDGE PLUG & CEMENT RETAINER SYSTEM

1.1 DB Dissolvable Bridge Plug



The DB series dissolvable bridge plug is a core isolation tool for multi-stage fracturing in oil and gas wells. It integrates full-metal dissolvable materials with polymer degradation technology, combining anchoring and sealing functions. It auto-dissolves downhole at a controllable rate without requiring drill-out, leaving no residual debris and ensuring full-bore casing drift for subsequent production.

The DB series bridge plug features a modular design, compatible with industry-standard wireline or hydraulic setting tools. DB-S (single-slip) and DB-D (dual-slip) configurations are available. The DB-D type offers higher reliability and can withstand upward pressure from below, though with a longer dissolution time. It can also be quickly configured as ball-drop, ball-cage, or blind-plug type to suit various operational requirements.

The DB series bridge plug is precisely compatible with 2 7/8in~5 1/2in API casing of 140ksi grade and below. Certain products can withstand differential working pressures up to 90MPa (13,000psi), with an operating temperature range of 30~150°C (86~300°F).

APPLICATION SCENARIOS

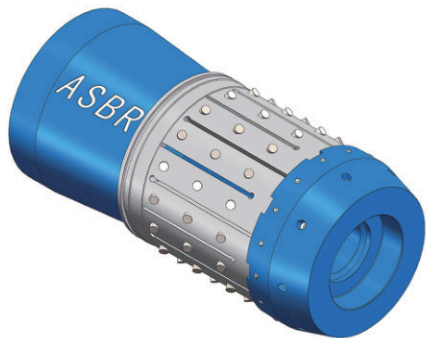
Primarily applied in fracturing stimulation operations for unconventional oil and gas, shale gas, shale oil, coalbed methane, and tight gas.

STRUCTURAL FEATURES

- Simple and reliable structure
- Complete dissolution rate exceeds 98%
- Special surface coating suitable for acid fracturing operations
- Ceramic-metal slip buttons, applicable to casing up to 140ksi grade
- Pressure-bearing: >24h; Dissolution: 3~7 days (favorable conditions)
- Optimized selection of dissolvable materials based on specific well conditions

Casing & Tubing						Bridge Plug				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
2 7/8	6.4	62.00	2.44	-	-	56	56.00	2.20	10.16	0.40
3 1/2	9.2	76.00	2.99	-	-	68	68.00	2.68	19.94	0.79
4	10.7	88.30	3.48	-	-	78	79.00	3.11	24.89	0.98
4 1/2	13.5-15.1	99.56	3.92	97.18	3.83	88	88.00	3.46	34.92	1.38
5	18	108.62	4.28	-	-	95	95.25	3.75	47.62	1.88
5 1/2	17	124.26	4.89	-	-	110	109.98	4.33	47.62	1.88
5 1/2	20	121.36	4.78	-	-	108	107.95	4.25	47.62	1.88
5 1/2	23	118.62	4.67	-	-	105	104.90	4.13	47.62	1.88
5 1/2	26.8	114.30	4.50	-	-	100	100.80	3.94	47.62	1.88
5 1/2	26.8	114.30	4.50	-	-	98	98.04	3.86	47.62	1.88

1.2 DB-M Full-Metal Dissolvable Bridge Plug



The DB-M is a full-metal dissolvable bridge plug for high-temperature multi-stage fracturing. With no rubber parts, it eliminates high-temperature failure and sticking issues caused by incomplete dissolution. The single-slip and metal seal design reduce dissolution volume and time, achieving 50% faster dissolution than conventional plugs.

The DB-M bridge plug features a modular design, compatible with industry-standard wireline or hydraulic setting tools. It achieves release through the lower connection and pressure isolation through upper ball-drop activation.

The DB-M bridge plug is precisely compatible with 2 7/8in~5 1/2in API casing of 140ksi grade and below. Certain products can withstand differential working pressures up to 80MPa (11,600psi), with an operating temperature range of 30~204°C (86~400°F).

APPLICATION SCENARIOS

Primarily applied in fracturing stimulation operations for unconventional oil and gas, shale gas, shale oil, coalbed methane, and tight gas.

STRUCTURAL FEATURES

- Simple and reliable structure with full-metal, rubber-free design
- Wide operating temperature range, faster dissolution rate, complete dissolution rate exceeds 98%
- Special surface coating suitable for acid fracturing operations
- Ceramic-metal slip buttons, applicable to casing up to 140ksi grade
- Pressure-bearing >24h; dissolves within 3–7 days (favorable conditions).
- Optimized selection of dissolvable materials based on specific well conditions; Technical Specification

Casing & Tubing						Bridge Plug				
Size	Weight	Max ID		Max ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
2 7/8	6.4	62.00	2.44	-	-	56	56.00	2.20	10.16	0.40
3 1/2	9.2	76.00	2.99	-	-	68	68.00	2.68	19.94	0.79
4	10.7	88.30	3.48	-	-	78	79.00	3.11	24.89	0.98
4 1/2	13.5-15.1	99.56	3.92	97.18	3.83	88	88.00	3.46	34.92	1.38
5	18	108.62	4.28	-	-	95	95.25	3.75	40.13	1.58
5 1/2	17	124.26	4.89	-	-	110	109.98	4.33	47.75	1.88
5 1/2	20	121.36	4.78	-	-	108	107.95	4.25	47.75	1.88
5 1/2	23-26	118.62	4.67	117.30	4.63	105	104.90	4.13	44.45	1.75

1.3 CFB Series Composite Bridge Plug



The CFB series is a composite bridge plug for multi-stage fracturing. Made of premium fiberglass via proprietary processing, it offers excellent mechanical strength, corrosion resistance, and high-temperature performance. Fully non-metallic, it drills out in 5-30 min post-operation with fine, lightweight debris easily circulated out.

It offers modular design, compatible with standard wireline or hydraulic setting tools. Available in CFB-S (single-slip) and CFB-D (dual-slip) versions. CFB-D provides higher reliability and upward pressure resistance, but with longer drill-out time. Configurable as ball-drop, ball-cage, or blind-plug types for diverse operations.

The CFB series bridge plug is precisely compatible with 4in~5 1/2in API casing of 110ksi grade and below. Certain products can withstand differential working pressures up to 103.5MPa (15,000psi), with an operating temperature range of 30~176.7°C (86~350°F).

APPLICATION SCENARIOS

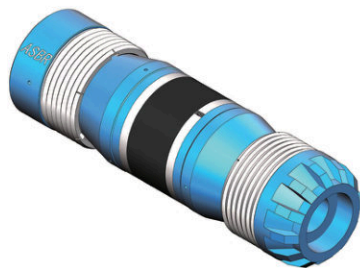
- Fracturing stimulation operations for unconventional oil and gas, shale gas, shale oil, coalbed methane, and tight gas
- Temporary isolation (removable as required)
- Fracturing or isolation in corrosive environments

STRUCTURAL FEATURES

- Simple and reliable structure
- Bottom anti-drill structure enhances drill-out efficiency
- Embedded slip design eliminates metal components, improving drillability
- Fast drill-out speed with small, easily circulated debris
- Applicable to casing up to 110ksi grade
- Versatile configurations: ball-drop, ball-cage, and blind-plug types

Casing & Tubing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
4	9.5-13.2	90.12	3.55	84.84	3.34	82	81.80	3.22
4 1/2	9.5-15.1	103.88	4.09	97.12	3.826	92	91.70	3.61
5	11.5-21.4	115.82	4.56	104.80	4.13	100	99.57	3.92
5 1/2	15.5-23.0	125.74	4.95	118.62	4.69	112	111.51	4.39
5 1/2	23.0-26.8	118.62	4.67	114.30	4.50	105	104.90	4.13

1.4 CIB-W Cast Iron Bridge Plug



The CIB-W is a cast iron bridge plug for permanent well plugging. It integrates anchoring, sealing, and locking with a solid slip for maximum casing contact and a one-piece packing element with metal back-up rings for reliable sealing under downhole variations. The cast iron body is millable if removal is required. Ideal for zone abandonment and isolation.

The CIB-W cast iron bridge plug features a modular design, compatible with industry-standard wire-line or hydraulic setting tools. It is compatible with 2 3/8in~20in API casing of 140ksi grade and below. Certain products can withstand differential working pressures up to 68.9MPa (10,000psi) at temperatures up to 204°C (400°F).

APPLICATION SCENARIOS

- Permanent plugging of abandoned wells
- Complex zone isolation

STRUCTURAL FEATURES

- Simple and reliable structure
- Classic dual-slip design, withstands bidirectional differential pressure
- Optional embedded slip structure, applicable to casing up to 140ksi grade
- Unidirectional thread ring design ensures safe setting under pressure variations
- Optional elastomer materials, temperature rating up to 204°C (400°F)

Casing & Tubing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
2 3/8	4.0-5.8	51.84	2.04	47.42	1.87	44	44.45	1.75
2 7/8	6.4	62.00	2.44	-	-	56	56.39	2.22
3 1/2	7.7-10.2	77.93	3.07	76.00	2.99	70	69.85	2.75

Casing & Tubing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
3 1/2	12.7-15.5	69.85	2.75	64.72	2.55	62	61.72	2.43
4	9.5-17.2	90.12	3.55	84.84	3.34	80	79.76	3.14
4 1/2	9.5-15.1	180.09	7.09	97.18	3.83	91	91.19	3.59
5	11.5-18.0	115.82	4.56	108.61	4.28	100	99.82	3.93
5 1/2	14.0-23.0	127.30	5.01	118.62	4.67	109	109.47	4.31
5 1/2	26.8	114.30	4.50	-	-	105	104.90	4.13
5 3/4	14.0-25.2	134.37	5.29	124.21	4.89	119	119.38	4.70
6 5/8	20.0-32.0	153.64	6.05	144.15	5.68	136	136.40	5.37
7	23.0-35.0	161.70	6.37	154.79	6.09	144	144.27	5.68
7	17.0-23.0	166.07	6.54	161.70	6.37	152	152.40	6.00
7 5/8	24.0-39.0	178.44	7.03	168.28	6.63	160	160.27	6.31
8 5/8	24.0-49.0	205.66	8.10	190.78	7.51	180	180.85	7.12
9 5/8	32.3-58.4	228.63	9.00	214.25	8.44	206	206.25	8.12
10 3/4	32.75-60.7	258.88	10.19	245.36	9.66	239	239.52	9.43
11 3/4	42.0-60.0	281.53	11.08	273.61	10.77	265	264.92	10.43
11 3/4	60.0-71.0	273.61	10.77	264.92	10.43	252	252.48	9.94
13 3/8	48.0-72.0	322.96	12.72	313.61	12.35	302	301.75	11.88
16	65.0-109.0	387.35	15.25	373.08	14.69	358	358.65	14.12
20	94.0-133.0	485.75	19.12	475.74	18.37	466	466.60	18.37

1.5 CIB-M Cast Iron Bridge Plug



The CIB-M cast iron bridge plug is a permanent downhole isolation tool. It integrates anchoring, sealing, and locking with a solid slip for maximum casing contact, and a one-piece packing element with metal back-up rings for seal integrity under downhole variations. A built-in plug design allows quick conversion to a cement retainer. The cast iron body is millable. Ideal for zone abandonment and isolation.

The CIB-M cast iron bridge plug features a modular design, compatible with industry-standard mechanical setting tools. It is compatible with 4 1/2in~20in API casing of 140ksi grade and below. Certain products can withstand differential working pressures up to 68.9MPa (10,000psi) at temperatures up to 204°C (400°F).

APPLICATION SCENARIOS

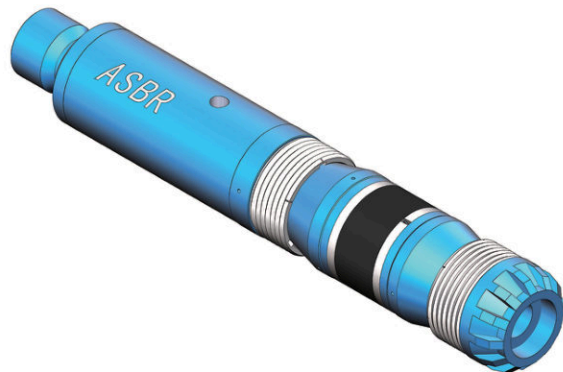
- Permanent plugging of abandoned wells
- Complex zone isolation
- Wells without hydraulic or wireline setting capability

STRUCTURAL FEATURES

- Simple and reliable structure
- Classic dual-slip design, withstands bidirectional differential pressure
- Optional embedded slip structure, applicable to casing up to 140ksi grade
- Unidirectional thread ring design ensures safe setting under pressure variations
- Optional elastomer materials, temperature rating up to 204°C (400°F)
- CIB-M bridge plug can be quickly converted to CIR-M cement retainer

Casing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
4 1/2	9.5-15.1	180.09	7.09	97.18	3.83	91	91.19	3.59
5	11.5-18.0	115.82	4.56	108.61	4.28	100	99.82	3.93
5 1/2	14.0-23.0	127.30	5.01	118.62	4.67	109	109.47	4.31
5 1/2	26.8	114.30	4.50	-	-	105	104.90	4.13
5 3/4	14.0-25.2	134.37	5.29	124.21	4.89	119	119.38	4.70
6 5/8	20.0-32.0	153.64	6.05	144.15	5.68	136	136.40	5.37
7	23.0-35.0	161.70	6.37	154.79	6.09	144	144.27	5.68
7 5/8	24.0-39.0	178.44	7.03	168.28	6.63	160	160.27	6.31
8 5/8	24.0-49.0	205.66	8.10	190.78	7.51	180	180.85	7.12
9 5/8	32.3-58.4	228.63	9.00	214.25	8.44	206	206.25	8.12
10 3/4	32.75-60.7	258.88	10.19	245.36	9.66	239	239.52	9.43
11 3/4	42.0-60.0	281.53	11.08	273.61	10.77	265	264.92	10.43
11 3/4	60.0-71.0	273.61	10.77	264.92	10.43	252	252.48	9.94
13 3/8	48.0-72.0	322.96	12.72	313.61	12.35	302	301.75	11.88
16	65.0-109.0	387.35	15.25	373.08	14.69	358	358.65	14.12
20	94.0-133.0	485.75	19.12	475.74	18.73	466	466.60	18.37

1.6 CIB-HM Integrated Cast Iron Bridge Plug



The CIB-HM is an integrated cast iron bridge plug featuring hydraulic setting and bidirectional release. The integrated design requires no dedicated setting tool, combining isolation and emergency response capabilities, and inherits all advantages of the CIB-W. Run to depth, pressure is applied for pre-setting, then pull to release load to complete setting. In case of complications, right-hand rotation triggers the emergency release mechanism. An innovative upper cementing channel allows direct cement injection above the plug after release, forming a dual mechanical + cement seal.

The CIB-HM cast iron bridge plug features an integrated design, enabling single-trip setting and upper cementing. It is compatible with 4 1/2in~20in API casing of 140ksi grade and below, and can withstand differential working pressures up to 68.9MPa (10,000psi) at temperatures up to 204°C (400°F).

APPLICATION SCENARIOS

- Permanent plugging of abandoned wells
- Wells requiring single-trip bridge plug setting and upper cementing
- Wells with surface equipment pressure limitations

STRUCTURAL FEATURES

- Simple and reliable structure
- Classic dual-slip design, withstands bidirectional differential pressure
- Integrated structural design for single-trip setting and cementing
- Hydraulic-mechanical dual setting with emergency right-hand release capability
- Optional embedded slip structure, applicable to casing up to 140ksi grade
- Unidirectional thread ring design ensures safe setting under pressure variations
- Optional elastomer materials, temperature rating up to 204°C (400°F)

Casing						Bridge Plug			
Size	Weight	Max ID		Min ID		Size	OD		Preset Thread
in	lb/ft	mm	in	mm	in	-	mm	in	in
4 1/2	9.5-15.1	180.99	7.09	97.18	3.83	91	91.19	3.59	2 3/8 EU B
5	11.5-18.0	1115.82	4.56	108.61	4.28	100	99.82	3.93	2 3/8 EU B
5 1/2	14.0-23.0	127.30	5.01	118.62	4.67	109	109.47	4.31	2 3/8 EU B
5 1/2	26.8	114.30	4.50	-	-	105	104.90	3.13	2 3/8 EU B
5 3/4	14.0-25.2	134.37	5.29	124.21	4.89	119	119.38	4.70	2 3/8 EU B
6 5/8	12.0-32.0	153.64	6.05	144.15	5.68	136	136.40	5.37	2 7/8 EU B
7	23.0-35.0	161.70	6.37	154.19	6.09	144	144.27	5.68	2 7/8 EU B
7	17.0-23.0	166.07	6.54	161.70	6.37	152	152.40	6.00	2 7/8 EU B
7 5/8	24.0-39.0	178.44	7.03	168.28	6.63	160	160.27	6.31	2 7/8 EU B
8 5/8	34.0-49.0	205.66	8.10	190.78	7.51	180	180.285	7.12	2 7/8 EU B
9 5/8	32.3-58.4	228.63	9.00	214.25	8.44	206	206.25	8.12	3 1/2 IF B
10 3/4	32.75-60.7	258.88	10.19	245.36	9.66	239	239.52	9.43	3 1/2 IF B
11 3/4	42.0-60.0	281.53	11.08	273.61	10.77	265	264.92	10.43	3 1/2 IF B
13 3/8	48.0-72.0	322.96	12.72	313.61	12.35	302	301.75	11.88	4 1/2 IF B
16	65.0-109.0	387.35	15.25	373.08	14.69	358	358.65	14.12	4 1/2 IF B
20	94.0-133.0	485.75	19.12	475.74	18.73	466	466.60	18.37	4 1/2 IF B

1.7 ASB-R Retrievable Bridge Plug



The ASB-R retrievable bridge plug is a packer-type retrievable bridge plug primarily used for temporary downhole isolation operations. The bridge plug can be set via wireline or hydraulic setting tools, and retrieved after operations by pulling the tubing with a retrieving tool.

APPLICATION SCENARIOS

- Inter-zonal isolation
- Formation testing
- Fracturing stimulation
- Workover operations

PRODUCT FEATURES

- Compatible with industry-standard hydraulic and wireline setting tools
- Retrieval via tubing or wireline without rotation, ensuring efficient and reliable operations
- Equalization valve and reliable release mechanism, with no stroke limit for versatile applications
- Slip design with optimized load distribution, enabling reliable isolation under high differential pressure

Casing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
4 1/2	9.5-13.5	103.89	4.090	99.57	3.920	96	95.78	3.771
5	15-18	111.96	4.108	108.61	4.276	105	104.78	4.125
5 1/2	20-23	121.36	4.778	118.62	4.670	114	114.30	4.500
5 1/2	15.5-20	125.73	4.950	12.36	4.778	118	117.88	4.641
5 1/2	13-15.5	128.12	5.044	125.73	4.950	121	121.44	4.781
6 5/8	24-32	150.39	5.921	144.14	5.675	140	139.70	5.500
6 5/8	32-25	154.79	6.094	152.50	6.004	147	147.62	5.812
7	26-29	159.41	6.276	157.07	6.184	151	151.59	5.968
7	23-26	161.70	6.366	159.41	6.276	154	154.38	6.078
7	17-20	166.07	6.538	163.98	6.456	159	159.16	6.266
7 5/8	33.7-39	171.83	6.765	168.28	6.625	164	163.91	6.453
7 5/8	24-29.7	178.44	7.025	174.62	6.875	169	169.47	6.672
8 5/8	32-40	201.19	7.921	196.22	7.725	191	191.29	7.531
9 5/8	40-47	224.41	8.835	220.50	8.681	214	214.30	8.437
9 5/8	47-53.5	220.50	8.681	216.79	8.535	209	208.74	8.218

1.8 CIB-T Thru Tubing Bridge Plug



The CIB-T adopts a slim-hole structure design, featuring small OD and high expansion ratio, suitable for Thru Tubing bridge plug operations. It is specifically designed for applications where conventional tools cannot accommodate small through-bores.

APPLICATION SCENARIOS

Suitable for bridge plug isolation operations in casing with drift diameters of 1.610” ~5.044”

PRODUCT FEATURES

- Simple and reliable product structure
- Thru Tubing bridge plug and expansion cone structure enable reliable isolation
- Small-diameter tubing deployment, compatible with various tubing and casing configurations
- Pressure rating up to 51.5MPa (7,500psi)

Casing & Tubing				Bridge Plug		
Max ID		Min ID		Size	OD	
mm	in	mm	in	-	mm	in
50.67	1.995	40.89	1.610	37	37.29	1.468
62.00	2.441	48.39	1.905	44	44.45	1.750
70.23	2.765	54.76	2.156	48	48.41	1.906
76.20	3.000	60.33	2.375	55	55.55	2.187
84.91	3.343	62.00	2.441	58	57.94	2.281
88.90	3.500	73.03	2.875	63	63.50	2.500
99.57	3.920	80.95	3.187	70	69.85	2.750
108.61	4.276	99.57	3.920	82	82.55	3.250
108.61	4.276	93.88	3.696	89	88.90	3.50
128.12	5.044	105.51	4.154	103	103.17	4.062

1.9 CIR Series Cement Retainer



The CIR series is a slim-hole cement retainer for squeeze cementing in workover and completion. Its compact OD allows run-through via tubing with wear rings. Designed for standard casings, it offers stable structure and reverse load capacity. The sealing system uses an integral metal backup and packing element for reliable isolation. Suitable for high-difficulty multi-stage squeeze jobs via the built-in valve system.

- Classification: The CIR series cement retainers are available in two types:
- CIR-W type: Hydraulic-set cement retainer
 - CIR-M type: Mechanical-set cement retainer

APPLICATION SCENARIOS

- Squeeze cementing / water shutoff operations
- Various cementing operations
- Workover operations

STRUCTURAL FEATURES

- CIR-W and CIR-M cement retainers are interchangeable
- CIR series cement retainer can be converted to CIB-M bridge plug
- Internal pressure testing capability, supporting dual-direction pressure testing

Casing						Bridge Plug		
Size	Weight	Max ID		Min ID		Size	OD	
in	lb/ft	mm	in	mm	in	-	mm	in
4 1/2	9.5-16.6	103.89	4.090	97.18	3.826	91	91.19	3.590
5	11.5-20.8	105.56	4.156	105.56	4.156	100	99.82	3.930
5 1/2	13.0-23.0	128.12	5.044	116.33	4.580	109	109.47	4.310
5 3/4	14.0-26.0	134.37	5.290	124.21	4.890	119	119.38	4.700
6 5/8	17.-32.0	155.83	6.135	142.11	5.595	136	136.40	5.370
7	17.0-35.0	166.07	6.538	152.50	6.001	144	144.27	5.680
7 5/8	20.0-39.0	180.98	7.1255	168.28	6.625	160	160.27	6.310
8 5/8	24.0-49.0	205.66	8.097	190.78	7.511	180	180.85	7.120
9 5/8	29.3-58.4	230.20	9.063	214.25	8.435	206	206.25	8.120
10 3/4	32.75-60.7	258.88	10.192	245.36	9.660	239	239.52	9.430
11 3/4	38.0-60.0	283.21	11.150	276.61	10.772	265	264.92	10.430
11 3/4	60.0-83.0	273.61	10.772	258.88	10.192	252	252.48	9.940
13 3/8	48.0-80.7	322.96	12.715	309.25	12.175	302	301.75	11.880
16	65.0-118.0	387.35	15.250	370.23	14.576	359	358.65	14.120
20	94.0-133.0	485.75	19.124	457.74	18.730	466	466.60	18.370

1.10 ST-E Wireline Setting Tool



The ST-E wireline setting tool is a pressure-activated starting device deployed via cable. The tool pre-positions the setting string through wireline deployment, then utilizes cable-conveyed pressure or dropped-bar activation to accurately trigger the setting sequence. The setting pressure is transmitted to the CIB-W bridge plug via the pressure sub and setting sleeve, achieving reliable tool setting. It can be activated via pressure ignition or dropped-bar impact to suit different operation conditions.

The ST-E wireline setting tool integrates a cable-conveyed pressure system, providing a safe and reliable method for pressure release before and after operations.

APPLICATION SCENARIOS

- Permanent plugging operations
- Cementing operations
- Other downhole tool setting operations

STRUCTURAL FEATURES

- Applicable to deep wells, high-temperature wells, and wells requiring wireline setting operations
- Used at casing connection positions, enabling precise depth correlation
- Reduces operational complexity and costs, lowering workover costs
- High reliability design, proven through field applications, ensuring operational stability
- Compatible with 2-3/8 and larger tubing and standard casing, adaptable to various wellbore dimensions

Technical Parameters		Size				
		05 #	10 #		20 #	
			Standard	Heavy Duty	Standard	Heavy Duty
Working Pressure	Mpa	186.2	103.4	206.8	103.42	131
	psi	27,000	15,000	30,000	15,000	19,000
Maximum Setting Force	KN	44.48	155.7	155.7	244.6	244.6
	lb	10,000	35,000	35,000	55,000	55,000
Temperature	°C	204	204	204	204	204
	°F	400	400	400	400	400
Max OD	mm	43.64	69.85	82.55	96.52	104.78
	in	1.718	2.750	3.250	3.800	4.125
Overall Length	mm	1883	1620	1620	1900	1900
	in	74.16	63.80	63.80	74.84	74.84
Stroke Length	mm	149	145	145	274	274
	in	5.879	5.707	5.707	10.777	10.777

1.11 ST-J Hydraulic Setting Tool



The ST-J hydraulic setting tool is designed for tubing-conveyed bridge plug operations, enabling setting, release, and subsequent steps. It is compatible with the same bridge plug model as the ST-E pressure setting tool, but with a different activation method, allowing direct conversion from wireline to tubing-conveyed operations using the same bridge plug standard.

The ST-J hydraulic setting tool integrates a ball-drop pressure system for setting and release via combined pressure and mechanical load. It suits operations requiring both pressure testing and mechanical setting, and can also serve as a pressure testing tool before or after bridge plug operations.

The standard setting tool set includes 3 components; additional pressure testing can be added through an auxiliary sub.

APPLICATION SCENARIOS

- Permanent plugging operations
- Cementing operations
- Other downhole tool setting operations

STRUCTURAL FEATURES

- ST-J supports both pressure-activated and mechanical setting, with adjustable ratio for flexible application in varied downhole conditions.
- The ball-drop pressure system enables various pressure operations, achieving multi-stage setting and pressure testing.
- During pressure testing, the tubing can form multiple setting stages through ball-drop, and these balls also support temporary pressure circulation for operational continuity.

Technical Parameters		Size		
		05 #	10 #	20 #
Working Pressure	Mpa	103.4	10.3.4	103.42
	psi	15,000	15,000	15,000
Maximum Setting Force	KN	66.72	222.41	266.89
	lb	15,000	50,000	60,000
Temperature	°C	204	204	204
	°F	400	400	400
Max OD	mm	46.64	79.38	98.43
	in	1.718	3.125	3.875
Overall Length	mm	1698	1485	1511
	in	66.88	58.47	59.50

1.12 ST-K Mechanical Setting Tool



The ST-K mechanical setting tool is designed for tubing setting of the CIR-M mechanical-set cement retainer, and is also adaptable for the CIB-M mechanical bridge plug. It offers convenient conversion to meet both requirements. The tool uses a right-hand rotation + pull-up combination for setting, and allows internal pressure testing of the tubing and retainer valve before operations to ensure cementing safety. After retainer setting, the setting sleeve retracts fully, allowing the ST-K to function as a cement retainer insert nipple, combining setting and squeeze injection – ideal for single-trip cementing.

APPLICATION SCENARIOS

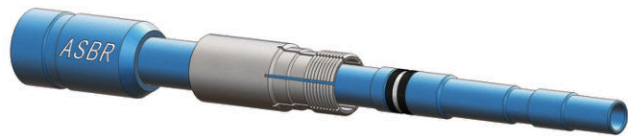
- Suitable for cementing, plugging, completion, and other downhole operations in oil and gas wells
- CIR-M type cement retainer
- Setting of CIB-M mechanical bridge plug
- Wells with insufficient surface equipment performance

STRUCTURAL FEATURES

- Employs right-hand rotation + pull-up compound drive mechanism
- Modular conversion design enables quick switching between cement retainer and bridge plug without additional dedicated tools
- After setting, can directly serve as seal nipple, reducing tripping operations
- Pre-configured internal pressure testing channel enables integrated pressure testing of tubing and retainer valve after setting, with verifiable seal integrity

Casing		Setting Tool					
Size	Weight	Size	ID		Pusher OD		Preset Thread
in	lb/ft	-	mm	in	mm	in	in
4 1/2	9.5-15.1	91-22	22.10	0.870	91.26	3.593	2 3/8 EU BOX
5	11.5-20.8	91-22	22.10	0.870	91.26	3.593	2 3/8 EU BOX
5 1/2	13-23	109-22	22.10	0.870	109.47	4.310	2 3/8 EU BOX
5 3/4	14-23	136-22	22.10	0.870	119.38	4.700	2 3/8 EU BOX
6 3/8	17-32	136-22	31.75	1.250	136.52	5.375	2 7/8 EU BOX
7	17-35	136-22	31.75	1.250	136.52	5.375	2 7/8 EU BOX
7 5/8	20-39	160-32	31.75	1.250	160.32	6.312	2 7/8 EU BOX
8 5/8	24-49	181-32	31.75	1.250	180.98	7.125	2 7/8 EU BOX
9 5/8	29.3-58.4	206-32	31.75	1.250	206.38	8.125	2 7/8 EU BOX
10 3/4	32.75-607	239-32	31.75	1.250	239.52	9.430	2 7/8 EU BOX
11 3/4	60-83	252-32	31.75	1.250	252.40	9.937	2 7/8 EU BOX
11 3/4	38-60	265-32	31.75	1.250	265.10	10.437	2 7/8 EU BOX
13 3/8	48-80.7	302-32	31.75	1.250	301.75	11.880	2 7/8 EU BOX
16	65-118	359-32	31.75	1.250	358.78	14.125	2 7/8 EU BOX
18 5/8	87.5-97.7	433-32	31.75	1.250	433.07	17.050	2 7/8 EU BOX
20	94-133	467-32	31.75	1.250	466.72	18.375	2 7/8 EU BOX

1.13 SS-B Insert Seal Nipple



The SS-B insert seal nipple is designed for cementing with the CIB-W cement retainer. Its built-in anchoring head engages the retainer under downward pressure, preventing ejection during pressure build-up. Lowering opens the retainer sleeve; rotation and pull closes it – simple operation, reliable sealing.

APPLICATION SCENARIOS

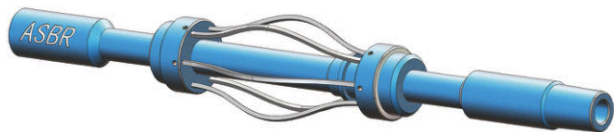
Suitable for cementing, plugging, and stage cementing in oil and gas wells
Specifically designed for use with CIB-W cement retainer

STRUCTURAL FEATURES

- Built-in auto-anchoring, anti-ejection for high-pressure cementing.
- Lowering auto-opens, rotation closes the sleeve, requiring no additional tools
- Tight fit with retainer, stable sealing performance, ensuring cementing safety
- Simple, reliable structure – no complex moving parts. Smooth retrieval minimizes stuck-pipe risk.

Seal Nipple					
Size	OD		ID		Preset Thread
-	mm	in	mm	in	in
82-19	82.55	3.250	19.05	0.750	2 3/8 EU BOX
95-27	95.25	3.668	27.69	1.090	2 7/8 EU BOX

1.14 BS-S Spring Centralizer



The BS-S spring centralizer is used with the SS-B insert seal nipple to center the tool in the casing when deployed into the CIB-W cement retainer, ensuring smooth deployment and reliable sealing.

APPLICATION SCENARIOS

Specifically designed for use with CIB-W cement retainer

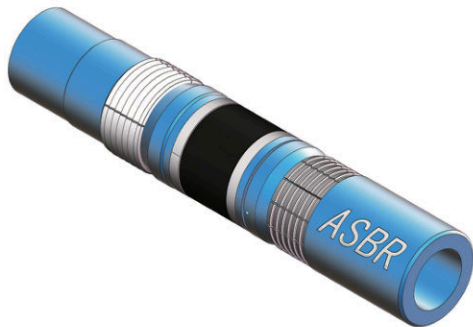
STRUCTURAL FEATURES

- Bow-spring centralizer with excellent through-performance
- Centralizer does not affect torque transmission

Casing		Centralizer					
Size	Weight	Size	OD		ID		Preset Thread
in	lb/ft	-	mm	in	mm	in	in
4 1/2	9.5-15.1	91-38	91.29	3.594	38.10	1.500	2 3/8 EU BOX
5	11.5-20.8	91-38	91.29	3.594	38.10	1,500	2 3/8 EU BOX
5 1/2	13-23	91-38	91.29	3.594	38.10	1,500	2 3/8 EU BOX
5 3/4	14-26	91-38	91.29	3.594	38.10	1,500	2 3/8 EU BOX
6 3/8	17-32	140-62	139.70	5.500	62.00	2,441	2 7/8 EU BOX
7	17-35	140-62	139.70	5.500	62.00	2,441	2 7/8 EU BOX
7 5/8	20-39	149-62	149.22	5.875	62.00	2,441	2 7/8 EU BOX
8 5/8	24-49	181-62	180.98	7.125	62.00	2,441	2 7/8 EU BOX
9 5/8	29.3-58.4	181-62	180.98	7.125	62.00	2,441	2 7/8 EU BOX
10 3/4	32.75-60.7	209-62	209.55	8.250	62.00	2,441	2 7/8 EU BOX
11 3/4	38-83	235-62	234.95	9.250	62.00	2,441	2 7/8 EU BOX
13 3/8	18-80.7	281-62	281.00	11.063	62.00	2,441	2 7/8 EU BOX
16	65-118	343-62	342.90	13.500	62.00	2,441	2 7/8 EU BOX
18 5/8	97.5-97.7	426-62	426.26	16.782	62.00	2,441	2 7/8 EU BOX
20	94-133	458-62	458.42	18.048	62.00	2,441	2 7/8 EU BOX

PERMANENT PACKER SYSTEM

2.1 PS Seal Bore Packer



The PS permanent suspension production packer is a versatile, high-performance packer suitable for permanent squeeze/isolation, as well as permanent or temporary bridge plug applications. Its single seal bore accepts longer seal assemblies to compensate for tubing expansion and contraction.

The lower sub of the packer supports customized design, compatible with milling extensions, seal extensions, blank plugs, or other special components to suit various downhole conditions.

APPLICATION SCENARIOS

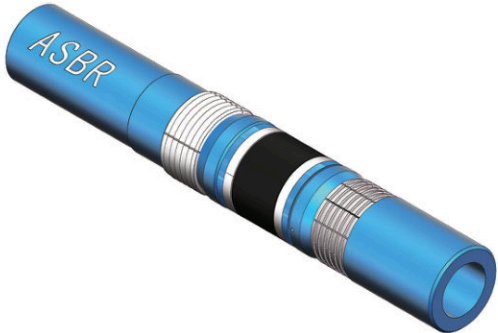
- Sand control operations or sand-settling packer for testing
- Oil production, water injection, and selective zone operations
- Open hole completion

STRUCTURAL FEATURES

- Product performance validated through extensive field application, with outstanding reliability
- Integrated design for efficient deployment, preventing damage or inadvertent setting, significantly reducing operation time
- Equipped with dual integral high-strength slips, ensuring stable and reliable packer setting
- Interlocking expandable metal back-up rings conform to casing, providing rigid support for element expansion and sealing stability
- Optional flapper valve installation at the bottom
- Supports Aflas/HNBR and other elastomer materials for various downhole temperatures and media environments
- Multi-condition adaptable design: threaded lower sub for extension/liner deployment; non-threaded lower sub for sand-settling packer applications

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	11.6-15.1	101.60	4.000	97.18	3.826	91-61	91.26	3.593	60.71	2.390
4 1/2	9.5-11.6	103.89	4.090	101.60	4.000	94-61	94.44	3.718	60.71	2.390
5	21.4-24.1	104.80	4.126	101.60	4.000	94-61	94.44	3.718	60.71	2.390
5 1/2	20-23	121.36	4.778	118.62	4.670	113-76	112-70	4.437	76.20	3.000
5 1/2	14-17	127.30	5.012	121.36	4.778	116-76	115-87	4.562	76.20	3.000
5 1/2	14	127.30	5.012	-	-	120-76	120-65	4.750	76.20	3.000
7	32-38	154.79	6.094	150.37	5.920	144-101	144.45	5.687	101.60	4.000
7	26-29	159.41	6.276	157.07	6.184	149-101	149.23	5.875	101.60	4.000
7	20-23	163.98	6.456	161.70	6.366	152-101	152.40	6.000	101.60	4.000
7	17-20	166.07	6.538	163.98	6.456	159-101	158.75	6.250	101.60	4.000
9 5/8	40-58.4	224.41	8.835	214.25	8.435	208-152	208.74	8.218	152.40	6.000
9 5/8	36-47	226.59	8.921	220.50	8.681	214-152	214.33	8.438	152.40	6.000

2.2 PD Seal Bore Packer



The PD permanent suspension production packer is a versatile, widely-used high-performance permanent packer. It can serve as a permanent squeeze/isolation packer or as a permanent or temporary bridge plug.

The packer features a large-diameter seal bore at the upper end, suitable for concentric string completion and large-diameter tubing deployment, ensuring ID matching between packer/landing nipple and tubing. The lower sub supports custom design for milling extensions, seal extensions, or other special components to suit various downhole conditions.

APPLICATION SCENARIOS

- Sand-settling packer operations
- Oil production, water injection, and selective zone operations
- Open hole completion

STRUCTURAL FEATURES

- Performance validated through extensive field application, with excellent condition adaptability
- Integrated design for efficient deployment, preventing damage or inadvertent setting, significantly reducing operation time
- Equipped with dual integral high-strength slips, ensuring stable and reliable packer setting
- Unique interlocking expandable metal back-up rings conform to casing, providing rigid support for element expansion, enhancing seal stability
- Optional flapper valve installation at the bottom
- Large seal bore configuration, suitable for large-diameter tubing completion

Casing						Packer						
Size	Weight	Max ID		Min ID		Size	OD		Seal Bore			
									Upper		Lower	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in	mm	in
5 1/2	20-23	121.36	4.778	118.62	4.670	110-82	109.73	4.320	82.55	3.250	68.28	2.688
5 1/2	14-17	127.30	5.012	12.36	4.778	114-82	114.30	4.500	82.55	3.250	68.28	2.688
7	32-38	154.79	6.094	150.37	5.920	139-101	135.89	5.468	101.60	4.000	82.55	3.250
7	23-32	150.37	5.920	161.70	6.366	144-101	144.45	5.687	101.60	4.000	82.55	3.250
7	17-20	166.07	6.538	163.98	6.456	157-101	157.15	6.187	101.60	4.000	82.55	3.250
9 5/8	32.3-58.4	228.63	9.001	214.25	8.435	206-152	206.38	8.125	152.40	6.000	123.83	4.875

2.3 PHS Hydraulic Packer



The PHS packer is a hydraulic-set permanent production packer designed for complex conditions. Its core advantage lies in accommodating longer seal assemblies to compensate for string expansion and contraction. It connects with tubing equipped with anchored insert seal assemblies and is set via tubing pressure at the target depth, making it an ideal choice for offshore deviated well operations.

The packer features standardized high-strength, consistent setting pressure, and H2S-resistant full-alloy material design, ensuring stable and reliable performance. The hydraulic setting mechanism makes it particularly suitable for deviated well conditions. Optimized component materials in wellbore fluid contact enable a wide range of operating conditions.

APPLICATION SCENARIOS

Permanent production completion of oil and gas wells, achieving zonal isolation and long-term production

- Deviated well, horizontal well, and offshore oil and gas well completion operations
- High-pressure oil and gas well production isolation, meeting high differential pressure sealing requirements
- Sealing operations in wells with H2S and other corrosive media
- Integration with extension and seal bore for lower tool connection and selective zone operations
- Wells requiring single-trip installation of Christmas tree, workover fluid displacement, and packer setting for well control safety

STRUCTURAL FEATURES

- Integrated short structure with single-element anti-swab design for efficient deployment, preventing damage or inadvertent setting, while ensuring reliable sealing and stable positioning after setting

- Dual integral high-strength slips, ensuring long-term anchoring without displacement after setting
- Single-trip deployment enables Christmas tree installation and workover fluid displacement before setting, ensuring well control safety
- Setting process requires no rotation or movement of the string, eliminating risks associated with string length adjustment and tubing hanger landing
- High expandability: standard lower sub connects milling extensions, seal extensions, or other customized components for diverse operational requirements

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		Seal Bore	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5	15-24.1	111.96	4.408	101.60	4.000	101-50	100.79	3.968	49.99	1.968
5 1/2	14-17	127.30	5.012	121.36	4.778	114.63	114.30	4.500	63.50	2.500
7	32-42.7	154.79	6.094	146.05	5.750	139.82	138.89	5.468	82.55	3.250
7	20-32	163.98	6.456	154.79	6.094	144-82	144.45	5.687	82.55	3.250
7	17-20	166.07	6.538	163.98	6.456	157-82	157.15	6.187	82.55	3.250
9 5/8	36-58.4	226.59	8.921	214.25	8.435	206-120	206.38	8.125	120.65	4.750

2.4 PHD Hydraulic Packer



The PHD packer is a high-performance hydraulic-set permanent production packer with a large-diameter through-bore design. Used with insert seal assemblies equipped with tubing anchors, it is set via tubing pressurization at the target depth, making it an ideal choice for offshore deviated well operations.

The product features high-strength structural design with stable setting pressure. Components in wellbore fluid contact use standardized alloy materials with good H2S resistance, suitable for complex and harsh downhole environments. The hydraulic setting mechanism is particularly suitable for deviated well conditions. Optimized component materials enable a wide range of operating conditions.

APPLICATION SCENARIOS

- Permanent production completion of oil and gas wells, achieving zonal isolation and long-term production
- Deviated well, horizontal well, and offshore oil and gas well completion operations
- High-pressure oil and gas well production isolation, meeting high differential pressure sealing requirements
- Sealing operations in wells with H₂S and other corrosive media
- Integration with extension and seal bore for lower tool connection and selective zone operations
- Wells requiring single-trip installation of Christmas tree, workover fluid displacement, and packer setting for well control safety

STRUCTURAL FEATURES

- Integrated short structure with single-element anti-swab design for smooth and fast deployment, preventing damage or inadvertent setting, with reliable sealing and stable positioning after setting

- Dual integral high-strength slips, secure anchoring, ensuring the packer maintains setting position without displacement
- Single-trip multi-operation: Christmas tree installation and workover fluid displacement can be completed before packer setting, ensuring well control safety
- Setting process requires no rotation or movement of the string, eliminating risks associated with string length adjustment and tubing hanger landing
- Standard lower sub connects milling extensions, seal extensions, or other customized components for diverse operational requirements

Casing						Packer						
Size	Weight	Max ID		Min ID		Size	OD		Seal Bore			
									Upper		Lower	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in	mm	in
5	15-21.4	111.96	4.408	104.80	4.126	100-76	100.79	3.968	76.20	3.000	49.78	1.960
5 1/2	14-17	127.30	5.0125	121.36	4.778	114-82	114.30	4.500	82.55	3.250	63.50	2.500
7	32-42.7	154.79	6.094	146.05	5.750	139-101	138.89	5.468	101.60	4.000	82.55	3.250
7	20-32	163.98	6.456	154.79	6.094	144-101	144.45	5.687	101.60	4.000	82.55	3.250
7	17-20	166.07	6.538	163.98	6.456	157-101	157.15	6.187	101.60	4.000	82.55	3.250
9 5/8	36-58.4	226.59	8.921	214.25	8.435	206-152	206.38	8.125	152.40	6.000	120.65	4.750

2.5 PRH Hydraulic Packer



The PRH packer is a new-generation removable packer that combines the sealing performance of permanent packers with the workover flexibility of conventional retrievable packers. It is a hydraulic-set, large-bore retrievable packer. The packer and its tailpipe assembly can be removed from the wellbore together with the production string through mechanical or chemical cutting of the mandrel.

The packer is available in two basic structural configurations: direct tubing connection; or tubing connected to the packer’s upper seal bore via an anchored insert seal assembly, significantly enhancing workover flexibility. Both configurations support retrieval via the production string or chemical cutter.

APPLICATION SCENARIOS

Oil and gas well completions requiring long-term production sealing while retaining future workover release capability

- Wells requiring future workover or operations via production string or chemical cutter
- Deviated and directional wells with high requirements for setting and retrieval flexibility
- Multi-zone completions requiring large bore, low setting pressure, and modular adaptation

STRUCTURAL FEATURES

- Regardless of tubing connection type, the packer can be retrieved integrally with the tubing via shear release or cutting, ensuring high operational efficiency
- The mandrel does not move during setting; setting procedures are consistent for single-stage/multi-stage packer completion, with mature and reliable technology
- Sand guard rings above the slips prevent burial by sediments or debris, ensuring smooth future retrieval
- Low setting pressure design with excellent operational flexibility; optional auxiliary piston for further reduced setting pressure

- Modular design supporting premium thread or upper seal bore connections for various conditions
- Simple overall structure with low failure rate, convenient field operation and maintenance
- Optimized slip-element combination: slip-element-slip structure effectively reduces triaxial stress, enhancing overall sealing and anchoring performance
- Setting piston positioned below the element, beneficial for well protection after completion

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5 1/2	20-23	121.36	4.778	118.62	4.670	114-60	114.30	4.500	60.71	2.390
7	26-29	159.41	6.2766	157.07	6.184	152-95	151.89	5.980	95.50	3.750
7	26-29	159.41	6.276	157.07	6.184	152-98	151.89	5.980	98.43	3.870
7	26-29	159.41	6.276	157.07	6.184	152-73	151.89	5.980	72.90	2.870
7	26-29	157.07	6.184	154.79	6.094	150-95	150.11	5.910	95.50	3.760
7	26-29	157.07	6.184	154.79	6.094	150-98	150.11	5.910	98.43	3.875
7	26-29	157.07	6.184	154.79	6.094	150-73	150.11	5.910	72.90	2.870
7	26-29	154.79	6.094	152.50	6.004	148-95	147.82	5.820	95.50	3.760
7	26-29	154.79	6.094	152.50	6.004	148-98	147.82	5.820	98.43	3.875
7	26-29	154.79	6.094	152.50	6.004	148-73	147.82	5.820	72.90	2.870
9 5/8	47-53.5	220.50	8.681	216.79	8.535	211-98	211.07	8.310	98.43	3.875
9 5/8	47-53.5	220.50	8.681	216.79	8.535	211-116	211.07	8.310	116.51	4.587

2.6 SS-G Series Insert Seal Assembly



The SS-G series insert seal assembly is a basic seal bore packer accessory sealing system. It is deployed through the production tubing string, positioned at the packer top via a no-go shoulder, forming an effective seal between the tubing and packer within the packer seal bore.

The SS-G series insert seal assembly is primarily compatible with single-bore seal bore packers, and can also be used with the lower seal bore of most packers with backup seal bores. The bottom can be directly connected to production tubing, liner, or other downhole accessories with OD matching the packer bore, providing strong adaptability.

After the SS-G series insert seal assembly is seated in the packer, tubing slack-off compression typically compensates for tubing contraction during operations. In deep deviated wells where slack-off weight is insufficient, the seal bore and assembly length can be extended to ensure the sealing surface remains within the effective sealing range.

APPLICATION SCENARIOS

Suitable for tie-back of PS packer, PHS packer, etc

STRUCTURAL FEATURES

- Standard dual seal units; total assembly length can be flexibly adjusted by adding extra seal units or spacer tubes
- Can be paired with packer seal bore extensions to simultaneously increase seal bore and assembly length, adapting to tubing contraction compensation requirements under various conditions
- Multiple seal units establish a stable seal barrier between packer and tubing

2.7 SS-K Series Anchor Seal Assembly



The SS-K series anchored tubing seal assembly is a tubing sealing system that replaces slack-off weight fixation, designed for conditions requiring the tubing string to be in tension. It effectively prevents seal nipple movement, ensuring sealing reliability between packer and tubing.

The SS-K series anchored tubing seal assembly is deployed with the production string. Slack-off weight engages the anchor device threads with the packer top threads, achieving mechanical lock between tubing string and packer. When tubing contracts, tension acts on the tubing string body, so tension must be strictly controlled during operations to prevent tubing failure.

The SS-K series anchored tubing seal assembly includes insert anchor right-hand release type, insert anchor shear release type, annulus pressure release type, tubing pressure release type, and other configurations to meet various operational requirements.

APPLICATION SCENARIOS

Can be used with the upper seal bore of packers with backup seal bores
Wells requiring no liner or production tubing connection

STRUCTURAL FEATURES

- Threaded connection achieves reliable engagement between tubing string and packer, replacing conventional slack-off weight fixation
- Adapts to tubing tension conditions, compensating for tension from tubing contraction; tension must be strictly controlled to prevent tubing failure
- Multiple release methods and structural configurations available for various operational environments and packer models
- Metal-to-metal internal connection with excellent corrosion resistance and structural strength, suitable for high-H₂S, high-pressure, and other harsh conditions

2.8 EJ-N Expansion Joint



The EJ-N expansion joint is a downhole compensation tool designed for single/dual-string completion, primarily used to compensate for tubing expansion and contraction displacement during operations. It combines expansion joint and jar functions, suitable for various downhole conditions requiring tubing displacement compensation.

The EJ-N expansion joint employs a splined telescoping structure, providing up to 10 feet of axial stroke. Reliable sealing during telescoping is achieved through vulcanized seals, ensuring continuous operational capability.

The EJ-N expansion joint shear pins can be pre-installed in extended, contracted, or intermediate positions for stroke locking. The rotational locking mechanism supports rotation at any position, meeting string rotation requirements.

APPLICATION SCENARIOS

Single or dual-string completion, compensating for tubing expansion and contraction displacement

STRUCTURAL FEATURES

- Shear pins can be flexibly adjusted by adding or removing pins; tool can be fully locked in extended, contracted, or any intermediate stroke position
- Equipped with long splines for full-stroke torque transmission, meeting string rotation requirements
- Durable vulcanized seals; metallic materials comply with NACE MR-01-75 standard, suitable for H2S-bearing harsh downhole environments

Tubing	Expansion Joint									
Size	Max OD		Min ID		Extended Length		Collapsed Length		Torque	
in	mm	in	mm	in	mm	in	mm	in	ft-lbs	kg-m
2.375	93.68	3.688	49.02	1.930	6934.20	273	3987.80	157	2000	277
2875	115.09	4.531	62.00	2.441	7188.20	283	4114.80	162	2500	346
3.500	124.61	4.906	73.03	2.875	7010.40	276	3962.40	156	3500	484
4.500	165.89	6.531	98.43	3.875	7061.20	278	4013.20	158	5000	691

2.9 Seal Bore Extension



The seal bore extension can be deployed directly below the seal bore packer, serving to extend the seal bore for conditions requiring accommodation of large tubing displacement and long seal assembly deployment. Its ID matches the mating packer seal bore, ensuring all seals of the long seal assembly form effective seals within the extension. In practice, deploying the milling extension above the seal bore extension enables packer milling with the packer milling tool. If extreme tubing movement is anticipated, a blank pipe section is recommended in the seal assembly to significantly reduce seal friction within the extension, ensuring smooth operations.

2.10 Milling Extension



The milling extension can be deployed directly below the seal bore packer, compatible with seal bore extensions or other liners run below the packer. For permanent packers, it can be used with the mandrel and packer milling tool fishing bowl for milling operations. For retrievable seal bore packers, it can be used with the mandrel and retrieving tool fishing bowl for retrieval operations, providing stable passage and structural compatibility for subsequent downhole operations.

RETRIEVABLE PACKER SYSTEM

3.1 RHS-Y Hydraulic Packer (Y341)



The RHS-Y retrievable packer is a hydraulic-set retrievable packer suitable for water injection, acidizing, fracturing, squeeze, and other operations. The packer employs a ball-drop pump-pressure hydraulic setting structure, can be used independently or in combination with other packers; release is achieved by pulling up. It is recommended to deploy with a hydraulic anchor for enhanced string stability, with superior performance in deviated wells.

APPLICATION SCENARIOS

- Selective zone water injection, acidizing, fracturing, and squeeze operations in oil and gas wells
- Completion and stimulation operations in deviated and directional wells with complex conditions
- Selective operations requiring multi-stage packer combinations

STRUCTURAL FEATURES

- Can be set in casing of various grades, with wide adaptability
- Structural characteristics provide excellent adaptability in deviated wells
- Setting via ball-drop pump pressure; release by pulling the string, simple and efficient operation
- Three-section composite rubber sleeve sealing system with excellent sealing performance and pressure-bearing capacity
- Optional built-in reverse circulation valve for reverse circulation, facilitating subsequent operations
- 7" and smaller sizes can withstand differential pressure up to 10,000psi (70MPa)

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5 1/2	20.0-23.0	121.36	4.778	117.48	4.625	114-51	114.30	4.500	50.80	2.000
5 1/2	15.5-20.0	125.73	4.950	121.36	4.778	118-51	117.86	4.640	50.80	2.000
5 1/2	13.0-15.5	131.83	5.190	125.73	4.950	121-51	121.41	4.780	50.80	2.000
7	38.0	150.80	5.937	148.08	5.830	143-62	143.51	5.650	62.00	2.441
7	32.0-35.0	155.83	6.135	150.83	8.938	148-62	147.57	5.810	62.00	2.441
7	26.0-29.0	159.41	6.276	055.85	6.136	152-62	151.64	5.970	62.00	2.441
7	20.0-26.0	163.98	6.456	159.41	6.276	154-62	154.18	6.070	62.00	2.441
7	17.0-20.0	167.08	6.578	163.98	6.456	159-62	159.26	6.270	62.00	2.441

3.2 RHS-K Hydraulic Packer (K341)



The K341 hydraulic packer was developed from the K344 hydraulic packer. This series of packers is typically used with safety joints, hydraulic anchors, circulating sleeves, and choke nipples, primarily for acidizing and fracturing operations in oil and gas wells. It is also suitable for multi-zone operations requiring simultaneous setting of multiple packers.

APPLICATION SCENARIOS

- Acidizing, fracturing, and other stimulation operations in oil and gas wells
- Selective zone stimulation with simultaneous multi-zone setting
- Refracturing operations requiring multiple setting and release cycles
- Testing and leak detection
- Integrated completion/workover strings with hydraulic anchors and circulating sleeves

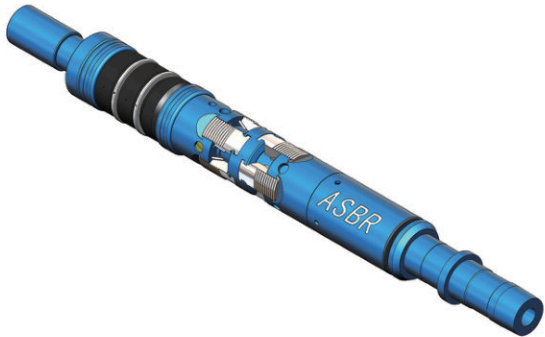
STRUCTURAL FEATURES

- Simple overall design with low failure rate
- Slotted port design prevents foreign matter from entering the product during operations, ensuring reliable retrieval
- Dual-skeleton element options: wire-type and band-type element structures, with strong pressure-bearing capacity and excellent expansion and retraction performance for various conditions
- Hydraulic setting and release without complex mechanical actions, high operational efficiency
- Low setting pressure differential, minimum setting differential of only 145 psi (1MPa), stable setting even under low-pressure conditions

- Supports multiple setting and release cycles, meeting multi-stage and selective zone operation requirements
- High temperature and pressure resistance: maximum temperature 300°F (150°C), maximum pressure 10,000 psi (70MPa), suitable for most medium-high pressure, medium-temperature conditions

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	11.6-13.5	103.35	4.096	97.87	3.853	95-48	95.00	3.740	47.98	1.889
5	15.0-18.0	113.94	4.486	106.55	4.195	102-49	101.98	4.015	49.00	1.929
5 1/2	17.0-20.0	126.39	4.976	119.25	4.695	115-60	115.06	4.530	59.94	2.360
7	29.0-32.0	159.84	6.293	152.15	5.990	148-76	148.01	5.827	76.00	2.992

3.3 RHS-B Hydraulic Packer (Y441)



The RHS-B packer is a new-generation high-performance single-tube retrievable hydraulic-set, shear-release packer. It achieves operations through hydraulic setting and shear release, with a built-in anti-premature setting mechanism. It employs optimized sealing structure design, high-reliability materials, and metallurgy/elastomers suitable for downhole environments, with simple and reliable structure. Its core advantage is preventing premature setting under high tubing-casing annulus differential pressure or tubing pressure testing conditions, suitable for high-risk, high-reliability applications.

APPLICATION SCENARIOS

- Oil and gas well production, injection, and inter-zonal isolation
- Multi-packer single-tube selective completion, dual-string completion
- Completion operations with extremely high anti-premature setting requirements
- Deviated wells or other conditions where rotational installation/retrieval equipment is not permitted
- Conditions requiring displacement and packer setting after line connection
- Multi-packer combinable applications

STRUCTURAL FEATURES

- Hydraulic-driven setting powered by rig pump; shear release force can be flexibly adjusted on site for various operational requirements
- Built-in unloading and bypass structure balances differential pressure during release, significantly reducing release drag and improving tool retrieval efficiency; release requires only direct string pull-up, with simple operational procedures
- Hydraulic interlock + mechanical lock dual structure permanently maintains setting force after setting, preventing seal failure from element rebound

- Triple composite-hardness packing elements ensure overall sealing pressure within the design temperature range, while accommodating casing wall irregularities and minor deformations, enhancing sealing reliability
- Bidirectional slip system effectively anchors the tool without additional hydraulic anchor, simplifying string structure
- No axial movement of the mandrel during setting, supporting multi-packer series combination for complex completion requirements
- Sealing elements positioned above the slips reduce cuttings deposition impact, extending tool service life

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5 1/2	15.5-23	125.73	4.950	118.62	4.670	114-49	114.30	4.500	49.02	1.930
5 1/2	15.5-23	125.73	4.950	118.62	4.670	114-60	114.30	4.500	60.27	2.373
7	23-26	161.70	6.366	159.41	6.276	154-60	154.43	6.080	60.27	2.373
7	23-26	161.70	6.366	159.41	6.276	154-74	154.43	6.080	74.17	2.920
7	26-32	159.41	6.276	154.79	6.094	150-60	150.11	5.910	60.27	2.373
7	26-32	159.41	6.276	154.79	6.094	150-74	150.11	5.910	74.17	2.920
9 5/8	40-53.5	224.41	8.835	216.79	8.535	211-60	211.07	8.310	60.27	2.373
9 5/8	40-53.5	224.41	8.835	216.79	8.535	211-74	211.07	8.310	74.17	2.920

3.4 RHS-C Hydraulic Packer (Y441)



The RHS-C packer is a bidirectional slip, pull-up release retrievable hydraulic packer. Setting is achieved via tubing pressurization; release is accomplished by pulling the string to shear the shear pins. During release, once the string pull exceeds the shear pin value, the slips disengage from the casing and the element retracts by its own elastic force.

The RHS-C packer features a dual mandrel design; the packer mandrel does not move during setting, eliminating the risk of seal failure caused by string creep effects. It is commonly used in water injection and oil/gas production wells. Different slip and element combinations can achieve different pressure ratings.

APPLICATION SCENARIOS

Single-string completion operations where setting is performed after wellhead installation, primarily applied in

- Vertical wells, deviated wells, horizontal wells
- Wells unsuitable for mechanical-set packer operations
- Achieving inter-zonal isolation

STRUCTURAL FEATURES

- Integral mandrel design ensures running and retrieval safety
- Dual-piston design ensures product reliability
- Reliable release with built-in unloader and bypass structure, assisting release and tool retrieval; release requires only pulling the string
- All components in locked state prevent premature setting, enhancing operational reliability
- Bidirectional slip design withstands pressure from both directions
- Setting eliminates element creep, preventing element damage and extending tool service life

- Simple release operation, accomplished by direct string pull-up
- Minimizes bottomhole pressure impact on release force, preventing premature packer release

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5	15.0-18.0	111.96	4.408	108.61	4.276	103-51	103.38	4.070	50.80	2.000
5 1/2	15.5-23.0	125.73	4.950	118.62	4.670	114-49	114.30	4.500	49.02	1.930
5 1/2	9.0-13.0	131.88	5.192	128.12	5.044	122-49	122.17	4.810	49.02	1.930
7	29.0-35.0	157.07	6.184	150.37	5.920	148-76	147.63	5.812	76.20	3.000
7	26.0-29.0	163.93	6.454	157.07	6.184	151-76	151.59	5.968	76.20	3.000
7	20.0-26.0	157.07	6.184	159.41	6.276	154-76	154.38	6.078	76.20	3.000
7	17.0-20.0	141.68	5.578	163.93	6.454	159-76	159.16	6.266	76.20	3.000
7 5/8	33.7-39.0	172.64	6.797	167.11	6.579	162-62	162.31	6.390	62.00	2.441
7 5/8	20.0-24.0	180.98	7.125	178.44	7.025	171-62	170.94	6.730	62.00	2.441
7 5/8	33.7-39.0	172.64	6.797	167.11	6.579	162-76	162.31	6.390	76.20	3.000
7 5/8	20.0-24.0	180.98	7.125	178.44	7.025	171-76	170.94	6.730	76.20	3.000
9 5/8	43.5-54.5	222.98	8.755	216.87	8.538	208-76	207.77	8.180	76.20	3.000
9 5/8	36.0-47.0	226.59	8.921	220.50	8.681	214-76	214.12	8.430	76.20	3.000

*Partial data shown. Full details on request.

3.5 RHS-F Hydraulic Packer (Y541)



The RHS-F hydraulic-set single-tube retrievable packer features a hydraulic anchor above the packing element to withstand pressure from below the packer and anchor the tubing string upward, and uni-directional slips below to withstand pressure from above and anchor downward. The packer is set via internal tubing pressurization; release is achieved by pulling the string.

APPLICATION SCENARIOS

- Oil and gas well production, injection, and inter-zonal isolation
- Multi-packer single-tube selective completion, dual-string completion
- Deviated wells or conditions where rotational installation/retrieval is not permitted
- Conditions requiring displacement and packer setting after line connection

STRUCTURAL FEATURES

- Convenient operation with simple procedures; hydraulic activation and setting via mud pump at low pressure; setting activation pressure can be flexibly adjusted on site
- Reliable release with built-in unloader and bypass structure; release requires only pulling the string
- Stable sealing with mechanical lock structure for packing elements; sealing performance continuously enhances under static hydraulic pressure; triple-layer multi-hardness seal elements ensure pressure integrity over a wide temperature range while accommodating casing irregularities
- High adaptability: no mandrel movement during setting, supporting combinable packer use for multi-packer operations

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	9.5-13.5	103.92	4.090	99.31	3.910	96-49	95.76	3.770	49.02	1.930
5	15.0-18.0	11.96	4.408	107.95	4.250	104-49	104.41	4.130	49.02	1.930
5	11.5-15.0	115.82	4.560	111.96	4.408	107-49	107.25	4.250	49.02	1.930
5 1/2	26.0	115.82	4.560	111.96	4.408	107-49	107.25	4.250	49.02	1.930
5 1/2	13.0-15.5	131.83	5.190	125.73	4.950	122-51	121.61	4.780	50.80	2.000
6	26.0	131.83	5.190	125.73	4.950	122-51	121.61	4.780	50.80	2.000
6	15.0-18.0	141.34	5.560	136.93	5.391	132-51	131.96	5.196	50.80	2.000
6 5/8	34.0	142.47	5.609	141.25	5.561	137-51	137.41	5.410	50.80	2.000
6 5/8	28.0-32.0	147.09	5.791	142.49	5.610	140-51	139.89	5.508	50.80	2.000
7	38.0	150.80	5.937	148.09	5.830	144-61	143.78	5.660	61.37	2.416
7	32.0-35.0	155.83	6.135	150.83	5.938	147-61	147.57	5.810	61.37	2.416
7	26.0-29.0	159.41	6.276	155.86	6.136	151-61	151.24	5.970	61.37	2.416
7 5/8	33.7-39.0	172.64	6.797	167.11	6.579	164-61	163.91	6.453	61.37	2.416
7 5/8	20.0-24.0	180.98	7.125	178.94	7.025	173-61	193.12	6.816	61.37	2.416
8 5/8	44.0-490	195.25	7.687	190.78	7.511	186-76	185.67	7.310	76.20	3.000
8 5/8	32.0-40.0	201.19	7.921	195.28	7.688	191-76	191.29	7.531	76.20	3.000
8 5/8	20.0-28.0	208.05	8.681	201.22	7.922	198-76	197.71	7.780	76.20	3.000
9 5/8	40.0-47.0	224.41	9.835	220.49	8.671	215-76	214.70	8.437	76.20	3.000
9 5/8	29.3-36.0	229.20	9.024	226.59	8.921	219-76	218.99	8.590	76.20	3.000

*Partial data shown. Full details on request.

RE-SETTABLE PACKER SYSTEM

4.1 RTTS Mechanical Packer



The RTTS packer is one of the industry's most widely-used and well-known classic mechanical retrievable packers, primarily used for well testing, treatment, and cement squeeze operations in oil and gas wells. In most conditions, it can be integrated with a circulating valve.

Its core structure includes J-slot or T-slot mechanism, friction slot mechanism, mechanical slips, packing seal elements, and hydraulic anchor key components. Mechanical setting and release operations are stable and reliable.

APPLICATION SCENARIOS

- Drill stem testing, completion testing, and well testing operations
- Acidizing, fracturing, and other stimulation operations
- Selective zone treatment and other wellbore operations
- Multi-operation well conditions requiring multiple setting, release, and repositioning

STRUCTURAL FEATURES

- Large through-bore design with strong flow capacity, meeting high-rate operation requirements
- Supports multiple setting, release, and repositioning cycles, adaptable to multi-operation workflows
- High-performance slips with carbide or hard alloy buttons, providing stronger grip and excellent wear resistance in high-strength casing, ensuring stable and reliable anchoring
- Optional integrated circulating valve, lockable in open or closed position during compression and operations, with convenient operation and flexible circulation control
- High temperature and pressure resistance: maximum temperature 350°F, maximum pressure 10,000 psi, suitable for most medium-high pressure, medium-temperature conditions

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4	9.5-11.6	91.41	3.599	85.09	3.350	81-28	80.77	3.180	28.45	1.120
4	12.5-15.7	87.40	3.441	79.86	3.144	78-22	77.72	3.060	22.23	0.875
4 1/2	9.5	105.51	4.154	100.10	3.941	99-46	98.81	3.890	45.72	1.800
4 1/2	11.6-13.5	102.64	4.041	97.84	3.852	95-46	95.25	3.750	45.72	1.800
5	11.5-13.0	115.82	4.560	112.52	4.430	108-46	107.95	4.250	45.72	1.800
5	15.0-18.0	113.94	4.486	106.53	4.194	103-46	103.12	4.060	45.72	1.800
5 1/2	13.0-20.0	129.59	5.102	119.23	4.694	115-48	115.57	4.550	48.26	1.900
5 1/2	20.0-23.0	123.62	4.867	116.26	4.577	112-46	111.76	4.400	45.72	1.800
5 3/4	14.0-18.0	136.27	5.365	129.54	5.100	124-48	124.21	4.890	48.26	1.900
6	15.0-23.0	142.21	5.599	130.84	5.151	128-48	128.52	5.060	48.26	1.900
6	20.0-26.0	136.86	5.388	127.86	5.034	124-48	124.21	4.890	48.26	1.900
6 5/8	17.0-20.0	166.40	6.551	147.29	5.799	143-60	143.51	5.650	60.45	2.380
6 5/8	24.0-32.0	151.89	5.980	141.40	5.567	138-48	137.92	5.430	48.26	1.900
7	17.0-38.0	166.40	6.551	147.29	5.799	143-60	143.51	5.650	60.45	2.380
7	49.5	114.81	5.701	136.75	5.384	133-51	133.35	5.250	50.80	2.000
7 5/8	24.039.0	181.81	7.129	165.33	6.509	161-60	161.29	6.350	60.45	2.380
7 5/8	29.7	175.29	6.901	163.32	6.430	156-60	156.46	6.160	60.45	2.380
8 5/8	45.3	208.46	8.207	187.48	7.381	185-76	185.67	7.310	76.20	3.000
9 5/8	36.0-53.5	229.84	8.049	213.44	8.403	209-95	209.55	8.250	95.25	3.750

*Partial data shown. Full details on request.

4.2 MMS-W Mechanical Packer (Y211)



The MMS-W packer is a mechanical-set unidirectional slip retrievable packer. It employs slack-off string setting and pull-up string release operation mode, utilizing a W-slot directional mechanism for state switching, with simple and reliable procedures. The tool features anti-premature setting capability during running. After operations, pulling the string completes release; after release, the element quickly rebounds by its own structural force, ensuring repeat operational performance.

APPLICATION SCENARIOS

Directly applicable to conventional downhole operations such as well testing, leak detection, and channeling verification

When used with hydraulic anchors and reverse circulation valves, suitable for high-pressure operations such as fracturing

STRUCTURAL FEATURES

- W-slot directional mechanism – pin movement along the track enables reliable setting/release switching. During run-in, pin locks in short slot, preventing premature setting.
- Pivot-arm unidirectional slips move downward with the cone during setting, expanding to grip the casing wall and providing stable anchoring force to prevent tool movement under high-pressure conditions.
- Spring-vulcanized element assembly: vulcanized springs at both ends expand under compression to seal the annulus; upon release, spring force provides quick rebound, preventing residual deformation and enhancing reusability.

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4	9.5-11.6	90.07	3.546	86.91	3.428	84-38	83.90	3.303	38.10	1.500
4 1/2	15.1	97.98	3.826	95.35	3.754	92-38	91.95	3.620	38.10	1.500
4 1/2	9.5-13.5	103.92	4.090	99.31	3.910	96-49	95.78	3.771	49.53	1.950
5	15.0-18.0	111.96	4.408	107.95	4.250	105-49	104.78	4.125	49.53	1.950
5	11.5-15.0	115.82	4.560	111.96	4.408	107-49	107.25	4.250	49.53	1.950
5 1/2	13.0-15.5	115.82	4.560	111.96	4.408	107-49	107.25	4.250	49.53	1.950
5 3/4	22.5	131.83	5.190	125.73	4.950	122-50	121.64	4.781	50.01	1.969
6	20.0-23.0	136.91	5.390	131.85	5.191	128-50	128.57	5.062	50.01	1.969
6	15.0-18.0	141.34	5.560	136.93	5.391	131-50	131.37	5.172	50.01	1.969
6 5/8	34.0	142.47	5.609	141.25	5.561	137-50	137.31	5.406	50.01	1.969
6 5/8	28.0-32.0	147.09	5.791	142.49	5.610	139-50	139.29	5.484	50.01	1.969
7	20.0-26.0	163.98	6.456	159.41	6.276	154-63	154.38	6.078	63.50	2.500
7	17.0-20.0	167.08	6.578	163.98	6.456	159-63	159.54	6.281	63.50	2.500
7 5/8	33.7-39.0	172.64	6.797	167.11	6.579	164-63	163.91	6.453	63.50	2.500
7 5/8	24-29.7	178.94	7.025	172.67	6.798	169-63	169.47	6.672	63.50	2.500
8 5/8	32.0-40.0	201.19	7.921	195.28	7.688	191-88	191.29	7.531	88.11	3.469
8 5/8	20.0-28.0	208.05	8.191	201.22	7.922	198-88	197.71	7.780	88.11	3.469
9 5/8	47.0-53.5	220.49	8.681	211.91	8.343	209-99	208.74	8.218	99.07	3.920
9 5/8	29.3-36.0	229.20	9.024	224.43	8.836	218-99	218.96	8.593	99.07	3.920

*Partial data shown. Full details on request.

4.3 MRS-HP Mechanical Packer (Y422)



The MRS-HP mechanical retrievable packer features a bidirectional slip self-locking retrievable structure, supporting setting in compression/tension states and withstanding bidirectional differential pressure. The built-in large-diameter bypass structure significantly reduces swabbing effects during running and retrieval; after setting, the bypass auto-closes. During release, the bypass opens first to equalize pressure, combined with the unique upper slip release system, where the omnidirectional slips release first, significantly reducing release force and enhancing operational reliability.

APPLICATION SCENARIOS

Suitable for zonal isolation, acidizing, fracturing, testing, production, water injection, and other operations in oil and gas wells; can also serve as a temporary bridge plug for disconnect operations

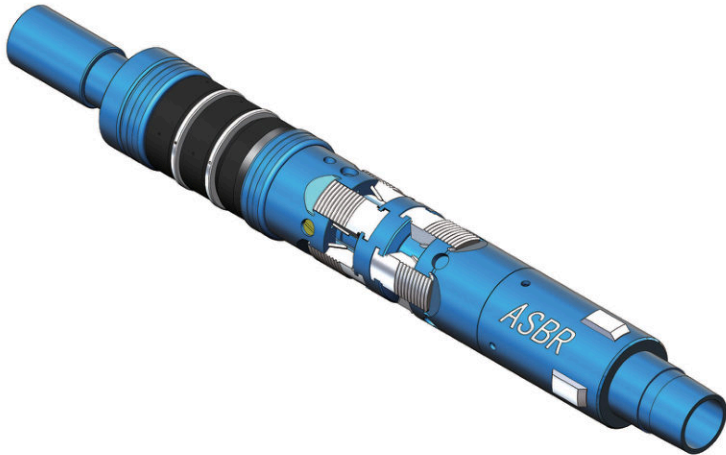
STRUCTURAL FEATURES

- Simple setting and release operations; only 1/4 turn right-hand rotation required for setting or release
- Flexible string state after setting, supporting tension, compression, or neutral states for various conditions
- Alternative release option with shear release method based on field requirements
- Strong functional expandability; can serve as temporary bridge plug for disconnect operations

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	9.5-13.5	103.89	4.09	99.57	3.92	95-49	95.25	3.75	49.23	1.94
4 1/2	13.5-15.1	99.57	3.92	97.18	3.83	93-49	92.71	3.65	49.23	1.94
5	18.0-20.8	108.61	4.28	105.56	4.16	101-49	101.60	4.00	49.23	1.94
5	11.5-15.0	115.82	4.56	111.96	4.41	105-49	104.78	4.13	49.23	1.94
5	20.0-23.0	121.36	4.78	118.62	4.67	114-49	114.30	4.50	49.23	1.94
5 1/2	14.0-20.0	127.30	5.01	121.36	4.78	117-60	117.48	4.63	60.33	2.38
5 1/2	20.0-23.0	121.36	4.78	118.62	4.67	114-60	114.30	4.50	60.33	2.38
5 1/2	15.5-20.0	125.73	4.95	121.36	4.78	117-60	117.48	4.63	60.33	2.38
7	26.0-32.0	159.41	6.28	154.79	6.09	149-63	149.23	5.88	63.50	2.50
7	17.0-26.0	166.07	6.54	159.41	6.28	152-63	152.40	6.00	63.50	2.50
7	26.0-32.0	159.41	6.28	154.79	6.09	149-76	149.23	5.88	76.20	3.00
7	17.0-26.0	166.07	6.54	159.41	6.28	152-76	152.40	6.00	76.20	3.00
7 5/8	33.7-39.0	171.83	6.77	168.28	6.63	164-63	163.91	6.45	63.50	2.50
7 5/8	24.0-29.7	178.44	7.03	172.67	6.80	169-63	169.47	6.67	63.50	2.50
7 5/8	33.7-39.0	171.83	6.77	168.28	6.63	164-76	163.91	6.45	76.20	3.00
7 5/8	24.0-29.7	178.44	7.03	172.67	6.80	169-76	169.47	6.67	76.20	3.00
9 5/8	43.5-53.5	222.38	8.76	216.79	8.54	209-101	209.55	8.25	101.60	4.00
9 5/8	32.3-43.5	228.63	9.00	222.38	8.76	216-101	215.90	8.50	101.60	4.00

*Partial specs. Full info on request.

4.4 MRS-LS Mechanical Packer (Y422)



The MRS-LS retrievable packer is a self-locking retrievable packer with a dual-layer slip structure, set in compression or tension state, capable of withstanding bidirectional differential pressure from above or below the packer. The large-diameter bypass structure inside the packer significantly reduces swabbing effects during running and retrieval; after setting, the bypass auto-closes. During release, the bypass opens first to ensure pressure equalization, enhancing operational safety.

APPLICATION SCENARIOS

Suitable for conventional downhole operations such as zonal isolation, acidizing, fracturing, testing, production, and water injection in oil and gas wells

Can serve as a temporary bridge plug for disconnect operations, adaptable to various downhole construction requirements

STRUCTURAL FEATURES

- Unified right-hand rotation for setting and release, with simple and efficient procedures
- After setting, the string can be stably maintained in tension, compression, or neutral state, adapting to various condition string force requirements
- Temporary bridge plug disconnect capability for multi-purpose use
- Excellent pressure-bearing performance; 7" and smaller sizes can withstand up to 53MPa (7,500psi) differential pressure

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	9.5-13.5	101.60	4.000	99.31	3.910	96-50	95.78	3.771	50.04	1.970
5	15-18	111.96	4.408	107.95	4.250	105-50	104.77	4.125	50.04	1.970
5 1/2	15.5-20	125.73	4.950	121.36	4.778	118-50	117.88	4.641	50.04	1.970
5 3/4	13-22.5	131.83	5.190	125.73	4.950	121-50	121.44	4.781	50.04	1.970
5 3/4	26	136.91	5.390	131.85	5.191	129-51	128.57	5.062	50.80	2.000
6	20-23	136.91	5.390	131.85	5.191	129-51	128.57	5.062	50.80	2.000
6	15-18	141.22	5.560	136.93	5.391	131-51	130.96	5.156	50.80	2.000
6 5/8	34	142.47	5.609	141.25	5.561	137-51	137.31	5.406	50.80	2.000
6 5/8	24-32	150.39	5.921	141.25	5.561	139-51	139.29	5.484	50.80	2.000
7	26-29	159.41	6.276	155.85	6.136	151-62	151.59	5.968	62.00	2.441
7	20-26	163.98	6.456	159.41	6.276	154-62	154.38	6.078	62.00	2.441
7 5/8	24-29.7	178.44	7.025	172.67	6.798	169-62	169.47	6.672	62.00	2.441
7 5/8	20-24	180.97	7.125	178.44	7.025	173-62	173.02	6.812	62.00	2.441
8 5/8	44-49	195.25	7.687	190.78	7.511	186-88	185.72	7.312	88.42	3.481
8 5/8	32-40	201.19	7.921	195.28	7.688	191-88	191.29	7.531	88.42	3.481
8 5/8	20-28	208.05	8.191	201.22	7.922	197-88	197.64	7.781	88.42	3.481
9 5/8	47-53.5	220.50	8.681	211.91	8.343	209-99	208.74	8.218	99.57	3.920
9 5/8	40-47	224.41	8.835	220.50	8.681	214-99	214.30	8.437	99.57	3.920
9 5/8	29.3-36	230.20	9.063	224.43	8.836	218-99	218.26	8.593	99.57	3.920

*Partial specs. Full info on request.

4.5 MRS-CS Mechanical Packer (Y521)



The MRS-CS mechanical packer is a downhole isolation tool with bypass flow channel, structurally benchmarked against the mature Y521 packer. The product employs a lower slip + hydraulic anchor combined anchoring method, with a balancing piston structure to enhance pressure-bearing stability. A hydraulic control balancing valve is positioned above the hydraulic anchor; during setting, the bypass channel auto-closes, achieving reliable anchoring and sealing. After operations, pulling the tubing opens the valve to equalize pressure above and below the packer, facilitating smooth packer release.

APPLICATION SCENARIOS

Suitable for workover, fracturing, acidizing, formation testing, cement squeeze, and various down-hole operations

STRUCTURAL FEATURES

- Anchoring and pressure-bearing structure: lower slip + hydraulic anchor combined anchoring method; balancing piston structure significantly enhances tool stability under pressure
- Hydraulic control balancing valve above the hydraulic anchor auto-closes the bypass channel during setting; when pulling the tubing, the bypass valve opens first to equalize pressure, preventing pressure surge during release and ensuring safe release operations
- High-performance sealing system, capable of withstanding bidirectional differential pressure during operations

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	9.5-13.5	103.89	4.090	99.31	3.910	96-46	95.76	3.770	45.97	1.810
4 1/2	15.1	97.18	3.826	95.35	3.754	92-46	91.95	3.620	45.97	1.810
5	15.0-18.0	111.96	4.408	107.95	4.250	105-46	104.90	4.130	45.97	1.810
5	11.5-15.0	115.82	4.560	111.96	4.408	108-46	107.95	4.250	45.97	1.810
5 1/2	26	115.82	4.560	111.96	4.408	108-46	107.95	4.250	45.97	1.810
5 1/2	20.0-23.0	121.36	4.778	117.50	4.626	114-48	114.30	4.500	47.62	1.875
5 1/2	15.5-20.0	125.73	4.950	121.36	4.778	118-48	117.86	4.640	47.62	1.875
5 1/2	13.0-15.5	128.12	5.044	125.73	4.950	121-48	121.41	4.780	47.62	1.875
6 5/8	24	150.80	5.937	148.08	5.830	144-48	143.76	5.660	47.62	1.875
6 5/8	17.0-20.0	155.83	6.135	150.83	5.938	148-60	147.57	5.810	60.32	2.375
6 5/8	12	163.98	6.456	159.41	6.276	154-60	154.43	6.080	60.32	2.375
7	38	150.80	5.937	148.08	5.830	144-60	143.76	5.660	60.32	2.375
7	32.0-35.0	155.83	6.135	150.83	5.938	148-60	147.57	5.810	60.32	2.375
7	26.0-29.0	159.41	6.276	155.85	6.136	152-60	151.64	5.970	60.32	2.375
7	20.0-26.0	163.98	6.456	159.41	6.276	154-60	154.43	6.080	60.32	2.375
7	17.0-20.0	167.08	6.578	163.98	6.456	159-60	159.26	6.270	60.32	2.375
7 5/8	33.7-39.0	172.64	6.797	167.11	6.579	164-60	163.83	6.450	60.32	2.375
7 5/8	24.0-29.7	178.44	7.025	172.67	6.798	169-60	169.42	6.670	60.32	2.375
7 5/8	20.0-24.0	180.97	7.125	178.44	7.025	173-60	172.97	6.810	60.32	2.375

*Partial specs. Full info on request.

4.6 MRS-JS Mechanical Packer (Y521)



The MRS-JS mechanical packer is a retrievable packer with bypass flow channel, structurally benchmarked against the mature Y521 packer. The product employs a lower slip + hydraulic anchor combined anchoring method, with a balancing piston structure to enhance pressure-bearing stability. A hydraulic control balancing valve is positioned above the hydraulic anchor; during setting, the bypass channel auto-closes. After running, multiple setting cycles can be achieved; during release, pulling the tubing opens the bypass valve first to equalize pressure, ensuring operational safety.

APPLICATION SCENARIOS

Suitable for perforation, production, stimulation, formation testing, and various downhole operations

STRUCTURAL FEATURES

- Anchoring and pressure-bearing structure: lower slip + hydraulic anchor combined anchoring method; balancing piston structure significantly enhances tool stability under pressure conditions
- Hydraulic control balancing valve above the hydraulic anchor auto-closes the bypass channel during setting; bypass channel and pressure balancing valve support surface control, enhancing operational flexibility
- Automatic device enables easy setting and release; supports multiple setting cycles after running; pulling the tubing opens the bypass valve first to equalize pressure, preventing pressure surge during release and ensuring operational safety

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	9.5-13.5	103.89	4.090	99.31	3.910	96-46	95.76	3.770	45.97	1.810
5	15.1	111.96	4.408	107.95	4.250	105-46	104.90	4.130	45.97	1.810
5	15.0-18.0	115.82	4.560	111.96	4.408	108-46	107.95	4.250	45.97	1.810
5 1/2	20.0-23.0	125.73	4.950	121.36	4.778	118-49	117.86	4.640	49.28	1.940
5 1/2	15.5-20.0	131.83	5.190	125.73	4.950	121-49	121.41	4.780	49.28	1.940
6 5/8	13.0-15.5	150.80	5.937	148.08	5.830	144-60	143.51	5.650	60.45	2.380
7	24	150.80	5.937	148.08	5.830	144-60	143.51	5.650	60.45	2.380
7	17.0-20.0	155.83	6.135	150.83	5.938	148-60	147.57	5.810	60.45	2.380
7 5/8	20.0-26.0	178.44	7.025	172.67	6.798	169-60	169.42	6.670	60.45	2.380
7 5/8	17.0-20.0	180.98	7.125	178.44	7.025	173-60	172.97	6.810	60.45	2.380
8.625	33.7-39.0	184.15	7.250	179.37	7.062	177-76	177.29	6.980	76.20	3.000
8 5/6	24.0-29.7	193.68	7.625	190.78	7.511	186-76	185.67	7.310	76.20	3.000
8 5/6	20.0-24.0	201.19	7.921	196.21	7.725	191-76	191.26	7.530	76.20	3.000
9 5/8	40.0-47.0	224.41	8.835	220.50	8.681	214-76	214.38	8.440	76.20	3.000
9 5/8	29.3-36.0	230.20	9.063	226.59	8.921	218-76	218.19	8.590	76.20	3.000
10 3/4	40.5-55.5	255.27	10.050	247.65	9.750	241-76	241.30	9.500	76.20	3.000
11 3/4	60.0-83.0	299.01	11.772	258.88	10.192	255-76	255.52	10.060	76.20	3.000
13 3/8	48.0-72.0	322.96	12.715	313.61	12.347	308-76	308.10	12.130	76.20	3.000
16	75.0-102.0	384.17	15.125	374.65	14.750	368-95	368.30	14.500	95.25	3.750

*Partial data shown. Full details on request.

4.7 MHS-K Hydraulic Packer (K344)



The K344 series packer is a suspension-fixed, hydraulic-set, hydraulic-release expandable packer, available in band-type K344-D and wire-type K344-S based on element skeleton structure. The K344-D type has stronger pressure-bearing capacity and wider application range.

This series of packers is typically used with safety joints, hydraulic anchors, circulating sleeves, and choke nipples, primarily for acidizing and fracturing operations in oil and gas wells. It is also suitable for multi-zone operations requiring simultaneous setting of multiple packers.

APPLICATION SCENARIOS

- Acidizing, fracturing, and other stimulation operations in oil and gas wells
- Selective zone stimulation with simultaneous multi-zone setting
- Refracturing operations requiring multiple setting and release cycles
- Testing and leak detection
- Integrated completion/workover strings with hydraulic anchors and circulating sleeves

STRUCTURAL FEATURES

- Simple overall design with low failure rate
- Slotted port design prevents foreign matter from entering the product during operations, ensuring reliable retrieval
- Dual-skeleton element options: wire-type and band-type element structures, with strong pressure-bearing capacity and excellent expansion and retraction performance for various conditions

- Hydraulic setting and release without complex mechanical actions, high operational efficiency
- Low setting pressure differential, minimum setting differential of only 145 psi (1MPa), stable setting even under low-pressure conditions
- Supports multiple setting and release cycles, meeting multi-stage and selective zone operation requirements
- High temperature and pressure resistance: maximum temperature 300°F (150°C), maximum pressure 10,000 psi (70MPa), suitable for most medium-high pressure, medium-temperature conditions

Casing						Packer				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
4 1/2	11.6-13.5	103.35	4.069	97.87	3.853	95-48	95.00	3.740	47.98	1.889
5	15.0-18.0	113.94	4.486	106.55	4.195	102-49	101.98	4.015	49.00	1.929
5 1/2	17.0-20.0	126.39	4.976	119.25	4.695	115-60	115.06	4.530	59.94	2.360
7	29.0-32.0	159.84	6.293	152.15	5.990	148-76	148.01	5.827	76.00	2.992

4.8 MHS-Y Hydraulic Packer (Y344)



The Y344 series retrievable packer is a differential-pressure-set, differential-pressure-release retrievable packer suitable for water injection, acidizing, fracturing, and other operations. It can be used in multi-stage combinations for selective operations on multiple zones; no string movement is required during operations, with setting and release achieved by controlling differential pressure. It is particularly advantageous in gas well operations.

APPLICATION SCENARIOS

- Selective zone water injection, acidizing, fracturing, and other operations in oil and gas wells
- Multi-zone commingled/sequential production and stimulation operations in gas wells
- Operational requirements for highly deviated and directional wells with complex conditions
- Multi-stage packer combinations for multi-operation strings without string movement

STRUCTURAL FEATURES

- Can be set in casing of various grades, with wide adaptability
- Suitable for highly deviated and directional wells with complex conditions
- Setting and release achieved by controlling differential pressure without mechanical actions, simple operation
- No mechanical directional change or moving parts during setting and release, low failure rate, excellent long-term reliability
- 7" and smaller sizes can withstand differential pressure up to 7,500 psi (51.5MPa)

Casing						Packers				
Size	Weight	Max ID		Min ID		Size	OD		ID	
in	lb/ft	mm	in	mm	in	-	mm	in	mm	in
5 1/2	20.0-23.0	121.36	4.778	117.48	4.625	114-51	114.30	4.500	50.80	2.000
5 1/2	15.5-20.0	125.73	4.950	121.36	4.778	118-51	117.86	4.640	50.80	2.000
5 1/2	13.0-15.5	131.83	5.190	125.73	4.950	121-51	121.41	4.780	50.80	2.000
7	38.0	150.80	5.937	148.08	5.830	143-62	143.51	5.650	62.00	2.441
7	32.0-35.0	155.83	6.135	150.83	5.938	148-62	147.57	5.810	62.00	2.441
7	26.0-29.0	159.41	6.276	155.85	6.136	152-62	151.64	5.970	62.00	2.441
7	20.0-26.0	163.98	6.456	159.41	6.276	154-62	154.18	6.070	62.00	2.441
7	17.0-20.0	167.08	6.578	163.98	6.456	159-62	159.26	6.270	62.00	2.441