SERVICE & PRODUCTS Catalogue

Est. 2008
RANGEVIEW
THRU TUBING TOOLS & SERVICE
www.rangeview.ca


RANGEVIEW
THRU TUBING TOOLS & SERVICES
We'll stay as long
as you need us!

Skill and experience are what make our team stand out and stand up to the task at hand. We're tough, we work hard and we get the job done. That's why "we're there when you need us!"

ABOUT RANGEVIEW

Recognizing a need in western Canada for thru-tubing products and services as affordable as they are reliable, Rangeview Oilfield Services Inc. took shape in 2008. For oilfield clients across the Western Canadian Sedimentary Basin, our talented team provides tailored solutions using the best available thru-tubing, intervention and completion tools on the market.

In the highly competitive oilpatch, our unrelenting aim is to help our customers maximum value for their spend. Providing quality products and services is important, but providing best-cost solutions is a must. With innovation top-of-mind, we continually assess and evolve our product lines to bring our customers the best technologies possible, and we continually evaluate our processes, our pricing and our personnel to ensure our customers are receiving the best value in the industry.

Honesty and integrity are the foundations of Rangeview's way of working. Above all else, we'll do whatever it takes to deliver on our promises.

OUR SERVICE

Our "back to basics" approach to service puts the customer in the driver's seat. It's important that our customer is as profitable as possible, because we regard each customer relationship as a partnership in success!

OUR COMMITMENTS TO ACTION

- To provide qualified, skilled and experienced staff
- To provide the best possible products at the best possible prices
- To ensure reliability in availability and delivery
- To deliver best-cost services

It's our passion and commitment to meet our customers' needs. Period.

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SERVICES
(COIL TUBING & SERVICE RIGS)

Milling & Cleanouts

Rangeview's reliable, experienced and well-trained tool-hands provide a variety of milling and cleanout services along with total peace of mind. We understand that milling time and debris management are matters of utmost importance to our clients. Our downhole tools have field-proven records of performance and reliability in all milling applications, and that translates to reduced rig time resulting in lower costs.

With Rangeview, you get far more than milling and cleanout services. You get tools that consistently prove themselves where it matters most: on the job.

- Frac Port Milling
- Composite Plug Milling
- Cement Milling
- Confirmation Runs
- Motor Cleanout (Sand, Wax & Scale)

Special Operations

Rangeview's scope of service and products also includes the latest in:

- Frac Tools
- Under-reaming
- Kickoffs
- Fishing & Retrieval

High-pressure Wash Operations

Designed and engineered to meet the rising demand for innovative tools that eliminate scale, paraffin build-up, plugs, asphaltene and failed linings, Rangeview's rotary wash tools are arguably the best on the market. Designed specifically for the petroleum industry, our self-rotating assembly uses powerful rotating jets that are easily maintained or replaced in the field. Faster rotation handles thin, hard deposits quickly and effectively, while slower rotation increases dwell time and depth of penetration for thick, difficult deposits.

Some of our tools are designed for flow rates up to 1,500 L/min, temperatures up to 200°C, and acid and nitrogen injection. Our spinning tools offer forward and rear facing jets and multiple jetting options, can be used with water or acid, and provide 360-degree coverage.

From Our Client:

"RV toolhands are always available, they show up ready to work and they have a ton of experience. They were well worth the call."

01: RV BIG HORSE MOTORS

Out in the field, nothing matters more than performance and dependability – an understanding that's clearly evident in Rangeview's broad selection of motors.

Engineered to the highest standards using the latest technologies, our RV Motors are engineered to maximize performance, horsepower, torque and durability. In milling/drilling, cleanouts and other intervention operations, they have proven records of performance and reliability.

RV Motors' superior designs include motors for high temperatures and high flow, and our power sections are available in high, medium and low speed configurations from 1 11/16" to 3 1/8". RV Motors' tube diameters and lobe/stage configurations will meet all your operational needs with less stalling and longer drilling times while downhole.

FEATURES

- Service rig & coiled tubing compatible
- Designed for oil-based mud
- Advanced high-performance elastomer provides 50% increase in power output and loading capacity
- Elastomer designed to resist negative interaction with aromatic fluids
- Excellent cyclic fatigue resistance, tear strength and tensile modulus strength
- Fits all standard downhole rotor/stator configurations

BENEFITS

- Improved performance and reliability
- Increased power and flow input to bit delivers highest ROP (rate of penetration)
- Performs well with water-based fluids, nitrogen and air milling/drilling
- Reduced maintenance
- Reduced operational costs

Value-added:

We know that milling time and debris management are extremely important to our clients. Our downhole tools have a field-proven record of performance and reliability in all milling applications. That translates into reduced rig time and lower costs!

RV BIG HORSE MOTORS

Rangeview offers a broad selection of reliable and durable motors that are top choices among coiled tubing and directional drilling operators. Our power sections range from 1 1/2” to 3 1/2” in diameter, but we can customize each to meet your operating requirements.

Our first-class, high performance power sections use a revolutionary elastomer designed to excel in oil-based muds at high temperatures and deliver 50% more power over standard elastomers while maximizing rate of penetration (ROP). The power section delivers increased torque, power and efficiency, making our motors well suited to horizontal hot-hole applications and invert mud systems.

169-56-50 *1 11/16" 5/6 Lobe 5.0 Stage*

RECOMMENDED OPERATING LIMITS

Flow Range	24-46 gpm	95-174 lpm
Fluid Velocity (per CSA)	15.02-31.55 m/s	
Revs Per Unit Volume	12.9 rev/gal	3.41 rev/l
Speed (No Load)	323-582 rpm	
Zero Load Pressure	102 psi	702 kPa

PERFORMANCE OUTPUT

Rec Δ Pressure	1,050 psi	7,240 kPa
Torque™ @ Rec Pressure	188 lb-ft	256 nm
Stall Δ Pressure	2,783 psi	19,185 kPa
Stall Torque	499 lb-ft	676 kPa

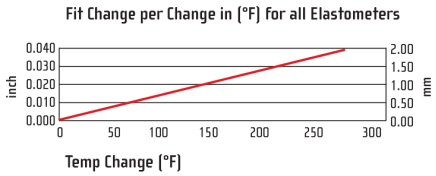
	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	Eccentricity	Head OD	Overall	Contour	Head Length	Mass	Std Thrd Form*
Rotor	0.990 in	0.070 in	1.10 in	93.07 in	87.01 in	6.06 in	16 lb	M16
	25.15 mm	1.78 mm	27.85 mm	2,364 mm	2,210 mm	154 mm	8 kg	**below

*Alternative thread forms available **For manufacturing only - required thread to be machined by customer

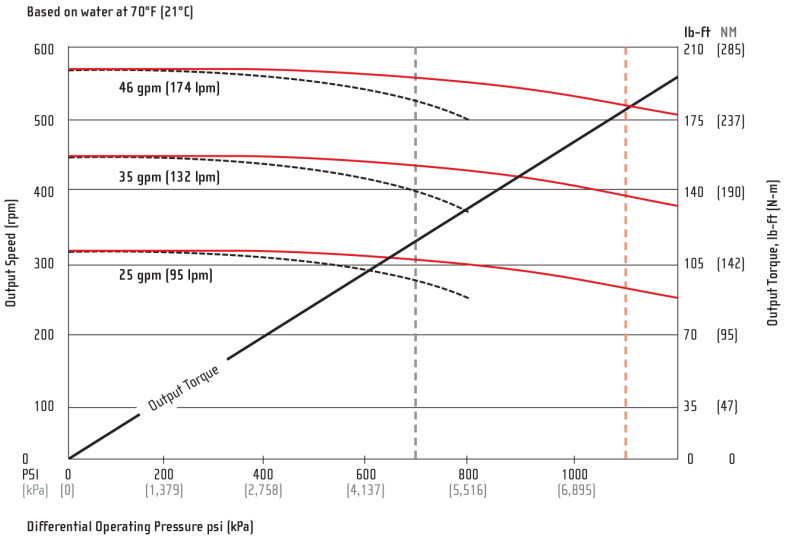
	Tube OD	Tube ID	Alternative Tube OD	Overall	Contour	STD Rubber Cutback	Mass	Std Thrd Form
Stator	1.687 in	1.375 in	n/a	98.98 in	84.96 in	7.01 in	24 lb	None
	42.86 mm	34.93 mm	n/a	2,514 mm	2,158 mm	178 mm	11 kg	

FIT INFORMATION FOR ALL ELASTOMERS

	Vector Tool™ Stator Minor		Nominal Fit at 70°F (21°C)	
US	n/a	n/a	n/a	n/a
STD	0.852 in	21.64 mm	-0.002 in	-0.05 mm
OS	0.865 in	21.98 mm	-0.015 in	-0.39 mm
2OS	0.875 in	22.22 mm	-0.025 in	-0.63 mm



POWER SECTION PERFORMANCE CURVE



212-RD-5660 *2 1/8" 5/6 Lobe 6 Stages*

PERFORMANCE SUMMARY

Torque Slope ft-lb/psi (Nm/kPa)	0.21 (1.96)
Flow gpm (lpm)	40-101 (150-382)
Speed (rpm)	490 - 1220
Rotation rev/gal (rev/l)	12.23 (3.23)
Off-bottom psi (kPa)	50 (340)

		STD	HR
Pressure	Optimal Load	900 (6,210)	1,350 (9,310)
psi (kPa)	Stall	1,350 (9,310)	20,30 (14,000)
Torque	Optimal Load	190 (260)	280 (380)
lb-ft (NM)	Stall	280 (380)	430 (580)
Power	Optimal Load	66 (49)	89 (66)
hp (kW)			

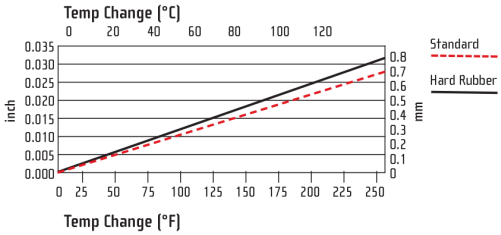
STATOR MINOR DIMENSIONS

STD	1.052 (26.72)	2x05
05		3x05

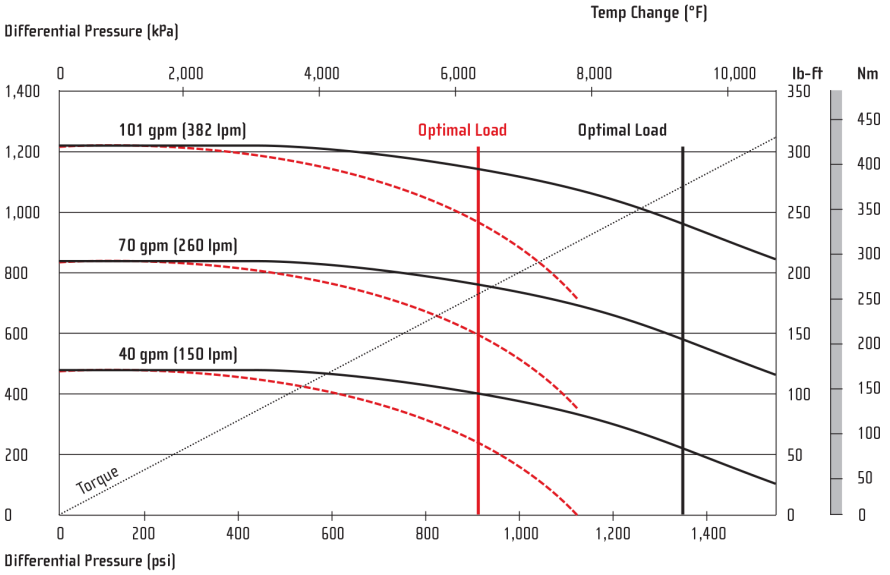
SPECIFICATIONS

	STATOR		ROTOR	
Length	Overall	92.1 (2,339)	Overall	83 (2,108)
in (mm)	Cutback	1 5.3 (135)	Profile	80.12 (2,035)
	Cutback	2 5.3 (135)	Head	2.88 (73)
Diameter	OD	2.13 (54.1)	Head OD	1.25 (31.75)
in (mm)	ID	1.75 (44.5)	Bore ID	N/A
			Major	1.236 (31.39)
Stages	6.0		**Eccentricity**	0.087 (2.21)
Material	4140HT		**Material**	17-4PH
Weight	35 lb (16kg)		**Weight**	23 lb (10kg)
Thread	C/F		**Thread**	C/F

STATOR MINOR DIMENSIONS



POWER SECTION PERFORMANCE CURVE



213-56-60 *2 1/8" 5/6 Lobe 6.0 Stage*

RECOMMENDED OPERATING LIMITS

Flow Range	20-51 gpm	76-193 lpm
Fluid Velocity (per CSA)	6.31-15.77 m/s	
Revs Per Unit Volume	10.3 rev/gal	2.73 rev/l
Speed (No Load)	205-515 rpm	
Zero Load Pressure	103 psi	706 kPa

PERFORMANCE OUTPUT

Rec Δ Pressure	1,275 psi	8,791 kPa
Torque™ @ Rec Pressure	300 lb-ft	409 nm
Stall Δ Pressure	3,379 psi	23,296 kPa
Stall Torque	795 lb-ft	1,077 kPa

	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	**Eccentricity**	**Head OD**	**Overall**	**Contour**	**Head Length**	**Mass**	**Std Thrd Form***
Rotor	1.236 in	0.087 in	1.42 in	85.31 in	79.01 in	6.30 in	24 lb	M16
	31.39 mm	2.21 mm	36.00 mm	2,167 mm	2,007 mm	160 mm	11 kg	**below

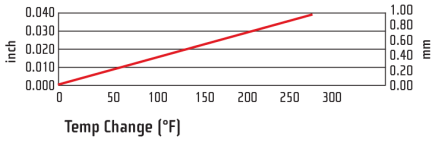
*Alternative thread forms available **For manufacturing only - required thread to be machined by customer

	Tube OD	**Tube ID**	**Alternative Tube OD**	**Overall**	**Contour**	**STD Rubber Cutback**	**Mass**	**Std Thrd Form**
Stator	2.125 in	1.750 in	n/a	87.99 in	77.99 in	5.00 in	33 lb	Customer
	53.98 mm	44.45 mm	n/a	2,235 mm	1,981 mm	127 mm	15 kg	Specified

FIT INFORMATION FOR ALL ELASTOMERS

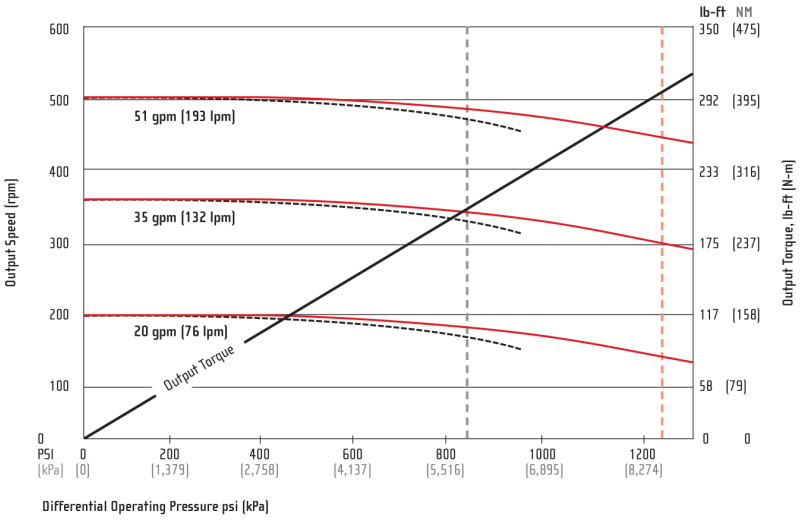
	Vector Tool™	**Stator Minor**	**Nominal Fit at 70°F (21°C)**	
US	n/a	n/a	n/a	n/a
STD	1.065 in	27.06 mm	-0.003 in	-0.08 mm
OS	1.074 in	27.27 mm	-0.012 in	-0.29 mm
2OS	1.079 in	2.40 mm	-0.017 in	-0.42 mm

Fit Change per Change in (°F) for all Elastometers



POWER SECTION PERFORMANCE CURVE

Based on water at 70°F (21°C)



287-56-35 2 7/8" 5/6 Lobe 3.5 Stage

RECOMMENDED OPERATING LIMITS

Flow Range	60-127 gpm	227-481 lpm
Revs Per Unit Volume	3.1 rev/gal	.82 rev/l
Speed (No Load)	186-390 rpm	
Zero Load Pressure	95 psi	650 kPa

PERFORMANCE OUTPUT

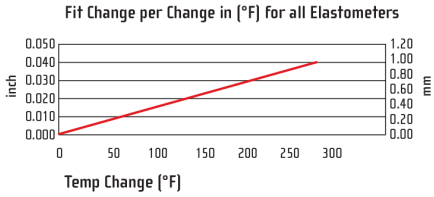
Rec Δ Pressure	757 psi	5,220 kPa
Torque™ @ Rec Pressure	472 lb-ft	642 nm
Stall Δ Pressure	2,006 psi	13,830 kPa
Stall Torque	1251 lb-ft	1,695 kPa

	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	Eccentricity	Head OD	Overall	Contour	Head Length	Mass	Std Third Form
Rotor	1.650 in	0.118 in	1.77 in	93.00 in	87.09 in	5.91 in	45 lb	3/4" UNC
	41.92 mm	2.99 mm	45.00 mm	2,362 mm	2,212 mm	150 mm	21 kg	

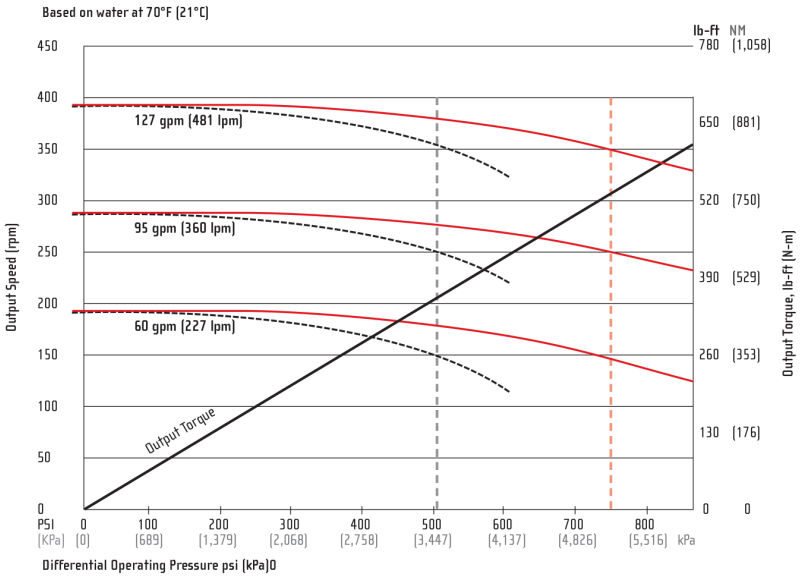
	Tube OD	Tube ID	Alternative Tube OD	Overall	Contour	STD Rubber Cutback	Mass	
Stator	2.875 in	2.375 in	n/a	98.58 in	84.58 in	7.00 in	67 lb	Customer
	73.03 mm	60.33 mm	n/a	2,504 mm	2,148 mm	178 mm	30 kg	Specified

FIT INFORMATION FOR ALL ELASTOMERS

	Vector Tool™ Stator Minor		Nominal Fit at 70°F (21°C)	
US	n/a	n/a	n/a	n/a
STD	1.421 in	36.09 mm	-0.006 in	-0.16 mm
OS	1.436 in	36.47 mm	-0.021 in	-0.53 mm
2OS	1.447 in	36.75 mm	-0.032 in	-0.81 mm



POWER SECTION PERFORMANCE CURVE



287-56-47 2 7/8" 5/6 Lobe 4.7 Stage

RECOMMENDED OPERATING LIMITS

Flow Range	50-148 gpm	189-636 lpm
Revs Per Unit Volume	3.76 rev/gal	1 rev/l
Speed (No Load)	188 - 553 rpm	
Zero Load Pressure	57 psi	393 kPa

PERFORMANCE OUTPUT

Rec Δ Pressure	1,020 psi	7,033 kPa
Torque™ @ Rec Pressure	646 lb-ft	876 nm
Stall Δ Pressure	2,703 psi	18,637 kPa
Torque™ Stall Torque	1,712 lb-ft	2,319 nm

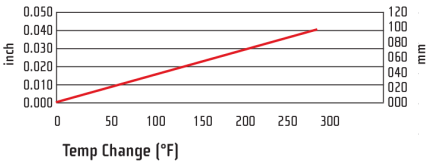
	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	**Eccentricity**	**Head OD**	**Overall**	**Contour**	**Head Length**	**Mass**	**Std Third Form**
Rotor	1.909 in	0.136 in	1.89 in	93.35 in	86.97 in	6.38 in	60 lb	3/4" UNC
	48.49 mm	3.45 mm	48.05 mm	2,371 mm	2,209 mm	162 mm	27 kg	

	Tube OD	**Tube ID**	**Alternative Tube OD**	**Overall**	**Contour**	**STD Rubber Cutback**	**Mass**	**Std Third Form**
Stator	2.875 in	2.375 in	n/a	105.63 in	86.02 in	3.74 + 15.87 in	73 lb	None
	73.03 mm	60.33 mm	n/a	2,683 mm	2,185 mm	95 + 403 mm	33 kg	

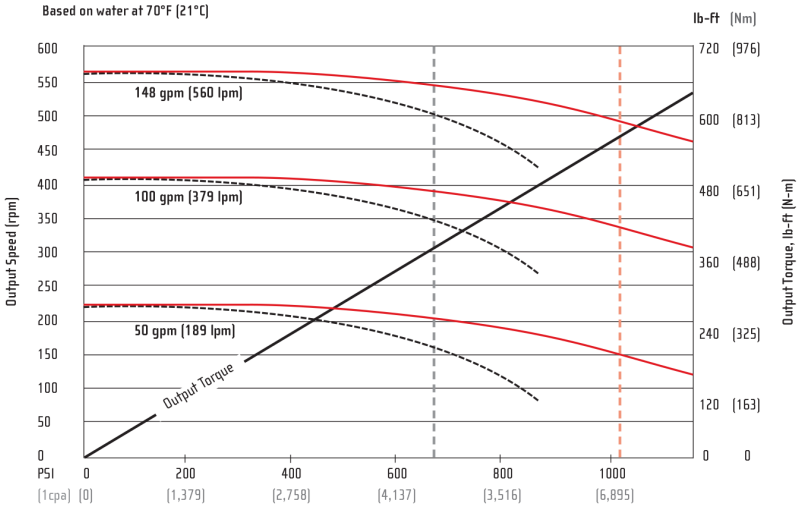
FIT INFORMATION FOR ALL ELASTOMERS

	Vector Tool™ Stator Minor		**Nominal Fit at 70°F (21°C)**	
US	n/a	n/a	n/a	n/a
STD	1.641 in	41.67 mm	-0.003 in	-0.09 mm
OS	1.658 in	42.11 mm	-0.021 in	-0.52 mm
2OS	1.671 in	42.44 mm	-0.034 in	-0.86 mm

Fit Change per Change in (°F) for all Elastometers



POWER SECTION PERFORMANCE CURVE



287-56-70 2 7/8" 5/6 Lobe 7.0 Stage

RECOMMENDED OPERATING LIMITS

Flow Range	40-96 gpm	151-363 lpm
Fluid Velocity (per CSA)	6.10-18.29 m/s	
Revs Per Unit Volume	15.28 rev/gal	1.4 rev/l
Speed (No Load)	211-502 rpm	
Zero Load Pressure	166 psi	1,143 kPa

PERFORMANCE OUTPUT

Rec Δ Pressure	1493 psi	10,291 kPa
Torque™ @ Rec Pressure	754 lb-ft	1,023 nm
Stall Δ Pressure	3,956 psi	27,270 kPa
Stall Torque	1,998 lb-ft	2,709 kPa

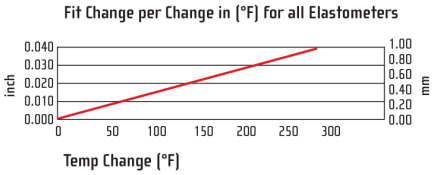
	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	Eccentricity	Head OD	Overall	Contour	Head Length	Mass	Std Thrd Form*
Rotor	1.655 in	0.119 in	1.77 in	110.21 in	106.12 in	4.00 in	52 lb	3/4"UNC
	42.04 mm	3.03 mm	45.00 mm	2,797 mm	2,695 mm	102 mm	24 kg	**below

*Alternative thread forms available **For manufacturing only - required thread to be machined by customer

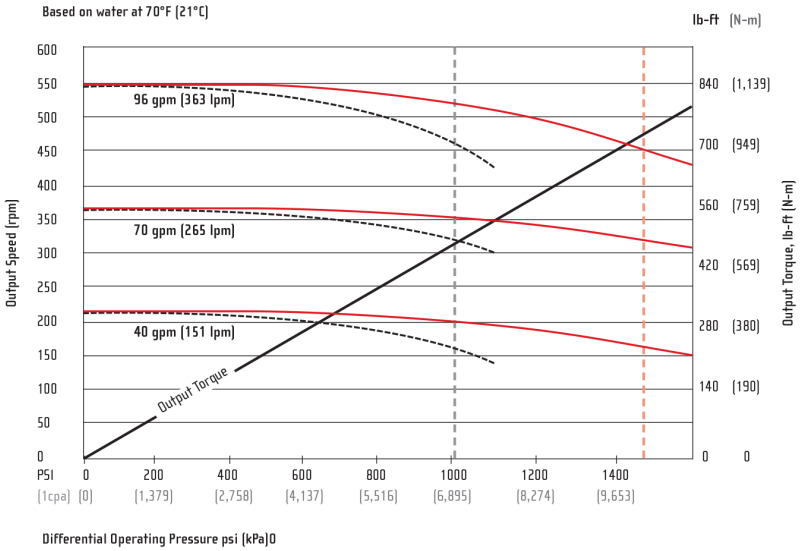
	Tube OD	Tube ID	Alternative Tube OD	Overall	Contour	STD Rubber Cutback	Mass	Std Thrd Form
Stator	2.875 in	2.375 in	n/a	116.97 in	104.97 in	6.00 in	78 lb	None
	73.03 mm	60.33 mm	n/a	2,971 mm	2,667 mm	152 mm	36 kg	

FIT INFORMATION FOR ALL ELASTOMERS

	Vector Tool™ Stator Minor		Nominal Fit at 70°F (21°C)	
US	n/a	n/a	n/a	n/a
STD	1.419 in	36.04 mm	-0.002 in	-0.06 mm
OS	1.416 in	35.96 mm	-0.0112 in	-0.27 mm
2OS	N/A	N/A	N/A	N/A



POWER SECTION PERFORMANCE CURVE



312-78-30 *3 1/8" 7/8 Lobe 3.0 Stage*

RECOMMENDED OPERATING LIMITS

Flow Range	80-140 gpm	303-636 lpm
Revs Per Unit Volume	1.8 rev/gal	0.48 rev/l
Speed (No Load)	144-303 rpm	
Zero Load Pressure	194 psi	1,333 kPa

PERFORMANCE OUTPUT

Rec Δ Pressure	690 psi	4,758 kPa
Torque™ @ Rec Pressure	990 lb-ft	1,342 nm
Stall Δ Pressure	1,829 psi	12,608 kPa
@ Stall Torque	2,624 lb-ft	3,556 nm

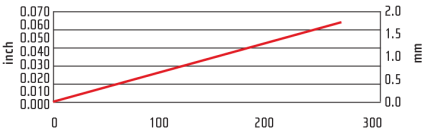
	DIAMETERS			LENGTHS			GENERAL	
	Contour OD	**Eccentricity**	**Head OD**	**Overall**	**Contour**	**Head Length**	**Mass**	**Std Third Form**
Rotor	1.971 in	0.109 in	1.75 in	101.00 in	97.00 in	4.00 in	71 lb	1 3/8" Stub
	50.08 mm	2.76 mm	44.45 mm	2,565 mm	2,463 mm	102 mm	33 kg	Acme Box *

	Tube OD	**Tube ID**	**Alternative Tube OD**	**Overall**	**Contour**	**STD Rubber Cutback**	**Mass**	
Stator	3.125 in	2.625 in	n/a	106.00 in	96.00 in	5.00 in	78 lb	Customer
	79.38 mm	66.67 mm	n/a	2,692 mm	2,438 mm	127 mm	35 kg	Specified

FIT INFORMATION FOR ALL ELASTOMERS

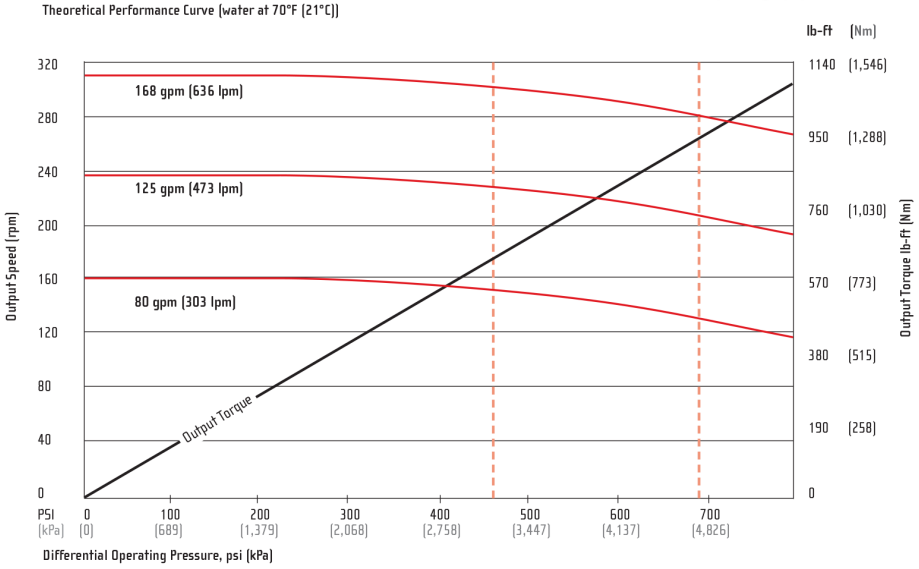
	Vector Tool™ Stator Minor		**Nominal Fit at 70°F (21°C)**	
US	n/a	n/a	n/a	n/a
STD	1.757 in	44.63 mm	-0.003 in	-0.07 mm
OS	1.784 in	45.31 mm	-0.030 in	-0.75 mm
2OS	n/a	n/a	n/a	n/a

Fit Change per Change in (°F) for all Elastomeers



POWER SECTION PERFORMANCE CURVE

Theoretical Performance Curve (water at 70°F (21°C))



02: FDC CONNECTORS
FRAC, DRILLING, COMPLETIONS (FDC)

Rangeview is committed to meeting the standards of today's coil solutions. We are proud to offer the very best in engineered and dependable products at the forefront of innovation.

Our FDC Connector products are no different. They are field proven in deep and difficult well bore conditions; they install quickly yet are secure regardless of the connection; and they resist the punishing torque and heavy tensile workload they must typically endure.

RV FDC CONNECTORS

- Internal Dimple Connector
- Dimple Connector
- Slip Dimple Connector
- Roll-on x Thread Connector + Roll-on x Roll-on Connector

APPLICATIONS

- Drilling, Milling, Nitrogen/Sand Fracing, Downhole Motors, Impact Hammers, High Vibration Tools

FEATURES

- Easy and quick field installation
- High torque capabilities
- No expensive or time-consuming dies or jigs required
- 1 1/4" – 3 1/4" coiled tubing compatible
- Threads as per customer requirements

BENEFITS

- Reliable
- Field proven technology
- Largest internal diameters in the industry
- Allows highest flow rate
- Increases productivity

The Advantage:

Our internal connector is engineered with the largest internal diameters in the industry allowing higher flow rates and more options for downhole operations.

OUR PRODUCTS

Rangeview offers an extensive range of motors and thru-tubing tools. Our motors are the premium power sections in the industry. We work with manufacturers to produce well-made products that perform.

OUR SERVICE

We deliver value to our customers by supplying the best products at the best prices. Our expertise ensures your needs are met with efficiency. We are here to serve you so you can do what you do best. Your success is our success.

INTERNAL DIMPLE CONNECTOR

- Allows the attachment of coil tubing to the CT Work String via the threaded connection. It also allows for slim line applications when OD restrictions are an issue.

INTERNAL DIMPLE CONNECTOR SIZES

1 1/4" > 3 1/2"

Coil Connectors come in a variety of sizes and connection thread options. Please contact your Rangeview Sales Representative for more information.

FEATURES

- Quick and easy assembly
- High torque and tensile capabilities

BENEFITS

- Reliable
- Field proven technology
- Easy attachment to coil

DIMPLE CONNECTOR

- For quick latch onto the coil while still benefiting from all the torque and tensile features. This dimple connector is very popular and simple. With large knurled-point set screws in 16 places and dual polypack seals, this is a premium connector.

DIMPLE CONNECTOR SIZES

1 1/4" > 2 7/8"

Coil Connectors come in a variety of sizes and connection thread options. Please contact your Rangeview Sales Representative for more information.

FEATURES

- Quick and easy assembly
- Internal pressure seal
- High tensile and torsional strength

BENEFITS

- Reliable
- Field proven technology
- Easy to install with or without dimple applicator or special tools

SLIP DIMPLE CONNECTOR

- External combination dimple and slip connectors are the solution for high torque and tensile loads.
- These premium connectors are ideal for drilling, fishing, and completion work.
- Available with a wide variety of ODs and pin connections to accommodate most jobs without the need for any crossovers.
- The slim line series of connectors accommodate tight IDs or nipple systems for thru tubing applications. Full size connectors will provide extra strength where the OD of the connector is not critical.

SLIP DIMPLE CONNECTOR SIZES

1 1/2" > 2 3/8"
Coil Connectors come in a variety of sizes and connection thread options. Please contact your Rangeview Sales Representative for more information.

FEATURES

- Quick and easy assembly
- Internal pressure seal
- Replaceable slips
- High tensile and torsional strength

BENEFITS

- Reliable
- Field proven technology

ROLL-ON X THREAD CONNECTORS + ROLL-ON X ROLL-ON CONNECTORS

- The Roll-on Connector allows the attachment of coiled tubing to the CT Tool/ Work String via a threaded connection.

ROLL-ON CONNECTOR SIZES

1 1/2" > 2 3/8"
Coil Connectors come in a variety of sizes and connection thread options. Please contact your Rangeview Sales Representative for more information.

FEATURES

- Quick and easy assembly
- Internal pressure seal
- Replaceable slips
- High tensile and torsional strength
- Featuring triple roll-on grooves and quadruple seal points, this connector is easy to install and reliable

BENEFITS

- Reliable
- Field proven technology

← Roll-on x Thread Connector

03: MOTORHEAD ASSEMBLY + COMPONENTS

Rangeview's Motorhead Assembly combines Twin Flapper Check Valves, a revolutionary Hydraulic Disconnect, Circulation Sub and Burst Port Assembly as standard components. Our Motorhead is the shortest in the industry; fewer connections mean less chance of back-offs. It is also field proven to withstand harmonic vibrations.

TWIN FLAPPER CHECK VALVES

- Unrestricted ID allows for ball drop applications
- Prevent backflow of well fluids
- Contain a dual sealing system

HYDRAULIC DISCONNECT

- Toolstring detaches via ball drop system
- Piston is pressure balanced so
- internal pressure will not affect the hydraulic configuration and shear values
- Exceptional performance during high torque, heavy-duty coiled tubing drilling operations

DUAL CIRCULATION SUB

- Designed to regain higher circulation in the BHA in the event of circulation loss
- Fits at any point in the BHA
- Can be run with Jars and BHA reach tools
- Designed for reliable performance in high torque, N_2 and fluid-based applications
- Burst Disk Circ Sub incorporated into MHA
- 0-7,500 lb ports available
- Certified Burst Discs

Compact Design

The Motor Head Assembly's compact design gives overall length saving over conventional individual components. This makes for a highly efficient tool!

MOTORHEAD ASSEMBLY (MHA)

Rangeview's RV Motorhead Assembly is designed to integrate bottom hole assembly components for a compact, rugged and versatile shortened toolstring. It can also be supplied with a specified connection or a variety of coil connector styles.

RV MHA offers the following components:

- Twin Flapper Check Valves prevent the backflow of well fluids between the well and the tubing above.
- Hydraulic Disconnect allows for disconnection from a stuck tool string by a simple ball drop.
- Dual Circ Sub injects the flow from the tool ID to the annulus.
- Burst Disk Circ Sub if circulation is lost due to downhole restrictions.

FEATURES

- Compact design gives a 30% overall length saving over the use of traditional individual components
- The high-torque capability meets the high demand of impact, shock loading, torque and straight pull operations
- Fully adjustable disconnect and circulating values
- H_2S compatible
- Standard GS profile

BENEFITS

- Ideal for drilling, milling and fishing applications
- Streamlined design offers a simple connection solution

RUPTURE DISC ASSEMBLY (8 MM)

Rupture Pressure
3,000 psi
4,000 psi
5,000 psi
6,000 psi
7,500 psi

MOTORHEAD ASSEMBLY TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Fish Neck/ GS	Top Connection	Bottom Connection
1 11/16"	H2S	1.687"	0.406"	1.38"/2" GS	1" AMMT Box	1" AMMT Pin
2 1/8"	H2S	2.125"	0.406"	1.38"/2" GS	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 7/8"	H2S	2.875"	0.75"	2.31"/2" GS	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

TWIN FLAPPER CHECK VALVE

- The Twin Flapper Check Valve is a standard coiled tubing string component. It prevents the backflow of well fluids into the coiled tubing in the event of failure or damage to the coiled tubing string or surface equipment.
- The Twin Flapper Check Valve contains a dual sealing system in each flapper assembly for increased safety. At low pressure, a Teflon seal provides a primary low pressure seal; at high pressure, the flapper seals on a metal-to-metal assembly.
- Maximum flow area through the flapper cartridges reduces unnecessary back pressure on the surface pumps.
- The flow path through the flapper cartridges does not restrict the passage of balls or darts if required during operations such as cementing.

FEATURES

- Dual sealing in each flapper cartridge (i.e. low pressure seat/seal and high pressure full metal-to-metal seat/seal)
- Full bore fluid passage for balls, darts and plugs
- Removable flapper cartridges

BENEFITS

- Prevents backflow of well fluids
- Large ball sizes Thru Tool
- Accommodates other Ball Drop Tools

TWIN FLAPPER CHECK VALVE TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection
1 1/16"	H2S	1.687"	0.750"	1" AMMT Box	1" AMMT Pin
1 3/4"	H2S	1.750"	0.750"	1" AMMT Box	1" AMMT Pin
2"	H2S	2"	0.890"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/8"	H2S	2.125"	0.890"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/4"	H2S	2.25"	1.03"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 3/8"	H2S	2.375"	1.032"	1 1/2" PAC Box	1 1/2" PAC Pin
2 7/8"	H2S	2.875"	1.375"	2 3/8" PAC Box	2 3/8" PAC Pin
3 1/8"	H2S	3.125"	1.375"	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

RV HYDRAULIC DISCONNECT

The RV Hydraulic Disconnect Tool releases the coil tubing from the tool string if the string has becomes stuck in the wellbore. The RV Hydraulic Disconnect is also designed to give maximum resistance in tensional and torsional stresses that occur during jarring or milling. This tool was designed for high torque, short bottom hole assembly applications, and for quick, easy redress time to accommodate today's fast-paced industry. The Disconnect can be used in your desired location of the BHA high torque application.

If it becomes necessary to disconnect, a ball is pumped to the disconnect, and an increase in pump pressure allows the locking piston to shift, shearing the brass shear screws and allowing the load piston to move out from under the body collets. After a drop in pump pressure, retrieval of the stuck string is possible.

The bottom sub is the only part of the disconnect left in the hole. It has an internal "GS" fishing neck for future fishing procedures if fishing is required.

FEATURES

- Sheer screw options give an extensive pressure range to suit any application
- Designed to prevent sheer screws vibrating free during drilling

BENEFITS

- Robust design for CT drilling
- or fishing operations
- Industry standard internal GS fishing profile
- N_2 and fluid compatible
- Used in conjunction with agitation tools and jars
- CT and jointed pipe applications
- High torque capabilities
- Brass or steel shear screw options for a controlled range of pressure situations

RV HYDRAULIC DISCONNECT TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection
1 1/2"	H2S	1.5"	0.345"	1" AMMT Box	1" AMMT Pin
1 11/16"	H2S	1.687"	0.469"	1" AMMT Box	1" AMMT Pin
1 3/4"	H2S	1.75"	0.469"	1" AMMT Box	1" AMMT Pin
2"	H2S	2"	0.469"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/8"	H2S	2.125"	1.469"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/4"	H2S	2.25"	0.780"	1 1/2" PAC Box	1 1/2" PAC Pin
2 3/8"	H2S	2.375"	0.780"	1 1/2" PAC Box	1 1/2" PAC Pin
2 7/8"	H2S	2.875"	0.875"	2 3/8" PAC Box	2 3/8" PAC Pin
3 1/8"	H2S	3.125"	1.062"	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

DUAL ACTIVATED CIRCULATION SUB

- The Dual Activated Circulation Sub returns circulation of the tool string by use of a drop ball. In addition, the valve is capable of operating through internal overpressure within the tubing string.
- Conventional dual circulation subs use a burst or rupture disc to facilitate the function of returning circulation through overpressure. Our Dual Activated Circulation Sub, by contrast, offers a pressure differential activated piston. The piston activation pressure can be predetermined at surface through shear pins, offering superior versatility.
- As with many other tools in the standard BHA tool range, the emphasis is on simplicity and the Dual Activated Circulation Sub has very few component parts, seals and thread connections.
- Burst disc pressure 0-7,500 psi available.

FEATURES

- Simple drop ball design and pressure to operate
- Activation pressure controlled by operator

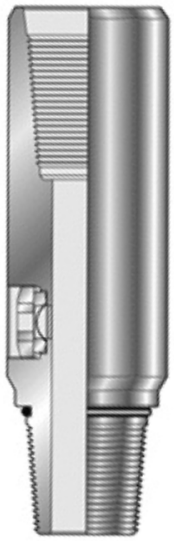
DUAL ACTIVATED CIRCULATION VALVE TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection
1 11/16"	H2S	1.687"	0.406"	1" AMMT Box	1" AMMT Pin
1 3/4"	H2S	1.75"	0.406"	1" AMMT Box	1" AMMT Pin
2 1/8"	H2S	2.125"	0.406"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/4"	H2S	2.25"	0.625"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 3/8"	H2S	2.375"	0.625"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 7/8"	H2S	2.875"	0.75"	2 3/8" PAC Box	2 3/8" PAC Pin
3 1/8"	H2S	3.125"	0.75"	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

BURST DISC CIRCULATION SUB

- The Burst Disc Circulation Sub is a standard coiled tubing tool string component that is used in conjunction with tools that require drop balls and that need to be circulated into the coiled tubing.
- The Burst Disc Circulation Sub is incorporated into the coiled tubing string just below the tool requiring a drop ball.
- If circulation is lost due to a downhole restriction, a predetermined pressure applied to the coil will burst the disc in the sub and re-establish circulation.
- The Burst Disc Circulation Sub is supplied with a blanking plug for the Burst Disc. Order the Burst Discs separately.
- Burst disc pressure 0-7,500 psi available



FEATURES

- Various burst disc pressure
- ratings available
- This tool can be designed to run without filling coiled tubing with fluid, allowing for circulation if required

BURST DISC CIRCULATION SUB TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection
1 11/16"	H2S	1.687"	0.39"	1" AMMT Box	1" AMMT Pin
1 3/4"	H2S	1.75"	0.406"	1" AMMT Box	1" AMMT Pin
2 1/8"	H2S	2.125"	0.875"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 1/4"	H2S	2.25"	0.875"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 3/8"	H2S	2.375"	0.875"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 7/8"	H2S	2.875"	1.38"	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

BALL ACTIVATED CIRCULATION SUB

- The Ball Activated Circulation Sub allows circulation above the coiled tubing work/tool string.
- The tool is activated by using a drop ball and can be adjusted on surface to shear out by varying the number and type of shear pins used. Pressure applied to the drop ball causes the pins to shear and the sleeve to move down, allowing circulation via the side ports.

FEATURES

- Simple-to-activate drop ball design
- 0-7,500 psi Burst Disc
- Compact design

BALL ACTIVATED CIRCULATION SUB TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection
1 11/16"	STD	1.687"	0.312"	1" AMMT Box	1" AMMT Pin
1 3/4"	STD	1.75"	0.312"	1" AMMT Box	1" AMMT Pin
2 1/8"	STD	2.125"	0.500"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 3/8"	STD	2.375"	0.437"	1 1/2" AMMT Box	1 1/2" AMMT Pin
2 7/8"	STD	2.875"	0.750"	2 3/8" PAC Box	2 3/8" AMMT Pin
3 1/8"	STD	3.125"	0.750"	2 3/8" PAC Box	2 3/8" PAC Pin

More sizes available.

04: ROTARY + MULTI-JET WASH TOOLS

Rangeview provides superior engineered Jetting Tools. Our line of rotary wash, multi-jet and governed tools delivers effective pressure jetting and circulating operations for cleaning without damage to your well bore. We provide powerful equipment to maximize productivity with the quality service our clients demand.

Our self-rotating assembly is designed specifically for this industry. Its powerful rotating jets are easily maintained or replaced in the field. With forward and rear facing jets and multiple jetting options, the tools can be used with water, acid or other chemicals to provide 360° coverage. Faster rotation handles thin, hard deposits quickly and effectively, while slower rotation increases dwell time and depth of penetration for thick, difficult deposits. Our tools are designed for flow rates up to 1,500 L/min, temperatures up to 200°C, and acid and nitrogen injection.

FEATURES

- Optimal nozzle, flow and jetting configurations
- Tungsten inserts on nozzles
- Flow conditioned profiles
- Forward, rear and outward facing jets
- Controlled rotation

BENEFITS

- Remove scale, paraffin, plugs, asphaltine and failed linings
- Field proven performance
- Use fewer jets to maximize power
- Highest quality components
- Complete coverage

Rising to Every Challenge

Designed and engineered to meet the rising demand for innovative tools to eliminate scale, paraffin build-up, plugs, asphaltine and failed linings, Rangeview's rotary and wash tools are arguably the best tools on the market.

ROTARY FLUID-GOVERNED WASH TOOL

This spinning water jet tool performs like no other for your thru-tubing downhole needs. It features a fluid driven regulator that controls its rotational speed, and the nozzle features flow conditioners inside the tungsten inserts for balanced high pressure streams to maximize cleaning and the elimination of scale, paraffin build-up, plugs, asphaltine and failed linings.

FEATURES

- Fluid controlled rotation
- Tungsten inserts on nozzles
- Flow conditioned profiles
- Replaceable nozzles
- Flow stabilization nozzles

BENEFITS

- Removes scale, paraffin, plugs, asphaltine and failed linings
- Field proven performance
- Highest efficiency and quality
- Complete coverage
- Option to use fewer jets to maximize power

ROTARY FLUID GOVERNED WASH TOOL TECHNICAL SPECIFICATIONS

Size	OD	Length	Flow Range	Inlet	Max Temp
168	1.68"	9.8"	0.7-1.3 bpm	1" AMMT	200°C
212	2.12"	12.3"	0.8-2 bpm	1 1/2" AMMT	200°C
250	2.5"	16"	0.7-3.0 bpm	1 1/2" AMMT	200°C
287	2.87"	15.6"	1.0-3.0 bpm	2 3/8" PAC	200°C

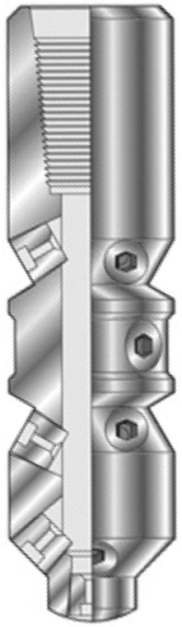
More sizes available.

MULTI-JET WASH SHOES + PROFILES

- The Multi-jet Wash Tool is a non-rational wash tool with simple, field-adjustable grub screw nozzles.
- Multi-jet Wash Tools are normally used with the Flow Activated Hydraulic Jetting Indexing Tool.
- Multi-jet Wash Tools are available in a range of sizes.

MULTI-JET WASH TOOL TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Top Connection
1 3/4"	STD	1.75"	1" AMMT Box
2 1/8"	STD	2.125"	1 1/2" AMMT Box
3 1/8"	STD	3.125"	2 3/8" REG Box
1 11/16"	H2S	1.688"	1" AMMT Box
1 3/4"	H2S	1.75"	1" AMMT Box
2 1/8"	H2S	2.125"	1 1/2" AMMT Box
2 3/8"	H2S	2.375"	1 1/2" AMMT Box
2 7/8"	H2S	2.875"	2 3/8" PAC Box



Adjustable Flow Ports

FEATURES

- Simple yet robust construction
- Easily field redressed
- Adjustable flow ports

BENEFITS

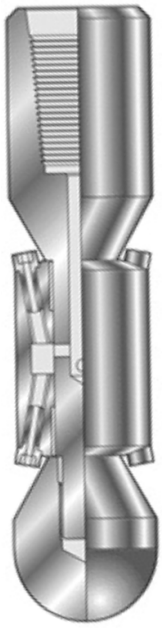
- Remove scale, paraffin, plugs, asphaltine and failed linings
- Field proven performance
- Highest efficiency and quality
- Complete coverage
- Option to use fewer jets to maximize power

ROTARY WASH TOOL

- The Rotary Wash Tool is designed for both jetting and circulating operations when washing the inside of tubing. It can also assist in manipulating of the coiled tubing string both in and out of the well.
- Applied fluid pressure causes the nozzle to rotate and jet the fluid against the tubing wall in 360º rotating action.
- Available in a range of sizes.

ROTARY WASH TOOL TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection
1 11/16"	STD	1.688"	0.312"	1" AMMT Box
1 3/4"	STD	1.75"	0.312"	1" AMMT Box
2 1/8"	STD	2.125"	0.160"	1 1/2" AMMT Box
2 7/8"	STD	2 7/8"	0.750"	2 3/8" PAC Box
3 1/8"	STD	3.125"	0.88"	2 3/8" API Reg Box
1 11/16"	H2S	1.688"	0.312"	1" AMMT Box
1 3/4"	H2S	1.75"	0.312"	1" AMMT Box
2 1/8"	H2S	2.125"	0.750"	1 1/2" AMMT Box
2 3/8"	H2S	2.375"	0.750"	1 1/2" AMMT Box



FEATURES

- Forward and reverse jetting
- Numerous jetting options
- Simple design

BENEFITS

- Removes scale, paraffin, plugs, asphaltine and failed linings
- Field proven performance
- Highest efficiency and quality
- Complete coverage
- Option to use fewer jets to maximize power

PERFORATION WASH TOOL

The Perforation Wash Tool is for washing or acidizing perforations in casing and sand screens. It is also used for checking non-perforations, to verify injection rates and penetration, or for opening voids behind the casing for more effective gravel pack operations. The straddle interval is easily field converted from one foot (1ft) to any distance by simply adding tubing above the bottom cups.

SPECIAL FEATURES

- Straddle-spacing easily adjusted in the field
- Reverse circulate without manipulation
- No ball and seat required

PRODUCT SPECIFICATIONS

Casing		Recommended Hole Size (inches)	Tool OD (inches)	Thread Connections Box Up/Pin Down	Part Number
Size (inches)	Weight (lbs/ft)				
3-1/2	9.2 - 10.2*	2.922 - 2.992	2.810	1.900 NUE	46035
4	9.5 - 13.4*	3.340 - 3.548	3.250	1.900 NUE	46040
4-1/2	9.5 - 11.6	4.000 - 4.090	3.690	1.900 NUE	46045
5	13.0 - 15.0	4.408 - 4.494	4.000	1.900 NUE	46050
	18.0 - 20.3	4.184 - 4.276	4.000	1.900 NUE	46051
5-1/2	13.0 - 20.0	4.778 - 5.044	4.625	2-7/8 EUE	46055
6-5/8	20.0 - 24.0	5.921 - 6.049	5.750	3-1/2 EUE/4-1/2 STC	46065
7	20.0 - 29.0	6.184 - 6.456	6.000	3-1/2 EUE	46070
9-5/8	29.3 - 53.5*	8.535 - 9.063	8.450	3-1/2 EUE	46095
10-3/4	40.5 - 55.5*	9.760 - 10.050	9.710	3-1/2 EUE	46010

*May require cup change.
NOTE: All pricing includes standard Nitrile trim. Other sizes and connections available upon request.

05: BOTTOM HOLE TOOLS

Rangeview's broad selection of Bottom Hole Tools offers you the right tool for the right application and provides you with a one-stop shop.

From casing scrapers, rotating casing scrapers, cleanout tools, junk baskets, reactive torque swivels and more, we have you covered. We continuously source and engineer new methods and products to help you succeed more efficiently and economically.

Rangeview has invested significantly into building an inventory of specialized intervention tools and equipment, many manufactured to our own design specifications. This includes the latest design of down-hole milling and cutting technology.

Our customers require action at a moment's notice, and that's exactly what Rangeview provides. We have a large inventory of equipment strategically positioned at our locations so we can provide the right tool promptly and cost effectively.

Knowing equipment is one thing; understanding how our tools can solve a very specific problem is another. That's what we do better than anyone in the industry.

All of our high-performance downhole tools are manufactured in accordance with the ISO 9001:2008 and API Q1 quality management guidelines.

Why Rangeview?

Rangeview has a significant inventory of specialized coiled tubing and thru-tubing intervention tools and equipment. Our customers require a response at a moment's notice, and that's exactly what Rangeview provides.

RV QUICK CONNECTOR

The RV Quick Connector allows the tool string to be assembled safely in two or more pieces and connected over the wellhead without turning the Bottom Hole Assembly (BHA) for a safe, quick and easy installation.

QUICK CONNECTOR SPECIFICATIONS

Max OD	Connections
1.5"	1.25 SA, 1" MT
1.687"	1.5 SA, 1" MT
1.750"	1.5 SA, 1" MT
2.000"	1.812 SA, 1 1/2" MT
2.125"	1.812 SA, 1 1/2" MT
2.375"	2.062 SA, 1 1/2" MT
2.875"	2.5 SA, 2 3/8" PAC
3.125"	2.5 SA, 2 3/8" PAC
3.500"	2 3/8" PAC, 2 3/8" REG

FEATURES

- Safe, easy and quick installation

BENEFITS

- Ideal for drilling, milling, and other service jobs

RV VENTURI JUNK BASKET

The RV Venturi Junk Basket is used to retrieve junk from the well bore. When fluid is pumped through the coil tubing to the RV Junk Basket, nozzles direct the flow

to the OD of the tool toward the bottom. This creates

a vacuum in the Venturi chamber, preventing debris from blocking the Venturi tubes. The cages trap the debris, and a screen prevents it from recirculating around the ports.

The volume of the debris chamber may be enlarged by adding extensions between the cage housing and the screen housing. The nozzles are replaceable to achieve any possible flow rate and pressure combination. The cage housing on the bottom of the tool can also be dressed with carbide for milling or washing over a fish.

Use of the Venturi is not dependent on hole sizes, and nitrogen can be used without damaging the tool. The Venturi runs with or without a mud motor.

FEATURES

- Effective well bore debris removal tool
- Functions regardless of well bore sizes
- Operates in horizontal or vertical wells

RV JUNK BASKET TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Working Pressure
1 3/4"	STD	1.75"	0.469"	1" AMMT Box	5,000 psi
2 1/16"	STD	2.062"	1"	1 1/2" AMMT Box	5,000 psi
2 1/4"	STD	2.062"	1"	1 1/2" AMMT Box	5,000 psi
2 5/8"	STD	2.625"	1.40"	1 1/2" AMMT Box	5,000 psi
3 1/8"	STD	3.125"	1"	2 3/8" PAC Pin	5,000 psi

More sizes available.

ULTRA HYDRAULIC JAR

The RV Ultra Hydraulic Jar is a dual or single action mechanical flow-thru jar. This manually operated

bi-directional jar is used in the tool string to give controlled upward or downward jarring impacts during coiled tubing operations. By using the well proven

“shifting key” latch principle, the latch/release mechanism ensures trouble-free operation with minimum maintenance.

The impact load depends on the load required to release the shifting key mechanisms within the jar. This load is adjustable over a range, so the operator can select the loading at which both up and down impact will occur. The RV Ultra Hydraulic Jar is shorter than most jars in today’s market without compromising efficiency.

This makes it ideal for milling, drilling and fishing

in vertical and horizontal wells. It withstands high torque and tensile ratings for today’s operations and is manufactured with the highest quality materials.

It has undergone vigorous testing in and out of the field to ensure optimal performance for our clients.

The RV Hydraulic Jar can also be split into two, forming an individual upstroke or downstroke jar if required. It can be used with a Dual Action Intensifier.

FEATURES

- Full hydraulic operation
- Variable impact control
- Increased impact ratios superior to existing industry tools
- Industry-leading impact values
- Shorter, more robust design
- Adjustable load range
- Proven mechanical latch principle
- Convertible to single action jar

BENEFITS

- A series of impacts can be applied without having to apply the reverse jarring cycle
- Enhanced seal technology ensures reliability

QUICK CONNECTOR SPECIFICATIONS

OD	ID	Length	Connection	Stroke	Service
1 11/16"	0.562"	57 1/2"	1" AMMT	11"	STD
2 1/8"	0.75"	61 3/4"	1 1/2" AMMT	12"	STD
2 7/8"	1"	68 1/4"	2 3/8" AM-PAC	12"	STD

More sizes available.

RV FLOW ACTIVATED INDEXING /KICK-OFF TOOL

The RV Big Flow Diversion Assembly is engineered to increase circulation of your Bottom Hole Assembly (BHA).

Flow control values have been designed to not harm casing when stationary. Specific options to increase lift in the well bore assembly are available upon request.

FEATURES

- Flow activated
- Full bore opening for high pressures
- Low pressure actuation
- A range of jetting nozzles available
- H_2S capability

BENEFITS

- 360º coverage

RV FLOW ACTIVATED INDEXING TOOL

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection	Working Pressure
1 3/4"	STD	1.75"	0.250"	1" AMMT Box	1" AMMT Pin	3,000 psi
1 3/4"	H2S	1.75"	0.250"	1" AMMT Box	1" AMMT Pin	3,000 psi
2 3/8"	STD	2.375"	0.5"	1 1/2" AMMT Box	1 1/2" AMMT Pin	3,000 psi
3 1/8"	STD	3.12"	0.75"	2 3/8" REG Box	2 3/8" Reg Pin	5,000 psi

RV BIG FLOW DIVERSION ASSEMBLY

The RV Flow Activated Indexing or “Kick-off” Tool is designed to rotate its jetting wash nozzles to allow 360º bore coverage. It helps the BHA avoid downhole entry problems by rotating mechanically when encountering liners, profiles, ledges and other obstructions that may cause difficult access to working depth. Fluid flow through the tool creates pressure to activate the indexing piston. The lower half of the tool strokes downwards and indexes. Maintaining the pressure then allows the increased flow to pass through the tool. When the flow pressure is decreased, the tool strokes back and completes a single indexing cycle. By repeating this operation, a 360° rotation can be achieved.

FEATURES

- Outfitted with flow conditioners and tungsten inserts on jet nozzle
- Variable nozzle and flow configurations
- Various nozzles

BENEFITS

- Engineered design to maximize flow rates
- Saves wear on motor
- 0-1,500 L/min

RV BIG FLOW DIVERSION ASSEMBLY SIZES

1 11/16” > 3 1/4”, H_2S Compatible

Diversion Assemblies come in a variety of sizes and connection thread options. Please contact your Rangeview Sales Representative for more information.

EXAMPLE:

Pressure

Orifice Dia	500 psi 3.4 MPA	600 psi 4.1 MPA	700 psi 4.8 MPA	800 psi 5.5 MPA	1,000 psi 6.8 MPA	1,200 psi 8.2 MPA	1,500 psi 10.3 MPA	2,000 psi 13.7 MPA	2,500 psi 17.2 MPA	3,000 psi 20.6 MPA	3,500 psi 24.1 MPA	4,000 psi 27.5 MPA	4,500 psi 31.0 MPA	5,000 psi 34.4 MPA
0.055	6.02	6.59	7.12	7.61	8.52	9.31	10.41	12.04	13.48	14.76	15.52	16.58	17.60	18.55
0.057	6.70	7.34	7.91	8.48	9.46	10.37	11.58	13.40	14.95	16.39	18.09	19.34	20.52	21.65
0.060	7.34	8.06	8.71	9.31	10.41	11.39	12.76	14.73	16.47	18.02	19.38	20.74	21.99	23.17
0.062	8.03	8.78	9.50	10.14	11.36	12.45	13.89	16.05	17.94	19.68	20.71	22.11	23.47	25.12
0.064	8.71	9.54	10.30	11.02	12.30	13.48	15.07	17.41	19.46	21.31	23.28	24.87	26.38	27.82
0.067	9.35	10.26	11.09	11.85	13.25	14.50	16.24	18.74	20.93	22.94	24.57	26.27	27.86	29.37
0.070	10.03	10.98	11.89	12.68	14.20	15.56	17.37	20.06	22.45	24.61	27.14	29.03	30.78	32.44
0.072	10.71	11.73	12.68	13.55	15.14	16.58	18.55	21.43	23.92	26.23	28.43	30.40	32.25	33.99
0.074	11.39	12.45	13.48	14.38	16.09	17.64	19.72	22.75	25.44	27.86	39.75	31.80	33.73	35.54
0.076	12.04	13.21	14.23	15.22	17.03	18.66	20.86	24.08	26.95	29.49	32.33	34.56	36.64	38.65
0.078	12.72	13.93	15.03	16.09	17.98	19.68	22.03	25.44	28.43	31.15	33.61	35.92	38.12	40.16

GPM

MAXFLOW SUB

The RV MaxFlow Sub is a simple, reliable tool that can reduce drilling costs associated with different types of hole conditions. Developed to increase circulation rates for enhanced hole cleaning, the MaxFlow Sub has evolved to benefit many applications in the drilling, completion and workover phases of a well such as:

- Increasing circulation rates for improved hole cleaning resulting in reduced torque and drag and higher ROP
- Increasing annular velocity in highly deviated and horizontal well bores where removal of cutting beds and hole cleaning are problematic
- Fluid displacements
- Acidizing and stimulation treatments
- Coring applications
- Cement squeezes

FEATURES

- Closes when the pumps are shut down
- Multiple cycles in a single run
- Temperature rating up to 216°C (420°F)

BENEFITS

- Enables the operator to pull a dry workstring or fill the drillstring while tripping in the hole
- When closed, prevents a U tubing effect and any well control issues that may occur in other tools
- Can be placed in different sections of the BHA to optimize workstring operations
- Flows nitrogen or acid without affecting motor or tools below sub
- Saves time and money

MAX FLOW SUB SPECIFICATIONS

Size	Tool OD	Tool ID	Flow Thru	Box + Pin Connection	Activation Ball Ball	Deactivation Ball	Ports	Cycles	Length
1 11/16"	1.69"	5/16"	0.13 sq/in	1" AMMT	13/32"	3/8"	2	8	3 ft
2 1/4"	2.25"	5/16"	0.17 sq/in	1 1/2" AMMT	1/2"	3/8"	2	5	2.5 - 3 ft
2 7/8"	2.875"	9/16"	0.557 sq/in	2 3/8" PAC	1"	7/8"	2	10	5 - 6 ft

CASING SCRAPER

The RV Casing Scraper removes obstructions or foreign material such as cement, mud, rust, mill scale, paraffin, perforation burrs and other substances from the inside wall of casings. It features a one-piece body with full 360° casing ID coverage provided by six, spring-load scraper blades. The design also features a large bypass area around and between the blades for ease of circulation. Each blade is secured in an individual pocket to ensure all thrust and rotational forces are absorbed directly by the one-piece body.

The RV Casing Scraper may be run on tubing or drill pipe and operates equally well when reciprocated vertically or when rotated. Rotation may not be necessary unless restrictions are encountered. In areas where packers or other tools are set, the scraper should be reciprocated through a number of times to ensure the casing is clean and smooth.

CASING SCRAPER SPECIFICATIONS

OD Size	IBS/FT	KG/M	BLADE DIA Collapsed	BLAD DIA Extended	CONNECTION API REG
4 1/2" / 114.3 mm	6.75-16.60	10.04-24.70	3 5/8" / 91.9 mm	4 1/2" / 112.2 mm	2 3/8" / 60.3 mm
5" / 127.0 mm	8.00-21.00	11.90-31.25	4 " / 101.6 mm	4 7/8" / 121.9 mm	2 3/8" / 60.3 mm
5 1/2" / 139.7 mm	9.00-23.00	13.39-34.23	4 1/2" / 114.3 mm	5 1/4" / 134.1 mm	2 7/8" / 73.0 mm

Many more sizes available.

ROTATING SCRAPER ALSO AVAILABLE

TORQUE-THRU KNUCKLE JOINT

- The Torque-thru Knuckle Joint, when incorporated between the jars and the manipulation tool, will provide additional flexibility in the toolstring, which is often necessary when the bore of the hole is restricted and/or highly deviated. The Torque-thru Knuckle Joint can be used when rotation of the toolstring is not required (for example, in coiled tubing drilling applications).
- The Knuckle Joint provides 15º angular deviation and internal pressure sealing throughout the full deviation of the tool. The ball and socket of the knuckle have a key that prevents rotation but still allows full angular movement.
- The full flow-thru bore also allows the use of flow activated tools below the Knuckle Joint.
- Multiple coiled-tubing Torque-thru Knuckle Joints can be incorporated in particularly long toolstrings.

FEATURES

- Full flow-thru bore
- Internal pressure seal
- 15º angular deviation
- Torque-thru capability

TORQUE-THRU KNUCKLE JOINT SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection	Working Pressure
1 11/16"	STD	1.688"	0.50"	1" AMMT Box	1" AMMT Pin	3,000 psi
1 3/4"	STD	1.75"	0.50"	1" AMMT Box	1" AMMT Pin	3,000 psi
1 11/16"	H_2S	1.688"	0.50"	1" AMMT Box	1" AMMT Pin	3,000 psi
1 3/4"	H_2S	1.75"	0.50"	1" AMMT Box	1" AMMT Pin	3,000 psi
2 1/8"	H_2S	2.125"	0.75	1 1/2" AMMT Box	1 1/2" AMMT Pin	3,000 psi
2 1/4"	H_2S	2.25"	0.75"	1 1/2" AMMT Box	1 1/2" AMMT Pin	3,000 psi
2 3/8"	H_2S	2.375"	0.75"	1 1/2" AMMT Box	1 1/2" AMMT Pin	3,000 psi
3 1/8"	H_2S	3.125"	1.00"	2 3/8" PAC Box	2 3/8" PAC Pin	5,000 psi

FLUTED CENTRALIZER

- The Fluted Centralizer is designed as part of the coiled tubing workstring and assists in providing centraliza-tion to allow easier location of tools during fishing or to provide general stability in the tubing.
- The Fluted Centralizer has a full flow-thru bore allowing passage of darts or drop balls and is available in any specific length.
- Fluted Centralizers are available in all common sizes.

FEATURES

- Full flow-thru bore
- Solid one-piece construction

FLUTED CENTRALIZER TECHNICAL SPECIFICATIONS

Size	Service	Max OD	Min ID	Top Connection	Bottom Connection	Working Pressure
1 5/8"	STD	1 3/4"	3/4"	1" AMMT Box	1" AMMT Pin	5,000 psi
1 3/4"	STD	2 3/4"	1/2"	1" AMMT Box	1" AMMT Pin	5,000 psi
1 1/2"	H_2S	1 5/8"	3/4"	1" AMMT Box	1" AMMT Pin	5,000 psi
1 1/2"	H_2S	1 3/4"	3/4"	1" AMMT Box	1" AMMT Pin	5,000 psi
1 11/16"	H_2S	2"	3/4"	1" AMMT Box	1" AMMT Pin	5,000 psi
2"	H_2S	2 1/4"	1"	1 1/2" AMMT Box	1 1/2" AMMT Pin	5,000 psi
2 1/8"	H_2S	2 3/8"	1"	1 1/2" AMMT Box	1 1/2" AMMT Pin	5,000 psi
2"	H_2S	2 1/2"	1"	1 1/2" AMMT Box	1 1/2" AMMT Pin	5,000 psi
2 1/8"	H_2S	2 7/8"	1"	1 1/2" AMMT Box	1 1/2" AMMT Pin	5,000 psi

More sizes available.

06: MILLS, STRING MILLS & DRILL BITS

Rangeview's engineered RV Mills, Drill Bits and PDC Bits provide a durable cutting structure capable of tackling the most demanding milling and drilling operations. Rangeview is committed to offering the latest, most reliable high-performance mills and bits for our clients. Over the past several years, our mills and bits have ensured our customers receive fast and dependable ROP.

Our approach to effective milling includes a wide range of field proven products, services and technical resources. When milling is required for such situations as loose junk retrieval, wash-overs, and milling of major obstructions, our innovative products, dressed with tough tungsten carbide, effectively break up the cuttings into smaller and lighter debris that is quickly and easily circulated and flowed to the surface. This results in more efficient hole cleaning and increased ROP.

Rangeview's broad selection of Bottom Hole Tools offers you the right tool for the right application and provides you with a one-stop shop.

Furthermore, all are manufactured in accordance with the ISO 9001:2008 and API Q1 quality management guidelines.

RV BLADED JUNK MILLS

RV Bladed Junk Mills are dressed with high quality tungsten carbide to ensure optimum performance in every application. Our mills are designed to mill up or dress off a wide variety of obstructions and packers, retainers, squeeze tools, tubing and bridge plugs. They also work well in combinations of junk and cement.

RV CEMENT MILLS

RV Cement Mills are designed for light milling. An open pattern cuts quickly on tubular fish and does not easily clog with cement or formation. Cement Mills are faster and more durable than steel-tooth bits. Their engineered large relief angle allows for superior penetration and is designed to prevent coring.

STRING TAPER MILLS

String Taper Mills are ideal for cleaning out damaged casing, liners or tubing. The design is tapered from the top and the bottom of the mill, allowing reaming operations from both directions. Pin-down and box-up connections allow the mill to be run in a drill collar string or in combination with a smaller pilot assembly to avoid sidetracking when removing obstructions in casing. These mills are often run above section mills so any cuttings creating a “birdnest” can be broken up and circulated. They can be inserted into the workstring at any point and dressed rough or smooth.

TAPER MILLS

Taper Mills are designed specifically for milling through tight spots, establishing gauge diameters and milling collapsed casing. They may also be used with other mills to prepare a fish for internal engagement. Heavy crushed carbide dressing increases on-bottom time, while ground OD and stabilizer pads eliminate the risk of cutting through the casing. Taper Mills can also be run ahead of other milling tools.

DRILL BITS

RV Mills are rugged and make milling jobs easy even when cutting the toughest obstructions. Our Junk Mills are available with concave, convex or flat bottoms; OD of 1 3/4" and up; and 4 to 8 variable blades are manufactured in accordance with the ISO 9001:2008 and API Q1 quality management guidelines.

- Our sealed bearing products include fully pressure-compensated, non-serviceable lubrication to journal bearing; hard-metal inlays on all contact surfaces with silver-plated cone bearings; specially formulated seal compounds; and high-temperature lubricant seals for long life.
- Our open bearing products feature precision roller bearings with special thrust elements to prevent axial wear. The cones are retained by ball bearing and pilot pin with hard-metal inlays against a tool steel bushing.

All are manufactured in accordance with the ISO 9001:2008 and API Q1 quality management guidelines.

FEATURES

- Steel tooth or tungsten carbide inserts
- Durable, long-lasting cutting structure
- 20% increase in the hard metal application to the critical areas of the bit

BENEFITS

- Maintains high ROP and increased footage
- Premium durability and reliability
- Directional responsiveness

GENERAL INFORMATION

SERVICE TOOLS

- CT Extended Reach Tool
- Fishing Magnet
- Lead Impression Block Poppet Check Valve Rotary Scraper
- Straight Bar
- String Magnet
- Torque Head
- Casing Scraper
- CT Centralizer
- Flow-activated Bow Spring Centralizer
- Fluted Centralizer Overshot
- Flow Activated GS Type
- Running/Pulling Tool Pull Test Plate
- Tubing Swivel
- B Hydraulic Setting Tool P1-J Valve
- M Fluid Control Valve
- D Fluid Control Valve Drag Assembly
- Collar Locator
- Bypass Valve

PACKERS & PLUGS

- Cement Retainer Ramcharger Setting Tool Snap Latch Seal Unit
- J Snap Latch
- Retrieve-Master Packer
- L Permanent Packer
- S Permanent Packer Omegamatic Packer
- R-104 Packer
- B-52 Straddle Packer
- HD Straddle Packer
- C Permanent Packer
- A Seal Bore Extension
- LC Nok-Out
- DB-5 Bridge Plug
- D-10 Bridge Plug
- Hy-Mech Setting Tool

RETRIEVABLE PACKERS

- T Packer
- CS Packer
- Tandem Tension Packer
- SR-1 Packer
- SR-2 Packer
- Hydro-Master Packer
- ETH Packer
- On-Off Seal Unit
- Tubing Tester
- Pump-out Plug
- Expansion Joint
- Blast Joint
- Re-entry Guide
- Dehydration Nipple
- Tubing Drain Sub
- Dual String Crossover
- Flow Diverter

Can't find what you're looking for?
Call our team at Rangeview.
It's our commitment to work hard to meet and exceed our customers' needs... again and again!

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