

The Viper and Jumbo Viper Rock Reamers have been in service since 2014 and has opened up from 4.5" (114mm) to 72" (1,829mm) in formations ranging from 55mpa (8,000 Psi) to 260mpa (37,700 Psi) with great success.

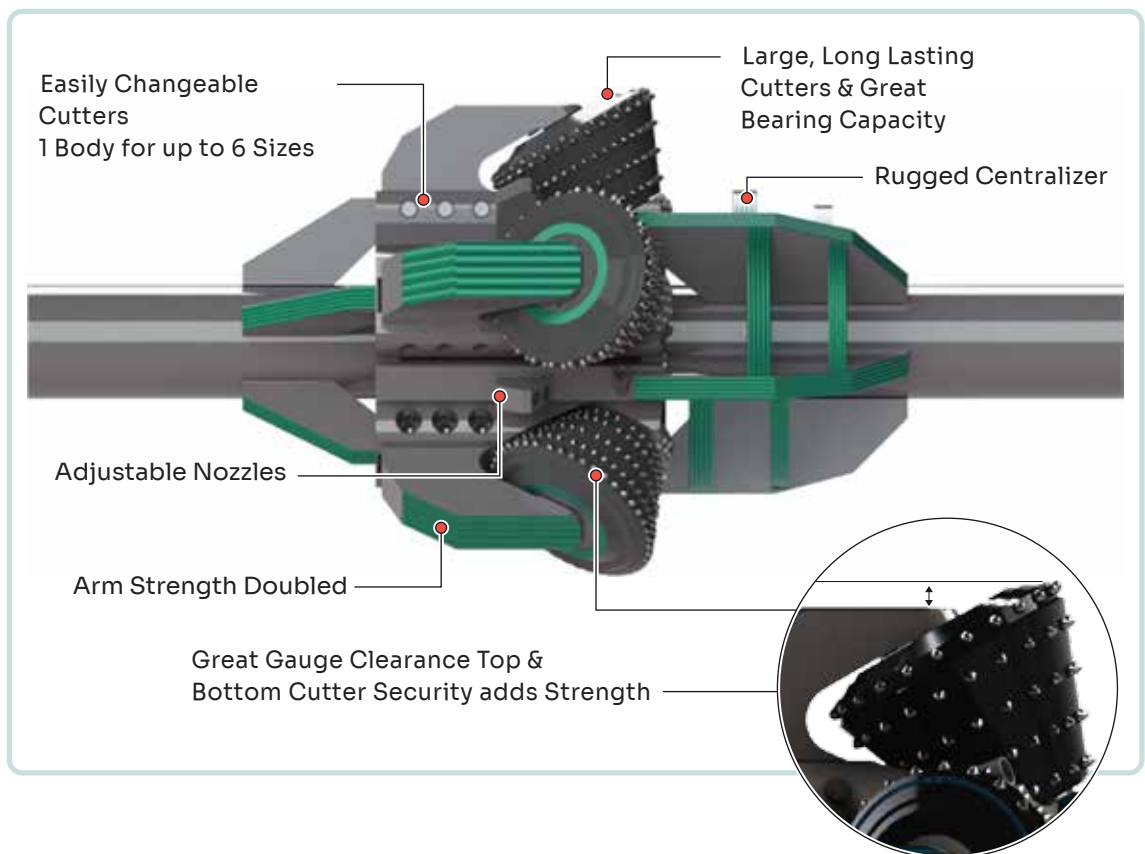
The Viper design has the Cones sit in the pockets at an angle that allows for larger radius cones. This means you have higher rotation speeds, larger bearings and gage clearance leading to longer life with less wear on the arms for an excellent performance.

The Viper and Jumbo Viper Tools are completely field replaceable. No need for welds, long delivery times or delays in manufacturing. The ability to mount multiple size and types of cutters on a single body gives the Viper tools an advantage in the HDD Hole Opening market.

Prime Is offering a unique opportunity to support this tool from its worldwide locations.

Benefits

- Larger Cutter Options with Maximum Shirrtail Protection for Longer Cutter Life.
- Proprietary Bearing Design for Maximum Cutter Efficiency
- Rugged & Versatile Design, engineered Insert configuration and Customized Reverse Nozzles.
- Increased Weight Capacity with Less Torque.
- Easily site Changeable Assembly Reducing Downtime.
- Increased Cost efficiency



International availability via Prime Horizontal stock points.

How To Change Cutters

1

Apply grease on cutter saddle. Install cutter on cutter saddle.

2

Apply grease on cutter arm. Install cutter arm on cutter and body.

3

Apply grease on arm bolt. Insert arm bolt.

4

Apply grease on locking bolt. Insert locking bolt.

Arm bolt Locking bolt

Allen key Allen key

Arm bolt Locking bolt

Hook for cutter arm

Projecting Cutter Life

Estimated Standard Cutter Life x Abrasive Factor x Hole Condition = Projected Life

1. Using the following charts match the opening cutter size with the formation PSI to establish a basis for cutter life in rotating hours.
2. If the formation is abrasive multiply by:

Slightly abrasive	0.90
Moderately abrasive	0.80
Very abrasive	0.65
3. If you expect a dirty hole multiply that answer by:

Slightly dirty hole (settled cuttings)	0.80
Moderately dirty hole (excessive cuttings)	0.70
Very dirty hole (cobble and/or gravel)	0.60

Mini & Midsize Rig Tooling



V4
4 1/2" Minimum Pilot



V6
6 1/2" Minimum Pilot



V6-18
18" Minimum Pilot

Dimensions

Body	No. of Cutters	Min. Pilot Hole	Connection (Box x Box)	Opening Range				
				aaa	bbb	ccc		
V4	3	4 1/2"	2 7/8 IF	8 3/4"	10"	12"		
	Suggested Max RPM			54	50	57		
				aa	bb	cc	dd	ee
V6	3	6 1/2"	3 1/2 IF, 4 1/2 IF	12"	14"	16"	18"	20"
	Suggested Max RPM			54	51	50	47	46
V6-18	5	18"	3 1/2 IF, 4 1/2 IF	22"	24"	26"	28"	30"
	Suggested Max RPM			29	30	30	30	31
V6-24	5	24"	3 1/2 IF, 4 1/2 IF	28"	30"	32"	34"	36"
	Suggested Max RPM			23	24	25	25	25

Note: Cutters are field replaceable and interchangeable between bodies. Available in **soft**, **medium** and **hard** formation.

Large Rig Tooling



V8

8 1/2" Minimum Pilot

V10

10 5/8" Minimum Pilot

V8-24

24" Minimum Pilot

Dimensions

Body	No. of Cutters	Min. Pilot Hole	Connection (Box x Box)	Opening Range						
				B	C	D	E	F	G	H
V8	3	8 1/2"	4 1/2 IF, 5 1/2 IF	18"	20"	22"	24"	26"	28"	30"
	Suggested Max RPM				51	50	48	47	47	46
V10	4	10 5/8"	7 5/8 REG	20"	22"	24"	26"	28"	30"	32"
	Suggested Max RPM				46	45	44	44	43	43
V8-24	5	24"	7 5/8 REG	32"	34"	36"	38"	40"	42"	44"
	Suggested Max RPM				28	29	29	30	30	30

Note: Cutters are field replaceable and interchangeable between bodies. Available in **soft**, **medium** and **hard** formation.

Mini & Midsize & Large Rig Tooling – Estimated Cutter Life (Hours/Set)

Tool	Cutter / Size		4,000 PSI MT	8,000 PSI TCI	15,000 PSI TCI	20,000 PSI TCI
V6 Minimum Pilot Hole: 6 1/2"	aa	12"	80	65	60	55
	bb	14"	85	70	65	65
	cc	16"	90	75	70	60
	dd	18"	90	80	75	65
	ee	20"	100	85	80	70
V6-18 Minimum Pilot Hole: 18"	aa	22"	80	65	60	45
	bb	24"	85	70	65	50
	cc	26"	90	75	70	55
	dd	28"	90	75	70	60
	ee	30"	100	85	80	70
V6-24 Minimum Pilot Hole: 18"	aa	28"	70	55	50	40
	bb	30"	75	60	55	45
	cc	32"	80	65	60	48
	dd	34"	80	65	60	52
	ee	36"	85	75	75	60
V8 Minimum Pilot Hole: 8 3/4"	B	18"	90	80	70	65
	C	20"	100	90	80	70
	D	22"	105	100	90	80
	E	24"	110	105	95	85
	F	26"	115	110	100	90
	G	28"	120	115	105	100
	H	30"	125	120	110	105
V10 Minimum Pilot Hole: 10 5/8"	B	20"	100	90	80	70
	C	22"	105	95	85	75
	D	24"	110	100	90	80
	E	26"	115	110	95	85
	F	28"	120	115	100	90
	G	30"	125	120	105	95
	H	32"	130	125	110	100
V8-24 Minimum Pilot Hole: 24"	B	32"	90	80	70	65
	C	34"	100	90	80	70
	D	36"	105	100	90	80
	E	38"	110	105	95	85
	F	40"	115	110	100	90
	G	42"	120	115	105	100
	H	44"	125	120	110	105


V6

6 1/2" Minimum Pilot


V6-18

18" Minimum Pilot


V8

8 1/2" Minimum Pilot


V10

10 5/8" Minimum Pilot


V8-24

24" Minimum Pilot

Large Rig Tooling



Jumbo Viper JV20–JV56

Dimensions

Body	No. of Cutters	Min. Pilot Hole	Connection (Box x Box)	Opening Range			
				JC	JD	JE	JF
JV20	5	20"	7 5/8 REG	30"	32"	34"	36"
	Suggested Max RPM			43	42	42	43
JV26	5	26"	7 5/8 REG	36"	38"	40"	42"
	Suggested Max RPM			36	36	36	36
JV32	5	32"	7 5/8 REG	42"	44"	46"	48"
	Suggested Max RPM			30	31	31	32
JV38	5	38"	7 5/8 REG	48"	50"	52"	54"
	Suggested Max RPM			27	27	27	28
JV44	5	44"	7 5/8 REG	54"	56"	58"	60"
	Suggested Max RPM			24	24	25	25
JV50	5	50"	7 5/8 REG	60"	62"	64"	66"
	Suggested Max RPM			21	22	22	23
JV56	5	56"	7 5/8 REG	66"	68"	70"	72"
	Suggested Max RPM			19	20	20	21

Note: Cutters are field replaceable and interchangeable between bodies. Available in **soft**, **medium** and **hard** formation.



Large Rig Tooling

Estimated Cutter Life (Hours/Set)

Tool	Cutter / Size		4,000 PSI MT	8,000 PSI TCI	15,000 PSI TCI	20,000 PSI TCI
JV20	Minimum	JC 30"	192	176	154	148
		JD 32"	198	187	165	154
	Pilot Hole: 24"	JE 34"	209	192	170	159
		JF 36"	215	198	176	165
JV26	Minimum	JC 36"	183	168	147	141
		JD 38"	189	178	157	147
	Pilot Hole: 26"	JE 40"	199	183	162	152
		JF 42"	205	189	168	158
JV32	Minimum	JC 42"	180	165	144	136
		JD 44"	185	175	154	141
	Pilot Hole: 32"	JE 46"	195	180	159	148
		JF 48"	200	183	162	150
JV38	Minimum	JC 48"	175	160	140	135
		JD 50"	180	170	150	140
	Pilot Hole: 38"	JE 52"	190	175	155	145
		JF 54"	195	180	160	150
JV44	Minimum	JC 54"	172	156	137	131
		JD 56"	178	162	146	136
	Pilot Hole: 44"	JE 58"	185	170	150	141
		JF 60"	190	175	155	147
JV50	Minimum	JC 60"	166	152	133	128
		JD 62"	171	161	142	133
	Pilot Hole: 50"	JE 64"	180	166	148	138
		JF 66"	185	171	152	142
JV56	Minimum	JC 66"	157	144	126	121
		JD 68"	162	153	135	126
	Pilot Hole: 56"	JE 70"	171	158	140	130
		JF 72"	176	162	144	1435

For more information, contact Prime Horizontal Group of Companies

Europe, China, Middle East, India Prime Horizontal Ltd Salland 3, 1948 RE Beverwijk The Netherlands Ph: +31 251 271 790

United States, Canada, Mexico Prime Horizontal Inc 7710 Harms Road Houston, TX 77041 US Ph: +1 346 998 1180

Australia & Southeast Asia Prime Horizontal Australia Pty Ltd Unit2, 220 New Cleveland Road Tingalpa Qld 4173, Australia Ph: +61 73 821 3684