

Razor[®]

**BIGGER OR DEEPER
SIMPLY
BETTER**



GEODynamics[®]

Razor® XDP

Industry-leading shaped charge performance=
Better connection to the reservoir=
BETTER WELL PERFORMANCE

This performance is achieved by combining cutting edge designs,
state of the art production processes, and rigorous quality control.

BEST IN CLASS PERFORMANCE

EXTREME DEEP PENETRATING

Carrier O.D.	Shaped Charge	Part Number	Perforating Condition	Explosive	Shot Density / Phasing	Casing O.D. Application	Performance in Concrete		Performance in Stressed Berea	
							EHD [in]/[cm]	TTP [in]/[cm]	EHD [^] [in]/[cm]	TTP [in]/[cm]
1-9/16"	1503 Razor XDP	EC1-15A0321	Fluid	3.2g, RDX	6 spf / 60°	2-7/8" L-80	0.17 [0.43]	12.13 [30.81]	0.13 [0.33]	5.30 [13.46]
		EC1-15A0322	In Fluid or Dry	3.2g, HMX	4 spf / 0°		0.19 [0.48]	13.09 [33.25]	0.13 [0.33]	5.23 [13.28]
		EC1-15A0323	Fluid	3.2g, HNS	6 spf / 60°		0.19 [0.48]	13.09 [33.25]	0.11 [0.28]	5.00 [12.70]
	1503 Razor XDP LS	EC1-15A0321-L	Dry	2.9g, RDX	6 spf / 0°	2-7/8" L-80				
		EC1-15A0322-L		2.9g, HMX			0.19 [0.48]	12.80 [32.51]	0.18 [0.46]	6.50 [16.51]
		EC1-17A0521		5.1g, RDX						
1-3/4"	1705 Razor XDP	EC1-17A0522	Fluid	5.1g, HMX	6 spf / 0°	4-1/2" L-80	0.26 [0.66]	21.63 [54.94]	0.20 [0.51]	7.70 [19.56]
		EC1-17A0523		5.1g, HNS					0.19 [0.48]	6.20 [15.75]
		EC1-20A0721		6.8g, RDX			0.25 [0.64]	21.83 [55.45]	0.22 [0.56]	9.55 [24.26]
2"	2007 Razor XDP	EC1-20A0722	Fluid	6.8g, HMX	6 spf / 60°	3-1/2" L-80	0.25 [0.64]	22.30 [56.64]		
		EC1-20A0722		6.8g, HMX		2-7/8" L-80	0.25 [0.64]	22.30 [56.64]		
		EC1-20B0721	In Fluid or Dry	6.5g, RDX		3-1/2" L-80	0.24 [0.61]	24.40 [61.98]		
	2007 Razor XLS XDP	EC1-20B0722		6.5g, HMX		2-7/8" L-80				
		EC2-23A1121		11.0g, RDX			0.25 [0.64]	22.30 [56.64]	0.19 [0.48]	10.80 [27.43]
		EC2-23A1122		11.0g, HMX					0.25 [0.64]	12.70 [32.26]
2-3/8"	2311 Razor XDP	EC2-23A1122	Fluid	11.0g, HMX	6 spf / 60°	3-1/2" L-80	0.31 [0.79]	30.11 [76.48]	0.24 [0.61]	11.40 [28.96]
		EC2-23A1123		11.0g, HNS			0.25 [0.64]	22.70 [57.68]	0.23 [0.58]	9.20 [23.37]
		EC2-23A1121-LS	Dry	11.0g, RDX		3-1/2" L-80				
	2311 Razor XDP LS	EC2-23A1122-LS		11.0g, HMX			0.31 [0.79]	30.11 [76.48]		
		EC2-23A1121-LS		11.0g, RDX						
		EC2-23A1122-LS	Fluid	11.0g, HMX	6 spf / 0°		0.31 [0.79]	30.11 [76.48]		
2-1/2"	2511 Razor XDP	EC1-25A1121	Fluid	11.5g, RDX	6 spf / 60°	3-1/2" L-80			0.26 [0.66]	13.00 [33.02]
		EC1-25A1122		11.5g, HMX			0.32 [0.81]	31.10 [78.99]	0.24 [0.61]	12.23 [31.06]
		EC2-27A1521		15.0g, RDX			0.39 [0.99]	37.45 [95.12]		
2-3/4"	2715 Razor XDP	EC2-27A1522	In Fluid or Dry	15.0g, HMX	6 spf / 60°	4-1/2" L-80	0.39 [0.99]	37.45 [95.12]		
		EC2-27A1523		15.0g, HNS					0.31 [0.79]	10.50 [26.67]
		EC2-27A1521		15.0g, RDX					0.26 [0.66]	13.50 [34.29]
2-7/8"	2715 Razor XDP	EC2-27A1522	In Fluid or Dry	15.0g, HMX	6 spf / 60°	4-1/2" L-80	0.34 [0.86]	42.46 [107.85]	0.30 [0.76]	13.13 [33.35]
		EC2-27A1523		15.0g, HNS					0.31 [0.79]	10.50 [26.67]
		EC2-28A1821	Fluid	18.0g, RDX			0.43 [1.09]	40.05 [101.73]	0.41 [1.04]	14.10 [35.81]
	2818 Razor XDP	EC2-28A1822		18.0g, HMX			0.43 [1.09]	40.05 [101.73]	0.37 [0.94]	15.33 [38.94]
		EC2-28A1823		18.0g, HNS			0.32 [0.81]	32.38 [82.25]	0.33 [0.84]	10.95 [27.81]

‡ For 2-3/8" in dry gas, maximum shot density is 5 spf and limited to low-swell (LS) charges only.

FLUID: Qualified for shooting in FLUID only with perforating systems qualified by GEODynamics.

IN FLUID or DRY: Qualified for shooting in FLUID or DRY GAS with perforating systems qualified by GEODynamics.

Performance in concrete represents API RP43 or API RP19B Section I testing results with the shot density/phasing, casing OD, and casing grade specified.

[^]EHD performance in stressed berea represents API RP19B Section 2 testing results with casing flat metal plate equivalent to 0.500" 120KSI yield and penetration (TTP) in stressed berea rock.

APPLICATIONS

Conventional reservoirs

Unconventional reservoirs

High temperature and high pressure

Plug and perf

Multi-string

Plug and abandonment

Razor® XDP

Industry-leading shaped charge performance=
Better connection to the reservoir=
BETTER WELL PERFORMANCE

This performance is achieved by combining cutting edge designs,
state of the art production processes, and rigorous quality control.

BEST IN CLASS PERFORMANCE

EXTREME DEEP PENETRATING (cont.)

Carrier O.D.	Shaped Charge	Part Number	Perforating Condition	Explosive	Shot Density / Phasing	Casing O.D. Application	Performance in Concrete		Performance in Stressed Berea	
							EHD (in)[cm]	TTP (in)[cm]	EHD [^] (in)[cm]	TTP (in)[cm]
3-1/8"	3319 Razor XDP	EC2-33A1921	‡ Fluid or Dry	19.0g, RDX	6 spf / 60°	4-1/2" L-80	0.51 [1.30]	42.07 [106.86]	0.43 [1.09]	14.60 [37.08]
		EC2-33A1922		19.0g, HMX			0.49 [1.24]	41.10 [104.39]		
	3323 Razor XDP	EC2-33A2321	Fluid	22.7g, RDX						
		EC2-33A2322		22.7g, HMX			0.42 [1.07]	39.02 [99.11]		
		EC2-33A2323		22.7g, HNS			0.35 [0.89]	26.05 [66.17]		
3-3/8"	3319 Razor XDP	EC2-33A1921	In Fluid or Dry	19.0g, RDX	6 spf / 60°	4-1/2"	0.51 [1.30]	42.07 [106.86]	0.43 [1.09]	14.60 [37.08]
		EC2-33A1922		19.0g, HMX						
		EC2-33A2321	In Fluid or Dry	22.7g, RDX		4-1/2" L-80				
	3323 Razor XDP	EC2-33A2322		22.7g, HMX			0.45 [1.14]	46.32 [117.65]		
		EC2-33A2323		22.7g, HNS						
	3325 Razor XDP	EC2-33B2521	Fluid	25.0g, RDX		4-1/2" L-80	0.45 [1.14]	44.58 [113.23]		
		EC2-33B2522		25.0g, HMX			0.53 [1.35]	47.30 [120.14]		
		EC2-33B2523		25.0g, HNS			0.37 [0.94]	30.20 [76.71]		
	3325 Razor XDP	EC2-33B2521	In Fluid or Dry	25.0g, RDX		5-1/2" L-80				
		EC2-33B2522		25.0g, HMX			0.47 [1.19]	46.11 [117.12]		
4"	4039 Razor XDP	EC2-40A3921	Fluid	39.0g, RDX	4 spf / 60°	5-1/2" L-80	0.39 [0.99]	53.00 [134.62]	0.38 [0.97]	18.60 [47.24]
		EC2-40A3922		39.0g, HMX	4 spf / 90°		0.39 [0.99]	53.00 [134.62]		
	3323 Razor XDP	EC2-33A2321	Fluid	22.7g, RDX	12 spf / 135°-45°	7.0" L-80			0.43 [1.09]	15.70 [39.88]
		EC2-33A2322		22.7g, HMX			0.38 [0.97]	34.90 [88.65]		
4-1/2"	3325 Razor XDP	EC2-33B2521	In Fluid or Dry	25.0g, RDX	6 spf / 60°	7.0"			0.44 [1.12]	16.30 [41.40]
		EC2-33B2522		25.0g, HMX						
	4039 Razor XDP	EC2-40A3921	Fluid	39.0g, RDX	5 spf / 60°	7.0" L-80	0.44 [1.12]	58.59 [148.82]	0.38 [0.97]	18.60 [47.24]
		EC2-40A3922		39.0g, HMX			0.45 [1.14]	72.93 [185.24]		
	3323 Razor XDP	EC2-33A2321	Fluid	22.7g, RDX	12 spf / 135°-45°	7.0" L-80				
		EC2-33A2322		22.7g, HMX			0.37 [0.94]	35.03 [88.98]		
4-5/8"	4039 Razor XDP	EC2-40A3921	Fluid	39.0g, RDX	5 spf / 60°	7.0"			0.38 [0.97]	18.60 [47.24]
		EC2-40A3922		39.0g, HMX						
	3323 Razor XDP	EC2-33A2321	Fluid	‡ 22.7g, RDX	12 spf / 135°-45°	7-5/8"			0.38 [0.97]	12.60 [32.00]
		EC2-33A2322		‡ 22.7g, HMX						
5-1/8"	3323 Razor XDP	EC2-33A2321	Fluid	‡ 22.7g, RDX	12 spf / 135°-45°	7-5/8"			0.38 [0.97]	12.60 [32.00]
		EC2-33A2322		‡ 22.7g, HMX						
7"	4039 Razor XDP	EC2-40A3921	Fluid	39.0g, RDX	12 spf / 135°-45°	9-5/8"			0.38 [0.97]	16.90 [42.93]
		EC2-40A3922		39.0g, HMX			0.41 [1.04]	53.59 [136.12]		

‡ For 3-1/8" 19g in dry gas, maximum shot density is 5 spf or limited to one- (1) and two- (2) shot short guns only.

† 33A charge case must be grooved. For 5-1/8" 12 spf, max. explosive load is 22.7g. For 22 spf, max. explosive load is 19g.

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Performance in concrete represents API RP43 or API RP19B Section I testing results with the shot density/phasing, casing OD, and casing grade specified.

[^]EHD performance in stressed berea represents API RP19B Section 2 testing results with casing flat metal plate equivalent to 0.500" 120KSI yield and penetration (TTP) in stressed berea rock.

Razor® SBH

WORLD RECORD PERFORMANCE WHEN SELECTING A BIG HOLE SYSTEM WHY CHOOSE ANYTHING BUT THE BIGGEST?

SUPER BIG HOLE

Carrier O.D.	Shaped Charge	Part Number	Perforating Condition	Explosive	Shot Density / Phasing	Casing O.D.	Performance in Concrete		Performance in Stressed Berea	
						Application	EHD (in)[cm]	TTP (in)[cm]	EHD [^] (in)[cm]	TTP (in)[cm]
4-5/8"	4626 Razor SBH TL LD	¹ EC2-46A2631	Fluid	26.0g. RDX	16 spf / 140°-20°	7.0" L-80	0.90 [2.29]	5.50 [13.97]		
		¹ EC2-46A2632		26.0g. HMX						
		¹ EC2-46A2631		26.0g. RDX		7-3/4" C-110	0.96 [2.44]	5.40 [13.72]		
4-3/4"	4818 Razor SBH	EC2-48K1831	Fluid	18.0g. RDX	24 spf / 90°-45°	7.0" L-80	0.73 [1.85]	4.81 [12.22]		
		EC2-48K1832		18.0g. HMX		† 7-3/4" Q-125	0.63 [1.60]	3.70 [9.40]		
							1.07 [2.72]	6.60 [16.76]		
5-1/8"	5132 Razor SBH TL LD	² EC2-51A3231	Fluid	32.0g. RDX	16 spf / 140°-20°	7-5/8" L-80				
		² EC2-51A3232		32.0g. HMX						
				32.0g. RDX	12 spf / 135°-45°		1.05 [2.67]	7.08 [17.98]		
6-3/4"	6852 Razor SBH	² EC2-51B3231	Fluid	32.0g. RDX	16 spf / 140°-20°		1.05 [2.67]	6.88 [17.48]		
		EC2-68K5231		52.0g. RDX	22 spf / 90°-45°	9-5/8" L-80	1.08 [2.74]	5.62 [14.27]		
		EC2-68K5232		52.0g. HMX		‡ 9-7/8" Q-125	0.97 [2.46]	5.35 [13.59]		
7"	7039 Razor SBH TL LD	EC2-70C3931	Fluid	39.0g. RDX	15 spf / 140°-20°	9-5/8" L-80	1.24 [3.15]	7.08 [17.98]		
		EC2-70C3932		39.0g. HMX						
	7039K Razor SBH	EC2-70K3931		39.0g. RDX	20 spf / 90°-45°	9-5/8" L-80	1.04 [2.64]	6.31 [16.03]	1.10 [2.79]	4.40 [11.18]
		EC2-70K3932	Fluid	39.0g. HMX					1.18 [3.00]	4.60 [11.68]
	7052 Razor SBH TL LD	EC2-70C5231		52.0g. RDX	15 spf / 140°-20°	9-5/8" L-80	1.39 [3.53]	6.50 [16.51]		
		EC2-70C5232		52.0g. HMX		^^ 10-1/8" SM-125S	1.12 [2.84]	6.60 [16.76]		
						9-5/8"				
	7052K Razor SBH**	EC2-70K5231		52.0g. RDX	20 spf / 90°-45°	9-5/8" L-80	1.41 [3.58]	5.67 [14.40]		
		EC2-70K5232		52.0g. HMX			1.42 [3.61]	7.06 [17.93]		

Charge cases 45B, 46A, 46B with 26g load are compatible with 4-1/2" carrier and 4046A load tube. Maximum shot density in 4-1/2" carrier is 12 spf.

¹ Charge cases 45A & 46A are zinc; charge cases 45B & 46B are steel. ¹ Blank charge case P/N: EP-1085-100-D (4-1/2" BH LD, zinc).

† Heavy weight 7-3/4" 45.51#, Q-125 casing was used in lieu of 7" 31.70# L-80. ² Charge case 51A is zinc; charge case 51B is steel.

‡ Heavy weight 9-7/8" 61.80#, Q-125 casing was used in lieu of 9-5/8" 46.18# L-80. ^^ Heavy weight 10-1/8" 79.75# SM-125S grade casing used in lieu of 9-5/8" 47# L-80.

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[^]EHD performance in stressed berea represents API RP19B Section 2 testing results with casing flat metal plate equivalent to 0.500" 120KSI yield and penetration (TTP) in stressed berea rock.

World record area open to flow... even when shooting through heavy-wall casing

API RP 19B SECTION 1 REGISTERED & WITNESSED TEST

GUN SIZE	CHARGE NAME	CASING INFO	ENTRY HOLE	PENETRATION	AREA OPEN TO FLOW
			inches	inches	IN ² /FT
4-5/8" 16 SPF	4626 RAZOR® SBH	7" 46.1# C-110	0.96	5.4	11.58
5-1/8" 16 SPF	5132 RAZOR® SBH	7-5/8" 33.7# L80	1.07	6.7	14.39
7" 15 SPF	7052 RAZOR® SBH	9-5/8" 47.0# L80	1.39	6.5	27.76

Maximizing flow area ensures optimum well performance and maximizes the life of sand control systems

APPLICATIONS

Gravel Pack / Frac Pack

Sand control

Plug and abandonment

Unconsolidated reservoirs

Conventional reservoirs



Razor[®]

**ARE YOU REALLY GETTING THE PERFORMANCE YOU
EXPECT FROM YOUR PERFORATING SYSTEM?**

Call us today to discuss your applications in heavyweight, high grade casing.

Specify Razor[®] Perforating on Your Next Well

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