



EPIC™ Precision 3-1/8"

GEODynamics' advanced EPIC™ Precision offers a factory-loaded, plug-and-play, limited entry perforating system for unconventional reservoirs. Precision integrates EPIC™ Slim U addressable switch technology with industry-standard detonator options into a programmable detonator module, delivering an intrinsically-safe, deployment-ready design. Quick and simple gun-string assembly saves time and increases efficiencies at the wellsite.

Precision carriers accommodate a variety of GEODynamics shaped charge options. FracIQ®, Connex®, Razor®, Basix™, Basix™ Frac, and Refrax™ charge technologies offer precision performance in spiral shot carriers.

GEODynamics delivers EPIC Precision carriers fully loaded to match customer specifications and preferences.

FEATURES

- Operation-readiness eliminates wellsite handling effort and streamlines run-in execution
- Utilizes EPIC™ Command state-of-the-art shooting panel
- Integrated EPIC™ Slim U technology (fastest configurable and programmable addressable switch on the market)
- Factory-installed shunted detonator, compatible with numerous industry-standard electric detonators
- Zero wired connections between guns and in tandem subs
- Disposable portless subs cut costs and reduce risk
- Carriers available as a turn-key system

BENEFITS

- Top-fire configuration facilitates safe shipment of loaded perforating carriers (meets all DOT requirements for 1.4D and 1.1D)
- Streamlined, intrinsically safe, factory-assembled reliability
- Spiral shot configurations with multiple phasing options offer one (1) to 20 shots per carrier, using FracIQ®, Basix™, Basix™ Frac, Razor®, Connex®, or Refrax™ charge technologies
- Shorter than competitor designs
- Completely disposable high-efficiency perforating

Industry-leading shaped charge performance equals

BETTER WELL PERFORMANCE

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

3-1/8" SPIRAL CHARGES

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]
3-1/8" 23g	3323 Basix BH	EC2-33A2331	Fluid	22.7g, RDX	6 spf / 60°	4-1/2" L-80	0.78 [1.98]	7.60 [19.30]		
		EC2-33A2332		22.7g, HMX			0.79 [2.01]	7.80 [19.81]		

CONSTANT ENTRY HOLE AND PENETRATION

Carrier O.D.	Shaped Charge	Part Number	Perforating Condition	Explosive	Shot Density / Phasing	API 19B Targeted Pipe*	Performance in Stressed Berea (API RP19B Sec. 2)		
							EHD^ (in)[cm]	EHD Variation Decentralized	TTP (in)[cm]
3-1/8" 12g-13g	FracIQ 20	EC2-33A1271	Fluid	12.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.22 [0.56]	5.5%	5.0 [12.70]
	Basix Frac 25	EC2-33A1271-BF		12.0g, RDX			0.26 [0.66]	2.4%	4.0 [10.16]
	FracIQ 25	EC2-33A1371		13.0g, RDX			0.26 [0.66]	4.1%	5.0 [12.70]
3-1/8" 13g-16g	FracIQ Connex 30	EC2-33A1471-FRX	Fluid	14.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.31 [0.79]	6.0%	5.0 [12.70]
	Basix Frac 30	EC2-33A1471-BF		14.0g, RDX			0.31 [0.79]	4.0%	4.0 [10.16]
	FracIQ 30	EC2-33A1671		16.0g, RDX			0.31 [0.79]	3.1%	5.0 [12.70]
	FracIQ 30	EC2-33A1672		16.0g, HMX			0.34 [0.86]	3.8%	
3-1/8" 16g-20g	FracIQ Connex 35	EC2-33A1671-FRX	Fluid	16.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.36 [0.91]	5.0%	5.0 [12.70]
	Basix Frac 35	EC2-33A1871-BF		18.0g, RDX			0.36 [0.91]	3.4%	4.0 [10.16]
	FracIQ 35	EC2-33A2071		20.0g, RDX			0.36 [0.91]	2.5%	5.0 [12.70]
	FracIQ 35	EC2-33A2072		20.0g, HMX			0.37 [0.94]	3.0%	
3-1/8" 19g-23g	FracIQ Connex 40	EC2-33A1971-FRX	Fluid	19.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.41 [1.04]	6.5%	5.0 [12.70]
	FracIQ 40	EC2-33A2371		23.0g, RDX			0.40 [1.02]	3.3%	
	FracIQ 40	EC2-33A2372		23.0g, HMX			0.41 [1.04]	3.8%	4.0 [10.16]
	Basix Frac 40	EC2-33A2371-BF		23.0g, RDX			0.40 [1.02]	6.6%	
3-1/8" 20g-23g	FracIQ 45	EC2-33A2071-FRX	Fluid	20.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.45 [1.14]	5.6%	5.0 [12.70]
	FracIQ Connex 45	EC2-33A2371-FRX		21.0g, RDX			0.45 [1.14]	3.2%	
	Basix Frac 45	EC2-33A2371-BF45		23.0g, RDX			0.45 [1.14]	5.9%	4.0 [10.16]
3-1/8" 23g	FracIQ 50	EC2-33A2371-50	Fluid	23.0g, RDX	6 spf / 60°	4.5"-5.5" OD, P110	0.50 [1.27]	1.5%	5.0 [12.70]
	FracIQ 50	† EC2-33A2371-50G		23.0g, HMX		5.5" OD, P110	0.50 [1.27]	4.6%	
	Basix Frac 50	EC2-33A2371-BF50		23.0g, RDX		4.5"-5.5" OD, P110	0.50 [1.27]	4.8%	4.0 [10.16]
	FracIQ 55	EC2-33A2371-55		23.0g, RDX		4.5" OD, P110	0.55 [1.40]	3.8%	5.0 [12.70]

*3-1/8" FracIQ charge performance is compatible in 4.5" 11.6-15.1# and 5.5" 17-23# P-110 casing. FRX designates FracIQ® Connex® reactive technology.

†EC2-33A2371-50G has a custom, externally-grooved case (special application).

Performance in concrete represents API RP43 or API RP19B Section 1 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.

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.

3-1/8" SPIRAL CHARGES, CONT.

DEEP PENETRATING/EXTREME DEEP PENETRATING

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^A (in)[cm]
3-1/8" 19g	3319 Connex RX	EC2-33A1991-RX	‡ Fluid or Dry	19.0g, RDX	5 spf / 60° (Dry) 6 spf / 60° (Fluid)	4-1/2" L-80			0.32 [0.81]	11.30 [28.70]
		EC2-33A1992-RX		19.0g, HMX					0.32 [0.81]	11.60 [29.46]
	3319 Razor XDP	EC2-33A1921	‡ Fluid or Dry	19.0g, RDX			0.51 [1.30]	42.07 [106.86]		
		EC2-33A1922		19.0g, HMX			0.49 [1.24]	41.10 [104.39]	0.43 [1.09]	14.60 [37.08]
	3319 Basix XDP	EC2-33A1921-E	‡ Fluid or Dry	19.0g, RDX			0.43 [1.09]	35.80 [90.93]		
EC2-33A1922-E	19.0g, HMX									
3319 Basix XDP	EC2-33A1921-EG	Fluid	19.0g, RDX	0.43 [1.09]	35.70 [90.68]					
3319 Basix DP	EC2-33A1951	‡ Fluid or Dry	19.0g, RDX	0.54 [1.37]	29.20 [74.17]					
						EC2-33A1952	19.0g, HMX			
3-1/8" 23g	3323 Connex SDP	EC2-33A2321-RC	Fluid	22.7g, RDX	6 spf / 60°	4-1/2" L-80			0.40 [1.02]	15.60 [39.62]
		EC2-33A2322-RC		22.7g, HMX					0.46 [1.17]	15.31 [38.89]
		EC2-33A2323-RC		22.7g, HNS					0.36 [0.91]	11.85 [30.10]
	EC2-33A2321	22.7g, RDX						0.41 [1.04]	16.40 [41.66]	
	3323 Razor XDP	EC2-33A2322		22.7g, HMX			0.42 [1.07]	39.02 [99.11]	0.44 [1.12]	15.68 [39.83]
		EC2-33A2323		22.7g, HNS			0.35 [0.89]	26.05 [66.17]	0.37 [0.94]	12.12 [30.78]
	3323 Basix XDP	EC2-33A2321-E		22.7g, RDX			0.42 [1.07]	46.01 [116.87]	0.39 [0.99]	12.30 [31.24]
		EC2-33A2322-E		22.7g, HMX			0.43 [1.09]	46.37 [117.78]		
	3323 Basix GH	EC2-33A2321-EG		22.7g, RDX					0.41 [1.04]	11.90 [30.23]
		EC2-33A2322-EG		22.7g, HMX			0.43 [1.09]	45.70 [116.08]	0.40 [1.02]	11.90 [30.23]

‡ 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.

DUAL CASING

Carrier O.D.	Shaped Charge	Part Number	Perforating Condition	Explosive	Shot Density / Phasing	Inner Casing		Outer Casing	
						O.D./Material	EHD (in)[cm]	O.D./Material	EHD (in)[cm]
3-1/8" 14g-23g	3314 Refrax	EC2-33A1471-D	Fluid	14.0g, RDX	6 spf / 60°	Expanded 4.0" P110	0.33-0.33 [0.84-0.84]	5.5" P110	0.30-0.30 [0.76-0.76]
	3316 Refrax	EC2-33A1671-D		16.0g, RDX			0.37-0.38 [0.94-0.95]		0.35-0.35 [0.89-0.89]
	3320 Refrax	EC2-33A2071-D		20.0g, RDX	0.41-0.42 [1.04-1.07]	0.40-0.40 [1.02-1.02]			
	3316 Refrax	EC2-33A1671-D		16.0g, RDX	4.5" P110	0.30-0.32 [0.76-0.81]	0.39-0.41 [0.99-1.04]		
3323 Refrax	EC2-33A2371-D	23.0g, RDX	0.41-0.42 [1.04-1.07]	0.35-0.35 [0.89-0.89]					

GOOD 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^A (in)[cm]
3-1/8" 19g	3319 Connex XEH	EC2-33A1941-RC	‡ Fluid or Dry	19.0g, RDX	5 spf / 60° (Dry) 6 spf / 60° (Fluid)	4-1/2" L-80			0.41 [1.04]	14.20 [36.07]
		EC2-33A1942-RC		19.0g, HMX					0.42 [1.07]	14.37 [36.50]
	EC2-33A1941	19.0g, RDX		0.60 [1.52]			28.55 [72.52]			
	3319 Basix GH	EC2-33A1942	19.0g, HMX							
3-1/8" 23g	3323 Connex XEH	EC2-33A2341-RC	Fluid	22.7g, RDX	6 spf / 60°	4-1/2"			0.43 [1.09]	15.60 [39.62]
		EC2-33A2342-RC		22.7g, HMX					0.43 [1.09]	15.89 [40.36]
	EC2-33A2341-E	22.7g, RDX		0.48 [1.22]			31.40 [79.76]			
	3323 Basix GH	EC2-33A2342-E	22.7g, HMX			4-1/2"				

‡ 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.

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