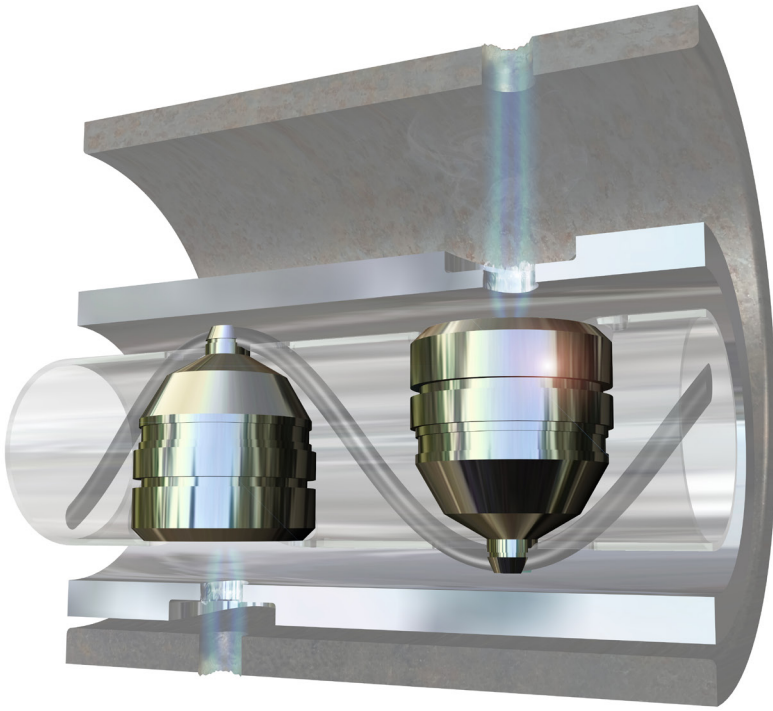
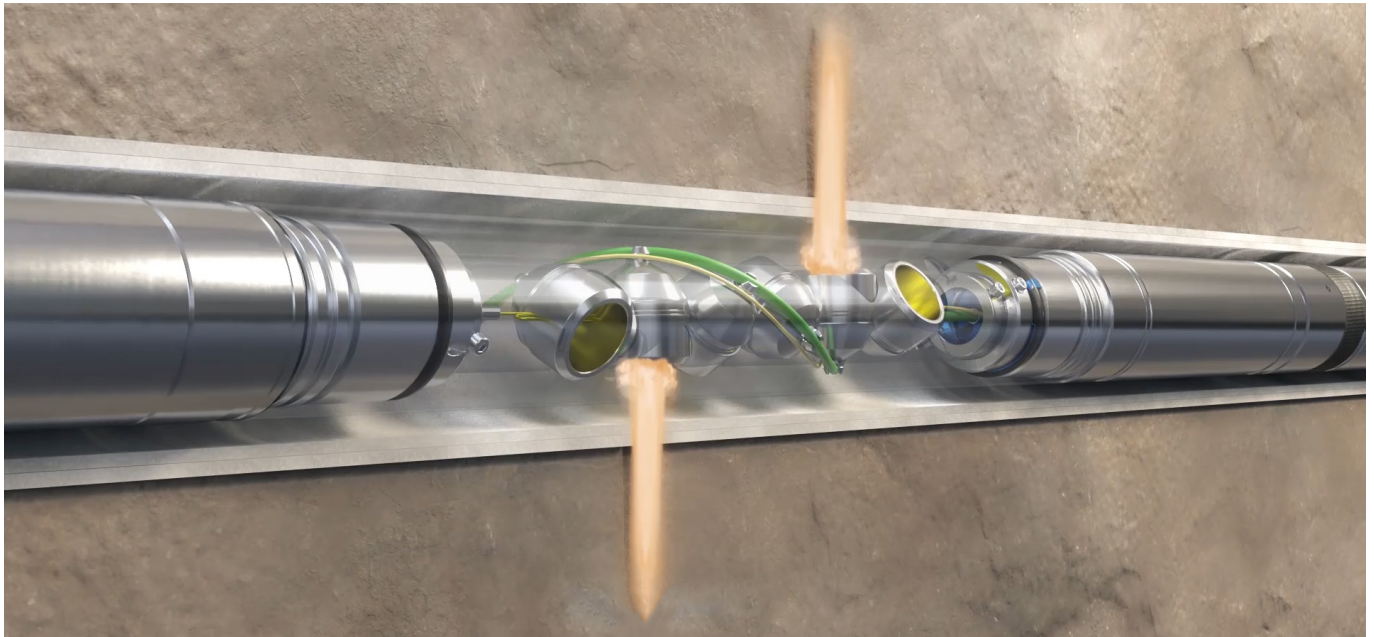


EQUAfrac®



EQUAfrac® & EQUAfrac Limited
Consistent Hole Shaped Charges

Hunting's EQUAfrac® Shaped Charge is the ideal solution for obtaining consistent hole size, optimal penetration and minimal debris in horizontal completions.



EQUAfrac® Shaped Charge



5% Variance

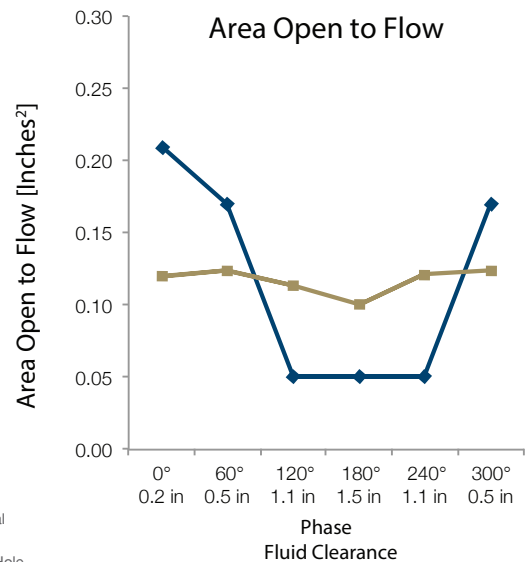
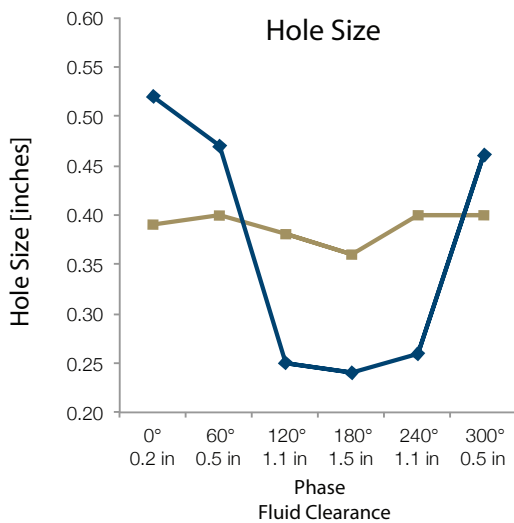
Conventional Shaped Charge



50% Variance

Benefits ▶

- Improves well productivity
- Reduces completion cost
- More open perforations per stage
- Does not require centralization
- Consistent entry hole diameter
- Optimal depth of penetration
- Minimal perforating gun debris



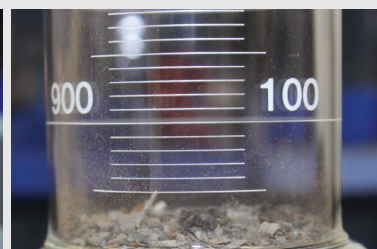
Performance Data

Gun O.D. (in) [mm]	Charge Part Number	Target Type	Exp. Weight (g)	Exp. Type	Shot Density (SPF) [SPM] Phasing	Average Entry Hole (in) [mm]	Decentralized EHD Variation	Penetration (in) [cm]	Test Type
2-1/2 [64]	RTG-2512-371T	4-1/2 inch OD, 13.5#, P-110	12	RDX	6 [20] 60°	0.29 [7.62]	7.3%	21.3 [54.10]	Gun/QC Spec
2-3/4 [70]	RTG-2512-371T	5-1/2 inch OD, 23#, P-110	12	RDX	6 [20] 60°	0.32 [8.13]	5.9%	21.3 [54.10]	Gun/QC Spec
	EXP-2716-371T	4-1/2 inch OD, 13.5#, P-110	16	RDX	6 [20] 60°	0.32 [8.13]	6.4%	25.8 [65.51]	API RP-19B
	EXP-2716-372T	4-1/2 inch OD, 11.6#, L-80	16	RDX	6 [20] 60°	0.34 [8.64]	2.9%	14.0 [35.56]	API RP-19B
	EXP-2716-372T	5-1/2 inch OD, 20#, P-110	16	RDX	6 [20] 60°	0.32 [8.13]	8.6%	16.6 [42.16]	Gun/QC Spec
3-1/8 [79]	EXP-2816-371T*	5-1/2 inch OD, 23#, P-110	16	RDX	6 [20] 60°	0.25 [6.35]	7.0%	27.6 [70.10]	Gun/QC Spec
	EXP-3321-372T	5-1/2 inch . OD, 20#, P-110	21	RDX	6 [20] 60°	0.32 [8.13]	2.5%	34.3 [87.12]	Gun/QC Spec
	EXP-3323-471T	4-1/2 inch OD, 13.5#, P-110	23	HMX	6 [20] 60°	0.39 [9.91]	3.6%	24.8 [62.87]	API RP-19B
	EXP-3323-371T	5-1/2 inch OD, 23#, P-110	23	RDX	6 [20] 60°	0.35 [8.89]	8.9%	32.4 [82.30]	Gun/QC Spec
	EXP-3323-373T	5-1/2 inch OD, 20#, P-110	23	RDX	6 [20] 60°	0.41 [10.2]	7.6%	26.1 [66.29]	Gun/QC Spec
	EXP-3323-373T	5-1/2 inch OD, 23#, P-110	23	RDX	6 [20] 60°	0.40 [10.2]	3.3%	26.1 [66.29]	Gun/QC Spec
3-3/8 [86]	EXP-3323-471T	4-1/2 inch OD, 11.6#, L-80	23	HMX	6 [20] 60°	0.42 [10.67]	2.0%	24.6 [62.48]	API RP-19B
	EXP-3323-471T	5-1/2 inch OD, 23#, P-110	23	HMX	6 [20] 60°	0.38 [9.65]	4.9%	31.6 [80.26]	API RP-19B
	EXP-3326-371T	4-1/2 inch OD, 11.6#, L-80	26	RDX	6 [20] 60°	0.47 [11.94]	4.1%	34.7 [88.13]	API RP-19B
	EXP-3326-371T	5-1/2 inch OD, 23#, P-110	26	RDX	6 [20] 60°	0.44 [11.18]	4.5%	35.6 [90.42]	API RP-19B
	EXP-3326-371T	6 inch OD, 24.5#, P-110	26	RDX	6 [20] 60°	0.44 [11.18]	7.2%	30.7 [77.98]	Gun/QC Spec

Note: EQUAfrac charges are available in H-Lok™ versions for the H-1 Perforating System®. Add "-H1" to the partnumber, example: EXP-3323-471T-H1
 *Requires special gun assembly part number 0363-EOL-066, all others compatible with standard Hunting perforating gun assemblies.

Debris Test Results

Gun & Charge Specifications	EQUAfrac®	EQUAfrac® Limited	Competitor
Gun Manufacturer	Hunting	Hunting	Competitor
Gun Diameter (in) [mm]	3-1/8 [79]	3-1/8 [79]	3-1/8 [79]
SPF [SPM] Phasing	6 [20] 60°	6 [20] 60°	6 [20] 60°
Total Shots	12	12	12
Grams per Charge Explosive Type	23.0 RDX	21 RDX	22.7 RDX
Debris Test Results			
Pre Test Loaded Gun Weight	28.88 kg	27.13 kg	28.31 kg
Dry Weight of Expended Gun	28.85 kg	27.10 kg	28.40 kg
Weight of Debris Rolled from Gun*	21 gm	38 gm	209 gm
Volume of Debris Rolled from Gun*	12.5 cc	20 cc	85 cc
Avg. Weight of Gun Debris per cc	1.7 gm/cc	1.9 gm/cc	2.5 gm/cc
Total Volume of Debris Lost*	20 cc	27 cc	85 cc
Total Weight of Debris Lost*	33 gm	50 g	209 gm
Avg. Exit Hole Size in Gun (in) [mm]	0.29 [7.37]	0.45 [11.43]	0.56 [14.22]



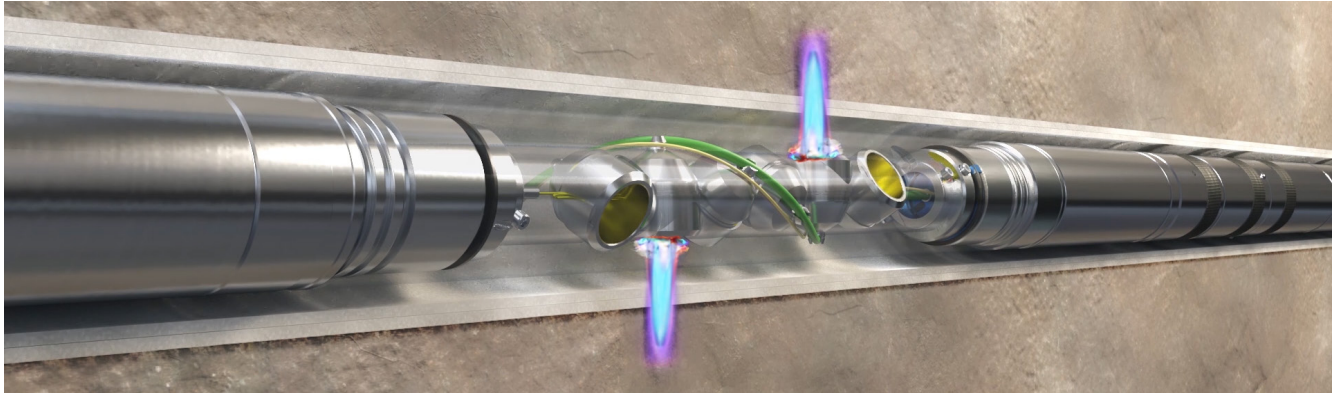
Debris From
Perforating Gun
Containing Other
Consistent Hole
Shaped Charge

Debris From
Perforating Gun
Containing
EQUAfrac® Shaped
Charge

EQUAfrac® Limited

www.hunting-intl.com/titan

EQUAfrac® Limited is Hunting's latest, limited penetration, super-consistent hole shaped charge. EQUAfrac Limited is designed for applications requiring the lowest variation in hole size with limited penetration. EQUAfrac now offers the most efficient shaped charge for both limited penetration and extended penetration consistent hole applications.



Gun O.D. (in) [mm]	Charge Part Number	Target Type	Exp. Weight (g)	Exp. Type	Shot Density (SPF) [SPM] Phasing	Average Entry Hole (in) [mm]	Entry Hole Range (in)[mm]	Decentralized EHD Variation	Penetration (in)[cm]	Test Type
2-3/4 [70]	SCH-2713-371	4-1/2 inch OD, 13.5#, P110	13	RDX	6 [20] 60°	0.30 [7.62]	0.29-0.33 [7.37-8.38]	4.6%	6.5 [19.05]	Gun/QC Spec
	SCH-2715-371	4-1/2 inch OD, 13.5#, P110	15	RDX	6 [20] 60°	0.35 [8.89]	0.34-0.37 [8.63-9.39]	2.1%	6.5 [19.05]	Gun/QC Spec
	SCH-2717-371	4-1/2 inch OD, 13.5#, P110	17	RDX	6 [20] 60°	0.41 [10.41]	0.39-0.44 [9.90-11.17]	3.9%	6.5 [19.05]	Gun/QC Spec
3-1/8 [79]	SCH-3113-372	4-1/2 inch OD, 13.5#, P110	13	RDX	6 [20] 60°	0.27 [6.86]	.25-.29 [6.35-7.37]	4.8%	6.5 [16.51]	Gun/QC Spec
	SCH-3113-372	5-1/2 inch OD, 20#, P110	13	RDX	6 [20] 60°	0.26 [6.60]	.25-.29 [6.35-7.37]	5.2%	6.5 [16.51]	Gun/QC Spec
	SCH-3113-372	5-1/2 inch OD, 23#, P110	13	RDX	6 [20] 60°	0.26 [6.60]	.24-.28 [6.10-7.11]	4.4%	6.5 [16.51]	Gun/QC Spec
	SCH-3113-371	4-1/2 inch OD, 13.5#, P110	13	RDX	6 [20] 60°	0.30 [7.62]	.28-.32 [7.11-8.13]	4.3%	5.5 [13.97]	Gun/QC Spec
	SCH-3113-371	5-1/2 inch OD, 20#, P110	13	RDX	6 [20] 60°	0.31 [7.87]	.29-.33 [7.37-8.38]	4.0%	5.5 [13.97]	Gun/QC Spec
	SCH-3113-371	5-1/2 inch OD, 23#, P110	13	RDX	6 [20] 60°	0.32 [8.13]	.29-.35 [7.37-8.89]	5.4%	5.5 [13.97]	Gun/QC Spec
	SCH-3118-372	5-1/2 inch OD, 23#, P110	18	RDX	6 [20] 60°	0.35 [8.89]	0.34-0.37 [8.63-9.39]	2.3%	7.5 [19.05]	Gun/QC Spec
	SCH-3118-371	4-1/2 inch OD, 13.5#, P110	18	RDX	6 [20] 60°	0.35 [8.89]	0.34-0.37 [8.63-9.39]	2.6%	7.5 [19.05]	Gun/QC Spec
	SCH-3118-371	5 inch OD, 18#, P110	18	RDX	6 [20] 60°	0.37 [9.39]	0.33-0.40 [8.38-10.16]	4.8%	7.5 [19.05]	Gun/QC Spec
	SCH-3118-371	5-1/2 inch OD, 20#, P110	18	RDX	6 [20] 60°	0.38 [9.65]	0.35-0.40 [8.89-10.16]	5.3%	7.5 [19.05]	Gun/QC Spec
	SCH-3118-371	5-1/2 inch OD, 23#, P110	18	RDX	6 [20] 60°	0.37 [9.39]	0.35-0.40 [8.89-10.16]	5.2%	7.5 [19.05]	Gun/QC Spec
	SCH-3121-371	4-1/2 inch OD, 13.5#, P110	21	RDX	6 [20] 60°	0.39 [9.90]	0.38-0.40 [9.65-10.16]	2.5%	7.5 [19.05]	Gun/QC Spec
	SCH-3121-371	5 inch OD, 18#, P110	21	RDX	6 [20] 60°	0.42 [10.66]	0.40-0.46 [10.16-11.68]	3.8%	7.5 [19.05]	Gun/QC Spec
	SCH-3121-371	5-1/2 inch OD, 20#, P110	21	RDX	6 [20] 60°	0.42 [10.66]	0.39-0.45 [9.90-11.43]	4.2%	7.5 [19.05]	Gun/QC Spec
	SCH-3121-371	5-1/2 inch OD, 23#, P110	21	RDX	6 [20] 60°	0.41 [10.41]	0.38-0.44 [9.65-11.17]	4.7%	7.5 [19.05]	Gun/QC Spec
	SCH-3121-371	6 inch OD, 24.5#, P110	21	RDX	6 [20] 60°	0.41 [10.41]	0.39-0.45 [9.90-11.43]	5.1%	7.5 [19.05]	Gun/QC Spec
SCH-3123-372	5-1/2 inch OD, 20#, P110	23	RDX	6 [20] 60°	0.48 [12.19]	0.45-0.51 [11.43-12.95]	3.3%	7.5 [19.05]	Gun/QC Spec	
SCH-3123-372	5-1/2 inch OD, 23#, P110	23	RDX	6 [20] 60°	0.47 [11.94]	0.45-0.51 [11.43-12.95]	4.0%	7.5 [19.05]	Gun/QC Spec	
SCH-3123-371	5-1/2 inch OD, 20#, P110	23	RDX	6 [20] 60°	0.53 [13.46]	0.46-0.59 [11.68-14.99]	7.7%	8.0 [20.32]	Gun/QC Spec	

Products and Services

- ▶ Hunting’s mission is to innovate and manufacture quality oil/gas extraction equipment and distribute it across our global supply chain.
- ▶ Hunting’s energetics division produces the greatest number of shaped charges in the world.
- ▶ Hunting’s instrument division produces the most widely used addressable switch in the world.

Proprietary Technology

Hunting develops innovative technology that improves the way oil and gas are extracted, with a full range of applications below the wellhead including mud motors, premium connections, well perforating, logging and intervention tools.

Geographic Footprint

Manufacturing and distribution locations are strategically located in the key energy producing regions of the world.



Global Business Units

OCTG and Connection Technology

Perforating Systems & Instrumentation

Advanced Manufacturing

Drilling Tools

Well Intervention

Subsea Technologies

Health, Safety, Environment and Quality Assurance

Hunting is committed to working safely in an environmentally responsible manner. These principles are fully integrated within our Quality Management System that defines the company's global operations.

Quality Assurance

Hunting products and services are designed and manufactured to conform to the specification required by the customer, meeting their needs and expectations the first time, every time.

It is the policy of Hunting that only the highest quality products and services, that meet all specification requirements, are provided to customers. Hunting operates a corporate Quality Management System covering all worldwide locations.

Health, Safety, and the Environment

Hunting is committed to achieving and maintaining the highest standards of safety for its employees, customers, suppliers and the public. All Hunting business units consciously operate in a manner that includes environmental matters as an integral part of its business plan.

Hunting's aims are no accidents, no harm to people, and no damage to the environment.

The Hunting goal is **Total Customer Satisfaction**.

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