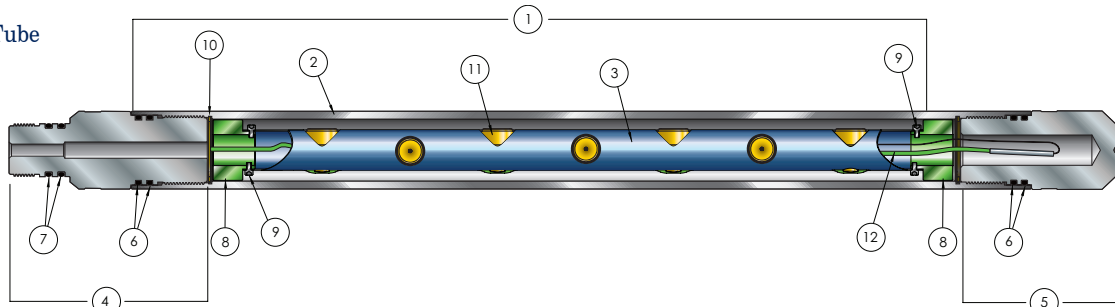


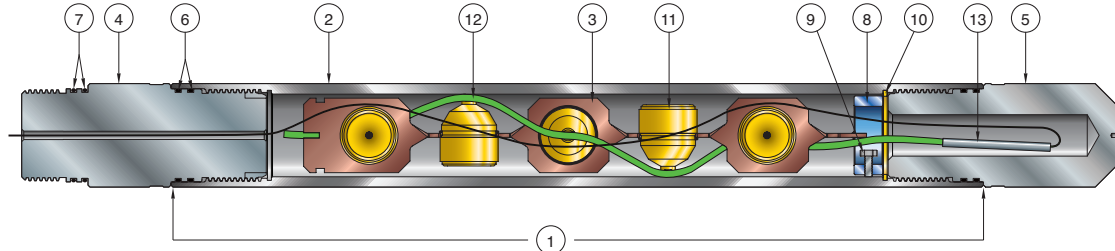
4 SPF (13 SPM) GUNFACTS®

Gun Body Material:	Steel tubing
Gun Body Configuration:	Threaded and unscaloped
Charge Tube Type:	Round steel tube or twisted strip
Mode of Fire:	Simultaneous or selective firing systems such as EBFire® and ControlFire®
Initiation Point:	Top or bottom fired options available for wireline
Detonating Cord:	80 grains/foot
O-Ring Material:	Nitrile - 90 Durometer (Viton - 95 Durometer for temperatures >325°F [163°C])

W/ Round Steel Tube



W/ Twisted Strip



Economical (EEG) Casing Gun Assembly and Components					
ITEM	PART NO.	DESCRIPTION	Gun Assy. #	Phase	
1	0640-B**-046	3-1/8 in. (79 mm) EEG Assy.	1	60°	
	0640-A4**-046	3-1/8 in. (79 mm) EEG Twisted Assy.	2	60°	
	0640-B**-044	3-1/8 in. (79 mm) EEG Assy.	1	90°	
	0640-A4**-044	3-1/8 in. (79 mm) EEG Twisted Assy.	2	90°	
2	0640-1**-000	3-1/8 in. (79 mm) EEG Carrier Body			
3	0365-7**-046	Charge Tube	1	60°	
	0631-4**-046	Twisted Strip	2	60°	
	0365-7**-044	Charge Tube	1	90°	
	0631-4**-044	Twisted Strip	2	90°	
Common Parts	4	0640-000-001	Top Sub		
	5	0640-000-003	Gun Bottom		
	6	0111-236-090	O-Ring		
	7	0111-230-090	O-Ring		
	8	0640-700-131	Chg. Tube End Fitting (2 req)	1	
		0631-400-031	Twisted Strip Lock Ring (1 req)	2	
	9	0327-000-003	End Fitting Screw (2 req)	1	
		0336-000-024	Hex Head Cap Screw; 1/4-20 x 5/8	2	
	10	0404-200-037	Snap Ring (2 req)		
	11		Shaped Charge		
12		Detonating Cord			
13		Blasting Cap	2		

** Gun length. Common Lengths are 2, 3, 4, 5, 7, 11, 15, & 21 foot.
Example: Use "02" for 2ft gun; etc. (0640-B02-046)

Compatible Shaped Charges (Shaped Charge Summary - Page 89)				
Part Number	Type	Explosive Weight (g)	Application	Explosive Type
EXP-3321-421T	SDP	21.0	F, G	HMX
EXP-3323-423T	SDP	22.7	F, G	HMX
EXP-3319-302	DP	19.0	F, G	RDX
EXP-3325-331	GH	25.0	F	RDX
EXP-3319-431	GH	19.0	F, G	HMX
EXP-3323-431	GH	22.7	F, G	HMX

xxx-xxxx-3xxx for RDX, xxx-xxxx-4xxx for HMX, xxx-xxxx-5xxx for HNS
Bold indicates API-19B certification
Italics indicate API RP-43 certification
 Application: "F" indicates that system is able to be fired in fluid
 "G" indicates that system is able to be fired in gas
 Phasing Compatibility: Refer to listed phasing(s) in Specifications table below

Specifications - Economical (EEG) Casing Gun Assy.	4 SPF (13 SPM); 60°		4 SPF (13 SPM); 90°	
	Charge Tube	Twisted Strip	Charge Tube	Twisted Strip
Nominal O.D. (in) [mm]	4.00 [102]			
Nominal Thickness (in) [mm]	0.31 [7.9]			
Gun Swell (in) [mm]: Ambient Fluid.	4.50 [114] ≤ 25.0g		4.50 [114] ≤ 25.0g	
Gun Swell (in) [mm]: Ambient Gas.	4.49 [114] ≤ 22.7g		4.50 [114] ≤ 22.7g	
Minimum Recommended Restriction (in) [mm]	4.77 [121]			
Maximum Pressure (psi) [MPa]	7,500 [52]			
Distance to Top Shot (in) [mm]	7.50 [191]	6.00 [152]	7.50 [191]	6.00 [152]
Approximate Weight - Loaded (lb/ft) [kg/m]	16.0 [23.8]			
Max. Tension (lb) [kN]	120,000 [534]			

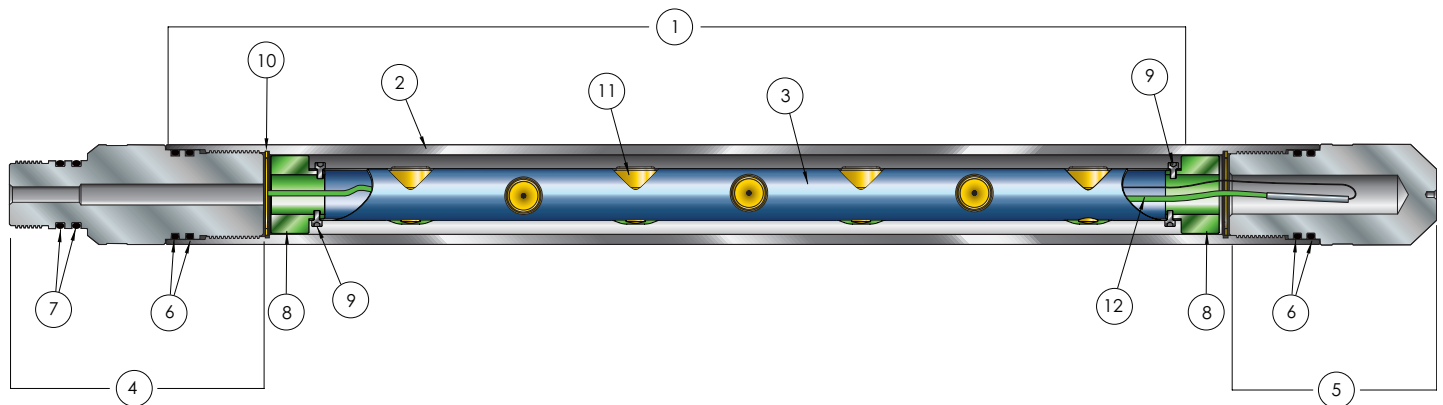
N/R Not Recommended

4 in. (102 mm) Economical Casing Gun



6 SPF (20 SPM) GUNFACTS®

Gun Body Material: Steel tubing
 Gun Body Configuration: Threaded and unscaloped
 Charge Tube Type: Round steel tube
 Mode of Fire: Simultaneous or selective firing systems such as EBFire® and ControlFire®
 Initiation Point: Top or bottom fired options available for wireline
 Detonating Cord: 80 grains/foot
 O-Ring Material: Nitrile - 90 Durometer (Viton - 95 Durometer for temperatures >325°F [163°C])



03 Economical Guns

Economical (EEG) Casing Gun Assembly and Components				
	ITEM	PART NO.	DESCRIPTION	Phase
	1	0640-B**-066	4 in. (102 mm) EEG Assy.	60°
	2	0640-1**-000	4 in. (102 mm) EEG Carrier Body	
	3	0365-7**-066	Charge Tube	60°
Common Parts	4	0640-000-001	Top Sub	
	5	0640-000-003	Gun Bottom	
	6	0111-236-090	O-Ring	
	7	0111-230-090	O-Ring	
	8	0640-700-131	Chg. Tube End Fitting (2 req)	
	9	0327-000-003	End Fitting Screw (2 req)	
	10	0404-200-037	Snap Ring (2 req)	
	11		Shaped Charge	
	12		Detonating Cord	
	13		Blasting Cap	

Compatible Shaped Charges (Shaped Charge Summary - Page 89)				
Part Number	Type	Explosive Weight (g)	Application	Explosive Type
EXP-3321-421T	SDP	21.0	F, G	HMX
EXP-3323-423T	SDP	22.7	F, G	HMX
<i>EXP-3319-302</i>	DP	19.0	F, G	RDX
<i>EXP-3325-331</i>	GH	25.0	F	RDX
EXP-3319-431	GH	19.0	F, G	HMX
EXP-3323-431	GH	22.7	F, G	HMX

xxx-xxxx-3xxx for RDX, xxx-xxxx-4xxx for HMX, xxx-xxxx-5xxx for HNS
Bold indicates API-19B certification
Italics indicate API RP-43 certification
 Application: "F" indicates that system is able to be fired in fluid
 "G" indicates that system is able to be fired in gas
 Phasing Compatibility: Refer to listed phasing(s) in Specifications table below

** Gun length. Common Lengths are 2, 3, 4, 5, 7, 11, 15, & 21 foot.
 Example: Use "02" for 2ft gun; etc. (0640-B02-066)

Specifications - Economical (EEG) Casing Gun Assy.	6 SPF (20 SPM)
	60°
Nominal O.D. (in) [mm]	4.00 [102]
Nominal Thickness (in) [mm]	0.31 [7.9]
Gun Swell (in) [mm]: Ambient Fluid.	4.31 [109] ≤ 25.0g
Gun Swell (in) [mm]: Ambient Gas.	4.50 [114] ≤ 22.7g
Minimum Recommended Restriction (in) [mm]	4.77 [121]
Maximum Pressure (psi) [MPa]	7,500 [52]
Distance to Top Shot (in) [mm]	7.00 [178]
Approximate Weight - Loaded (lb/ft) [kg/m]	18.0 [26.8]
Max. Tension (lbf) [kN]	120,000 [534]

NR Not Recommended