

Thru-tubing guns need to be small enough to pass through a completion string, but large enough to accommodate perforating charges that will penetrate the casing, cement and formation damaged zone. Magnetic decentralizers allow the gun to stick to the casing minimizing standoff distance, which in turn maximizes perforating charge performance.

Hunting's magnetic decentralizers come in a range of sizes to suit all thru-tubing gun sizes. The magnets used have excellent temperature stability which guarantees that perforating guns will always be attached to the casing wall.

Phasing subs are also available such that the shooting phase of a thru-tubing gun will be in alignment with the decentralizer magnets.

APPLICATIONS

- Thru-tubing perforating

FEATURES

- Alnico 5 alloy used to make strong magnets that have excellent stability at high temperatures
- Phasing subs align magnets with shooting phase of perforating gun
- Simple robust design

BENEFITS

- Strong magnetic force available at all downhole operating temperatures
- Perforation performance maximized

HARDWARE SPECIFICATIONS



O.D. (in)[mm]	Type	Max. Temp.† (°F)[°C]	Max. Pressure (psi)[MPa]	Length (in)[mm]	Weight (lbm)[kg]	Max. Voltage (VDC)	Max. Current (mA)	Max. Tension (lb†)[kN]	Upper Head Connection	Lower Head Connection‡
Upper Magnetic Decentralizer										
1-3/8 [35]	Upper	400 [204]	20,000 [138]	13.1 [333]	4.9 [2.2]	600	2,000	50,000 [222]	1-3/16"-12 GO Box§	1-3/16"-12 GO Pin
1-9/16 [40]	Upper	400 [204]	20,000 [138]	13.1 [333]	6.3 [2.9]	600	2,000	50,000 [222]	1-3/16"-12 GO Box§	1-3/16"-12 GO Pin
1-11/16 [43]	Upper	400 [204]	20,000 [138]	13.1 [333]	7.5 [3.4]	600	2,000	50,000 [222]	1-3/16"-12 GO Box	1-3/16"-12 GO Pin
2 [51]	Upper	400 [204]	20,000 [138]	13.1 [333]	10.8 [4.9]	600	2,000	50,000 [222]	1-3/16"-12 GO Box	1-3/16"-12 GO Pin
2-1/8 [54]	Upper	400 [204]	20,000 [138]	13.1 [333]	12.1 [5.5]	600	2,000	50,000 [222]	1-3/16"-12 GO Box§	1-3/16"-12 GO Pin
2-1/2 [64]	Upper	400 [204]	20,000 [138]	15.0 [381]	18.4 [8.3]	600	2,000	72,000 [320]	1-3/16"-12 GO Box	1-3/16"-12 GO Box
Lower Magnetic Decentralizer										
1-3/8 [35]	Set Screw Type	400 [204]	20,000 [138]	12.0 [305]	4.3 [2.0]	-	-	24,000 [107]	1" Set Screw Box	-
	Threaded Type			11.3 [287]	4.6 [2.1]			62,000 [276]	1-3/16"-12 Go Pin	-
1-9/16 [40]	Set Screw Type	400 [204]	20,000 [138]	12.0 [305]	5.5 [2.5]	-	-	35,000 [156]	1-1/8" Set Screw Box	-
	Threaded Type			11.3 [287]	5.9 [2.7]			62,000 [276]	1-3/16"-12 Go Pin	-
1-11/16 [43]	Set Screw Type	400 [204]	20,000 [138]	12.0 [305]	6.5 [2.9]	-	-	35,000 [156]	1-1/8" Set Screw Box	-
	Threaded Type			11.3 [287]	6.7 [3.0]			62,000 [276]	1-3/16"-12 Go Pin	-
2 [51]	Set Screw Type	400 [204]	20,000 [138]	12.0 [305]	9.5 [4.3]	-	-	35,000 [156]	1-1/8" Set Screw Box	-
	Threaded Type			11.3 [287]	9.6 [4.4]			62,000 [276]	1-3/16"-12 Go Pin	-
2-1/8 [54]	Set Screw Type	400 [204]	20,000 [138]	12.0 [305]	10.5 [4.8]	-	-	35,000 [156]	1-1/8" Set Screw Box	-
	Threaded Type			11.3 [287]	10.7 [4.6]			62,000 [276]	1-3/16"-12 Go Pin	-
2-1/2 [64]	Set Screw Type	400 [204]	20,000 [138]	13.0 [330]	15.5 [7.0]	-	-	55,000 [245]	1-1/2" Set Screw Box	-

† Viton O-rings need to be used above 325°F (163°C)

‡ Various pin connections are available. See assembly part number table for more details

§ Version with 1-3/16"-12 GO Pin available. See assembly part number table for details

ASSEMBLY PART NUMBERS

Type	Contact Kit	O.D. (in)[mm]					
		1-3/8 [35]	1-9/16 [40]	1-11/16 [43]	2 [51]	2-1/8 [54]	2-1/2 [64]
Upper	5396-000-002† 5396-000-012‡ 5396-000-042§	5394-000-000† 5394-000-010‡ 5394-000-040§ 5394-000-080††	5396-000-000† 5396-000-010‡ 5396-000-040§ 5396-000-080††	5396-000-200† 5396-000-110‡ 5396-000-140§	5398-000-000† 5398-000-010‡ 5398-000-040§ 5398-000-080††	5398-000-200† 5398-000-210‡ 5398-000-140§	5392-000-000‡‡
Lower - Set Screw Type	-	5395-000-000	5397-000-000	5397-000-100	5399-000-000	5399-000-100	5393-000-000
Lower - Threaded Type	-	5395-000-040	5397-000-040	5397-000-140	5399-000-040	5399-000-140	-

† Teardrop connector pin on lower head

‡ Banana plug pin on lower head

§ Spring contact pin on lower head

†† Spring contact pin on upper head and teardrop connector pin on lower head

‡‡ Contact kit 5392-000-002



Teardrop connector pin
for upper decentralizer



Banana plug for
upper decentralizer



Spring contact for
upper decentralizer



Threaded type upper
connection for lower
decentralizer



Set screw type upper
connection for lower
decentralizer

ADAPTERS

O.D (in)[mm]	Type	Part Number	Contact Kit	Upper Head Connection	Lower Head Connection
1-7/16 [37]	Double sealed phasing sub assembly for 2-1/2" upper magnetic decentralizer	3903-000-040	3903-000-042	1-3/16"-12 GO Pin	1-3/16"-12 GO teardrop connector
	Phasing sub assembly for 2-1/2" upper magnetic decentralizer	3903-000-050	3903-000-052	1-3/16"-12 GO Pin	1-3/16"-12 GO banana plug