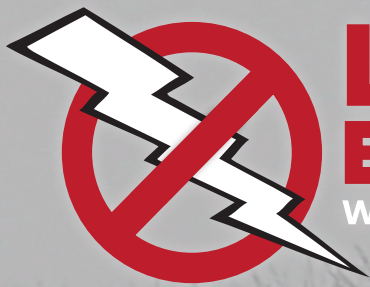


## Retractable Grounding Assembly RGA® Competitive Product Analysis

### RGA® Comparison with Lightning Master Movable Arm Grounding System (MAGS) Device

Parameter	LEC RGA	MAGS	Notes
<b>ATEX certification</b>	Yes	No	LEC unit is tested and certified
<b>CE certification</b>	Yes	No	LEC unit is tested and certified
<b>Location of manufacture</b>	Nebraska, USA	Unknown	No further comment
<b>ISO certification of manufacturer</b>	Yes	Unknown	LEC unit is manufactured to ISO certifications
<b>Year of business start</b>	1971	1984	No further comment
<b>Date of product introduction</b>	1999	2013	LEC has more experience with this product and application
<b>Meets API RP 545</b>	Yes	No	Violates API 545 section 4.2.1.2.2, which states “bypass conductors shall be of the minimum length...”
<b>Length of conductor for half full 40 foot high tank</b>	20 feet	40 feet	Length of conductor does not change
<b>Length of conductor for full 40 foot high tank</b>	Approximately 2 feet	40 feet	Length of conductor does not change
<b>Existing users</b>	PDVSA, PEMEX, ADNOC Takreer, Petroperu, Petrobras, ExxonMobil, Chevron, British Petroleum, Sunoco, Ineos and more <i>*Additional references sites furnished upon request</i>	Unknown	No further comment
<b>Patented in USA</b>	Yes	Patent pending	No further comment
<b>Test history</b>	Electrical impedance, wind durability, cold weather operation, snow/ice encapsulation	Unknown	The LEC RGA has been subjected to numerous testing programs.



# LIGHTNING ELIMINATORS

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## RGAs® comparison with ATECO Replica

Parameter	LEC RGA	Ateco Copy of RGA	Notes
<b>Material of body and spring housing</b>	316L stainless steel	Unknown type of stainless steel	316 has very high corrosion resistance
<b>ATEX certification</b>	Yes	No	LEC unit is tested and certified
<b>CE certification</b>	Yes	No	LEC unit is tested and certified
<b>Location of manufacture</b>	Nebraska, USA	Turkey	No further comment
<b>ISO certification of manufacturer</b>	Yes	Unknown	LEC unit is manufactured to ISO certifications
<b>Conductor</b>	Tin plated copper	Bare copper	Tinned conductor has superior corrosion resistance
<b>Spring strength</b>	Will retract 100% of cable length; confirmed by testing	Unknown	LEC has stronger spring and greater retraction force, judging from photographs
<b>Year of business start</b>	1971	2004	No further comment
<b>Date of product introduction</b>	1999	2012	LEC has more experience with this product and application
<b>Meets API RP 545 resistance requirement</b>	Yes	Unknown	No further comment
<b>Existing users</b>	PDVSA, PEMEX, ADNOC Takreer, Petroperu, Petrobras, ExxonMobil, Chevron, British Petroleum, Sunoco, Ineos and more *Additional references sites furnished upon request	Unknown	No further comment
<b>Patented in USA</b>	Yes	No	No further comment
<b>Test history</b>	Electrical impedance, wind durability, cold weather operation, snow/ice encapsulation	Unknown	The LEC RGA has been subjected to numerous testing programs