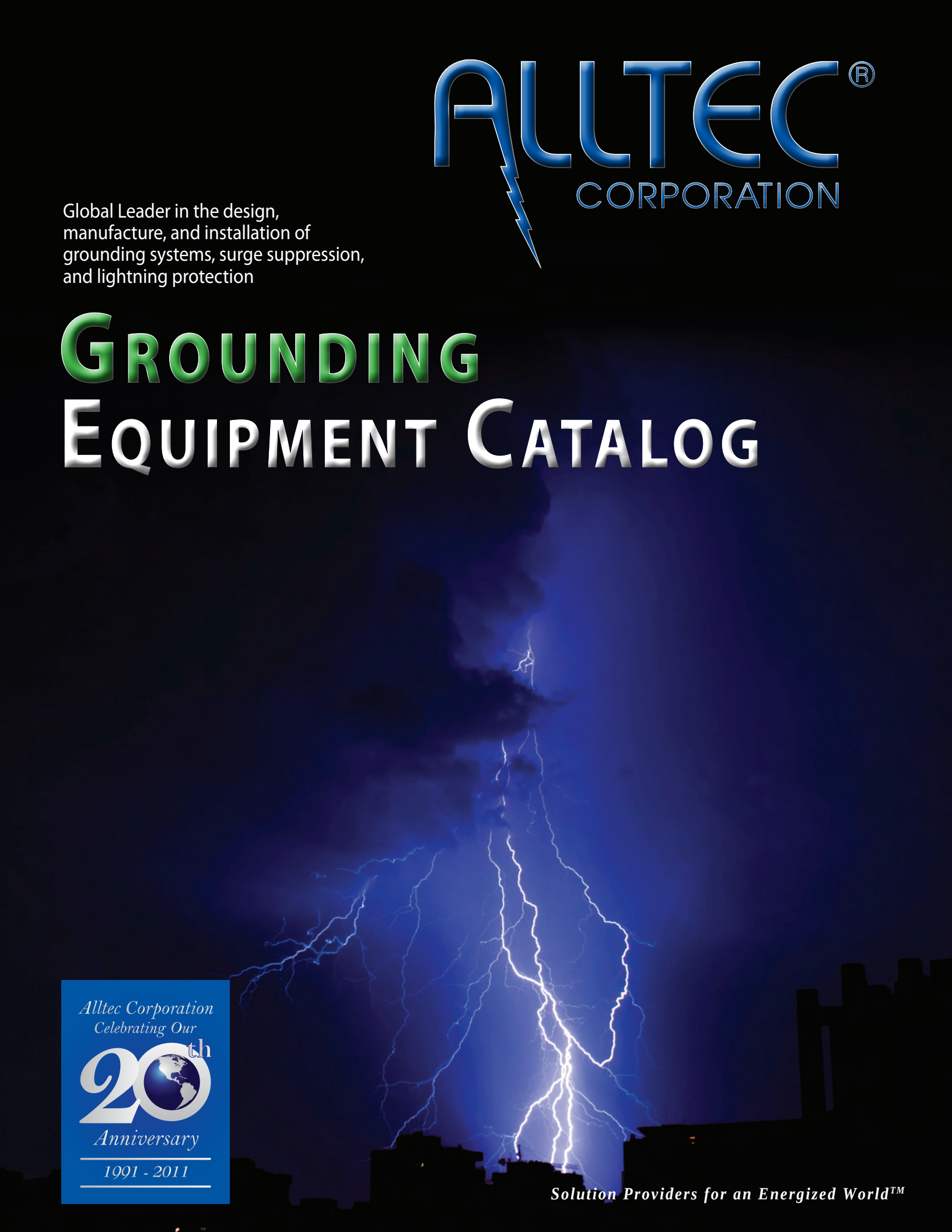
ALLTEC®
CORPORATION

Global Leader in the design, manufacture, and installation of grounding systems, surge suppression, and lightning protection

Grounding Equipment Catalog



Alltec Corporation
Celebrating Our
20th
Anniversary
1991 - 2011

Solution Providers for an Energized World™

TerraDyne®

Electrolytic Grounding System

Introduction

One of the most important investments a company makes is in its selection of sensitive electronic equipment. As this equipment becomes more sophisticated and electrically susceptible, the need for an exceptionally low-resistance grounding system becomes more crucial. It is in response to this requirement that ALLTEC Corporation developed the TerraDyne® Electrolytic Grounding System.

TerraDyne® Electrolytic Grounding System (EGS)

TerraDyne® EGS is a multipurpose grounding system. It has been designed to provide long term protection from lightning, electrical transients, static discharges, electro-magnetic interference and other electrical hazards. The system may be used for virtually any application where the protection of machinery, electronics, and personnel is important.

TerraDyne® EGS was designed for use in any type of soil condition. Some of the many applications where it is commonly used include: cellular, radio and television broadcasting sites, computer facilities, power substations, communication centers, medical facilities and industrial plants.

Protecting your expensive equipment is essential. TerraDyne® EGS enhances the performance of your electronics, stabilizes signal references and reduces the risk of injuries. The end result is a stable grounding system that provides undisturbed long-term performance while maintaining cost efficiency.

Principles of Operation

TerraDyne® EGS effectively utilizes a hygroscopic process to acquire moisture from the atmosphere. The moisture and the nontoxic chemicals inside the electrode react and create an electrolytic solution. This electrolytic solution leaches into the surrounding soil through ports that have been positioned in the electrode. This process improves the soil conductivity and dramatically reduces electrical resistance between the electrode and the earth.

TerraDyne® also takes advantage of another benefit. The hole bored for the installation is back-filled with TerraFill®, which also assists in substantially lowering the earth's resistance by creating a direct, low resistance, electrical connection between the electrode and the earth. The use of TerraFill® will reduce impedance by increasing the effective contact area of the electrode to the soil. TerraFill® is an easily applied product manufactured from environmentally safe and stable products. Each kit includes TerraFill® as the backfill material.

TerraDyne® Innovations

Through extensive research and development of the electrolytic grounding concept, our engineers have designed TerraDyne® to enhance the overall performance of any grounding application. TerraDyne® EGS may be utilized on any project with complete confidence that it will meet or exceed any existing grounding specification.

TerraDyne® Electrolytic Grounding Systems are guaranteed for 30 years, with an expected life of at least 50 years. The systems are available in vertical or horizontal models. Vertical electrodes are usually installed using an augur or other drilling equipment. Horizontal electrodes are installed in trenches and utilized where the soil is rocky or excavation conditions are poor. The electrodes vary in length from 8 to 300 feet. Custom lengths, accessories and design options are available.

Numbering System

To order, simply follow the Seven steps below to specify the type and size of the unit. The example below shows how to order the TG-10L-2K-2T-36-FL8T-3TF.

Example: TG-10L-2K-2T-36-FL8T-3TF

TG	-	10L	-	2K	-	2T	-	36	-	FL8T	-	3TF
(1) Series		(2) Model		(3) Material Type		(4) Conductor Size		(5) Riser Height		(6) Test Well		(7) Bags of Fill

1. **Series** — TG = TerraDyne®
2. **Model** — Measured in feet: 08, 10, 12, 15, 20, 30, 40, 100, 200, 300
   S = Vertical Shaft
   L = Horizontal Shaft
3. **Material Type** — 2K = 2" I.D. Copper
   2S* = 2" I.D. Stainless Steel — * Not UL listed
4. **Conductor Size*** — Standard size i.e. — *Additional conductor sizes are available upon request.
   2T = No. 2 AWG Solid Tinned
   2/0-19 = 2/0 AWG
   4/0-19 = 4/0 AWG
5. **Riser Height*** — Standard Height i.e. — *Only Horizontal Shaft Models
   24 = 24" — Additional heights are available upon request.
   36 = 36"
6. **Test Well** — P = TW-910TB (Poly Plastic Test Well pg. 1-11)
   FL8T = TW-FL8T (Fiberlyte Test Well pg. 1-12)
   C = TW-1-RT (Concrete Test Well pg. 1-12)
7. **Bags of Fill** (TF-50) — 1TF, 2TF, 3TF, 4TF, 5TF, etc. (See below.)

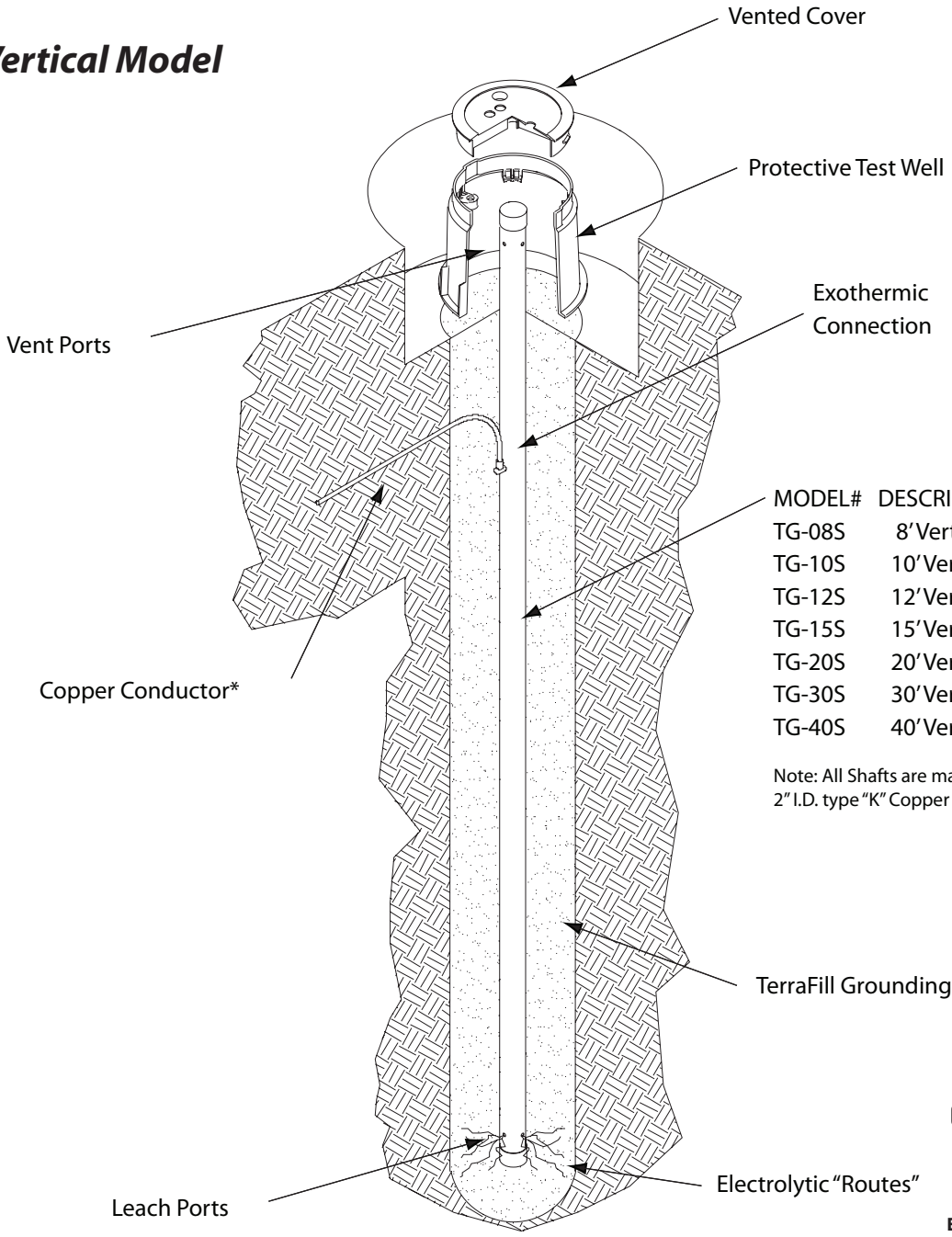
Refer to pg. 1-13 and pg. 1-14 for conductors.

TerraFill® Quantity Requirements

Vertical Models		Deep Series Models		Horizontal Models	
Part Number	Qty.	Part Number	Qty.	Part Number	Qty.
TG-08S	2	TG-100S	20	TG-10L	3
TG-10S	2	TG-200S	40	TG-12L	4
TG-12S	3	TG-300S	60	TG-15L	5
TG-15S	3			TG-20L	6
TG-20S	4				
TG-30S	6				
TG-40S	8				

Models

Vertical Model



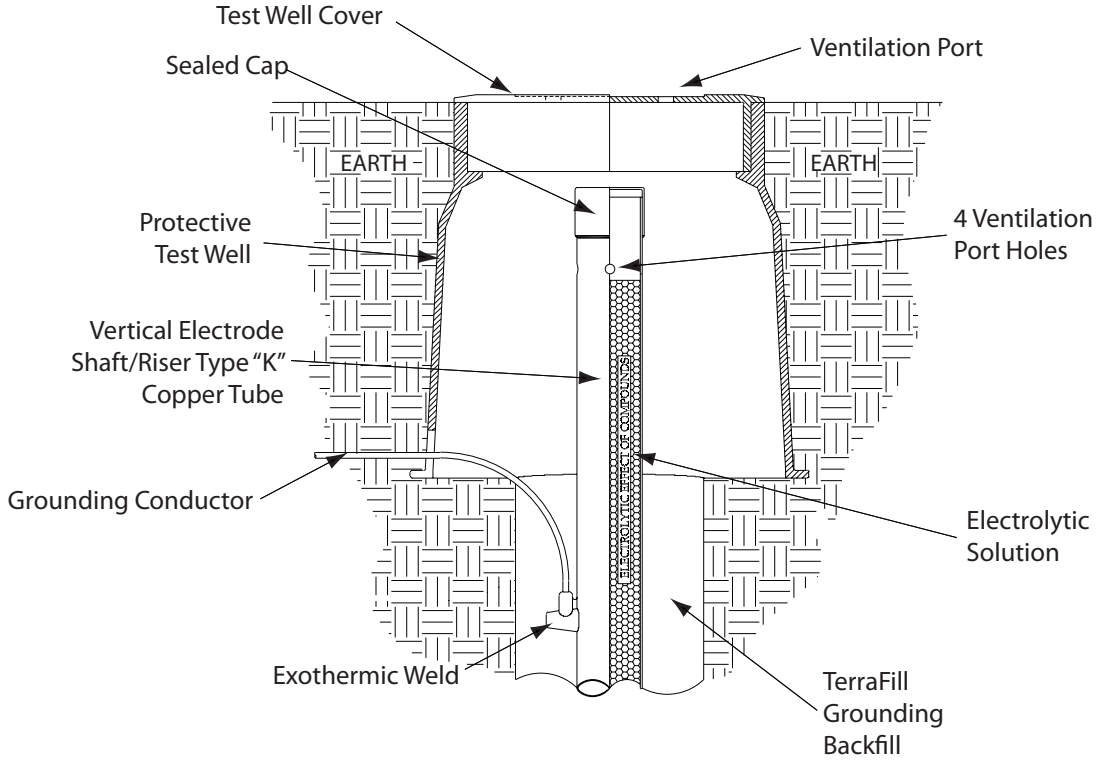
MODEL#	DESCRIPTION
TG-08S	8' Vertical Shaft
TG-10S	10' Vertical Shaft
TG-12S	12' Vertical Shaft
TG-15S	15' Vertical Shaft
TG-20S	20' Vertical Shaft
TG-30S	30' Vertical Shaft
TG-40S	40' Vertical Shaft

Note: All Shafts are made of 2" I.D. type "K" Copper Tube.

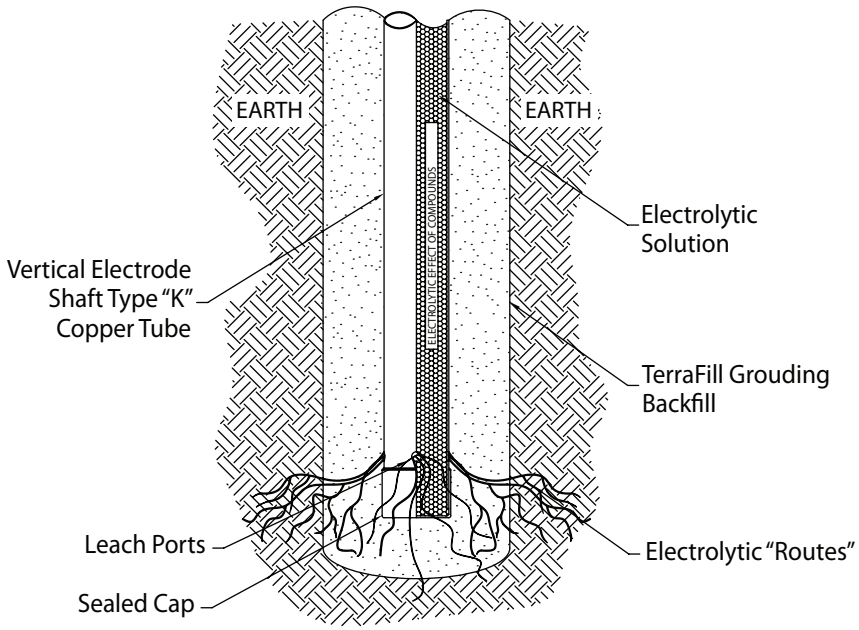
c UL us LISTED
GROUNDING EQUIPMENT 50VF

*Custom conductor sizes and configurations are available upon request. All TerraDyne® models are available in a modular construction for easy export shipping.

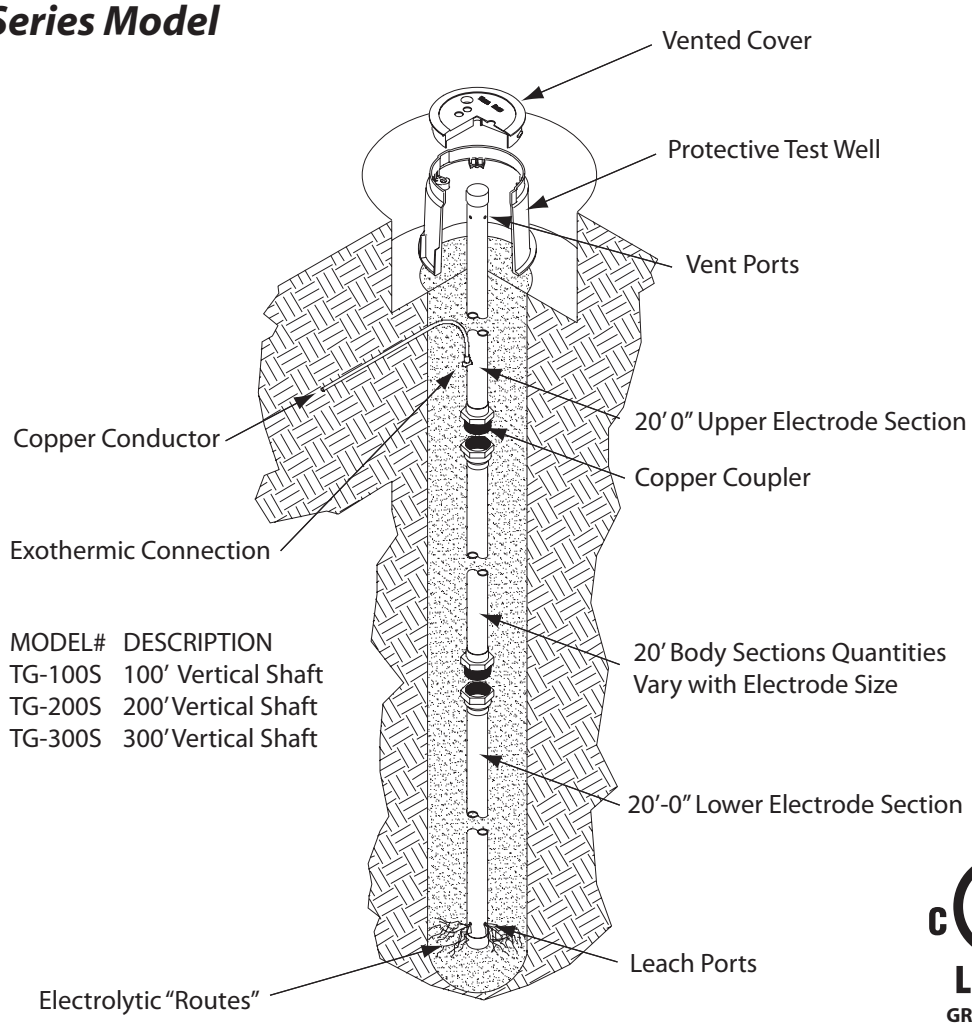
Top Section View



Lower Section View



Deep Series Model



MODEL#	DESCRIPTION
TG-100S	100' Vertical Shaft
TG-200S	200' Vertical Shaft
TG-300S	300' Vertical Shaft

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GROUNDING EQUIPMENT 50VF

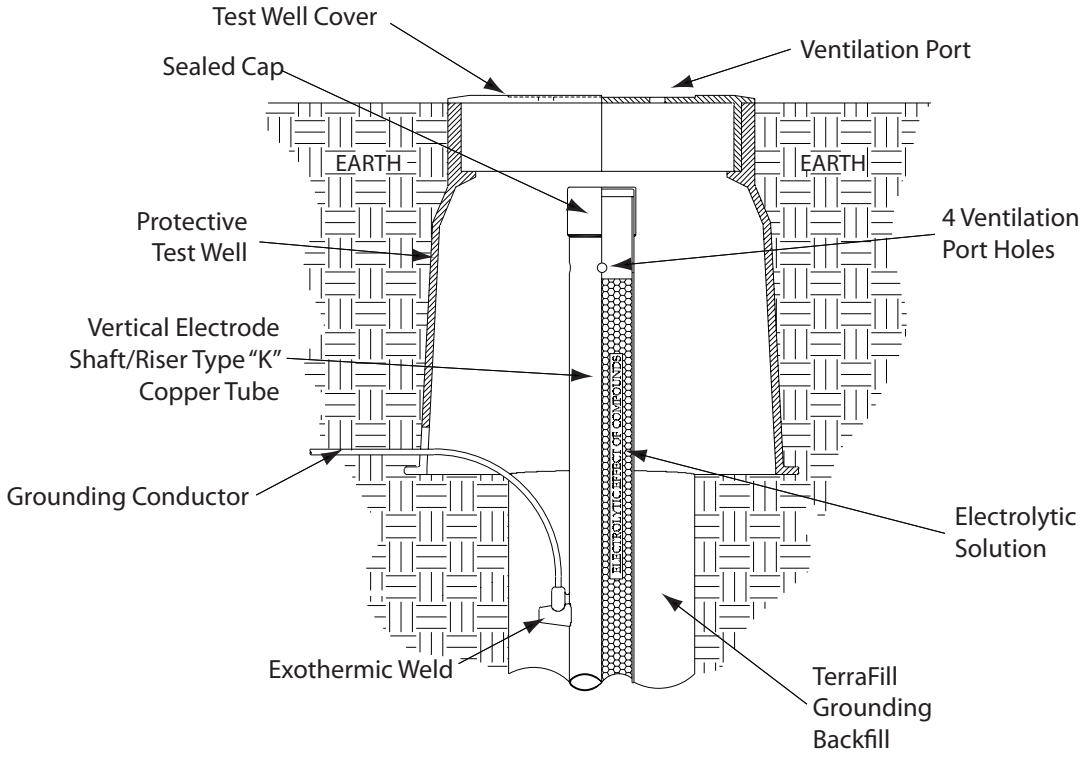
The TerraDyne® Deep Series Electrolytic Grounding System is a cost effective alternative to water well grounds and other expensive grounding systems used where real estate is limited.
TerraFill® "Deep Series" (TF-50DS) is used to backfill around the TerraDyne® Deep Series electrodes during installation. TF-50DS is a natural volcanic clay that has been engineered to maintain electrical and ionic conductivity, which enhances the performance of the grounding system. It is mixed with water 16 gal (60.5 L) per bag and pumped or poured around the electrode during installation.

TF-50-DS Deep Series Benefits:

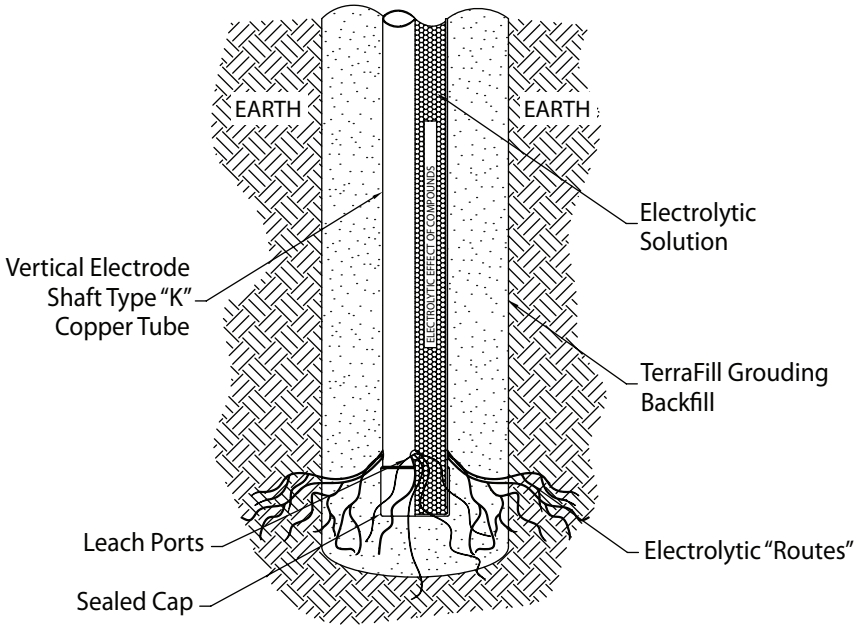
- Designed Specifically for Deep Grounding Applications
- Enhanced and Stable Grounding Performance
- NSF Approved and Certified (National Sanitation Fill Association)

i All TerraDyne® models are available in a modular construction for easy export shipping.

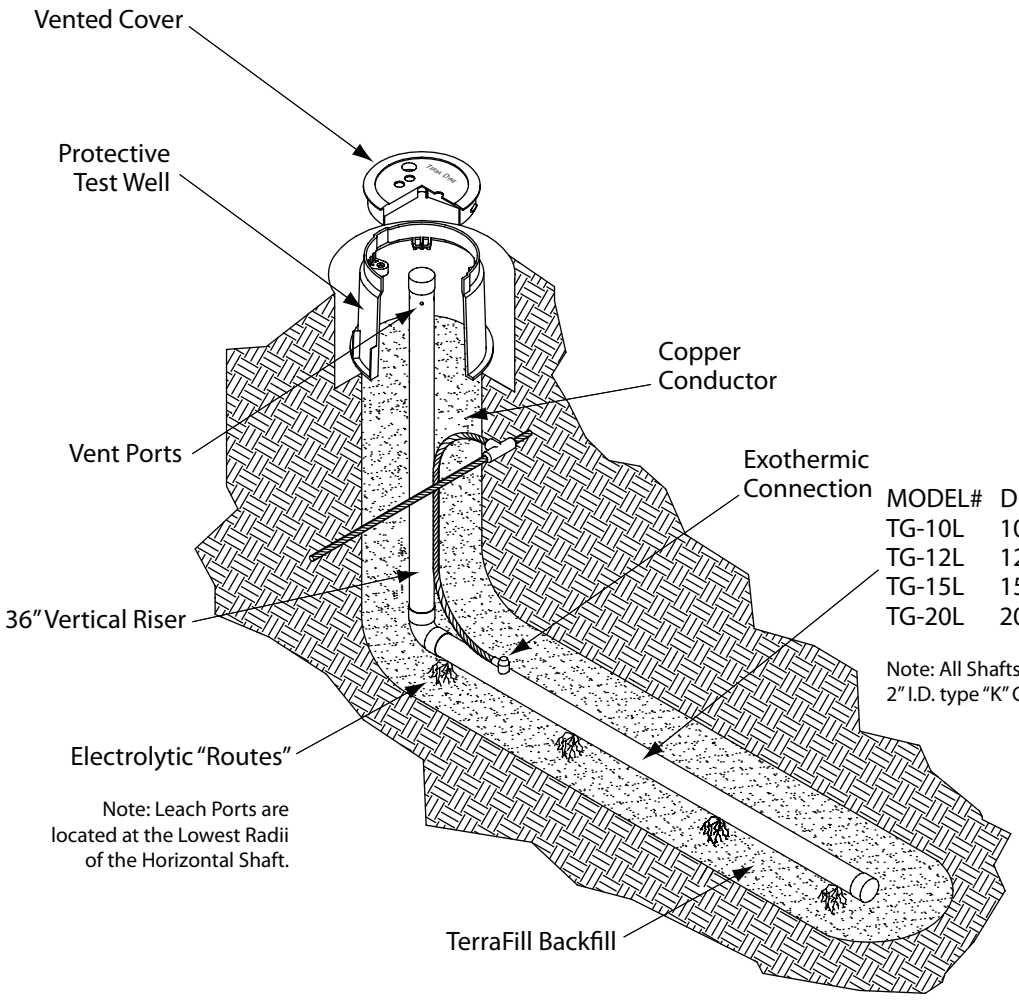
Top Section View



Lower Section View



Horizontal Model



MODEL#	DESCRIPTION
TG-10L	10' Horizontal Shaft
TG-12L	12' Horizontal Shaft
TG-15L	15' Horizontal Shaft
TG-20L	20' Horizontal Shaft

Note: All Shafts are made of 2" I.D. type "K" Copper Tube.

c UL us LISTED
GROUNDING EQUIPMENT 50VF

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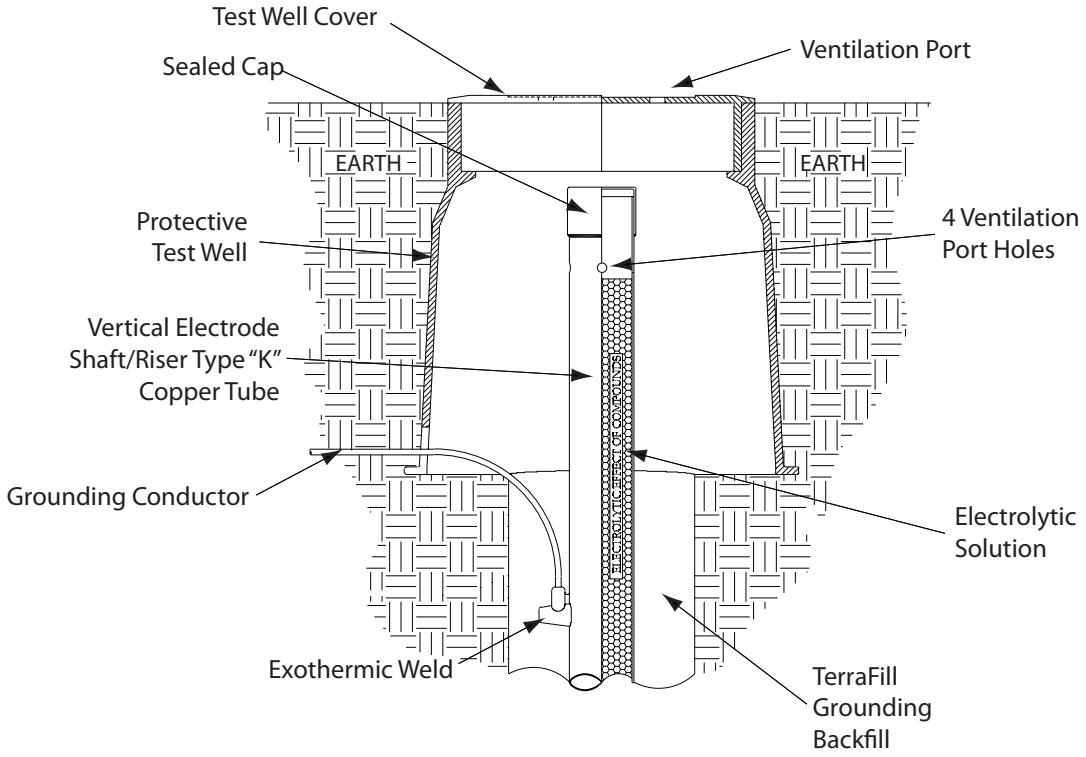
Top Section View



Lower Section View