



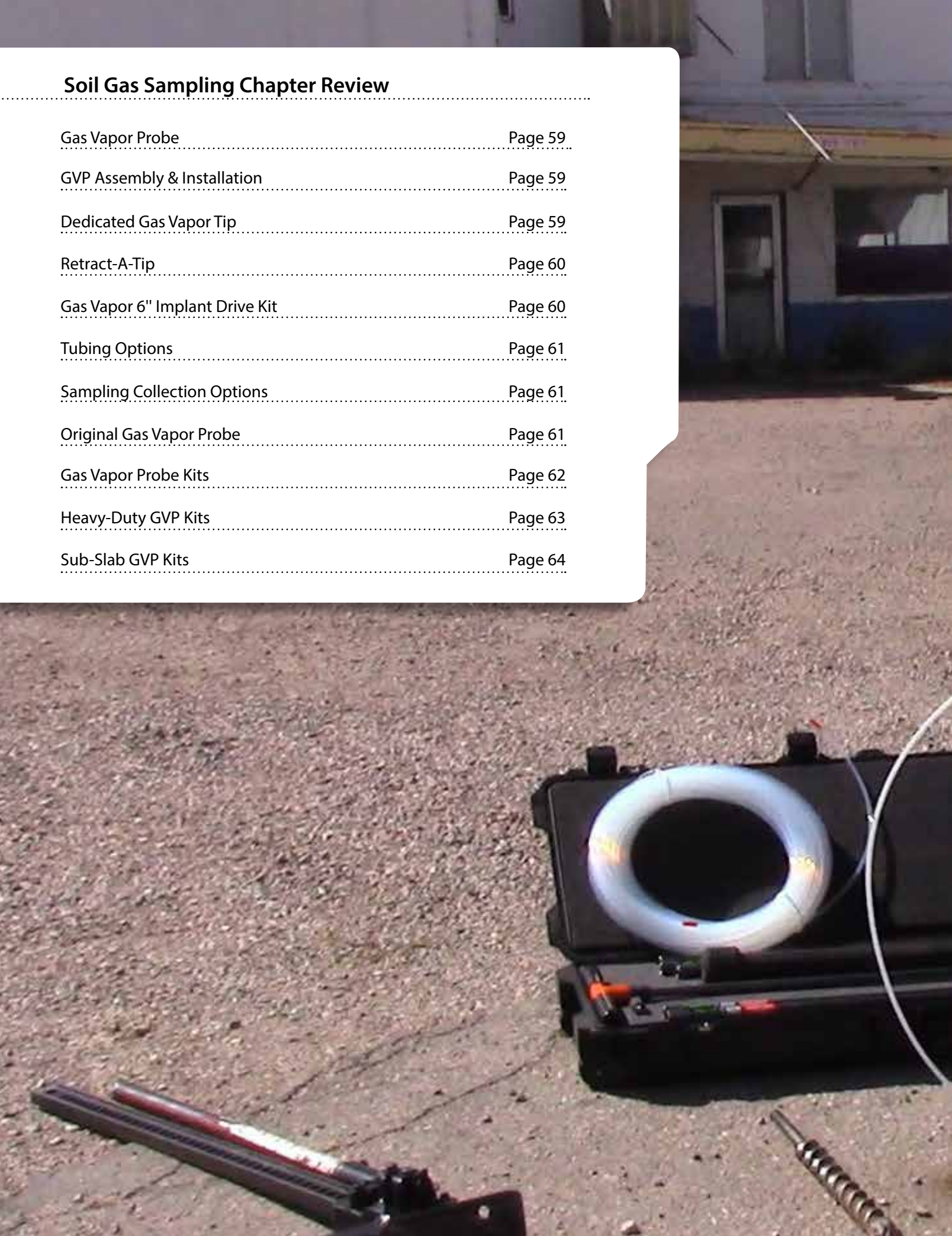
# MASTER CATALOG

Hand Sampling and PowerProbe™



## Soil Gas Sampling Chapter Review

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**A**MS soil gas sampling systems use fluoropolymer tubing to transfer the sample from the sampling point to the surface. Cut a length to allow for the maximum sampling depth plus some extra. Attach one end to the sampling tip and pass the other end through the first set of drive components. When each GVP extension is driven its length, remove the drive head adapter, add another GVP extension, and replace the drive head adapter before driving again. To open AMS dedicated tips, Retract-A-Tips, or gas vapor implants, pull back the GVP extension to expose the tip extraction ports.

A hand vacuum pump, electric vacuum pump, or electric vacuum station may be attached to the fluoropolymer tube to purge ambient air prior to collecting a sampling with a syringe, tedlar bag, or summa canister. To extract samples and allow them to be collected in a variety of specific procedures. Alternatively most PID and FID hydrocarbon detection instruments are provided with a positive displacement pump that may be connected to the fluoropolymer tube to obtain direct readings of hydrocarbon concentration.

The extendable tile probe may be used to check for underground obstructions. It may also be used as a pre-probing tool in non-caving soils, before installing the GVP.

AMS soil gas systems may also be used to provide a conduit for extracting groundwater samples.

## Gas Vapor Probe (GVP) Assembly & Installation

AMS GVP systems are equipped with two different styles of 5/8" OD extensions: solid tile probe extensions, and hollow GVP rods. Extendable tile probe extensions are solid extensions designed to locate underground obstructions and to pre-punch pilot holes.

Hollow GVP extensions allow for 1/4" OD tubing to be used through the center of the rod. AMS dedicated tips, Retract-A-Tip, or gas vapor implants can be connected to the tubing that is run through the hollow GVP extensions and driven to the target depth to begin sampling.

It is recommended that you pre-punch your hole to your target depth with the solid extendable tile probe extensions and tip. Then you can re-enter the same borehole with your hollow GVP extensions and sampling point. By doing this, you will substantially increase the life span of your equipment. The flighted auger with hard surfaced tip can be used to pre-drill boreholes in gravelly or hard soils prior to the insertion of GVP tips. Concrete bits are ideal for boring access holes through concrete and asphalt.

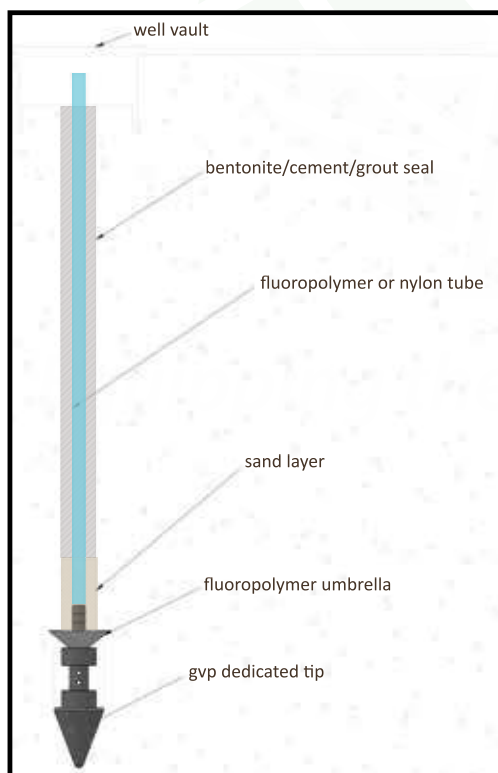


### GVP Parts for Driving to Depth

Part #	Item	Weight
403.10	5/8" x 3' Extendable Tile Probe Complete	3.3 lb.
403.09	5/8" x 4' Extendable Tile Probe Complete	4.3 lb.
401.26	10" Soil Probe Cross Handle	0.9 lb.
403.12	5/8" NC Male to 5/8" NF Adapter	0.3 lb.
403.08	5/8" NF 4' Tile Probe Extension	4.2 lb.
403.11	5/8" NF 3' Tile Probe Extension	3.2 lb.
427.20	5/8" NF Extendable Tile Probe Coupling	0.1 lb.
403.13	5/8" NF Extendable Tile Probe Tip	0.2 lb.
214.22	1 1/2" Concrete Bit SDS-Max	4.2 lb.
214.26	2 1/2" Wild Bore SDS-Max	6.6 lb.
405.27	5/8" NC Male to Splined Drill Adapter	0.6 lb.
214.20	5/8" NC Male to SDS-Max Drill Adapter	0.8 lb.
405.23	2" x 36" Flighted Lead Auger with 2" Hard Surfaced Tip	6.0 lb.
405.24	2" x 36" Flighted Extension	5.8 lb.
405.26	2" Carbide Tip	0.7 lb.

### GVP Parts for Retrieving Sample(s)

Part #	Item	Weight
400.99	5/8" NC Regular Slide Hammer	10.3 lb.
214.105	5/8" NC Slide Hammer Adapter to 3/4in OD	0.7 lb.
214.18	SDS-Max Drill Adapter to 3/4" OD	0.8 lb.
214.045	Extension Drive Adapter to 3/4" ID	2.0 lb.
214.06	5/8" NF 3' GVP Extension	2.6 lb.
214.05	5/8" NF 4' GVP Extension	2.4 lb.
427.20	5/8" NF Extendable Tile Probe Coupling	0.1 lb.
214.09	5/8" NF GVP Tip Drive End	0.2 lb.



Tip shown with optional SST screen.

## Dedicated Gas Vapor Tip

Dedicated gas vapor tips are installed as long-term sampling points or left in the ground as expendable points. They are used for detecting hydrocarbon spills, underground storage tank and pipe leakages, landfill contamination, and hazardous waste sites. Soil gas monitoring with the AMS dedicated gas vapor tip is easily accomplished using a slide hammer or electric rotary hammer drill with GVP extensions and an extension drive adapter.

The unique design of the tip and accompanying fluoropolymer umbrella ensures an easy passage for the soil gas to enter the collection system. The umbrella is folded before inserting it into the end of the drive tip. After being driven to the sampling point, the drive string is retracted – allowing the tip to fall out and the umbrella to unfold. The umbrella assists in keeping the tip vapor inlets free of soil. The optional screen may also be used, particularly in fine grained soils or when sampling groundwater. The vapor inlet holes of the dedicated tips are slightly recessed and are protected by the GVP drive end to prevent them from becoming clogged during installation. These tips include the 300 series stainless steel dedicated GVP tip and fluoropolymer umbrella. The screen is sold separately.

### Dedicated Tip & Replacement Parts

Part #	Item	Weight
211.00	Dedicated Gas Vapor Tip & Fluoropolymer Umbrella	0.1 lb.
212.00	Fluoropolymer Umbrella	0.1 lb.
212.05	GVP Screens	0.1 lb.
214.09	5/8in NF GVP Tip Drive End	0.2 lb.





## Tubing Options

Silicone tubing is often used as bridge tubing between the sampler fittings and either fluoropolymer or polyethylene tubing. If the correct (#15 or #16) bridge tubing is used, it creates a great seal on tubing and fittings. Fluoropolymer tubing can be used with a variety of AMS soil gas sampling systems and can meet certain requirements for long-term monitoring, regulatory requirements, and project scopes of work. Polyethylene tubing is cost-effective for soil gas surveys. Fluoropolymer and polyethylene tubing can be used with AMS vacuum stations and pumps for collection of soil gas samples.



#215.00

### GVP Tubing Options

Part #	Item	Weight
5004.47	#15 x 50' Silicone Tubing	2.4 lb.
5004.48	#15 x 500' Silicone Tubing	26.9 lb.
5004.53	#16 x 25' Silicone Tubing	2.0 lb.
214.98	3/16" ID x 1/4" OD x 50' Fluoropolymer Tubing	1.1 lb.
214.99	3/16" ID x 1/4" OD x 100' Fluoropolymer Tubing	2.1 lb.
215.00	3/16" ID x 1/4" OD x 250' Fluoropolymer Tubing	5.1 lb.
215.12	3/16" ID x 1/4" OD x 500' Polyethylene Tubing	8.15 lb.
215.03	1/4" ID x 3/8" OD x 50' Fluoropolymer Tubing	1.1 lb.
215.04	1/4" ID x 3/8" OD x 100' Fluoropolymer Tubing	2.1 lb.
10658	1/4" Plastic End Cap	0.1 lb.
5004.28	Nylaflow Nylon Tubing Type T .19 ID x 1/4" OD	



### Original Gas Vapor Probe Kit

Part #	Item	Weight
427.01	Original Gas Vapor Probe Kit	3.8 lb.

### Original GVP Kit Replacement Parts

Part #	Item	Weight
401.26	5/8" Thread, 10" Cross Handle	0.9 lb.
427.04	Original GVP Base Adapter (SST)	0.3 lb.
427.06	Base Section w/ Liner Rod, Couplings & 1/2" to 5/8" Adapter	3.4 lb.
427.02	3' GVP Extension w/ Liner Rod, Coupling	3.0 lb.
427.05	4' GVP Extension w/ Liner Rod, Coupling	2.1 lb.
427.09	1/2" Coupling (SST)	0.1 lb.
427.11	GVP Barbed Adapter for 3/16" ID tubing	0.2 lb.

#### ACCESSORIES

400.99	5/8" Reg. Slide Hammer	10 lb.
215.06	Hand Pump	1.6 lb.
214.98	3/16" ID x 1/4" x 50' Fluoropolymer Tubing	1.1 lb.



## Sample Collection Options

The vacuum station is a portable 12-volt system and can be used for soil gas sampling. It comes with a line gauge and in-line low-flow rotometer that can be used for measurement of the vacuum applied and volume extracted. An electric vacuum pump, hand vacuum pump, tedlar bags, and syringes are also available.

### GVP Sample Collection Options

Part #	Item	Weight
2105.93	Sterile and Greaseless Luer Slip, 50 ml Syringe	0.1 lb.
2105.94	Sterile and Greaseless Luer Lock, 50 ml Syringe	0.1 lb.
2105.96	White Syringe Caps (100 qty)	0.1 lb.
2105.97	Blue Sterile Syringe Caps (100 qty)	0.1 lb.
2105.98	Sterile 3-way Stopcock/Valve	0.1 lb.
2105.92	1 L Tedlar Bags (10 qty) Lot Certification (TO-14)	1.0 lb.
2105.91	3 L Tedlar Bags (10 qty) Lot Certification (TO-14)	1.0 lb.
2105.89	5 L Tedlar Bags (10 qty) Lot Certification (TO-14)	1.0 lb.
2105.88	10 L Tedlar Bags (10 qty) Lot Certification (TO-14)	1.0 lb.
215.06	Manual Vacuum Pump	1.6 lb.
5052.40	Electric Vacuum Pump (12-Volt)	1.7 lb.
5052.45	Vacuum Station	35.0 lb.

## Original Gas Vapor Probe

This system is excellent for shallow gas vapor sampling in easily penetrable soils for preliminary testing. The kit includes a 10" cross handle, 1/2" x 5/8" handle/hammer adapter, barbed adapter, 3' GVP extension with liner rod, and a base section with an attached probe tip and soil gas access holes. To use the probe, attach the handle or an optional slide hammer to the probe string using the handle/hammer adapter. Place the liner rod inside the base section when driving the probe to prevent soil entry. Both the base section and liner rod have threaded couplings for attachment to an extension with an inner rod. Replace the hammer adapter with the barbed adapter when collecting a soil gas sample.

*\*Note: The original GVP use both 1/2" NF and 5/8" NC connections.*





## Gas Vapor Probe Kits with Dedicated Tips

Part #	Item	Weight
209.19	GVP Kit without drill	115.0 lb.
210.00	GVP Kit w/ DeWALT D25600K Hammer Drill	150.0 lb.
209.84	GVP Kit w/ DeWALT D25763K Rotary Hammer Drill	152.0 lb.

## Gas Vapor Probe Kits with Dedicated and Retract-A-Tip

Part #	Item	Weight
209.16	GVP Kit without drill	116.0 lb.
210.02	GVP Kit w/ DeWALT D25600K Hammer Drill	151.0 lb.
209.86	GVP Kit w/ DeWALT D25763K Hammer Drill	153.0 lb.

## GVP Kit Replacement Parts

Part #	Item	Weight
209.00	GVP Instruction USB	0.1 lb.
209.01	AMS GVP Manual	0.3 lb.
211.00	Gas Vapor Tip & Umbrella	0.1 lb.
211.05	Removal Jack	30.0 lb.
214.045	Extension Drive Adapter to 3/4" ID	2.0 lb.
214.05	5/8" NF 4' Gas Vapor Probe Extension	2.4 lb.
214.06	5/8" NF 3' Gas Vapor Probe Extension	2.6 lb.
214.09	5/8" NF Gas Vapor Probe Tip Drive End	0.2 lb.
214.105	Slide Hammer Adapter to 3/4" OD	0.7 lb.
214.18	SDS-Max Drill Adapter to 3/4" OD	0.8 lb.
214.22	1 1/2" Concrete Bit SDS-Max	4.2 lb.
215.00	3/16" ID x 1/4" OD x 250' Fluoropolymer Tubing	5.1 lb.
215.06	Hand Pump	1.6 lb.
401.26	10" Cross Handle	0.9 lb.
400.99	5/8" NC Regular Slide Hammer	10.3 lb.
403.08	5/8" NF 4' Tile Probe Extension	4.2 lb.
403.10	5/8" x 3' Extendable Tile Probe Complete (with tile probe, tile probe tip, 5/8" NC to 5/8" NF adapter, and 10" rubber-gripped handle)	3.3 lb.
403.11	5/8" NF 3' Tile Probe Extension	3.2 lb.
403.13	5/8" NF Extendable Tile Probe Tip	0.2 lb.
405.27	5/8" NC Male to Splined Drill Adapter	0.6 lb.
427.20	5/8" NF Extendable Tile Probe Coupling	0.1 lb.
430.01	AMS Deluxe Carrying Case 1750	29.0 lb.

\*Note: GVP kits use both 5/8in national coarse (NC) and national fine (NF) threaded connections.

## Gas Vapor Probe Kits

AMS GVP kits are excellent for monitoring and sampling hydrocarbon spill sites, underground storage tanks, and around pipelines! They use a slide hammer or an electric rotary drive hammer drill and GVP drive extensions to insert a stainless steel GVP tip to the desired sampling depth. Fluoropolymer tubing is attached to a barb fitting on the GVP tip for remote sampling from the surface. Two GVP tips are available for use with GVP kits – dedicated tips and the AMS Retract-A-Tip. The kits include ten dedicated tips with umbrellas, and some kits also include the Retract-A-Tip. Each kit also comes with a 1 1/2" wild bore concrete bit, tip drive end, four 3' GVP extensions, 3' extendable tile probe complete, three 3' tile probe extension, 3/4" ID external drive adapter, SDS-Max drill adapter, SDS-Max 1 1/2" carbide bit, slide hammer, handle/hammer adapter, hand pump, 3/16" ID x 1/4" OD x 250' fluoropolymer tubing, removal jack, AMS deluxe carrying case, GVP manual, and instruction DVD.



#210.00  
Use dedicated GVP tips  
or the AMS Retract-A-Tip.



## Heavy-Duty Gas Vapor Probe Kits

The heavy-duty gas vapor probe kits have all of the components included in the regular GVP kits (page 60), but with the added benefit of flighted augers which allow you to penetrate rocky and hard soil conditions. The kits come with two 2" x 36" flighted extensions and a 2" x 36" flighted lead auger to allow the user to pre-bore a hole to a depth of 9'. The flighted lead auger comes with a hard surfaced tip for regular soil conditions and a 2" carbide tip for heavily compacted soil. The heavy-duty GVP kits also come with a larger 2 1/2" wild bore concrete coring bit (SDS-Max) instead of the 1 1/2" concrete bit included in standard gas vapor probe kits. The wild bore bit allows you to sample beneath concrete by providing clearance for the 2" diameter flighted augers. These kits also include an SDS-Max drill adapter. Pre-drill your boreholes to your target depth with the flighted augers or pre-punch your hole with the solid extendable tile probe extensions and tip. Then re-enter the same borehole with the hollow GVP extensions and sampling point. This will increase the lifespan of your stainless steel points and hollow GVP rods. Pre-drilling with flighted augers also allows access to sampling points in horizontal and vertical angles.

### Heavy-Duty GVP Kits with Dedicated Tips

Part #	Item	Weight
209.24	HD GVP Kit without drill	141.0 lb.
209.93	HD GVP Kit w/DeWALT D25763K Rotary Hammer Drill	177.0 lb.

### Heavy-Duty GVP Kits with Dedicated Tips and Retractable Tip

Part #	Item	Weight
209.26	HD GVP Kit without drill	141.0 lb.
209.95	HD GVP Kit w/ DeWALT D25763K Rotary Hammer Drill	178.0 lb.

### Heavy-Duty GVP Kits Replacement Parts

Part #	Diameter	Length	Item	Weight
214.26	2 1/2"		Wild Bore SDS-Max	6.6 lb.
405.26	2"		Carbide Tip	0.7 lb.
405.23	2"		Flighted Lead Auger w/ Hard Surfaced Tip	6.0 lb.
405.24	2"	36"	Flighted Extension	5.8 lb.
214.20			5/8" NC Male to SDS-Max Adapter	0.8 lb.



Parts shown (left) are the heavy duty replacement parts.



### Optional Drills

Part #	Item	Weight
213.94	DeWalt D25763K- 2" SDS Max Combination Hammer Drill	35.0 lb.
213.92	DeWalt D25600K Rotary Drill	20.0 lb.



#209.95





## Installing the AMS Sub-Slab GVP



1. Create a 1/8" recess hole with the core bit so that the tamper-resistant cap will fit flush with the floor surface when installed.



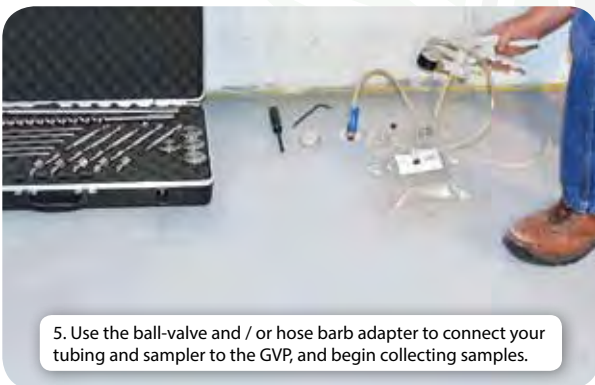
2. Drill through the concrete floor.



3. Check for obstructions (if necessary)



4. Insert the assembled GVP and grout above the teflon plug.



5. Use the ball-valve and / or hose barb adapter to connect your tubing and sampler to the GVP, and begin collecting samples.



6. Screw on the tamper-resistant cap.

## AMS Sub-Slab GVP Kit

Sub-slab gas vapor probe kits are used to sample for volatile organic compounds (VOCs) beneath floor slabs during vapor intrusion investigations. These kits provide a semi-permanent probe that allows for repeated sampling over time in order to assess the potential of contaminated vapor intrusion beneath the floor slab of a building. The basic sub-slab kit includes a stainless steel 3"-long implant, Teflon shaft plug, connectors, top plug, hose barb adapter, and a 1/4" x 12" x 0.35" stainless steel tube. The tamper-resistant kit includes all of the components of the basic kit as well as a screw-in top cap that will help prevent vandalism or other unwanted use of the sampling point.

The sub-slab GVP installation kit (below) contains everything needed to install up to five permanent sampling points. It includes five stainless steel 3" implants, five teflon shaft plugs, connectors, five top plugs, five hose barb adapter, five 1/4" x 12" x 0.35" stainless steel tubes, five tamper-resistant top caps, mini stainless steel ball-valve adapter, 1" x 16" x 21" SDS-Max bit, 2" x 3" x 16" SDS-Max core bit, screw driver, a tee-handle allen wrench, and carrying case.

To assemble the sub-slab gvp (left), attach the implant to an appropriate length of stainless tubing. Push the tubing through the Teflon plug. Place the connector on top of the tubing to allow for the connection of the plug, barbed adapter, valved adapter, or tamper-resistant cap.



#52956

### AMS Sub-Slab Gas Vapor Probe Kits

Part #	Item	Weight
52954	Sub-Slab GVP Basic Kit	0.8 lb.
52955	Sub-Slab GVP Tamper-Resistant Kit	1.0 lb.
52956	Sub-Slab Gas Vapor Probe Installation Kit	14.7 lb.

### AMS Sub-Slab GVP Kit Replacement Parts and Accessories

Part #	Item	Weight
52952	Sub-Slab Vapor Shaft Tube	0.1 lb.
52953	Sub-Slab Teflon Plug	0.1 lb.
13460	Connector SS-400-7-4	0.1 lb.
13462	Plug HH-1/4 NPT	0.1 lb.
13463	Hose Barb Adapter SS-4-AC-1-4	0.1 lb.
21008	3" Implant w/ 1/4" SS Compression	0.1 lb.
56958	Sub-Slab GVP Tamper-Resistant Top Cap	0.1 lb.
208.63	Spanner Screwdriver	0.2 lb.
424.62	AMS Small Carrying Case	5.7 lb.
22011	Mini SST Ball-Valve Adapter	0.3 lb.
214.43	1" x 16" (usable length) x 21" (total length) SDS-Max Bit	2.3 lb.
260.51	2" x 3" (usable length) x 16" (total length) SDS-Max Core Bit	3.7 lb.
260.52	Tee Handle Allen Wrench	0.1 lb.
213.94	DeWalt D25763K- 2" SDS Max Combination Hammer Drill	19.1 lb.



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Equipos

