



AVANTI

Stop leaks. Stabilize soil.
Control groundwater. Permanently.

Rev03/2012

TECHNICAL DATA SHEET

AV-100 CHEMICAL GROUT

GRANULES / LIQUID CHEMICALLY REACTIVE GEL

DESCRIPTION

AV-100 is an ultra-low viscosity chemically reactive gel available as either granules or liquid. Having the same viscosity as water, AV-100 can permeate anywhere water can travel and cures within a controllable time frame anywhere from 5 seconds to ± 10 hours. Once it cures, it creates an effective, long-lasting water barrier while providing superb soil stabilization.

APPLICATION

- Stops water infiltration into manholes, sanitary and storm sewer mainlines, joints, laterals, tunnels, mines, and various other geotechnical applications and underground structures by stabilizing external substrate
- Ground modification/slope stability for prevention of landslides, erosion, or any place where site conditions or project requirements dictate modification of the existing soil properties

FEATURES AND BENEFITS

- Thinnest product on the market
- Can be injected through remote packer equipment
- Controllable reaction times from seconds to hours
- Will not undergo syneresis
- Half-life of 362 years as determined by U.S. Dept. of Energy
- No suspended solids
- Higher strength compared to acrylates
- Greater longevity compared to silicates
- Available in granular or liquid form

GROUTING TECHNIQUES

- Tube-a-manchette (TAM) Grouting
- Probe Grouting
- Curtain Grouting
- Remote Packer

HOW IT WORKS

AV-100 is injected using a stainless steel, dual-component pump from two containers (see mix procedure). Injecting a 1:1 ratio into the soil or external substrate will produce a strong, impermeable gel obtained via a copolymerization reaction. Additives are available to modify the reactions and cured gel characteristics.

OPTIONAL ADDITIVES

- AC-50W Root Inhibitor – Inhibits future root growth (add to grout tank)
- AV-257 Isoset – Increases strength and adhesive qualities (add to grout tank)
- KFe (Potassium Ferricyanide) – extends gel time (add to grout tank)
- AV-105 Gel Guard – reduces freezing point (add equal amounts to both tanks)
- Dyes – used extensively for tracking grout flow

PACKAGING

Product packaged by weight based on specific gravity.

- Tote = Net Wt. 2,300 lbs. / Volume 258 – 265 gal.
- Drum = Net Wt. 130 lbs. / Volume 14.6 – 15 gal.

SHIPPING

- Motor class 77.5
- Hazard class 6.1
- Motor freight available
- Air freight available

PROPERTIES*

UNCURED (solid)

Appearance:	White granules
Specific Gravity:	1.15 @ 72°F (22°C) $\pm 3\%$
Bulk Density:	1938 lb/yc ³ $\pm 3\%$ (1150 kg/m ³ $\pm 3\%$)
Toxicological:	See MSDS

UNCURED (liquid)

Appearance:	Clear water-white liquid
Viscosity:	1 – 2 cP @ 72°F (22°C) in solution
Specific Gravity:	1.04 @ 72°F (22°C) $\pm 3\%$
Weight:	8.66 lb/gal $\pm 3\%$ (1.038 kg/L $\pm 3\%$)
Toxicological:	See MSDS

CURED

Appearance:	Clear gel mass/translucent
Hydraulic Conductivity:	$< 10^{-8}$ m/s
Static Pressure:	120 psi (2585 kPa)
Toxicity:	Non-toxic

*Laboratory Results

MIX PROCEDURE (See Mixing Instructions)

Tank A: Add 10 gallons (37.8 L) of water, add one bag (granules) or one liquid drum of AV-100 to solution, add 0.5 gallons (1.9 L) of AV-101 and fill with water up to 30 gallons. Tank B: Add 10 gallons (37.8 L) of water, add 5 lbs (2.27 kg) of AV-102, and then bring to 30 gallons with water. Makes a 60 gallon (227 L) batch. Note: Ingredients are only compatible with stainless steel or plastic.

PERFORMANCE

Performance will be influenced by site conditions. If site temperatures are low, heat the product to recommended operating temperatures of 60°F – 100°F (16°C – 38°C). Decreasing pH may extend cure time. High minerals/metals content may adversely affect gel time. Refer to AV-100 Technical Manual for complete product information.

CLEANING PRODUCTS

Use water with light detergent.

STORAGE

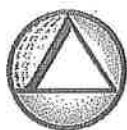
Store in temperatures within or near 60°F – 100°F (16°C – 38°C) in a dry atmosphere.

SAFETY

Use of AV-100 is authorized by Avanti International only after completion of the required Safe Operating Practices Program (SOPP). Always use OSHA-approved personal protective equipment (PPE). Refer to the MSDS for complete safety precautions. The MSDS, mixing instructions, and Technical Manual are available by request or via download at www.AvantiGrout.com.

NOTICE

The data, information and statements contained herein are believed to be reliable, but are not construed as a warranty or representation for which Avanti International assumes any legal responsibility. Since field conditions vary widely, users must undertake sufficient verification and testing to determine the suitability of any product or process mentioned in this or any other written material from Avanti for their own particular use. NO WARRANTY OF SUITABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. In no case shall Avanti International be liable for consequential, special, or indirect damages resulting from the use or handling of this product.



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Rev 07/2013

TECHNICAL DATA SHEET

AV-257 ICOSSET

LATEX GEL ADDITIVE

DESCRIPTION

AV-257 is a low viscosity, gel strengthening agent (copolymer latex) for use with Avanti's chemically activated gels, AV-100 and AV-118; and hydrophilic urethane gels, AV-254 and AV-350. In addition, it provides the cured material with improved hydrostatic pressure resistance, better low-temperature plasticity, and improved adhesion. Also available in a freeze-grade version (Premium). See Performance section.

APPLICATION

- Use as a gel strengthening or adhesion modifying agent with Avanti's chemically activated and hydrophilic urethane gel systems

FEATURES AND BENEFITS

- Increases effectiveness of gel in the substrate matrix while not hindering permeation
- Easily added to gel system
- Solvent-free
- Non-toxic

HOW IT WORKS

AV-257 adds strength to the cured gel system. Refer to the technical data sheet for information on a specific Avanti International gel system.

ADDITIVE FOR

- AV-100 Chemical Grout
- AV-118 Duriflex
- AV-254 Gelseal
- AV-350 Multigel

PACKAGING

- Please contact Avanti for more information.

SHIPPING

- Motor Class 55
- Non-Hazardous
- Air freight available
- Keep from freezing (standard version)

PROPERTIES*

Appearance:	White liquid emulsion
Viscosity:	100 - 130 cP @ 72°F (22°C)
Flash Point:	>200°F (>93°C)
Specific Gravity:	1.01 @ 72°F (22°C) ± 3%
Weight:	8.41 lb/gal ± 3% (1,007 kg/L ± 3%)

*Laboratory Results

MIX PROCEDURE

If mixing AV-100 or AV-118, add up to 3 gallons (12 L) to the grout slush/tank only (replaces up to 3 gallons of water). If mixing AV-254 or AV-350, add up to 3 gallons (12 L) to the water slush/tank only (replaces up to 3 gallons of water). Refer to the product Technical Manual to see mixing instructions for specific gel product.

PERFORMANCE

Performance will be influenced by site conditions. If site temperatures are low, heat the product to recommended operating temperatures of 60°F - 90°F (16°C - 32°C). Do not use open flame as a heat source.

Standard Version - Must be kept from freezing. Does not go back into (liquid state) solution after freezing.

Premium Version - Able to go through freeze/thaw cycle. Does go back into solution after freezing.

CLEANING PRODUCTS

User water with light detergent.

STORAGE

Standard Version - Store in temperatures within or near 60°F - 100°F (16°C - 38°C) in a dry atmosphere. Do not allow to freeze.

Premium Version - Store in temperatures between 33.8°F - 120.2°F (1°C - 49°C).

SAFETY

Always use OSHA-approved personal protective equipment (PPE). Refer to the MSDS for complete safety precautions. The MSDS is available by request or via download at www.Avantigrout.com.

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PG001/2011

TECHNICAL DATA SHEET

AC-50W ROOT INHIBITOR

CHEMICAL ROOT INHIBITOR

DESCRIPTION

AC-50W contains a powerful root growth inhibitor that may be added to Avanti's soil stabilization and water control grout systems. Its low (20 ppm) solubility in water extends its effectiveness because the initial dosage is released slowly. Above-ground vegetation is unaffected by the root inhibitor in the grout. Dichlobenil is a specific, non-systemic growth inhibitor functioning only in the area of the treated soil by forcing the root to travel elsewhere for its water supply. After removing the roots with a chemical root control program or via mechanical means, many contractors use AC-50W to prevent future root growth while effectively stopping infiltration.

APPLICATION

- Inhibit the intrusion of roots into sewer lines
- For use with Avanti's chemically activated or hydrophilic urethane gel systems

FEATURES AND BENEFITS

- Small quantities produce effective results
- Uses trusted herbicide, Dichlobenil

HOW IT WORKS

AC-50W contains the powerful root inhibitor, 2,6-dichlorobenzonitrile. AC-50W may be added to either the AV-100 or AV-118 grout complex tank at a ratio of 0.2 lb (91 g) of AC-50W for every 60-gallon batch. When using AV-254 or AV-350, add 0.2 lb (91 grams) to the water tank. Avanti's gel systems are injected into the soil outside pipes or below-grade structures to produce a strong gel/soil matrix to stop water infiltration and stabilize the treated soil.

ADDITIVE FOR

- AV-100 Chemical Grout
- AV-118 Duriflex
- AV-254 Gelseal
- AV-350 Multigel

PACKAGING

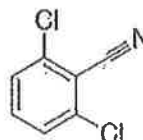
- Please contact Avanti for more information.

SHIPPING

- Motor Class 60
- Non-hazardous
- Air freight available

PROPERTIES

Chemical Name: 2,6-dichlorobenzonitrile (DCBN)
CAS Number: 1194-65-6
Concentration: 50%
Inerts: 50%



MIX PROCEDURE

Add 0.2 lb (91 g) to 1 gallon of water and mix according to respective product mixing instructions.

PERFORMANCE

All present root growth should be removed prior to the application of the grout. AC-50W is not intended to be used as a root or foliage herbicide, but rather as an inhibitor of future root growth into the treated area. The presence of roots will not be reversed by using this product. Please see Avanti International's Technical Manuals for more information on Avanti's long-term sealing systems.

STORAGE

Store in temperatures below 80°F (27°C) in a dry atmosphere. Shelf-life is 6 months when stored accordingly.

SAFETY

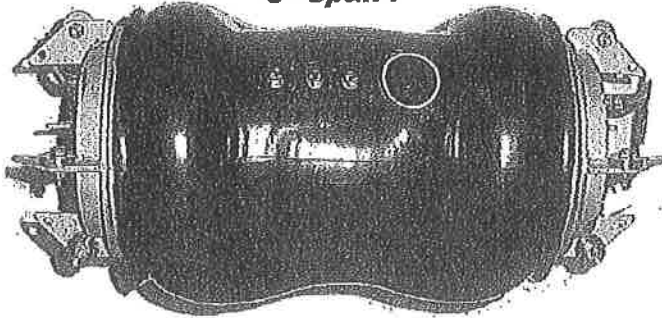
AC-50W for use in chemically activated or hydrophilic urethane gel systems only. Always use OSHA-approved personal protective equipment (PPE). Refer to the MSDS for complete safety precautions. The MSDS is available by request or via download at www.AvantiGrout.com.

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LOGIBALL 2001 J MAINLINE TEST & SEAL PACKERS

8" Span !



The 2001 series are fully compatible for acrylamide, acrylate and urethane gels.

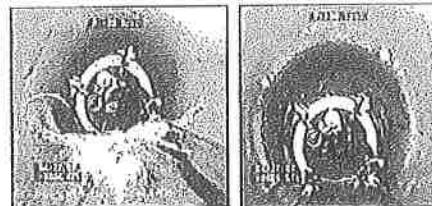
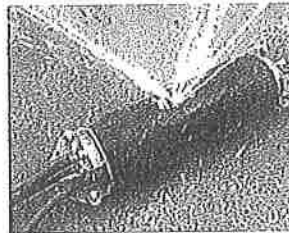
A thick cross-biased reinforced SBR rubber sleeve with soft natural rubber over the seating portion is bonded to the stainless steel core. The smooth outer finish reduces the adherence of the grout on the packer.

The design makes it easier to test & seal leaks with optimal control throughout the operation while reducing operational costs.

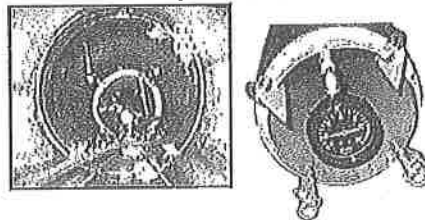
Main Features:

Complies with ASTM 2304-10

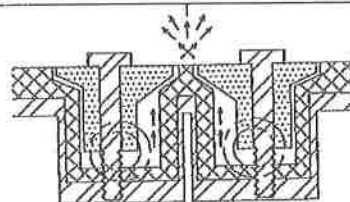
- ♦ Compatible with any 4 or 5 hose TV/Seal Truck
- ♦ Two grout ports, one inflation port & one dedicated test port (No "H" block required)
- ♦ Dedicated liquid filled void pressure sensor line for transducer or pressure gauge at the packer
- ♦ Adjustable independent non-dripping rubber check valves on the packer
- ♦ 8" span makes it easier to line up on the joint (no overpulling)
- ♦ "Autotesting" of joints simply by inflating the packer (increased productivity)
- ♦ Design tested with over 175,000 inflation cycles



Minimal residual grout ring remaining



PART #	SIZE	APPROX. O.D.	LENGTH OVERALL	APPROX VOID UNDER 10 PSI
2001J6S	6"	4.625"	26"	0.3 us gal
2001J8S	8"	6.25"	26"	0.3 us gal
2001J9S	9"	7.25"	26"	0.3 us gal
2001J10S	10"	8.5"	26"	0.3 us gal
2001J12S	12"	10.5"	26"	0.5 us gal
2001J15S	15"	12"	26"	0.75 us gal
2001J18S	18"	15"	26"	1 us gal
2001J2021S	21"	17"	27.5"	1.2 us gal



The large non-clogging rubber check valves are set to open at the proper pressure to avoid dripping. They are opposed and adjacent to dispense the two part grout in a fan-like pattern for good intermixing.

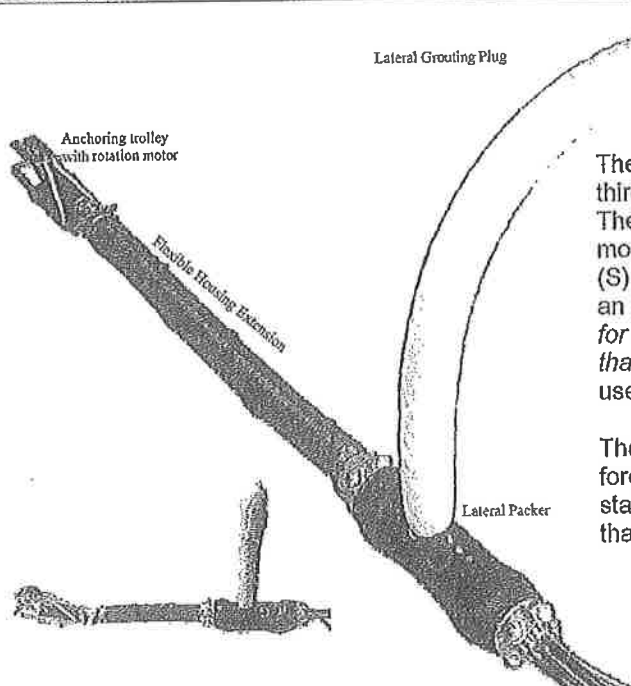
www.logiball.com

Tel.: 418-656-9767

800-246-5988

LOGIBALL 2001L LATERAL PACKERS

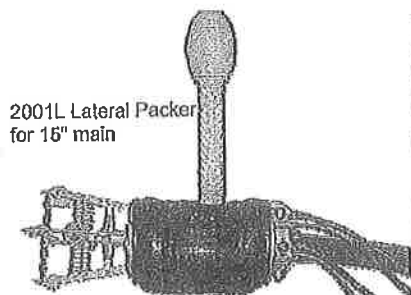
**Complies with
ASTM 2454-05 (2010)**



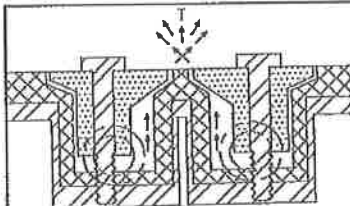
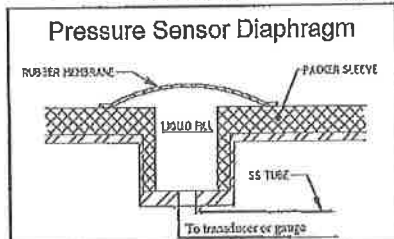
The 2001L comes standard with two grout ports and a third port dedicated for the test medium (air or water). The packers are available with different void pressure monitoring systems; a conventional localized sensor (S) (recommended for acrylamide and acrylate grouts), an in-wall water chamber sensor (W) (recommended for stickier grouts such as urethanes and polyurethanes) or both systems (S+W) for a more versatile use.

The 2001L Lateral Packers are made of a heavy reinforced rubber sleeve stitched and bonded to a rugged stainless steel body. It is stronger and more durable than any conventional packer.

THE 8" PACKER SHOWN HERE WILL GROUT THE CONNECTIONS AND THE FIRST 5 FEET OF THE LATERAL. LATERAL PLUGS CAN BE INTERCHANGED IN A MATTER OF MINUTES TO GROUT DISTANCES FROM 6" UP TO 30 FEET IF NECESSARY.



The main sleeve creates a minimal grout chamber. The grout migrates freely along the restricted section of the lateral plug and seals defects, leaving only a tiny layer of grout in the lateral. The lateral packer works with a five hose system or four hose system with a diverter valve at the packer end. The model shown here is available for 6", 8", 10", 12", 15", 18", 21", 24", 27" and 30" mainlines. The lateral grouting plugs are interchangeable for all sizes and types of Logiball Lateral Packers. They come in different lengths in one foot increments from 2 feet up to 30 feet, for 4", 5" or 6" diameter laterals.



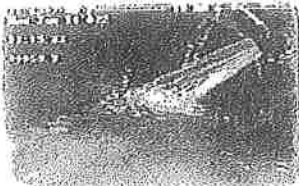
The large non-clogging rubber check valves are set to open at the proper pressure to avoid dripping. They are opposed and adjacent to dispense the two part grout in a fan-like pattern for good intermixing.

www.logiball.com

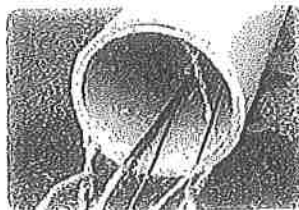
Tel.: 418-656-9767

800-246-5988

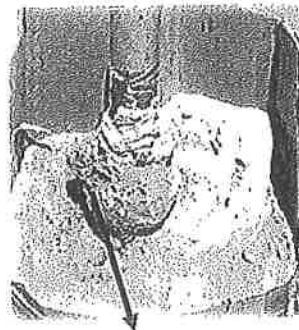
STOPPING INFILTRATION IN LATERALS



Infiltration at lateral connection



Annulus in relined pipe



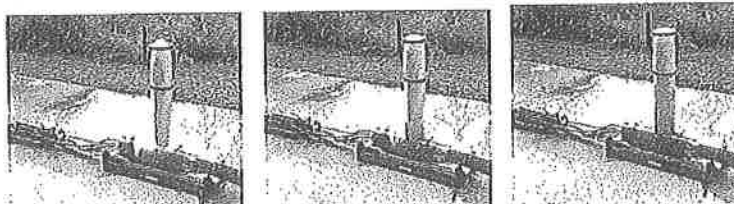
Seal achieved from the outside gelled soil matrix

Infiltration at lateral connections and lateral lines has been a problem for pipeline owners for years. Even the full-length lining of mainlines does not stop these leaks. In fact, liners often increase the flow through lateral connections because they block entry through joints and breaks. As groundwater pressure increases, the flow will migrate to the lateral connections and the first few joints up the lateral lines.

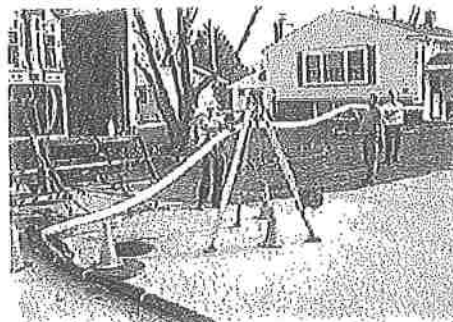
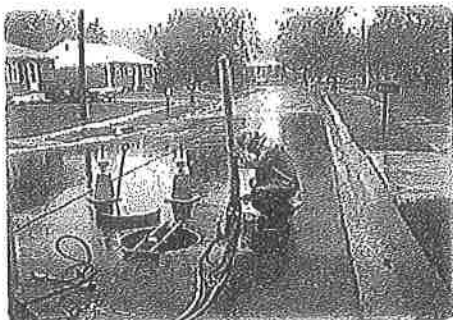
Thanks to the Logiball Lateral Injection Packers, chemical grouting has proven to be the most cost effective method to address this problem!

The Lateral Injection Packer is winched, in tandem with a pan & tilt camera, through the mainline and rotated to align the launching tube and the Lateral Grouting Plug with the service lateral. Once aligned, air pressure inverts the Lateral Grouting Plug into the service lateral line. The ends of the packer inflate against the mainline walls and the forward end of the Lateral Grouting Plug seals against the wall of the lateral.

The expansion of the rest of the plug is restricted to allow the passage of the grout which flows out of the laterals at breaks, cracks and joints and gels with the surrounding soil. After the grout has cured, a vacuum retracts the deflated Lateral Grouting Plug and the packer can be advanced to the next connection, where the process is repeated. The Lateral Injection Packer is equipped with the appropriate Lateral Grouting Plug for each size of lateral and each desirable grouting length. Lateral Grouting Plugs of various sizes (4", 5", or 6") and various lengths (from 16" up to 30 feet) are available. A Lateral Grouting Plug can be changed on the site in a few minutes. The lateral plugs and the housing extensions fit the different sizes and types of packer.



Grout migration from mainline along the lateral bladder



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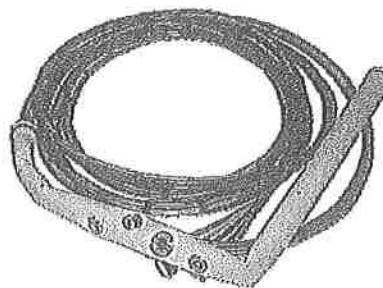
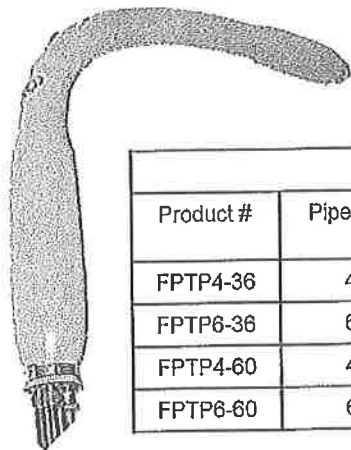
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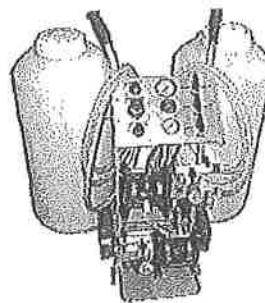
FLEXIBLE PUSH-TYPE PACKER FOR LATERALS

The Flexible Push-Type Packer is pushed from the cleanout into the lateral to test & seal the lateral line. Packers with 3'0" or 5'0" grout chamber for 4" or 6" pipes are available from stock. The packer comes complete with a 50' long set of semi-rigid hoses which is used to push the packer in and connect it to the grout pumps, the air supply and the test medium. The fifth hose is full of water/antifreeze and transmits the pressure from the sensor to a gauge at the far end. The packer is equipped with non-clogging grout ports. When deflated, the packer looks like a 2 3/4" lay-flat hose. Custom-made packers could be built for other pipe sizes and different grout chamber lengths.

The flexible lateral packer shown here is for 4" pipe with a 3'0" long grouting chamber. It is presented inflated to show how the grouting chamber expansion is limited to 3.75" to let the grout migrate freely and leave only a thin layer of grout in the lateral.



Most Popular Models			
Product #	Pipe Size	O.D. Restricted Inflation	Grouting Chamber Length
FFTP4-36	4"	3.75"	36"
FFTP6-36	6"	5.5"	36"
FFTP4-60	4"	3.75"	60"
FFTP6-60	6"	5.5"	60"



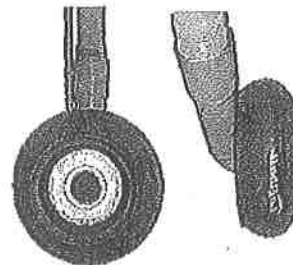
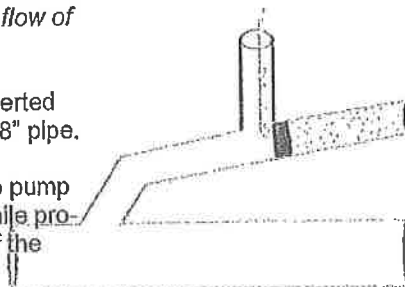
Portable pumping system
(1:1) available

CLEANOUT SERVICE PLUG

Need access to the downstream end of the lateral but cannot interrupt the normal flow of the residential or commercial side?

This 6-8 inch flow thru plug can be inserted in a 6" cleanout and inflated in a 6" to 8" pipe.

The 1.5" flow thru tube can be used to pump and keep service to your customer while providing an access to the bottom side of the lateral.



www.logiball.com

Tel.: 418-656-9767

800-246-5988



Industries, Inc.

Grout Truck



Corporate Office:

550 Elizabeth Street Waukesha, WI 53186
800-234-7205 / 262-896-7205 Fax: 262-896-7099

Western Regional Office:

5748 East Shields Avenue #101 Fresno, CA 93727
888-285-0366 / 559-292-5382 Fax: 559-291-0463

Southeast Regional Office:

1441 SW 10th Avenue Unit 202 Pompano Beach, FL 33069
800-327-4346 / 954-785-5540 Fax: 954-785-5014

Canadian Office:

1081 Meyerside Drive, Units 1 & 2 Mississauga, Ontario L5T 1M4
877-730-7010 / 905-795-7913 Fax: 905-795-7905

Web Site:

www.ariesindustries.com

970073 0602



Industries, Inc.

Grout Truck

Vehicle Exterior

Clean roof line. Air conditioner is floor mounted, traffic arrow bars and strobes are below the roof line.

Optional attic over cab provides up to 50 cubic feet of storage space.

Strobe lights are side mounted. They provide visibility and safety when parked in traffic.



Air compressor is mounted in a vented enclosure under the truck bed to eliminate equipment room noise and heat.

Air conditioner is floor mounted and side vented. It is located under the electronic equipment rack in an insulated enclosure. Floor pan and four corner drains remove condensation.

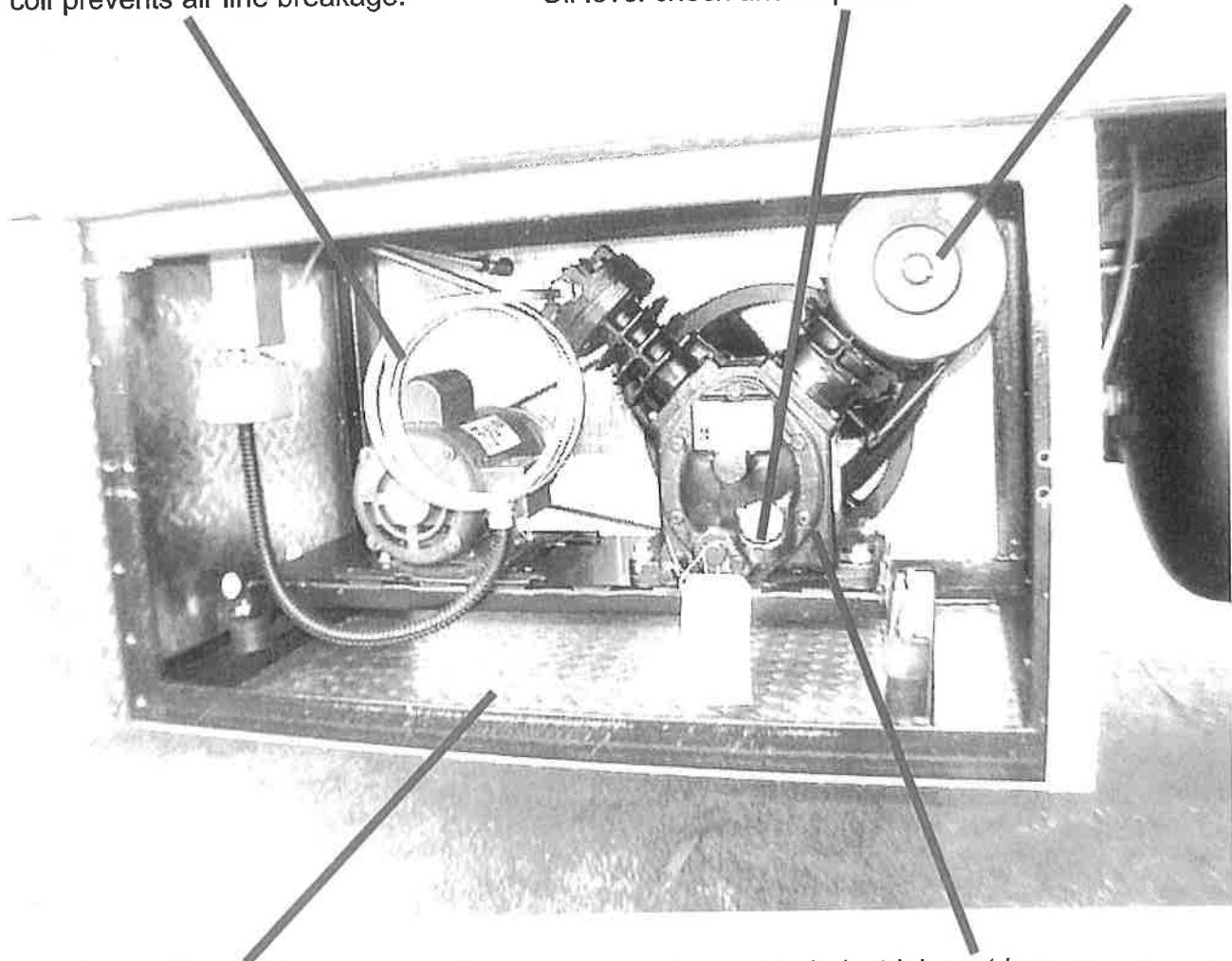


Industrial Grade Air Compressor

Cooling and vibration isolation
coil prevents air line breakage.

Oil level check and fill point.

Intake air filter



Locking enclosure with rear and top
ventilation. Locking door, vibration
isolation pads, local pressure switch,
and high pressure shut down.

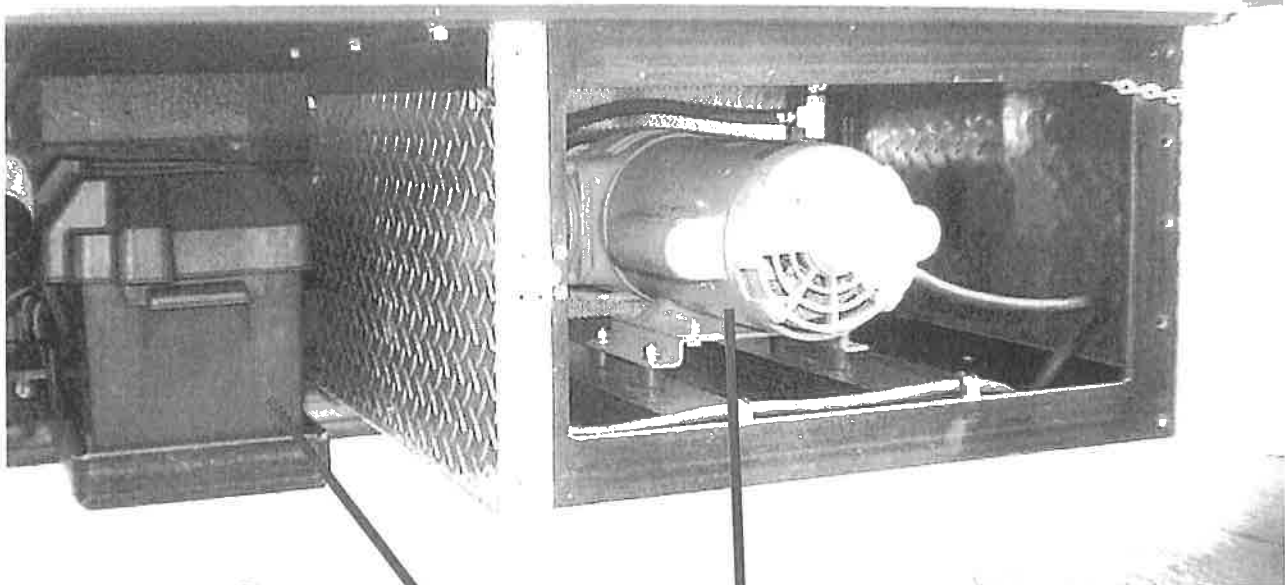
Two stage industrial, cast iron, compressor.



Industries, Inc.

Grout Truck

TV System Battery and Vacuum Pump



Separate TV system 12VDC battery is mounted in a case under truck bed.

Lateral packer vacuum pump is mounted under truck bed in a locking enclosure. This arrangement eliminates motor heat and pump noise from equipment room.

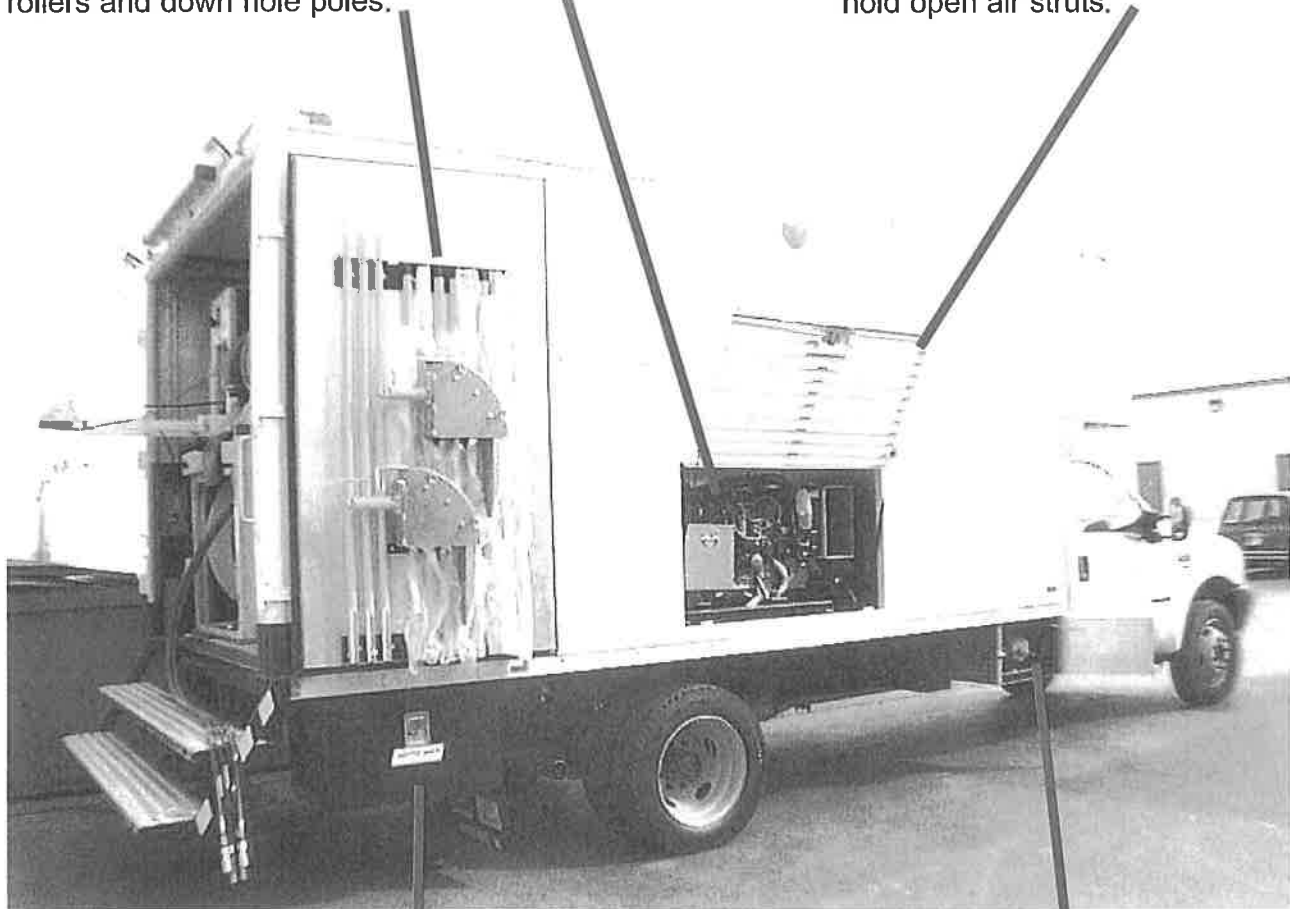


Generator

Diesel generator is on a slide out frame that provides easy access to oil and water check and fill, to filters and to oil changing. Mounted on truck floor avoids road dirt and water kicked up by tires.

Easy access to door mounted rollers and down hole poles.

Locking, ventilated generator enclosure door is constructed from welded aluminum and with hold open air struts.



Optional locking under bed storage boxes for extra equipment.

Vacuum pump for lateral systems is mounted in an under bed locking enclosure.

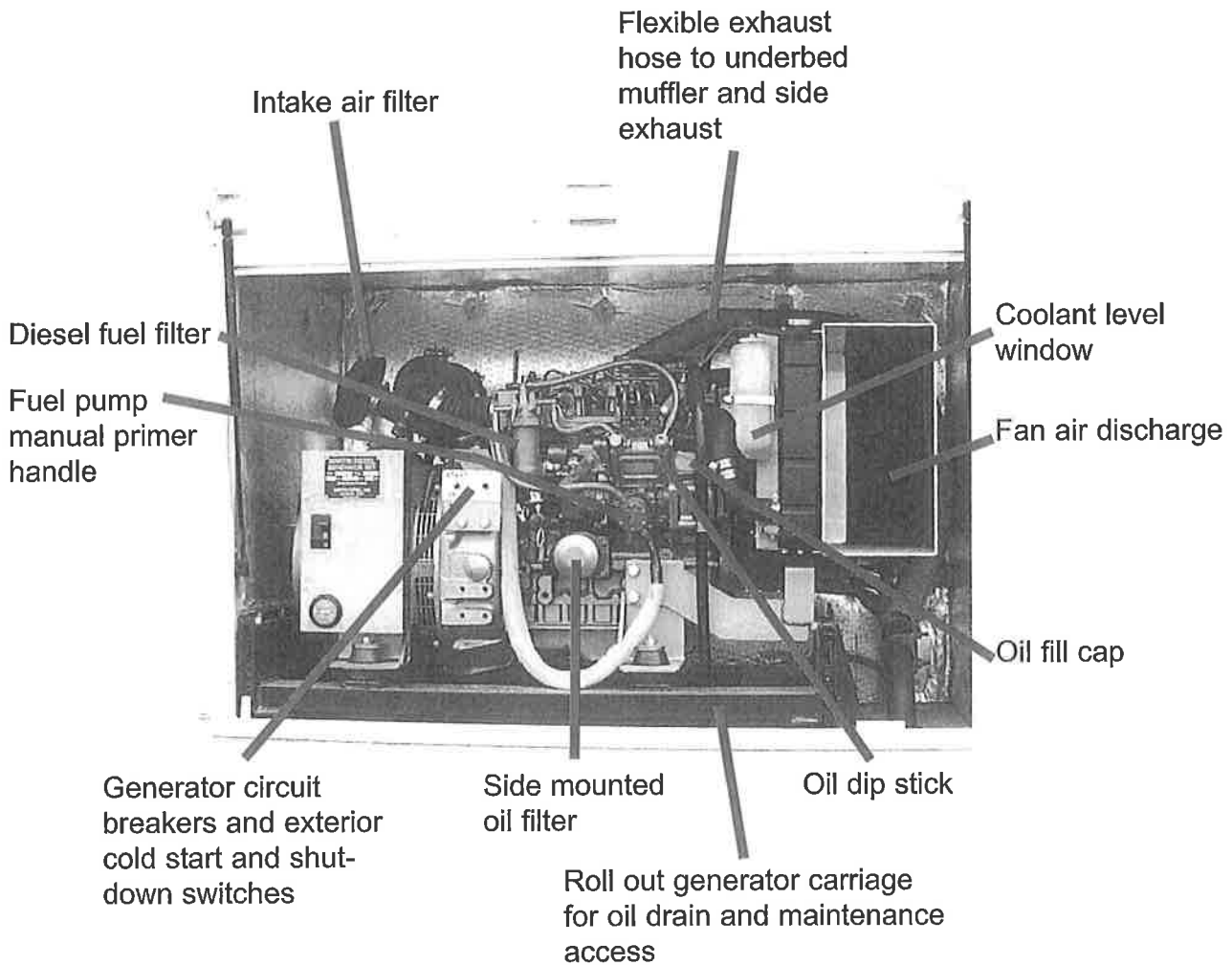


Industries, Inc.

Grout Truck

Generator Access Points

No disconnects to slide out unit
due to flexible fuel, exhaust
hoses and power cables.



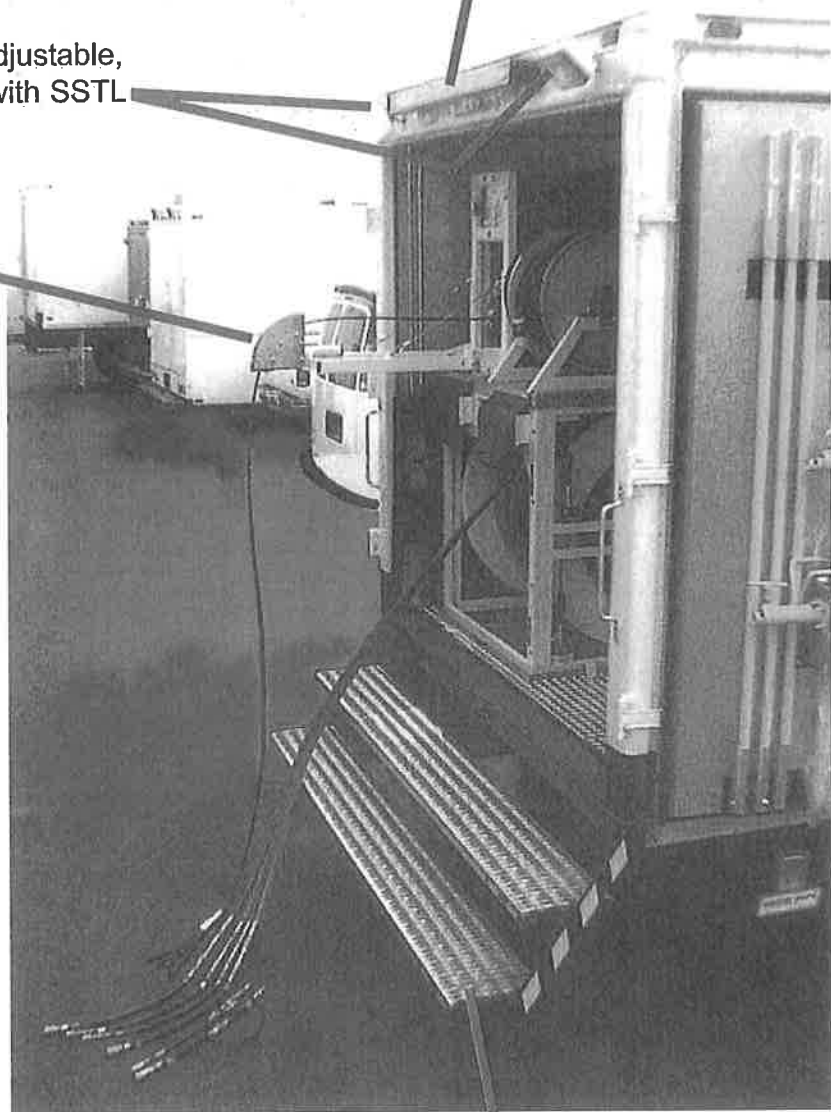


Operator Safety and Convenience

Rear arrow bar is mounted below roofline. Can't be damaged by roadside trees or building eaves

Two non-corroding, adjustable, halogen work lamps with SSTL mounting brackets

Drop down cable guide and roller head help with off-set manhole cable pulls.



Full width double rear steps has open grip tread. Provides a safe entry and work platform.



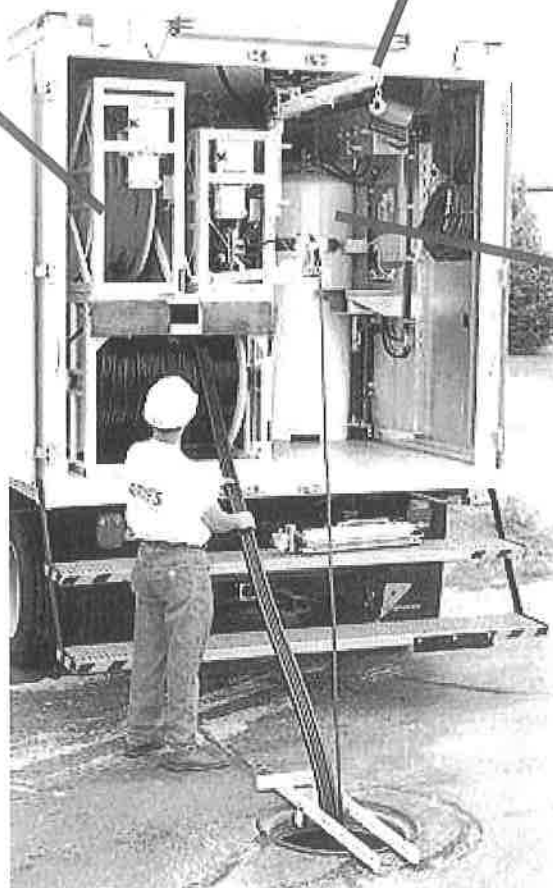
Industries, Inc.

Grout Truck

TV/Grout/Cutter Truck Options

Cutter air hose reel with
5/8" x 600 foot rigid jet
hose

Equipment hoist with swing out boom,
pendant control of 12VDC winch with
50 feet of cable for placing large
packers and cutters into manholes



82 gallon galvanized
steel water tank

120 or 220 gallon
tank options



Storage and Convenience Options

Aluminum storage shelves and counter space provide convenience and efficiency.

Convenient circuit breaker panel provides control for each major component.



Grout system air compressor is mounted inside.

Five drawer, locking, tool and parts cabinet option on larger box bodies.



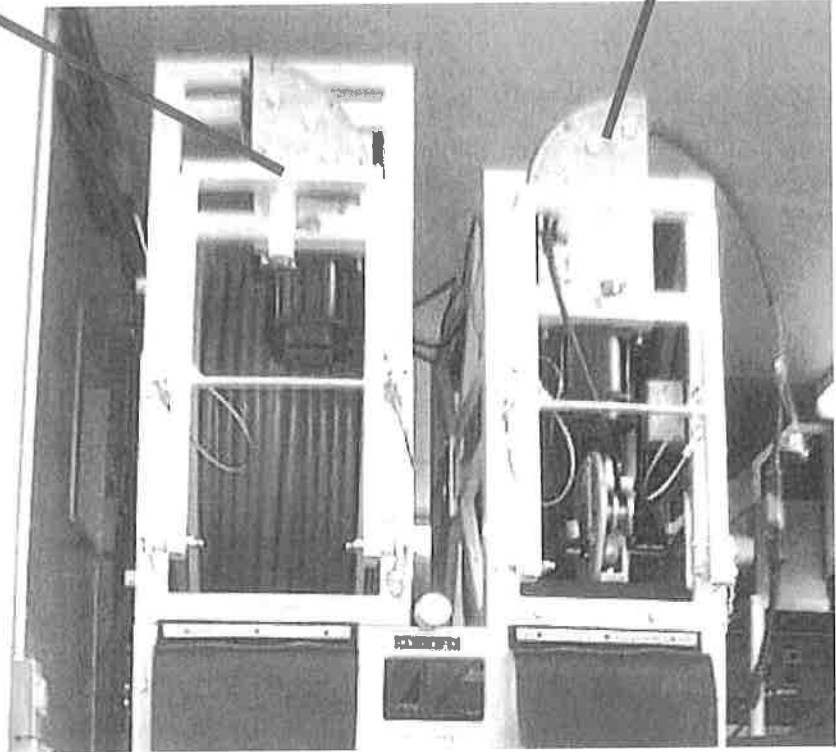
Industries, Inc.

Grout Truck

TV/Grout/Cutter Truck Options

Cutter Hose Reel and
Drop Down Guide

TV Cable Reel and
Cable Guide



Cutter Air Compressor

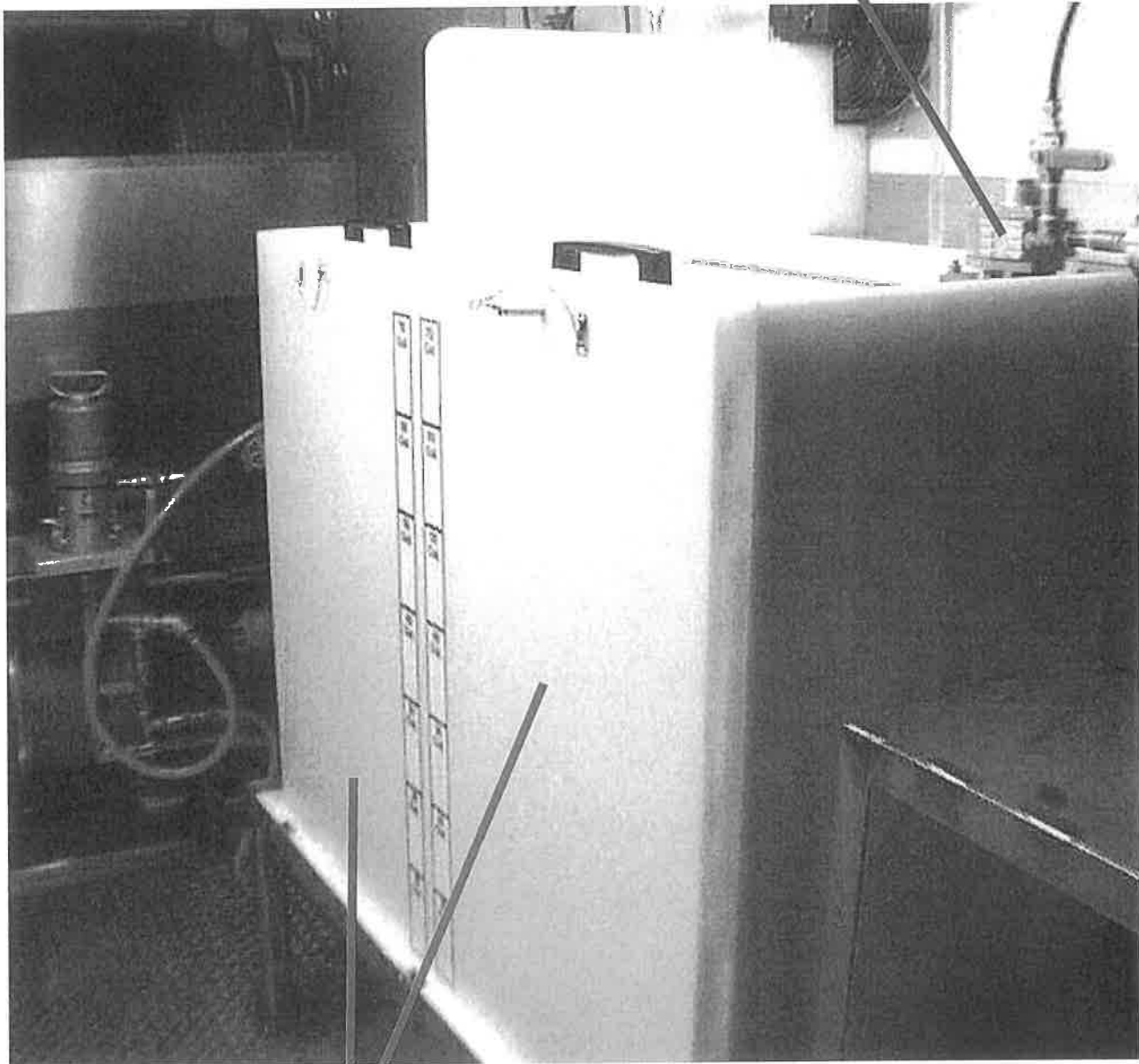
Air Dryer





Optional Grout Tanks and Chemical Mixers

Chemical Mixer
on each tank



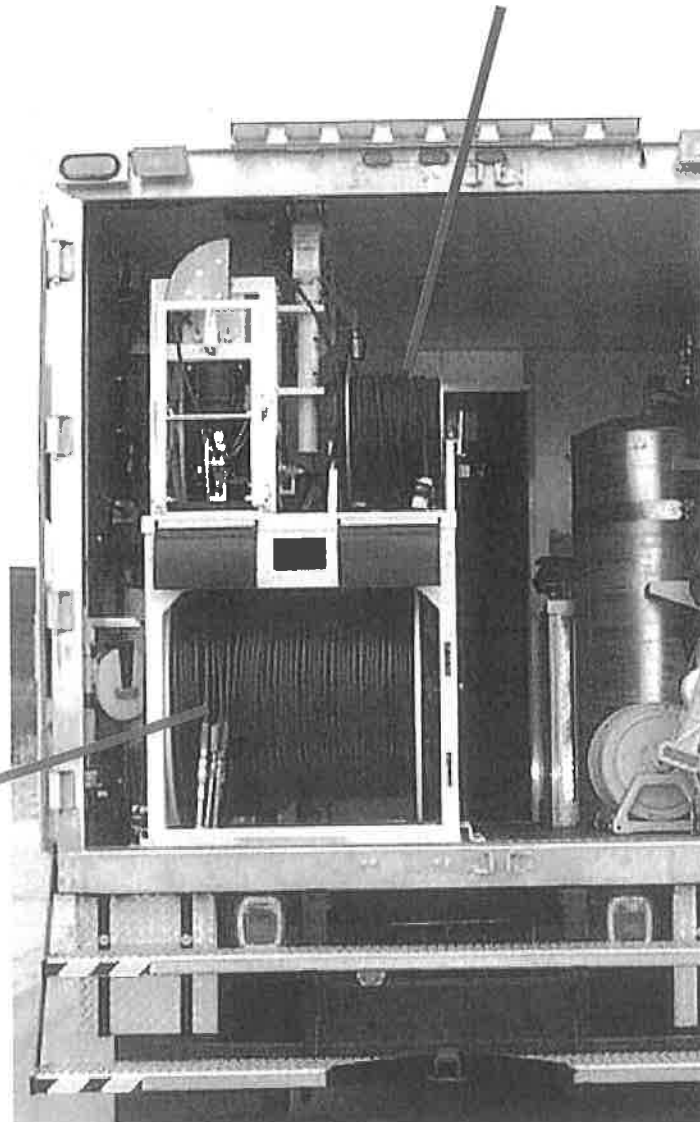
Seventy-Three Gallon
Chemical Grout Tanks



Grout Hoses, Power Cords and Reels Water Tanks

Motorized power winch cord reel holds up to
1000 feet of power cord that is easily retracted.

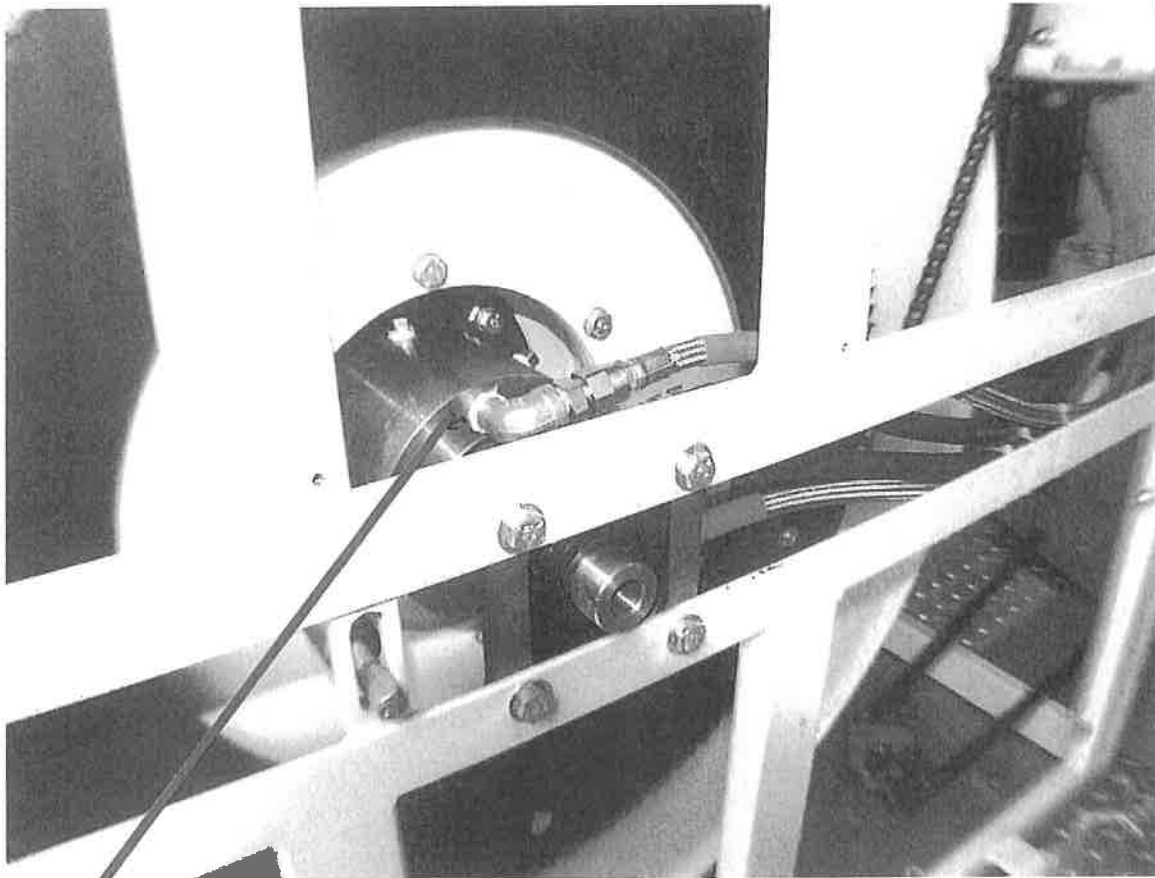
Mainline and Lateral
Grout hose options:
500 ft quad (4 part) hose
680 ft quad hose
500 ft penta (5 part) hose
(shown)



82,
120, or
220
gallon
water
tank



Grout Reel Connections



4 or 5 chamber rotary fluid union. Stainless steel and serviceable inside the truck.



Industries, Inc.

Grout Truck

Dual Grout Pumps

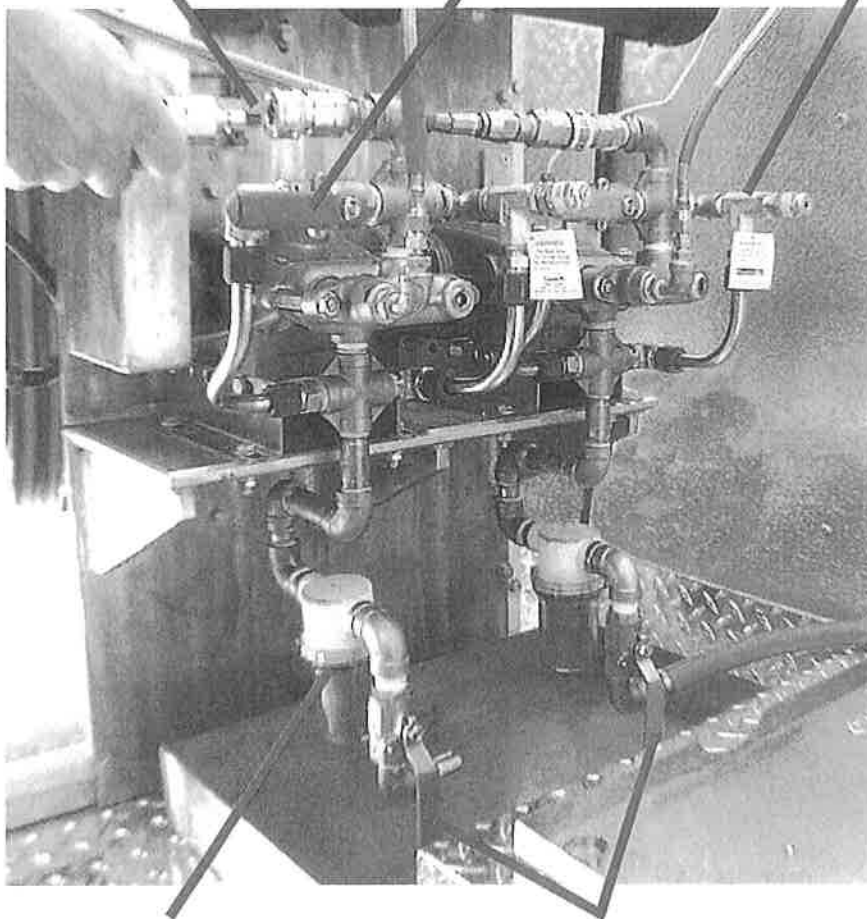
Electric motor driven

Variable speed 0 to 8 gpm

Quick disconnect
on pump discharge

By-pass valves
permit pump priming

Pressure relief valves
simplify manhole grouting



Flooded pump suction
strainers are easily
serviceable, without
loss of pump suction

Inlet shut-off valves
isolate strainers and
pumps from grout tanks

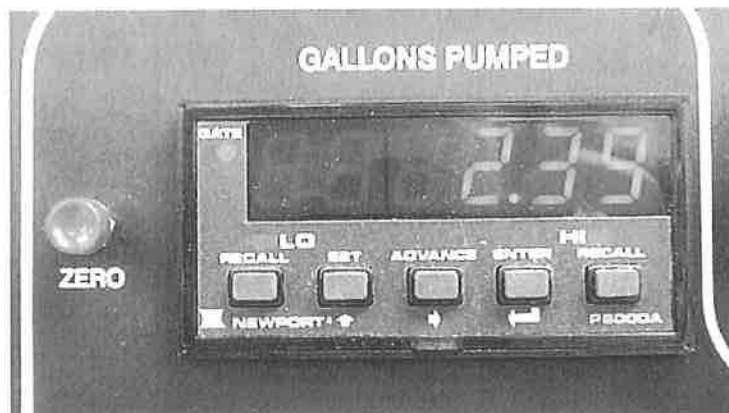


Pump Totalizer

Pump totalizer pick-up for measuring grout flow in gallons per joint on grout panel readout.



Grout Panel Totalizer



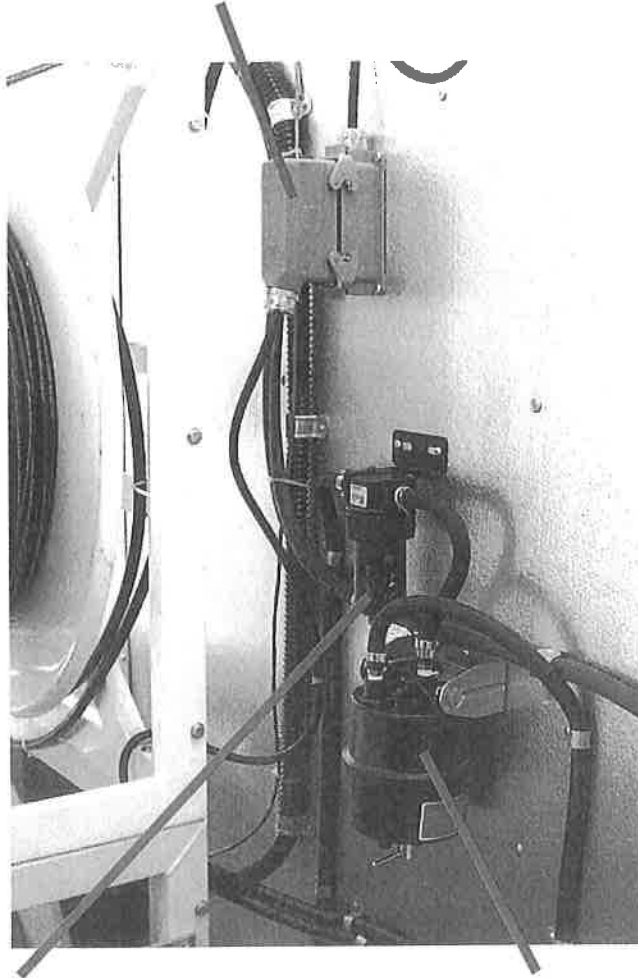


Industries, Inc.

Grout Truck

**24 Pin TV Cable
Liquid Separator
Air Dryer**

24 pin TV cable disconnect point for
connecting test cable and TV cable
continuity testing



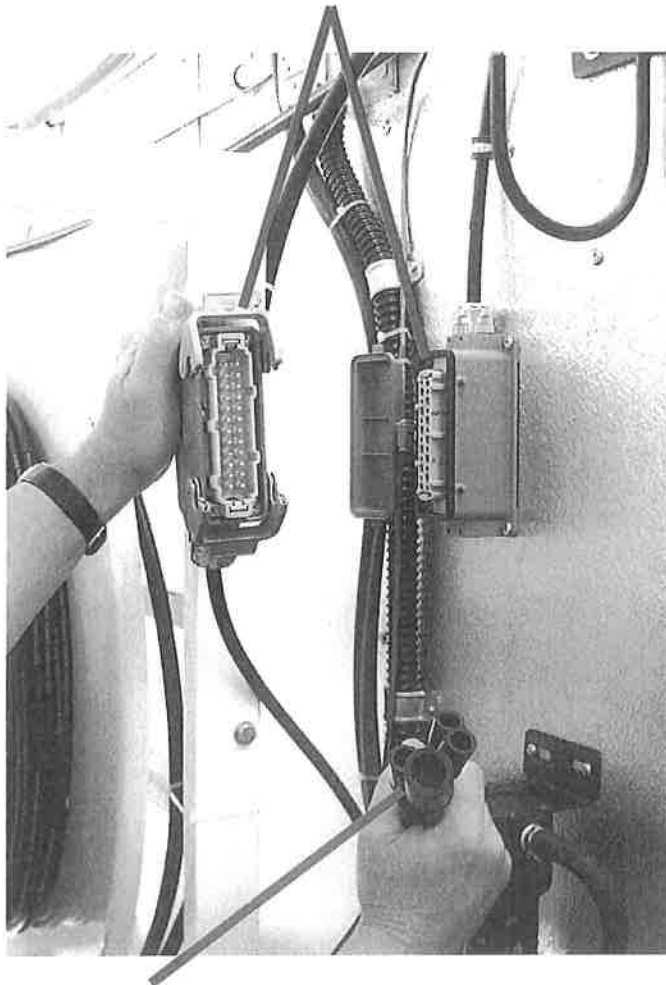
Air liquid separator
with drain

Instrument air drier with
replaceable cartridge



24 Pin Disconnect and 5+4+3+2 Cable

24 pin disconnect (12 pins used)
for TV cable continuity testing



5+4+3+2 cable end matches
to pins 1 thru 12 for easy
testing and trouble shooting.



Industries, Inc.

Grout Truck

Sewer TV, Pipe Joint Test and Seal Control Panel

All components are easily accessible from the front center operators position. There is full rear access via a walk in side door and roll-out electronics rack.



**Lateral Plug
Control Panel**

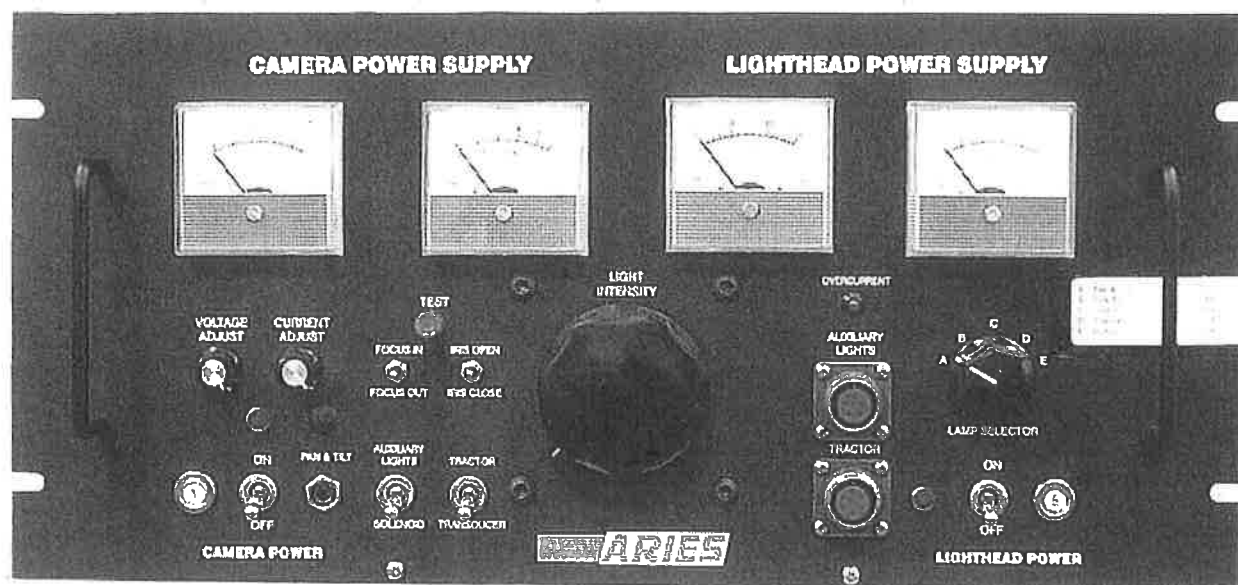
**Main Camera
Power Control Unit (PCU)**

Grout Control Panel



Power Control Unit (PCU)

The PCU is prewired to operate all ARIES cameras, tractors and lightheads. It contains external switches so an operator can easily change over to grouting functions, including lateral packer operation. Clearly labeled meters and switches simplify operation and troubleshooting.



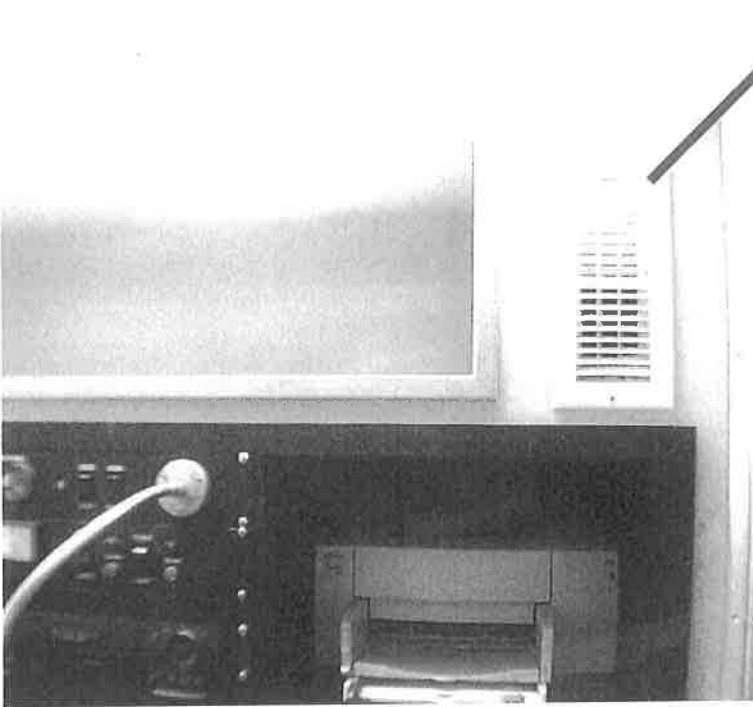


Industries, Inc.

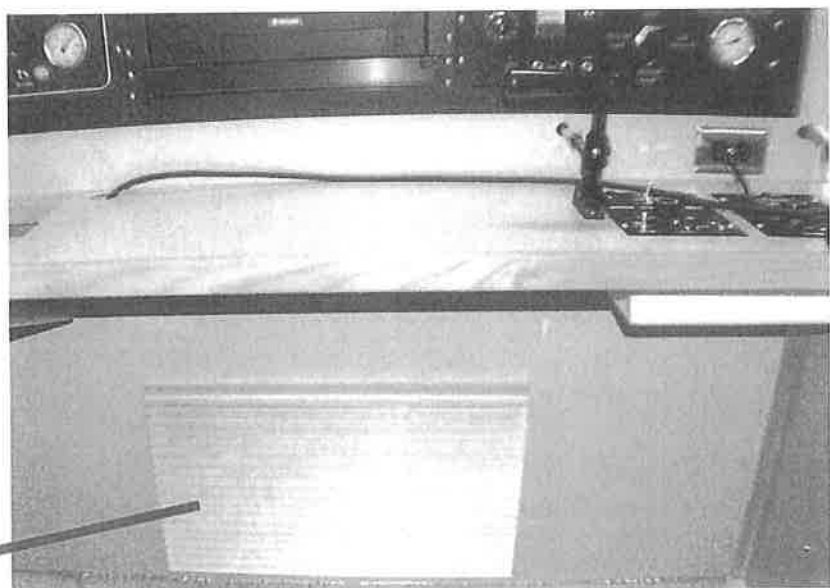
Grout Truck

Air Conditioning

Air conditioner supply
at ceiling level

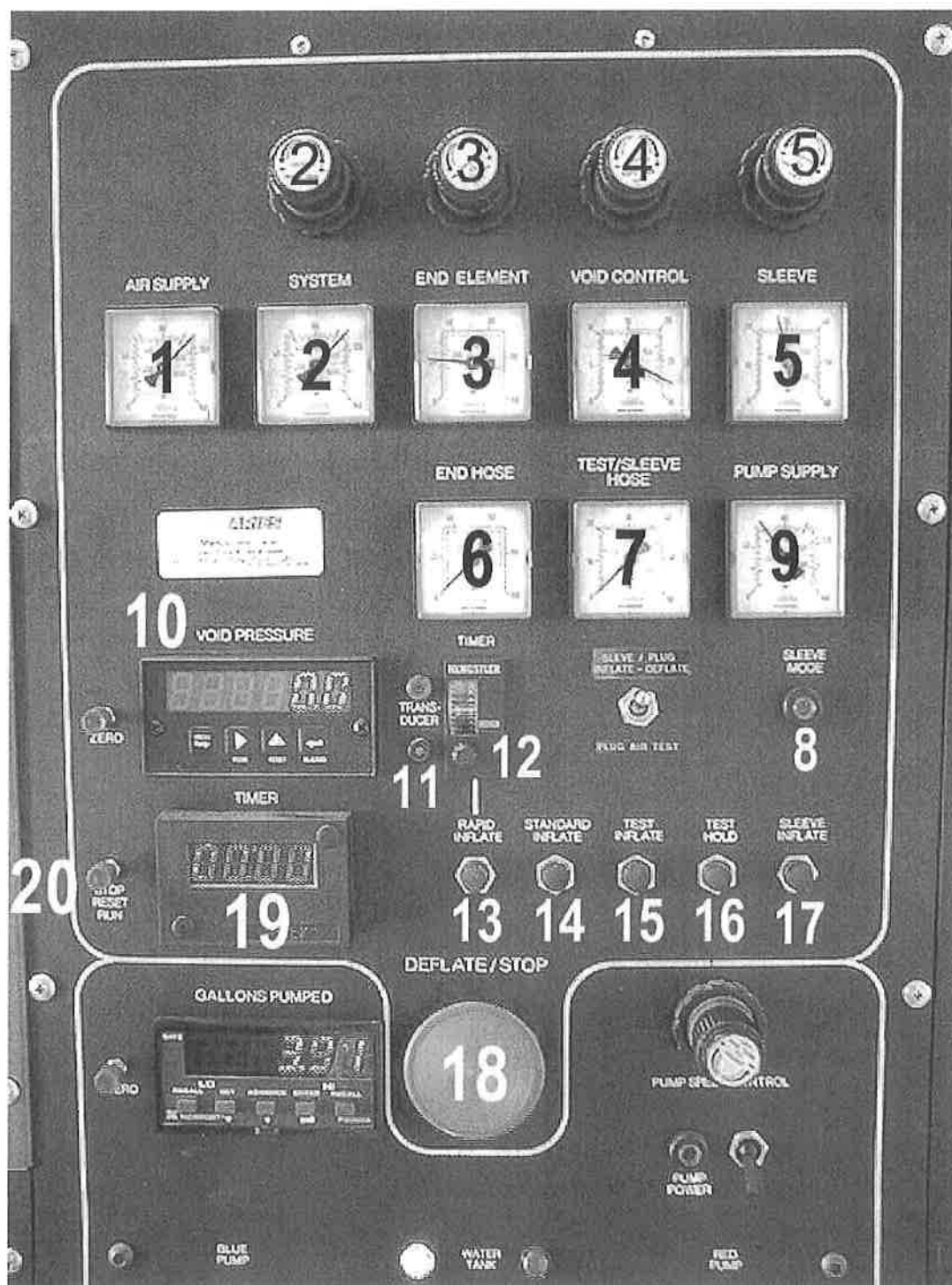


Grated return air duct at
floor level, below desktop





Pipe Joint Air Test and Seal Panel





Air Supply (1)

This gauge indicates the air compressor output pressure.

System (2)

This gauge indicates the control panel System pressure. This is also the pressure applied to packer end elements during the Rapid Inflate cycle. Adjust the pressure between 75 and 85 psi with the Regulator above the gauge.

End Element (3)

This gauge indicates the packer End Element pressure after the Rapid Inflate cycle is complete. Set the holding end element pressure with the Regulator above the gauge.

Void Control (4)

This gauge indicates the packer Void Control pressure to test sewer joint integrity. Set the pressure with the Regulator above the gauge.

Sleeve (5)

When a packer with a sleeve or lateral packer plug is used, this gauge indicates sleeve or plug pressure. Set the pressure with the Regulator above the gauge.

End Hose (6)

This gauge indicates the pressure in the hose to the packer end elements.

Test/Sleeve Hose (7)

This gauge indicates air pressure in the hose to sleeve, lateral plug or air test pressure.

Sleeve Mode (8)

White lamp indicates when a sleeve or lateral plug is inflating.

Pump Supply (9)

This gauge indicates pump air pressure for Graco pump option.
(Not provided for Cat pump option)

Void Pressure (10)

A LED readout shows pressure in the packer void, the area of the sewer pipe between the packer end elements. The readout indicates the pressure rise and fall during test and sealing. The pressure signal comes from a pressure transducer in the packer and is transmitted to data view and displayed on TV screen.

Push the Zero button, left of the Void Pressure indicator, to zero the Void Pressure readout.





Transducer (11)

Two transducer signal test jacks are located to the right of the Void Pressure readout. Use these to test LED readout and confirm signal level transmitted by transducer to LED pressure meter (#10).

Rapid Inflate Timer (12)

Set this timer to limit the time high pressure system air is introduced into the end element hose for rapid inflation of end element. When timer runs out, pressure defaults from the System pressure to the End Element pressure to hold end elements in place against the sewer line wall. Set the Rapid Inflate time with the knob below the gauge.

Rapid Inflate (13)

Push this button to inflate the packer end elements with System air pressure for the time set on Rapid Inflate Timer.

Standard Inflate (14)

Push this button for standard rate end element inflation or to stop the Rapid Inflate function and default to the End Element pressure selection.

Test Inflate (15)

Push this button to pressurize the packer void.

Test Hold (16)

When pressed, this button stops air flow to the void and vents the void hose for accurate void pressure test, i.e., test/sleeve hose pressure drops to zero.

Sleeve Inflate (17)

When this button is pressed, the sleeve (center element) inflates and reduces the void volume.

Deflate/Stop (18)

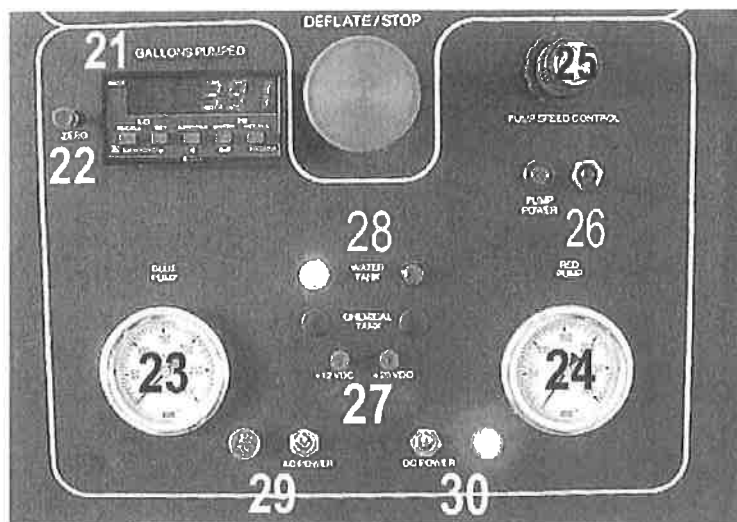
Press this button at test completion to return the system to the start position. Also press it to stop an in-progress packer inflation. The packer end elements and sleeve vent (deflate) rapidly.

Timer (19)

Indicates Void Test pressure hold time and grout gel time.

Stop/Reset/Run (20)

This button controls the timer. With sequential pushes it starts, holds and then resets the timer.

**Gallons Pumped (21)**

Displays the gallons of chemicals pumped per joint.

Zero button (22)

Use the Zero button to reset the Gallons Pumped display total to zero after each joint is sealed.

Chemical Pump Pressure Gauges (23 and 24)

Displays the discharge pressure of each chemical pump.

Blue Pump (23)

Red Pump (24)

Pump Speed Control (25)

Provides chemical pump pumping rate (speed) control. Turn fully counterclockwise for the off position.

Turn clockwise to activate and increase pump speed.

Pump Power (switch and lamp) (26)

Switch down, pump power is off. Switch up, pump power is on. Red lamp is on when pump power is on.

+12 VDC and +20 VDC (27)

These are electrical power supply test jacks. Use a multi-meter and these jacks to confirm correct panel electrical performance.

Water Tank Lamps (28)

Green lamp lit indicates the tank level is below 1/2-full. Red lamp lit indicates the tank level is below 1/8-full.

AC Power (switch and lamp) (29)

Switch down, panel AC power is off. Switch up, panel AC power is on. Lamp is on when panel AC power is on.

DC Power (switch and lamp) (30)

Switch down, panel DC power is off. Switch up, panel DC power is on. Lamp is on when panel DC power is on.

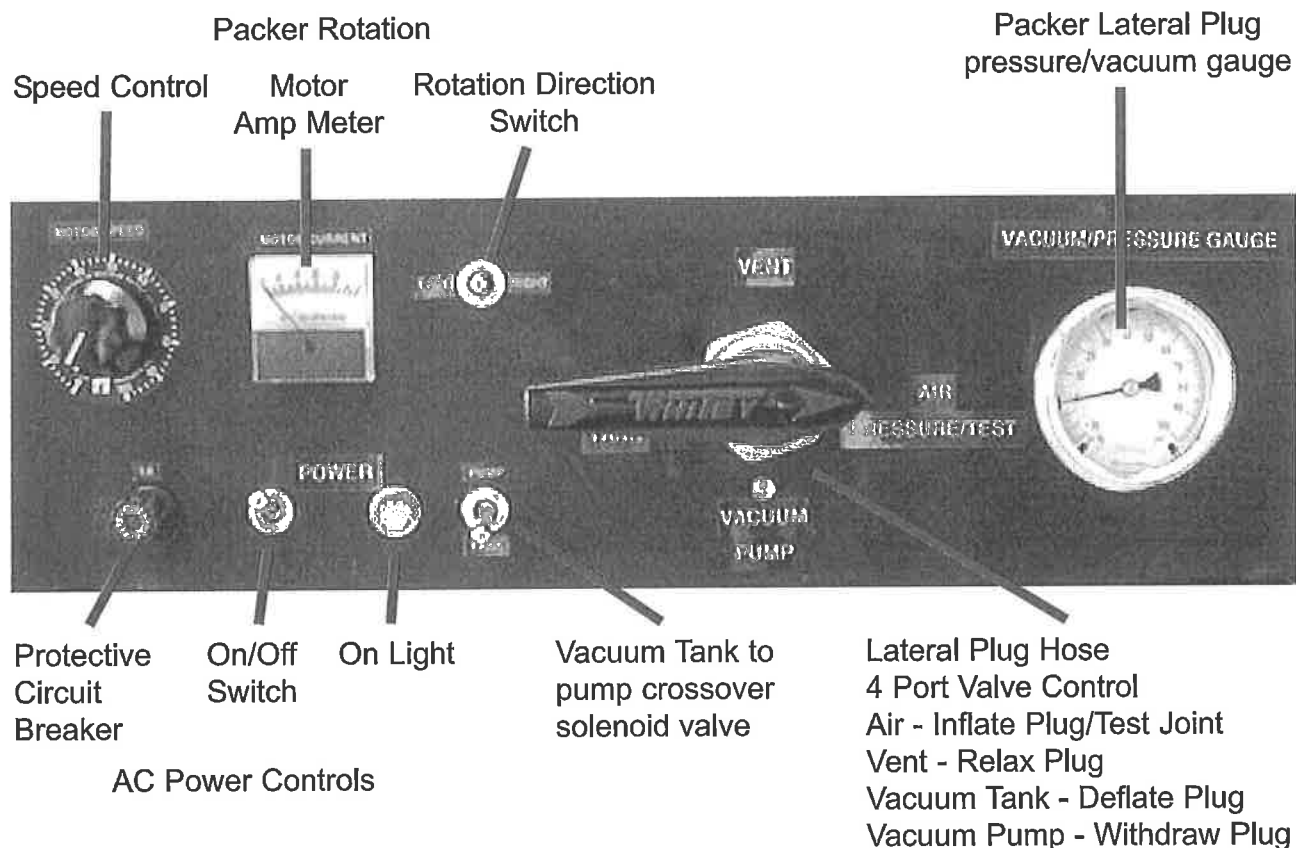


Industries, Inc.

Grout Truck

Lateral Packer Control Panel

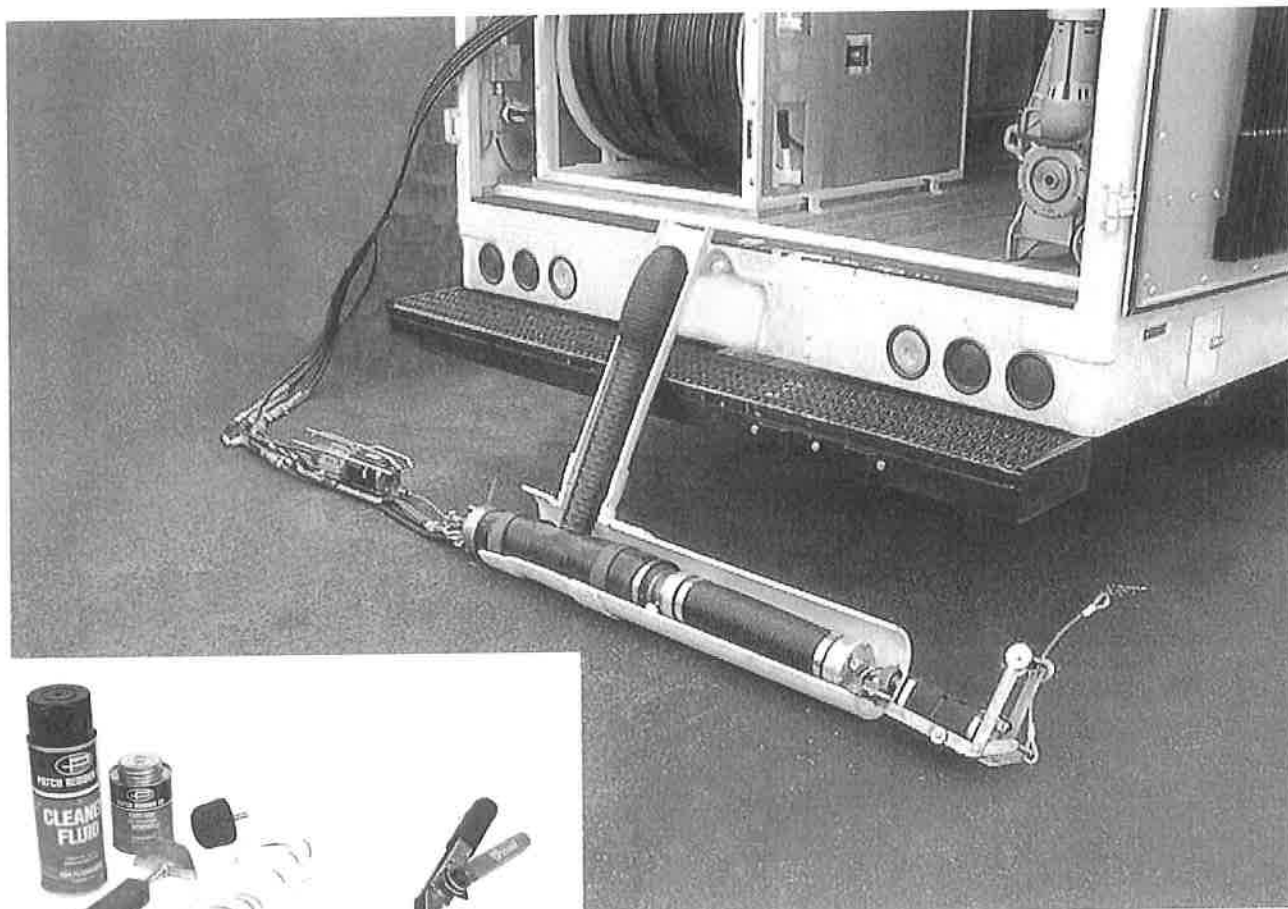
This ARIES Lateral Packer Control Panel and associated components operates all Logiball lateral grout packers.





ARIES/Logiball Packer

ARIES rigged Logiball packers are delivered ready for operations, including complete plug repair and banding kit.



Plug Repair and Banding Kit

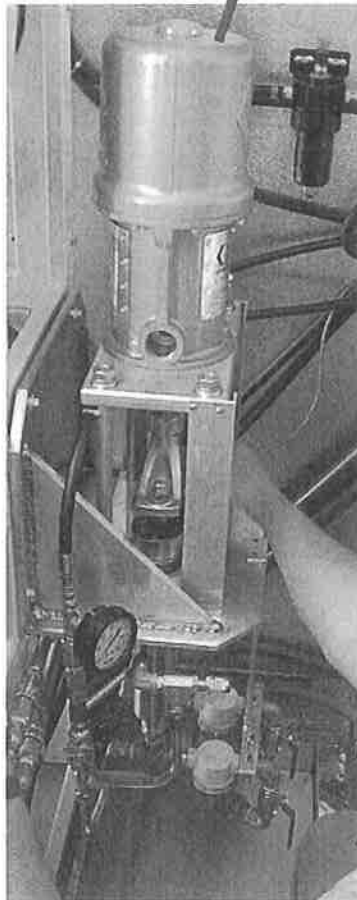


Industries, Inc.

Grout Truck

Graco Pump Option

Optional Graco air piston
chemical pump



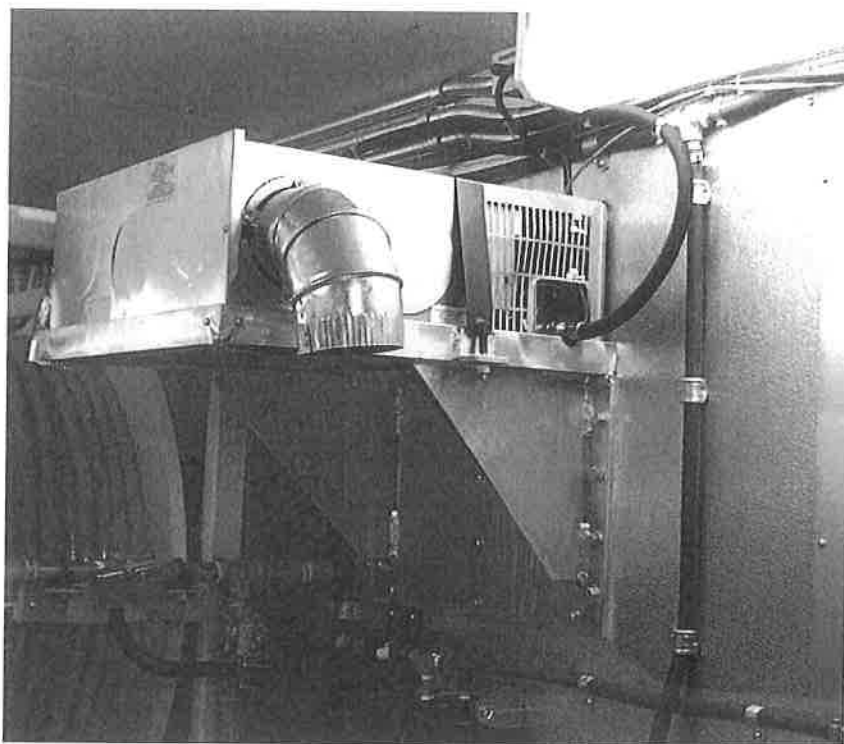


LP Gas Heater Option

20,000 BTU LPG heater with
12VDC fan and power.

External exhaust.

Larger BTU output is
available



DOT approved LPG fuel
tank for heater is located
under the truck bed.





Industries, Inc.

Grout Truck

Weather Protection

Winter weather doors protect
cable and hose access ports





Cable Rollers

Typical cable roller assemblies
on access ports

