

MICROTRENCHING SYSTEM







GLOBAL DEMAND DRIVING NETWORK EXPANSION.

With the ever-growing use of bandwidth-consuming internet applications like video-on-demand, plus increased handheld device functionality, the telecommunications infrastructure in place has been pushed to the max. For example, by 2007, YouTube alone had consumed the bandwidth equivalent to the entire internet in the year 2000 (Source: Fiber to the Home Council, 2010).

Rising to the call from consumers, businesses and governments globally, network service providers are rapidly deploying state-of-the-art fiber networks, bringing connection speeds once thought unimaginable to the masses.

MICROTRENCHING DEFINED.

Since the dawn of the information age, expert fiber installation techniques and innovative equipment have helped fast-track a revolution in communication. But looking at recent demand for network expansion, those of us in the industry aren't looking back - we are looking forward to new, cost-minded methods like microtrenching.

Microtrenching is an installation method in which a narrow and relatively shallow trench is cut, typically on one side of an asphalt roadway. Trench dimensions range from .75" - 2.25" (19.1 mm - 57.2 mm) wide and 8" - 16" (20.3 cm - 40.6 cm) deep.

While cutting, a vacuum system connected to the cutter wheel attachment cleanly diverts and transports the dry and dusty spoil away from the worksite. Once the conduit pipe is laid, the trench is backfilled with a grout compound.

Advantages of the microtrenching method include:

- **Minimal cutting width** boosts installation production and reduces cost in the amount of backfill grout needed.
- **Shallow depth placement** helps avoid encounters with existing utilities.
- **Jobsite cleanliness** with vacuum spoil removal makes microtrenching a viable alternative for urban fiber deployment projects.









THE VERMEER® MICROTRENCHING SYSTEM.

The Vermeer microtrenching system includes several components designed to maximize productivity.

- MTR12 and MTR16 microtrencher attachments

- Two attachment models offer max cutting depths of 12" (30.5 cm) and 16" (40.6 cm) respectively.
- Spring-loaded, flex-pivot design aids steering, particularly around curves.
- Two-stage lift and level design helps keep attachment flush with the surface to maximize cutter wheel engagement and vacuum performance when uneven conditions are encountered.
- Patent-pending steering guide helps prevent back cutting and enables cutting on curb seams and along other edges.
- Offset capability up to 2" (5.1 cm) outside the right rear tire (solid rubber tires).

- Cutter wheel tooling

- Vermeer offers the market's widest range of cutter teeth types and width options to meet varying specifications and preferences.
- A Vermeer-exclusive, the Yellow Jacket™ cutter system offers teeth with reversible cutting edges. When one edge is worn, simply flip the tooth to access a new cutting edge to help maximize tooth life and increase cutting time between tooth change out. The cutter wheel, used with the Yellow Jacket cutter system, is also reversible to help increase wheel and pocket life.
- Rotary tooth configurations are compatible for wider cutting specifications. A shark tooth wheel is available and intended for narrow cutting specifications.

THE VERMEER MICROTRENCHING SYSTEM.

- Vermeer RTX550 utility tractor
 - Electronic ground drive control with auto creep enables precise tractor and attachment controllability helping to improve cutter wheel / tooth life and cutting efficiency.
 - Integrated display allows the operator to monitor a range of performance and diagnostic information.
 - Specially configured microtrencher tractor is equipped with solid rubber tires and a 1500 lb (680.4 kg) max capacity reel carrier, reducing the need for additional support equipment.
 - Attachment manifold configuration simplifies attachment changeover to help maximize tractor utilization. Other attachment options include rockwheel, plow and trencher (center-mount or sliding-offset).
- Vermeer / McLaughlin® V500LE high-CFM vacuum system (recommended)
 - 500 gal (1892.7 L) spoil tank accommodates approximately 500' (152.4 m) of 1" (2.5 cm) wide, 12" (30.5 cm) deep trench before dumping. An 800 gal (3028.3 L) tank option is also available.
 - Standard equipped, three-stage filtration system with cyclone separator is more efficient in handling dry material than other filtration systems.
 - Optional misting ring minimizes fine dust particles, extending dumping cycle time and boosting vacuum performance.
 - External hydraulic door utilizes mechanical cam action to lock, eliminating damage and contamination to the hydraulics caused by material inside the tank.
- Vermeer GM30 grout mixer
 - Gas or diesel engine options.
 - Includes wheeled application wand.





RTX550 UTILITY TRACTOR SPECIFICATIONS

(BASIC TRACTOR, MICROTRENCHER CONFIGURATION)

GENERAL DIMENSIONS AND WEIGHTS

Weight: 5600 lb (2540.1 kg)

Length: 123.5" (313.7 cm)

Width: 72.4" (183.9 cm)

Height: 96.8" (245.9 cm)

Wheel base (centerline of axles): 61" (154.9 cm)

Ground clearance: 8.8" (22.4 cm)

ENGINE

Make and model: Cummins B3.3

Manufacturers gross power rating: 65 hp (48.5 kW)

Max torque: 158 ft-lb (214.2 Nm)

Number of cylinders: 4

Cooling medium: Water

Fuel type: Diesel

EPA certification family: Tier 4i (Stage IIIA)

CE approved: Yes

CAPACITIES

Fuel tank: 27 gal (102.2 L)

Hydraulic tank: 18 gal (68.1 L)

Hydraulic system: 20 gal (75.7 L)

Coolant: 3.1 gal (11.7 L)

HYDRAULIC SYSTEM

Ground drive pump capacity: 31 gpm (117.3 L/min)

Ground drive pump relief: 4350 psi (300.6 bar)

Attachment pump capacity: 31 gpm (117.3 L/min)

Attachment pump relief: 5080 psi (350.3 bar)

Auxiliary pump capacity: 18.1 gpm (68.5 L/min)

Auxiliary pump relief: 2700 psi (186.2 bar)

GROUND DRIVE

Max FWD transport speed: 5.6 mph (9 km/h)

Max REV transport speed: 5.6 mph (9 km/h)

Max FWD creep speed: 2 mph (3.2 km/h)

Max REV creep speed: 2 mph (3.2 km/h)

AXLES

Front axle type: Steerable planetary

Rear axle type: Steerable planetary with gearbox

Axle load rating (per axle): 11,250 lb (5102.9 kg)

ELECTRICAL SYSTEM

System voltage: 12 V

Battery CCA rating: 950

Battery group class: 29H - VHD

REEL CARRIER

Weight: 560 lb (254 kg)

Reel shaft diameter: 2.25" (5.7 cm)

Max reel width: 45.75" (116.2 cm)

Max diameter reel: 78" (198.1 cm)

Capacity: 1500 lb (680.4 kg)

MTR12 MICROTRENCHER ATTACHMENT

Weight: 1275 lb (578.3 kg)

Length: 69.4" (176.3 cm)

Wheel diameter: 35.1" (89.2 cm)

Cutting width: .75" - 2.25" (1.9 - 5.7 cm)

Cutting depth: 8" - 12" (20.3 cm - 30.5 cm)

Cutting teeth options: Yellow Jacket, Shark, Rotary

MTR16 MICROTRENCHER ATTACHMENT

Weight: 1510 lb (684.9 kg)

Length: 73.3" (186.2 cm)

Wheel diameter: 43.1" (109.5 cm)

Cutting width: 1.25" - 2.25" (3.2 cm - 5.7 cm)

Cutting depth: 12" - 16" (30.5 cm - 40.6 cm)

THE VERMEER MICROTRENCHING SYSTEM JOINS THE FULL LINEUP OF

GM30 GROUT MIXER SPECIFICATIONS

GENERAL DIMENSIONS AND WEIGHT

Length: 58" (147.3 cm)

Length (dual tank option): 86" (218 cm)

Width: 44" (111.8 cm)

Height: 64" (162.6 cm)

Weight (dry): 1740 (789.3 kg)

Weight (dry, dual tank option): 2100 (953 kg)

ENGINE (OPTION 1)

Make / Model: Kubota D1105

Horsepower (gross): 25 hp (18.6 kW)

Fuel Type: Diesel

ENGINE (OPTION 2)

Make / Model: Kohler

Horsepower (gross): 30 hp (22.4 kW)

Fuel Type: Gas

CAPACITIES

Mix tank (each): 90 gal (340.7 L)

Fuel tank: 5.5 gal (20.8 L)

Hydraulic tank: 7 gal (26.5 L)

Engine oil: 4 qt (3.8 L)

MIXING ACTION

Type: Paddles

Control: Variable speed

GROUT PUMP

Flow: 20 gpm (75.7 L/min)

Max pressure: 300 psi (20.7 bar)

Outlet size: 1" (25.4 mm)

CLEAN WATER PUMP

Max flow: 55 gpm (208.2 L/min)

Max pressure: 50 psi (3.4 bar)

Outlet size: 1" (25.4 mm)

V500LE VACUUM SPECIFICATIONS

GENERAL DIMENSIONS AND WEIGHT

Trailer gross vehicle weight: 12,000 lb (5443.1 kg)

Weight rating per axle: 6000 lb (2721.6 kg)

Length: 17.3' (5.3 m)

Width: 97" (246.4 cm)

Height: 83" (210.8 cm)

Pad mount available: Yes

OPERATIONAL

Engine: Yanmar 31 hp (23.1 kW) diesel

Engine enclosure: Lockable, dual-side openings, sound dampening

Blower: 575 cfm (16.3 m³/min) lobe type with dual-splash oil lubrication

Filtration: 3-stage with cyclone separator / 2-micron poly filter

Water pump: 5.6 gpm @ 3000 psi (21.2 L/min at 206.8 bar)

Vacuum hose: Vacuum hose

TANK

Spoil capacity: 500 gal (1892.7 L)

Spoil tank lift type: Dual hydraulic cylinders

Door type: Hydraulically operated, full-open external locking rear door

Door diameter: 42" (106.7 cm)

Water tank capacity: 250 gal (946.4 L)

Low water shutoff: Electronic

OTHER

Fuel tank capacity: 22 gal (83.3 L)

**Other compatible vacuum models are available*

OF VERMEER EQUIPMENT SERVING THE FIBER DEPLOYMENT MARKET.

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Vermeer Asia Pacific

Singapore 608586
Phone: +65 6516 9560
Fax: +65 6515 9218

Vermeer Corporation

Pella, Iowa 50219 U.S.A.
Phone: (641) 628-3141
Fax: (641) 621-7773
International fax: +1 (641) 621-7730

Vermeer Latin America

Valinhos, SP - Brazil
Phone: +55 19 3881-3848
Fax: +55 19 3881-3848, ext. 108

Vermeer EMEA

(Europe, Middle East, Africa and CIS)
the Netherlands
Phone: +31 113 272700
Fax: +31 113 272727

Call toll-free 1-888-VERMEER

1-888-837-6337 (USA only)
www.vermeer.com

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