

Vermeer®

Flex-Angle Drill

D20x22FX

Series II



NAVIGATOR®

Look at productivity from a different angle.

With the D20x22FX Series II Navigator[®] flex-angle drill, Vermeer is not only helping revolutionize the way hard-working drilling professionals get the job done, we're changing the way you'll look at your drill. It's the industry's first flex-angle drill capable of entry points anywhere between 18 and 90 degrees - yet another example of the Vermeer dedication to innovation and commitment to the industry.

The D20x22FX Series II opens up new revenue possibilities and efficiencies in the burgeoning residential geothermal market. It's also ideally suited for other applications such as conventional utility installation, soil sampling, environmental remediation, water wells and hill stabilization among others.

So, whether you're looking for a better, more innovative way of getting your work done, or are considering a new angle for branching out into other drilling markets, look to the Vermeer D20x22FX Series II.



Onboard drilling fluid / pump delivers efficient flow [25 gpm (94.6 L/min)] for conventional HDD bores; optional high-flow [100 gpm (378.5 L/min)] pump (see photo) for use in vertical applications.



Seated, swing-out operator's station provides a range of positions for optimal visibility and comfort at any drilling angle. Control of primary drilling functions is integrated into the dual joysticks.



Adjustable rack design permits variable drilling angles between 18 and 90 degrees for exceptional adaptability and flexibility.



Flex-Angle Drill



Push-button rod loader eliminates the need to manually handle each rod, enhancing productivity and crew safety.



Compact footprint maximizes maneuverability in confined spaces, especially in geothermal retrofit applications.

Flex-Angle Drill



Hydraulic positive-lock vise assembly with push-button control senses rotational pressure before releasing, helping to eliminate the potential for rod-dropping. Vises slide out for use in casing applications.



AutoDrill technology helps reduce operator fatigue by eliminating the need for manual control of some drilling functions.

D20x22Fx Series II



D20x22FX Series II Specifications

General

Length (min transport): 18.4' (5.6 m)
Width (min transport): 65" (165.1 cm)
Height (min transport): 87" (221 cm)
Weight: 13,200 lb (5987.4 kg)
Rack angle (min, flat surface): 18°
Rack angle (max, flat surface): 90°

Engine

Make and model: Kubota V3800
Fuel type: Diesel
Manufacturer's gross hp rating: 83 hp (61.9 kW)
Rated engine RPM: 2400

Fluid Capacities

Fuel tank capacity: 25 gal (94.6 L)
Hydraulic tank capacity: 23 gal (87.1 L)

Operational

Thrust: 20,000 lb (9071.8 kg)
Pullback: 20,000 lb (9071.8 kg)
Max carriage speed: 135 fpm (41.1 m/min)
Max spindle torque (low at max engine rpm):
2200 ft-lb (2982.8 Nm)
Max spindle torque (high at max engine rpm):
1430 ft-lb (1938.8 Nm)
Max spindle speed (at max engine rpm):
208 @ 1430 ft-lb (1938.8 Nm)
Min bore diameter: 3.5" (8.9 cm)
Rod loader: Yes

Drilling Fluid System

Max flow: 25 gpm (94.6 L/min)
Max pressure: 750 psi (51.7 bar)

Drilling Fluid System (Optional)

Max flow: 100 gpm (378.5 L/min)
Max pressure: 300 psi (20.7 bar)

Drill Stem

Type: Firestick®
Length: 10' (3 m)
Joint diameter: 2.25" (5.7 cm)
Pipe diameter: 2.06" (5.2 cm)
Weight: 57 lb (25.9 kg)
Min bend radius: 101.9' (31.1 m)
Rod carrying capacity: 210' (64 m)
Joint inside diameter: .95" (2.4 cm)

Engineered for maximum productivity and flexibility, the D20x22Fx Series II is compatible with a wide range of rock and soil tooling options, based on application and operator preference.



Lead rod. Provides connectivity between the drill string and cutting tools; features a unique check-valve system that prevents drill fluid or air from back-flushing up the drill string due to built-up down-hole pressure created during vertical drilling processes.



Replaceable blade drill bit. Provides an efficient and cost-effective method of changing drill bit sizes and styles to better match ground conditions and job specifications without the need for cumbersome pipe wrenches and breakout systems. Available in hard-faced or carbide-tipped stepped blades.



AS 4 Air Hammer. Designed for hard rock, percussion hammering is the fastest and most efficient to cut rock. This includes an air hammer/bits with HDD housing, one vertical lead rod, bits, oiler, loop push tool and accessories.



Unitized insert bit. Economical bit choice that is excellent for vertical drilling in clay, hardpan and dry-packed ground conditions. Threads directly to the lead rod with check valve.



Polycrystalline Diamond Compact (PDC) bits. Designed for high-end, high-performance operation, these cutters are ideal for solid formations up to 15,000 psi (1034.2 bar). Built for toughness and durability, they feature a cast bit body with nickel-copper alloy base material and tungsten carbide substructure to deliver high abrasion resistance.



Tricone TCL drill bits. Tungsten carbide insert bits are perfect for solid and broken hard rock up to 30,000 psi (2068.4 bar). These bits have been used in the oil and gas industries for decades and are time-tested and proven.



Tricone bit - steel tooth. Steel-toothed bits constructed of high alloy material carbide hard-faced and heat-treated for maximum performance are designed for solid and broken formations of soft rock up to 10,000 psi (689.5 bar). They are time-tested and field-proven.



Horizontal loop reamer and swivel. Designed for horizontal geothermal loop installation; operates similar to standard HDD reamers to open hole and provide a mechanism for grout delivery on the backream.



Firestick® drill stem. One-piece, forged design and constructed of high-carbon alloy steel for outstanding strength and consistent quality. The modified tool joint upset ID enhances mud/grout flow in standard vertical drilling or air flow when operating a percussion hammer in vertical drilling applications. Available in 10' (3 m) lengths.

Vermeer offers a variety of geothermal installation solutions.

At Vermeer, we understand the shallow-well geothermal market and the installation of ground-source heat pumps. For more than 60 years, we have worked with our customers to help find the right solutions for their companies and projects; we've provided them with expertise to help them succeed. Our products and services are backed by thousands of employees dedicated to designing, building and supporting your equipment.



GM30 grout mixer. A versatile grout mixer for your geothermal loop installations, the GM30 is available in either a single or dual 90-gal (340.7 L) tank configuration, as well as with a centrifugal pump for non-sand-based grout or a high-pressure piston pump for sand-based grout. The GM30 is powered by a 26-hp (19.4 kW) diesel engine with electric start, and offers several integrated features that reduce the need for additional support equipment onsite.



RTX1250 utility tractor. Ideal for installing geothermal loops in open-cut applications, the RTX1250 is powered by a 120-hp (89.5 kW) Cummins turbocharged engine with a 5-hp (3.7 kW) power bulge. Available attachments include a trencher, plow, rockwheel, reel carrier and back hoe.



S800TX mini skid steer. With its 35-hp (26.1 kW) engine, the S800TX offers best-in-class loading capacity and power for tough landscaping, hardscaping and utility installation work. The S800TX also features a universal attachment mounting plate, hydraulic quick connects and a number of versatile attachments.



D36x50 Series II horizontal directional drill. With 36,000 lb (16,329.3 kg) of thrust/pullback force and 4995 ft-lb (6,772 Nm) of torque, the D36x50 Series II has the highest power-to-size ratio in its class. It is built to perform for a wide range of bores, even in difficult ground conditions. The ergonomically designed operator's station features the Vermeer exclusive Multi-Function Display (MFD) that is compatible with select DCI drill head locator systems.

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Vermeer parts are designed and manufactured to original specifications, so whether they're new parts or replacement parts, they'll live up to the Vermeer name.



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