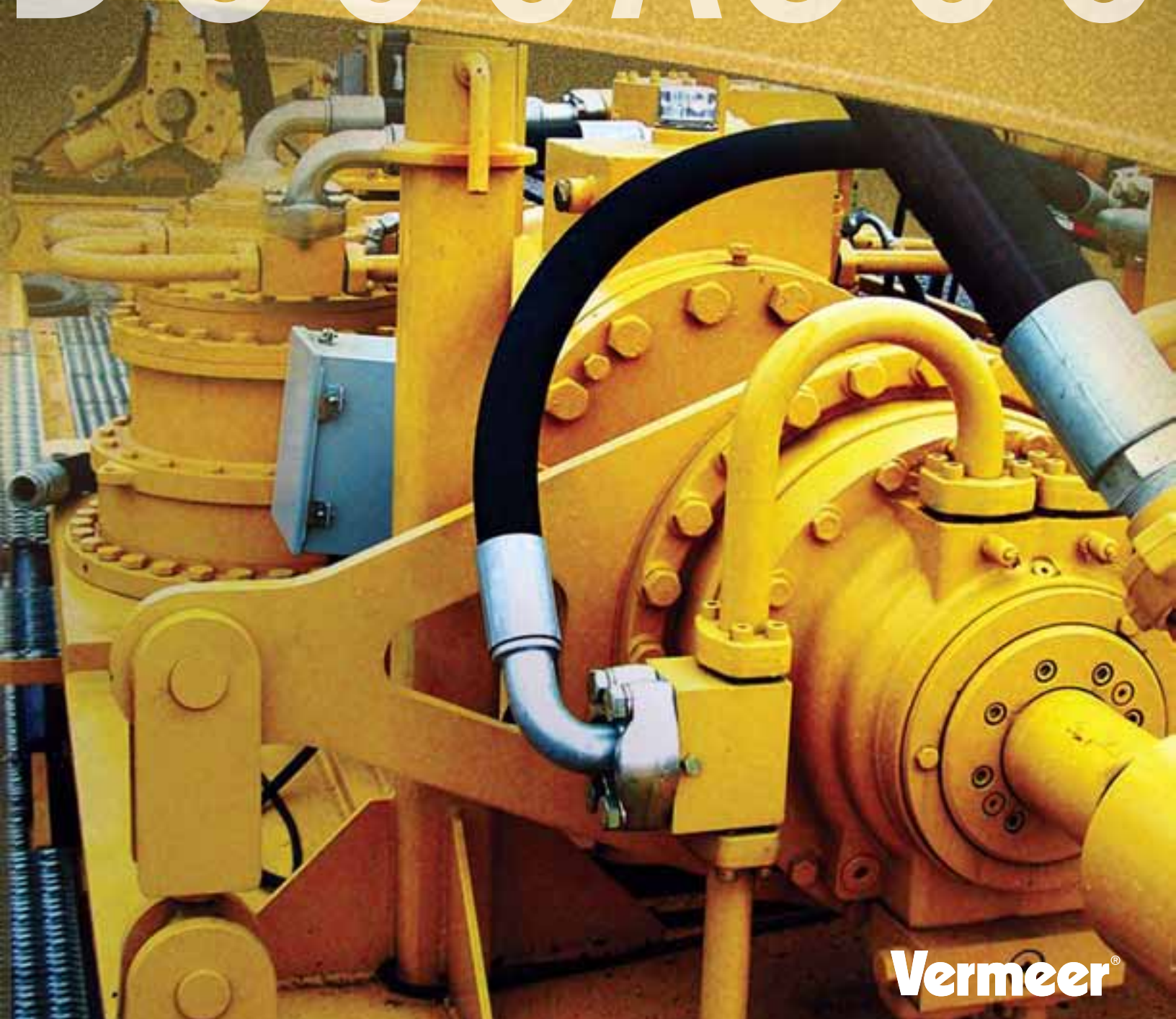


MAXI RIG / HORIZONTAL DIRECTIONAL DRILL

# D500x500



**Vermeer**<sup>®</sup>



Field-tested Vermeer maxi rigs are just what the large-diameter drilling market has been waiting for: tough, productive drills with the reliability that is expected from Vermeer.

## Specifications

### Drill Rack (trailer mounted)

Max length (transport): 45' (13.7 m)  
 Width (transport mode): 8.4' (2.6 m)  
 Width (operational): 8.4' (2.6 m)  
 Weight: 82,000 lb (37,194.5 kg)  
 Suspension: Dual axles with air ride suspension  
 Drill rack angle: 12.5° – 18°

### Power Unit (skid mounted)

Make and model: (1) CAT – C-27  
 Fuel type: Diesel  
 Max engine rpm: 2000 rpm  
 Gross horsepower (max): 800 hp (596.6 kW)  
 Length: 22.4' (6.8 m)  
 Width: 8' (2.4 m)  
 Height: 10.3' (3.1 m)  
 Weight: 38,000 lb (17,236.5 kg)

### Operator Control Cab (skid mounted)

Length: 10' (3 m)  
 Height: 8' (2.4 m)  
 Width: 8' (2.4 m)  
 Weight: 6000 lb (2721.6 kg)  
 Heat and air conditioning: In-wall combination unit  
 Electrical panel: 110V and 220V

### Operational

Max spindle torque (high @ max engine rpm):  
 50,000 ft-lb (67,790.9 Nm)  
 Thrust: 500,000 lb (2224.1 kN)  
 Pullback: 500,000 lb (2224.1 kN)  
 Max spindle speed @ max engine rpm: 68 rpm  
 Max carriage speed @ max engine rpm: 64 fpm  
 (19.5 m/min)  
 Number of rotation motors: 1  
 Number of drive motors: 2  
 Mud swivel: 3" (7.6 cm)  
 Remote lockout system: Yes  
 Strike alert system: Yes

### Fluid Capacities

Fuel tank: 380 gal (1438.5 L)  
 Hydraulic tank: 660 gal (2498.4 L)

### Lower Breakout Vise

Breakout force: 151,729 ft-lb  
 (205,716.9 Nm)  
 Configuration: 3 jaw clamp  
 Travel: 6' (1.8 m)  
 I.D.: 10" (25.4 cm)  
 Weight: 3650 lb (1655.6 kg)

### Upper Breakout Vise

Configuration: 2 jaw clamp  
 I.D.: 10" (25.4 cm)

# D500x500

POWER UNIT



*The larger the project, the more you have riding on your power unit. That's why our maxi rigs feature the reliable power of CAT engines.*

## Power Unit

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### **ENGINE**

*The D500x500 is powered by an 800-hp (596.6 kW) CAT C-27 engine that has been dynamometer-tested under full load to ensure proper engine performance.*

### **DESIGN**

*The skid-mounted design is self-contained and includes an integrated fuel tank.*

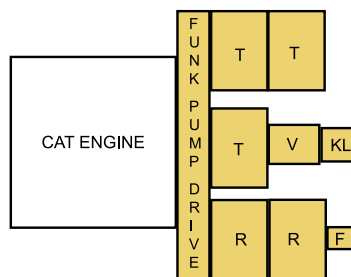
### **WARRANTY**

*Each engine carries a 2-year standard warranty.*

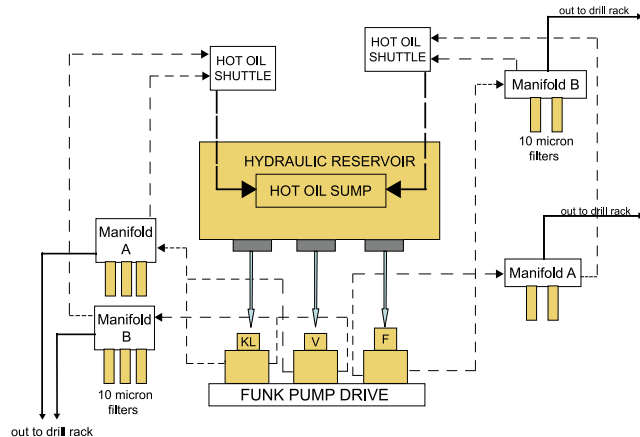


## Hydraulic System

Power Unit Layout



Rotation and Thrust Circuit



### PUMPS

- (2) Rotary pumps
- (3) Travel pumps
- (1) Vise pump
- (1) Flush pump
- (1) Kidney loop pump

### THRUST / PULLBACK CIRCUIT

- Hydraulic pumps
- (3) Sauer-Danfoss Series 90
- Travel motors
- (2) Hagglunds CA100
- Planetary gears
- (2) Dinamic GB18000 or Siemen PH14

### ROTATION CIRCUIT

- Hydraulic pumps
- (2) Sauer-Danfoss Series 90
- Hydraulic motor
- (1) Hagglunds CA210

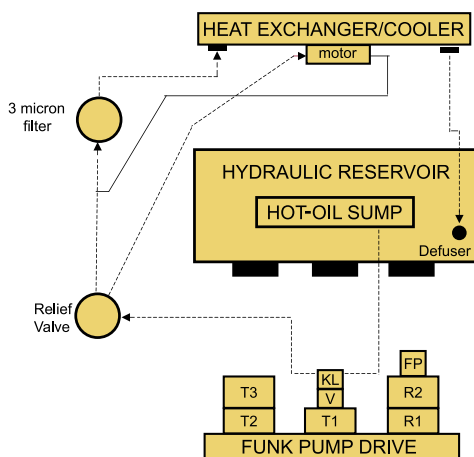
### AUXILIARY CIRCUITS

- Vise pump
- (1) Sauer-Danfoss Series 45
- Flush pump
- (1) Sauer-Danfoss gear pump
- Kidney Loop
- (1) Sauer-Danfoss gear pump



## Hydraulic System

Heat Exchanger / Cooler Diagram



### HYDRAULIC RESERVOIR

- 660 gal (2498.4 L) capacity
- In-tank filtration
- Hot-oil sump to separate hot and cool oil
- Three suction strainers with shutoffs

### FILTRATION COMPONENTS

- (5) 25-micron charge filters
- (10) 10-micron high pressure filters
- (1) 25-micron flush filter
- (1) 25-micron vise psi filter
- (1) 25-micron vise return filter

### HYDRAULIC QUICK DISCONNECTS

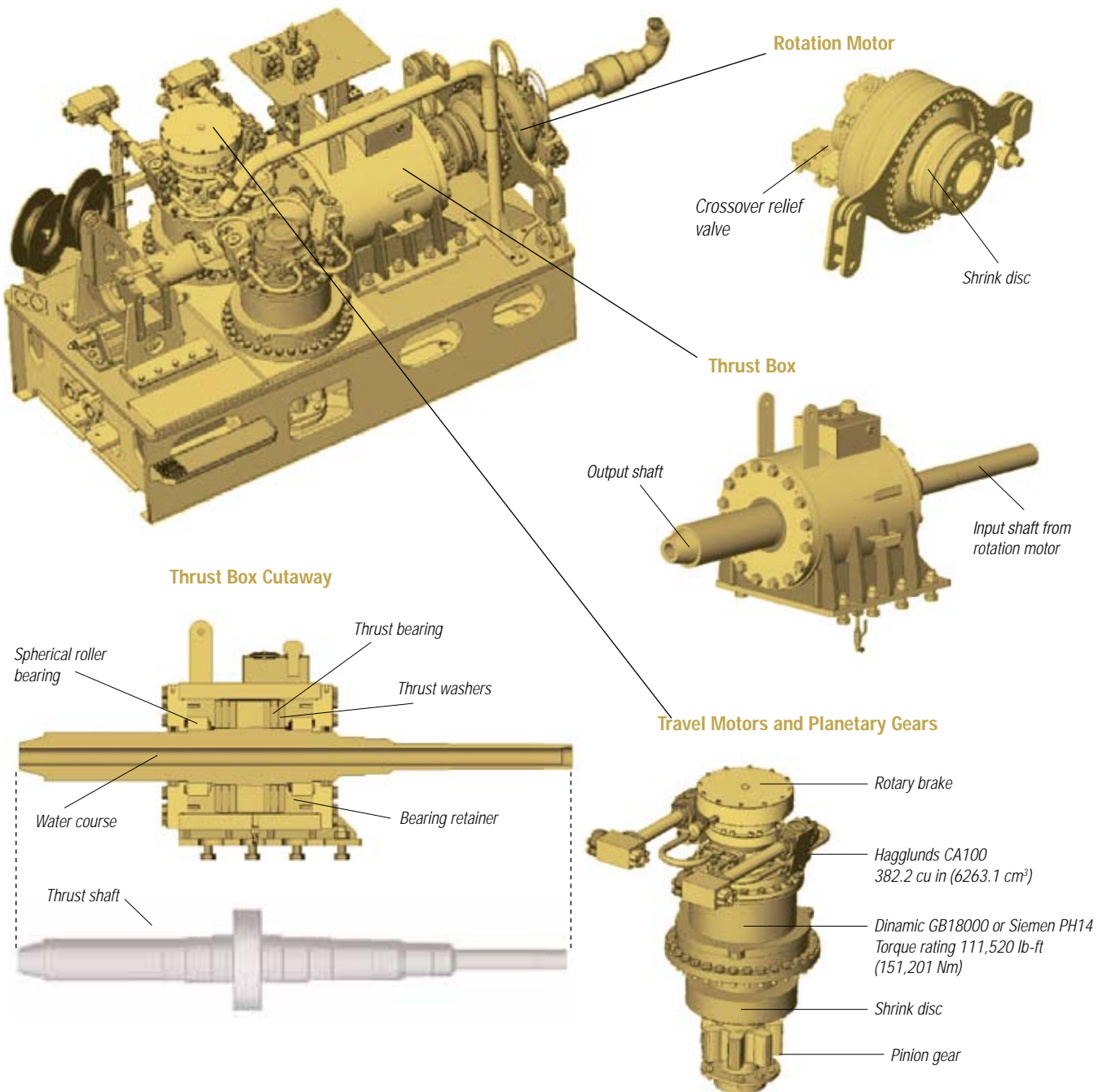
- (1) .75" (1.9 cm) flat face high pressure
- (4) 2" (5.1 cm) double O-ring sealed
- (1) 1.5" (3.8 cm) flat face high pressure
- (8) .50" (1.3 cm) flat face high pressure

### HEAT EXCHANGER / COOLER

- Cold-oil bypass
- Variable speed fan

## Carriage Assembly

The adjustable upper vise is mounted to the carriage assembly and grips the drill rod directly in front of the quill, helping prevent rod wrap or windup when breaking out of the upper joint.



## Drill Rack

### RACK GEAR ASSEMBLY

- Double I-beam construction
- Weld-on gear
- 1-year limited warranty

### TRAILER

- Double-axle
- Air suspension
- 11R 24.5 tires / 5-ply tread

### ADDITIONAL COMPONENTS

- Rear base anchor
- Front base anchor
- Rear stabilizers



Front base anchor: 20' (6.1 m) x 6' (1.8 m), 7850 lb (3560.7 kg)



Rear base anchor: 16' (4.9 m) x 7.8' (2.4 m), 4300 lb (1950.4 kg)





## Breakout System

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### UPPER VISE / BREAKOUT SYSTEM

- Dual-cylinder design
- Integrated into carriage to reduce breakout time
- Integrated hydraulically controlled rod alignment arm



### LOWER VISE / BREAKOUT SYSTEM

- Three cylinder design
- 10" (25.4 cm) inside diameter opening
- 6' (1.8 m) of travel
- Variably sized vise blocks
  - 4.5" (11.4 cm)
  - 5.5" (14 cm)
  - 6.6" (16.8 cm)
- Replaceable die inserts
- Lower vise assembly is detached via two pins and six hydraulic quick disconnects for ease of removal during casing installations



Replaceable die inserts



# D500x500

DRILLER'S CABIN



## Driller's Cabin

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### DRILLER'S CABIN

- *Designed to accommodate operator and steering hand*
- *Large tinted windows for exceptional visibility*
- *Steel tube frame*
- *Finished interior with aluminum-faced sheeting*

### OPERATOR CONSOLE

- *Controls designed for operator comfort*

### COMFORT

- *Sound insulated*
- *Climate-controlled via in-wall combo heat / air-conditioning unit*



## Operator Console

