

# SEM816/822 Track Type Tractor



※Featured machines in photos may include optional equipment

**SEM816**  
**SEM822**

**Efficient:** The electronically controlled hydrostatic drive system and multi functional joystick provide high levels of performance and maneuverability.

**Comfortable Operation:** The cabin is ergonomically designed for increased operator comfort and visibility. The advanced monitoring system tracks machine operating conditions and keeps the operator informed of all vital machines functions.

**Reliable:** The proven hydrostat design along with world class pump and motors provide a highly reliable tractor. The undercarriage components are designed for longer life versus the leading competitor.

**Serviceability:** The SEM tractors are designed for easy access to reduce overall maintenance time. The machines electronic control module allows for quick troubleshooting.

**Website** <http://www.semmachinery.com>



*A Caterpillar Brand*

## Main Specification

Model	SEM816	SEM816LGP	SEM822	SEM822LGP
Operating Weight	17,230 kg	19,720 kg	23,680 kg	25,400 kg
Ground Pressure	68 kPa	31.5 kPa	70 kPa	39 kPa
Ground Clearance	410 mm	435 mm	394 mm	394 mm
Max.Slope	30°	30°	30°	30°
<b>Engine</b>				
Model	Weichai WD10G178E25	Weichai WD10G178E25	Weichai WD12G240E26	Weichai WD12G240E26
Flywheel Power	120 kW / 160 hp	120 kW / 160 hp	162 kW / 220 hp	162 kW / 220 hp
<b>Working Tool</b>				
Blade Type	SU	S	SU	S
Blade Capacity	4.3 m <sup>3</sup> ( S 3.4 m <sup>3</sup> )	3.4 m <sup>3</sup>	6.4 m <sup>3</sup> ( U 7.5 m <sup>3</sup> )	5.5 m <sup>3</sup>
Blade Width	3,140 mm ( S 3,490mm )	4,227 mm	3,720 mm ( U 4,015 mm )	4,617 mm
Blade height	1,240mm ( S 1,165mm )	1,000mm	1,511 mm ( U 1,420 mm )	1,345 mm
Max. Blade Digging Depth	430 mm	470 mm	563 mm	600 mm
Max. Blade Lift Ground Clearance	1,041 mm	1,055 mm	1,140 mm	1,165 mm
Max.Output Rimpull	280 kN	280 kN	350 kN	350 kN
Maximum Digging Depth Of Ripper	584 mm	N/A	650 mm	N/A
Maximum Clearance Under Tip	615 mm	N/A	640 mm	N/A
<b>Powertrain</b>				
Type	Electronic control, Dual-path, Hydrostatic Drive		Electronic control, Dual-path, Hydrostatic Drive	
Travel Speed- F/R	0 - 10 km/hr (Infinitely Variable Speed Control)		0 - 11.5 km/hr (Infinitely Variable Speed Control)	
Steering & Brake	Hydrostatic Steering, Wet, Multiple-Disc Brakes		Hydrostatic Steering, Wet, Multiple-Disc Brakes	
Minimum Steering Radius	3610 mm (Counter-rotated available)	3,740 mm (Counter-rotated available)	4,225 mm (Counter-rotated available)	4,300 mm (Counter-rotated available)
<b>Undercarriage</b>				
Track Shoe Width	510 mm	1,050 mm	560 mm	915 mm
Track Shoe Quantity	37 piece	42 piece	40 piece	45 piece
Length Of Track On Ground	2,430 mm	2,925 mm	2,948 mm	3,488 mm
Track Gauge	1,880 mm	2,300 mm	2,000 mm	2,340 mm
Track Roller Quantity	6/Side	7/Side	7/Side	8/Side
Carrier Roller Quantity	2/Side	2/Side	2/Side	2/Side
<b>Hydraulic System</b>				
Type	Pilot Control		Pilot Control	
Implement Hydraulic System Pressure	19 Mpa	19 Mpa	19 Mpa	19 Mpa
<b>Service Refill Capacities</b>				
Cooling system	45 L	45 L	45 L	45 L
Hydrostatic Oil	40 L	40 L	62 L	62 L
Implement Oil	60 L	60 L	110 L	110 L
Fuel	320 L	320 L	460 L	460 L
Pivot Shaft Case (each side)	1.2 L	1.2 L	0.8 L	0.8 L

## Optional Accessories

S =Standard, O =Optional, - =#N/A	816	816 LGP	822	822 LGP
WDEC (Tier II)	S	S	S	S
SU Blade*	S	-	S	-
S Blade*	O	S	O	S
U Blade	O	-	O	-
Coal Blade	-	-	O	-
SG Shoe	S	O	S	O
APEX Shoe	-	S	-	S
Carrier Roller	S	S	S	S
Track Roller	One side 6 Units	One side 7 Units	One side 7 Units	One side 8 Units
Hystat Powertrain	S	S	S	S
Normal Start (>= -20°C )	S	S	S	S
STD Cab	S	S	S	S
Drawbar	S	S	S	S
Cab Heater	S	S	S	S
Cab HVAC	S	S	S	S
Cold Start	O	O	O	O
Cold Weather Oil	O	O	O	O
Artic Oil	O	O	O	O
Rear Ripper w/3 Teeth	O	-	O	-
ROPS & FOPS	O	O	O	O

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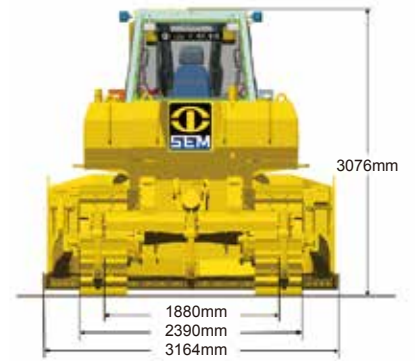
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# Dimensions

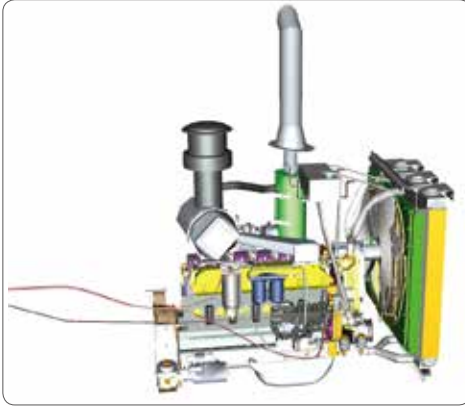
## SEM816 SEM816LGP



## SEM822 SEM822LGP



## Modular Radiator



- New advanced cooling system designed to meet -43°C to +50°C ambient temperatures capability.
- Modular designed radiator, easy to maintain, remove and repair.
- Radiator grill provides better heat dissipation, easy access for maintenance.

## Maintenance



- Electronic Control Module (ECM) fault diagnosis system, automatic diagnosis of eight key parameters.
- Monitoring system provides three levels of alarm, to indicate fault diagnosis.
- Hydrostatic system has longer service interval (2000 hrs), reduces maintenance time by 50%.
- Implement valve mounted outside of hydraulic tank provides easy access to check and service.

## Blade Options



Semi-Universal blade  
(with hydraulic tilt)



Straight blade



U Blade



Waste Handling Arrangement

## Optional Attachments



ROPS/FOPS Cab



Multi-Shank Ripper(3 ripper shanks)



Air Conditioning



Cold Weather /  
Arctic Oils

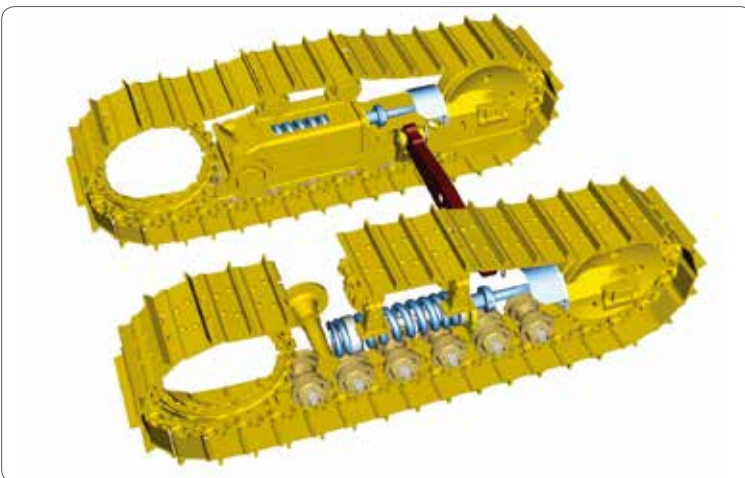
## Semi-Universal Blade



### Semi-Universal (SU) blade

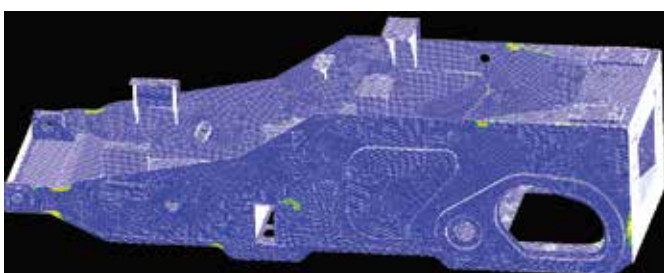
- SU blade combines the excellent penetration of the S blade and the high production capacity of the U blade.
- Designed for superior load retention and penetration in tightly packed materials.
- L-shaped push arms bring the blade closer to the machine, providing excellent maneuverability, balance and blade penetration.
- Blades feature a strong box section design, made from high tensile strength steel to stand up to the most severe applications.

## Undercarriage



- Undercarriage is provided by a world class supplier ensures high reliability and resistance to wear.
- Carrier rollers, track rollers and idle rollers are all maintenance free.
- Planetary final drive design delivers increased torque ratio for higher transmission efficiency and lower maintenance cost.
- Durable final drive bearings and multiple wet disc brakes provide reliability, reduce system heat and extend overall life.

## Structures



- Machine structures are analyzed using Finite Element Analysis (FEA) and On Machine Stress Analysis (OMSA) to identify and protect high stress areas.
- Advanced structure welding technique, relieving welding stress.

## Cat® Product Link™

Cat® Product Link™ will support your business, and accurately convey information of the equipment to relevant personnel in a timely and effective manner for your better equipment management.



## Hydrostatic Drive System



### Hydrostatic drive with electronic control technology

- Hydrostatic system delivers higher efficiency and maximum output traction force of 280KN. for 816, 350KN for 822. to
- Maintenance costs are reduced by 60% when compared with torque converter and transmission design. efficient
- Counter-rotation and power turn feature delivers excellent maneuverability on job sites.

## Comfortable Operation



- **Counter rotation**—Tracks counter rotate to provide best in class maneuverability.
- **Powered turn** —Machine maintains full power through turns to increase productivity.
- **Cruise control**—Operators can retain previous speed settings which makes operation easily.
- Multi-function joystick allows for counter-rotation, powered turn and cruise control.
- Pilot joystick control provides comfortable precise blade operation.