



**BREAKER
TECHNOLOGY,
INC.**

an Astec company

QS SERIES Scalers

The QS Series of Scalers takes the best of over 40 years of BTI mining equipment design and combines proven componentry with rugged construction.

Features & Benefits

Ready for the toughest conditions without need for any conversions or added guarding - this machine is built for the demands of mining.

Revolutionary Vibratory Pick Scaling Head

brings mechanical scaling to a new level by combining the action of a pry-bar, pick and breaker into a simple robust attachment. Results are production increases of up to 50%, extremely low operating costs, reduced operator fatigue and reduced stress to the carrier.

Purpose Built Telescopic Boom

The triangular design with 45' reach, incorporates three 94,000 psi yield strength, 4"OD/2"ID thick walled tubes. Weldment is CNC machined flat to accept the 5 outboard dual flat-roller bogie assemblies (no curved cups) that provide precision clearance and minimal boom play.

Heavy Gauge Steel Assembly

The vibratory scaling head, boom, upper frame and undercarriage are designed for tough mining environments, with heavy gauge steel assemblies throughout.

Massive Counterweight and Ample Storage

The massive counterweight and high capacity 269 gallon fuel tank are integrated and protected by a 3/4" steel plate back sheet. This combined with the square geometry of the chassis and the 360 degree continuous swing enables the unit to work with uniform stability in any direction without the need for stabilizers.

The entire right front corner of the machine is dedicated to storage providing ample space for tools and supplies.

The 269 gallon fuel tank capacity allows for 6 or more 8-hour shifts between fill-ups.

Ergonomically Designed Operator Cab

The operator station is designed to protect as well as provide the comforts and accessibility necessary to complete the equation for a highly productive unit. The cab meets or exceeds all regulatory standards. The cab, handrails, steps and skid resistant walkways are built to ensure operator safety.

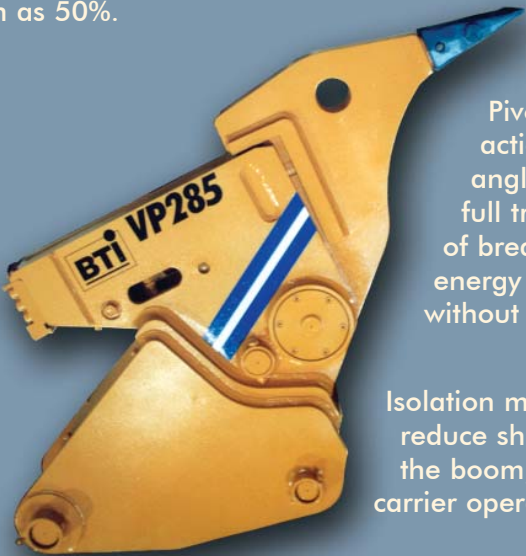


QS Series Scaler with VP Series Vibratory Pick Scaling Head



The patented BTi VP285 Vibratory Pick revolutionizes the approach to scaling. The VP285 is designed to provide efficient and increased production, reduce carrier operating costs and improve safety while addressing the rigorous demands associated with scaling operations.

The extra narrow profile, enclosed housing, massive pry-bar profile, floating breaker design, shock absorbing recoil system, and the anti-blank firing system combine to provide the most reliable and effective pick system available. Scaling production can be increased by as much as 50%.

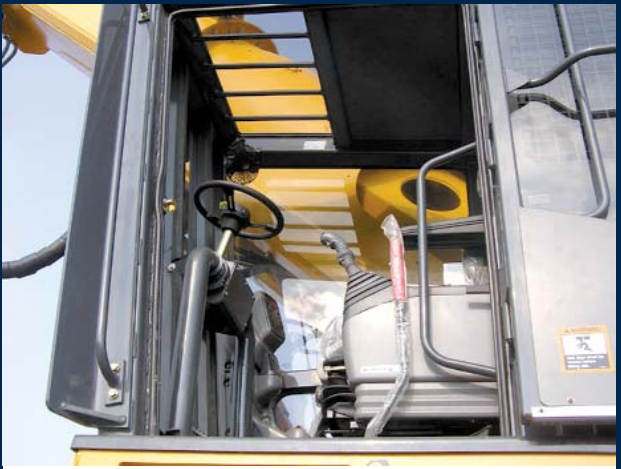


Pivoting tooth action at all angles provides full transmission of breaker impact energy to the tooth without binding.

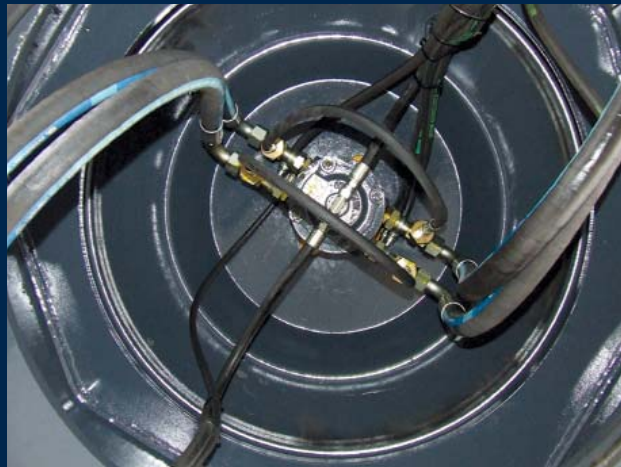
Isolation mounts reduce shock loads to the boom, reducing carrier operating costs.

The exclusive Breach Release System provides simple change of the two wear parts.

Flow Rate	10-15 gpm	38-58 lpm
Operating Frequency	730-1,120 bpm	
Impact Energy	100-335 ft lbs	135-455 joules



Optimal visibility in all directions from Operator's Cab.



Weld-free massive cast tower at base of swing mount attaches to the swing bearing and provides optimum strength and integrity.



CAM adjusted outboard bogie mounted dual guide wheels.
Sealed, twin spherical roller bearings allow for positive even loading.

330 degree dual boom rotation bearings distribute the rotation load evenly.



Mine duty, welded box section undercarriage designed for high shock loads seen in harsh scaling applications.



Dual gear boxes with single motor drive double the tooth engagement to reduce gear tooth loading.

QS Series Scalpers

Engine

Type	John Deere 6068H; air cooler; Tier II EPA certified off-road compliant	
Rated Power - SAE Net	177 HP	132 KW
Displacement	414 cu. in.	6.8 L
Fuel Consumption	5.0-7.5 gal/hr	19-28 L/hr
Engine Air Intake	Dual stage with inner safety element	
Electrical System	24 volt, 45 amp alternator	
Batteries	Dual; 180 min. reserve capacity	
Lighting	8; 60W Halogen; cab and boom mounted	

Power Train

Undercarriage	Welded box section with cast swing tower	
Transmission	Two stage hydro-statically driven axles; 4-wheel drive; 2-wheel steering	
Axles	2;	101,000 lb 45,813 kg
Axle Oscillation	Dual; 4 degrees, front & rear;	
Suspension	Nitrogen charged strut stabilization system	
	4 Nitrogen charged suspension struts	
	100,000 lb	45,359 kg
Brakes - Service	4 wheel independent, Hydro-dynamic	
Brakes - Emergency/Park	4 wheel independent, outboard mounted, spring-applied hydraulic release (SAHR) wet disk	
Tires	4; 18:00 x 25, E4, 40 ply Pneumatic	
Track Width	139"	3.5 m
Tractive Effort	55% Grade	
Gradability	35%, limited by traction	

Hydraulic System

Load Sensing	Auto engine/hydraulic match to demand	
Main Pump	2; Hitachi variable displacement axial-piston	
Maximum Flow (2 x 57.9 gpm) =	115.8 gpm	438 lpm

System Operating Pressures

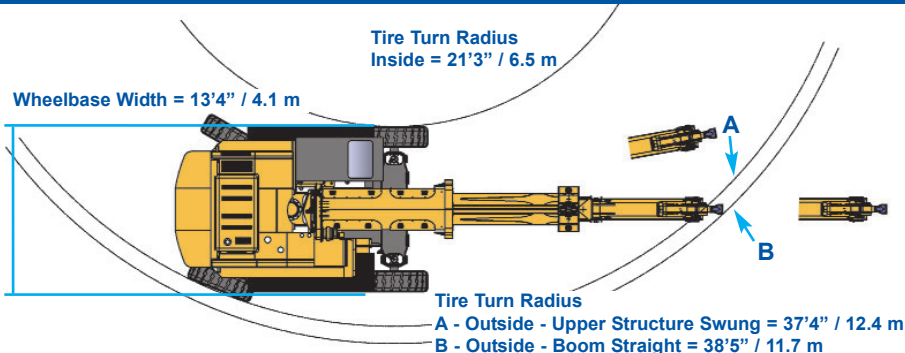
Main Circuit	5,000 psi	344.7 bar
Hydrostatic Propel Circuit	5,000 psi	344.7 bar
Swing Circuit	4,270 psi	294.4 bar
VP Pick Circuit	2,400 psi	165.5 bar
Boom Hoist Circuit	5,000 psi	344.7 bar
Boom Extension Circuit	3,000 psi	206.8 bar
Boom Rotation Circuit	3,000 psi	206.8 bar
Tilt Circuit	5,000 psi	344.7 bar

Capacities

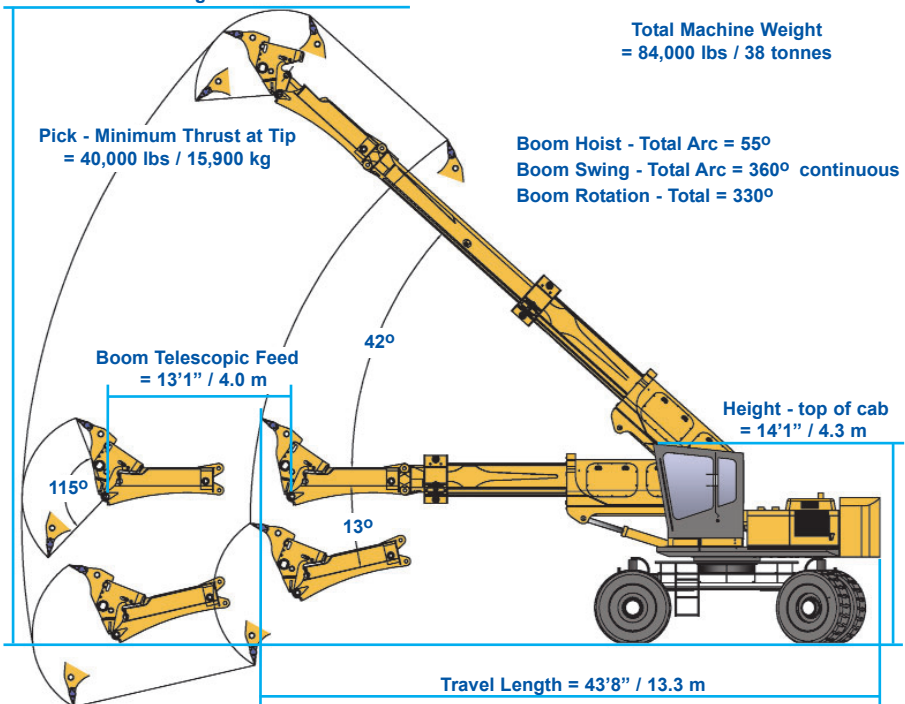
Fuel Tank	269 gallons	1,018 litres
Cooling System	25 quarts	23.7 litres
Engine Lubrication	26 quarts	24.6 litres
Hydraulic Tank	66 gallons	250 litres
Swing Drive	8 quarts	7.6 litres
Axle (per axle)	16.5 gallons	62 litres
Hydrostatic Drive (per drive)	1.6 quarts	1.5 litres

Cylinders

Boom Hoist (2)	6"	152.4 mm
Boom Extension	5"	127.0 mm
Tilt	6"	152.4 mm



Maximum Reach Height = 45'1" / 13.7 m



All dimensions and specifications are approximate and subject to change without notice.

Swing & Boom Systems

Swing Bearing - Upper	56" / 1.4 m diameter, sealed internal tooth; 360 degree continuous rotation with grease bath
Swing Drive & Brake	Hitachi pinion drive, hydraulic motor with gear box reduction (10.6 rpm / 79,500 lbf torque) and swing brake
Rotation Bearings (Boom)	2; 46" / 1.2 m diameter, 330 degree rotation, sealed
Rotation Drive & Brake	2; HTLS gear boxes with gear reduction and SAHR brakes. HSLT hydraulic motor drive

Work Station

Cab - enclosed	Sound suppressed, 85 db, FOPS/FGOS certified, HVAC with automatic control, MSHA certified
Instrumentation	Monitor system, complete machine system tracking and diagnostics capability downloadable to a PC with status lights, alarms and performance recording
Seating	Deluxe cloth-suspension reclining back, adjustable headrests and armrests with joystick controls and accessory function switches

Options

Dozer Blade - dual hydraulic single acting cylinders	ANSUL System - dual actuators, 6 nozzle
Catalytic Exhaust Purifier with muffler and Firwing wrap	Tilting Cab
Auto Lube System - central for boom & pick, or pick only	

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