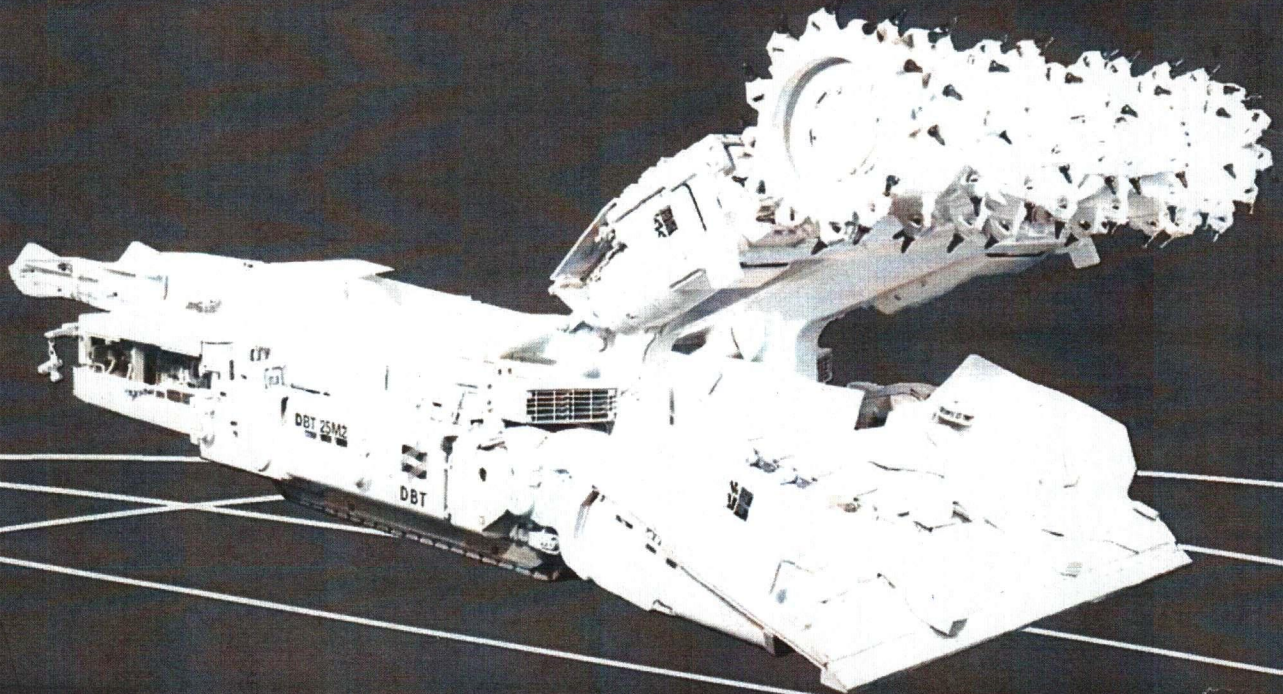


Continuous Miner Model 25M2

DBT

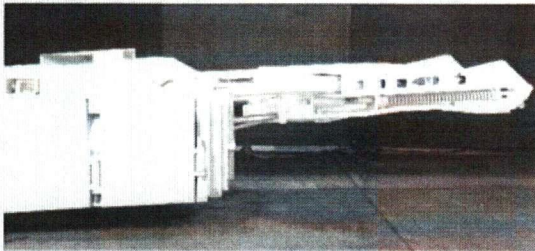
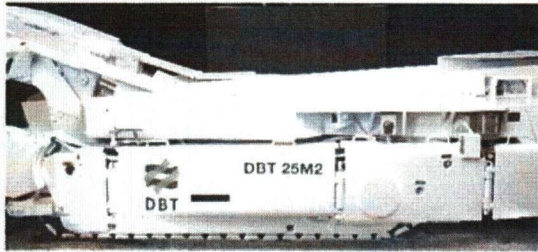
- Proven design, enhanced to provide maximum productivity, availability and safety
- Designed for mid-seam mining applications
- Wide conveyor for maximum loading rates
- Wide crawlers for maximum penetration and low ground pressure
- Proven powerful 2 x 200 hp / 131 kW cutter head
- Total continuous power 635 hp / 474 kW
- Total weight (mass) 125,000 lbs. / 56,700 kg
- Top mounted flooded bed dust collectors available
- Radio remote control with self diagnostics available



Mining to Success

DBT Model 25M2 Continuous Miner

The DBT Model 25M2 Continuous Miner is a full seam ripper type continuous miner. It cuts material from the solid face with chainless cutting drums. The 25M2 sumps at the top of the seam and rips downward to the mine floor. A CLA type gathering head (3 or 6 – finger CLA with replaceable tips) loads the mined material on the conveyor.



■ Traction System

The machine is propelled by two (2) 50 hp (37 kW) direct current motors. Control of the machine is achieved by an AC/DC solid state drive providing the operator with variable speed operation of the tram. The traction in high speed is infinitely variable from 0–75 fpm and the intermediate speed runs 0–30 fpm. The sump speed drive is infinitely variable at the operator's station with speeds ranging from 0 to 15 fpm. The selected speed is stored in memory till changed by the operator.

The drive train originates at the two (2) 50 hp (37 kW) motors located inside the crawlers on either side of the machine. Power is then passed forward to a gear transmission driving the planetary gear cases, which then drives the 20" crawler tracks.

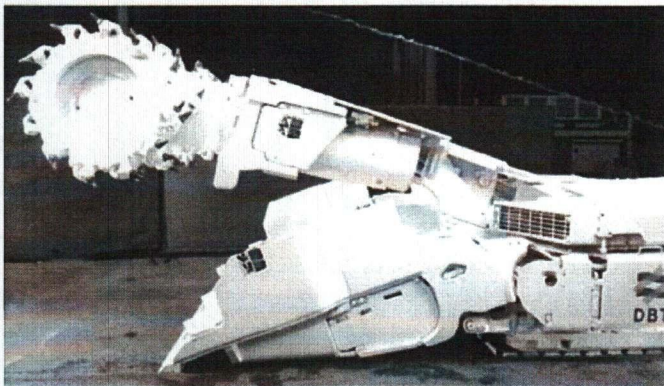
■ Loading and Conveying

Power for the gathering head and the conveyor originates from two (2) 45 hp (34 kW) electric motors attached directly to the gathering head input case. Torque is passed from the input cases to the gathering head gear boxes through protective "shear" shafts in the motors. The right and left-hand gathering head gear cases are connected with a foot shaft which drives the conveyor chain. The chain is reversible so as to remove debris restricting the conveyor chain.

The material after loading on the conveyor chain travels to the rear of the 25M2 on a noise dampened conveyor deck. The discharge conveyor swings on an axis located on the conveyor intermediate section, capable of swinging 45 degrees right or left of the conveyor centerline. The gathering head and the conveyor deck surfaces are plated with an abrasive resistant material.

■ Cutting Head

The chainless cutting head hinges directly to the main frame. The head is raised and lowered by two (2) heavy duty hydraulic load locked cylinders which are located on each side of the cutting head and are mounted between the main frame and the cutting head. Cutting power is supplied by two (2) 200 hp (149 kW) electric motors, which transmit power to the head drive gear cases. The two (2) electric motors are mounted on either side of the cutting head frame. The left and right hand gear drives are connected together at the cutting head by the center drum. This arrangement allows the power of both motors to be available at any point along the cutting head.



Electrical

The electrical portion of the 25M2 consists of start/stop control and protection for the eight (8) electric motors along with the machine lights. The total machine power is 635 hp (474 kW) and is comprised of the following motors:

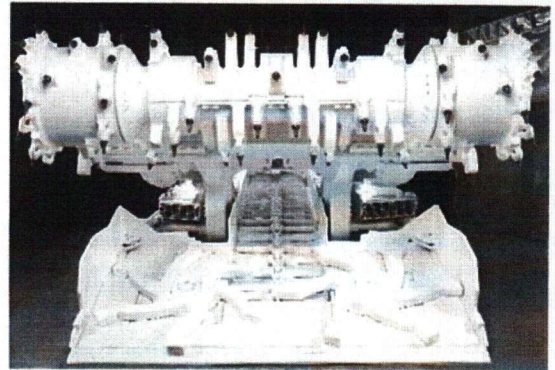
Function (60 Hz.)	Qty.	Size	Type
Traction	(2)@	50 hp / 37 kW each	DC
Pump Drive	(1)@	45 hp / 34 kW	AC
Cutting Head	(2)@	200 hp / 149 kW each	AC
Gathering Head & Conveyor Drive	(2)@	45 hp / 34 kW each	AC
Dust Collector	(1)@	30 hp / 22 kW (6000 cfm)	AC
	(1)@	30 hp / 22 kW (8000 cfm)	AC

Hydraulic

Total machine hydraulics are operated by one (1) two-stage, fixed displacement gear pump. One stage supplies 32 gpm @ 3500 psi to the cylinder functions and the other section supplies 4 gpm @ 600 psi to the pilot functions. The main hydraulic tank has a capacity of 80 gallons. The main control valve is a combination of open and closed center and has the option for solenoid control for use with the radio option. Adjustable relief valves mounted in the main control valve achieve system protection.

Electrical System

The electrical system of the 25M2 Continuous Miner is powered by 950V 60 cycle. The motors are controlled by vacuum contactors. Motor overloads are sensed by three phase current transformer modules with thermal and instantaneous protection. The microprocessor based diagnostics package is supplied with a blue LCD display, that is mounted at the back of the machine, which provides the operator with fault information and machine modes.



Dust Collector Specifications

Duct

- Inlet: Chassis top mounted (6,000–8,000 cfm)

Scrubber Components

- Screen: Stainless steel mesh
- Demister: Corrugated demister blades in a one – piece integral unit
- Sprays: Two (2) sprays. Spray manifold set at 50 psi requires 4 gpm
- Sump strainer: Stainless steel with 100 micron diameter holes
- Jet pump: 1" size provides 12 gpm suction capacity
- Pressure reducing valves: One set at 40 psi

Fan

- Fan: Type - axial vane
- Rated flows - available: 6,000–8,000 cfm
- Motor: (1) Air-cooled, 30 hp at 3,600 RPM

Fan Controls

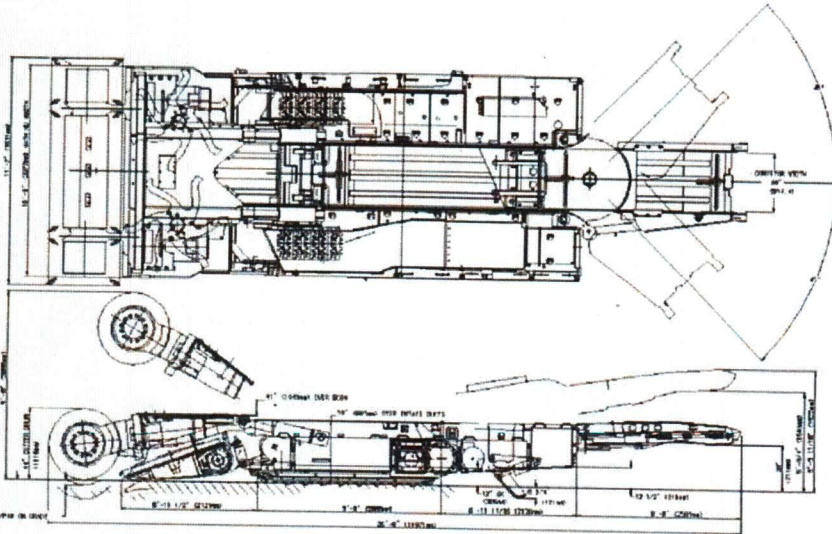
- Automatic: System interlocked and starts with cutter
- Timed fan shut down, 7 seconds
- Manual motor test button
- Master water/system shut-off valve

Water Requirements

- Total - 30 gpm at 50–100 psi
- Scrubber: 8–10 gpm @ 50 psi



■ The 25M2 – For mid-seam Success



■ Specifications (all horsepower ratings are continuous)

Maximum mining height	114" (2.9 m)
Production capacity (tpm)	15–25 UST (14–23 metric tons)
Total power	635 hp (474 kW) without fan
Machine dimensions	35' 8" x 10' 5" x 39" Transport (10,871 x 3,175 x 991 mm)
Bumper to face	26' 2" (7,976 mm)
Ground clearance	9"–12" (229 mm–305 mm)
Weight	125,000 lbs. (56,700 kg)
Cutting diameter	40"–44" (1,016–1,117 mm)
Cutting width	11' 7" (3,530 mm)
Cutting power	400 hp (298 kW)
Loading method	3 or 6 – finger CLA
Conveyor width	36" (914 mm)
Conveyor depth (min.)	12" (305 mm)
Loading power	90 hp (67 kW)
Traction speed	0–75 fpm (0–0.38 m/s)
Traction power	100 hp DC (75 kW)
Crawler width	20" (508 mm)
Ground pressure	27.3 psi (188 kPa)
Hydraulic system	Gear 3,500 psi (241 bar) max.
Hydraulic power	45 hp (34 kW)
Dust suppression	Wet bed scrubber
Scrubber capacity	6,000 or 8,000 cfm (2.8–3.8 m ³ /s)
Electrics	950 V – Vacuum contactors
Radio control	Processor-based control full diagnostics

Nr. UST 384/e - UWW - 09/04

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SM 325793
 was mod 25m-2 Bucyrus

Cat[®] CM230

Continuous Miner

Specifications

Operating Dimensions

Mining range (recommended)	1 219 - 2 438 mm (48 - 96 in)
Minimum height over cutting boom assembly	1 092 mm (43 in) (with 305 mm (12 in) ground clearance)
Maximum reach	2 934 mm (115.5 in) (1 118 mm (44 in) cutting drum and 305 mm (12 in) ground clearance)
Ground clearance	229 mm or 305 mm (9 or 12 in) (229 mm (12 in) requires 76 mm (3 in) lift kit installation)
Length rear bumper to bit tip	8 153 mm (26 ft 9 in) (with 1 118 mm (44 in) dia. cutting drum)

Transport Dimensions

Frame width (including rub rails)	3 190 mm (10 ft 5.75 in)
Overall length	11 010 mm (36 ft 1.5 in) (with 1 118 mm (44 in) dia. cutting drum)
Height over scrubber duct	991 mm (39 in)
Weight (total)	56.7 tonnes (125,000 lbs)

Cutting Unit

Cutting drum diameter	1 016 - 1 118 mm (40 - 44 in)
Cutting drum bit speed	597 fpm (57 rpm) 182 m/min (with 1 016 mm (40 in) dia. cutting drum)
Cutting drum width	3.53 m (11 ft 7 in)
Cutting drum power	2 x 149 kW (200 hp) (continuous rating) 2 x 164 kW (220 hp) (one-hour rating)
Optional cutting motor	2 x 186 kW (250 hp) (continuous rating)

Loading Unit

Loading method	3 to 6 finger cla
Conveyor width	914 mm (36 in)
Conveyor speed	475 fpm (145 m/min)
Conveyor depth	152 - 305 mm (6 - 12 in)
Loading capacity	18 - 23 tonnes/min (20 - 25 tons/min)
Conveyor power through cla's	2 x 34 kW (45 hp) (continuous rating) 2 x 41 kW (55 hp) (one-hour rating)

Traction Units

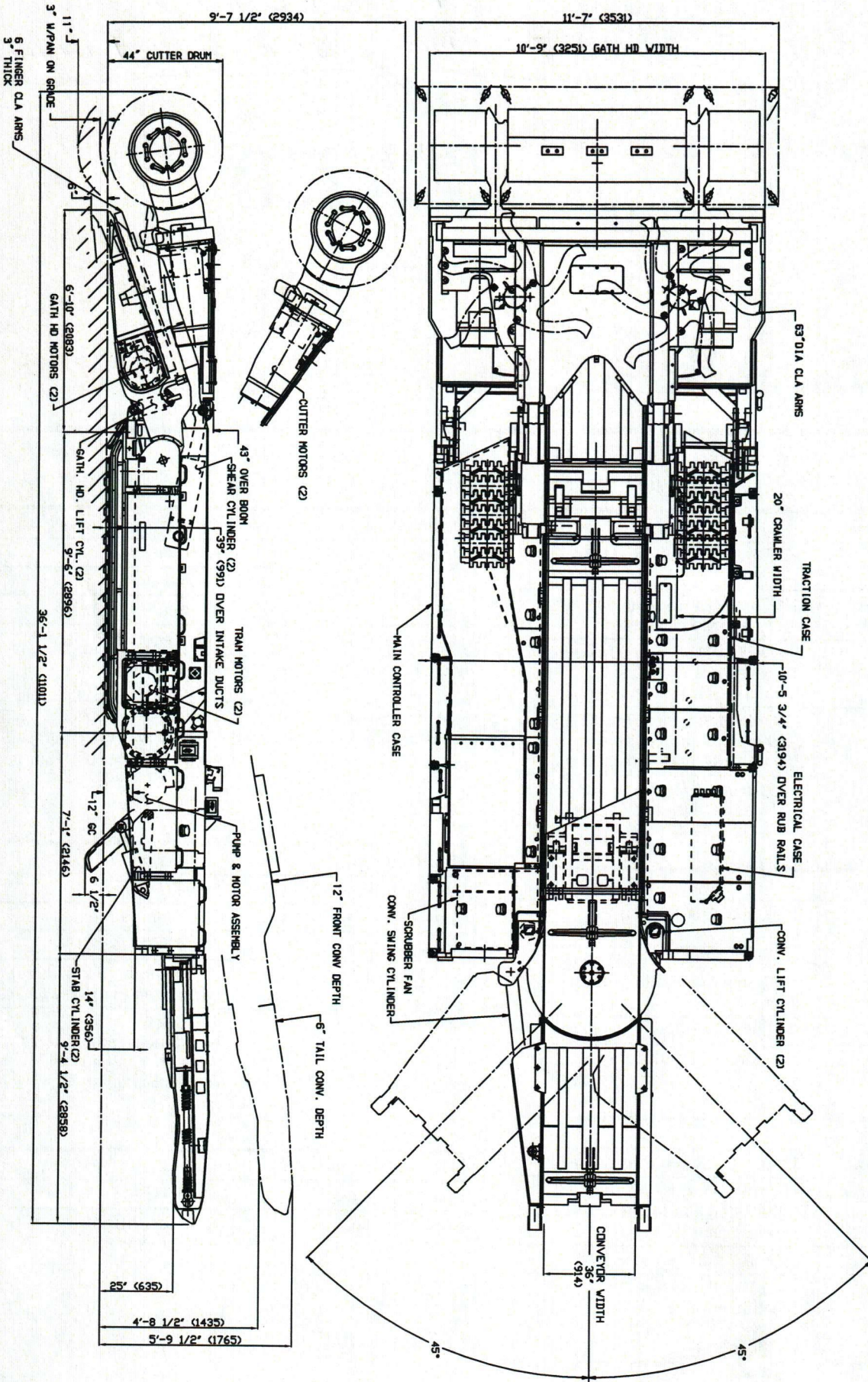
Crawler chain width	508 mm (20 in)
Crawler assembly length	2 900 mm (9 ft 6 in)
Ground pressure	188 kPa (27.3 psi)
Crawler speed	0 - 23 m/min (0 to 75 fpm) (with heavy-duty crawler system)
Traction power	2 x 37 kW (50 hp) DC (continuous rating) 2 x 45 kW (60 hp) DC (one-hour rating)

Electrical System

Machine voltage	950 VAC
Control system	Processor based/ radio remote control



Continuous Miner—CM230



Continuous Miner—CM230

Hydraulic System

Hydraulic pump unit	Tandem gear pump 220 bars (3,200 psi)
Hydraulic pump power	1 x 34 kW (45 hp) (continuous rating) 1 x 41 kW (55 hp) (one-hour rating)

Optional Dust Suppression

Scrubber type	Wet bed
Scrubber capacity	2.8 to 3.8 cms (6,000 to 8,000 cfm) 22 kW (30 hp)

Total Installed Power

474 kW (635 hp) (continuous rating w/o scrubber)
541 kW (725 hp) (one hour rating w/o scrubber)
