



90 SERIES TOW CUTTER

Maximum Capacity: 6,000,000 total denier @ 85mm blade exposure & 51mm cut-length

Maximum Tow Speed: 350 meters per minute

Motor/Drive:

- Variable speed AC inverter drive mounted on cutter
- 20/30 HP (15/22.5 kW), energy efficient, inverter capable motor
- Cutter Control Console mounted on cutter
- Holding Brake
- Double Reduction Belt driven

Voltage: 460/380 Volts, 3Ph, 60/50Hz

Tow Height: 1,220mm (48") alternate heights available

Process direction: Right to Left **or** Left to Right

Blade Exposure: 85mm

Controls: Operator console mounted to the 90 Series cutter, operator functions include:

- **Start**- push button
- **Run/Jog** - Selector
- **Stop** - push button
- **% Speed Control** - potentiometer
- **Emergency Stop** - push/pull button
- **Brake** - selector switch
- **Power On** - light
- **Speed** - Digital Speed Meter
- **Presser Wheel** – adjustable regulator and gauge
- **Presser Wheel In** and **Out** – selector switch
- **Reel Up/Down** - selector switch (used only on RAD equipped cutters)
- **RAD Operate** - push button (used only on RAD equipped cutters)
- **Cutting Load Meter** – digital load display/alarms

Special features integrated on the DM&E 60 Series Tow Cutter include:

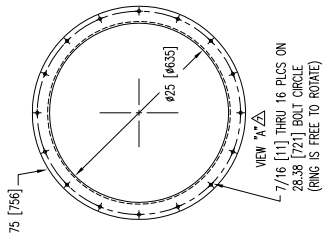
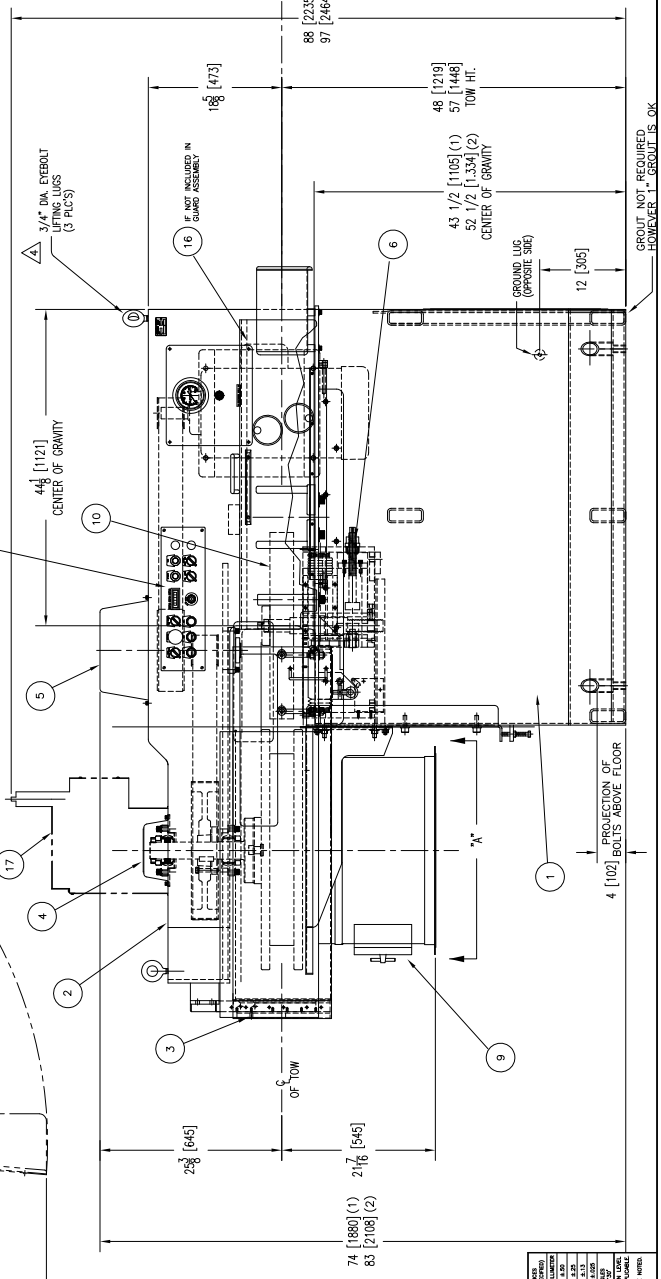
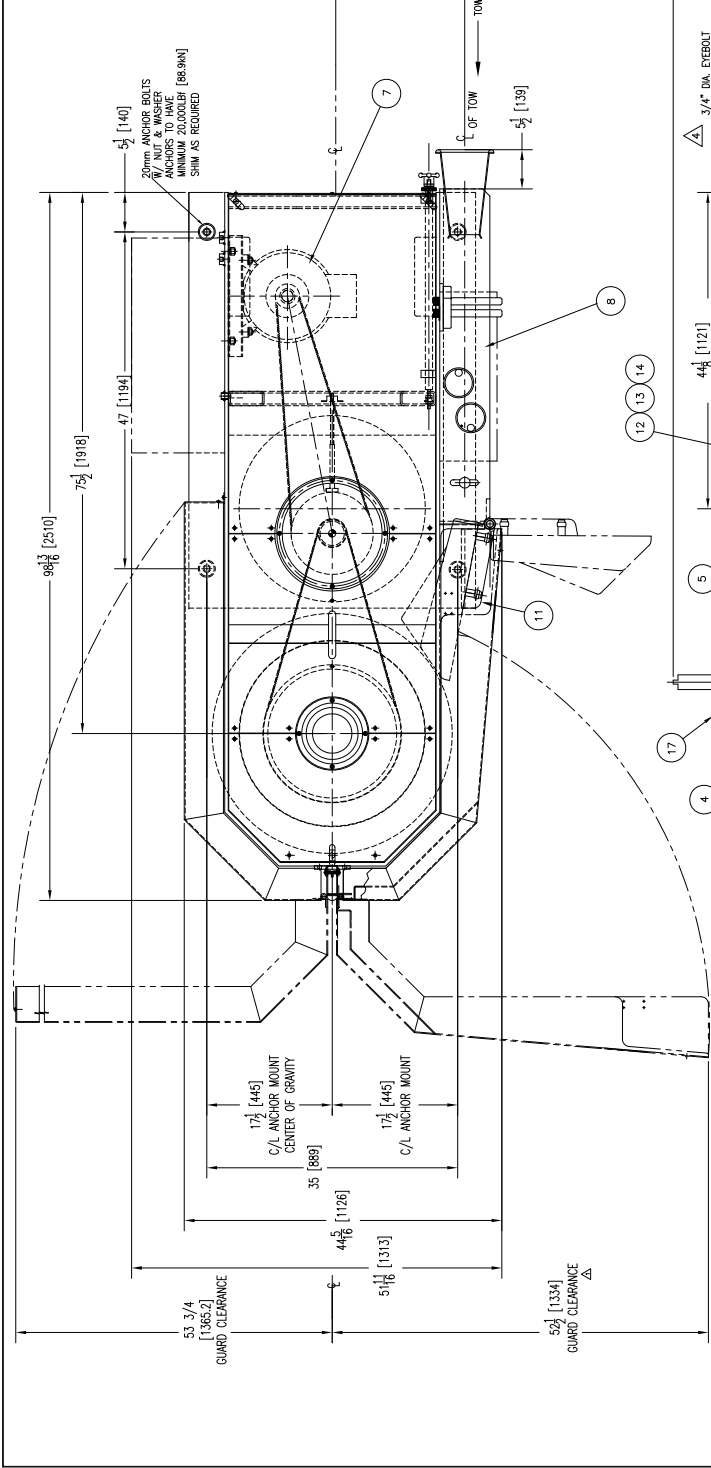
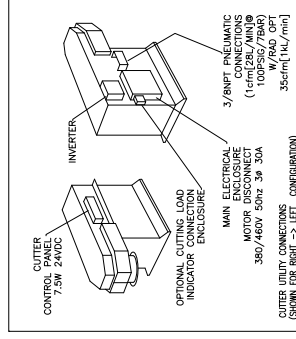
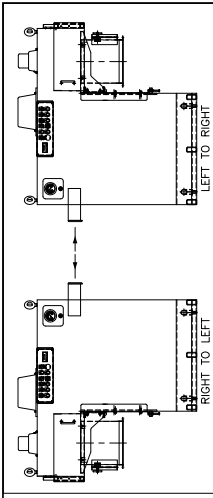
- 660mm (26") diameter pneumatically operated presser wheel
- Easy access presser wheel adjustment
- Enhanced tow guide system trumpet guide
- Pneumatic Holding Brake
- Monopost design
- Swing-open front reel guard with safety interlock and observation window
- Rear reel guard with observation window
- Stainless discharge duct
- Stainless steel externally adjustable doff plate
- Carbon steel construction with powder coat protective finish
- DM&E 90 Series Tow Cutters are supplied completely assembled, ready for customer installation less radial blade cutter reel(s) and blades

DM&E CORPORATION

www.dmecutter.com

PO BOX 580 SHELBY, NC, USA 28151-0580

PH: 001-704-482-8876



- (1) 48" [1219] TOW HEIGHT
- (2) 57" [1448] TOW HEIGHT

NORMAL LOAD MAXIMUM @ MAX TENSION 450 Lbf [2.0kN]
 MAXIMUM (TOW WRAP) 2000 Lbf [9.0kN]

- 15 TOOL KIT NOT SHOWN
- 18 INTERCONNECT SCHEMATIC NOT SHOWN

NOTES:
 1. TOTAL WEIGHT OF CUTTER 4200 APPROX LBS.[1909.1kg]
 2. RIGHT TO LEFT OPERATION SHOWN.

DMRE	
TYPE 90 SERIES CUTTER MAIN ASSEMBLY	
DATE	DRW NO.
REVISION	REV.
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
DRAWING NUMBER: 800-046-D	
REV: 7	

7	PLG	DEPTH	DRIFT	USE	7/16	INTERCONNECT
1	16	1.5	1.5	16	1.5	1.5
2	16	1.5	1.5	16	1.5	1.5
3	16	1.5	1.5	16	1.5	1.5
4	16	1.5	1.5	16	1.5	1.5
5	16	1.5	1.5	16	1.5	1.5
6	16	1.5	1.5	16	1.5	1.5
7	16	1.5	1.5	16	1.5	1.5
8	16	1.5	1.5	16	1.5	1.5
9	16	1.5	1.5	16	1.5	1.5
10	16	1.5	1.5	16	1.5	1.5
11	16	1.5	1.5	16	1.5	1.5
12	16	1.5	1.5	16	1.5	1.5
13	16	1.5	1.5	16	1.5	1.5
14	16	1.5	1.5	16	1.5	1.5
15	16	1.5	1.5	16	1.5	1.5
16	16	1.5	1.5	16	1.5	1.5
17	16	1.5	1.5	16	1.5	1.5
18	16	1.5	1.5	16	1.5	1.5
19	16	1.5	1.5	16	1.5	1.5
20	16	1.5	1.5	16	1.5	1.5
21	16	1.5	1.5	16	1.5	1.5
22	16	1.5	1.5	16	1.5	1.5
23	16	1.5	1.5	16	1.5	1.5
24	16	1.5	1.5	16	1.5	1.5
25	16	1.5	1.5	16	1.5	1.5
26	16	1.5	1.5	16	1.5	1.5
27	16	1.5	1.5	16	1.5	1.5
28	16	1.5	1.5	16	1.5	1.5
29	16	1.5	1.5	16	1.5	1.5
30	16	1.5	1.5	16	1.5	1.5

SCROUT NOT REQUIRED, HOWEVER, 1" SCROUT IS OK

Cutting Load Meter (CLM) for Cutters

The DM&E Cutting Load Meter (CLM) monitors cutting forces in specially equipped tow cutters. Cutting load in a radial blade cutter is a combination of two forces. The first is the force required to cut the fiber. Second, additional forces transport the cut staple toward center of the cutter reel for discharge. Total denier, denier per filament, cut length, crimp, material, and the pin shape are only some of the factors that influence each value. The CLM measures and displays these combined forces created during the cutting process.

Blade dulling increases cutting load. Dull blades cause defective cutting, and defective fiber. Blade changes can be coordinated with blade wear by measuring the cutting load with the CLM. Knots or other obstructions can also cause a high load.

A load cell within the modified presser wheel mechanism senses the cutting load. The value is measured constantly and displayed on a digital meter. No tare value is required and the display may be in Newtons or Pounds. Alarm points can be set at the meter and integrated into the cutter stop circuit. An additional alarm set point can initiate a warning light.

In a typical installation the Signal alarm is set at a preliminary load and a Stop alarm is set at a higher setting to stop the cutter. The Signal alarm remains on until reset.

CLM features:

- Digital display of load. Pounds (lbf) or Newtons (N).
- Two alarms may be interfaced with tow cutter operation
- Alarm: One signal light and one NC relay for the stop circuit.
- Each alarm is adjustable from the meter panel.
- 120/220V/24VDC Power options.
- 4-20ma analog output.

Requirements:

- Load cell installation standard on some cutters (others quoted separately)
- 120/220VAC 5A Power source. Installation on new cutters includes power source.

60/90 Series Reel Attachment Device (RAD).

The DM&E Reel Attachment Device (RAD) is a pneumatically driven drawbar with tightening and releasing controls that reduces operator effort and time required for cutter reel exchange.

PURPOSE:

The DM&E **Reel Attachment Device (RAD)** provides the cutter operator with a mechanism to easily and safely attach a 60 Series cutter reel to the mainshaft of a 60 Series Cutter. When used with a DM&E Reel Installation Table or other suitable reel transport apparatus, the RAD will permit a trained cutter operator to exchange cutter reels in less than two minutes.

HOW IT WORKS:

The RAD is an electrically controlled, pneumatically powered apparatus mounted on the cutter directly above the cutter mainshaft. The RAD raises and lowers a drawbar mounted in the center of the mainshaft. A switch limits lower travel of the drawbar. Upper travel is stopped when proper tension is applied to the drawbar. A 0.56 kw pneumatic motor powers drawbar movement. A clutch is integrated into the system to disengage the motor when the RAD is not in operation. Special cutter reel drive hubs are required for use with the RAD.

