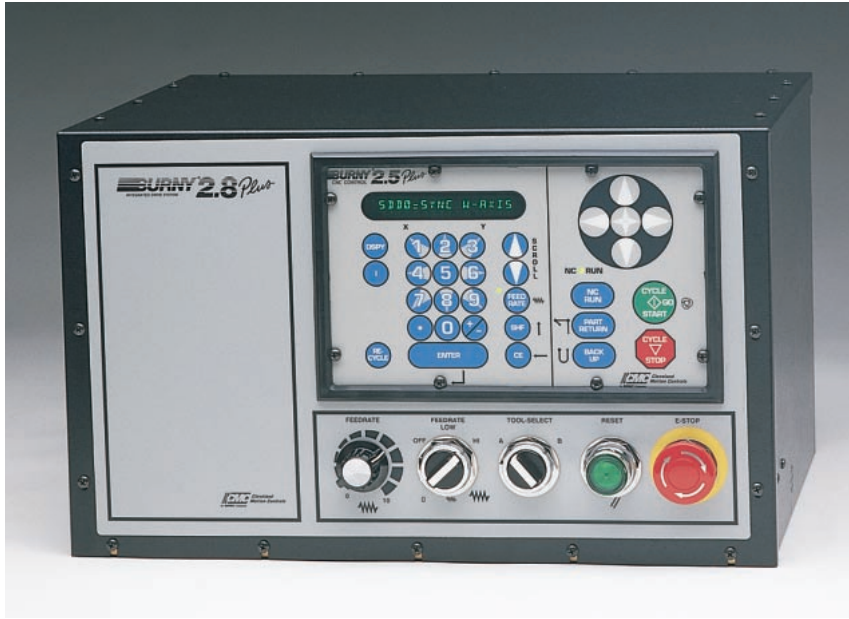


# BURNY 2.8 Plus

INTEGRATED DRIVE SYSTEM



## Performance Benefits

The new BURNY 2.8 Plus Integrated Drive System provides companies with a complete electronics package in one cabinet, combining shape-cutting, direct computer download, and a built-in drive amplifier package in one enclosure. It is available from the Burny Division of Cleveland Motion Controls, internationally recognized as leaders in the development of controllers for the shape-cutting industry, improving productivity and reducing costs.

The BURNY 2.8 Plus offers users single-source control system responsibility and single-source reliability. It is easy to operate and offers a variety of design features to increase shape-cutting quality and accuracy, increasing productivity and reducing production costs.

The BURNY 2.8 Plus Integrated Drive System is available for use with new machinery or to retrofit older shape-cutting machines.

## Design Features

The BURNY 2.8 Plus Integrated Drive System includes a fully-integrated new BURNY 2.5 Plus Shape-Cutting Control, and a fully-integrated ServoPak® pulse-width-modulated Drive System.

The BURNY 2.8 Plus integrates the new BURNY 2.5 Plus Control, with a processor that is over 300% faster than its predecessor. It has 512K of part program storage. In addition, the new BURNY Plus Control uses FLASH memory instead of EPROMS, enabling users to easily connect a laptop computer and download new software or new part programs.

The BURNY 2.8 Plus Integrated Drive System is recommended for almost any shape-cutting machine with plasma cutting processes.

## CONTROL SYSTEM

BURNY 2.8 Plus combines shape cutting, direct computer download, and multi-axis drive control for plasma cutting in one package

- Reduces costs and increases shape-cutting productivity
- Provides single-source control & drive system responsibility
- Integrates a full-featured BURNY® Plus Control that is over 300% faster; including faster processing, downloading and kerf calculation
- Incorporates a fully-integrated 2-axis drive amplifier system
- Available with an optional fully-integrated 3-axis drive amplifier system
- User-friendly

## CONTROL SYSTEM

**Combines shape-cutting, direct computer download, and multi-axis drive control for plasma cutting in one package**

### Complete Electronics Package

The BURNY 2.8 Integrated Drive System includes a CNC, drive amplifiers, motors and gear reduction assemblies, cables, feedback assemblies and cabinet. The TENV enclosure also includes a full functioning operators station for tool control.



### Full Function Shape-Cutting Control

The BURNY 2.8 Plus Integrated Drive System includes a fully integrated new BURNY 2.5 Plus Control, one of the easiest, fastest and most cost-efficient shape-cutting controls available today.

Numerous standard features include RS 232/422 communications and 512K of non-volatile memory, chain cutting, automatic plate alignment, a built-in library of 53 pre-programmed shapes, and an independent Jog Keypad. With the BURNY 2.5 Plus, users can create and modify their own programs and send and receive part programs from an off-line center.

### Fully-Integrated Two-Axis Drive System

The BURNY 2.8 Plus Integrated Drive System also includes a fully-integrated two-axis ServoPak® pulse-width-modulated drive system. With fast response, low power consumption, and a wide dynamic speed range, this servo drive provides reliable performance and improved cut quality. The drive amplifiers are mounted to the rear with the heat sinks external.

### Available With A Fully-Integrated Optional Three-Axis Drive System

For larger gantry shape-cutting machines, the BURNY 2.8 Plus is also available with a fully-integrated and synchronized three-axis ServoPak Drive System.

### CNC STANDARD DESIGN & CONSTRUCTION FEATURES

- Includes a microprocessor-based BURNY 2.5 Plus Shape-Cutting Control with Jog Keypad. (See the BURNY 2.5 Plus data sheet for a complete listing of specifications.)
- Membrane front panel with ISO 7287 international standard symbols.
- Two-axis contouring control.
- Executive stored in Flash memory.
- State-of-the-art displays:
  - Full ASCII vacuum fluorescent display.
  - High intensity LED indications.
- State-of-the-art IC's, LSI and VLSI
- 50/60 Hz 115V/230V power requirement.
- TENV cabinet.
- 110 degree F ambient (45 degree C).
- Sealed digital feedback encoders (optional).
- Non-volatile part storage:
  - No part storage loss if power fails.
  - Battery backup.
- Self check on power-up.
- Audio indication for key pushed.

### CNC STANDARD OPERATIONAL FEATURES

- Prompting:
  - User-friendly in English language with other languages optional.
  - 16 character readout displays prompts.
- Built-in standard straight cut mode.
- Metric/English capability — selectable
- Linear and circular interpolation, single block full (360°)
- Part storage capacity: 512K non-volatile RAM
- Choice of automatic, manual & test run with manual entry:
  - Selectable preheat time with override capability.
  - Purge delay for plasma systems.
  - Selection of number of parts to be cut.
- Displays:
  - Absolute dimensions
  - Machine status
  - Program status
  - Cutting status
  - Digital cutting speed
  - Preheat/purge time delay
  - Memory status

- Memory remaining
- Program length
- Automatic accel/decel
- Corner slowdown:
  - Selectable angle.
  - Output available to freeze plasma height.
- Return to start position (home) and two pierce points.
- Automatic cut row count.
- Full backup along cut path.
- Manual "lead-in" capability.
- Automatic jog return to cutting path.
- Dynamic repositioning (move over) during test or single mode.
- X/Y jog control control — momentary or latching with accel/decel.
- Single step mode — for verification of program path.
- Selectable cutter compensation.
- MDI (Create/Edit).
- Tool output control (four)
- RS-232C serial communication interface.
- Selectable baud rate.
- Serial communication software: Enhanced "part calldown" capability.
- Two machine home positions.

### DIAGNOSTICS & CALIBRATION

- Memory test — verifies executive operating program and part memory.
- Variable display of internal values for diagnostics purposes.
- Self-calibrating of servo speed.
- Servo loop adjustments for electro/mechanical compensation.

### SERVO DRIVE FEATURES & SPECIFICATIONS

- For low operation, (20% of maximum speed), the industry standard H-bridge mode is used, providing high torque and high gain to meet the demands of low speed contouring.
- At high speed operation, the drive switches to "Uni-switching," resulting in lower switching losses, lower ripple current, higher gain/bandwidth, lower electromagnetic interference (EMI), less power dissipation, less motor heating, and better system response.
- Optional feedback packages includes two encoders, two mounting brackets, two gears, and two cables.

- Two-Axis Drive Specifications:
  - One complete drive included in same enclosure as CNC:
    - (2) 5 amp continuous /10 am peak PWM PC cards, including output transistors, heat sinks, and all adjustment hardware.
    - (2) (Armature and tach) cable connectors mounted on axis card.
    - (1) 30 amp power supply card.
    - (1) Unfiltered DC power supply.
    - (1) Main control relay for machine power.
    - (1) Complete wiring harness.
  - Two sets of cables and amp to motor/tach, including connector at amp end (maximum 20 foot standard).
  - Two drive assemblies consisting of:
    - (1 ea) 70 inch ounce motors with tach.
    - (1 ea) Set of reducing pulleys and belts.
    - (1 ea) 33.9:1 gearboxes (standard ratio).
    - (1 ea) Motor to gearbox mounting brackets.
  - Maintenance and instruction manual.
- Optional Three-Axis Drive Specifications:
  - One complete drive included in same enclosure as CNC:
    - (3) 5 amp continuous /10 am peak PWM PC cards, including output transistors, heat sinks, and all adjustment hardware.
    - (3) (Armature and tach) cable connectors mounted on axis card.
    - (1) 30 amp power supply card.
    - (1) Unfiltered DC power supply.
    - (1) Main control relay for machine power.
    - (1) Complete wiring harness.
  - Three sets of cables and amp to motor/tach, including connector at amp end (maximum 20 foot standard).
  - Three drive assemblies consisting of:
    - (1 ea) 70 inch ounce motors with tach.
    - (1 ea) Set of reducing pulleys and belts.
    - (1 ea) 33.9:1 gearboxes (standard ratio).
    - (1 ea) Motor to gearbox mounting brackets.
  - Sine/cosine synchronization and out-of-synch detection with relay output.
  - Size 11 resolvers to be mounted by OEM.
  - Maintenance and instruction manual.

## BURNY PRODUCTS

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