

BRANSON

Bulletin S-994

TWO-DIMENSIONAL ROBOT TDR-50



The Branson TDR-50 is a proven batch transport system. It includes a stable, ruggedly constructed gantry, mechanical winch, and a choice of three electronic control systems to form a reliable automation system. The standard control package is a specially-designed microprocessor-based system. PLC and PC control packages are also available. The unit is capable of handling up to 110 lbs. of parts.

PROGRAMMABILITY

The TDR-50 can be easily programmed in several ways, depending on the control system. A hand-held keypad/programmer can be used to walk through the process, and the steps stored by simply pressing the save button. This process can also be directly entered using XY coordinates and the keypad. The maximum number of steps available is 255, contained within 10 programs.

Optional PLC or PC-based controls offer the flexibility of open architecture and the ability to allow parallel processing of baskets with different programs. When programming this system, you manually move the system through the process using the joystick and noting the distances between each step. You then enter the process into the program via keypad.

All three control systems utilize optical encoders for positioning and are repeatable within $\pm 3/8$. They all include an operator interface to enter data and indicate system status, and self-diagnostics for troubleshooting.

EXPANDABILITY

A single TDR head can dramatically increase process throughput and repeatability. As your business grows, additional heads may be required to meet future demands. Up to two additional heads can be added to give a maximum of three heads in a system (two with PLC or PC controls). Each head in the system is programmed individually to efficiently perform its task while continuously communicating with other heads. Inter-head communications guarantee coordinated, trouble-free operation of even the most complex processes.

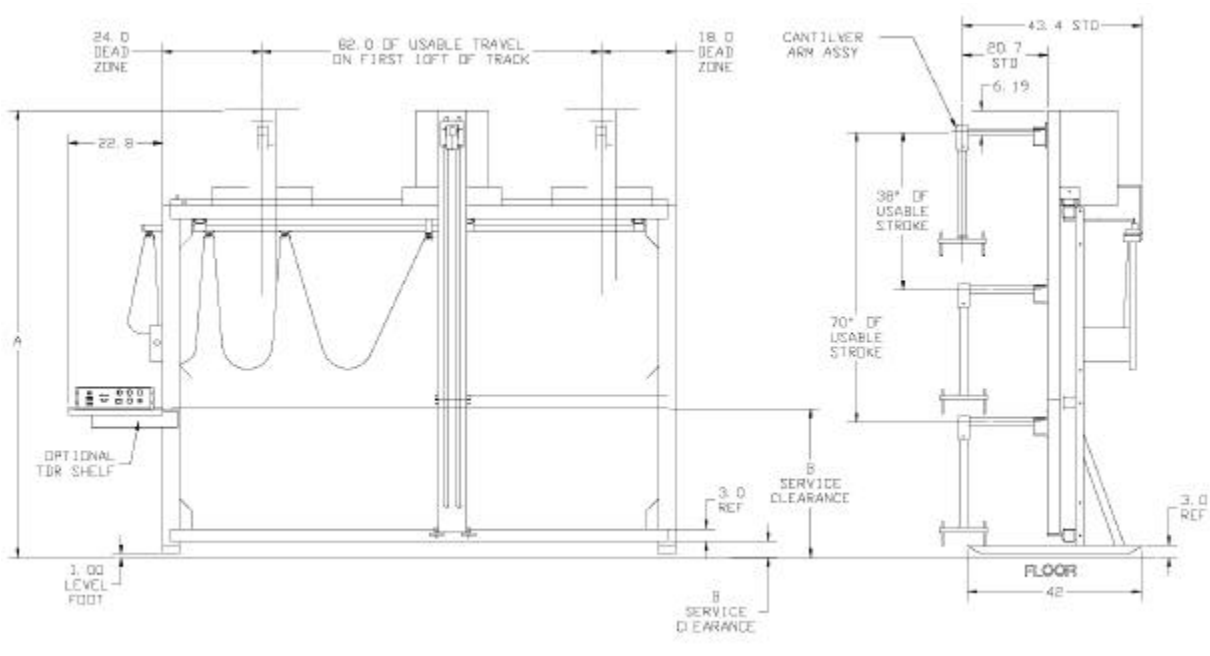
The standard TDR-50 comes with a basic track length of 10 feet. If a longer unit or additional heads are required, modularized increments of 5-foot sections of track and cabling can be added, up to a maximum of 40 feet.

PROCESS CONTROL

Increased productivity is gained by process control through automation with use of the TDR-50. The microprocessor system comes with eight 5-volt inputs and four 24-volt outputs (can be expanded to eight). These allow the automation to control the process variables utilized in cleaning, as well as allowing the system to interface with other parts of the manufacturing process.

The PLC and PC-based systems have an expanded number of I/Os available and can be interfaced with a manufacturing information or SPC system through an optional communication interface.

The ability to control automation speed can enhance process control, and, in the case of vapor degreasers, is required by law. The TDR can be programmed to change speeds to improve the throughput. Whatever speed the transport is moving, an electronically-controlled ramping and braking program ensures smooth acceleration and stopping. A four-point basket eliminates the need for balancing loads. The maximum horizontal speed is 60 fpm, and the maximum vertical speed is 23 fpm.



TDR-50 DIMENSIONS (inches)

Model	A Overall Height	B	
		38"	70"
91	91.5	19.3	N/A
108	108.0	35.8	3.9
126	126.0	N/A	21.9
150	150.0	N/A	45.9

Overall TDR length. Usable travel + 42" + 12".
Overall usable track = track length - 38".

Service clearance is area under bottom rail to floor

STANDARD FEATURES

- Load capacity of 110 lbs. (50 kg) & 22 lbs. (10 kg) fixturing
- Ten-foot track length.
- Four-point basket pickup for stability
- Cantilevered arm (no moving parts over process stations)
- Microprocessor-based controls
- 19" rack mounted control box
- LED readouts
- Connector for remote PC
- Keypad or keystroke programmability
- Ten-program memory
- Self-diagnostic electronics
- Four horizontal and four vertical speeds

BRANSON ULTRASONICS CORPORATION

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- Ramping and electronic braking for smooth operation
- Eight internal outputs
- Four external outputs
- Communication capability with Branson and competitive products

OPTIONS

- Additional work heads
- Four additional external output controls
- PC interface cabling
- Additional track in 5-foot increments
- Alternate input voltages
- Multi-program selector box
- PLC and PC controls

SPECIFICATIONS

Electrical reqs.	120 VAC, 1 phase, 5 Amps
Max. track length	40 feet (non-PLC)
Max. horiz. travel distance	33 feet per head
Travel speeds (fpm)	
<i>Horizontal</i>	15, 30, 45, 60
<i>Vertical</i>	6, 11, 17, 23
Max. load	110lbs. (50 kg), parts 22lbs. (10 kg), fixturing
Max. number heads	Three (Two with PLC /PC)

Note: All specifications to change without notice.