GEFIT Livernois Engineering

Automatic High volume Core Builder

The CB3000 is a high volume core builder that can produce a range of radiator and condenser cores. The machine uses servo-based controls to ensure precise core assembly dimensions. The CB3000 can be configured with varying levels of automation. The standard machine (shown below) includes automatic header and tube loading into the machine from component storage carts that loaded into the machine. Other optional configurations can include automatic side support and braze bar loading, as well as automatic braze clip loading/core unloading.

Representative Image of a CB3000

CB-3000 GENERAL CAPABILITY:

Operating Rate:	Operator Dependent
Tube Length (Header-To-Header):	350mm (13.77”) to 1000mm (39.38”)
Core Height (Stack-Up Dimension):	350mm (13.77”) to 1181mm (46.50”)
Core Depth:	12.7mm (.50”) Min. to 50.8mm (2.0”) Max.

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AUTOMATED MACHINE CYCLES (Standard Machine)

Tube Placement into Matrix:	Automatic/Continuous
Fin Placement into Matrix:	Automatic/Continuous
Header Placement into Matrix:	Automatic/Continuous
Side Support Placement into Matrix:	Manual
Fin Feed:	RH & LH Available
Tube Rows:	One (1)
Header Assembly:	Automatic
Side Support Assembly:	Automatic
Tube Expand (flared & staked):	Automatic
Braze Iron Placement to Tooling	Manual by Operator
Braze Frame and Unload assembly	Manual by Operator
Header Force:	5,443 Kilograms (12000 lbs.)

NOTE: Header Force may limit Number of tubes

PRODUCTION RATES

Production rates are dependent upon the core to be produced. A sample production rate of radiators for this machine is:

Core Output Rate:	120 Cores Per Hour (based on a 62 tube core)
Input Fin Feed Rate:	124 Fins Per Minute (using a 2-out fin mill)
Core:	62 Tubes/620mm Long

CHANGEOVER TIME

Core Width (header to header):	20 min.
Core Length (side to side):	10 min.
Fin Tube Pitch:	0 min.
Header Only:	20 min.

GENERAL DESCRIPTION

The core assembly machine will consist of the following:

- Tube Loading Cell
- (1) Tube Cart
- Tube Dispensing System w/ J-Stack
- Matrix Build and Transfer System
- False Tube
- Core Transfer System
- Expandable Table
- Core Press
- Matrix Comb Assembly
- Header Press
- Core Hold Down Assembly
- (2) Header Load Units (R/L Hand)
- (2) Header Load Cells (R/L Hand)
- (2) Header Carts (1 ea R/L Hand)
- (3) Cart Lifts
- Corebuilder Base
- Safety Guarding
- Control System
- (1) Set of Operator/Maintenance Manuals

MACHINE FOOTPRINT:

Length…….11824 mm (38’-10”)

Width……..6714mm (22’)

Height……2500mm (8’-2 ½”)

Estimated Weight……..14,250 Kg (31,500 lbs.)

STANDARD UTILITY SPECIFICATIONS

Electrical Supply:400/480 Volts, 3 Phase, 50/60 Hz (Others available)
Air Supply:5.5 Bar (80 PSI)

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