MYPro series MY300™ pick-and-place

Specifications

MY300DX™ pick-and-place

February 2020

MYCRONIC

When passion meets innovation

MYPro series specification – MY300DX

PLACEMENT SPEED AND ACCURACY

PLACEMENT SPEED AND ACCURACY – MY300DX-13/17	
Rated speed (1)	40 000 CPH
IPC 9850 chip net throughput (2, 3)	32 000 CPH
IPC 9850 chip tact time (3)	0.103 s
IPC 9850 chip repeatability 3σ (X, Y, Theta) (3)	30 µm, 1.8° (6) 45 µm, 1.8°
IPC 9850 chip accuracy @ Cpk = 1.33 (X, Y, Theta) (5)	50 µm, 2.6° (6) 75 µm, 2.6°
IPC 9850 fine pitch repeatability 3σ (X, Y, Theta) (4)	21 µm, 0.05°
IPC 9850 fine pitch accuracy @ Cpk = 1.33 (X, Y, Theta) (4, 5)	35 µm, 0.09°

The above specification achieved with a machine configuration including high precision mounthead (Midas), high speed mounthead (HYDRA Z8), line scan vision system (LVS), inline conveyor T460 and 15 mm component max height.
The IPC 9850 net throughput and accuracy numbers are obtained simultaneously, with the same machine settings.
The rated speed value is obtained under conditions optimized for speed.

(1) Depending on component and application.
(2) According to IPC 9850. Net throughput = (no of parts x 3600) / (board build time + board transfer time).
(3) According to IPC 9850 0402C verification panel.
(4) According to IPC 9850 QFP64/QFP100 verification panel.
(5) According to IPC 9850 Cpk 1.33 = 4σ + offset.
(6) Small chip settings, recommended for 0201 (0.6 x 0.3 mm) and below.

SYSTEM FEATURES

SYSTEM FEATURES MY300DX
On-the-fly mount order optimization
Vision autoteach with snap-to-grid
Automatic illumination settings
Intelligent feeder concept – Agilis
Automatic feeder and component recognition
On-the-fly feeder loading
Dynamic feeder positions
Automatic board stretch compensation
Automatic conveyor width adjustment
Intelligent surface impact control
Tool collision avoidance
Multi-user, multi-tasking system software
Open software interfaces for factory integration
SQL database engine
Programmable light settings fiducial camera

COMPONENT RANGE

HIGH PRECISION MOUNTHEAD – MIDAS	
Component range	Chip (from 03015), SOIC, PLCC, TSOP, QFP, BGA, flip chip, odd-shape, surface-mount connectors, through-hole components, CSP, CCGA, DPAK, Alcap, Tantalum
Component specification	Min: 0.3 x 0.15 (0.012" x 0.006") (03015) Max: 140 x 73 x 15 mm (5.51" x 2.87" x 0.59") (1) (3) Max: component weight: 140 g (2)

(1) With 4K vision. Max component size with 2K vision: 140 x 56 x 15 mm (5.51" x 2.20" x 0.59"). Customized tall component capability 22 mm (0.86") available.
(2) Depending on mounthead, mount tool, package, and production altitude.
(3) Components with diagonal larger than 58 mm must be presented in the same angle as placed.

HIGH SPEED MOUNTHEAD – HYDRA Z8	
Component range	Chip (from 01005), SO28, SOT223, SOJ20, PLCC32, MELF, SOD, TSOP
Component specification	Min: 0.4 x 0.2 mm (0.016" x 0.008") (01005) Max: 18.6 x 18.6 x 5.60 mm (0.73" x 0.73" x 0.22") (PLCC44)

ELECTRICAL VERIFIER (OPTIONAL)	
Component range	Resistor, capacitor, unipolar capacitor, diode (forward voltage, reverse current), Zener diode (voltage drop), transistor (current gain). Smallest chip size 1.0 x 0.5 mm (0.04" x 0.02").

FEEDER CAPACITY

FEEDER CAPACITY 8 MM TAPE		
	T460	T640
MY300DX-13	160	144
MY300DX-17	224	208

BOARD HANDLING

INLINE CONVEYOR		
	T460	T640
Maximum board size	460 x 510 mm (18" x 20")	640 x 510 mm (25" x 20")
Minimum board size(1)	70 x 50 mm (2.7" x 2")	70 x 50 mm (2.7" x 2")
Board thickness range	0.4 – 6.0 mm (0.016" – 0.24")	0.4 – 6.0 mm (0.016" – 0.24")
Board edge clearance top	3.2 mm (0.13")	3.2 mm (0.13")
Board edge clearance bottom(2)	3.2 mm (0.13")	3.2 mm (0.13")
Top side clearance (max)(3)	15 mm (0.59")	15 mm (0.59")
Bottom side clearance (max)(4)	32 mm (1.25")	32 mm (1.25")
Maximum board weight	4 kg (8.8 lbs)	4 kg (8.8 lbs)
Board transfer height	Conforms to SMEMA standard for board transfer height. Height adjustable from 880 to 975 mm (34.6" to 38.4").	
Operation mode	Inline, manual, inline odd-board, left-to-right / right-to-left.	

(1) Board train specification: 90 x 50 mm (3.5" x 2") board size, 1.6 mm (0.06") min thickness. Max warpage 1 mm (0.04").
(2) Edge clearance 5.5 mm (0.22") if component taller than 6 mm (0.24"). 14.3 mm (0.56") if taller than 19 mm (0.75").
(3) Customized tall component capability 22 mm (0.86") available.
(4) 15 mm (0.59") with support pins.

VISION CAPABILITY

LINESCAN VISION SYSTEM - 4K RESOLUTION			
COMPONENT TYPE	FIELD OF VIEW	MIN PITCH	MIN LEAD WIDTH
Leaded components	80 mm (3.1")	0.10 mm (4 mil)	0.05 mm (2 mil)
Bumped components	80 mm (3.1")	0.15 mm (6 mil)	0.08 mm (3 mil)

LINESCAN VISION SYSTEM - 2K RESOLUTION			
COMPONENT TYPE	FIELD OF VIEW	MIN PITCH	MIN LEAD WIDTH
Leaded components	63 mm (2.5")	0.20 mm (8 mil)	0.10 mm (4 mil)
Bumped components	63 mm (2.5")	0.25 mm (10 mil)	0.13 mm (5 mil)

SOFTWARE

SOFTWARE MODULES (OPTIONAL)

Shared databases
Line mode
PCB ID (2D barcode)
Pre-pick inspection
Barcode software
PRM software

OFFLINE SOFTWARE TOOLS (OPTIONAL)

Data preparation – MYCenter
Optimization and scheduling – MYPlan
Inventory management and kitting – MYCenter
Traceability – MYTrace
Performance monitoring – MYCenter Analysis

MISCELLANEOUS

INSTALLATION REQUIREMENTS

Power requirements	Three phase AC 6.6 kVA (3 x 2.2 kVA)
Power consumption	1.5 kW (average)
Voltages	3 x 200, 210, 220, 230, 240, 250 +/- 10%, Y or Delta
Air supply	No air required
Noise	70 dBA
Air temperature	+18 to +35 °C (65 to 95 °F)
Air humidity	< 95% RH non condensing

MACHINE WEIGHT (1)

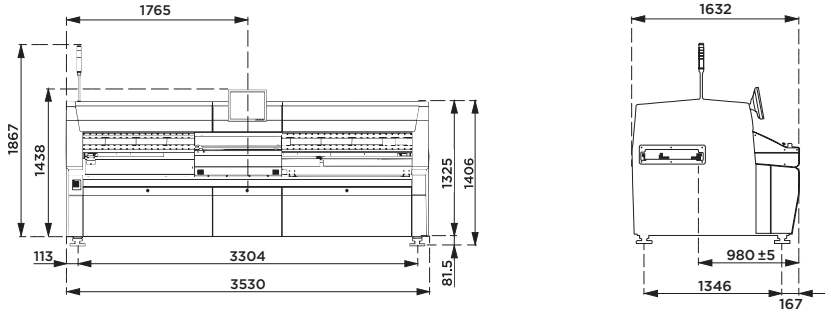
MY300DX-13	1 600 kg (3 500 lbs)
MY300DX-17	2 200 kg (4 850 lbs)

(1) Total machine weight excluding magazines.

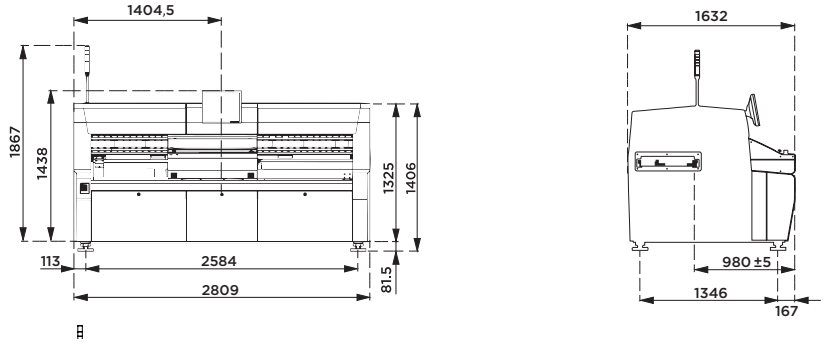
DIMENSIONS

in mm.

MY300DX-17



MY300DX-13



SWEDEN
Mycronic AB
PO Box 3141
Nytorpsvägen 9
SE-183 03 Täby
Sweden
Tel: +46 8 638 52 00

GERMANY
Mycronic GmbH
Tel: +49 89 45 24 24 8-0

UK
Mycronic Ltd.
Tel: +44 1202 723 585

FRANCE
Mycronic S.A.S.
Tel: +33 1 41 80 15 80

NETHERLANDS
Mycronic B.V.
Tel: +31 402 62 06 67

USA
Mycronic Inc.
Tel: +1 978 948 6919

SOUTH KOREA
Mycronic Co. Ltd.
Tel: +82 31 387 5111

CHINA
Mycronic Co., Ltd.
Tel: +86 21 3252 3785/86

SINGAPORE
Mycronic Pte Ltd.
Tel: +65 6281 7997

JAPAN
Mycronic Technologies KK
Tel: +81 42 433 9400

www.mycronic.com

MYCRONIC

AB59827 Rev 0002 / February 2020