

engineering innovations
worldwide



talos
state-of-the-art
device handling system



esmo
semicon

talos device handling system

made for all testers



· most flexible and easy-to-use tri-temp pick & place device handling system

· device range from 1.0 x 1.0 x 0.4 mm (0.04" x 0.04" x 0.02") to 70.0 x 70.0 x 10.0 mm (2.76" x 2.76" x 0.4")

· tray, tube, and tape loading | unloading possible



1 sealed doors to avoid icing at cold test operation processes

2 4+1 axis pick-and-place system (x | y | z1 | theta | z2) with high contact force of 450N (optional up to 800 N)

3 laser distance sensor + camera for x|y|z teaching

4 FIFO or BIN sort mode with free tray | tube | tape assignment

5 15.6" widescreen HMI with multi-touch capability

6 active thermal control system (ATC)

enhancing semiconductor industry efficiency with innovative test equipment solutions

Adaptive for most existing setups:

existing sockets, boards, etc. can be used without any modifications

Docking interface:

standard docking interface compatible with all testers

Cable dock engineering board support:

engineering boards with cable docks can be used with a special board support

Remote control:

remote control via Ethernet

Lowest time to test:

switching from one package to the next in under 5 minutes

Test parameters stored in recipe files:

no mechanical fine alignment is necessary

Automated testing:

multiple test cycles at different temperatures without requiring user interaction

Testing temperature range:

from -60 °C to +175 °C (-76 °F to +347 °F)
with an active thermal control system (ATC)
for cold/hot tests, allowing for tri-temp testing

Portability:

optimized for smooth and independent handling by one person

Compact footprint:

with the esmo phoenix cart the smallest test cell footprint in the market

Basic configuration or a customized modular handling system:

tailored to individual requirements and intended use

Reliability and maintenance:

high mean time between failures (MTBF) values, low maintenance efforts

||| vision alignment option

**Unlock limitless possibilities with the talos**

Built on a robust 4-axis portal, the talos device handling system offers unparalleled adaptability, capable of meeting a vast array of customer demands. Our dedicated team is ready to design a tailored concept that aligns perfectly with your individual needs.

||| test head unit with laser

handling key features

exceptional accuracy and reliability with
advanced 4+1-axis portal pick-and-place robot system

versatile loading and unloading options, incl. manual tray, tube or tape loading

free PIN1 orientation for seamless integration

high contact force of 350 N (700 N contact force optionally available)

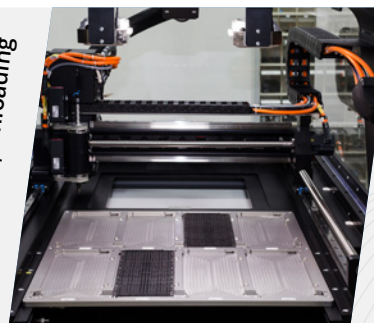
user-friendly 15.6" widescreen HMI featuring multi-touch capability

integrated camera system for precise pick-and-place position teaching

FIFO or bin sort mode, offering free tray | tube assignment

RS232 or optional GPIB tester interfaces for seamless connectivity

tray loading | unloading



capacity: 8 low-/high-profile JEDEC trays | autom. tray stacker 15 trays

adapterplates for 2" and 4" waffle packs available

quick changeover to tube loading option within 5 minutes only

freely programmable BIN classification with input | output assignment

low jam rate: max. 1 error per 8 hours or less

tube loading | unloading



capacity: max. of 8 input | 8 output tubes

max. tube dimensions: 21 mm x 12 mm x 530 mm (0.8" x 0.5" x 21")

max. device length: 17 mm

tube compatibility: supports plastic and/or metal tubes

low jam rate: max. 1 error per 8 hours or less

tape loading | unloading



compatible with tray / tube unloading option

module exchange: toolless module exchange with quick-release lock

tape widths: modules available for 8 to 32 mm tape widths

cold and hot sealing possible

low Jam rate: max. 1 error per 8 hours or less

Plug & play conversion kit
quick and easy replacement.



temperature control features

- active thermal control option (ATC)

closed loop temperature control with an integrated sensor in the temperature head

highest accuracy achieved by directly measuring the temperature at the heat sink, in conductive contact with the device

ability to control high IC power dissipation during electrical testing

software-operated air flow control system
with human-machine interface (HMI) feedback included

set temperature can be changed from the tester via GPIB or RS232:

||| fine adjustment during testing

||| single-insertion at multiple test temperatures is possible

||| multiple tests at different temperatures without requiring user interaction

fully integrated cooling unit controlled by the handler software.

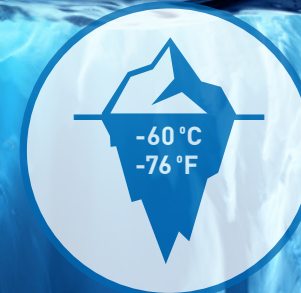
two configuration options available: electrical air chiller and LN2 heat exchanger.

||| electrical air chiller with a system specification
of -50 °C (-58 °F) DUT typical junction temperature

||| LN2 heat exchanger with a system specification
of -60 °C (-76 °F) DUT typical junction temperature

system interior is sealed and purged to prevent icing

modular and expandable temperature system



thermo plunger

Fluidless, air flushed heat sink with integrated temperature sensor for highest thermal accuracy.

various optional features

tray | tape | tube
loading/unloading

vision alignment

temperature control
+ cooling options

high contact force (up to 700N)

traystacker

dual ionizer

air dryer unit

vacuum generator

multi-site-contacting

code reader

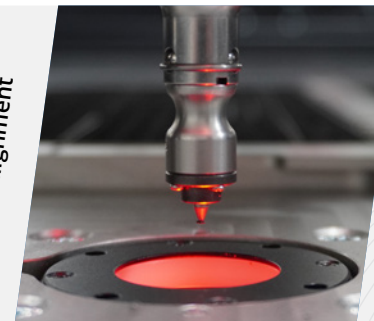
ESD acryl glass cover

external status lights

z2 with contact force
control feature

junction control (JC) + power
dissipation compensation (PDC)

vision alignment



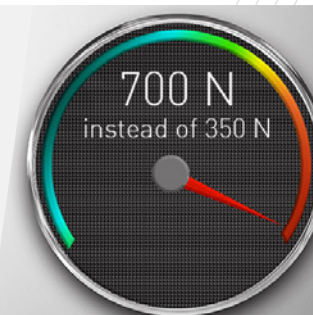
vision system option for small-device contact position correction

self-teaching system, no adjustment required

no mechanical pre-alignment required

for device sizes of 1 x 1 mm to 5 x 5 mm

high contact force



contact force of z-axis motor up to 700 N (instead of 350 N)

field upgradeable

compatible with standard conversion kit

higher contact force available on request

ionizer



to protect sensitive parts from damage due to electro-static discharge

self-regulating ionization level

2 electrical air fans (compressed air not required)

adjustable direction and blowing speed

decay time: at 1,000 V to 100 V in less than 3 s

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