engineering innovations
worldwide

apollo
technical
specifications

esmo semicon

Handling Material

Device Size	Standard	
Standard	2.5 x 2.5 × 0.5 mm – 125 × 120 × 10 mm	
Tray loading/ /nloading	**Specifications**	**comments**
Standard	JEDEC standard trays	JEDEC high-profile trays on request
Capacity	Max. 22 input/output trays in stacker 4 additional manual trays slots	BIN-configuration free Pin1 orientation free

System Performance

Parameter	Specifications	comments
Jamming rate (ambient/hot/cold)	n/a	
Handler parallelism	single (x1), dual (x2) or quad site (x4) contacting	Higher parallelism may be possible. Technical clarification required.
Max. permanent contact force	1543 N (157.3 kgf) 4000 N on request	Force per device: The force is divided by the number of contact sites.
Index time	0.85 sec.	Valid for x1, x2 or x4 contacting; no temperature change or soaktime included.

Thermal Performance

Parameter	Specifications	comments
Min. plunger temp.	–80 °C (–112 °F)	with LN_2 heat exchanger option
Max. plunger temp.	+225 °C (+437 °F)	
Stability	±0.5 °C (±0.9°F) long-time test (heatsink)	Junction temperature accuracy depending on calibration and setup (optimum calibration stability = accuracy)
Initial heat up time	1.5min from +25 °C (+77°F) to +175°C (+347°F) plunger temperature	measured at heatsink with 3 x 3 QA standard plunger
Initial cool-down time, LN_2 system	n/a	

Working Environment

	Operation	Storage
Temperature range	+10 °C to +30 °C (50 °F to 86 °F)	-25 °C to +55 °C (-13 °F to 131 °F)
Maximum relative humidity	15 % to 60 % (at +30 °C / 86 °F)	15% to 60% (at +30 °C / 86 °F)
Maximum admissible operational altitude	2,000 m above sea level	

Noise Level

	Operation
Maximum noise level	< 70 dB(A)

Rev.: 22-Sept-2026

Interfaces

	Operation
human/machine interface (HMI)	23.8." multi touch panel with esmo customized HMI
tester interface	RS 232 · TTL upon request · TCP/IP upon request · GPIB optional

System Dimensions

	Operation (Covers closed)	Servicing (Covers fully opened)
Floorspace	1950 × 1170 ×1995 mm	2920 × 1765 × 1995mm
Crated system	2345 × 1470 × 2300 mm	./.
Ramp length	2300 mm	./.
Additional clearance (recommendation)	1200 mm	1000 mm

All information does not include optional equipment.

Weight

Weight		kg	lbs
Crate		390	860
Base machine tri-temp uncrated		930 (max)	2050 (max)
Total		1650 (max)	3638 (max)
Max floor load per pedestal		424	935
Options*	**Vacuum Pump**	10	22
	LN Heat Exchanger	25	55
	2x Tray Stacker	100	221

*Options (additional weight)

Facility Requirements – Mains Power Supply Handler

Handler	
Voltage	208-400 V / 50-60 Hz / 3~ N + PE
Rated power	4 kVA (cos ϕ 0.8)
Connector	CEE 16A 3~N+PE IEC60309 (EU); NEMA L21-30P (US)
Special requirement	RCD Type B (B+) (EU)

Rev.: 22-Sept-2026

Compressed Air Supply

Handler		
Pressure	Minimum 6 bar (87 psi) / Maximum 14 bar (203 psi)	
Condition	CDA (clean, dry oil-free air) Dew point of -60°C (-76°F) required (for cold testing to avoid icing)	
With integrated Air Dryer option	Dew point of +25 °C (-3.9°F) required Operating temperatur +25°C	
Consumption at 5 bar system pressure	Ambient test: n/a Hot test: 80 Nl/min Cold test (LN/E-Chiller): 200 Nl/min – + 50 Nl/min (socket purge) – + 150 Nl/min with option air dryer	
Recommended minimum diameter for compressed air connection	10 mm (3/8").	
	EU	**US**
System Connector	Quick coupling plug KS4-1/4-A (Festo)	1/4" NPT female fitting
Buyer Supply	Quick coupling socket KD4 (Festo)	1/4" NPT male fitting

Vacuum Supply

Parameter	Property	
Minimum vacuum	200 mbar absolute	
	EU	**US**
System Connector	Quick coupling socket KD4-3/8-A (Festo)	1/4" NPT female fitting
Buyer Supply	Male quick connect plug KS4 (Festo)	1/4" NPT male fitting

LN_2 Supply

Parameter	Property
Pressure	Minimum 1.5 bar (22 psi) Maximum 4.0 bar (59 psi)
Physical state	liquid without gas bubbles
Consumption	Typical rate (steady state) 8.0 l/h
Pressure regulator (optional)	Mandatory over 4.0 bar (59 psi)
	EU / US
System Connector	Connection nozzle ø 12 mm Fitting Ø12 - NPT3/8" female (seller supply) On request: Fitting Ø12 - NPT3/8" male (seller supply)

esmo Europe Rosenheim

esmo AG
Brueckenstrasse 1
83022 Rosenheim
Germany

P +49 (8031) 233 88 0
F +49 (8031) 233 88 10

sales@esmo-ag.com

esmo USA California

esmo USA Corp.
1020 Winding Creek Road
Suite #120
Roseville | CA 95678
USA

P +1 (916) 307 6345
F +1 (916) 307 6341

sales@esmo-usa.com

esmo Asia Singapore

esmo Asia Pte. Ltd.
15 Tai Seng Drive
#01–02
Singapore 535220
Singapore

P +65 (656) 288 57
F +65 (656) 288 60

sales@esmo-asia.com

esmo China Shanghai

esmo Asia North Co. Ltd.
Building 5-6 N. 388 Xin Run Rd.
Xin Qiao Industrial Zone
Song Jiang District
201612 Shanghai · China

P +86 (21) 5768 7228 + ex. 201
F +86 (21) 5768 7132

info@esmo-ag.com.cn

esmo Taiwan Zhubei

esmo TW Ltd. Co.
9F.-1, No. 3,
Huanke 1st Rd.
Zhubei City, Hsinchu County
302047 Taiwan (R.O.C.)

M +886 932-290-662
M +886-988-313-705

sales@esmo-asia.com

Rev.: 22-Sept-2026