

engineering innovations
worldwide



apollo
technical
specifications



Handling Material

| Device Size | Standard | |
|----------------------------|--|---|
| Standard | 2.5 x 2.5 x 0.5 mm - 125 x 120 x 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) |

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) |

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 – 250 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 |

LN₂ 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 \varnothing 12 mm Fitting \varnothing 12 - NPT3/8" female (seller supply) On request: Fitting \varnothing 12 - NPT3/8" male (seller supply) |

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