InJet® 388 CRD

TECHNICAL DATA SHEET

STENCIL, MISPRINT, SQUEEGEE cleaning
PUMPRINT cleaning
CONFORMAL COATING removing
PCB cleaning
**GENERAL INFORMATION**

The InJet 388 series cleaning systems represent unique vertical Spray-In-Air technology developed and manufactured by DCT.

The vertically installed Spray-In-Air device minimizes the shadowing effect commonly seen in horizontal cleaners, and maximizes the efficiency of the cleaning process as the cleaning fluid is sprayed directly onto the cleaned component.

**The InJet® 388 CRD**, including a 100% closed loop, with cleaning, rinsing and drying technology processes. All of the processes are fully automated, and take place in one process chamber.

**The InJet® 388 CRD** is developed primarily for the removal of solder pastes and SMT adhesives from stencils, PumPrints, squeegees and misprints.

The cleaning system can also be used for PCB cleaning, or for a combination of PCB cleaning and the afore-mentioned cleaning processes.

The machine can also be used for the removal of cured conformal coating.

Depending on your cleaning requirements, the DCT project manager, in collaboration with a local distributor, will advise you on a suitable water-based cleaning fluid and the correct setup of the entire process.
3 INDIVIDUAL PROCESSES

CLEANING
RINSING
DRYING

CLEANING PARAMETRES

<table>
<thead>
<tr>
<th>Application name</th>
<th>Recommended application</th>
<th>Recommended temperature</th>
<th>Total cleaning process time</th>
<th>Capacity per 8 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stencil, misprint, squeegee</td>
<td>★ ★ ★</td>
<td>20 – 40°C</td>
<td>18 min.</td>
<td>27</td>
</tr>
<tr>
<td>PumPrint</td>
<td>★ ★ ★</td>
<td>40 – 55°C</td>
<td>18 min.</td>
<td>27</td>
</tr>
<tr>
<td>Conformal coating</td>
<td>★ ★ ★ ★</td>
<td>40 – 55°C</td>
<td>60 min.</td>
<td>192 * / 16 **</td>
</tr>
<tr>
<td>PCB</td>
<td>★ ★</td>
<td>35 – 55°C</td>
<td>30 min.</td>
<td>384 *</td>
</tr>
</tbody>
</table>

LEGEND: ★★★ highly recommended ★★ recommended ★ applicable
* PCB eurocards / per 8 hours (calculated for dimension of 100 x 160 mm / 3.94 x 6.3 in)
** Parts in soldering palette / per 8 hours (320 x 500 x 50 mm / 12.6 x 19.7 x 1.97 in)
*** Stencils, pumpprints larger than 736 x 736 mm / 29 x 29 in
## TECHNICAL PARAMETERS

<table>
<thead>
<tr>
<th>Metric Units</th>
<th>Imperial Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (w x l x h)</td>
<td>1200 x 1390 x 2400 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>450 kg</td>
</tr>
<tr>
<td>Ø energy consumption per cycle</td>
<td>2.5 kWh</td>
</tr>
<tr>
<td>Cleaning and rinsing fluid consumption per cycle</td>
<td>0.05 – 0.3 l</td>
</tr>
<tr>
<td>Compressed air consumption per cycle</td>
<td>900 l / cycle</td>
</tr>
<tr>
<td>Max. dimensions of the cleaned parts</td>
<td>190 x 800 x 760 mm *</td>
</tr>
<tr>
<td>Exchangeable mechanical filter of cleaning and rinsing fluid</td>
<td>5 – 200 μm</td>
</tr>
<tr>
<td>Operating pressures</td>
<td>cleaning: 1.5 – 2.8 Bar, rinsing: 0.3 – 1.5 Bar</td>
</tr>
<tr>
<td>Cleaning fluid flow rate</td>
<td>200 l / min</td>
</tr>
<tr>
<td>Temperature range setting of the cleaning and rinsing fluid</td>
<td>From ambient temperature to 60°C</td>
</tr>
<tr>
<td>Conductivity range settings of the rinsing fluid in the tanks</td>
<td>0 – 2000 μS/cm * optional</td>
</tr>
<tr>
<td>Temperature range setting of the drying</td>
<td>From ambient temperature to 80°C</td>
</tr>
<tr>
<td>Noise level</td>
<td>&lt; 70 dB</td>
</tr>
<tr>
<td>Cleaning system control</td>
<td>PLC + 8.4&quot; touchscreen</td>
</tr>
<tr>
<td>Volume of the storage tanks</td>
<td>60 l</td>
</tr>
</tbody>
</table>

* Without the use of an air knife
## INSTALLATION REQUIREMENTS

<table>
<thead>
<tr>
<th></th>
<th>metric units</th>
<th>imperial units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power supply</strong></td>
<td>400V, 32A, 50Hz (3+N+PE)</td>
<td>UL 400V, 32A, 60Hz* (3+N+PE)</td>
</tr>
<tr>
<td><strong>Pmax</strong></td>
<td>12 kW</td>
<td>12 kW</td>
</tr>
<tr>
<td><strong>Compressed air connection</strong></td>
<td>Pipe Ø 6 mm</td>
<td>Pipe ID 0.24 in</td>
</tr>
<tr>
<td><strong>Recommended working pressure</strong></td>
<td>4.5 – 6 Bar</td>
<td>65.5 – 87 PSI</td>
</tr>
<tr>
<td><strong>Exhaust pipe diameter</strong></td>
<td>Ø 100 mm</td>
<td>ID 3.94 in</td>
</tr>
<tr>
<td><strong>Exhaust pipe capacity</strong></td>
<td>380 m³/h</td>
<td>13400 ft³/h</td>
</tr>
<tr>
<td><strong>Minimum liquid for first run</strong></td>
<td>2 x 50 l</td>
<td>2 x 13.2 gal</td>
</tr>
<tr>
<td><strong>Service space required around the device</strong></td>
<td>600 mm</td>
<td>23.6 in</td>
</tr>
</tbody>
</table>

* When using frequency convertor

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**BACK VIEW**

- Input air pressure 1x Ø6 mm
- Input air pressure 3 x Ø0.24 in
- 400 V, 32A, 50Hz (3+N+PE)
- 400 V, 32A, 60Hz (3+N+PE)
- Ø 100 mm / 3.94 in
- 225 mm / 8.86 in
- Discharge of fluids G1*
### STANDARD HARDWARE EQUIPMENT

- 1 process chamber – fully automated solution
- 100% closed loop fluid system
- 2 arm rotation – fluid powered – cleaning
- 2 arm rotation – fluid powered – rinsing
- Cleaning and rinsing fluid heating
- Mechanical filtration
- 2 hot air blowers – drying
- Chimney flap – electronically controlled
- Pneumatic door lock
- Emergency stop button
- Manipulation wheels – lockable
- Spare parts (base kit)
- PLC controller + 8,4” touchscreen display

### STANDARD SOFTWARE EQUIPMENT

- Electronic monitoring of fluid level
- Electronic monitoring of fluid pressure
- Electronic process cycle counter
- 3 levels of logging – operator, maintenance, engineer
- Spraying fluid pressure – continuous measurement
- Standard software language mutation – CZ, ENG
- Liquid and filter replacement notification – cycle counting
- Possibility of 5 programs – setting option
- Smart warning – low or high pressure level
- Smart warning – low fluid level
OPTIONAL HARDWARE EQUIPMENT

- Common fluids draining – manual control
- Automatic fluids refilling (without pump)
- Automatic fluids discharging (without pump)
- Tanker 200 l and 400 l – cleaning / rinse fluid
- Conductivity measurement – rinse 0–2000 µS – blocking optional
- Filtration 2PR sandwich – integrated
- Filtration sandwich – external
- Electronically continuous level measurement
- Adjustable arm rotation speed
- and other equipment ...

OPTIONAL SOFTWARE EQUIPMENT

- SW for CVA calculation (android, machine)
- Adjustable timer of cleaning fluid heating
- Upgrade machine for PROTON
- Language mutation (CZE, ENG, GER, POL, CHI, RUS, ITA, SPA, MAY, HUN)
- ONLINE access to cleaning device

OPTIONAL ACCESSORY – FRAMES AND OTHERS

- Mechanical carrier frame – PCB
- Mechanical carrier frame – frameless stencils
- Mechanical carrier frame – frame stencils
- Mechanical carrier frame – VectorGuard stencils
- Mechanical carrier frame – squeegees
- Mechanical carrier frame – frame and VG stencils (reduction)
- and other equipment ...

OPTIONAL TRACEABILITY

- Traceability OFF line, CSV to SD card
- Traceability OFF line, Reader, CSV to SD card
- Traceability ON line, PC WIN, file
- Traceability ON line, READER, PC WIN, file
- Traceability ON line, PC WIN, OPC Server CD, no file
- Traceability ON line, PC WIN, READER, OPC Server CD, no file
DCT QUALITY

All of the InJet®, AirJet® and Sonix® cleaning systems developed by DCT are characterised by the highest quality on the market, high reliability, ease of use, simple maintenance, an extremely long lifespan, and the longest warranty on the cleaning system market.

These afore-mentioned benefits are achieved by the precise manual production of the machines in the Czech Republic, and thanks to the superior quality of the used materials and components.

Cleaning systems boast a unique all-stainless-steel construction, which is welded manually from AISI 304 and AISI 316 stainless steel and then chemically passivated.

The cleaning systems are designed and manufactured with a focus on ease of use by operators, simple maintenance, and smart process parameter setting. They are equipped with industrial PLC IDEC, a well arranged colour touch display with 3-level access (operator, maintenance, engineer), and with 5 adjustable cleaning programmes as standard.

The device automatically and permanently checks all processes, operating fluid levels and process temperatures, and also gives timely notification of the need to replace individual consumables or fluids.

Monitoring of the cleaning process history, whether offline or online, is ensured by an optional traceability function.

A wide range of standard hardware and software equipment is available for every cleaning system. However, DCT also excels by its flexibility when resolving non-standard machines and their accessories.

Our machines, together with our cleaning fluids and local application and technical support, bring you a long-term reliable, powerful and stable cleaning process, even under the most demanding continuous operation conditions.

With all its cleaning systems, DCT offers a wide range of hardware and software equipment, special frames with hitches for the parts you want to clean, and countless variants in addition to the basic process monitoring options which use traceability.

For more information, a list of options and a selection of suitable equipment, please contact a DCT specialist in your country or the manufacturer directly.

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InJet® is a registration trademark of DCT Czech s.r.o.

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