InJet® 388
DOUBLE TRIPLE CRRD

Better Solutions

InJet®

3 CHAMBER

★★★ **STENCIL, MISPRINT, SQUEEGEE** cleaning
★★★ **PUMPRINT** cleaning
★★★ **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.

InJet® 388 DOUBLE TRIPPLE CRRD including 100% closed loop with processes of cleaning, pre-rinsing, final rinsing,
and drying technologies.

All of the processes are fully automated, and take place in **3 process chambers.** Cleaning takes place in the first inlet chamber, after which the cleaned part is automatically transported to the central chamber where the first rinsing process takes place. The third, and last, outlet chamber is designed for the final rinsing and the drying process.

All 3 chambers (inlet and outlet) **can be used in parallel**, which increases machine's capacity and reduces cross-contamination when compared to single-chamber devices. The machine has two positions on the PCB frame (two slots), which means that at full capacity, 6 frames with PCB are simultaneously processed.

Thus, the **InJet® 388 DOUBLE TRIPPLE CRRD** delivers twice the cleaning capacity of the InJet® 388 TRIPPLE CRRD and is therefore our most powerful vertical sprayer for PCBA, for which it has also been developed.

The cleaning system can also be used for the high-capacity removal of solder pastes and SMT adhesives from stencils, PumPrints, squeegees and misprints.
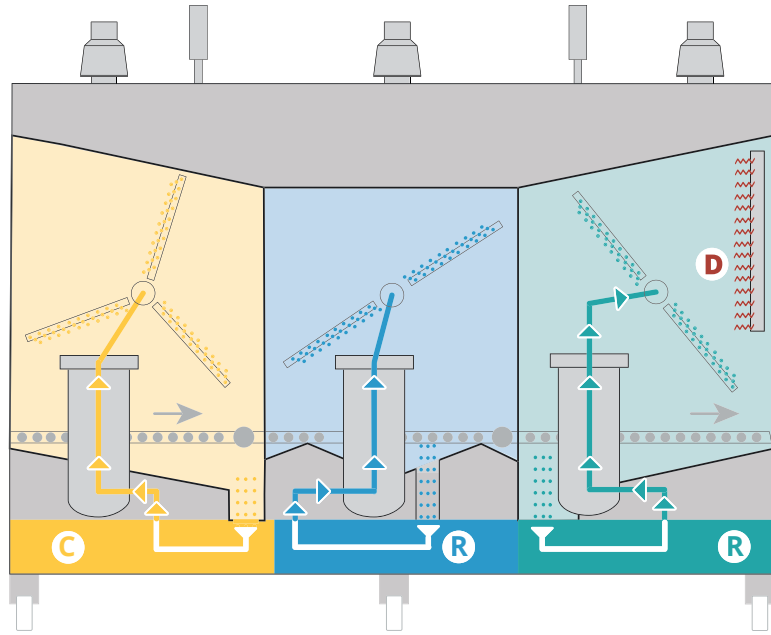
> *Depending on your cleaning requirements, the DCT project manager, in collaboration with a local distributor, will advise you on a suitable water-based cleaning fluid and the correct setup of the entire process.*

4 INDIVIDUAL PROCESSES

C CLEANING

R PRE–RINSING

R RINSING

D DRYING

CLEANING PARAMETRES

Application name	Recommended application	Recommended temperature		Total cleaning process time	Capacity per 8 hours
Stencil, misprint, squeegee	★★★	20 – 40°C	68 – 104 °F	32 min.	96
PumPrint	★★★	40 – 55°C	104 – 131 °F	20 min.	96
PCB	★★★	35 – 55°C	95 – 131 °F	20 min.	1536 *

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

	metric units	imperial units
Dimensions (w x l x h)	1710 x 3200 x 1930 mm	67.3 x 126 x 76 in
Weight	1500 kg	3307 lbs
Ø energy consumption per cycle	3,14 kWh	3.14 kWh
Cleaning and rinsing fluid consumption per cycle	0,05 – 0,3 l	0.01 – 0.08 gal
Compressed air consumption per cycle	1 l / 5 Bar	0.26 gal / 72.5 PSI
Max. dimensions of the cleaned parts	100 x 810 x 740 mm	3.93 x 31.89 x 29.13 in
Exchangeable mechanical filter of cleaning and rinsing fluid	5 – 200 µm	5 – 200 µm
Spraying pressure – cleaning / 45°C / 113°F	1,6 Bar*	21.21 PSI
Range presssure – cleaning / 45°C / 113°F	0,3 – 2,8 Bar*	4.35 – 40.61 PSI
Range pressure – pre rinsing / 45°C / 113°F	0,0 – 1,5 Bar*	0.0 – 21.76 PSI
Range presssure – rinsing / 45°C / 113°F	0,1 – 1,5 Bar*	1.45 – 21.76 PSI
Cleaning fluid flow rate	200 l / min	52.8 gal / min
Temperature range setting of the cleaning and rinsing fluid	From ambient temperature to 60°C	From ambient temperature to 140°F
Conductivity range settings of the rinsing fluid in the tanks.	0 – 2000 µS/cm * optional	0 – 2000 µS/cm * optional
Temperature range setting of the drying	From ambient temperature to 80°C	From ambient temperature to 176°F
Noise level	< 70 dB	< 70 dB
Device control	PLC + 8,4" touchscreen	PLC + 8.4" touchscreen
Volume of the storage tanks	150 l	39.6 gal

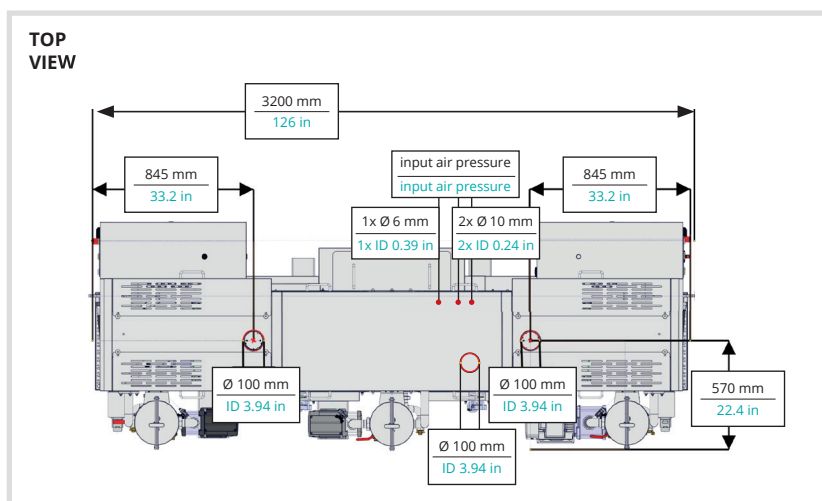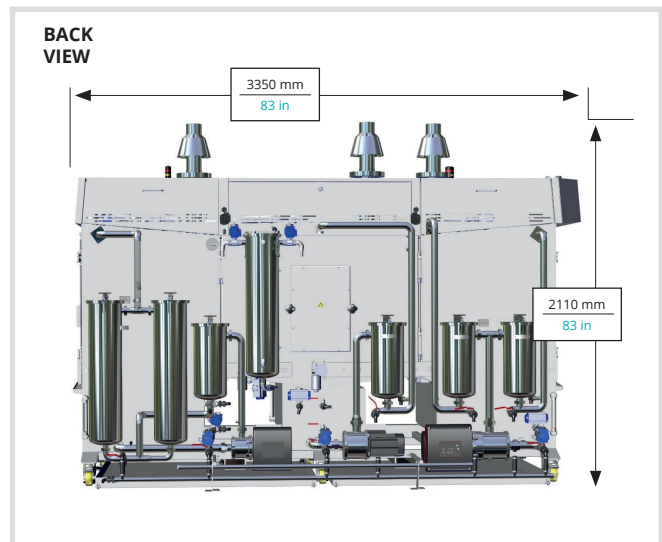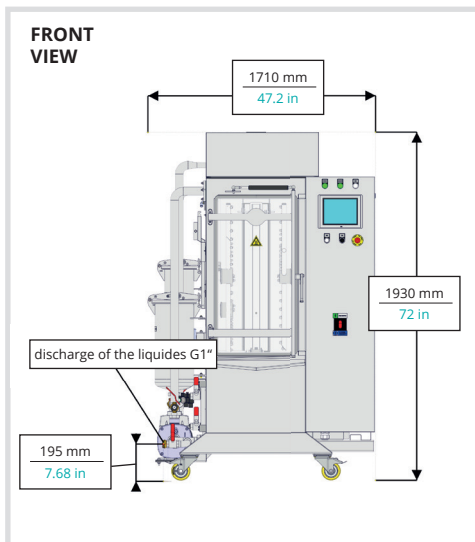* Values may vary depending on equipment (filters, pumps)

DIMENSIONS
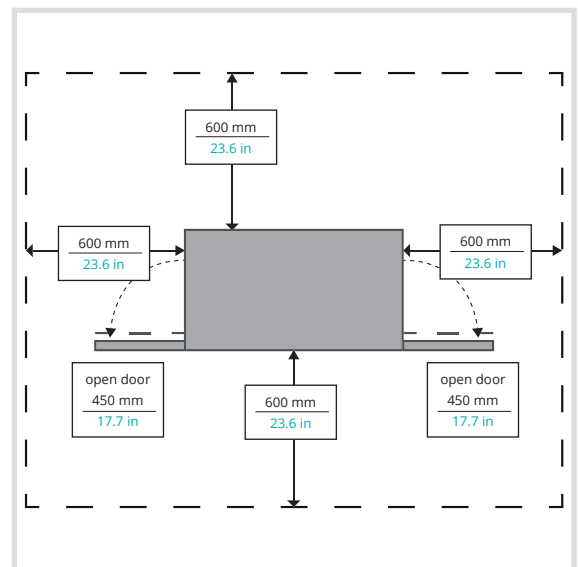
**MINIMUM SERVICE SPACE
AROUND THE MACHINE**

INSTALLATION REQUIREMENTS

	metric units	imperial units
Power supply	400V, 63A, 50Hz (3+N+PE)	400V, 63A, 60Hz* (3+N+PE)
Pmax	45 kW	45 kW
Compressed air connection	Pipe Ø 6 mm and 2x Ø 10 mm	Pipe ID 0.24 and 2x ID 0.39
Recommended working pressure	4,5 – 6 Bar	65.25 – 87 PSI
Compressed air quality	3. Class **	3. Class **
Exhaust pipe diameter	3 x Ø 100 mm	3 x ID 3.94 in
Exhaust pipe capacity	580 m³/h	20450 ft³/h
Air consumption - air knife	37 m³/h ***	1305 ft³/h ***
Minimum liquid for first run	3 x 75 l	3 x 19.8 gal
Service space required around the device	600 mm	23.6 in

* When using frequency convertor
** According to the norm ISO 8573-1
*** When using one of the air knife

FRONT VIEW

1710 mm / 47.2 in

1930 mm / 72 in

discharge of the liquides G1"

195 mm / 7.68 in

BACK VIEW

3350 mm / 83 in

2110 mm / 83 in

TOP VIEW

3200 mm / 126 in

845 mm / 33.2 in

input air pressure / input air pressure

1x Ø 6 mm / 1x ID 0.39 in

2x Ø 10 mm / 2x ID 0.24 in

845 mm / 33.2 in

Ø 100 mm / ID 3.94 in

Ø 100 mm / ID 3.94 in

Ø 100 mm / ID 3.94 in

570 mm / 22.4 in

STANDARD HARDWARE EQUIPMENT

3 process chamber, full automatic solution

100% closed loop fluid system

3 arm rotation – electric powered – cleaning

2 arm rotation – electric powered – rinsing

Cleaning and rinsing fluid heating

High-capacity mechanical filtration on all cycles

2 hot air blowers - drying

Chimney flap – electronically controlled

Pneumatic door lock

Emergency stop button

Manipulation wheels – lockable

PLC controller + 8,4" touchscreen display

Spare parts (base kit)

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 or 400 lit – celaning/rinse fluid

External blower control

Conductivity measurement – pre-rinse/rinse 0-2000 μS – blocking optional

ECA - automatic contrentration measurement

Filtration 1PR sandwich – integrated

Filtration sandwich – external

Additional drying technology – air knife

Electronically continuous level measurement – 3 sensors

Other optional equipment - the complete list of optional accessories will provide you DCT or the local distributor.

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

Monitoring using RFID

Other optional equipment - the complete list of optional accessories will provide you DCT or the local distributor.

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

Other optional equipment - the complete list of optional accessories will provide you DCT or the local distributor.

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.

STAINLESS STEEL DESIGN:

- **main support frame**
- **storage tanks**
- **process chambers**
- **fluid and air distribution systems**
- **spray arms and nozzles**
- **mechanical high-capacity filters**
- **process chamber door frame and handle**
- **external shielding**
- **active filters for rinsing DI water**

100% STAINLESS STEEL DESIGN **AISI 304/316**