



BETTER SOLUTIONS



InJet®

SPRAY IN AIR
TECHNOLOGY



CHAMBER



INDIVIDUAL
PROCESSES



STAINLESS
STEEL
DESIGN

AISI 304/316

TECHNICAL DATA SHEET

InJet® 388 CRRD-1PR CUSTOMLINE

Combo



APPLICATION

- STENCIL, MISPRINT, SQUEEGEE
- PUMPRINT
- COMFORMAL COATING
- PCBA

REMOVING

- SOLDER PASTES
- SMT ADHESIVES
- COATING
- FLUX



GENERAL INFORMATION

CUSTOMLINE CLEANING SYSTEM

The **Customline section** is meant for customers who have specific requirements. Together we will configure the cleaning system to achieve the highest efficiency and quality of cleaning according to your wishes and expectations.

DEVELOPED AND INTENDENT FOR RECOMMENDED

APPLICATION

- STENCIL, MISPRINT, SQUEEGEE
- PUMPRINT
- COMFORMAL COATING
- PCBA

REMOVING

- SOLDER PASTES
 - SMT ADHESIVES
 - COATING
 - FLUX
-

CLEANING TECHNOLOGY

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.

CHAMBERS & PROCESSES

- 1 PROCESS CHAMBER
 - 4 PROCESSES - CLEANING, PRERINSING, RINSING, DRYING
-

PROCESS CONTROL

- Real-time cleaning fluid pressure monitoring
 - Control system of fluids limit pressures
 - Liquid and filter replacement notification - cycle counting
 - Minimum level warning - cleaning and rinsing fluid
 - Conductivity measurement - rinse
-

BENEFITS

- Upgrade to 3-arm controlled rotation - for improving the quality of cleaning
- Filtration 1PR sandwich - integrated with automatic regulation - for improving the quality of rinsing.
- Air Knife - swinging - for improving the quality of drying
- Common fluids draining - manual control

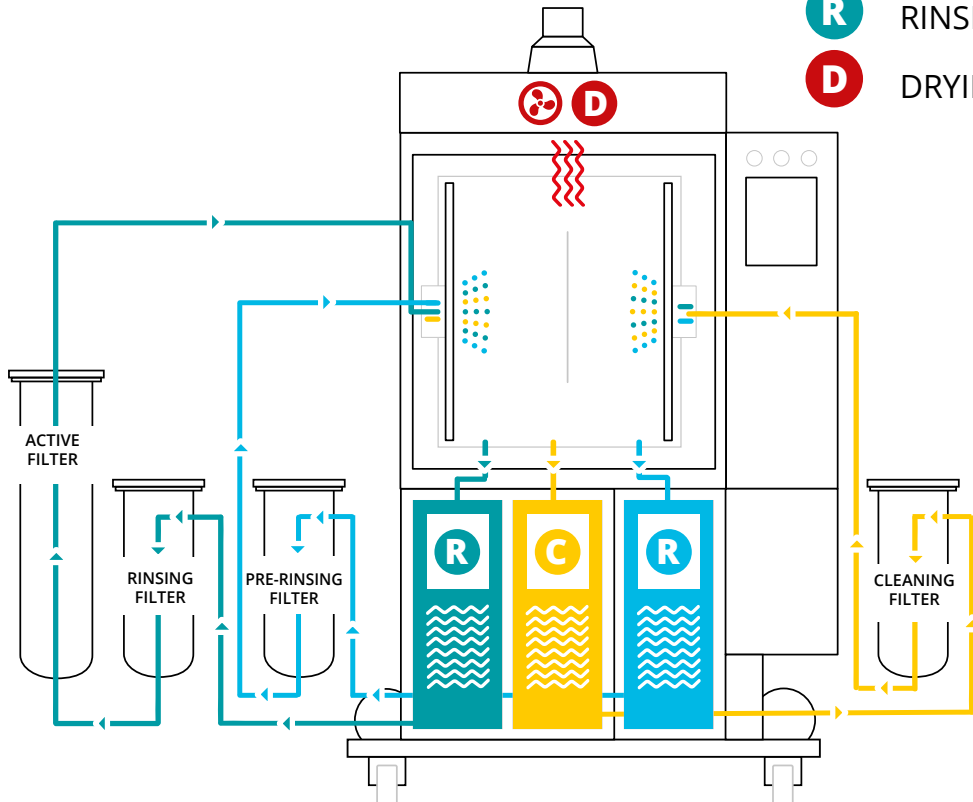


1 PROCESS CHAMBER



4 PROCESSES

- C** CLEANING
- R** PRE-RINSING
- R** RINSING
- D** DRYING



CLEANING PARAMETRES

| Cleaning Application | Suitability | Recommended processes temperature | | Total usual process time | Capacity per 8 hours |
|-----------------------------|-------------|-----------------------------------|--------------|--------------------------|----------------------|
| Stencil, misprint, squeegee | ★ | 20 – 40°C | 68 – 104 °F | 18 min. | 27 *** |
| PumPrint | ★ | 40 – 55°C | 104 – 131 °F | 18 min. | 27 *** |
| Conformal coating | ★ | 40 – 55°C | 104 – 131 °F | 60 min. | 192 * / 16 ** |
| PCBA | ★ | 35 – 55°C | 95 – 131 °F | 30 min. | 384 * |

LEGEND: ★ HIGHLY RECOMMENDED ★ RECOMMENDED ★ APPLICABLE

* PCBA eurocards / per 8 hours (calculated for dimension of 100 x 160 mm / 3.94 x 6.3 in)

** Parts in soldering coating 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



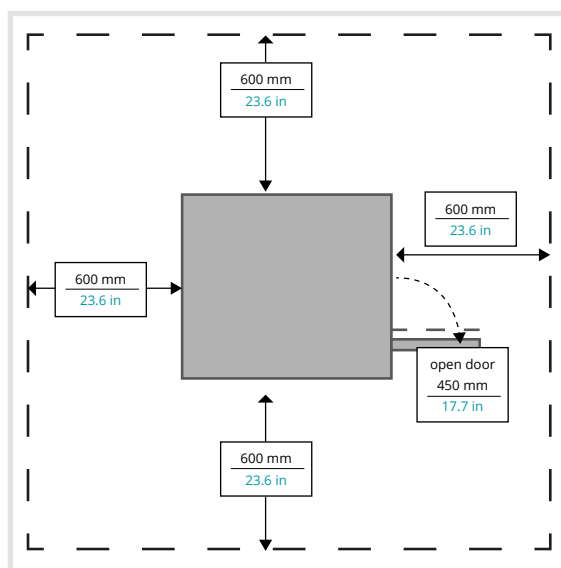
TECHNICAL PARAMETERS

| | metric units | imperial units |
|--|----------------------------------|-----------------------------------|
| Dimensions (w x l x h) | 1410 x 1390 x 2400mm | 55.5 x 54,7 x 94,4 in |
| Weight | 560 Kg | 1235 lbs |
| Ø energy consumption per cycle | 1,65 kWh | 1.65 kWh |
| Cleaning and rinsing fluid consumption per cycle | 0,05 – 0,3 l | 0.01 – 0.08 gal |
| Compressed air consumption per cycle | 900 l / cycle | 237.75 gal / cycle |
| Max. dimensions of the cleaned part with used air knife | 100 x 800 x 760 mm | 3,94 x 31,5 x 29,92 in |
| Exchangeable mechanical filter of cleaning and rinsing fluid | 5 – 200 µm | 5 – 200 µm |
| Spraying pressure / 45°C / 113°F | 2,2 Bar | 31.9 PSI |
| Range pressure – cleaning / 45°C / 113°F | 0,9 – 2,8 Bar | 13 – 40,6 PSI |
| Range pressure – pre rinse / 45°C / 113°F | 0,0 – 1,0 Bar | 0,0 – 14.50 PSI |
| Range pressure – rinse / 45°C / 113°F | 0,0 – 0,5 Bar | 0,0 – 7,25 PSI |
| Cleaning fluid flow rate | 200 l / min | 33 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 | 0 – 2000 µS/cm |
| 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 | 60 l | 15.9 gal |

DIMENSIONS



MINIMUM SERVICE SPACE AROUND THE MACHINE

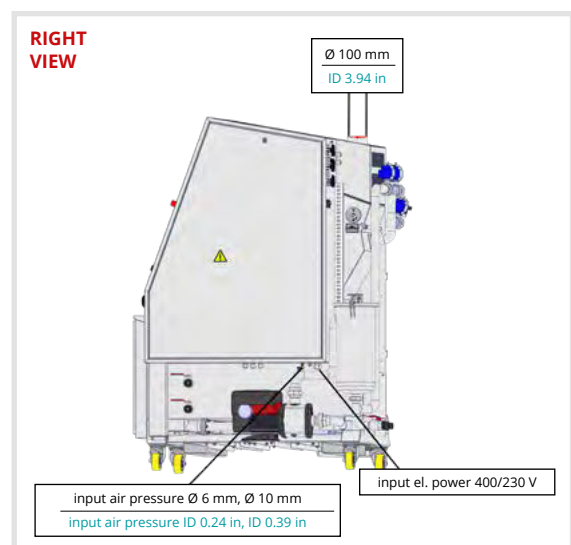
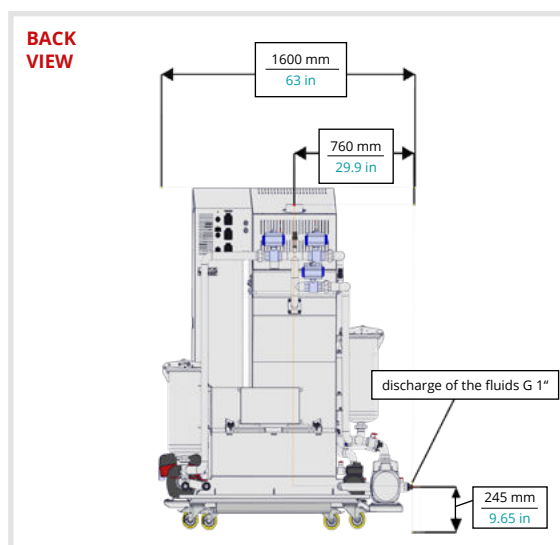
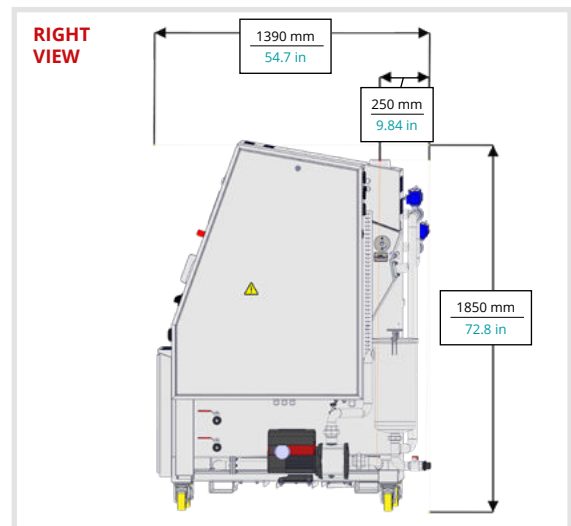




INSTALLATION REQUIREMENTS

| | metric units | imperial units |
|--|-------------------------------|---|
| Power supply | 400V, 32A, 50Hz (3+N+PE) | UL 400V, 32A, 60Hz* (3+N+PE) |
| Pmax | 13 kW | 13 kW |
| Compressed air connection | Pipe Ø 6 mm and Ø 10 mm - 5 m | Pipe ID 0.24 in and ID 0,39 in - 196,9 in |
| Recommended working pressure | 4,5 - 6 Bar | 65.25 - 87 PSI |
| Compressed air quality | 3. Class ** | 3. Class ** |
| Exhaust pipe diameter | Ø 100 mm | ID 3.94 in |
| Exhaust pipe capacity | 380 m³/h | 13400 ft³/h |
| Minimum liquid for first run | 3 x 50 l | 3 x 13.2 gal |
| Service space required around the device | 600 mm | 23.6 in |

* When using frequency convertor
 ** According to the norm ISO 8573-1



STANDARD EQUIPMENT



MECHANICAL EQUIPMENT

Filtration of mechanical particles

Chimney flap - automatic

Draft diverter with drip plate - 100 mm

Pressurized air coupling for external pump connection

Castor wheels with brakes - BLICKLE

Door lock - automatic

Manual air-bleeding for pumps

Mechanical filter lock

Glass level gauge in stainless steel housing

Spare parts (base kit)



ELECTRO EQUIPMENT

PLC controller + 8,4" touchscreen display - IDEC

Heating system - cleaning fluid, rinsing fluid

Drying system - hot air

Emergency stop button - EATON

ESD earthing point - for operator



SOFTWARE EQUIPMENT

Language version - Czech + English

Five programs with individually settable parameter

Three-level logging rights - operator, maintenance, engineer

Minimum level warning - cleaning, pre-rinsing and rinsing fluid

Liquid and filter replacement notification - cycle counting

Control system of fluids limit pressures

Real-time cleaning fluid pressure monitoring

MANDATORY EQUIPMENT



Status light main + acoustic signalization - IDEC

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

Conductivity measurement - rinse 0-2000 µS - blocking optional

Upgrade to 3-arm driven rotation

Air Knife - swinging - drying

Filtration 1PR sandwich - integrated with automatic regulation

Common fluids draining- manual control

OPTIONAL EQUIPMENT



HARDWARE EQUIPMENT

Automatic cleaning agent refilling (without pump-ready mix)

Automatic cleaning agent discharging (without pump)

Automatic pre-rinsing water refilling (without pump)

Automatic pre -rinsing water discharging (without pump)

Automatic rinsing water refilling (without pump)

Automatic rinsing water discharging (without pump)

Integrated pump for automatic discharge

Stainless steel drip tray - ESD floor protection

External portable pump

Integrated pump for manual discharge

Consumption savings - Residue air-isolation

Filtration sandwich - external

Drain valve with lock

Squeegee for reservoir tank maintenance



ELECTRO EQUIPMENT

Adjustable rotation arm speed (Combo)

Control of external exhaust ventilator - instalation at customer

Electronic control - drying spirals functionality

Frequency convertor

Transformer with/without UL



SOFTWARE EQUIPMENT

Fluid heating timer - cleaning, pre-rinsing and rinsing

Modification of cleaning system for 3rd class flammable liquid

Language mutation (CZE, ENG, GER, POL, CHI, RUS, ITA, SPA, MAY, HUN)



TRACEABILITY

Traceability OFF line

Traceability ON line

OPTIONAL EQUIPMENT



FRAMES EQUIPMENT

Frames for PCBAs

Frames for frameless stencils

Frames for frame stencils

Frames for VectorGuard stencils

Frames for squeegees

Frames - reduction for stencils



TROLLEYS, STANDS, HOLDERS EQUIPMENT

Mechanical table holder for a mechanical carrier frames

Mechanical manipulation trolley of PCBA holders - 10 positions

Mechanical manipulation trolley of PCBA holders - 8positions



EXTERNAL TANKS AND ACCESSORIES

Tank - 200l - rinse fluid

Conductivity measurement

Tank - 200l - cleaning fluid (readymix)

Air-based fluid mixing

Heating the fluids in the tanker (200 L)

Tank - 200l - cleaning fluid (concentrate) + dosing pump

1000l IBC tank

Monitoring the level in discharge external tank - IBC 1000 l

Monitoring the level in external tank for DI water - IBC 1000 l

Water pump with pressure tank



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.



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 cleaning systems 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 3 or 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** cleaning systems and their accessories.

Our cleaning systems, 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

Date of issue: **10/2023**

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

DCT Czech s.r.o.,
Tovární 85, 679 21 Černá Hora, Czech republic
e-mail: info@dct.cleaning, www.dct.cleaning