



# BETTER SOLUTIONS



**InJet®**

SPRAY IN AIR  
TECHNOLOGY



CHAMBERS



INDIVIDUAL  
PROCESSES



TECHNICAL DATA SHEET

# InJet® 388 DOUBLE TRIPLE CRRD CUSTOMLINE



## APPLICATION

STENCIL, MISPRINT, SQUEEGEE  
PUMPRINT  
PCB

## REMOVING

→ Solder pastes  
→ SMT adhesives  
→ Flux



## GENERAL INFORMATION

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### 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.

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### DEVELOPED AND INTENDENT FOR RECOMMENDED

APPLICATION	REMOVING
STENCIL, MISPRINT, SQUEEGEE	→ Solder pastes
PUMPRINT	→ SMT adhesives
PCB	→ Flux

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### 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. All chambers can be used in parallel, which increases the system’s capacity and reduces cross-contamination when compared with single-chamber devices.

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### CHAMBERS & PROCESSES

**4 PROCESS CHAMBERS (2 ROWS)**  
**4 PROCESSES - CLEANING, PRE-RINSING, RINSING, DRYING**

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### 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
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## GENERAL INFORMATION

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### BENEFITS

- 2. Touch panel 4,3" on output chamber
- 2-arm driven rotation - rinsing
- 3-arm driven rotation - cleaning
- Air Knife - static - clean chamber
- Air Knife - static - rinse chamber
- Focus drying

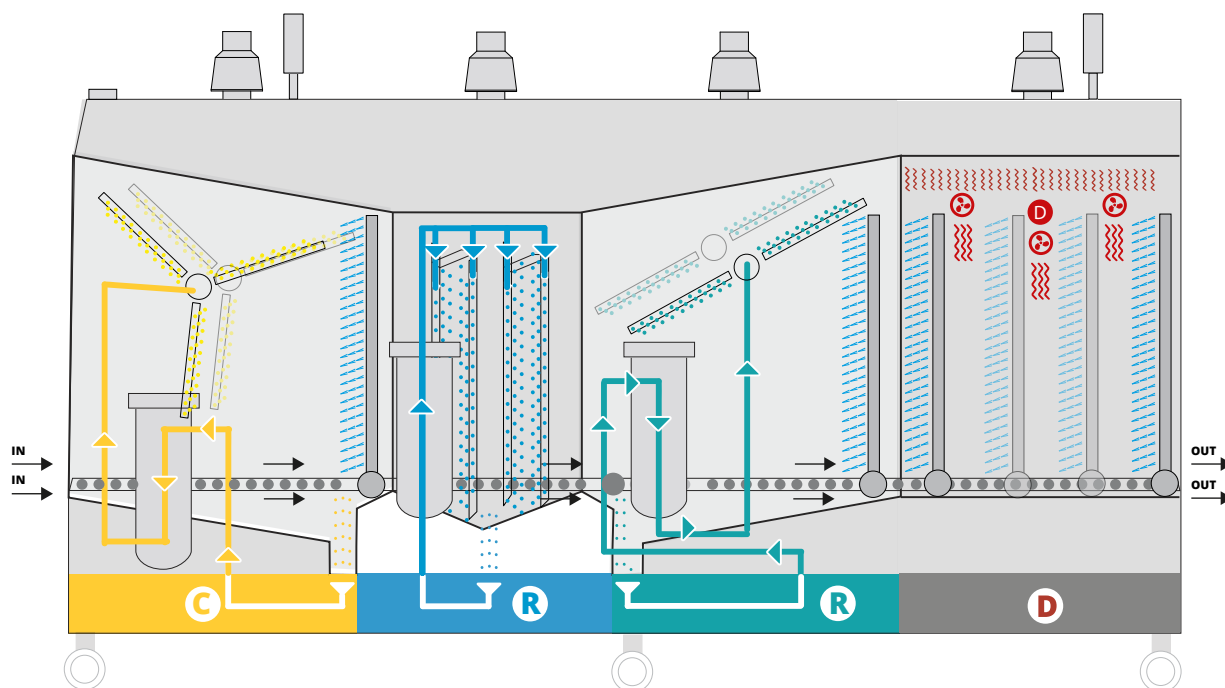


**4 PROCESS CHAMBERS (2 ROWS)**



**4 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



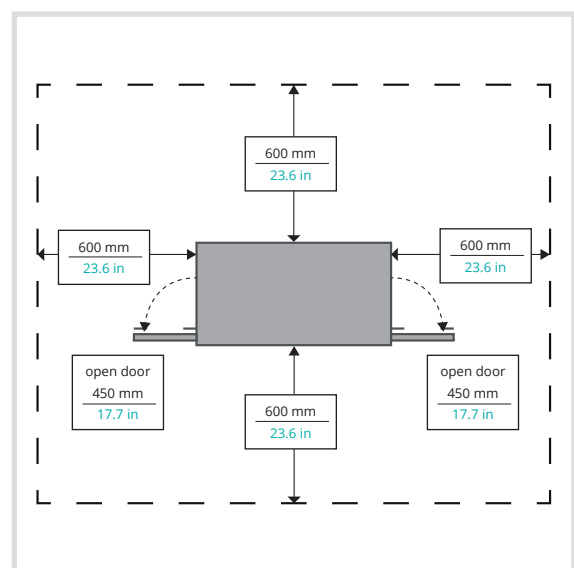
## TECHNICAL PARAMETERS

	metric units	imperial units
Dimensions (w x l x h)	1710 x 3760 x 1930 mm	67.3 x 148x 76 in
Weight	1620 kg	3572 lbs
Ø energy consumption per cycle	3,14 kWh	3.14 kWh
Consumption of cleaning agent per cycle - empty process chamber	0,2 – 0,5 l (15 min, 45°C)	0.1 – 1.13 gal (15 min, 113°F)
Consumption of pre-rinsing fluid per cycle - empty process chamber	0,2 – 0,5 l (15 min, 45°C)	0.1 – 1.13 gal (15 min, 113°F)
Consumption of rinsing fluid per cycle - empty process chamber	0,2 – 0,5 l (15 min, 45°C)	0.1 – 1.13 gal (15 min, 113°F)
Compressed air consumption per cycle	4 l / cycle	1.05 gal / cycle
Air consumption of Air knife - chemical residue isolation	332 l / min	88 gal / min
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 pressure – 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 pressure – 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	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	150 l	39.6 gal

### DIMENSIONS



### MINIMUM SERVICE SPACE AROUND THE MACHINE

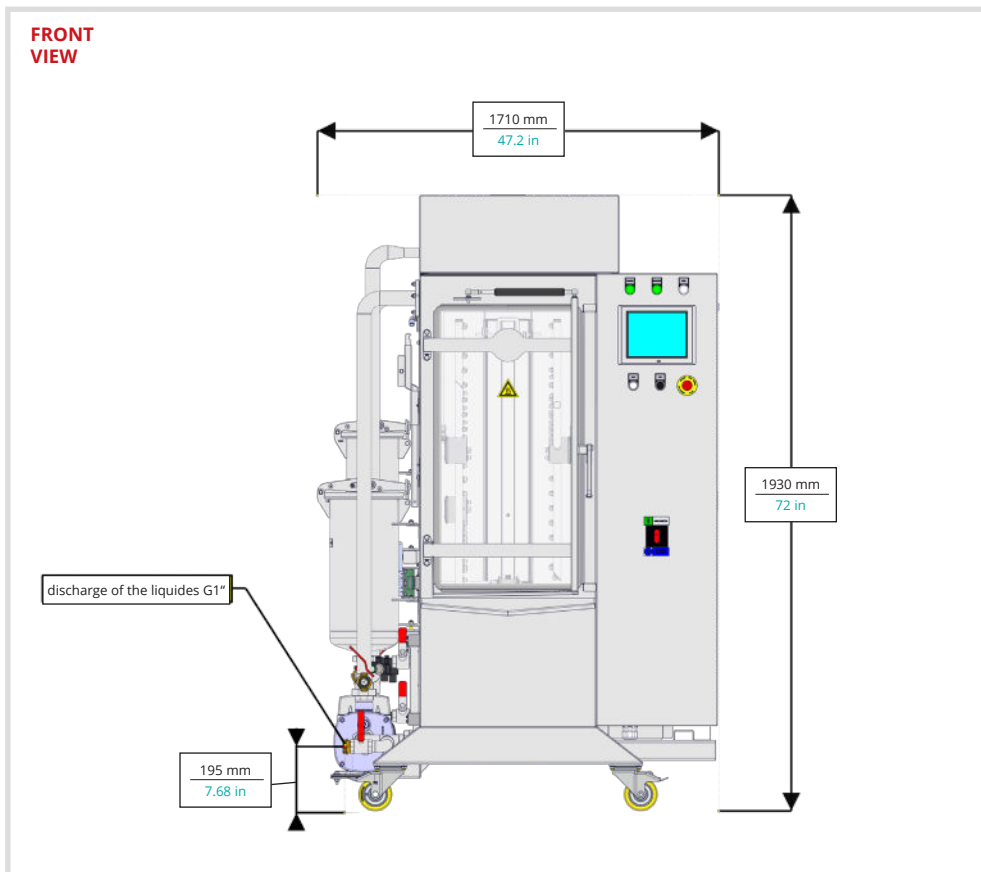




## INSTALLATION REQUIREMENTS

	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 - 5 m	Pipe ID 0.24 and 2x ID 0.39 - 196,9 in
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



## STANDARD EQUIPMENT



### MECHANICAL EQUIPMENT

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Filtration of mechanical particles

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Chimney flap - automatic

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Draft diverter with drip plate - 100 mm

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Pressurized air coupling for external pump connection

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Castor wheels with brakes

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Door lock - automatic

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Manual air-bleeding for pumps

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Mechanical filter lock

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Glass level gauge in stainless steel housing

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Spare parts (base kit)

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### ELECTRO EQUIPMENT

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PLC controller + 8,4" touchscreen display - IDEC

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3-arm driven rotation - cleaning

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2-arm driven rotation - rinsing

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Heating system - cleaning fluid, pre-rinsing fluid, rinsing fluid

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Drying system - hot air

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Emergency stop button - EATON

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ESD earthing point - for operator

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### SOFTWARE EQUIPMENT

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Language version - Czech + English

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Five programs with individually settable parameter

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Three-level logging rights - operator, maintenance, engineer

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Minimum level warning - cleaning and rinsing fluid

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Liquid and filter replacement notification – cycle counting

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Control system of fluids limit pressures

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Real-time cleaning fluid pressure monitoring

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## MANDATORY EQUIPMENT



2. Touch panel 4,3" on output chamber - IDEC

Status light main + acoustic signalization - IDEC

Conductivity measurement - pre-rinse 0-2000  $\mu$ S - blocking optional

Conductivity measurement - rinse 0-2000  $\mu$ S - blocking optional

Air Knife - static - clean chamber, rinse chamber

Focus drying - no SW control

Status light second - IDEC



## OPTIONAL EQUIPMENT



### HARDWARE EQUIPMENT

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Common fluids draining- manual control

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Common fluids filling- manual control

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Drain distribution valve - automatic control

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Automatic refilling - safety valve

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Automatic cleaning agent refilling - concentrate

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Automatic cleaning agent discharging (without pump)

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Automatic rinsing water refilling (without pump)

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Automatic rinsing water discharging (without pump)

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Automatic pre-rinsing water refilling (without pump)

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Automatic pre-rinsing water discharging (without pump)

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External pump for automatic discharge

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External portable pump

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Stainless steel drip tray - ESD floor protection

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Filtration 2PR sandwich - with automatic regulation

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Filtration sandwich - external

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Valve with lock

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Drain valve with lock

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Squeegee for reservoir tank maintenance

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Walkable platform TWIN/DOUBLE TRIPLE

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### ELECTRO EQUIPMENT

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Adjustable rotation arm speed

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Electronic control - drying spirals functionalit

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Electronically continuous level measurement - cleaning

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Electronically continuous level measurement - rinse

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Electronically continuous level measurement - pre-rinse

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Control of external exhaust ventilator - instalation at customer

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Frequency convertor

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Transformer with/without UL

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ECA automatic concentration measurement

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### SOFTWARE EQUIPMENT

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Fluid heating timer - cleaning , pre-rinsing, rinsing

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

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## OPTIONAL EQUIPMENT



### TRACEABILITY

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Traceability OFF line

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Traceability ON line

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### FRAMES EQUIPMENT

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Frames for PCBs

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Frames for frameless stencils

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Frames for frame stencils

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Frames for VectorGuard stencils

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Frames for squeegees

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Frames combined

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### TROLLEYS, STANDS, HOLDERS EQUIPMENT

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Mechanical table holder for a mechanical carrier frames

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Mechanical manipulation trolley - 1 PCB carrier frame - Twin

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Mechanical manipulation trolley of PCB holders - 10 positions

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Mechanical manipulation trolley of PCB holders - 8 positions

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Trolley guidance TWIN

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### EXTERNAL TANKS AND ACCESSORIES

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Tank - 200l - rinse fluid

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Conductivity measurement

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Tank - 200l - cleaning fluid (readymix)

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Tank - 200l - cleaning fluid (concentrate)

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Air-based fluid mixing

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Heating the fluids in the tanker (200 L)

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

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1000l IBC tank

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Monitoring the level in discharge external tank - IBC 1000 l

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

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Water pump with pressure tank

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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

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

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