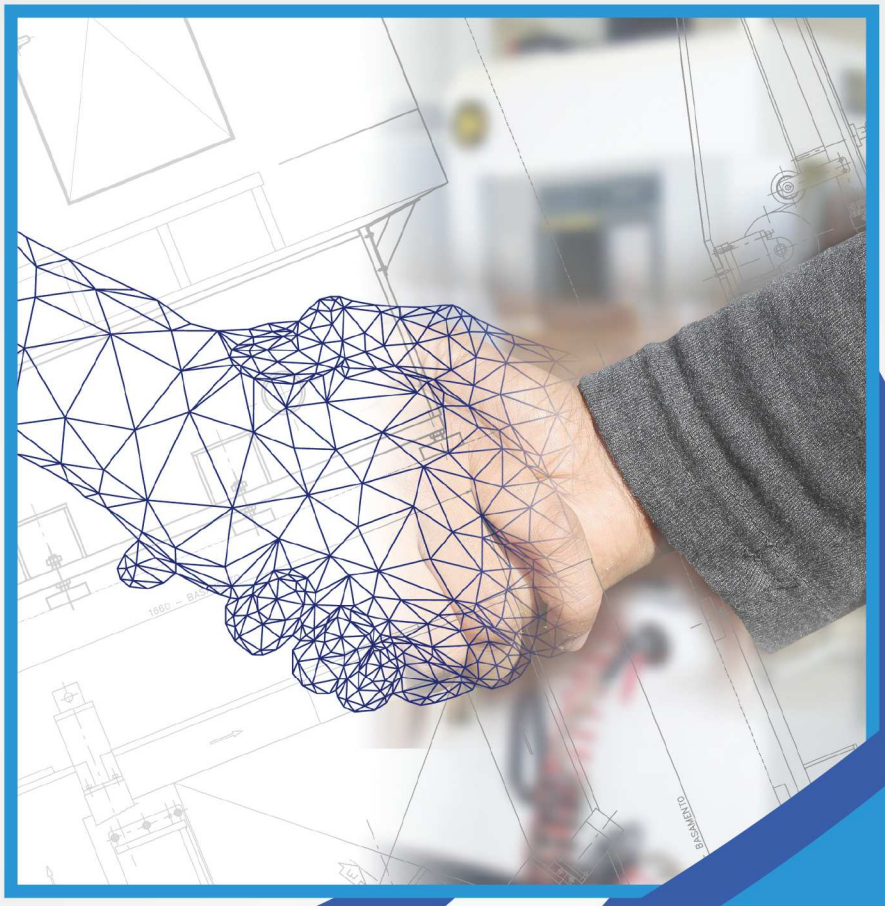
BOCCETTI S.R.L.

WASHING MACHINES
SD SERIES



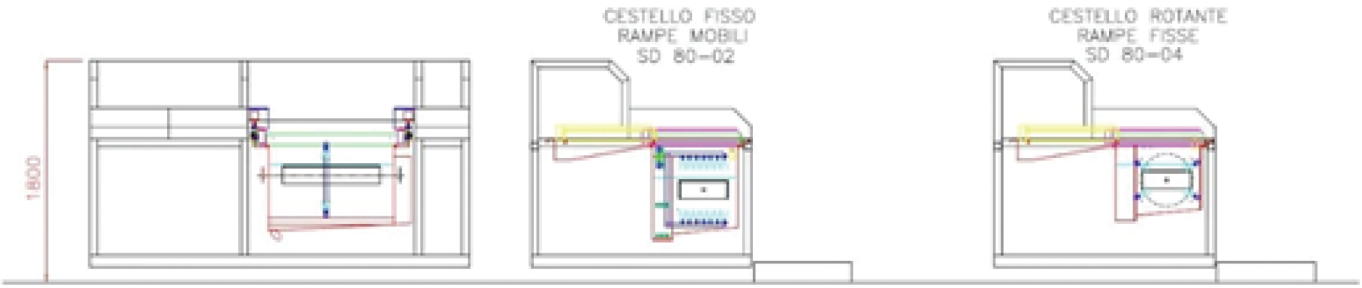
BOCCETTI S.r.l. with YOU since 1970

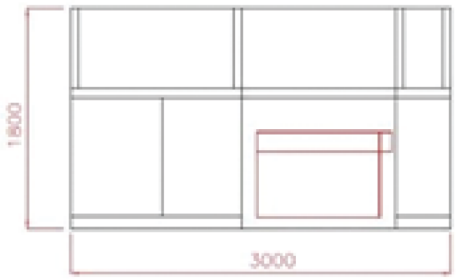
WASHING MACHINES SD SERIES

The washing machines of the **SD series** are designed to carry out, in a single tank system, multiphase washing cycles with various process fluids and remarkable washing techniques, all aimed at obtaining a very high degree of cleanliness and drying, even on mechanical parts with complex shapes.

The SD series washing machines are widely configurable as described below:

Washing machine size XX	
Basket 600x400x(h)150mm	60
Basket 800x450x(h)180mm	80





Basket types:

The basket containing the parts to be cleaned can be "Fixed" or "Rotating" (around a horizontal axis). In the latter case, as the mechanical parts are overturned, the probability of detachment of metal particles and swarf from any cavities or complex shapes present is increased.

The basket (equipped with a lid) or the "dedicated" mechanical interface for clamping the parts, are placed inside a "Rotating Cradle" and made integral with it by means of a simple mechanical system that guarantees minimum contact with the surfaces of the parts being washed. If it is not possible to generate a total tilting of the basket or of the mechanical parts, it is possible to use an alternate tilting with variable angle.

Spray **ramps:**

The spraying ramps, equipped with "full cone" or "fan" spray nozzles, can be fixed or mobile. The "fixed ramps" can be "wall-mounted" (using the walls of the tank) or arranged on the periphery of the "virtual cylinder" generated by the rotation of the rotating basket.

The "mobile ramps", characterised by a horizontal translating motion (parallel to the axis of rotation of the rotating basket, or to the longest side of the fixed basket) have various geometries that allow the parts to be sprayed from all possible angles.

Match Basket / Ramps YY		Spray ramp		
		Fixed	Mobile	Fixed and mobile
Basket	Fixed	01	02	03
	Rotating	04	05	06
	Tilting	07	08	09

Cleaning **cycle:**

Washing cycles are characterised by a sequence of fully programmable steps that can be performed with different process fluids and different washing techniques:

Standard **process** fluids:

- Cleaning solution (neutral, acidic, alkaline);
- Passivation solution;
- Softened water;
- Demineralised water

Washing/rinsing/drying techniques:

- Immersion washing with hydrokinetic action;
- Immersion washing with ultrasonic activation;
- Spraying washing (recirculating or disposable);
- Blow-drying;
- Hot air blowing

Process fluids Z	
N°1 tank	1
N°2 tanks	2
N°3 tanks	3

The configuration of a washing machine of the SD series is therefore characterised **by the size** (drum size), the combination of **drum type** and **spraying ramps** to be used, as well as the **process fluids** that will be used in the various phases of the washing cycle.

The identification code of a washing machine of the SD series will therefore be of the type:

SD XX – YY -Z

XX: Workpiece basket size (Length)
YY: Matching basket type and spraying ramps
Z: No. of storage tanks installed for process fluids

WASHING MACHINES SD SERIES

The process tank of the SD series washing machines is equipped with an automatic "horizontal sliding" cover that allows automatic or manual loading of the parts to be processed.

STANDARD EQUIPMENT
Automatic horizontal sliding lid, with visual mirror and "lid closed" recognition sensor
Stainless steel process tank with level controls
Fixed, rotating or tilting basket (depending on configuration)
Fixed or mobile spraying ramps (depending on configuration)
Touch Screen operator panel
Stainless steel tank with level controls (for each process fluid)
Thermoregulation system (for each process fluid)
Recirculation and filtration circuit (for each process fluid)
Automatic filling and level control circuit (for each process fluid) with automatic dosing of concentrated product
Overhead blowing ramp (if mobile spraying ramp is present)
Coalescence extractor fan for vapour extraction
Bottom antistillicides tank

In addition to the standard configuration relating to the type of drum, the spraying ramps and the number of process fluids involved in the cleaning action, a large number of "options" allow the performance of the washing machine to be increased, making it more suitable for specific production requirements.

OPTIONAL EQUIPMENT	
A	Ion exchange softener for softened water production (washing and/or rinsing)
D	Reverse osmosis demineraliser for demineralised water production (rinsing)
US	Ultrasonic generation system (specific power approx. 15W/lt) at 25 or 40 kHz
1	Warning system for low level of concentrated product
2	Cartridge de-oiling system
3	Wastewater recovery circuit (storage tank with level controls and electric recovery pump)

A-D The softener and demineraliser allow the production of ever purer washing water. Their use is particularly recommended for finishing washes and to ensure that the washing circuits remain clean over time. The equipment, which can be used individually or in combination, is supplied separately from the washing machine and installed on a special technical module to be placed near the washing machine.

US The ultrasonic wave generation system is suitable for all contamination particularly adherent o the surfaces of the mechanical parts to be treated. With the same installed power, the Ultrasonic system can be supplied at low or high frequency (25 or 40kHz).

1 Each canister of concentrated product (detergent, passivator or other) can be fitted with a special 'canister cap' containing a 'low level' warning level sensor.

2 For each process fluid tank, a branch of the recirculation and filtration circuit can be equipped with an oil separator containing a special cartridge made of oleophilic fibres capable of absorbing the residual oils present in the wash water.

3 The "Wastewater circuit" is useful whenever the washing cycle involves "disposable drains" and there is no sewage sump.

WASHING MACHINES SD SERIES

GENERAL TECHNICAL CHARACTERISTICS FOR WASHING MACHINE **SD 60 – 05 - 2 (Full Optional)**	
Overall dimensions	3000 x 1800 x (h)1800mm (floor standing)
Tub edge height (with front footboard)	1000 mm
"Rotating" basket dimensions	600 x 400 mm
Mobile spray ramp	YES
Max. workpiece height	150 mm
Max. workpiece basket load	50 daN
Process tank capacity	c.a. 230 lt
Detergent solution tank capacity	c.a.650 lt
Passivating solution tank capacity	c.a.650 lt
Wastewater tank capacity	60 lt
Electrical power supply	400V – 50Hz three phases + neutral + ground
Installed electrical powe	c.a. 40.0 kW
Max. Detergent solution temperature	85°C
Max Temp. passivating solution	85°C
Pneumatic power supply	Pressurised air a 6 bar, ∅½"
Water supply	Mains water, 1 bar, ∅½"
Vapour extraction flow connection	D250 mm
Vapour extraction flow connection	500 mc/h
Washing machine weight (net)	c.a.1850 daN

Strengths:

1 – SAFETY
The presence of the magnetic safety lock, which prevents any connection between the operator and the process tank, makes the use of the washing machine extremely safe.

2 – RESPECT FOR THE WORKING ENVIRONMENT
The special "coalescence filtration" of the emitted vapours, the anti-hydration tank and the integral insulated panelling of the washing machine guarantee a high level of protection of the working environment.

3 – EASE OF USE
The clear and intuitive graphics of the Touch Screen operator panel simplify all the command and control actions of the Washing Machine.

4 – ERGONOMY
The height of the tank edge, the position of the lid handle and the concentration of all the controls near the "operator station" guarantee maximum ergonomics of the washing machine.

5 – COMPACTNESS
The optimisation of the spaces, used to define the internal layout, has made it possible to achieve a reduced "machine footprint", simplifying installation even in tight working environments.

6 – VERSATILITY
The large number of optional equipment makes the Washing Machine extremely flexible

7 – RELIABILITY
Top quality electromechanical components and effective design solutions give the washing machine a high degree of reliability.

8 – EASY MAINTENANCE
The diagnostics available on the operator panel and the possibility of monitoring PLC "inputs" and "outputs" contribute, together with the effective arrangement of the electromechanical components on board the machine, to simplified maintenance activities.

BOCCETTI S.r.l. with YOU since 1970

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