Used Tecnofirma Washing Machine For Sale

Table of contents **Page**

Quotation Washing machine

1.1 Machining volume

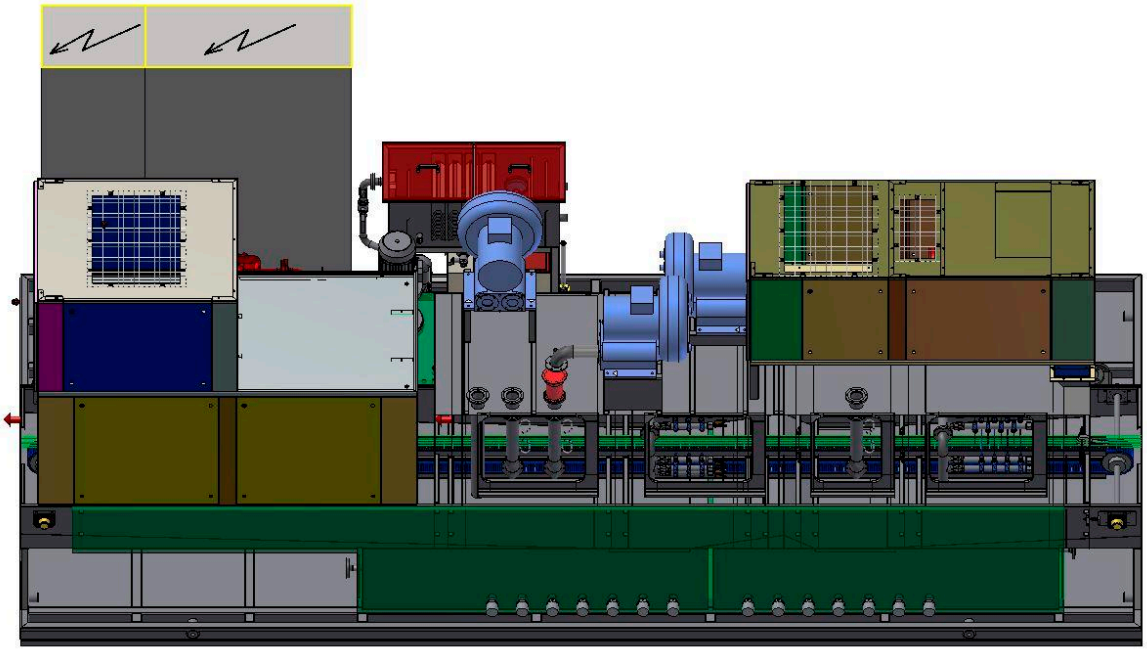
Machining volume for Washing with 1 machine for the following machining task:

- Automatic loading and unloading by robot
- Washing

Production data 1st

Number of components per clamping position	
Machine run time	13 sec (850.000 Parts per year)
Number of machines for required production	Washer
Process cooling	
Load and unload	Automatic loading and unloading a conveyor line

1.2 Basic machine



Principle pictures

1.2.1 Design data

Workpiece:	Con rods
Material:	Steel
Dimensions:	210mm x 85mm x 27mm = Ford 6,9
Weight:	Max. 5kg / part
Cycle time:	13 sec. / workpiece
Position of the parts:	Parts are put sidewise with large eye ahead on conveyor
Machine availability:	> 95 %
Contamination:	Small chips, oil, coolant *According to the current production status. All dirt must be aqueous soluble, and not mechanically jammed yet dried over a longer period. The removal of flux and chips is only possible if they are not jammed, rusted or burnt on the surface and pressed firmly.*
Detergent:	Neutral, alkaline *It must be ensured that a suitable cleaning agent is used, which meets the required parameters and does not foam and remains spots !!*
Medium:	Aqueous (water from the domestic supply) The water quality must not have contents, which have influence to the chemical agent.

1.2.2 Machine data

Approx. - Dimensions:	Length Width Height	6.500 3.000 3.000	mm mm mm
Loading height:	approx. 1000		mm – upper edge belt
Approx. - Mass:	Empty Filled	5.800 8.500	Kg Kg
Material:	Stainless steel, material no. 1.4301 or rust-proof materials Inner paneling sheet metal thickness 2,0 mm Outer paneling sheet metal thickness 1,5 mm		
Isolation:	30 mm double-walled in stainless steel Isolation material pressed rock wool		
Piping:	Stainless steel 1.4301 uninsulated		

1.2.3 Treatment plan

Workflow: (general description)		The machine works as a permanent throughfeed cleaning machine at a maximum bath temperature of approx. 65° C. The parts are cleaned according to the step cycle principle (approx.. 0,5 – 4 m/min); they are **transported continuously** through the machine on the wire eye link belt
Step 1	Spray cleaning	The spray cleaning is realized by means of specifically arranged nozzles which wet the parts from all sides. Cleaning at a bath temperature of max. 65°C, a pump capacity of approx. 24m³/h and an injection pressure of approx. 4 bar.
Step 2	Blowing-off	The blowing-off is realized by means of specifically arranged air knifes.
Step 3	Rinsing	The spray cleaning is realized by means of specifically arranged nozzles which wet the parts from all sides. Rinsing at a bath temperature of max. 65°C, a pump capacity of approx. 24m³/h and an injection pressure of approx. 4 bar.
Step 4	Drying	The subsequent drying takes place by means of blower with air heater, which acted on by air over airblades with high flow rate that parts.
Step 5	Cooling	The cooling is effected by an inline recirculation cooler

1.2.4 Specifications

Cleaning tank:	- Volume approx. 1.000 liters, funnel-shaped with a discharge of 2“ to a flange - Maintenance lid with vapor screen from top - Pump 24m³/h, 4 bar power - Suction sieves mesh width 1 mm² - Ball valve on the pressure side of the pump - Heating by immersion heaters with 9 kW each 45 kW heating power total Heating-up period approx. 2 hours

Temperature displayed on the operating panel – target / actual
Operating temperature max. 65°C
Cleaning temperature approx. 60-65°C
Level control via a digital measuring probe or a float switch
(protection against dry-run, minimum, maximum and overflow)

Filter systems:

- 1 fine filter by Eaton fineness 100 µm, switch type
- including vent- /drain cock
- Differential pressure display coupled with the PLC

- 1 dosing appliance, volume-driven Beta 4 Prominent
- Suction lance with foot valve a. electronic monitoring
  (the valves hat to be determined empirically)

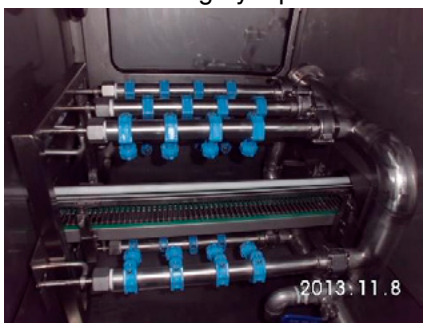
- 1 gravity oil separator (plate-phase-divider)
  Recirculation capacity approx. 300 liters by a rotary or diaphragm pump
  Work by means of gravity and coalescence (drips clog together for the separator).

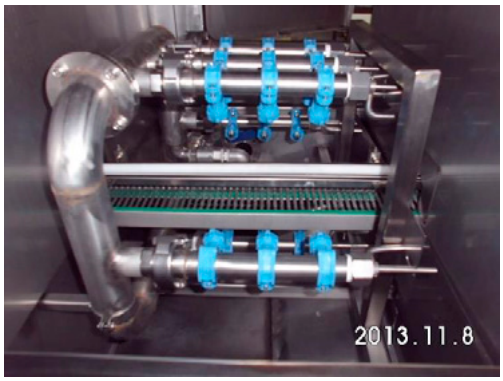
Example of gravity oil separator

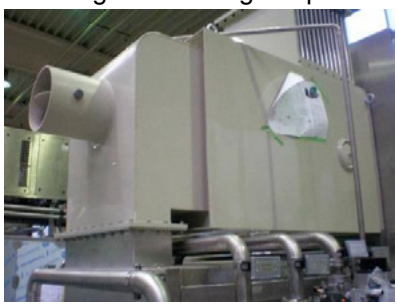
Example of oil separator suction unit

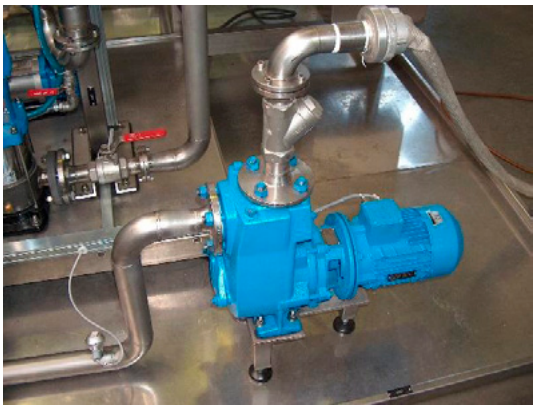
Spraying strings:

- On top, at bottom and lateral
  quick-acting closures by means of quick couplings
- Fixation by fixing pins
- Alignment by pins
- Positioned nozzle for possible problem areas

	Nozzles: - Nozzle-system from Lechler - Basic body fixed as a hose clamp - Nozzle insert is quickly replaceable as a clip system - Nozzle insert as a stainless steel nozzle - Nozzle monitoring by a pressure sensor on PLC 
Blowing-off:	- 1 HP-blower (side-channel-blower) by GardnerDenver or a similar brand 300 m³/h, 200 mbar, approx. 5,5 kW 
Rinsing tank:	- Volume approx. 1.000 liters, funnel-shaped with a discharge of 2“ to a flange - Maintenance lid with vapor screen from top - Pump 24m³/h, 4 bar power - Suction sieves mesh width 1 mm² - Ball valve on the pressure side of the pump - Heating by immersion heaters with 9 kW each 45 kW heating power total Heating-up period approx. 2 hours Temperature displayed on the operating panel – target / actual Operating temperature max. 65°C Cleaning temperature approx. 60-65°C Level control via a digital measuring probe or a float switch (protection against dry-run, minimum, maximum and overflow) **Filter systems:** - 1 screen basket in the container return mesh size 1 mm - 1 fine filter by Eaton fineness 50 µm nominal / manual double reversible - including vent- /drain cock - Differential pressure display coupled with the PLC

	 **Spraying strings:** - On top, at bottom and lateral quick-acting closures by means of quick couplings - Fixation by fixing pins - Alignment by pins - Positioned nozzle for possible problem areas **Nozzles:** - Nozzle-system from Lechler 30 m³/h, 4 bar - Basic body fixed as a hose clamp - Nozzle insert is quickly replaceable as a clip system - Nozzle insert as a stainless steel nozzle Nozzle monitoring by a pressure sensor on PLC 
Hot-Air Drying:	- 2 HP-blower (side-channel-blower) by GardnerDenver or a similar brand 300 m³/h, 200 mbar, approx. 5,5 kW - Inline air heater

	
Re-cooling	- Recirculation air tunnel - Operation with coolant R 404a or similar - Temp. re-cooled 25± 5°C - Tunnel Length approx.. 2m 
Cascade-system:	- Cascade from the rinsing tank to the cleaning tank 4 m³/h, 0,5 bar
Suction:	- 1 Swath-Suction-Exhaust type approx.. 2000m³/h (connections to be done by the customer) - The water consumption is depending on several factors like facility humidity, Washing- and rinsing temperature etc.. 
Maintenance doors:	**Tank:** (isolated design) - Dimensions to maximum, depending on the variable space approx. 600 x 500 mm **Tunnel:** (isolated design) - Dimensions to maximum depending on the available space approx. 600 x 500 mm - Sealing by a variable sealing tape - Drop chamfer with a return into the machine - Window in the cleaning- and drying zone
Floor trough:	- Stainless steel 1.4301 - In-Line with the water resources law §19 with test certificate

	- Sealed in an airtight way - Leak detector with report to the PLC
Waste water pump:	Standard: - Overstrain pump, from KSB, 4 m³/h, 2 bar, intake socket 50mm, pressure - Sockets 50 mm (2" duct, height max. 6 m; l = max 50 m) - Self-priming waste water pump with dry-run protection 
Electric:	- PLC by Siemens S7/300 Siemens KTP 400 (in the switch cabinet´s door) with a clear text display for error messages etc. Primary operating parameters (e.g. pump- and injection pressure, temperature, etc. can be read on site and on the control panel - Switch cabinet from Rittal with a switch cabinet cooling - Time switch (on a weekly base) - Display in English
Control system:	- Temperature control of max. – min. - Level control, pump protection against dry-run - Control of the maintenance doors and all built-in aggregates - Pressure control of the trough

1.2.5 Energy data

Electric connection:	400V / 50Hz
Total connected load:	Approx. 140-150 kW + AMT System
Domestic water supply:	R 1", 3-6 bar /

1.2.6 Others

No fixtures included

1.3 Layout & Pictures