

**WALTHER
TROWAL !**



BRA SERIES

TROWAL BRA 1600 AND BRA 2500 CUTLERY WASHING MACHINE

The all-in-one solution for cutlery cleaning

We improve surfaces

Dirty cutlery

A well-known problem

Cleaning of dirty cutlery parts, especially removal of dried on encrusted food, is extremely laborious, time-consuming and costly. Standard washing machine systems cannot generally provide a perfect and stainless cutlery cleaning result without much effort.



An innovative solution

Walther Trowal, specialising in surface treatment technology for over 75 years, has developed the hydro-mechanical **3-stage technology** that:

- cleans
- rinses and disinfects
- dries and polishes

An efficient process

Cutlery parts of any kind, from the teaspoon to the soup ladle, can be cleaned without problems, with low personnel requirements and minimum energy and cleaning agent usage. The time consuming and labour intensive pre-cleaning of the dirty cutlery can be eliminated.



The hydro-mechanical 3-stage technology

Step 1: Cleaning the cutlery

In the washing bowl, the dirty cutlery parts are mechanically cleaned in a polishing mass of media under vibration without laborious pre-cleaning. The specially developed cleaning agent 'Trowaclean' removes food residue and impurities which are simply discharged. The cleaning time can be set individually depending on the degree of cleaning required. Trowaclean has been developed especially for rinsing at temperatures below 40°C and thus allows low-energy and environmentally friendly cleaning in a low temperature range. Even stubborn encrusted food residues are removed reliably in one go.



Step 2: Disinfecting and rinsing the cutlery

The cleaned cutlery parts coming from the washing bowl are now transferred automatically to the rinsing system and are disinfected there with fresh water. At this stage the cutlery parts are already visually and hygienically clean.



Step 3: Drying and polishing the cutlery

The cutlery, which is still wet, slides from the rinsing system into the drier and passes through a spiral-shaped bowl that is filled with heated and germ-free drying granules. Completely surrounded by the drying medium, the cutlery is dried gently and polished at the same time. In the separation area, the cutlery is separated from the drying granules and slides into the provided cutlery basket. The "hotspot" in the drier is heated up to over 130°C for a short time and therefore any germs in the granules are killed.



Trowal cutlery cleaning systems of the BRA series

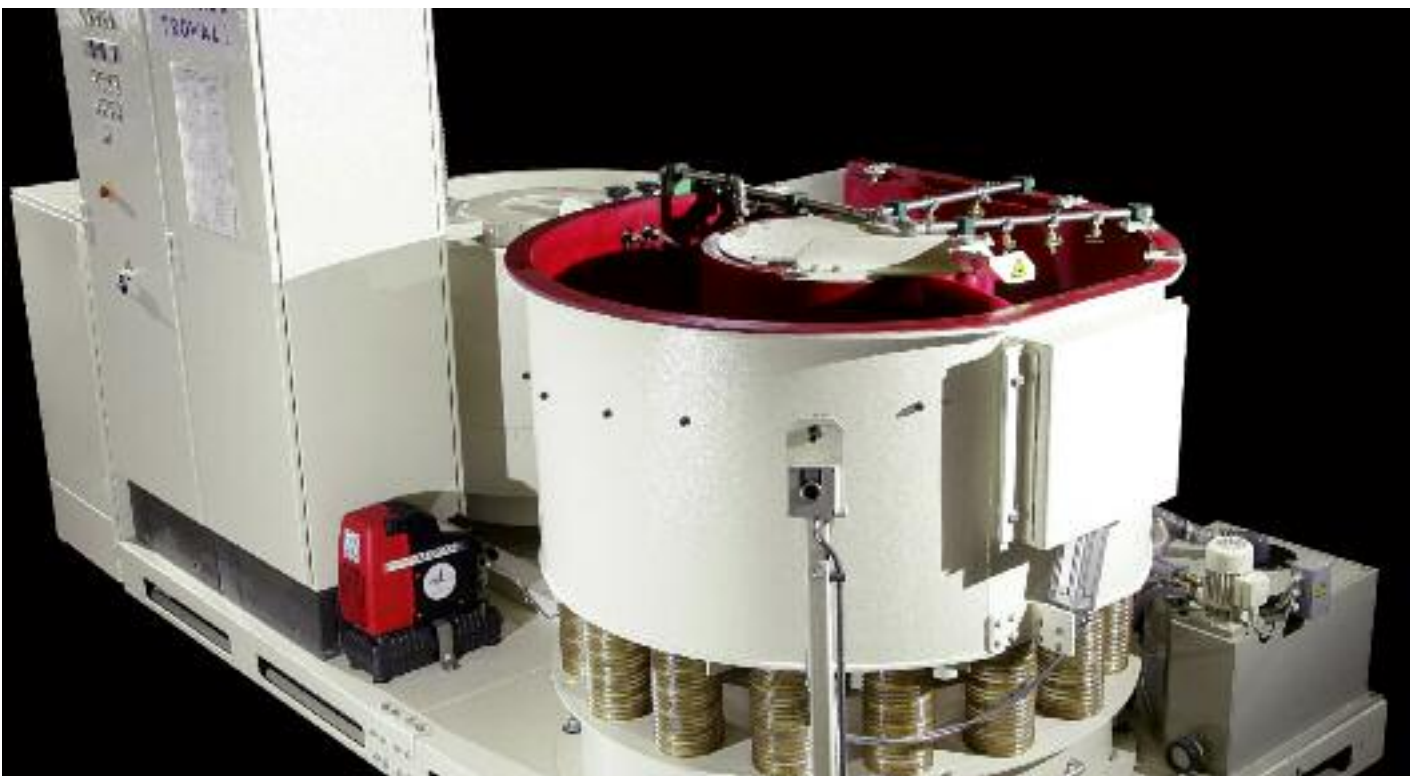
In contrast to common cleaning technology, Trowal cutlery cleaning systems are operated with special polishing media which offers many advantages. The consumption of cleaning agent and water is reduced by the mechanical cleaning effect, and so does the power consumption because the water does not need to be heated up to more than 40°C. Furthermore, a very high cleaning performance with high gloss can be achieved. Even stubborn dirt and rust can be removed reliably without any pre-treatment of the cutlery.

BRA 600-T

The best choice for smaller catering companies, canteens or big hotels is the BRA 600-T. This machine allows cleaning of up to 600 cutlery parts per hour. During this process, the cutlery surface gains a clear metallic gloss. The BRA 600-T stands out due to its easy handling and little space requirements and also allows reconditioning of tarnished cutlery. For final drying, the cleaned cutlery parts are filled manually into a granulate drier of the BT series.
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BRA 1200/ 1600/ 2500

Bigger catering companies and canteens with a cutlery throughput of more than 1,000 parts per hour are always well prepared with the BRA 1200, 1600 and 2500. These models are fully automatic cleaning systems in which the cutlery passes through all three cleaning stages. This results in a germ-free and high-gloss final product since the machine outperforms hygienic requirements (DIN 10510:2008-06). The degree of automation and little handling effort help saving time and money.



BRA 1200

Reconditioning the cutlery

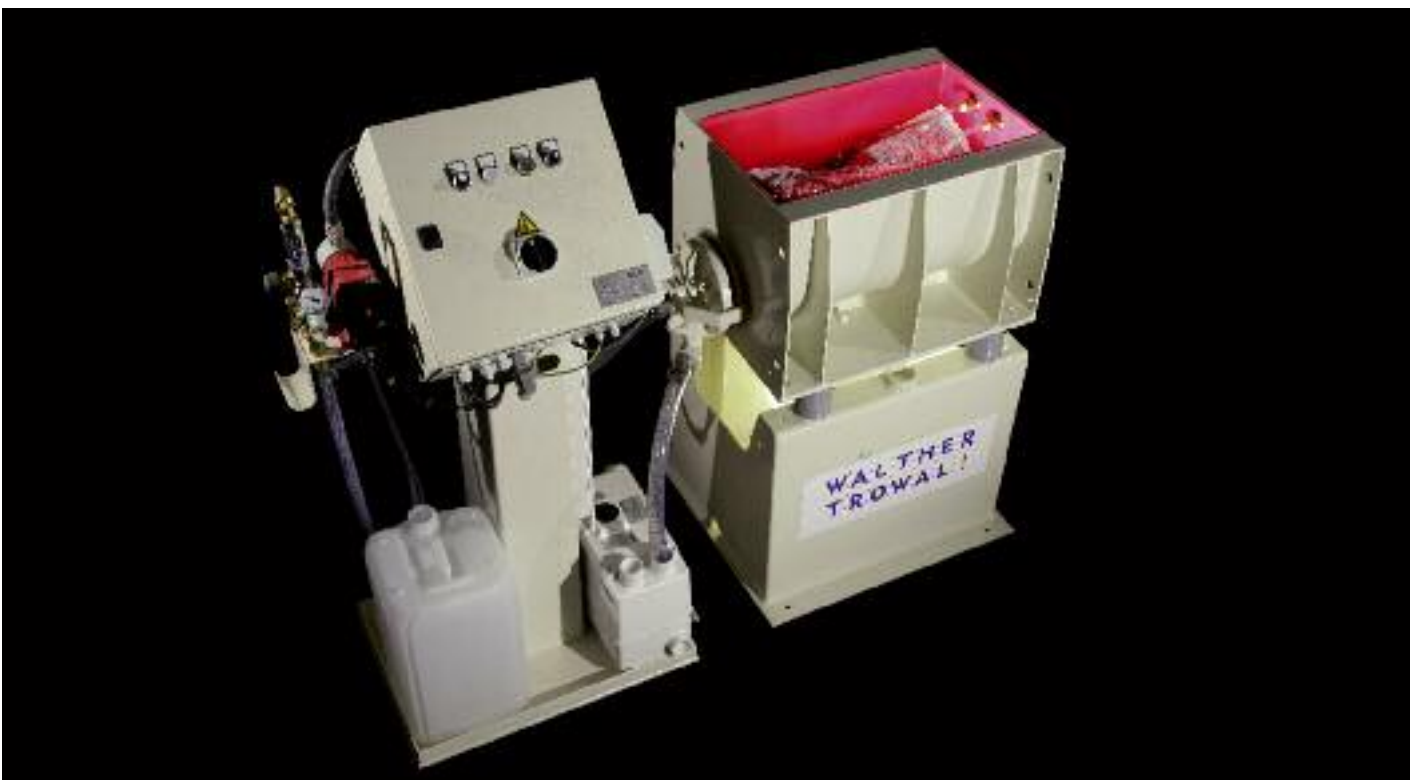
Under continued use, cutlery parts become tarnished, they show scratches, lime scale and corrosion stains which cannot be removed by conventional washing. The BRA allows reconditioning of cutlery and kitchen utensils made of stainless steel and sterling silver.

Technical data				
Machine type	BRA 600-T	BRA 1200	BRA 1600	BRA 2500
Cutlery parts per hour	600	1,200	1,600	2,500
Electric supply (V)	230	400	400	400
Max. power* (kW)	0,25	20	20	45
Installed power (kVA)	0,9	28	28	51
Fresh water consumption (l/h)	ca. 80	ca. 150	ca. 240	ca. 350
Working temp. washing machine (°C)	-	≤ 40	≤ 40	≤ 40
Working temp. drier (°C)	-	≥ 65	≥ 65	≥ 65
Dimensions L x W x H (m)	1,5 x 0,8	3,1 x 1,85	3,3 x 1,85	3,9 x 2,5

* the actual energy consumption is 50 % after having reached the operating temperature.

Your advantages at a glance

- low cleaning agent and water usage
- low power consumption
- minimum cleaning and maintenance requirements
- no pre-treatment of heavily soiled, encrusted cutlery parts
- low labour requirements due to all-in-one washing, rinsing and drying
- very high cleaning power and therefore high-gloss finish of the cutlery parts
- gentle drying and polishing
- germ-free and high-gloss final product
- very hygienic technology (outperforms the requirements of DIN 10510:2008-06)



BRA 600-T

Trowal Cutlery Drier / Polisher

In spite of a modern cleaning technology, knives, forks and spoons seldom leave the washing machines completely dry and stain free. Result: cutlery cannot be used without labour intensive polishing. The Trowal BT cutlery drier range provides glossy and hygienic results.

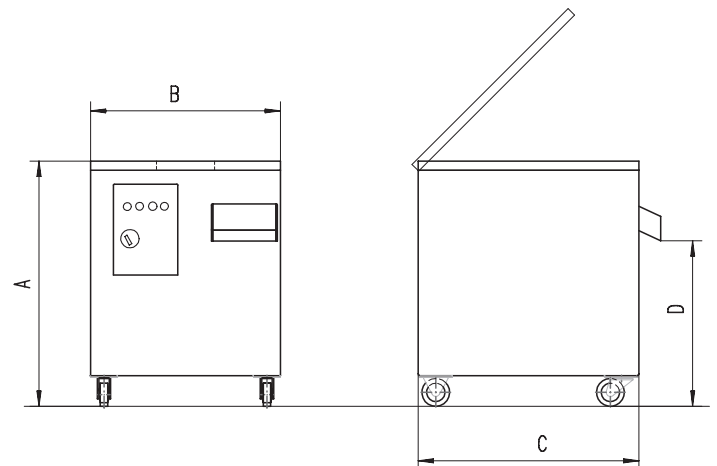
Mode of operation

The wet and stained cutlery passes through a spiral-shaped bowl that is filled with heated and germ-free drying granules. Completely surrounded by the drying granules, your cutlery is gently dried and polished. In the separation area, the cutlery is separated from the drying granules and slides into the provided cutlery basket.

Low space requirements, high functionality and maximum economic efficiency characterize the compact construction. Easy hygienic cleaning, the degree of automation, easy loading and removal of the cutlery parts, as well as the use of high-quality and wear-resistant materials, are some of the advantages!

Advantages at a glance

- High cutlery throughput
- Easy, hygienic cleaning
- The granules are highly germ-free due to high temperature 'hot spot'
- New heating technology: short heating-up time and very constant temperatures
- Low-noise level of < 70dB(A)
- Direct feeding of the drier with filled cutlery baskets (BT 50, BT 200)
- Ease of use (simple controls)



	A	B	C	D
BT 15	850	520	620	600
BT 25	800	620	720	540
BT 35	900	620	720	560
BT 50	1,000	820	1,000	550

Dimensions BT 200 upon request
Dimensions (in mm)

Trowal Cutlery Driers Comparison

Drier type	BT 15	BT 25	BT 35	BT 50	BT 200
Cutlery parts per hour	1,500 - 2,000	2,000 - 3,000	3,000 - 5,000	6,000 - 8,000	28,000 - 30,000
Parts per minute	50	66	100	132	500
Granulate quantity (litre)	7	8,5	8,5	25	105
Granulate operating temp. (°C)	> 60	ca. 45	ca. 45	> 70	> 65
Motor power (kW)	0,3	0,45	0,45	0,3	1,0
Heating power (kW)	0,8	1,0	1,0	1,2	6,0
Electric supply (Hz / A)	230V-50 / 3,5	230V-50 / 7	230V-50 / 7	230V-50 / 7	400V-50 / 11
Max. energy consumption (kWh)	1,2	1,5	1,5	1,5	7
Weight (kg)	90	180	190	290	510
Noise level dB (A)	74	76	76	< 70	76
Granulate sterilisation via	UVC-lamp	UVC-lamp	UVC-lamp	Hot-Spot	Hot-Spot

Consumable supplies

Walther Trowal provides the specially developed in-house consumables of highest quality and recommends their exclusive use in the cleaning process:

Drying medium

The special "GTM300" drying medium for stainless drying of cleaned cutlery is of a particularly low dust level and sterilized (DIN EN 1174, Lab no. 23036M068).

Cleaning agent

The Trowaclean BRS13 cutlery cleaning agent has been specially developed for low application temperatures between approx. 20°-40°C.

Single-source supply

Walther Trowal offers comprehensive advisory service and after sales support. We are at your disposal for all questions about washing and drying. Our machines and spare parts as well as all cleaning agents and polishing media are being produced in our own factories and are subject to a continued quality control so that your constant high quality washing and drying process is guaranteed.

Trowal polishing media

BPK polishing media, in conjunction with water and cleaning agent, removes all stains and scratches from the cutlery. All cutlery parts thus gain a high-gloss finish. Therefore, the service life of the cutlery is very much extended.

Foam remover

Trowaclean BRE removes any excess foam at the end of the cleaning process. It is added when required (approx. 0,02 kg – 0,05 kg/ batch).

You can find further information on our website: www.cutlery-cleaning.com

