

CAMPBELL
machinery

Marr-Line®
conveyorised cleaning

Conveyorised tunnel washers



**where quality
comes to the surface**

Flexible multi-stage design

Ideal for modern cellular workflow environment

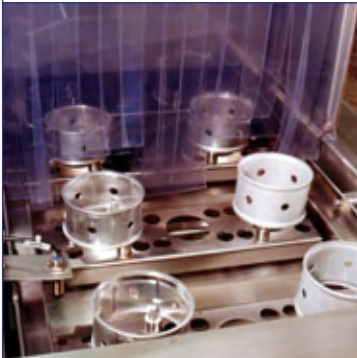
The Guyson Marr-Line range can provide a tailored solution for most washing, rinsing, drying and coating applications. The superb flexibility of the modular build concept allows each system to be configured precisely to suit your specific needs.

From a basic 2 stage wash and dry specification to a multistage system incorporating 4 or more separate stages, there is a configuration to suit every requirement. Standard conveyor widths are between 200 and 600 mm, with a normal tunnel height of 200 mm. Other widths and heights can be accommodated to suit different component sizes and production volumes.

The Guyson Marr-Line conveyerised wash system provides the very latest in safe aqueous technologies, ideally suitable to incorporate into a modern cellular workflow environment

The Guyson Marr-Line system delivers:

- Stringent cleanliness standards
- Elimination of manual handling
- Removal of bottle necks and buffer stocks
- Fixturing to suit your specific component



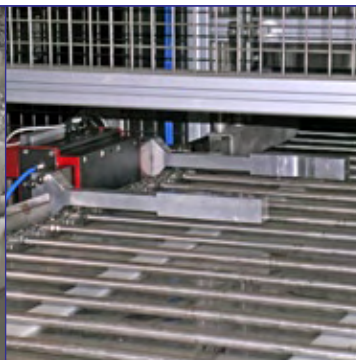
Component handling

Conveyors, belts, indexing and drums

Central to the specification of your machine by Guyson's team of highly experienced engineers is the desired work handling of your components. Each machine is thus matched fully to your process requirements. After initial sample evaluation trials to confirm that the process and cleanliness specifications are being fully met, our engineers take a full briefing on your production rates, flow through of components, labour availability and other variables and then specify a machine using our unique Guyson Marr-Line modular units to fulfil your specific requirements.

Component handling and presentation of the part to take maximum advantage of the wash and/or rinse and dry facilities provided is a key feature and Guyson utilises a range of standard or customised conveyors to match the component's requirements. Some of the options available for consideration include:

- Standard mesh belts in polymer or stainless steel
- Jigged indexing conveyors with precision positioning of spray jets at critical holes
- Return to front, U shaped or multi-lane conveyors for a varied component mix
- Rotary drum conveyors or roller conveyors for small or tubular parts
- Incorporation within fully automated lines, pick and place or robot load/unload.



Environmentally friendly aqueous cleaning systems

Wash and rinse jets, stainless spray bars

Since heightened awareness of safe aqueous industrial cleaning was introduced by the Montreal Protocol (to eliminate the use of substances that depleted the ozone layer), and with the recent introduction of the 'Solvent Emissions Directive' or SED (replacing environment damaging solvents), it now makes even more sense to look at how you could introduce a Guyson Marr-Line aqueous cleaning system into your cleaning regime.

High flow spray jets deliver maximum power in both wash and rinse sections, driven through stainless pumps and pipework. Full stainless construction throughout ensures that your Marr-Line will remain corrosion free throughout its life cycle. All heated tanks are fully lagged for maximum heat conservation and have an automatic water fill system that allows for continuous running. Low water level sensors will switch off the machine, safeguarding the equipment in the event of failure.

Marr-Line component rinsing not only removes excess wash solution but also delivers high cosmetic component quality standards with spot and stain free surfaces if used with de-ionised water. Component corrosion protection is available with 'oil spray' (and air knife removal of the excess) after rinsing and there are also in-line phosphating options.



Drying considerations

Air knives, blown air, heating, vacuum drying

Component drying is an important consideration and can be achieved in a variety of ways dependent on component substrate, subsequent processes and the level of dryness required.

Air knives, powered either by blower packs or compressed air, are extremely effective methods of shearing excess liquid from the components. These can be used very successfully between stages, to minimise cross contamination, or as a final stage if 100% dryness is not required.

In line heaters can be used for more effective drying if required, and where the component material and geometry allows. A re-circulating hot air oven is often used in the final stage and this will usually be able to evaporate the final moisture residue before the component moves to the end of the conveyer.

Some components will require either blown tool air or turnover devices to remove any remaining moisture along with longer machine extensions to allow further flash drying to take place. Vacuum drying is also available, if complete component dryness is critical and the component is suitable for this process.



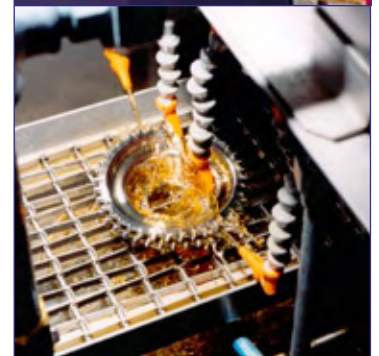
Options, extras and maintenance

Filters, auto dosing, oil separators, ease of servicing



Keeping your Marr-Line in peak condition could not be easier, as each machine now incorporates a range of productivity and maintenance benefits including features such as washable filters, automatic water fill and low level water sensors. All machines have removable panels fitted to each wash and rinse section, allowing full service access. The spray bar units are fitted with quick release couplings, so that they can be unclipped and the whole assembly removed for bench maintenance. Optional sloping tank floors can also be specified for faster draining if rapid change over is required.

Optional extras include the following. An auto-dosing unit, fitted to the wash tank, is recommended to maintain accurate detergent solution strength. An external Guyson tramp oil separator can be specified to remove the worst excesses of oil contamination from the cleaning solution, thus extending the cleaning solution life and maintaining its effectiveness. For lighter contamination, an oil skimmer may be specified. A seven day timer will allow the machine to be up to temperature ready for the start of shift, and a photoelectric cell for automatic conveyor feed stop can be included if production circumstances require it. In-feed and out feed extensions to the conveyor allow increased parts loading and prolonged flash drying time, whilst extensions between sections will minimise carry-over of liquid between processes.



Machine dimensions

STANDARD MARR-LINE CONVEYOR RANGE								
SYSTEM			FLAT BELT CONVEYORS					
MODEL			200	300	400	500	600	
MACHINE DIMENSIONS (mm)	2 -Stage (Wash and Dry) system	H	1505	1505	1505	1505	1505	
		W	1305	1305	1305	1505	1505	
		L	2680	2680	2680	2680	2680	
	Total length of 3-Stage (Wash, Rinse and Dry) System		L	3860	3860	3860	3860	3860
	Extra Height with Steam Extractor		H	1180	1180	1180	1180	1180
COMPONENT HANDLING SYSTEMS	Component Entry & Exit	W	200	300	400	500	600	
		H	200	200	200	200	200	
	Feed Height from Floor Level		H	1090	1090	1090	1090	1090
	Maximum Conveyor Load		kg	50	50	50	50	50
	Throughput/Speed (variable)		max/mm/min	750	750	750	750	750
	Motor Rating		kW @415V	0.06	0.06	0.06	0.06	0.06
WASH	Tank Capacity		Litres	125	125	125	220	220
	Temperature		°C	40-65	40-65	40-65	40-65	40-65
	Pump Capacity		L/min	70	70	70	100	100
	Pump		kW	1.1	1.1	1.1	1.5	1.5
	Pump Pressure		bar	4	4	4	4	4
	Heater Capacity		kW @415V	12	12	12	24	24
	Tank Heat Up Rate		°C per min	1	1	1	1	1
FILTRATION	In-Line Fine Filter		micron	200	200	200	200	200
	Tank Basket Filter		micron	850	850	850	850	850
RINSE	Capacity	Litres	As Wash Stage	As Wash Stage	As Wash Stage	As Wash Stage	As Wash Stage	
	Power	kW @415V						
	Pressure	bar						
	Temperature	°C						
OVEN DRY BLOW OFF	Temperature		Max °C	110	110	110	110	110
	Heater		kW @415V	12	12	12	12	12
	Fan		kW @415V	1.1	1.1	1.1	1.1	1.1
	Air Flow		m ³ /min	28	28	28	28	28
AIR BLOWER PACK	Air Flow		m ³ /min	8.5 -17	8.5 -17	8.5 -17	8.5 -17	8.5 -17
	Temperature		°C	As Required	As Required	As Required	As Required	As Required
	Motor Power		kW @415V	3	3	3	3	3
EXTRACTION	Oil Disc Skimmer Capacity		max L/hr	6	6	6	6	6
	Steam Extractor Capacity		m ³ /min	7 or 21	7 or 21	7 or 21	7 or 21	7 or 21

Contacts

Guyson International



Guyson International Limited is the largest independent manufacturer of blast finishing, spray washing and ultrasonic cleaning equipment in Europe and supplies a worldwide customer base. Guyson offer automated handling solutions, where suitable, including robot load & unload and pick & place options across its entire range of equipment.

Ultrasonic equipment includes: bench top - suitable for laboratory, medical and light industrial use, KS tank range for industrial use, Microsolve multi-stage precision cleaning systems for a wide range of specialised cleaning including PCB's, optics, aerospace, defence components. PCB stencil cleaner, also multi-stage aqueous ultrasonic systems for specialised cleaning of components such as hard disk drive, diamonds, optics etc.

Aqueous spray wash options include: conveyorised tunnel washers, rotary basket, submersible rotating basket, multi-stage carousel wash and dry systems, rotary drum washer for small parts and a compact hot aqueous high impact spray washer designed for the workshop.

A comprehensive range of manual blast cabinet options are also available to suit all production situations, options include: bench top, sit down, side loaders, turntables and variable height.



FM 38758
ISO 9001:2000

