



**Wash up**  
turn-key systems



## Comenda: a history of technological innovation

The founder company of the Ali group, Comenda has been synonymous with the best in professional dishwashing equipment for over 40 years. One of the industry's key players both in Europe and world wide, Comenda manufactures and markets more than 200 dishwashing solutions, from the smallest glass washers for bars through to large automated continuous flow systems for restaurants, hospitals, canteens and in-flight catering. Comenda also designs and installs bespoke solutions for individual space and workload specifications.

## Wash up: a single solution for complex problems

From when the diner finishes their meal, and leaves the tray on the trolley, to the moment when all dishware, trays, cutlery need to be collected, sorted, washed and dried, a great deal of planning must be put into the operation to ensure that everything is done as efficiently, economically and hygienically as possible. This process requires a dish-handling system capable of with every aspect of the task. This is where Comenda "Wash-up" systems play their part. The entire warewashing cycle has very often to be carried out quickly due to

the requirement for the cleaned items to be returned to service almost immediately. Unfortunately the dimensions of wash-up areas can be restricted and not best suited for the throughput required. Three basic factors can determine the solution to this problem: design, automation and integration of the entire dish-handling system. To achieve a solution, it is necessary to have the knowledge, experience, and production techniques that only a proven expert such as Comenda can deliver.



## Turn-key made-to-measure systems

Comenda offers Wash-Up design linked directly to specific customer requests. System design is driven by the following criteria: available space, traffic flow, meals per hour, dirties return and staffing levels, whilst simultaneously considering the needs in terms of aesthetics, economics, ergonomics and functionality. In the layout design stage, Comenda's experience and expertise integrates the necessary components to build a complete ware-handling operation. For the more complex our Research and Development provides individually tailored design options in close consultation with the client.

## Automation and component integration

Wash-Up systems should also link together seamlessly: tray transport conveyors move soiled items from the dining area to the dishwash area often coming from two separate areas to feed into a single conveyor. This type of system facilitates an almost fully automatic system where only glasses and dishes need to be manually loaded onto a flight dishwasher. Trays and cutlery are loaded, washed, rinsed, dried, and stacked automatically and then distributed on trolleys.

## Electronic program selection

Dishwashers and Tray/Cutlery washers incorporated in these systems are provided with automatic programme recognition, which depending on type and quantity of dishware electronically select the appropriate wash program. This technologically advanced feature improves performance, reduces operation costs and ensures the highest standards of hygiene. Fully automatic waste handling systems where waste is pulped, shredded and disposed in waste containers are also available.

## Handling the tableware

Any effective catering operation must be able to rely on problem-free washing and the prompt return of clean tableware to ensure uninterrupted customer service. Good results depend primarily on the choice of the dishwasher itself, which must be correctly sized and suitable for the quantity and type of tableware to be washed. Ideal operating conditions for the dishwasher also depend on essential ancillary items which go to create a fully synchronised wash system such as:-Tray deposit belts of lengths and speeds matched to the operational volumes.

Racks, scrapping tables, rack holders and scrap troughs.

Motorised turns and curves for continuous feed of racks for optimised dishwasher loading. To ensure an efficient link between the dining area and wash up room, COMENDA offers a complete range of conveyors:-two-cord polycord conveyors-three-cord polycord conveyors-slat conveyors-wet slat conveyors Complementary equipment easily adapts to conveyors for all configurations or installations:-90°, 180°and custom built curve units-two into one (2/1) polycord conveyors.

with special merger units from separate dining areas to single dishwasher operation-custom built helix conveyors heights to manage returns from different floor levels-sound-proofed tunnels to avoid noise transmission from wash up area to dining room- An NTC conveyor is used at the dishwasher inlet for automated rack loading in conjunction with multiple work stations.



## Tray return conveyors

When it comes to returning traysets automatically to the wash up area, the conveyor option is undoubtedly the most effective method. Using a belt means that diners no longer have to converge on a single, crowded tray deposit point, leaving dirty items in view on a clearing trolley. Conveyors also make it feasible to have the wash up situated further away from the dining area, with the resultant reduction in noise into the dining room. Whether covered, suspended or wall mounted, the wide range of conveyor models provides a full range of options ensuring co-ordination with the fabric of the building. COMENDA carefully considers the ideal position for the dishwasher and conveyor to ensure a smooth queue free scenario for the diner.

## Polycord conveyors

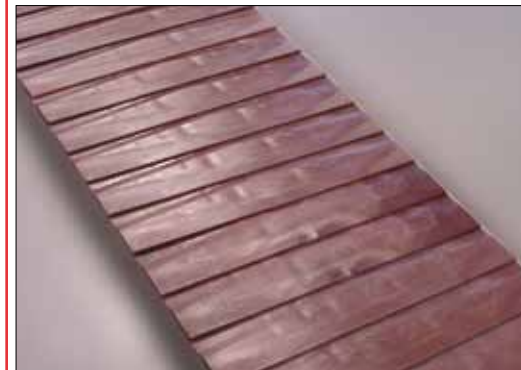
When it comes to dirty return conveyors, POLYCORD technology offers the ultimate in hygiene, simplicity, safety and reliability. To ensure the 15 mm cords glide effortlessly along, they are guided within U shaped grooves moulded into the stainless steel surface of the conveyor. The absence of any sharp angles and joints avoids the accumulation of dirt, reduces operating noise, limits wear and means the top is easily cleaned. The COMENDA conveyor is also aesthetically advanced with all fixings concealed.

## Two-to-one polycord conveyors

Whether traysets are being returned from different floors in a building or from separate dining areas many metres apart problem-free installation of COMENDA conveyors can still be accomplished with ease. Using simple, reliable technology, photocells and independent drive units the control of tray traffic into the wash up area can be consistently synchronised with the speed of the dishwasher itself.

## Scrapping tables

Based on the extensive experience gathered during the installation of thousands of wash up systems, Comenda can be relied upon to provide a smooth co-ordinated solution for the busiest of operations. Room size, throughput, service duration are all factors that make every wash system unique. Scrapping tasks carried out by workers can be made easier by providing ergonomic tabling, that reduces staff traffic and movement to a minimum and as a consequence, the risks and costs associated with manual handling. Scrapping tables- static or mobile -are designed with high load capacity so they can be used as buffer zones for tableware ready to be loaded into the dishwasher. The various types racks are arranged in their pre-determined areas. Tilted rack-shelves allow users to load the

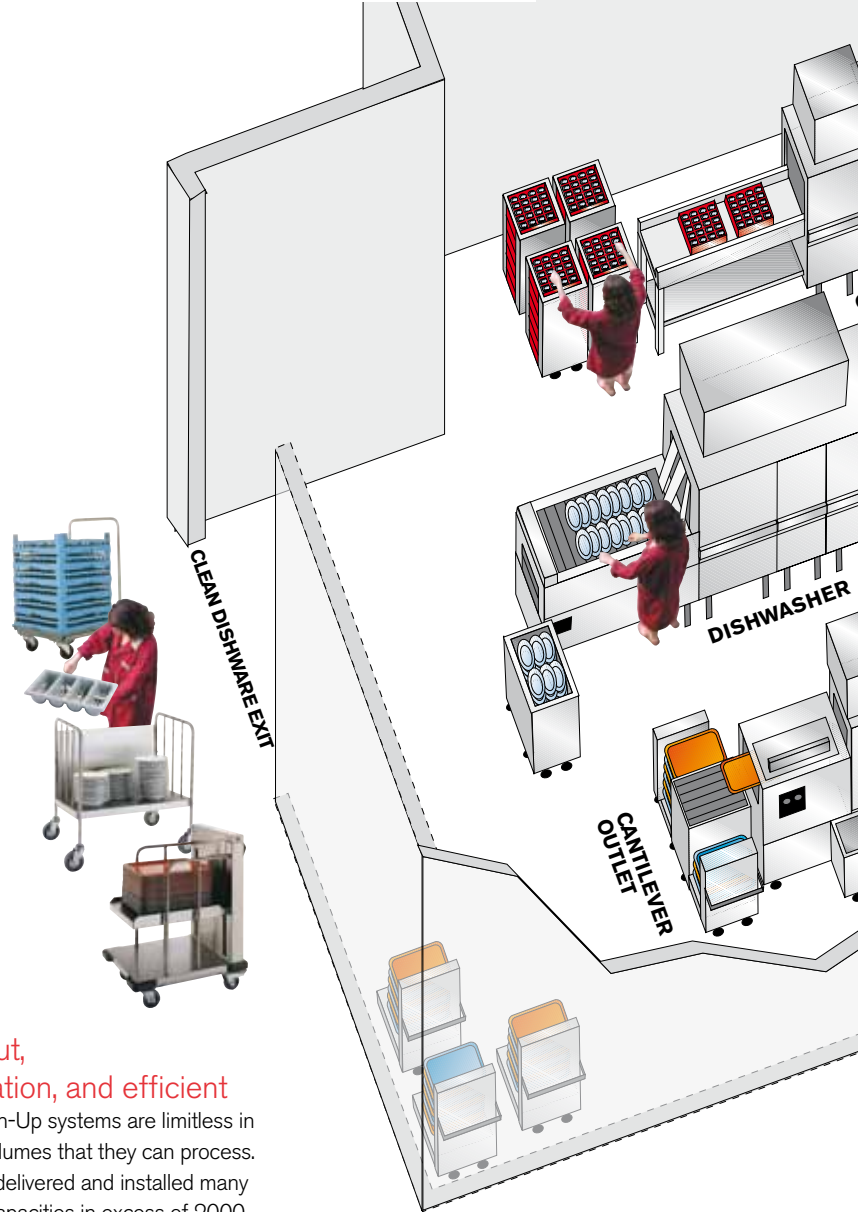
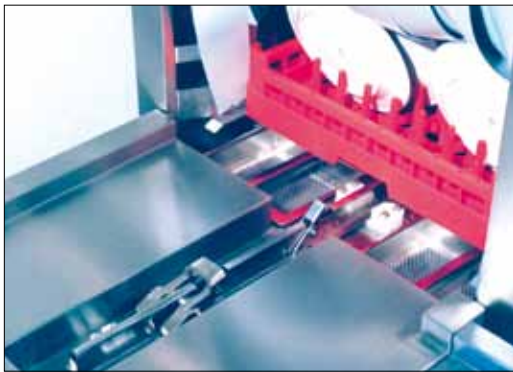
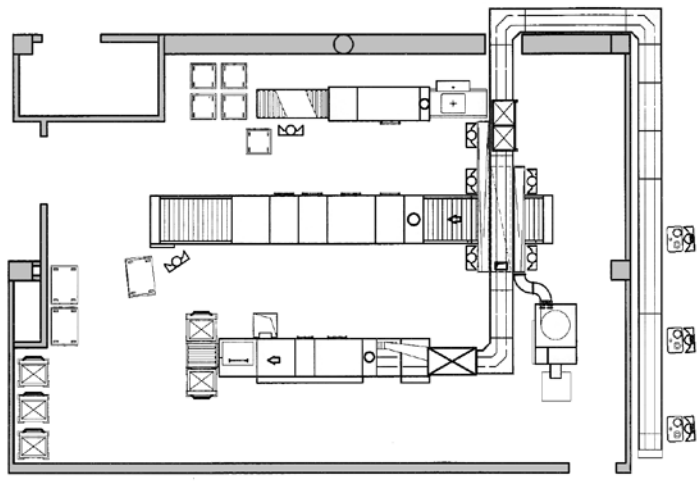


racks with cups and glasses, while horizontal ones are designed to store empty racks easily accessible for use. Whether floor or wall-mounted, the rack holders are always at a level universally compatible with average staff height.

## Loading the dishwasher

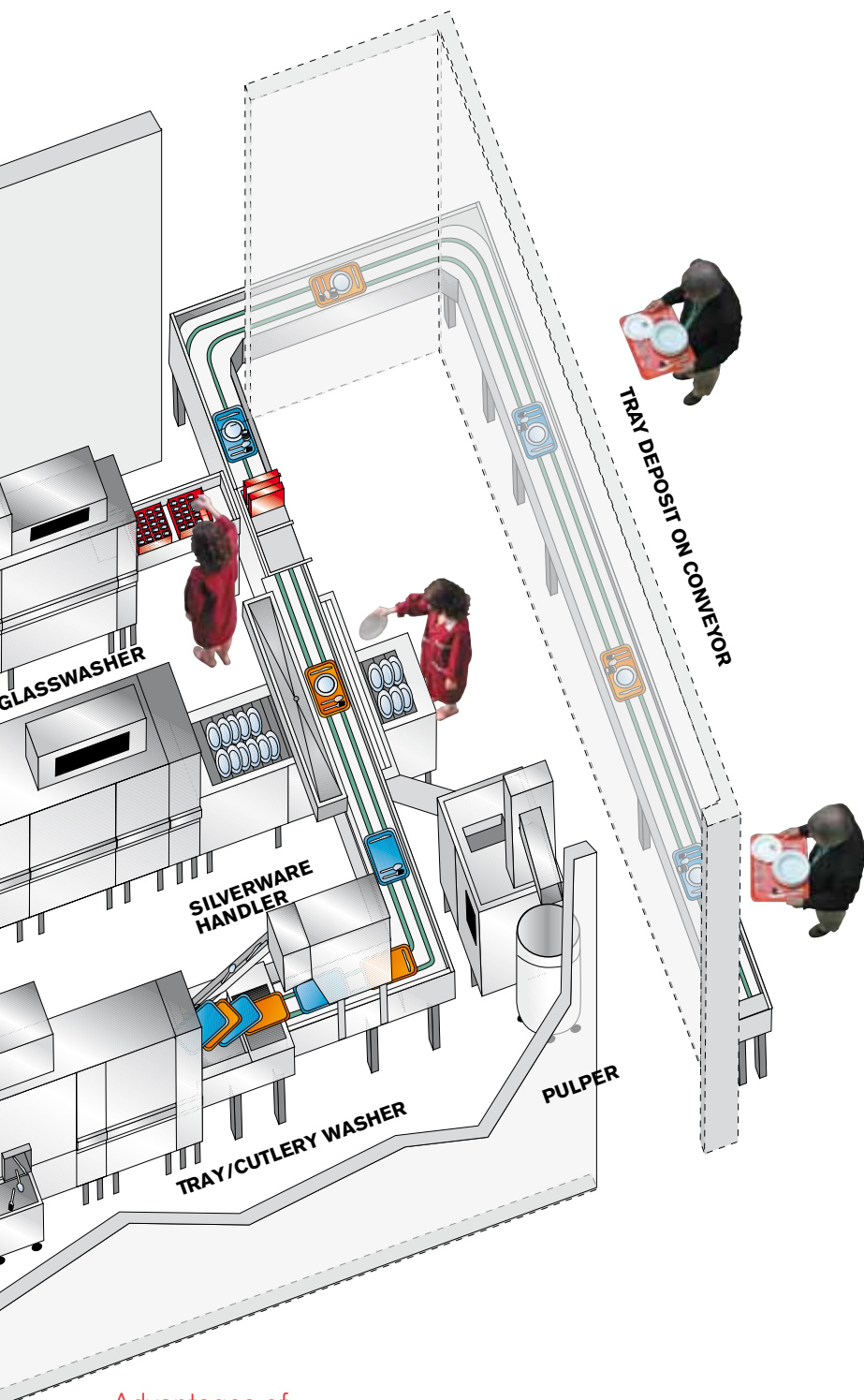
The section between the scrapping zone and the dishwasher is essential to smooth system operation. To resolve these problems CO-MENDA offers a vast range of accessories that allow the user to choose the handling system best suited to loading of the dishwasher. Slat conveyors are used primarily to carry stacked tableware from scrapping tables to the dishwasher. It also has the option of being equipped with a variable speed motor-drive to ensure total synchronisation throughout the whole system. The mechanisation of the loading process is essential to maximise efficiency. An ergonomically designed scrapping table complete with sink and roller sections, enables the operator to carry out the manual element of the handling process with

the minimum of physical stress. For more complex systems, full mechanisation of the inlet conveyor becomes critical; for example, the NTC system has been designed to convey loaded dishwasher racks over considerable distances; maximisation of the dishwashers' hourly capacity can thus be ensured by the continuous automatic feed. Other solutions: linear or angled loading allows a dishwasher to be installed even where it initially seemed all but impossible



**High-output,  
safe-operation, and efficient**

Comenda Wash-Up systems are limitless in terms of the volumes that they can process. Comenda has delivered and installed many systems with capacities in excess of 2000 traysets per hour and even higher volumes are within our remit. These systems are fully automatic, with electronic monitoring and sensor mechanisms controlling all phases of the operation. These range from self regulating conveyor speeds depending on workloads, fault identification and analysis and machine interior self cleaning systems.



### Advantages of a Comenda system

Inherent in all Comenda Wash-Up systems, are the forty plus years of dishwashing experience, with design and planning specialists committed to producing a final design which addresses and resolves all the clients issues and requirements. Over the years countless prestigious reference sites in all areas of the foodservice industry from hospitals to hotels and airports to corporate headquarters, testify to this expertise. A Comenda designed wash up system can deliver savings across the board in areas of energy consumption, staffing costs and chemical usage. In addition a safer, more hygienic and pleasant work environment can be created.

### Unloading the dishwasher

Mechanisation of outlet tabling leading from a rack conveyor dishwasher addresses enable the machine's capacity to be optimised and allows the correct amount of drying time for the cleaned items exiting the machine. When space really is at an absolute premium the COMENDA 90° corner exit unit provide the solution .COMENDA is also able to provide compact high-performance wash zones by installing corner inlet/outlet units through 90° or 180° thus utilising the traditionally 'dead' corner areas of the wash up. With both 90° and 180°curves, a powerful independent motor ensures that even fully loaded racks, are transported smoothly into the dishwasher. Mobile roller tables, connected to these mechanised or motor-driven curves,



can be disconnected in a matter of seconds moved away to allow full access to the dishwasher. The rollers themselves can easily be removed from the table bed for cleaning. An investment in a COMENDA dishwasher mechanised system ensures prompt pay-back as well as systemic efficiency.

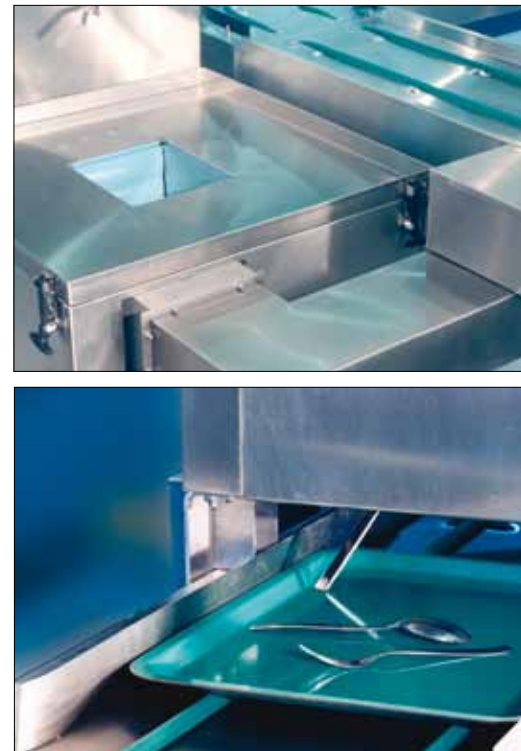
## Cutlery sorter

The automatic cutlery sorter eliminates staff costs in this labour intensive area of the wash up operation. The unit identifies each item of cutlery, dispensing the items into the correct containers. Once full the unit automatically alerts the operator and the cleaned cutlery can be returned to the cleans area. This unit can be connected to a flight dishwasher or tray and cutlery washer, and in this instance the fully automated system raises hygiene to another level as manual handling of the cutlery is eliminated in the washing process.

## Waste Handling

The handling and disposal of food waste is a key area. For medium-capacity wash systems, processing is often coped by using waste collection carts placed underneath scrapping tables. In larger-capacity systems where cross-over of dirty and clean areas is forbidden during service, the COMENDA T5 is an ideal solution. Waste is cleared off

the tableware into a scraping trough: then carried to a pulper by a recirculating flow of water. To prevent cutlery being accidentally fed into the pulper, the scrap trough is fitted with powerful magnets. By removing a large percentage of the moisture in the waste the pulper raises the levels of safety and hygiene in this challenging area of operation.



## Magnetic cutlery handler

The COMENDA magnetic cutlery takeoff unit automatically lifts cutlery from the trays eliminating the need for human intervention in this area. Two types are available, depending on the system design with either transfer to a mobile cutlery soak sink or directly onto the cutlery track of a flight type machine. Robust in design, it features a removable lid with safety switch, to make cleaning tasks easy.



## ECO2: THE FORMULA FOR ENERGY SAVING

Comenda's philosophy is represented by a green petal defining the company commitment to research and application of high-tech formulas which combine high performance with energy savings. ECO2 is the key to the entire production: eco-friendly solutions granting excellent results and a healthier working environment. This "green" philosophy also inspires the WASH UP line: a vast range of washing systems that can adapt to a great variety of different needs, always guaranteeing top performance with very low operating costs. Comenda have obtained the UNI EN ISO 14001:2004 environmental certification, tangible proof of the company's awareness of ecological issues.



## AFTER SALES SERVICE IN JUST A CLICK

Being a specialist in warewashing, Comenda provides outstanding innovative solutions and a complete and reliable after sales service. To provide its customers with the best possible real time support, Comenda offers - along with its wide network of high qualified technicians nationwide and worldwide - an easy to use online tool at [www.comenda.eu](http://www.comenda.eu) for online assistance and ordering spare parts. More than 700 users already registered. Authorised distributors access the website with their own password and consult the entire e-documentation and download instruction manuals as well as wiring, hydraulic and installation diagrams. Exploded views can be accessed in a few clicks and orders can be automatically sent directly to the spare parts office.

