product design award 2011

German Design Award 2012 NOMINEE

Apostore 3000

A3000

The most efficient picking system with the most safety reserves.

+ extremely efficient
+ all operating functions have a redundant design
+ highest speed due to 2nd gripper arm
+ fastest storage
+ robust and longest life expectancy due to use of industrial components
+ award-winning design with over 500 variations

APOSTORE

Leading Technology For Your Success

Why is the A3000 system more efficient and technically superior to other picking systems?

"In the morning, a lot of patients from the medical center come to the pharmacy – all counters are then full. We would not be able to cope if we did not have the A3000 with the 2 arms and Kombipick technology. Also the daily storage of about 1,500 packages would be impossible to do on time without the second arm and the buffer trays.
I recommend to all colleagues who have more than 500 customers a day, to buy an A3000. Anything else would be too much of a risk."

Revolutionary two-arm gripper technology

The A3000 has two gripper arms that work independent of each other. That doubles the speed when storing and dispensing simultaneously. With this robust two-arm gripper system you can store and dispense up to 600 packages per hour. The intelligent controls recognize customer orders and gives them priority over storing in. Depending on the amount of orders, one arm dispenses and the other stores, or both store or both dispense. In this way, work capacity is always used efficiently. Both gripper arms have a redundant design, they can replace each other. That guarantees the highest reliability.
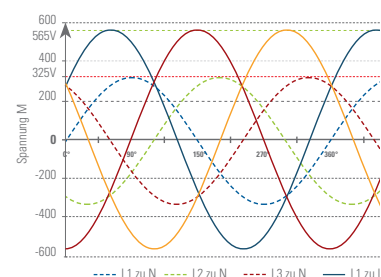
High dynamic drive

The A3000 is extremely fast. The powerful servo-drive can accelerate to 5m/sec² if required – this is an acceleration of 0 to 100km/h in less than 5 seconds. The drive concept has continuously been improved by our engineers in the past ten years. It gives the A3000 a higher efficiency and its reliability cannot be topped.

Gentle 400 Volt technology

All Apostore systems work with 400 V technology. Three-phase current provides the components with gentler and more uniform energy than the one-phase 230 V household current. That, in turn, prolongs the life cycle of the electric components and also allows strong energy reserves when needed.

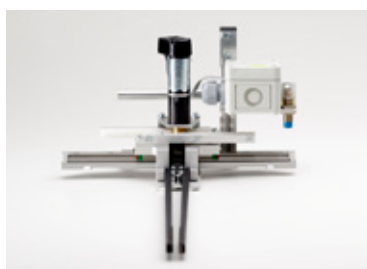Most sophisticated gripper technology

Standby-Potenzial

- Standby-Potential* (33%)
- Operating time* (67%)

Power-saving greenline technology

With the greenline technology* the electrical components of the Apostore system can be switched to stand-by mode. So you can reduce energy consumption to fewer than 70 watts. Standby is also gentle on the electrical components. Your system will resume full operation within seconds, when a customer enters your pharmacy.
* Utility patent Nr. 20 2010 016 724.8

Image: At an average of 500 customers/day and an average of 11 working hours. Picking time 6.7 hours, optimization & automatic cleaning with ApoClean 0.7 hours.

Sophisticated gripper

From early on Apostore has concentrated on developing gripper technology that can handle a total weight of up to 5 kg. This technology has now become a standard. The Apostore grippers are the most robust and have the least amount of moveable parts. That makes them failsafe and highly durable.

Even in tight situations, the A3000 never lets you down.

"Our A3000 has been operating since 2005. It is just as reliable as a Swiss watch – and it certainly has to be too. With over 500 clients a day, I can't afford a malfunction. Last year, an arm was not working properly. But that wasn't a problem because the second gripper was able to take over. The clients did not notice at all. Nevertheless, the service technician came to the pharmacy in no time and repaired the arm."
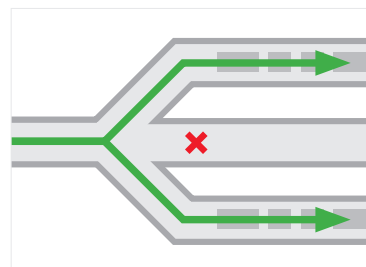
Fan-free flash PCs

By using fan-free flash PCs, the life cycle of the control PC can be prolonged considerably. These PCs no longer have maintenance-prone turning parts. They do not have fans nor moving hard disks. These industrial PCs store data on a flash memory, similar to a USB stick.

Intelligent control of conveyor system

Transporting the packages from the dispensing system to the counter usually occurs with a combination of conveyor belts and, sometimes, also slides or lifts. The Apostore conveyor technology is controlled intelligently. Should a blockage occur on one of the routes, an alternative route will be chosen immediately according to predetermined rules. The items will always reach the counter so your customers can be served.

Built-in location printer

Should it be necessary to retrieve a package from the system manually, e.g. in the case of a power failure, then the following will occur: the UPS will provide energy for the PC, location printer and emergency lighting. The PC will search the requested product within best reach. The printer will then print the product location for the operator, and he/she, can then find the product in the emergency lighted system. Apostore has thought of everything.

Emergency power supply

If your Apostore is located in a place where power failure frequently occurs, here is the solution: a compact emergency power supply. Should the power go down, the emergency power supply will go on in a few seconds and the full functionality of the automated system is restored. You can even hook up your IT to it.

Prepared for all eventualities

Indestructible gripper control

A thoroughly tested high-tech industrial control system ensures that the heart of the A3000, the gripper system, is able to function at all times without any problems. These controls were tested under extreme conditions in offshore installations in the North Sea and in the desert before they were used in the Apostore system. And even these robust controls have an additional back-up system.

Second back-up PC

Due to the sophisticated combination of back-up components and an intelligent redundant design that makes it is possible for different electrical components to replace each other, we were able to reach the highest degree of fail-safe robots. This security concept of course also applies to the control PC. No service technician can reach your system quicker than a built-in back-up PC.

External hard disks with back-up files

Even in the event of an extremely long power failure of over 2 hours, you can still work with your A3000. All storage locations are additionally recorded on an external USB hard disk. In this emergency situation you can continue to take care of your customer by just connecting an external laptop to the hard disk.

I would never work without my A3000 again.

"Because my goods are well taken care of. They are stored and checked extremely fast and they are safe from uncontrolled access and changes in temperature in the system. And the goods are at the counter within seconds! Our team works more calm and much more relaxed and we can at last spend more time with our customers. No, we don't want to go without our A3000 again."

The Apostore 4 camera video system

A system of 4 cameras monitors the storage area. Every access to the storage can be recorded. Every interruption is recorded. Our service technicians can analyze video sequences via remote maintenance and get to the bottom of any irregularities. Having access to the live picture, you are able to help the operating staff per telephone or video. A video transmission from your high tech automated system to the counter will also greatly impress your customers.

iScan

If you store a lot of items, you will probably like to avoid searching for barcodes on packages and having to scan items manually. Apostore's iScan registers packages fully automatic when packages are moved from the conveyor belt into the system. It is the fastest built-in scanner of its kind and is able to identify 400-520 packages/hour.

VidCap

Look forward to having an error-free stock. Due to a sophisticated control system error-free storage is possible. All packages are measured and photographed automatically. If the dimension of a package differs from the master data, a photo of this package is shown to the operator. You can accept the item, correct the data or remove the package from stock. You have everything under control.

Highest stock reliability

All important electrical components are on the exterior

The PCs, controls and switch panel are no longer inside the system but outside, under the conveyor belt. The exhaust air is transported upwards by the design furnishing. This construction prevents accumulation of heat in the system and the medicine can be stored safely at back-office temperature. The drives in the system have such generous dimensions that they get only hand warm, at best.
This construction also has maintenance advantages because the technicians can now reach the components more easy and quicker.

Security Log

With the security log, your picking system becomes a vault. The system can only be operated by entering a personal password. The person, exact time and type of access to the goods are logged. The security glass door will only open if you enter your personal code or if it recognizes your fingerprint. Entering the storage area is limited and logged.

Colour and decor variations

With over 500 decor variants your design choices are (almost) limitless. The variety of colour and decors Apostore offers is unsurpassed! Bring a breath of fresh air to your back-office and counter area or underline the expertise of the pharmacy with muted colours or elegant wood decors.

The development of the automated picking system is, to a large extent, also the history of Apostore.
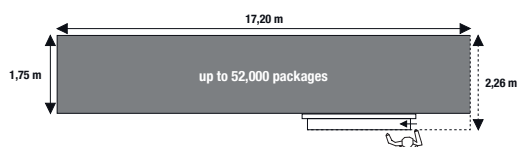
Already in 1986, Apostore developed the first picking robot.
Apostore is not only the most experienced manufacturer but was also always able to set new market standards. The new generation of automated systems is even more efficient and fail-safe. They require even less space to store medicines and, thanks to the greenline technology, consume the least amount of power.
See the difference!

Contact us. We will be happy to help you.

The Vienna University of Economic Sciences examined for several months the innovation behaviour of some hundred middle-sized enterprises in Germany. The 100 best, among them Apostore, received a quality seal from its mentor, Dr. Lothar Späth.

features	A3000
+ width	1.75 m (storage area 2.26 m)
+ max. height	2.00 m–3.60 m
+ max. length	4.39 m–17.20 m
+ length grid	50 cm
+ shelf depth	2 x 40 cm
+ input	side
+ max. packages	up to 52,000 (with extension up to 100,000)
+ max. m² storage space	664
+ max. package sizes	240 x 140 x 120
+ max. package weight (single package)	1.200 g
+ number of robots	3
+ Ø dispensing time	8–12 sec.
+ service access	front/side
+ decor variations	12–500
+ drywall housing	□
+ expiry date management	■
+ removal of returns according to expiry dates	■
+ VidCap	■
+ ready for data matrix code	■
+ iScan	□
+ fully automatic input	□
+ VarioShelving	■
+ Apoclean	□
+ Multipick	■
+ Kombipick	■
+ handling bundled packages	■
+ handling big packages	■
+ gripper upgrade to 5kg weights	□
+ security log	□
+ video system	■
+ digital recorder	■
+ fan-free flash PC	■
+ 2nd back-up PC	■
+ external back-up hard disk	■
+ UPS	60/120min
+ location printer	■
+ emergency power supply	□
+ intelligent control of conveyor system	■
+ remote maintenance	■
+ remote video diagnosis	■
+ international interface to warehouse management systems	■
+ 400 Volt technology	■
+ greenline technology	■
+ spare parts guarantee	15 years
+ label printer	□

17,20 m

1,75 m

up to 52,000 packages

2,26 m

25 1986 - 2011 Kommissionier-Systeme

TOP 100 2011 Top-Innovator

iF product design award 2011

German Design Award 2012 NOMINEE

Gebrauchsmuster Nr. 20 2009 018 083.2 **ApoClean** Selbstreinigung

Gebrauchsmuster Nr. 20 2010 016 724.8 **greenline** Standby-Modus

APOSTORE
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www.apostore.de

Apostore GmbH
Uferstraße 10
45881 Gelsenkirchen
Germany

Phone   0209 - 94 117 - 0
Fax   0209 - 94 117 - 17