



KARDEX

STORAGE IN NEW PREMISES



Company Profile

Bosch Rexroth, spol. s.r.o., located in Brno, has been present in the Czech market since 1990 and has recently gone through a restructuring programme. This process has involved moving into a new manufacturing plant situated in the area of the former airport in Brno Slatina. Moving into the new premises was connected with a change of logistic processes and warehouse management. The warehouse serves two divisions of the plant - BRCZ (Bosch Rexroth Czech Republic), which focuses on service and retail distribution of components for hydraulics, pneumatics, control systems, assembly and linear techniques, plus BRnP (Brno Plant), which manufactures hydraulic aggregates.

Moving into the new manufacturing plant was necessary due to the dramatic production growth, which increased the stock volume by 70% within a single year. Bosch Rexroth disposes with 950 pallet locations. Originally, 8 Shuttle XP 250 automated storage systems were used, based on the recommendation of its German mother company. Additional 2 Shuttle XP 250 and 1 Shuttle XP 500 systems were added. The automated systems were moved by the Kardex CED team, installed and commissioned in just 21 days without interrupting production. These actions, plus the professionalism of the Kardex CED team and its sister company Stow ČR, s.r.o. (supplier of the static racks) were highly appreciated by Bosch Rexroth.

Warehouse Management according to the Bosch Production System

The Bosch Rexroth warehouse in Brno works according to the BPS (Bosch Production System) principles. Their key aspects are united flow of material and standardization and transparency of all processes and work of the work stations. Thanks to these procedures, the employees of Bosch Rexroth can use the "CIP" (Continuous Improvement Process) methods in order to analyse and eliminate losses of time, space and costs that affect the warehouse operation substantially.

A material entry workstation has now come into the implementation phase of the new concept based on the CIP principle. The automated



Automated storage systems have been complemented by conveyors for maximum picking convenience.



Shuttle systems have been designed to provide maximum working ergonomics.

Shuttle lift systems have been used in the Bosch Rexroth warehouse mainly for storing material for automation and light components for hydraulics. Shuttle systems as part of the workstation dedicated to the stock release for the production (BRnP division) work on the Planned Working Packages principle. This means that the operator picks from either the racks or automated systems and always supplies the production line in advance, according to the demands and plan of the production. In the retail division (BRCZ), items are picked immediately after the demand has been commissioned. SAP R/3 Warehouse Management software in conjunction with the Kardex PowerPick 5000 software is responsible for the smooth picking process. Software controls all the storage places in a so-called "free warehouse" within the static racks as well as the dynamic storage systems. Lift systems that

in the 7050 – 7650mm height range provide more than 835m² storage capacity on a floor space of just 57m². Space saving, height flexibility and proven compatibility with the SAP system were also key factors for choosing the Kardex lift systems in the new warehouse. In addition, the maximum picking speed from the lift systems has been considered of greatest importance. The speed of operation has been, according to the experience of the Bosch Rexroth warehouse operators, comparable with that of static racks.

Goods are stored on trays placed in plastic boxes or individually. Shuttle systems are complemented by conveyors for maximum speed and convenience of operation.

When security matters

Security elements belong to the most important advantages of the Shuttle automated storage systems.

These have been of utmost importance to Bosch Rexroth. A security grid of photocells in the access window that separates the work station from the machine internal system ensures maximum security of goods. Steel panelling and shutter doors, on the other hand, secure the stored goods from theft, dust and any negative environmental influences. A warehouse stock overview ensures connection of the automated devices to the Kardex PowerPick 5000 software communicating with the SAP R/3 warehouse management system. This also eliminates any material losses in the warehouse and production processes. "For space and security reasons, Shuttle systems comprise the ideal solution for us", says Ing. Marek Dvořák, logistic manager of Bosch Rexroth. "For this reason and also our satisfaction with the work of the Kardex CED team, we can only recommend Kardex as a storage partner."

Lift systems have been supplied in 3 different heights.



Palette racks have been supplied by Stow ČR, s.r.o.



Brief overview

Specification of the 11 Kardex Shuttle XP units in Bosch Rexroth, spol. s r.o.:

Unit Dimensions:

Tray Width.....1250 and 2450 mm
 Tray Depth.....864 mm
 Height.....7050, 7350, and 7650 mm
 Used floor space.....57 m²
 Total capacity of all 11 units...835,31 m²

Performance data

Maximum horizontal speed.....1,11 m/s
 Maximum load capacity.....315 or 490 kg per tray

Software

PowerPick 5000 with HOST connection to SAP R/3

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