

Community Solutions

RX-700 Host System for Retail Stores

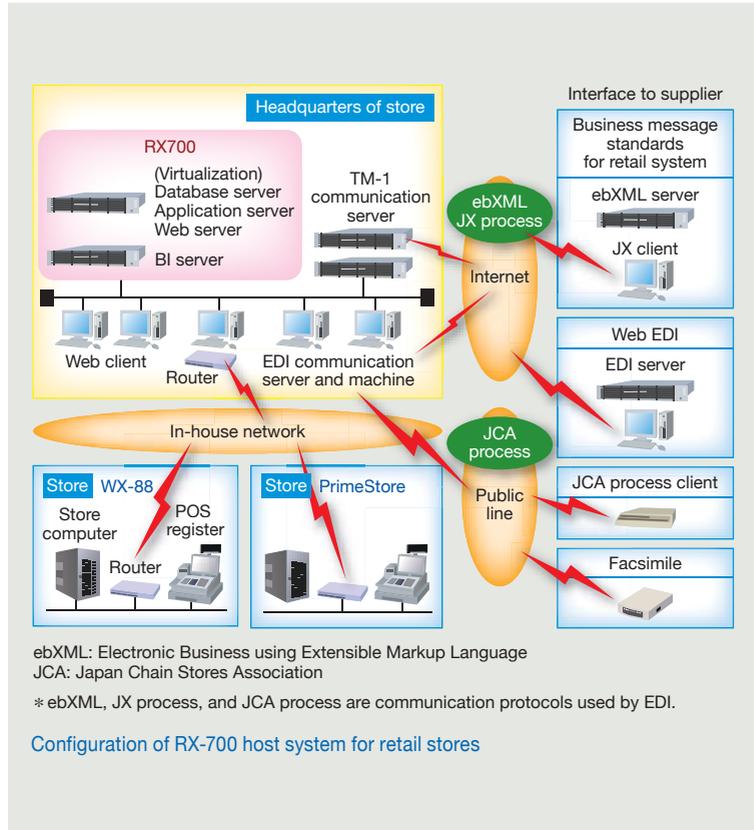
Toshiba TEC Corporation has developed the RX-700, a host system targeted at retail stores for the management of merchandising cycles, including master control, ordering, purchasing, and delivery.

All user applications of the RX-700 are built as rich Internet applications (RIAs) using Microsoft^(®) Silverlight^(®) without compromising ease of use, and thus are available on the Web. Applications that require even greater ease of use such as a purchase slip editor are offered in both out-of-browser (OOB) and RIA versions.

Furthermore, the RX-700 uses virtualization to allow Web and other servers to be combined in a flexible manner. The RX-700 supports Windows Server^(®) 2012 R2 for servers and the 32- and 64-bit editions of Windows^(®) 7 to Windows^(®) 8.1 for clients. The RX-700 can connect more than 100 clients.

In cooperation with a business intelligence (BI) server, the RX-700 allows users to conduct various item-by-item analyses while viewing graphs and drilling down into data points. These functions also support point-of-sale (POS) controls for stores, electronic data interchange (EDI) for suppliers, and analysis.

Microsoft, Microsoft Silverlight, Windows, and Windows Server are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.



Eight Ultracompact and Lightweight A3 Black-and-White MFP Models Including e-STUDIO 2809A

Toshiba TEC Corporation has developed eight ultracompact and lightweight A3 black-and-white multifunctional peripheral (MFP) models including the e-STUDIO 2809A.

The newly developed models provide improvements in functionality and performance over the current models. In addition to the current 23 pages-per-minute (ppm) and 25 ppm models, 28 ppm models are now available. Other major improvements provided by the new models include the following:

- 24 scans-per-minute (spm) performance for color scanning (at 200 dpi) (double the speed of the current models)
- a warm-up time of 18 seconds and first copy time of 6.4 seconds (10% faster than the current models).

Furthermore, the new models support thick paper, targeting the Chinese market. They also allow users to print and scan from tablets and smartphones.

dpi: dots per inch



B-LP2D-GS30-R Lightweight and Compact Portable Label Printer

Toshiba TEC Corporation has developed the B-LP2D-GS30-R lightweight and compact portable label printer to relieve users from the burden of prolonged carrying of a heavy bag. The new label printer is suitable for use in the fields of logistics, manufacturing, and route sales.

The main features of this product are as follows:

- Certified under the MFi Program of Apple Inc., the B-LP2D-GS30-R works with iOS^(*) devices and thus supports extensive business applications.
- The B-LP2D-GS30-R is encased in a shock-absorbing material to withstand harsh use in logistics environments.
- The B-LP2D-GS30-R achieves a 12% reduction in operating power consumption and a 37% reduction in standby power consumption (compared with our previous model).
- A dual-color organic light-emitting diode (OLED) on the printer shows the operating status, improving ease of use.

iOS is a trademark or registered trademark of Cisco Systems, Inc. in the United States and other countries.



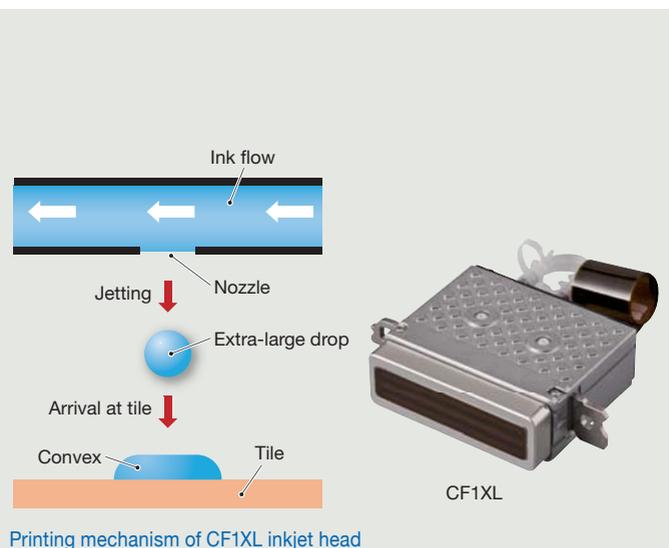
B-LP2D-GS30-R portable label printer

CF1XL Recirculation Type Inkjet Head Capable of Propelling Larger Ink Droplets

Inkjet printing is widely used for the decoration of ceramic tiles and other types of decoration work because of its high adaptability to different production processes. In addition, it can create special effects such as metallic and convex patterns, making it possible to produce high-value ceramic tile products that stand out in aesthetic design from those produced using conventional pattern printing methods.

Larger droplets of ink must be propelled to produce special effects. For this purpose, Toshiba TEC Corporation has developed a new inkjet head, model CF1XL. The CF1XL can squirt 180 picoliters (pL) of ink, twice as much as the current large-droplet models with the same drive frequency. Printers equipped with the CF1XL allow ceramic tile manufacturers to add a high-value special-effect step to their production processes without reducing productivity.

The CF1XL is expected to expand inkjet applications from conventional printing to decorative printing.



ELCOSMO-E PLUS Standard Elevator Series for Chinese Market

In China, the number of high-rise buildings is increasing driven by economic development and globalization. Because of this trend, the needs in China's elevator market are becoming more diverse.

In response, Toshiba Elevator and Building Systems Corporation has developed the ELCOSMO-E PLUS series of standard elevators for the Chinese market. Equipped with a traction machine using a surface permanent magnet synchronous motor (SPMSM), the ELCOSMO-E PLUS series is compact and lightweight. Its features include an optimized car structure, a new hall door system, and an improved control panel structure.

While meeting the quality standards of the Chinese market, we have realized low prices through cost reduction efforts on a component-by-component basis. Furthermore, the ELCOSMO-E PLUS series offers various options for car ceiling lights, including light-emitting diode (LED) lights. The ELCOSMO-E PLUS series also provides a high rated speed and a high maximum travel length. The extensive lineup of this series meets the diverse needs of the Chinese market.



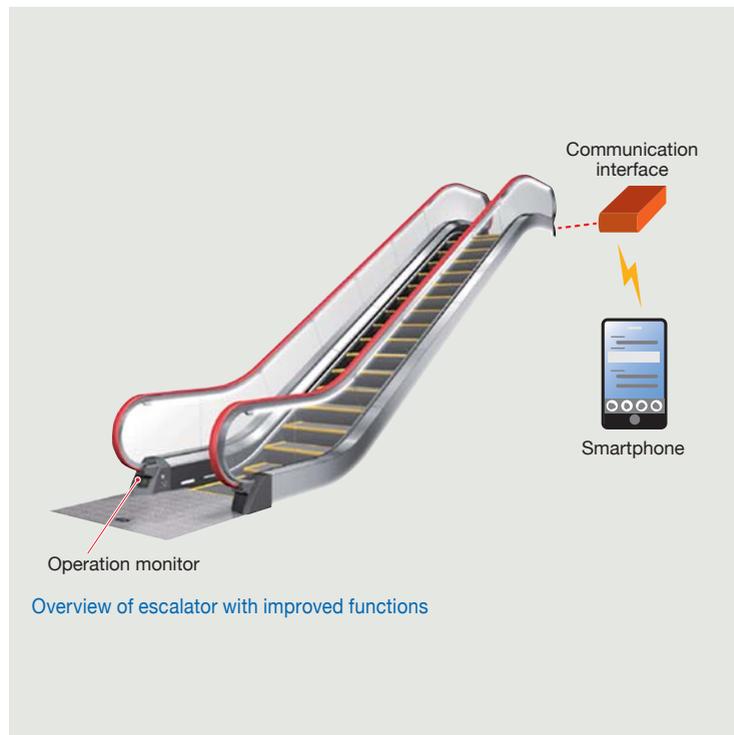
Interior of ELCOSMO-E PLUS

TE Escalator Series with Improved Functions

Toshiba Elevator and Building Systems Corporation has expanded the options available for its TE series escalators.

The ESNABI operation monitor attached to the inlet end of an elevator provides enhanced display functions. The safety system monitors the conditions of all safety circuits and displays various operating data on a smartphone. When there are no passengers, the TE series automatically switches to energy-saving mode and turns off lights in order to save energy.

A dedicated communication interface allows service workers to check the operating data, including error codes, with a smartphone without having to leave riding steps open. Instead, they can check data by accessing a maintenance management system at a service information center via smartphone. This helps to significantly improve the efficiency of maintenance work.



Overview of escalator with improved functions

TENQOO LED Base Light Series

Toshiba Lighting & Technology Corporation has released the TENQOO LED base light series, which combines a lighting fixture with an LED bar. The TENQOO series is available with a wide selection of brightness levels and light colors to suit various applications.

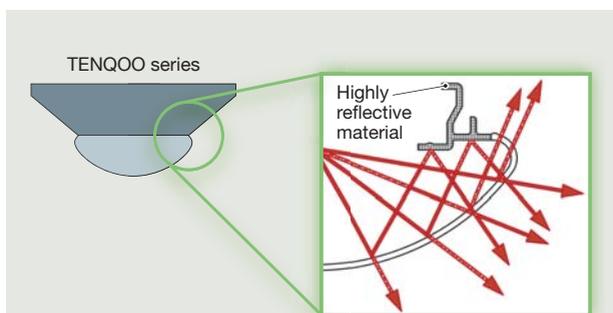
The TENQOO series is an improved version of the previous AQ series and features an extensive product lineup with enhanced performance and functions.

The main features of the TENQOO series include the following:

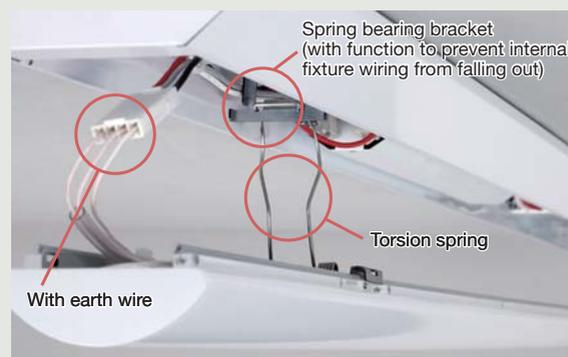
- A rounded LED bar cover and a dual-color extruded highly reflective material combine to deliver the industry's highest characteristic energy efficiency of 182.1 lm/W^(*1),^(*2).
- A newly developed platform power supply makes it possible to set the output current from a lighting device for each brightness level, achieving continuous improvement of the LED module circuit efficiency.
- The use of torsion springs simplifies the attachment and detachment of an LED bar and thus improves workability and safety.
- The fixture body, LED bar brightness, and light color are selectable from 10 470 combinations according to specific application needs and the type of atmosphere to be created.

(*1) Fixture luminous flux defined by the JIL 5006 standard of the Japan Lighting Manufacturers Association divided by the rated power consumption

(*2) As of October 2015 (as researched by Toshiba Lighting & Technology Corporation)



Round cover for uniform light emission and adoption of highly reflective material



Easy replacement and maintenance of LED bar

47 kW LED Lamp for Photochemical Reaction Processes

In cooperation with Toray Industries, Inc., Toshiba Lighting & Technology Corporation has developed one of the world's largest LED lamps for photochemical reaction processes for the synthesis of caprolactam^(*), a raw material for nylon.

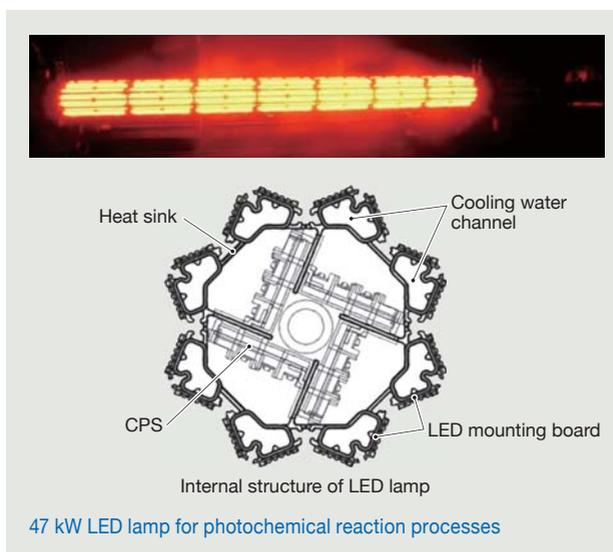
In order to develop an LED lamp to replace the current sodium lamps, it is necessary to pack approximately 40 000 LEDs and 28 units of 47 kW constant-current power supply (CPS) in a space with a diameter of 200 mm and an emission length of 2 000 mm.

To accommodate such a large number of LEDs, the cross-section of the lamp was designed in the shape of a 16-sided polyhedron. Further, since about 70% of the 47 kW lamp power is converted into heat, we adopted a water-cooled system in which eight water channels are arranged circumferentially. Cooling of both the LEDs and the CPS units is accomplished by mounting the LEDs on the outside of the water channels and fixing the CPS units on the inside of heat sinks.

The CPS is designed as a unique non-isolated step-down chopper circuit to achieve small size and high efficiency. It delivers a power conversion efficiency of 97% and thus generates little heat, allowing it to be built into the lamp.

Due to these innovations, we have realized an LED lamp with almost the same size as the current sodium lamp. This newly developed LED lamp therefore makes it possible to reduce the number of lamps used in photochemical reaction processes and cut power consumption by about 30%.

(*) As of October 2015 for LED lamps for photochemical reaction processes (as researched by Toshiba Lighting & Technology Corporation)



47 kW LED lamp for photochemical reaction processes

SMMS-e Multiple Air-Conditioner System for Building Use

The global sales volume of multiple air-conditioner systems for building use, or variable refrigerant flow (VRF) air-conditioning systems, has been increasing, particularly in Europe. In response, Toshiba Carrier Corporation has developed the SMMS-e series with improved basic specifications.

The partial-load performance of all models in the SMMS-e series has been improved through the use of large-capacity compressors, thin-tube heat exchangers, and subcooling circuits. All models have the industry's best-in-class efficiency with a European seasonal energy efficiency ratio (ESEER) exceeding 7.

The SMMS-e series provides a maximum system capacity of 60 horsepower (hp), compared with the 48 hp of the previous series. The SMMS-e series also has a maximum allowable outdoor temperature of 46°C, compared with the 43°C of the previous series.

Furthermore, the SMMS-e series can be locally adapted to specific geographic regions around the globe. For example, models targeting the Middle East provide a maximum allowable outdoor temperature of 52°C, while those for the European market have an extended operating range free of defrost cycles in heating mode. On the other hand, the electrical components of the cooling-only models for the Asian market are protected against intrusion by lizards.

The SMMS-e series is the industry's first air conditioner equipped with a near-field communication (NFC) tag^(*) for contactless communication. All models allow users to perform initial setup, trial operation, and operating data acquisition via a smartphone. This helps to reduce the time required for installation and technical support.

(*) As of June 2016 for multiple air-conditioner systems for building use (as researched by Toshiba Carrier Corporation)



Outdoor units of SMMS-e multiple air-conditioner system for building use

"Universal Smart X 3-Series" Modular Air-Source Heat Pump Units

Toshiba Carrier Corporation has developed the "Universal Smart X 3-Series" modular air-source heat pump units. The Universal Smart X system has led the air-conditioning industry in various applications, including general industrial air-conditioning (characterized by various cooling and heating loads of manufacturing equipment).

The Universal Smart X 3-Series has achieved the air-conditioning industry's highest operating efficiency with an integrated part load value (IPLV) of 7.0^(*1), ^(*2) through improvement of the efficiency of the twin rotary compressor, which has the world's largest capacity^(*1), and the development of a pulse width modulation (PWM) converter optimized for heat pump systems.

The PWM converter encodes the input electric current into a sine wave, eliminating the need for harmonic suppression. The Universal Smart X 3-Series is the first to use PWM in the industry^(*1). Additionally, due to the use of the PWM converter, the Universal Smart X 3-Series has a power factor of 99% and makes it possible to reduce the size of the associated power source equipment.

(*1) As of January 2015 (as researched by Toshiba Carrier Corporation)

(*2) High coefficient of performance (COP) 30 hp module (as per JRA4066:2014)



Universal Smart X 3-Series air-source heat pump unit