



**The Merkle® Charger**  
Batch-Feeding Equipment  
for Glassmaking

 merkle®  
international

# Unique by Design

*At Merkle International™, our goal is to provide the glass industry with the best in customized equipment. The Merkle® Charger gives you a wider range of batch-feed capabilities than ever before. We carefully consider your installation and service requirements to provide the charger that is best suited to your operation.*

## Built to Last

Merkle builds chargers to suit your needs with the simplicity, durability and reliability you've come to expect from us. When complete, we run your machine through shop trials. Only then is it ready for your inspection.

## Modular Construction, Simplified Assembly

We deliver separate carriage, pan, support frame and hopper subassemblies to facilitate quick assembly in the field.

## On-Site Service and Training

Merkle provides technical support for both installation and commissioning of your charger. Our representative will work with your personnel to reassemble the charger and set it up to suit your method of operation. A separate visit is made during initial furnace heat-up to position the charger and make final adjustments. Your staff will receive maintenance and operational training during these visits.

## Easy Updates and Adjustments

Merkle combines the very latest in technology and materials to create chargers that are easily adjusted to meet changing furnace and production needs.

Pan travel (stroke) can be adjusted with common tools to suit varying feed rates or blanket requirements.

Adjustments for pan angle and elevation can be made quickly during operation using controls conveniently located on the charger.

Blanket thickness and profile are easily changed by adjusting the position of individual gates with a simple ratchet mechanism at the side of the charger.

Monitoring these adjustments is simplified by the convenient location of indicators for pan angle, pan elevation and gate positions.

The Twin-Coupled® and modular charger models can be adapted to meet a wide range of requirements, including use in furnaces with more than one filling pocket.

## Pneumatic Sand-Seal System

Merkle International PS<sup>2</sup> pneumatic sand-seal system gets high marks from production and maintenance personnel. This sand seal works efficiently to prevent the batch from escaping beneath the wiper bar. Any required adjustments can be made with simple hand tools.

## Consider Our Options

As part of our continuing commitment to build our product to fit your needs, Merkle is pleased to offer a variety of equipment options, including motors, controllers, pan and pusher bar cooling via air or water, cooler mounting provisions, stairs, ladders, coupling varieties and tractive devices for positioning the unit.

## Always on Call

We're available to answer questions via phone, fax or e-mail. For problems that require a site visit, arrangements will be made quickly. We will also arrange for periodic inspection and assessment of the charger. This may include meeting with your maintenance personnel to review features and functions of the equipment.

For more information on the Merkle Charger, please contact us by telephone, fax, e-mail or mail.

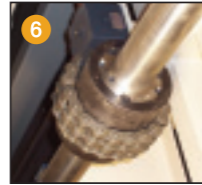
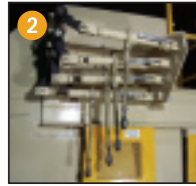
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ISO 9001:2000





## The Merkle® Twin-Coupled™ Charger

*Built for doghouse widths from 6 to 14 meters, our Twin-Coupled machine is like having two independent single-pan machines coupled together. If you pull one machine off-line for batch-plant malfunction or for maintenance, the other unit will continue to charge the furnace, minimizing the furnace upset associated with a break in batch charging.*

1. The Merkle Twin-Coupled Charger
2. Gate height adjustment
3. Pan elevation and angle adjustment
4. Pan drive linkage
5. Eccentric
6. Drive-shaft chain coupling
7. Center cooler support and positioning mechanism
8. Safety screens
9. Catwalk with railing

### Machine Alignment

The two halves of the Twin-Coupled Chargers are mechanically connected, forming a single, rigid assembly. This design simplifies alignment.

### Synchronization of Pans

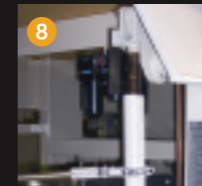
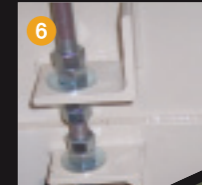
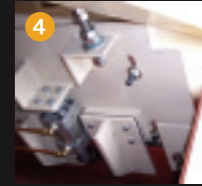
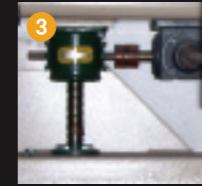
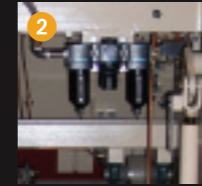
Coupling the charger halves mechanically guarantees pan synchronization. If desired, the operator can disconnect the center coupling to operate pans independently, or pans can be operated up to 180 degrees out of phase relative to each other.

### Auxiliary Drive on Standby

Two motor/speed-reducer assemblies are available to drive an entire charging system. Normally only one is in operation at a time, with the other drive remaining on-line as a spare. Drive changeover can be accomplished in minutes, without altering the charger position.

### Electrical Installation

Only two motors require electrical connection to your facility's electrical supply, and synchronizers are not required.



## The Merkle Modular Charger

*The newest in our line of state-of-the-art blanket batch chargers offers impressive solutions to many of your charging challenges. The Merkle Modular Charger is offered in two versions. The Modular Version 1 (MMV1) is suited for unit widths from one to two meters. The MMV1 has one eccentric to drive the pan. The Modular Version 2 (MMV2) is suited for units with pan widths from two to four meters and has two eccentrics to drive the wider pan.*

*Both the MMV1 and MMV2 provide operators with the full range of adjustments that have become the industry standard. Chargers can be used alone or together as a set to accommodate any doghouse application.*

*The typical Modular Charger installation includes an even number of units, with an additional unit as a ready spare. The availability of a spare unit minimizes the impact of routine charger maintenance on furnace operation.*

### Easier Handling

Manageable modules move in and out of position more easily than the larger machines—usually in a few minutes.

### Programming of Batch Distribution

Synchronization of modular units is accomplished electronically, producing feed profiles unavailable with wider units. Synchronization has been done with as few as four units, or as many as eight. A pan separation of 25 millimeters gives the modular unit the ability to retain batch log formation—a feature usually available only on larger machines.

### Lower Impact of Inactive Machine

Each unit is small so that removal of one module from service has a minor and temporary impact on profile and a negligible effect on batch-feed rate.



1. The Merkle® Modular Charger
2. Filter-Regulator-Lubricator (FRL)
3. Elevation adjustment mechanism
4. PS sand seal
5. Auxiliary drive input
6. Sand-seal carrier plate adjustment
7. Adjustable eccentric
8. Gate height adjustment

## Doghouse Enclosure

Merkle International™ Suspended Doghouse Enclosure is chosen by many glassmakers to provide effective closure of the doghouse. Use of the enclosure—including the end covers—retards the escape of batch dust, improving the atmosphere around the hot end of the furnace, and helping keep the crown, as well as furnace steel and other nearby equipment, free of dust build-up.

The air-cooled steel enclosure is typically built in two sections that are suspended from trolley mechanisms. Each section can be moved into position over the doghouse, or off to the side if required.



## Companies Using Merkle International Batch Chargers

ACH, LLC – Tulsa (Formerly Visteon)

AFG Industries Inc.

Asahi Glass

Cardinal Float Glass

EKA Nobel

Guardian Industries

Hankuk Glass Industries

Jeanette Specialty Glass Co.

Kumgang Korea Chemical Co.

PPG Industries

P.T. Multiaglass

Shenzhen Southern Float Glass Co. Ltd.

Taiwan Glass Group

Trakya Cam Sanayii A.S.

Yaohua Float Glass – Qinhuangdao,

Guotou

Merkle International offices are in Galena, Illinois. Located in the rolling countryside of the northwest corner of the state, Galena is a city rich in history and the architecture of a bygone era. Several airports are convenient to Galena, allowing us to be available for meetings at your offices or plant on short notice.



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