

# Rexnord 6990 Series Hybrid MatTop Chain



# Automotive Solution Breakthrough 6990 Series H4 Hybrid MatTop Chain

## Rexnord 6990 Series Hybrid H4 MatTop Chain Designed for Automotive Applications

Conventional automotive conveyor systems equipped with steel slat chains or rubber reinforced belts cannot be easily retrofitted with conventional plastic modular chains. Due to limitations in strength and stiffness, standard plastic modular chains cannot provide the desired performance in long and/or heavily loaded conveyors. Rexnord recognizes the importance of smooth chain operation in any type of application and has developed a 2-1/4-inch (63.5mm) pitch and 0.7-inch (18mm) thick 6990 Series Hybrid H4 MatTop® Chain raising the performance level of plastic modular chains. The 6990 Series chain is designed for automotive conveyors with high loads or frequent load variation (people movers). The steel structure in the chain creates high stiffness and strength enabling the chain to be used in conveyors with lengths over 328-feet (100m) in applications moving people, vehicles or a combination of the two.

### 6995 Series Hybrid Chain (People Movers):

- 2 x 213-feet (65m) finish line conveyors
- 177.1-inches (4500mm) wide
- SolidTop chain design
- FRES material, meeting DIN4102-B1 and ESD specifications
- Speeds up to 16-feet (5m)/min

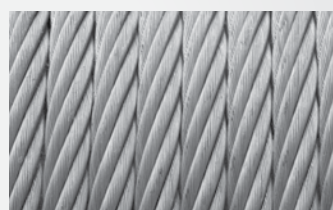


## Conventional Technology



### Slat Chain Comparison

Current slat chain conveyors can be easily retrofitted to accommodate the new 6990 Hybrid chain. This new Hybrid technology offers many advantages including: high stiffness, maintenance free construction and chemical resistance to automotive fluids.



### ContiTech Comparison

The 6990 Hybrid chain provides flexibility to build low profile, ultra long conveyors with compact drive packages. This is accomplished because of a unique drive system that does not require tensioning.

## 6990 Series Hybrid H4 Design MatTop Chain Features and Benefits

### Meets Regulations

Modules are available in flame retardant material according to DIN 4102-B1 (DIN EN 13501), or standard POM quality as required.

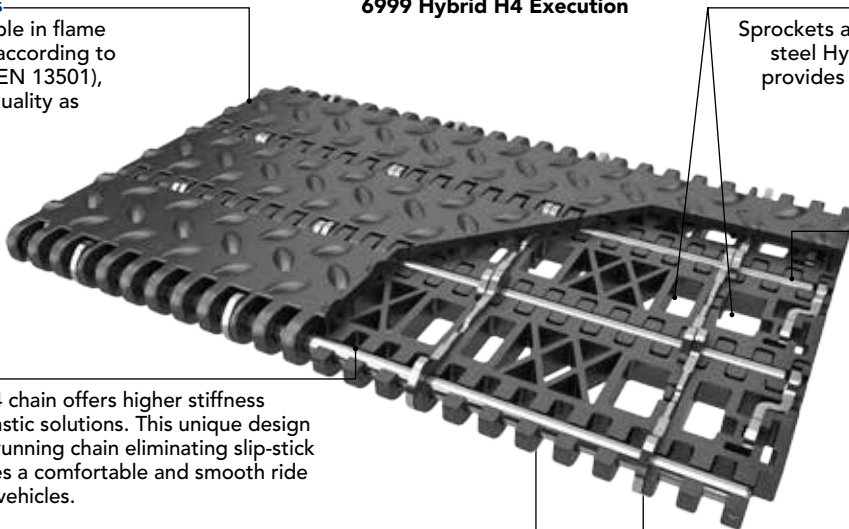
### Smooth Ride

The 6990 Hybrid H4 chain offers higher stiffness compared to full plastic solutions. This unique design provides a smooth running chain eliminating slip-stick or pulsation provides a comfortable and smooth ride for workers and/or vehicles.

### Maintenance

6990 Series Hybrid chain consists of one standard component enabling easy installation and operates virtually maintenance free without the need for lubrication or tensioning on the conveyor system.

### 6999 Hybrid H4 Execution



**Drive**  
Sprockets are located to the left and right of the steel Hybrid structure. The 6990 Hybrid chain provides the necessary capacity to operate on long conveyors with high loads.

**Performance**  
Even load distribution through steel tension plates and steel pins contribute to the strength and stiffness of the chain, eliminating deformation in the hinge area. Operates with Rexnord's easy steel TwistLock® pin retention system.

**ESD (Electrostatic Dissipative) Standard**  
The 6990 Hybrid chains offer the lowest surface resistivity of all competitive plastic modular chains (offering  $< 3 \times 10^3 \Omega/\text{sq}$ , according to NEN-EN-IEC 61340-4-5), protecting sensitive electronic equipment and providing a safe environment for workers.

Chain Type	Code Number	Working Load (max)	Weight	Back-flex Radius (min)	Certification
		lbs/ft / N/m	Lbs/ft <sup>2</sup> / kg/m <sup>2</sup>	in / mm	
<b>Hybrid H4</b>					
BSM6995H4	I6995H4BSMKxx	6.850 / 100.000	5.471 / 26.7	1.75 / 45	NEN-EN-IEC 61340-4-5
BSM6995H4	I6999H4BSMKxx	6.850 / 100.000	5.471 / 26.7	1.75 / 45	NEN-EN-IEC 61340-4-5
FR-PA6995H4	I6995H4FRKxx	6.850 / 100.000	5.471 / 24.8	1.75 / 45	NEN-EN-IEC 61340-4-5 DIN4102-B1 (B <sub>H</sub> -s1)
FR-PA6999H4	I6999H4FRKxx	6.850 / 100.000	5.471 / 24.8	1.75 / 45	NEN-EN-IEC 61340-4-5 DIN4102-B1 (B <sub>H</sub> -s1)

Kxx indicates the chain width (K12, K15,...K228). Chain widths available starting at 12-inches (305mm) up to 228-inches (5791.2mm) with increments of 3-inches (76.2mm).

# Automotive Solution Breakthrough

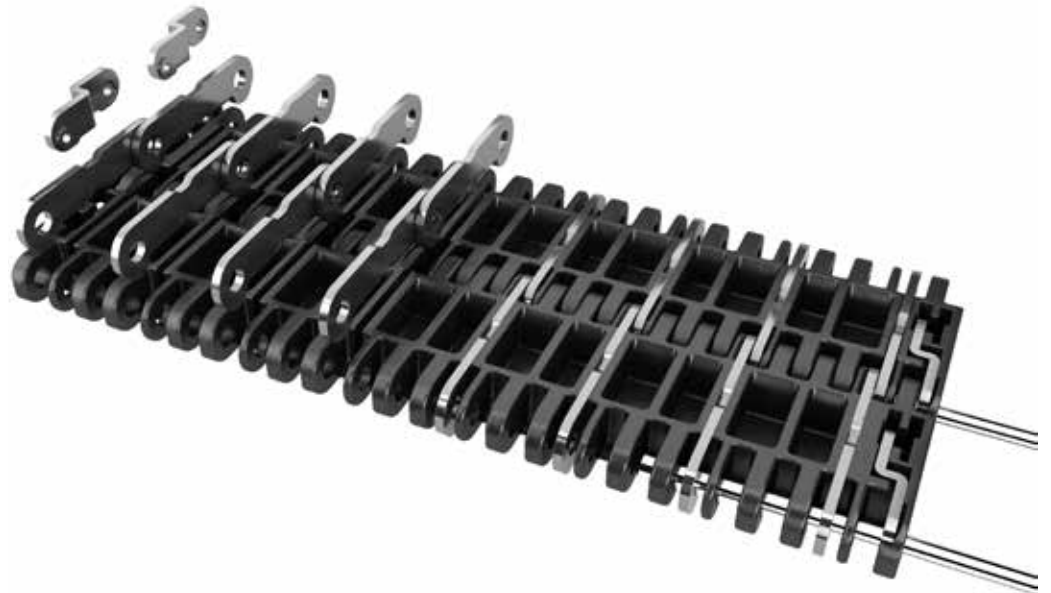
## 6990 Series Hybrid H8 MatTop Chain

### 6990 Series Hybrid H8 MatTop Chain

The Rexnord 6990 Series Hybrid H8 MatTop Chain is designed for extreme applications that require operational excellence. The strength and stiffness allows the chain to be used on conveyors with lengths up to 656-feet (200m), carrying vehicles up to 6613 lbs (3000kg) per zone. Ultra long conveyors with frequent load variation (people movers) can easily be built avoiding complicated intermediate drives.

#### 6990 Series Hybrid H8 Design:

- On average, the Hybrid chain's temperature expansion is 10% of an equivalent plastic chain
- H8 chain's steel tension plates provide chain stiffness which is six times higher when compared to standard FR and ESD full plastic MatTop chains



## 6990 Series Executions



#### SolidTop

Closed SolidTop surface provides a smooth finish for workers and vehicles. The SolidTop execution is the product of choice in assembly areas where tool carts must be repositioned on top of the chain surface.



#### SafetyTop

The SafetyTop surface is closed providing an anti-slip texture (non-skid) on top of the links. The raised diamond plated surface provides additional safety in applications that are humid, greasy or wet.



## 6990 Series Hybrid H8 Design MatTop Chain Features and Benefits

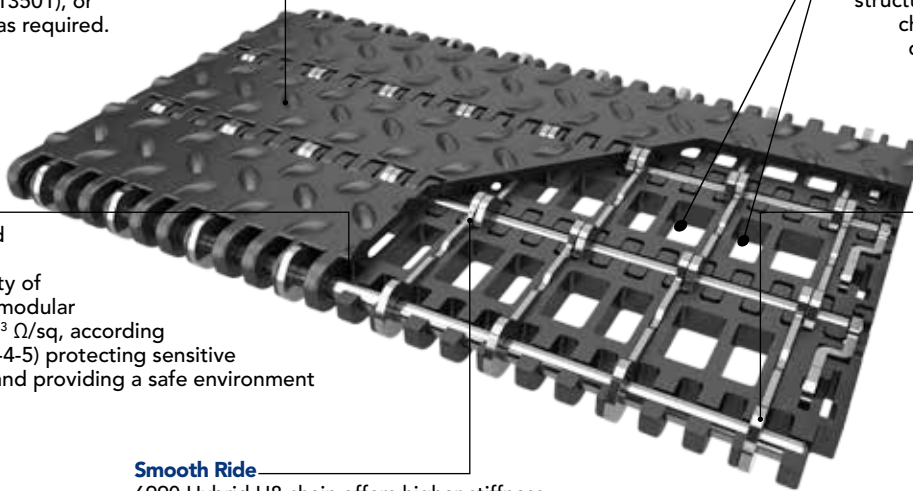
### Meets Regulations

Modules are available in flame retardant material according to DIN 4102-B1 (DIN EN 13501), or standard POM quality as required.

### ESD Standard

The 6990 Series Hybrid H8 chain offers the lowest surface resistivity of all competitive plastic modular chains (offering  $< 3 \times 10^3 \Omega/\text{sq}$ , according to NEN-EN-IEC 61340-4-5) protecting sensitive electronic equipment and providing a safe environment for workers.

### 6999 Hybrid H8 Execution



### Drive

Sprockets are located left and right of the steel Hybrid structure. The 6990 Series Hybrid chain provides the necessary capacity to operate on long conveyors with high loads.

### Performance

Eight steel tension plates per 12-inches (304.8mm) ensures ultra high chain strength and stiffness. Operates with Rexnord's easy steel TwistLock® pin retention system.

### Smooth Ride

6990 Hybrid H8 chain offers higher stiffness compared to full plastic solutions. This unique design results in a smooth running chain, reducing slip-stick or pulsation, ensuring a comfortable and smooth ride for vehicles and/or workers.

Chain Type	Code Number	Working Load (max)	Weight	Back-flex Radius (min)	Certification
		lbs/ft / N/m	Lbs/ft <sup>2</sup> / kg/m <sup>2</sup>	in / mm	
<b>Hybrid 8</b>					
BSM6995H8	I6995H8BSMKxx	11.645 / 170.000	6.700 / 32.7	1.75 / 45	NEN-EN-IEC 61340-4-5
BSM6999H8	I6999H8BSMKxx	11.645 / 170.000	6.700 / 32.7	1.75 / 45	NEN-EN-IEC 61340-4-5
FR-PA6995H8	I6995H8FRKxx	11.645 / 170.000	6.229 / 30.4	1.75 / 45	NEN-EN-IEC 61340-4-5 DIN4102-B1 (B <sub>n</sub> -s1)
FR-PA6999H8	I6999H8FRKxx	11.645 / 170.000	6.229 / 30.4	1.75 / 45	NEN-EN-IEC 61340-4-5 DIN4102-B1 (B <sub>n</sub> -s1)

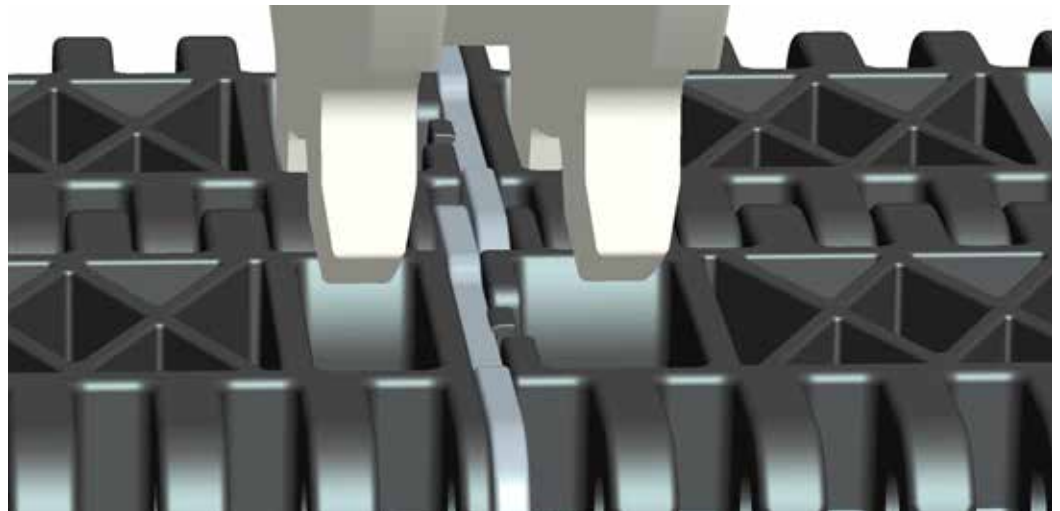
Kxx indicates the chain width (K12, K15,...K228). Chain widths available starting at 12-inches (305mm) up to 233-inches (5791.2mm) with increments of 3-inches (76.2mm).

# Automotive Solution Breakthrough 6990 Series Hybrid Drive System

## 6990 Series Hybrid Drive System

The 6990 Series Hybrid Chain is designed with a unique dual purpose steel frame. The H-Style drive sprockets (double row tooth profile) interacts directly underneath, on each side of the tension plates, resulting in optimum load transfer from sprockets to chain. Rexnord's H-Style sprocket design ensures reliable sprocket engagement, allowing for long-term chain elongation without sacrificing drive performance. Sprockets are engineered to drive the chain in excess of the maximum allowable working load of the chain.

*H-Style drive sprockets interact with the chain directly left and right of the tension plates resulting in optimum load transfer from sprocket to chain.*



## 6990 Series Sprocket Executions



### One-Piece Sprocket Design

Rexnord supplies standard solid one-piece machined sprockets. This execution is commonly used on newly built conveyors, where it is easy to mount the sprockets on the shaft before it is fitted with bearings and the assembly is mounted to the conveyor.



### Split Sprocket Design

Split sprockets are installed to an existing conveyor for easy maintenance. Split sprockets are often installed when sprocket repair is necessary eliminating the need to remove shaft and bearings assemblies.



## 6990 Series Hybrid Sprockets Features and Benefits

### Dimensions

The machined 6990 Series Hybrid sprockets are supplied in sizes ranging from nine to 20-teeth suitable for most applications. Contact application engineering for larger size sprockets. Metric and imperial, round and square bores are standard.

### Tooth Design

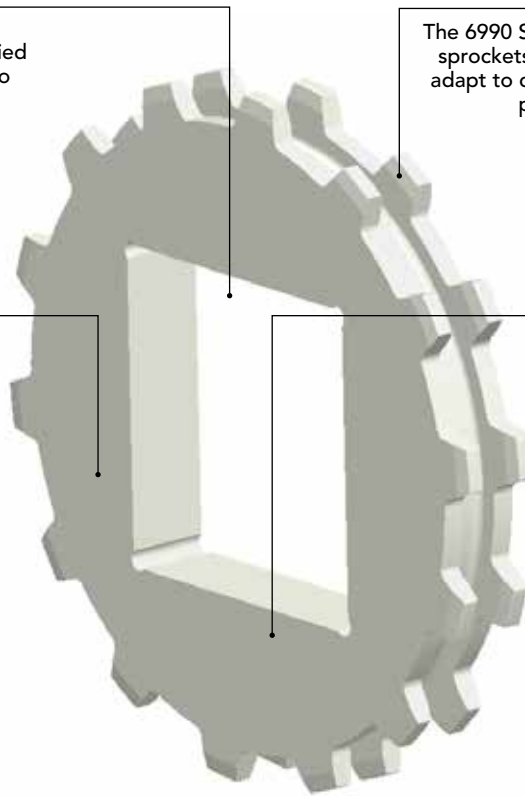
The 6990 Series tooth design allows for the sprockets to perform under high load and adapt to chain elongation. This ensures for positive sprocket interaction over the lifetime of the chain.

### Materials

6990 Series Hybrid sprockets are machined from a wear and moisture resistant material which provides superior performance in severe environments. If circumstances dictate, stainless steel sprockets can be MTO (Made-to-Order) for the 6990 Series Hybrid chain.

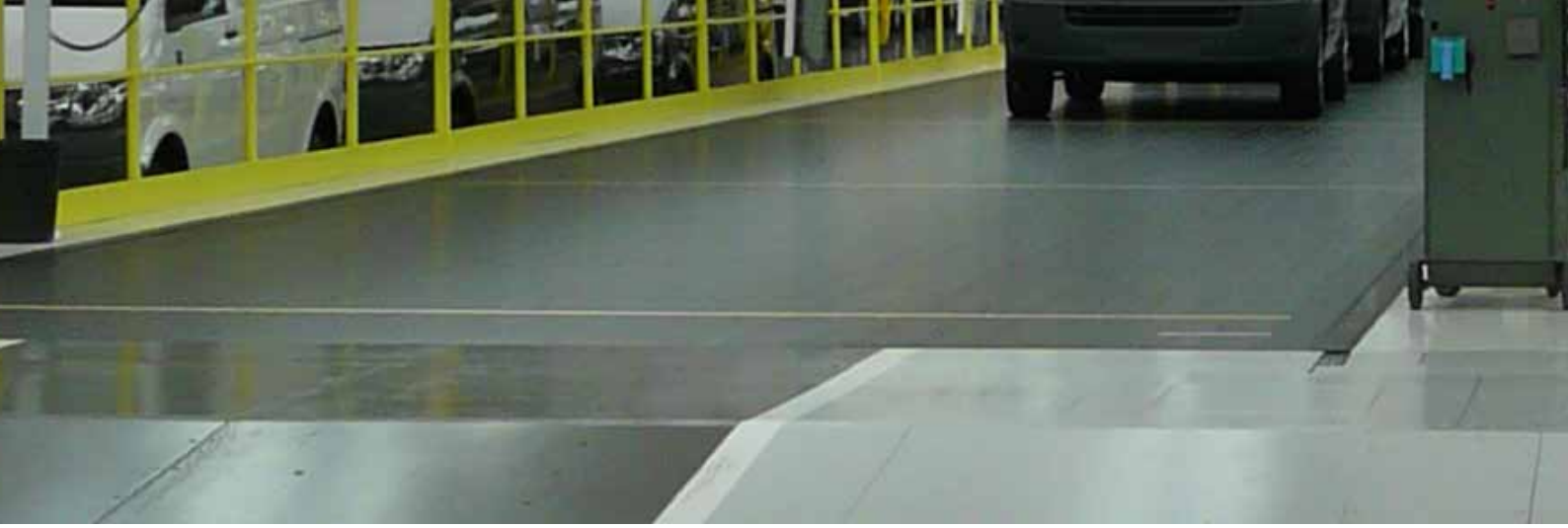
### Robust Design

The 6990 Series sprockets are designed to transfer allowable load throughout the life of the chain. Maximum pitch elongation due to hinge/joint wear is typically three to five percent. The hub width of the sprocket is engineered to effectively transfer extreme loading through the drive system to the chain.



Sprocket Description	Number Of Teeth	Pitch Circle Diameter	Maximum Square Bore Size	Hub Width
		inch / mm	inch / mm	inch / mm
<b>Solid</b>				
KU6990 Hybrid T09 H-Style	9	6.579 / 167.1	2.75 / 70	1.22 / 31
KU6990 Hybrid T12 H-Style	12	8.693 / 220.8	4.3 / 110	1.22 / 31
KU6990 Hybrid T14 H-Style	14	10.111 / 256.8	5.1 / 130	1.22 / 31
KU6990 Hybrid T17 H-Style	17	12.245 / 311.1	6.3 / 160	1.22 / 31
<b>Split</b>				
KUS6990 Hybrid T09 H-Style	9	6.579 / 167.1	2.75 / 70	1.22 / 31
KUS6990 Hybrid T09 H-Style	12	8.693 / 220.8	4.3 / 110	1.22 / 31
KUS6990 Hybrid T09 H-Style	14	10.111 / 256.8	5.1 / 130	1.22 / 31
KUS6990 Hybrid T09 H-Style	17	12.245 / 311.1	6.3 / 160	1.22 / 31

Other bore sizes, teeth and round bores are available on request. Please consult our technical support department for more information.



## Customized For Your Application

The Rexnord 6990 Series Hybrid MatTop Chain is suitable for compact conveyor construction avoiding deep pit requirements. The 6990 Series offers vast product line versatility for a wide range of applications which necessitate special or alternate performance needs.

### Chain Support

The 6990 Series Hybrid MatTop chain runs on ESD quality UHMWPE (Ultra High Molecular Weight Polyethylene) sheets. The H4 execution is designed to work with Denirug® roller profiles minimizing headshaft tension.

### Drive Performance

The steel structure is driven in line with the tension plate position. This provides optimum load transfer from sprockets to chain.



## 6990 Series Options



### Pusher Elements

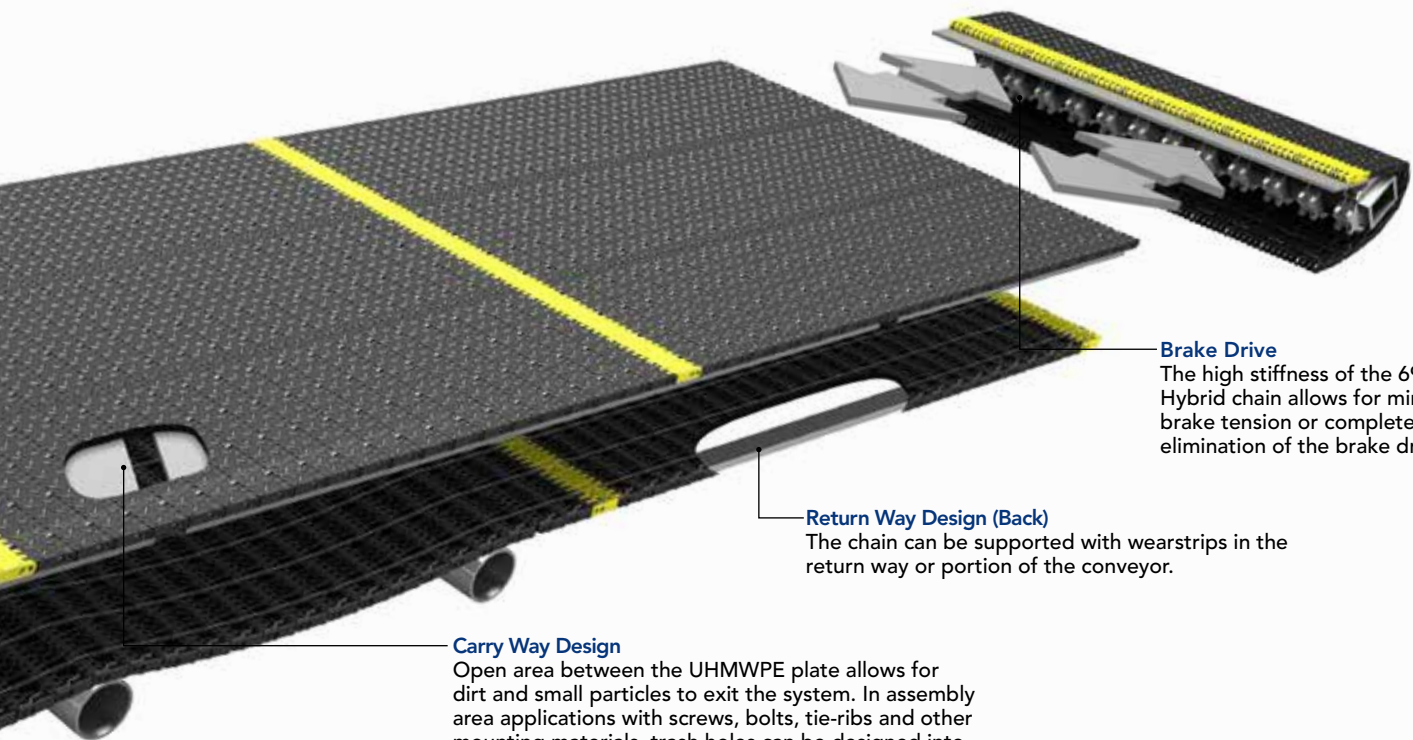
Automotive pushers are used to strategically position the vehicle on the chain for exhaust fume discharge, water test positioning or wash conveyors. The pusher height can be customized (one and two-inches are standard). The chain can be perforated to suit the application.



### Takt Zone Marking

To indicate the work station length (takt) colored links can be used. Standard yellow links are available. These links are used to mark the sides of the chain. Color contrast indicates the edge of the moving chain in relation to the static floor for safety purposes.





**Brake Drive**  
The high stiffness of the 6990 Hybrid chain allows for minimal brake tension or complete elimination of the brake drive.

**Return Way Design (Back)**  
The chain can be supported with wearstrips in the return way or portion of the conveyor.

**Carry Way Design**  
Open area between the UHMWPE plate allows for dirt and small particles to exit the system. In assembly area applications with screws, bolts, tie-ribs and other mounting materials, trash holes can be designed into the system.

**Return Way (Front)**  
Return rollers with a diameter of 5-7-inches (127-178mm) can be used to support the chain in the return part of the conveyor.

## Wear Plates



### MCC 2500

The MCC 2500 wear plate quality is suitable for people movers without high localized pressure between the chain and the wear plate. This quality is wear resistant offering a surface resistivity of  $<10^4$  Ohm/sq (according to DIN 53482). The sheets are suitable for dry and wet applications.

### MCC 2800

The MCC 2800 wear plate offers flame retardant PE quality suitable to be used in combination with the FR and FRESO chain materials. The plates meet the UL94 V0 and DIN4102-1 B1 quality in combination with the flame retardant chain materials.

### MCC 3000

The top line ultra high density MCC 3000 wear plate is suitable to be used carrying heavy vehicles or SKIDs with an optimized wear life. Quality is wear resistant offering a surface resistivity of  $<10^4$  Ohm/sq (according to DIN 53482). The sheets are suitable for dry and wet applications.

## Why Choose Rexnord?

When it comes to providing highly engineered products that improve productivity and efficiency for industrial applications worldwide, Rexnord is the most reliable in the industry. Commitment to customer satisfaction and superior value extend across every business function.

### Delivering Lowest Total Cost of Ownership

The highest quality products are designed to help prevent equipment downtime and increase productivity and dependable operation.

### Valuable Expertise

An extensive product offering is accompanied by global sales specialists, customer service and maintenance support teams, available anytime.

### Solutions to Enhance Ease of Doing Business

Commitment to operational excellence ensures the right products at the right place at the right time.

## Rexnord Corporation

Rexnord is a growth-oriented, multi-platform industrial company with leading market shares and highly trusted brands that serve a diverse array of global end markets.

### Process and Motion Control

The Rexnord Process and Motion Control platform designs, manufactures, markets and services specified, highly engineered mechanical components used within complex systems where our customers' reliability requirements and the cost of failure or downtime are extremely high.

### Water Management

The Rexnord Water Management platform designs, procures, manufactures and markets products that provide and enhance water quality, safety, flow control and conservation.

