

Rex[®]

MatTop[®] chains

Installation and maintenance manual



Rexnord
|||||

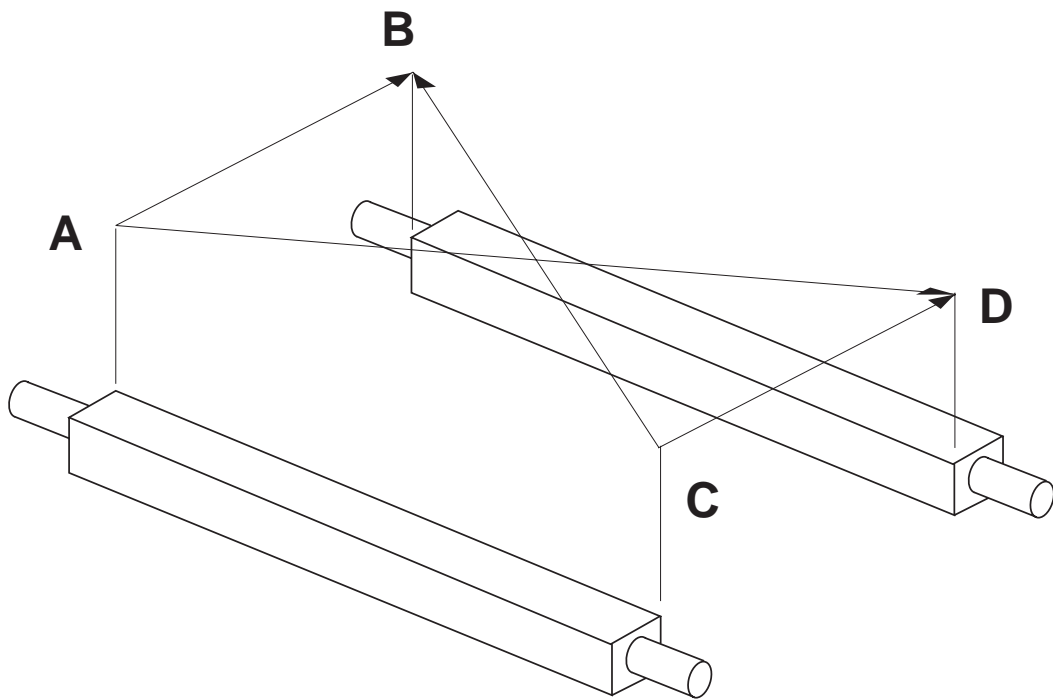
CONTENTS :

SHAFT PARALLELISM	Page 3
WEAR STRIPS FLATNESS, SYMMETRY, AND FASTENING	Page 4
CHAIN RETURN SYSTEM	Page 6
FRAME DIMENSIONS	Page 7
SPROCKET POSITIONING AND INSTALLATION	Page 8
CHAIN INSTALLATION : CARRYING, JOINING, FOREIGN OBJECTS CHECK, FREE MOVEMENT CHECK	Page 13
CATENARY	Page 16
BREAK-IN	Page 17
GENERAL INSPECTION & PREVENTIVE MAINTENANCE	Page 18
NORMAL WEAR AND CHAIN REPLACEMENT	Page 19
REPAIR AND MODULE SUBSTITUTION	Page 20
TRANSFER COMB INSTALLATION / TRANSFER PLATE POSITIONING	Page 22
DYNAMIC TRANSFER SYSTEM™ POSITIONING	Page 23
LUBRICATION	Page 24
CLEANING	Page 25
FIRE HAZARD	Page 27
CHEMICAL COMPATIBILITY	Page 28
RESPONSIBILITY	Page 29
TROUBLE SHOOTING GUIDE	Page 30

SHAFT PARALLELISM

IDLER AND DRIVE SHAFT MUST BE PERFECTLY PARALLEL TO ENSURE CORRECT CHAIN MOVEMENT. BADLY ALIGNED SHAFTS CAN CAUSE OVERLOADING ON ONE SIDE OF THE CHAIN, PINS COMING OFF AND FAILURE AFTER FEW DAYS OF WORK. THE PICTURE SHOWS A PRACTICAL METHOD TO CHECK IF SHAFTS ARE PARALLEL.

PICTURE 1



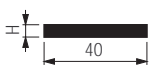
WITH BOTH SHAFTS HORIZONTAL,
IF $AB = CD$ AND $BC = AD$ THAN SHAFTS ARE PARALLEL

WEAR STRIPS FLATNESS, SYMMETRY AND FASTENING

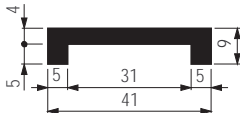
REXNORD ALSO SUPPLIES CORRECT MARBETT® WEAR STRIPS SHOWN IN THE PICTURE.

PICTURE 2

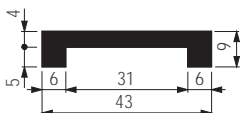
Part. 244
 - H = 3 - 5.
 - Colour : green.



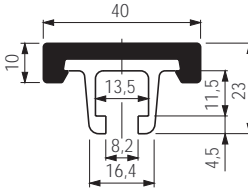
Part. 362
 - Colour : green and black.



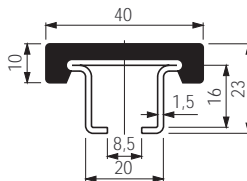
Part. 387
 - Colour : black.

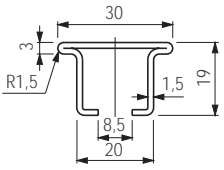


Part. 422
 - Aluminium profile.
 - Only for running dry.
 - Colour : green.



Part. 367
 - Metal profile in AISI 304.
 - Colour : green.

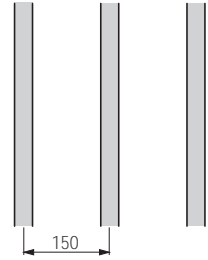




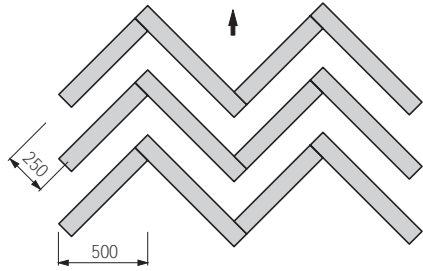
Part. 244, 362, 387 shall be fixed only with one screw on idler side to avoid buckles between fixings points.

For additional information about the characteristics and systems of assembly see : **Marbett "Conveyor Components" catalog**

Parallel guides
 Recommended for light-medium loads. Chains with a width up to 1 m. Economical solution. For uni - and bidirectional conveyors (with central drive unit).



"Herringbone" type of support
 For chain widths between 1÷3 meters. Uni-directional conveyors with high loads and bi-directional conveyors (with central drive unit). Accumulation tables. The wear of the chain is distributed equally over the whole width of the chain.



STAINLESS STEEL WEAR STRIPS ARE RECOMMENDED IN ABRASIVE ENVIRONMENT AND/OR HIGH TEMPERATURE ENVIRONMENT (HIGHER THAN 60°C).

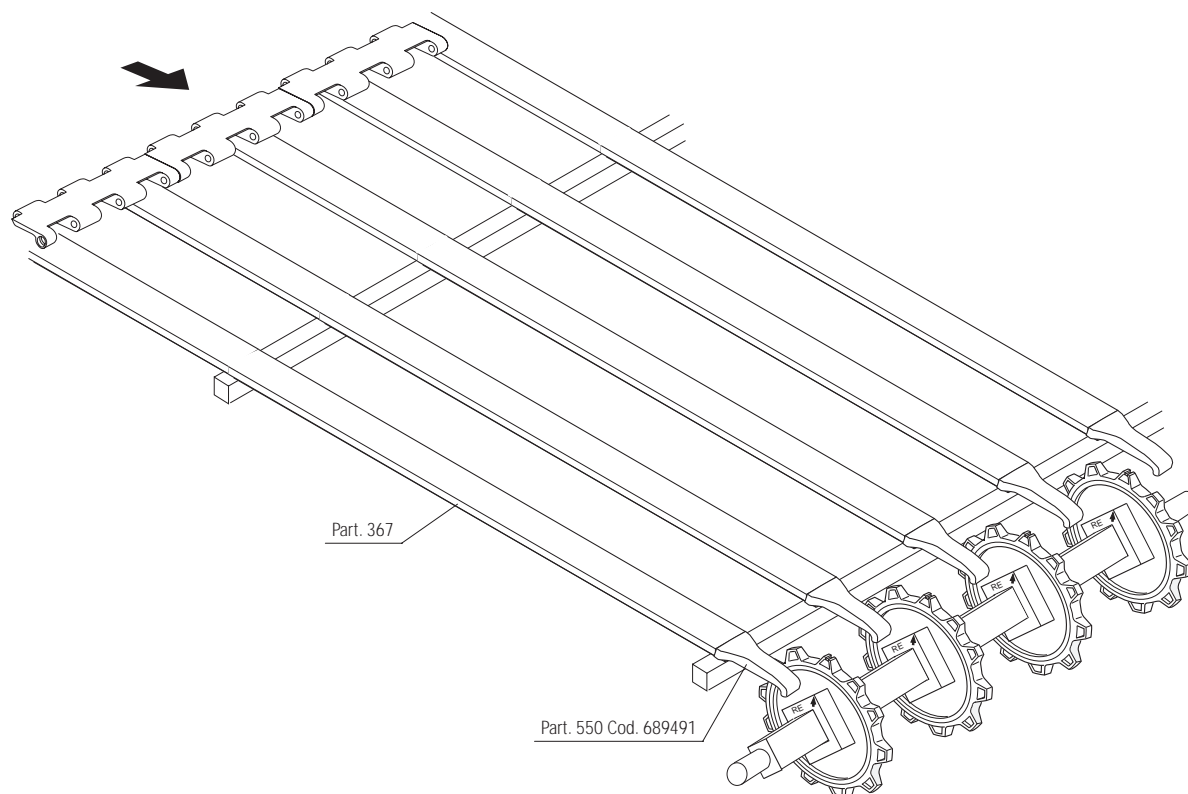
IN ALL THE OTHER SITUATIONS UHMW-POLYETHYLENE IS PREFERRED DUE TO LOWER FRICTION.

ATTENTION MUST BE PAID TO LEVEL ALL WEAR STRIP SEGMENTS AND AVOID ALL POSSIBLE CATCHING POINTS WITH THE CHAIN.

PLASTIC WEAR STRIPS SHOULD BE CUT IN LENGTH OF 1.5-2m LEAVING ABOUT 10mm GAP TO ALLOW FOR THERMAL ELONGATION.

AN ANGLE OF 45° IN THE CUT IS RECOMMENDED TO GIVE MORE UNIFORM SUPPORT TO THE CHAIN.

PICTURE 3



For chain systems with light loads the carryway can be constructed as shown above.

CHAIN RETURN SYSTEM

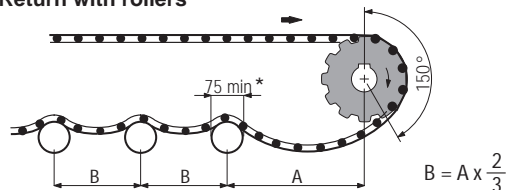
TWO SYSTEMS ARE AVAILABLE IN MARBETT® CONVEYOR COMPONENTS (SEE CATALOG) :

ROLLERS OR DRUMS: LOWEST FRICTION RETURN SYSTEM, BUT IT IS NECESSARY TO CHECK FOR FREE ROTATION, ALLOW FOR THERMAL ELONGATION OR CONTRACTION THROUGH CATENARY SAG.

SERPENTINE SET : RECOMMENDED WITH HIGH SPEED CHAINS.

PICTURE 4

Return with rollers



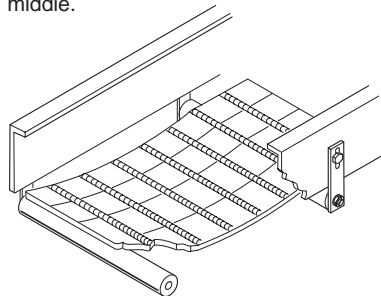
* = For chain 5997 a min. diameter of 140 mm is recommended.
The radius of the rollers must be bigger than the min. backflex radius of the chain. See table 1.

Table 1 - Min. backflex radius

Chain	Min. Radius (mm)
1505 - 1506	16
2100 - 5935 - 5936 - 5935 Vacuum	25
4705 - 4706 - 4705 Vacuum - 5705 - 5706 - 5996 - 5998	38
4707 - 4803 - 6390 - 6391 - 6392	50
4812	75
4809	100
5997	70
6085	60
7705 - 7706	30
7708	20
7956	32

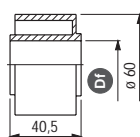
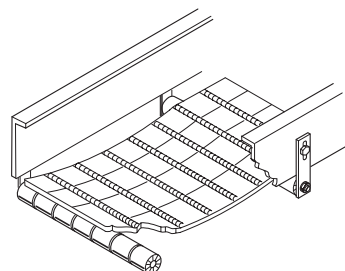
Return with drums, made from plastic, rubber or metal

For elevated temperatures (pasteurizers), metal rollers are recommended. In applications with products, which tend to adhere (for example sugar, etc.) fixed rollers should be used and/or frequent cleaning should be applied.
Important: to avoid chain deformation the shafts of the support rollers must have sufficient rigidity and/or be supported in the middle.



Return with new rollers Part. 554

Recommended for widths up to 1000 mm

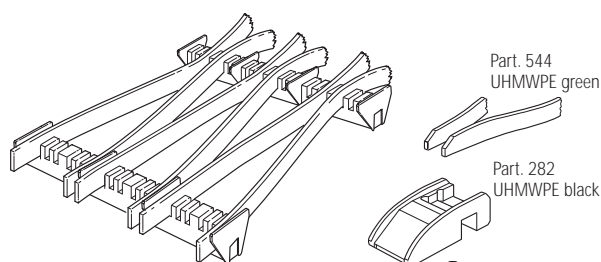
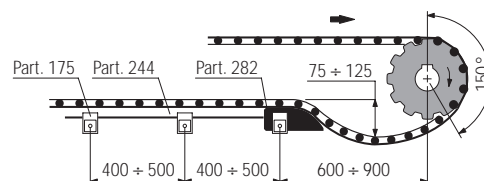


Part. 554
Material: selflubricating PA polyamid (grey).

For additional information see our Marbett "Conveyor Components" catalog

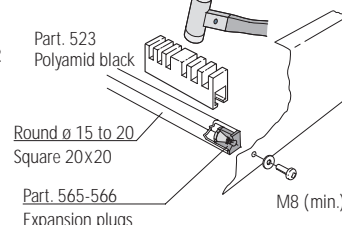
Serpentine return

Recommended for all chains with a pitch of 38,1 mm

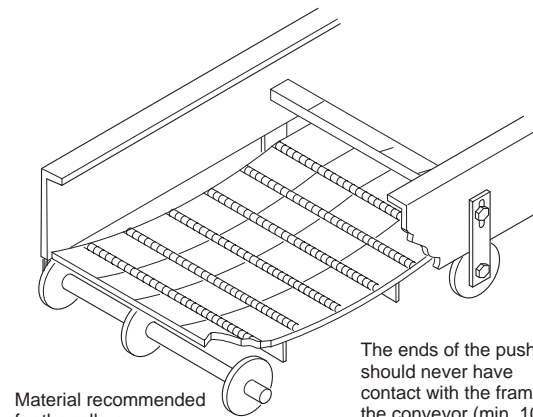


For additional information about Part. 523 - 544 - 282 see Marbett Bulletin No. 1040/FT

For additional information about Part. 565 - 566 see Marbett Bulletin No. 1058/FT



Support system for chains with pushers



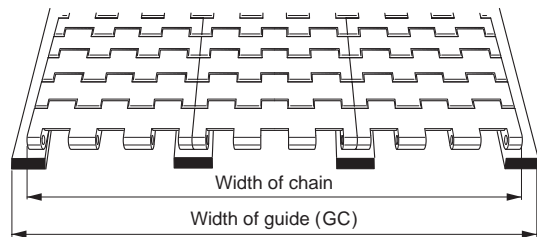
Material recommended for the rollers: polyethylene

The ends of the pushers should never have contact with the frame of the conveyor (min. 10 mm clearance recommended)

FRAME DIMENSIONS

PICTURE 5

Width of guide (GC)



Operation at ambient temperature (20°C)

$GC = \text{"effective" chain width} + A$

Length of conveyor	A	A = Clearance between chain and guide.
Up to 10 metres	10mm	
From 10 to 15 meters	15mm	
Over 15 meters	20mm	

Operation at temperature higher than 20°C

At higher temperatures the thermal expansion of the chain must be taken into account.

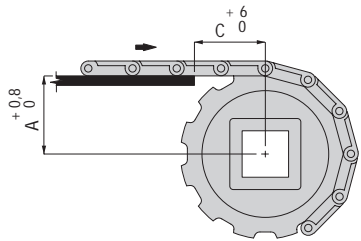
$GC = \text{"effective" chain width} + A + \Delta K$

Calculation of thermal expansion (ΔK)

$\Delta K = K \cdot e \cdot (T - 20^\circ C)$

- ΔK = Variation of chain width, due to temperature (mm).
- K = Effective width of chain - mm.
- e = Linear coefficient of expansion (contact our engineering dept.).
- T = Operating temperature - °C.
- 20°C = Ambient temperature.

Position of guides



Chain	A mm	C mm
1505 - 1506	$\frac{Dp}{2} - 4,95$	15
2100	$\frac{Dp}{2} - 4,37$	25
4705 - 4706 - 4707 - 4705 vacuum 4803 - 5705 - 5706	$\frac{Dp}{2} - 6,35$	38
4812	$\frac{Dp}{2} - 5,2$	38
4809	$\frac{Dp}{2} - 7,9$	57
5935 - 5936 - 5935 vacuum	$\frac{Dp}{2} - 4,35$	19
5996 - 5997 - 5998	$\frac{Dp}{2} - 9,1$	57
6085	$\frac{Dp}{2} - 7,93$	51
6390 - 6391 - 6392	$\frac{Dp}{2} - 7,0$	50
7705 - 7706 - 7708	$\frac{Dp}{2} - 6,35$	25
7956	$\frac{Dp}{2} - 6,35$	32

Dp = Pitch diameter - mm.

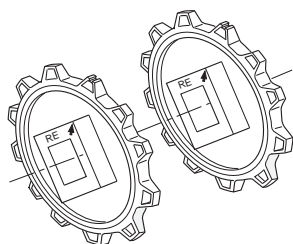
SPROCKET POSITIONING AND INSTALLATION

PICTURE 6

■ Operation at high and low temperatures

Sprockets with square bore

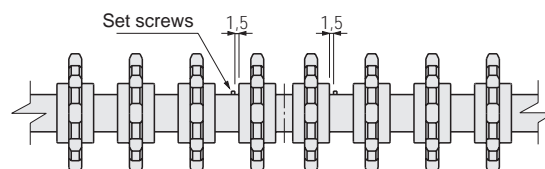
For these applications sprockets with square bores are recommended. It is important that the notched teeth of the sprockets are in line when installed.



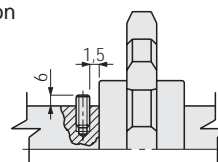
Recommendations for installation

In order to allow the width of the chain to change as a result of temperature fluctuations, secure only the centre sprockets (1 or 2), using locking screws or set collars. All other sprockets remain freely moveable on the shaft. This applies to both the drive side and the return side.

For calculation of thermal expansion : see page 7.



Sprocket position secured with set screws or set collars

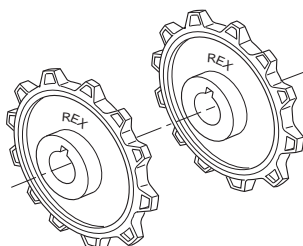


PICTURE 7

■ Operation at ambient temperatures (20° C)

Sprockets with round bore

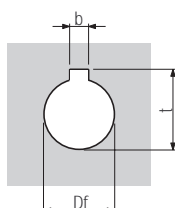
Sprockets with round bores and keyways are normally recommended. When fixing the sprockets ensure that the sprocket teeth are all in line.



Keyway dimensions

Dimensions according to UNI 6604-69 / ISO 773

Df mm	b mm		t mm	
	nom.	toll.	nom.	toll.
25	8		28,3	
30	8		33,3	
35	10	J 9	38,3	+ 0,2
40	12		43,3	0
45	14		48,8	
50	14		53,8	



Recommendations for mounting

■ Uni-directional conveyors

Drive sprockets.

Position the sprockets as indicated on page 9 -10. All sprockets must be keyed.

Idlers.

Secure only the 2 central sprockets. The other sprockets to remain freely on the shaft.

■ Bi-directional conveyors "with drive unit at one end"

Sprocket position and keys the same as for uni-directional conveyors.

■ Bi-directional conveyors "with bottom drive unit"

Drive sprockets:

- for the drive sprockets refer to the uni-directional conveyors.

Idlers:

- at least 2 sprockets must be locked, preferably those at the outside.

With multiple strand conveyors the sprockets of the middle strand should be keyed.

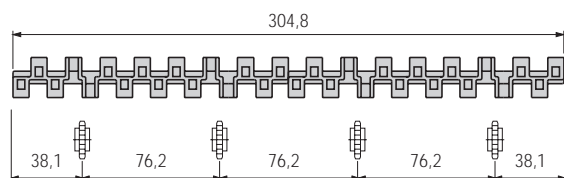
Position and quantity of sprockets

Due to the tolerances of the chain, the exact position of the sprockets must be determined after the chain has been installed.

Chains 1505 - 1506

Number of drive and return sprockets

For every type of working load 4 sprockets for every 304,8 mm (12") of chain width.



Chains 2100

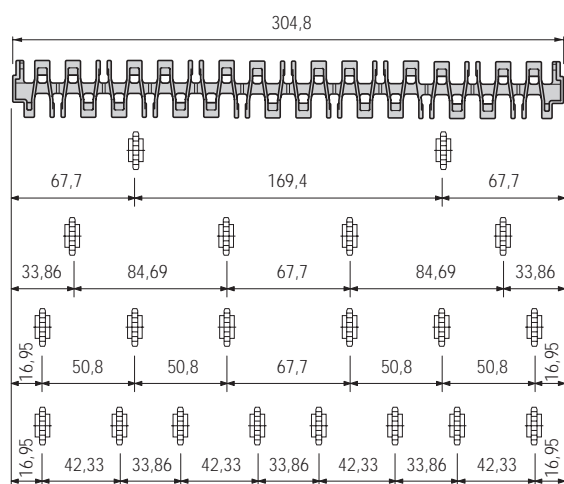
Number of drive sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor F/Fmax	Qty. sprockets
0, ÷ 0,25	2
0,26 ÷ 0,50	4
0,51 ÷ 0,75	6
0,76 ÷ 1,00	8

Number of return sprockets

For uni-directional conveyors 4 sprockets for every 304,8 mm of chain width.



Chains 4705 - 4706 - 4707 - 4705 vacuum

Number of drive sprockets

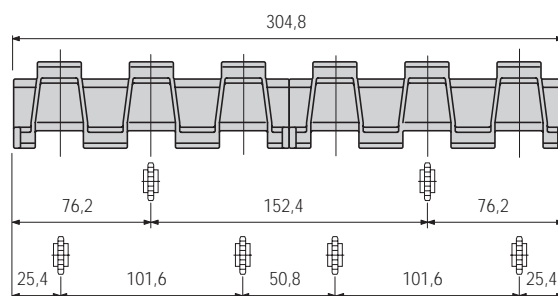
The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor F/Fmax	Qty. sprockets
0 ÷ 0,80	2
0,81 ÷ 1,00	4

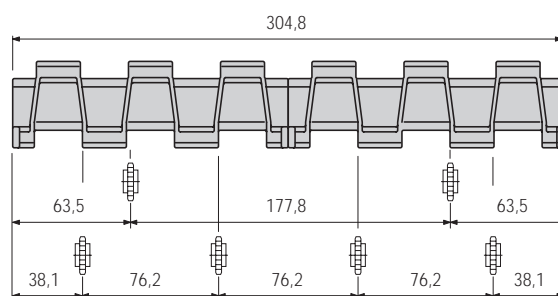
Number of return sprockets

For uni-directional conveyors 2 sprockets for every 304,8 mm of chain width.

With sprockets N 4700 - N 5700 - NS 5700 - KU 4700



With sprockets NS 4700 - KU 4700 with centre groove



Chains 4812

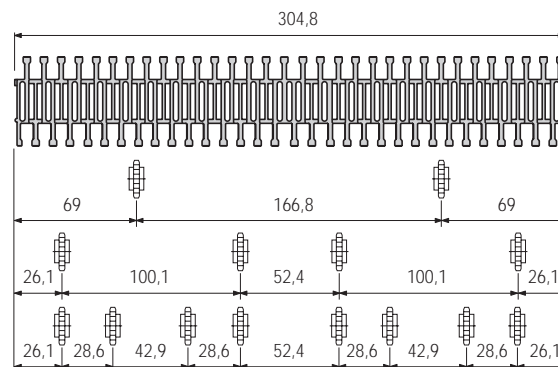
Number of drive sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor F/Fmax	Qty. sprockets
0 ÷ 0,25	2
0,26 ÷ 0,50	4
0,51 ÷ 1,00	8

Number of return sprockets

For uni-directional conveyors 2 sprockets for every 304,8 mm of chain width.



* F = Chain pull. See MatTop® Catalogue, page 46

* Fmax = max. recommended chain pull. See diagram on page of selected chain.

Chains 4803

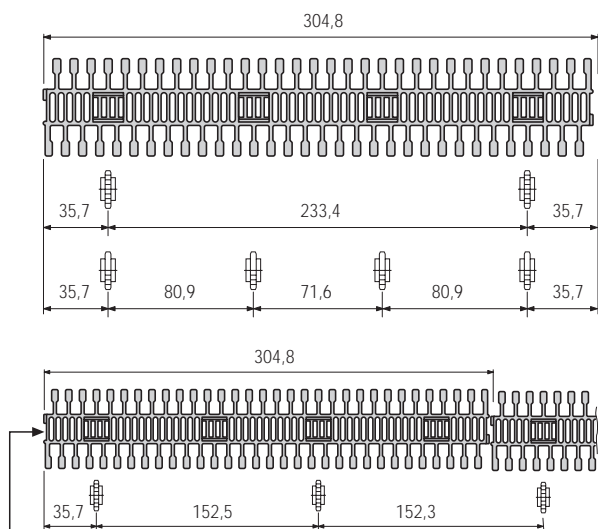
Number of drive sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor [*] F/Fmax	Qty. sprockets
0 ÷ 0,40	2
0,41 ÷ 1,00	4

Number of return sprockets

For uni-directional conveyors 2 sprockets for every 304,8 mm of chain width.



End module. We suggest symmetrical sprocket positioning with minimum distance 152,5.

Chains 4809

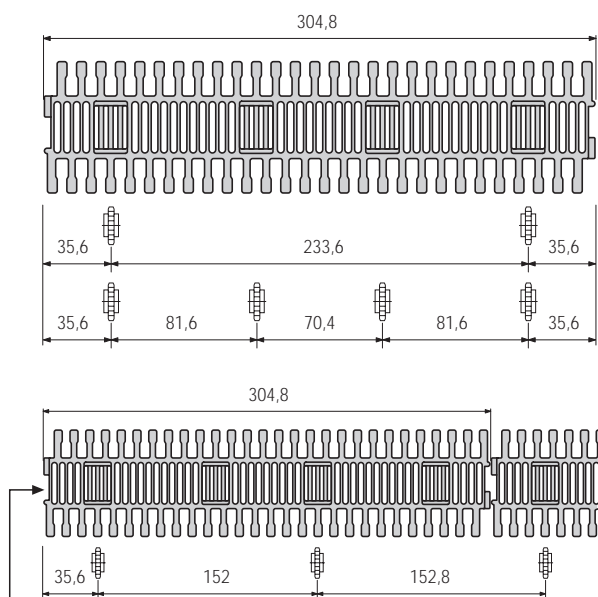
Number of drive sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor [*] F/Fmax	Qty. sprockets
0 ÷ 0,40	2
0,41 ÷ 1,00	4

Number of return sprockets

For uni-directional conveyors 2 sprockets for every 304,8 mm of chain width.



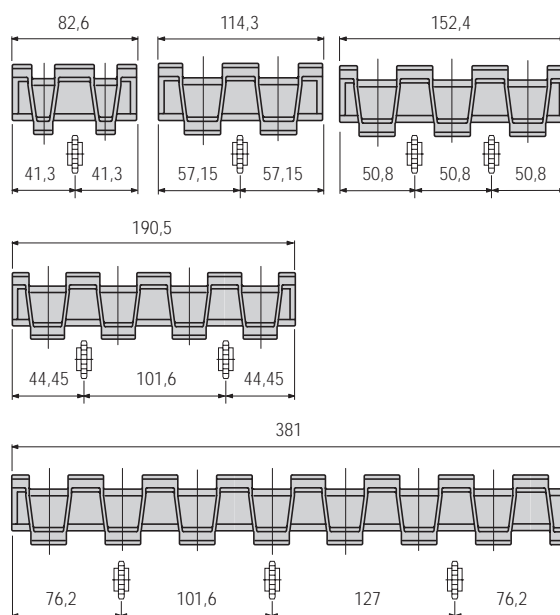
End module. We suggest symmetrical sprocket positioning with minimum distance 152.

Chains 5705 - 5706

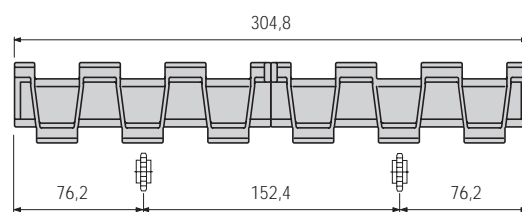
Number of drive and return sprockets

With sprockets N 4700 - NS 5700 - KU 4700

Chains with modules moulded to width



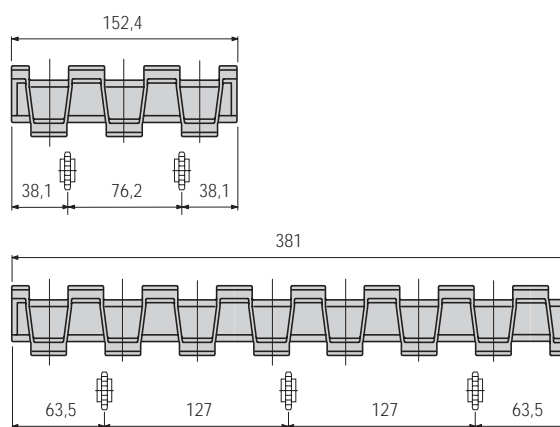
Chainwidth assembled with multi modules (brick assembly)



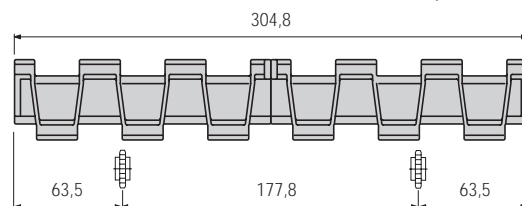
Number of drive and return sprockets

With sprockets NS 4700 - KU 4700 with centre groove

Chains with modules moulded to width



Chainwidth assembled with multi modules (brick assembly)



^{*} F = Chain pull. See MatTop® Catalogue, page 46

^{*} Fmax = max. recommended chain pull. See diagram on page of selected chain.

PICTURE 10

Chains 5935 - 5936 - 5935 vacuum

Number of drive sprockets

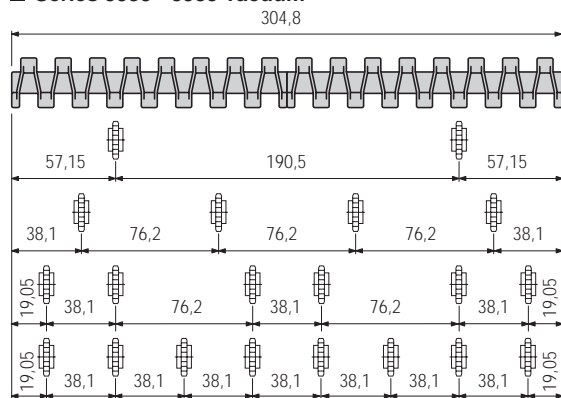
The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor*	Qty. sprockets
0 ÷ 0,25	2
0,26 ÷ 0,50	4
0,51 ÷ 0,75	6
0,76 ÷ 1,00	8

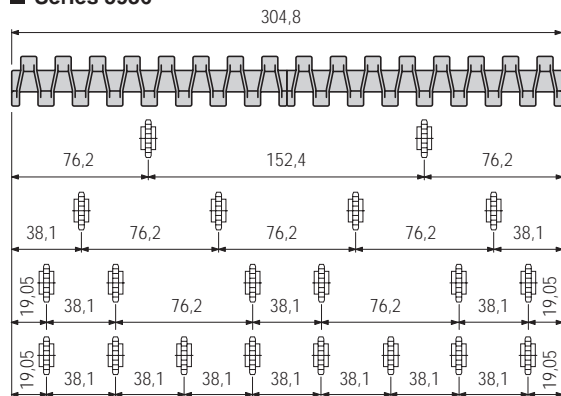
Number of return sprockets

For uni-directional conveyors 2 sprockets for every 304,8 mm of chain width.

Series 5935 - 5935 vacuum



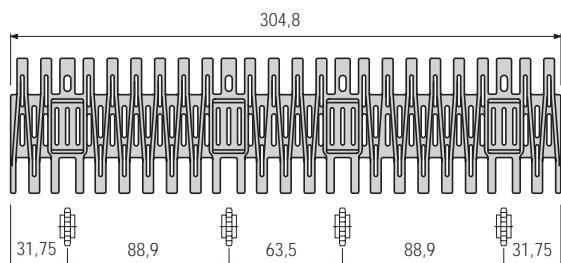
Series 5936



Chains 5996 - 5997

Number of drive and return sprockets

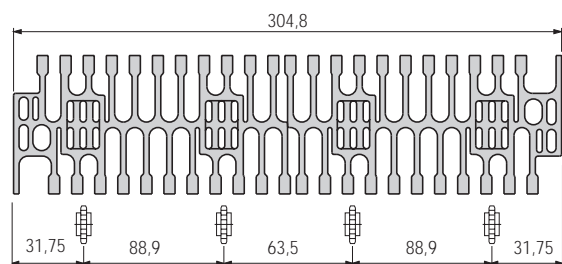
For every type of working load 4 sprockets for every 304,8 mm (12") of chain width.



Chains 5998

Number of drive and return sprockets

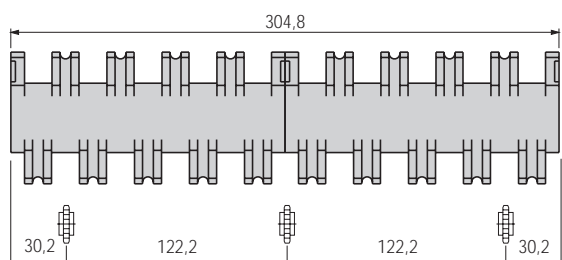
For every type of working load 4 sprockets for every 304,8 mm (12") of chain width.



Chains 6085

Number of drive and return sprockets

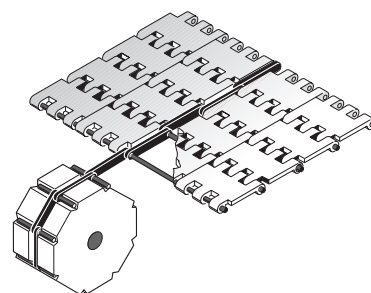
For every type of working load 3 sprockets for every 304,8 mm (12") of chain width.



Chains 6390 - 6391 - 6392 with tension plates

Number of drive and return sprockets

The sprockets (with exception of the central sprocket) must have the same position as the tension plates in the chain. The central sprocket serves as a support of the chain.



Chains 6390 - 6391 - 6392 without tension plates

Number of drive and return sprockets

For working loads up to 100% of the maximum working load the sprockets should be placed at a centre distance of 75 mm.

For working loads up to 50% of the maximum working load the sprockets should be placed at a centre distance of 150 mm.

All sprockets should be keyed on the shaft. The chain should be held in position by means of the wearstrips at the sides of the chain.

* F = Chain pull. See MatTop® Catalogue, page 46

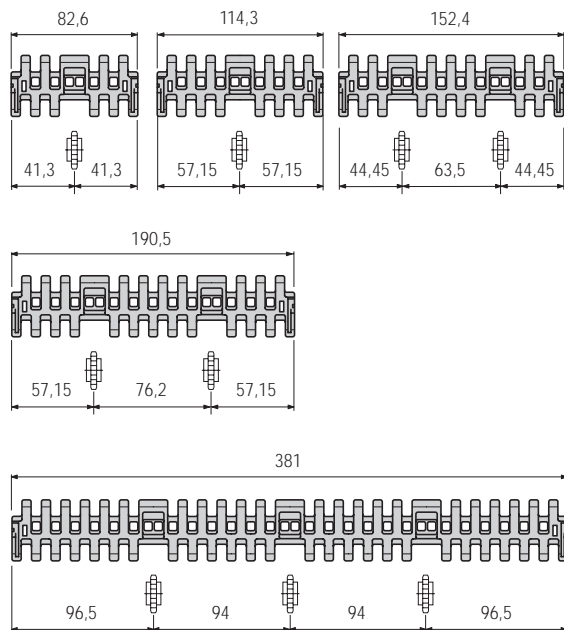
* Fmax = max. recommended chain pull. See diagram on page of selected chain.

PICTURE 11

■ Chains 7705 - 7706

■ Chains with modules moulded to width

Number of drive and return sprockets

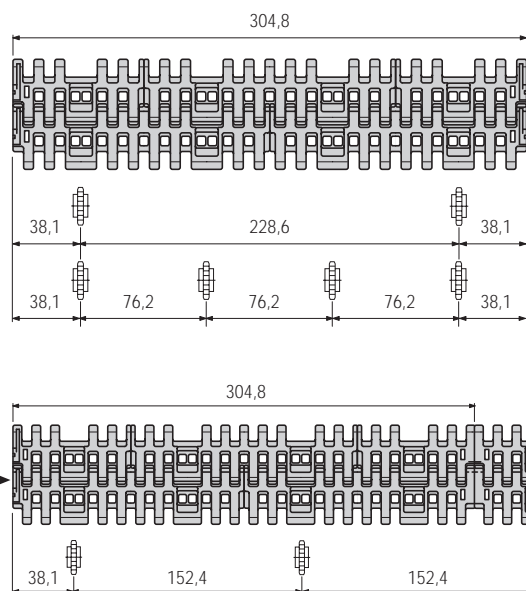


■ Chainwidth assembled with multi modules (brick assembly)

Number of drive and return sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor F/Fmax	Qty. sprockets
0 ÷ 0,50	2
0,51 ÷ 1,00	4



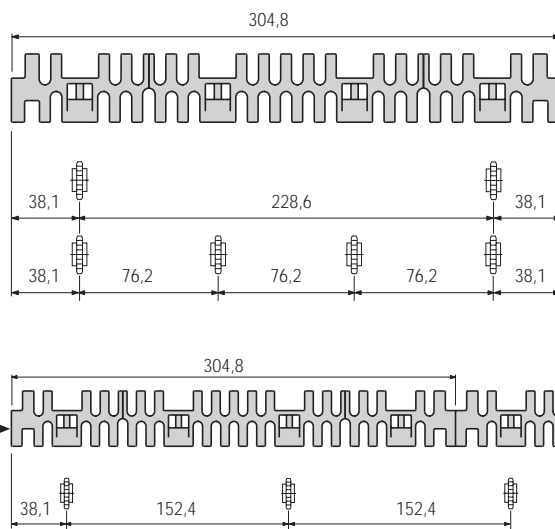
End module. We suggest symmetrical sprocket positioning with minimum distance 152,4.

■ Chains 7708

Number of drive and return sprockets

The drawing indicates the different positions of sprockets for every 304,8 mm (12") width of chain. The quantity varies with the factor F/Fmax.

Factor F/Fmax	Qty. sprockets
0 ÷ 0,50	2
0,51 ÷ 1,00	4

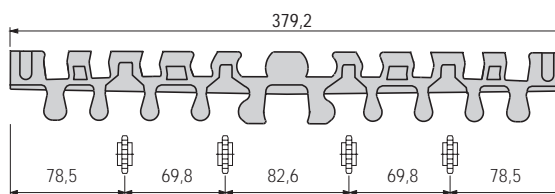


End module. We suggest symmetrical sprocket positioning with minimum distance 152,4.

■ Chains RexFlex® 7956

Number of drive and return sprockets

For every type of working load 4 sprockets for every 381 mm (15") of chain width.



* F = Chain pull. See MatTop® Catalogue, page 46
 * Fmax = max. recommended chain pull. See diagram on page of selected chain.

CHAIN INSTALLATION :

CARRYING

WHILE CARRYING WIDE CHAIN COILS (MORE THAN 1.5m), IT IS RECOMMENDED TO SUPPORT THE CHAIN IN ORDER TO AVOID EXCESSIVE BENDING (MAXIMUM 5% OF THE WIDTH).
IN SOME CASE IT COULD BE NECESSARY TO SUPPORT THE CHAIN IN TWO OR MORE POINTS.

JOINING

IF THE CONVEYOR IS LONG THE CHAIN IS PACKED IN SEPARATE SECTIONS.
STRANDS MUST BE LAID ON THE CONVEYOR STARTING FROM THE IDLER SHAFT AND CONNECTED ON THE CONVEYOR.
DO NOT ATTEMPT TO CONNECT SECTIONS ON THE FLOOR, BECAUSE HEAVIER SECTIONS ARE EASILY DAMAGED.

ACCORDING TO CHAIN TYPE THE CONNECTION SHALL BE MADE WITH CLIPS (NOT REUSABLE), TWISTLOCK OR WELDING THE PIN END.(SEE PICTURE 12).

IN CASE OF WELDING A COMMON SOLDERING IRON AND SPECIAL SOLDERING IRON TIPS ARE AVAILABLE (80W). ONLY ONE END OF THE CONNECTING PIN SHALL BE HOT FORMED. BEFORE HOT FORMING THE PIN SHOULD PROTRUDE ABOUT 6 mm. CONNECTING PINS ARE INCLUDED IN EACH BOX IN QUANTITY DOUBLE THAN NECESSARY.

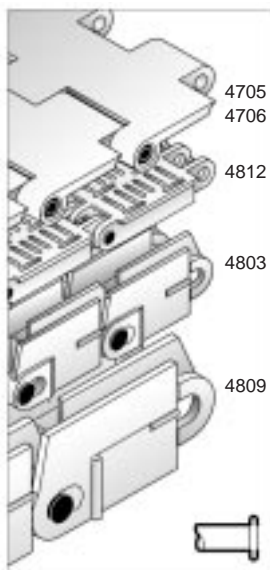
IF PINS ARE HELD IN POSITION BY CLIPS OR TWISTLOCK NO TOOL IS NECESSARY AND THE PIN IS ALREADY OF THE RIGHT LENGTH : **DO NOT SHORTEN THE PINS !**
TO MAKE EASIER THE INSERTION THE PIN END CAN BE BEVELLED WITH A PENCIL SHARPER.

PICTURE 12

Chains 4705-4706-4803-4809-4812

■ Pin retention systems

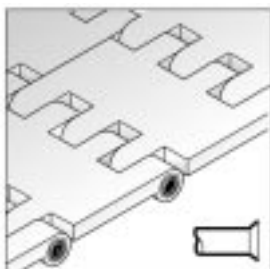
The pins are axially locked by pins with hot formed heads.



Chains 6390-6391-6392

■ Pin retention system

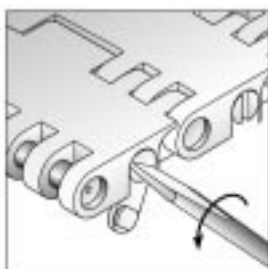
The pins are riveted on both sides and can be used only once.



Chains 7705-7706-7708

■ Pin retention system

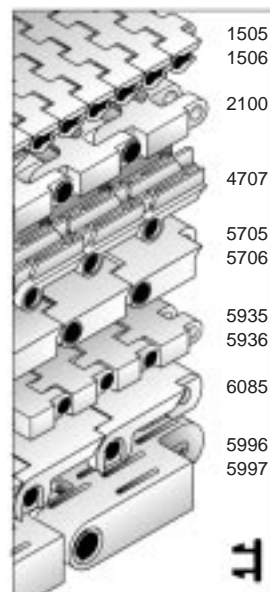
The pins are axially locked on both sides with a rotating lock, patented by Rexnord called "Twist Lock™". This system is an integral part of the modules and cannot fall out.



Chains 1505/6-2100-4707-5935/6-5705-5706-6085-5996-5997

■ Pin retention system

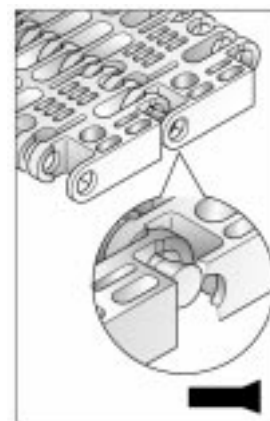
The pins are axially locked in the modules by means of removable plugs. The chain 2100 has plugs on both sides. The other types have plugs on one side only. These plugs have a press fit. Pins can be used again.



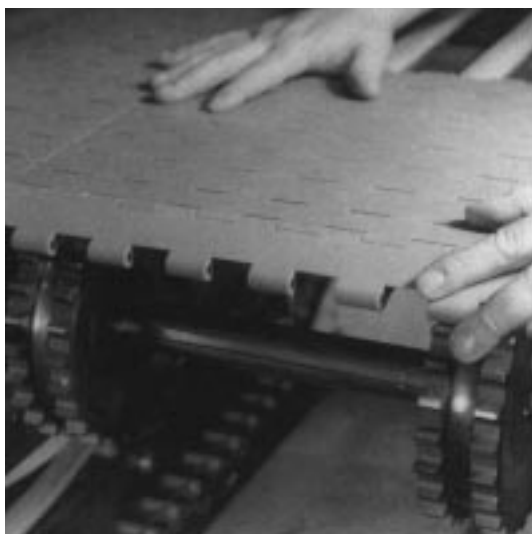
Chains 5998

■ Pin retention system

Rex® 5998 chain features a unique pin retention design, with special plugs, therefore the pins are completely reusable.



CHAIN INSTALLATION AND REPLACEMENT



MatTop® chains are typically supplied in 10 foot lengths with connecting pins for each section. Before connecting sections, use one section to check for proper guide clearance and sprocket alignment. (See Page 8 for sprocket positioning.)

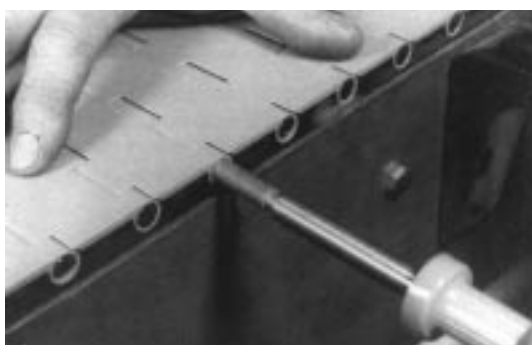
Lay each section in the conveyor track and couple.



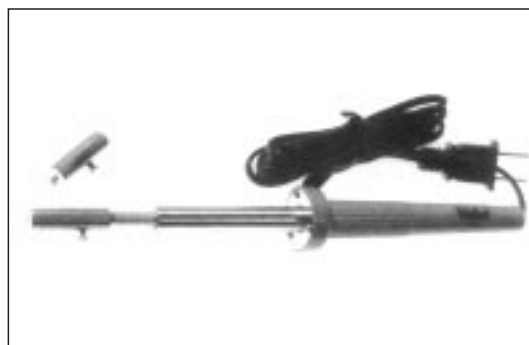
1. Push the pin through the link using a 3/16" or 1/14" diameter drift until the opposite end can be gripped and pulled through the remaining links.



2. Replace links as required and replace all pins that were removed with new pins.



3. Use a soldering iron to form a pin head so that the head is recessed in the end of the link. (A special "tip" for standard soldering irons is available from Rexnord. Contact your sales representative or distributor for details.)



Rexnord Marbett provides the soldering iron tips at a nominal cost. A 40 watt to 80 watt soldering iron is recommended. **Code 664451.**

Code electrode per 4809-5996-5997: **664461**

Code electrode per 4802-4812-5935-5936-6938: **664471**

Code electrode per 4705-4706-4707-4803-5966: **664481**

Contact MatTop® Customer Service for pricing and delivery.

FOREIGN OBJECTS CHECK

A THOROUGH CHECK OF ANY FOREIGN OBJECT SHALL BE MADE ON THE CONVEYOR BEFORE START UP : METAL SHAVINGS, WELDING DEBRIS, BOLTS, SCREW-DRIVERS, DUST, PLASTER FORM THE CEILING SHALL BE ACCURATELY REMOVED TO AVOID DAMAGES OR PREMATURE WEAR.

FREE MOVEMENT CHECK

BEFORE MOTOR START UP, THE FREE MOVEMENT SHALL BE CHECKED MANUALLY.

START THE CONVEYOR AND RUN WITHOUT PRODUCT FOR HALF AN HOUR AT LEAST. LISTEN FOR UNUSUAL NOISES AND LOOK FOR SIGNS OF INTERFERENCE OR UNUSUAL OPERATION. IF ANY PROBLEMS ARE DETECTED, STOP CONVEYORS AND REMOVE OBSTRUCTIONS OR MAKE ADJUSTMENTS AS REQUIRED.

REPEAT WITH PRODUCT ON THE CHAIN.

CATENARY

ALL REXNORD CHAINS, MatTop® AND TableTop®, OPERATE UNDER TRUE CHAIN PRINCIPLES IRRESPECTIVE OF LOAD, SPEED OR CONVEYOR LENGTH.

A CATENARY IS ALL THAT IS REQUIRED FOR PROPER CHAIN-SPROCKET INTERACTION.

THE CATENARY IS A GIVEN LENGTH OF CHAIN WHICH IS LEFT UNSUPPORTED IN THE RETURN SIDE OF THE CONVEYOR.

THE WEIGHT OF THIS UNSUPPORTED CHAIN PRODUCES THE TENSION NECESSARY TO KEEP THE CHAIN WRAPPED ON THE SPROCKET.

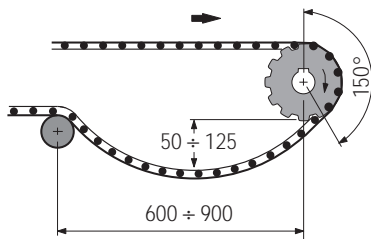
ADDITIONALLY THE CATENARY PROVIDES A PLACE FOR EXCESS CHAIN FROM ELONGATION TO ACCUMULATE.

THE CATENARY SHOULD BE DIRECTLY AFTER THE DRIVE OR AS CLOSE AS POSSIBLE.

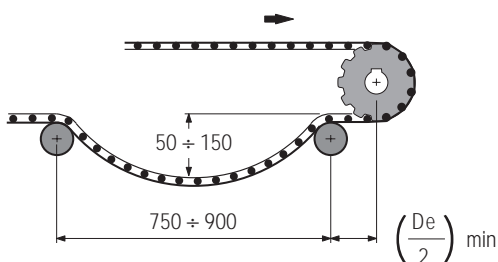
PICTURE 14

■ Catenary for uni-directional conveyors

- Conveyors with a centre distance up to 12 meters, and a product weight of max. 75 Kg/m².

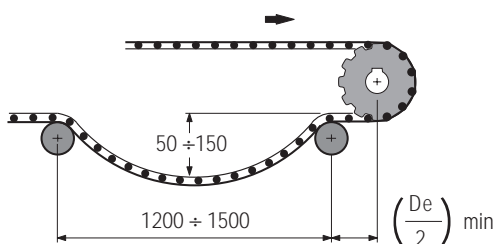


- Conveyors with a centre distance up to 20 meters, and a product weight of max. 100 Kg/m².



De = Outside diameter of drive sprockets - mm

- Conveyors with a centre distance of over 20 meters and a product weight of over 100 Kg/m².



De = Outside diameter of drive sprockets - mm

BREAK- IN

DURING THE FIRST DAYS OF WORK THE CHAIN USUALLY ELONGATES A LITTLE, DUE TO HINGE ADJUSTMENT. THE AMOUNT OF CATENARY SHALL BE CHECKED AND EVENTUALLY ADJUSTED AFTER FEW DAYS OF BREAK-IN BY TAKING OUT FEW PITCHES OF CHAIN.

GENERAL INSPECTION & PREVENTIVE MAINTENANCE (Bi- Monthly)

1. WHILE THE CONVEYORS ARE RUNNING, LISTEN FOR AND LOCATE THE SOURCES OF ANY UNUSUAL NOISES.
2. LOOK FOR UNUSUAL OR EXCESSIVE WEAR PATTERNS ON THE CHAIN OR WEAR STRIPS, SUCH AS GROOVES OR SCRATCHES. INSPECT CHAIN FOR BROKEN LINKS. IF A “SCALLOP” WEAR PATTERN HAS DEVELOPED ON THE CHAIN TOP SURFACES, SEE STEP 6 BELOW.
3. LOOK FOR UNUSUAL OR EXCESSIVE DEBRIS, SUCH AS WEAR DEBRIS, PRODUCT RESIDUE, OR BROKEN CONTAINER
4. LOOK FOR EXCESSIVE GAPS BETWEEN MODULES DUE TO JAM-UP OR OVERLOAD.

CORRECTIVE ACTION (STEPS 1 THROUG 4) : FIND AND REMOVE OR CORRECT THE CAUSE. REPLACE WORN, DAMAGED WEAR STRIPS.

5. LOOK FOR PULSATING OR JERKY CHAIN OPERATION.
6. IF RETURNS ROLLERS ARE USED, CHECK TO SEE IF ALL ROLLERS ARE FREE TURNING.
7. EXAMINE SPROCKETS FOR SIGN OF EXCESSIVE WEAR OR DEBRIS BUILD-UP IN TOOTH POCKETS.

CORRECTIVE ACTION (STEPS 5 THROUG 7) : CLEAN CONVEYORS ACCORDING TO INSTRUCTIONS ON CLEANING RECOMMENDATIONS. REPAIR OR REPLACE COMPONENTS AS REQUIRED. CONTACT REXNORD FOR ADDITIONAL ASSISTANCE.

8. WITH CONVEYORS RUNNING UNDER LOAD, CHECK CATENARY SAGS.

CORRECTIVE ACTION (STEP 8) : REMOVE LINKS OR ROWS OF LINKS TO MAINTAIN PROPER SAG AS INDICATED IN PICTURE 14.

NOTE : UP TO 3% OF THE TOTAL CHAIN LENGTH CAN BE REMOVED VIA SEVERAL REPETITIONS OF STEP 8 BEFORE THE CHAIN MUST BE REPLACED. EXAMPLE : IF THE ORIGINAL CHAIN LENGHT IS 50 FEET (15 m), A TOTAL OF 1.5 FEET (0.45 m) OF CHAIN CAN BE REMOVED BEFORE THE ENTIRE CHAIN MUST BE REPLACED.

NORMAL WEAR AND CHAIN REPLACEMENT

ONCE A MONTH, MEASURE THE CHAINS FOR NORMAL WEAR. CHAINS MAY WEAR DUE TO HINGE/JOINT WEAR, OR FLIGHT WEAR FROM WEAR STRIPS AND PRODUCT ACCUMULATION. SIDEFLEXING CHAINS MAY ALSO WEAR VIA SIDE THRUST SURFACE WEAR FROM CORNERS. REPLACE CHAIN AND OTHER CONVEYOR COMPONENTS AS INDICATED BELOW.

NOTE : FOR OPTIMUM CHAIN AND SPROCKET PERFORMANCE, IT IS RECOMMENDED THAT BOTH THE CHAIN AND SPROCKET BE REPLACED AT THE SAME TIME. THE WEAR STRIPS SHOULD ALSO BE REPLACED IF WORN, DAMAGED, OR EMBEDDED WITH DEBRIS-

THE CHAIN SHOULD BE REPLACED WHEN :

1A. THE CHAIN STARTS JUMPING THE SPROCKET TEETH.

-OR-

1B. THE CHAIN HAS "STRETCHED" OR ELONGATED APPROXIMATELY 3%.

2A. MATTOP CHAIN LINKS HAVE WORN TO ABOUT OF THE ORIGINAL LINK THICKNESS.

REPLACE SPROCKETS AND WEAR STRIPS IF WORN OR DAMAGED.

REPAIR AND MODULE SUBSTITUTION

ONE OF THE ADVANTAGES OF MatTop CHAINS OVER RUBBER BELTS AND WIRE MESH IS THE EASY REPAIR OF A DAMAGED MODULE.

PICTURE 15

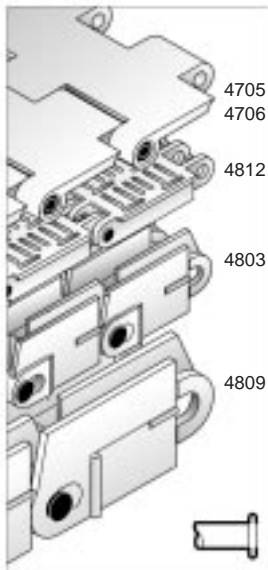
Chains 4705-4706-4803-4809-4812

■ Pin retention systems

The pins are axially locked by pins with hot formed heads.

■ Replacement of modules

- 1 - With help of a drill the pin head must be removed.
- 2 - Remove the pin and replace the module in the chain. To reassemble a new pin is required.
- 3 - The pin head can be obtained by hot forming using a soldering iron.



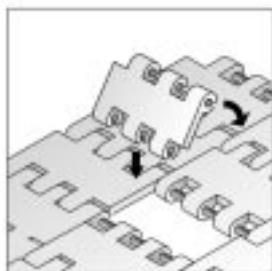
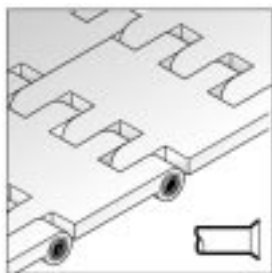
Chains 6390-6391-6392

■ Pin retention system

The pins are riveted on both sides and can be used only once

■ Replacement of modules

For these chains special replacement modules are available. These modules can be inserted without disassembling the chain.



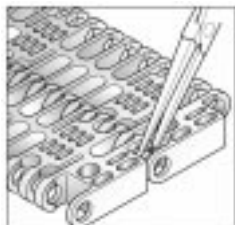
Chains 5998

■ Pin retention system

Rex® 5998 chain features a unique pin retention design, with special plugs, therefore the pins are completely reusable.

■ Replacement of modules

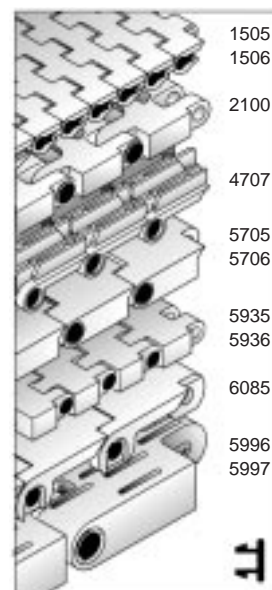
To disassemble chain, grasp pin with needle nose pliers and twist to line up the pin with the offset hole.



Chains 1505-1506-2100-4707-5935-5936-5705-5706-5966-5996-5997

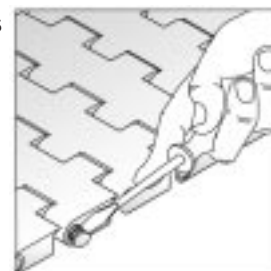
■ Pin retention system

The pins are axially locked in the modules by means of removable plugs. The chain 2100 has plugs on both sides. The other types have plugs on one side only. These plugs have a press fit. Pins can be used again.



■ Replacement of modules

Use a screwdriver to remove the plug.



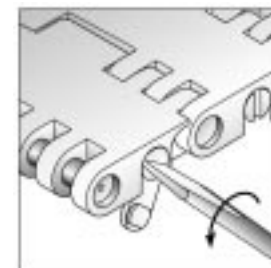
Use a special tool with selftapping tip to pull out the pin. The pins are hollow. Also a long selftapping screw can be used.



Chains 7705-7706-7708

■ Pin retention system

The pins are axially locked on both sides with a rotating lock, patented by Rexnord called "Twist Lock™". This system is an integral part of the modules and cannot fall out.



■ Replacement of modules

To pull out or insert the pin turn the Twist Lock with a screwdriver.

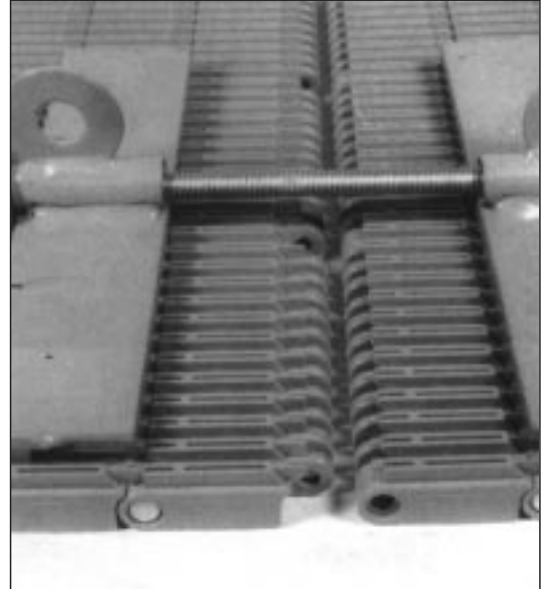
Tools



Pin pulling tool

Rexnord has pin extracting tools available for disassembling 5900 Series chains. Also, standard sheet metal or wood screws may be used.

Contact MatTop® Customer Service for pricing and delivery.



Chain pulling tool

A chain assembly tool is also available from Rexnord. This device will help pull chain together during final assembly when the last pin is inserted. The assembly tool works with 4706, 5996 and 5997 chains.

Contact MatTop® Customer Service for pricing and delivery.

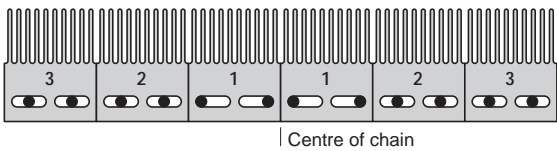
TRANSFER COMB INSTALLATION

PICTURE 17

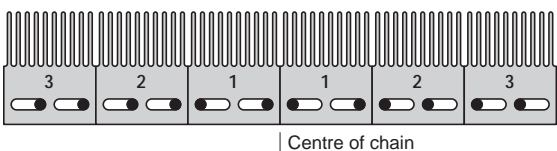
System of installation

The type of mounting transferplates depends on the operating temperatures. Transferplates must have the possibility to change lateral position in accordance with the thermal expansion/contraction of the chain as the teeth must stay between the ribs of the chain.

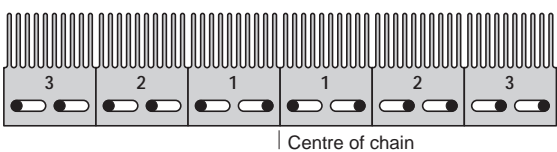
- **Installation at ambient temperature (20°C).** Combs 2 and 3 must have screws in the middle of the slotted



- **Installation at low temperature.** Combs 2 and 3 compensate the contraction, caused by the low temperature.

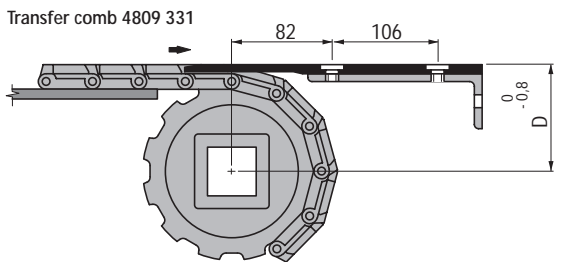
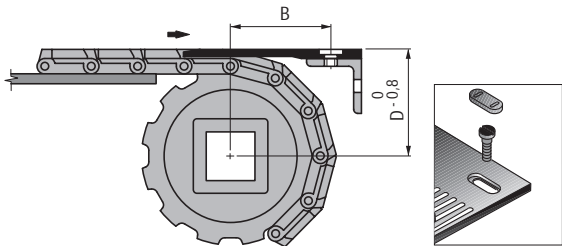


- **Installation at high temperature.** Combs 2 and 3 compensate the expansion, caused by the high temperature.



All transfercombs are designed to safeguard the chain. In case something comes between the Raised Rib chain and combs the combs will break.

Transfer comb position

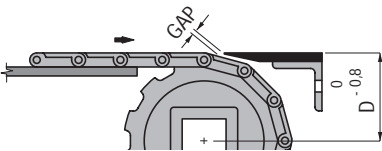


Chain	Transfer comb	B (mm)	D (mm)
4707	4707 146	82	$\frac{Dp}{2} + 12,7$
	4707 190	82	
	4707 216	82	
	4707 157 R	116	
	4707 187 R	116 to 140	
4803	4803 152	82	$\frac{Dp}{2} + 12,7$
4809	4809 221	130	$\frac{Dp}{2} + 15,9$
	4809 146	82	
	4809 216	82	
	4809 331	-	
5997	4707 146	82	$\frac{Dp}{2} + 15,5$
	4707 190	82	
	4707 216	82	
	4707 157 R	116	
	4707 187 R	116 to 140	

Dp = Pitch diameter - mm

TRANSFER PLATE POSITIONING

PICTURE 18



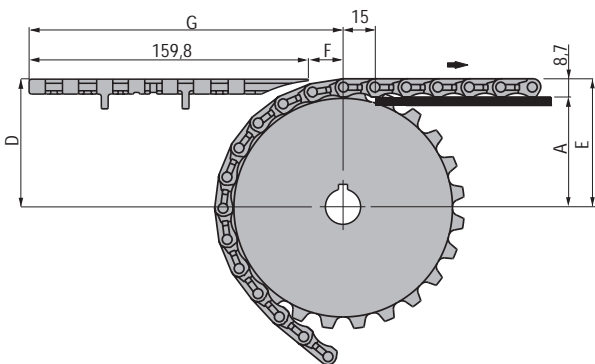
Chain	No. teeth sprocket	Pitch dia. mm	D mm	Minimum GAP mm
1505-1506	24	114,92	61,2	0,5
	32	153,03	80,3	0,4
2100	13	54,66	31,7	3,1
	11	90,17	49,4	1,8
	19	154,33	81,5	1,1
4705-4706 5705-5706	17	105,48	59,1	-
	19	117,35	65,0	-
	21	129,26	71,0	2,9
	23	141,22	77,0	2,6
	25	153,21	83,0	2,4
	24-12	147,22	80,0	2,5
	21	255,62	134,2	-

Chain	No. teeth sprocket	Pitch dia. mm	D mm	Minimum GAP mm
4812	8	99,56	55,0	3,8
	12	147,22	78,8	2,5
5935-5936	10	62,23	35,5	1,5
	24	147,34	78,0	0,6
	25	153,44	81,1	0,6
	31	190,08	99,4	0,5
5996-5998	7	131,72	75,0	6,5
	9	167,08	92,6	5,0
	14	256,82	137,5	-
6085	8	132,80	77,5	-
	10	164,40	93,3	-
	12	196,28	109,3	-
	16	260,40	141,3	-
6390-6391-6392	8	130,64	72,3	5,0
	10	161,80	87,9	4,0
	12	193,18	103,6	-
	16	256,29	135,2	-
7705-7706-7708	16	130,20	71,5	1,3
	18	146,28	79,5	1,1
	21	170,43	91,6	1,0
	25	202,66	107,7	-

TRANSFER PLATE AND DTS POSITIONING

PICTURE 19

1505 Single Module Dynamic Transfer System

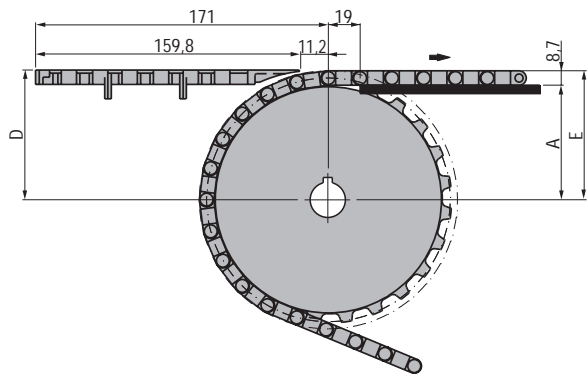


Nr. teeth Z	A mm	D mm	E mm	F mm	G mm
24	52,6	62,1	61,3	10,3	170,1
32	71,8	81,4	80,5	12,7	172,5

The values are indications only. When installing the chain adjustments should be permitted, depending on the type of conveyed product and situation.

The flights are designed to carry the product only in the area of transfer.

5936 Single Module Dynamic Transfer System

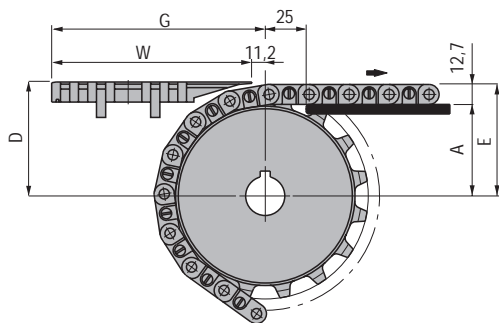


Nr. teeth Z	A mm	D mm	E mm
24	69,3	78,5	78
25	72,4	81,6	81,1

The values are indications only. When installing the chain adjustments should be permitted, depending on the type of conveyed product and situation.

The flights are designed to carry the product only in the area of transfer.

7705 Single Module Dynamic Transfer System



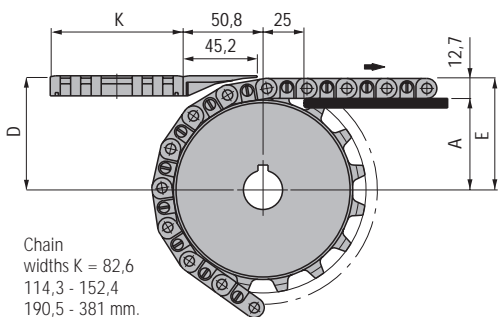
Nr. teeth Z	A mm	D mm	E mm	G mm
16	58,7	72,1	71,4	W*+11,2
18	66,8	80,2	79,5	W*+11,2
21	79	92,4	91,7	W*+11,2

The values are indications only. When installing the chain adjustments should be permitted, depending on the type of conveyed product and situation.

* = Chain widths W = 160,1 - 236,3 mm

The flights are designed to carry the product only in the area of transfer.

7700 Two-Piece Dynamic Transfer System



Chain widths K = 82,6
114,3 - 152,4
190,5 - 381 mm.

Nr. teeth Z	A mm	D mm	E mm
16	58,7	72,1	71,4
18	66,8	80,2	79,5
21	79	92,4	91,7

The values are indications only. When installing the chain adjustments should be permitted, depending on the type of conveyed product and situation.

The flights are designed to carry the product only in the area of transfer.

LUBRICATION

IN MOST APPLICATION MATTOP® CHAINS ARE RUNNING DRY.

SOMETIMES SOME LUBRICATION IS NEEDED TO KEEP THE CHAIN CLEAN FROM PRODUCT DEBRIS BUILD UP OR THE PROCESS LIQUID HAS ALSO A LUBRICATING EFFECT.

IN ANY CASE A PROPERLY LUBRICATED CHAIN LAST LONGER THAN A DRY RUNNING CHAIN.

IF THERE IS A LUBRICANT MAKE SURE WITH THE MANUFACTURER THAT IT IS SUITABLE WITH THE MATERIALS USED FOR THE CHAIN.

FOR EXAMPLE ACETAL MATERIAL DOES NOT LIKE pH LOWER THAN 4 AND HIGHER THAN 9.5

CLEANING

WITHOUT THE CONTINUAL CLEANING ACTION OF SOAP AND WATER LUBRIFICATION, DIRT, DEBRIS, AND SPILLED PRODUCT, SUCH AS SYRUP, BEER, SODA, ETC. MAY BUILD UP ON THE CHAIN AND IN THE CONVEYOR TRACKS. THIS CAN RESULT IN INCREASED WEAR OF THE CHAIN, WEAR STRIPS, AND SPROCKETS. THIS CAN ALSO CAUSE INCREASED CONTAINER BACKLINE PRESSURES, AND EVEN DAMAGE CONTAINERS. THEREFORE, A THOROUGH AND REGULAR CLEANING PROCEDURE IS VERY IMPORTANT TO THE SUCCESSFUL OPERATION OF ANY DRY RUNNING CONVEYOR LINE.

NOTE : IF CONVEYORS ARE GOING TO SIT IDLE FOR A LONG TIME BEFORE START-UP, THEY SHOULD BE COVERED WITH PLASTIC OR DROP CLOTH TO MINIMIZE DIRT AND DEBRIS THAN CAN SETTLE INTO CHAIN AND TRACKS.

NOTE : BEFORE START UP, REMOVE ANY TOOLS, FASTENERS, OR OTHER ITEMS THAT MAY HAVE BEEN LEFT BEHIND. THOROUGHLY CLEAN CHAIN, WEAR STRIPS, AND TRACKS (CARRY & RETURN) WITH AIR HOSE OR HIGH PRESSURE WATER SPRAY.

RECOMMENDED CLEANING FREQUENCY

1. COMPLETELY DRY LINES - THESE LINES SHOULD BE CLEANED **DAILY** TO OBTAIN MAXIMUM SANITATION AND PERFORMANCE. AT THE VERY MINIMUM, RINSE **DAILY** AND THOROUGHLY SANITIZE **WEEKLY**.

2. PARTIALLY LUBRICATED LINES - THOROUGHLY SANITIZE THESE LINES **WEEKLY**.

GENERAL GUIDELINES FOR CLEANING SOLUTIONS

1. RECOMMENDED PH OF 4-10.
2. AVOID CHLORINE (BLEACH), AMMONIA, AND IODINE.
3. WITH PLASTICS CHAIN, AVOID PHOSPHORIC ACID (FOUND IN MANY STAINLESS STEEL CLEANERS).
4. REFER TO THE ENCLOSED CORROSION RESISTANCE GUIDE TO DETERMINE COMPATIBILITY OF CLEANERS USED ON CHAIN AND OTHER CONVEYOR COMPONENTS. FOR QUICK REFERENCE, TYPICAL COMPONENT MATERIALS ARE LISTED BELOW, OR SEE REX MATTOP ENGINEERING MANUALS.

TYPICAL CONVEYOR COMPONENT MATERIALS

MATTOP® CONVEYOR CHAINS :	LF ACETAL OR HP ACETAL
MATTOP® CHAINS USED ON DEPALLETIZERS, PASTEURIZERS, WARMERS, COOLERS, & BI-DIRECTIONAL TABLES :	HT (POLYPROPYLENE) OR LF (OR HP) ACETAL
WEAR STRIPS :	SS, UHMWP, NYLATRON
SPROCKETS :	STEEL, ACETAL, NYLON

THERMOPLASTIC LINK IDENTIFICATION BY STANDARD COLOR :

WHITE:	PLAIN ACETAL ("D")
GREY :	PLAIN ACETAL ("D")
BROWN :	LF ACETAL
DARK GREY BROWN :	HP ACETAL
BEIGE :	HT (POLYPROPYLENE)

METHODS OF CLEANING

1. PERIODIC HIGH PRESSURE HOT WATER RINSE OR STEAM CLEANING SHOULD PROVE SATISFACTORY. SPRAY THE CHAIN IN PLACE ON EACH CONVEYOR, BOTH ON THE CARRY AND IN THE RETURN SECTIONS. THIS IS USUALLY DONE WITH THE CONVEYORS RUNNING, BUT THE CHAIN CAN BE STATIONARY. FOR EASY ACCESS TO THE UNDERSIDES OF THE CHAINS IN THE CARRY AND RETURN WAYS, SOME MANUFACTURERS PROVIDE "CLEAN-OUT" HOLES IN THE SIDE FRAMES.

2. WARM WATER AND MILD SOAP ARE COMMONLY USED TO CLEAN THE CONVEYORS.

3. FOAMING AGENTS OR OTHER CHEMICAL CLEANERS MAY BE USED IF THEY ARE COMPATIBLE WITH THE CONVEYOR MATERIALS (SEE PAGE 28 FOR CHEMICAL COMPATIBILITY). CAREFULLY FOLLOW THE INSTRUCTIONS PROVIDED BY THE MANUFACTURER TO DETERMINE PROPER CONCENTRATION OF SOLUTIONS AND PROPER, SAFE USE AND DISPOSAL.

NOTE : KEEP WATER, STEAM, AND CHEMICALS AWAY FROM ELECTRICAL DISCONNECTS, MOTORS, PHOTO CELLS, ETC.

4. IN SOME CASES, E.G. PET BOTTLE LINES, CLEANERS OR COMBINATION "CLEANER/LUBRICANTS" ARE APPLIED CONTINUOUSLY OR INTERMITTENTLY. SEVERAL TYPES OF AUTOMATIC APPLICATION SYSTEMS ARE AVAILABLE.

5. IN EXTREME SITUATIONS, IT MAY BE NECESSARY TO PERIODICALLY CLEAN THE CHAINS WITH A BRISTLE BRUSH. CLEAN THE CHAIN IN PLACE ON THE CONVEYOR, BOTH ON THE CARRY AND IN THE RETURN SECTIONS.

NOTE : THE MAIN OBJECTIVE IS TO CLEAN THE CHAIN CARRYING SURFACE AND UNDERSIDE AS WELL AS THE WEAR STRIPS AND TRACKS.

NOTE : INSPECT CONVEYORS OFTEN. REMOVE BROKEN OR JAMMED CONTAINERS OR PIECES OF CONTAINERS AS SOON AS THEY ARE DETECTED. USE CLEANING SOLUTIONS TO CLEAN AWAY EXCESSIVE SPILLAGE.

FIRE HAZARD

PLEASE ALWAYS REMEMBER THAT PLASTIC MATERIALS ARE GENERALLY GOING TO BURN WHEN IN CONTACT WITH FLAME.

SPECIFICALLY ACETAL MATERIALS WILL BURN ALSO WHEN IN CONTACT WITH VERY HIGH TEMPERATURE PARTICLES, LIKE HOT WELDING DRIPS OR METAL DEBRIS.

NEVER WELD OR CUT METAL WITH HIGH SPEED TOOLS IN PROXIMITY OF CONVEYORS WHEN ACETAL CHAINS ARE ALREADY IN PLACE !

CHEMICAL COMPATIBILITY

CHEMICAL AGENT	WEARSTRIP MATERIAL					CHAIN MATERIAL		
	Steel	Stainless steel austenitic AISI 304 (18/8)	Stainless steel ferritic AISI 430	Polyamide Nylatron	Polyethylene UHMWPE	Acetal D - LF HP - WHP	Polypropylene HT - WHT	Polyethylene WLT
	% 23°C	% 23°C	% 23°C	% 23°C	% 23°C	% 23°C	% 23°C	% 23°C
Acetone	–	50 +	50 +	100 +	+	/	+	+
Acetic acid	50 –	20 +	20 –	10 –	10 +	5 –	40 +	10 +
Ammonia	/	50 +	50 +	10 +	+	+	30 +	+
Aniline		3 +	3 +		3 +	3 +		3 +
Beer	+	+	+	+	+	+	+	+
Benzene	+	70 /	70 /		/	+	+	/
Benzol	+	+	+	100 +	/	+	/	/
Boric acid		100 /	100 /	10 +	+		+	+
Brine	–		–	/	+	/		+
Butter		+	+	+	+	+	+	+
Butyric acid	+	5 +	5 +	–	+	–		+
Calcium chloride		10 –	10 –	10 +	+		50 +	+
Carbon sulfide		+	/	100 +		+	+	
Carbon tetrachloride	/	10 –	10 –	+	/	+	–	/
Caustic soda	–	+	+	10 +	25 +	25 –	52 +	25 +
Chlorinated water	–	–	–		–	–	–	–
Chlorine	–	–	–	–	+	–	+	+
Chloroform		100 +	100 /	100 –	–	–	/	–
Citric acid	–	5 +	5 +	10 /	+	/	10 +	+
Cyclohexane					–	+	–	–
Cupric sulfate		5 +	5 +	10 +				
Diethyl ether				100 +			+	
Distilled water				+	+	+	+	+
Ethanol		10 +	10 /	96 +		+	96 +	
Ethyl chloride		+	+	100 +	/		–	/
Food fats		+	+	+	+			+
Food oils		+	+	+	+	+	+	+
Formaldehyde	+	100 +	100 /	30 +	/	+	40 +	/
Formic acid	–	5 /	5 –	10 –	10 +	10 –		10 +
Fresh water	–	+	+	+	+	+	+	+
Fruit juices	+		/	+	+	+	+	+
Gasoline	+	+	+	+	/	+	/	/
Glycerol		+	/	+	+	+	+	+
Hexane		+	+		–	+	+	–
Hydrochloric acid	2 –	–	–	10 –	37 +	37 –	30 +	37 +
Hydrofluoric acid		–	–	40 –	70 +		40 +	70 +
Hydrogen peroxide	–	30 +	30 +	3 –	+	–	30 +	+
Iodine	–	–	–	–	/	–	/	/
Lactic acid	–	5 +	5 /	10 +	+	+	20 +	+
Methyl alcohol		100 /	100 /	100 +		+	+	
Methylene chloride		/		100 +	/	–	/	/
Mercury		100 /	100 /	+	+			+
Milk	+	+	+	+	+	+	+	+
Mineral oils	+	+	+	+	+	+	+	+
Nitric acid	–	10 +	10 /	10 –	5 /	5 –	+	5 /
Non alcoholic drinks	+	+	+	+	+	+	+	+
Oleic acid		100 /	100 /	100 +	/		+	/
Paraffin	+	+	+	+	+	+		+
Petroleum	+	+	+	+	–	+		–
Petroleum ether		+		+		+	+	
Phosphoric acid	10 –	10 –	10 –	10 –	95 +	10 –	85 +	95 +
Seawater	–	+	–	+	+	/	+	+
Soap and water	/	+	+	+	+	+	+	+
Sodium carbonate		5 +	5 +	10 +	+	+	+	+
Sodium chloride	–	5 +	5 /	10 +	+	+	+	+
Sodium hydroxide	25 –	25 +	25 +	25 –	25 +	25 –	25 +	25 +
Sodium hypochlorite	–	–	–	+	+	–	+	+
Sodium sulfate		5 +	5 +	+				
Stearic acid	–	+	+	+	+	/	+	+
Sulfuric acid	40 –	10 –	10 –	–	40 /	40 –	98 +	40 /
Tartaric acid		10 +	10 +	+	+	30 /	10 +	+
Tincture of iodine				–	+		10 +	+
Toluene (Toluol)	+	+	+	+	–	/	+	–
Trichloro-ethylene		+	+	/			/	
Turpentine		+	+		–	–		–
Vaseline				+	/			/
Vegetable juices	/	+	+	+	+	+	+	+
Vegetable oils	+	+	+	+	+	+	+	+
Vinegar	–	+	+	+	+	+	+	+
Whisky	+	+	/	+			+	
Wine	+	+	+	+	+	+	+	+
Xylene	+	+	+	+	/	+	–	/

Legend

Good = +
resistance
Reasonable = /
resistance
(limited use,
depending
on operating
conditions).
Poor = –
resistance
(not
recommende
d
for use).

The values
indicated in the
table refer to lab
tests on
unstressed
samples. They
should be
considered purely
indicative as the
behaviour of
materials in real
operating
conditions will
depend on a
variety of factors:
temperature,
concentration of
chemical agent,
short-term of
continuous action
of the chemical
agent, etc.

The % of
concentration is
based on a mixture
of the specified
chemical agent
and distilled water.

For additional
information about
materials and
chemical agents
please contact our
engineering
department.

RESPONSIBILITY

INFORMATION IN THIS MANUAL IS GIVEN AS HELP AND SERVICE FOR OUR CUSTOMERS. REXNORD DOES NOT GUARANTEE PRECISION, UPDATING AND SPECIFIC APPLICABILITY OF THE INFORMATION AND REJECTS ANY RESPONSIBILITY ON DAMAGES TO PROPERTY OR INJURIES TO PERSON(S) DIRECTLY OR INDIRECTLY COMING FROM WRONG CONVEYOR DESIGN, INSTALLATION OR IMPROPER USE OF OUR PRODUCTS MADE WITH OR WITHOUT REFERENCE TO THE INFORMATION HEREWITH REPORTED.

IT IS RESPONSIBILITY OF THE PURCHASER TO PROVIDE PROPER GUARDS, SAFETY DEVICES AND PROCEDURES AS RECOMMENDED BY SAFETY CODES AND SAFETY STANDARDS.

REXNORD DOES NOT GUARANTEE THAT DESIGN AND FUNCTION OF MACHINES EQUIPPED WITH OUR PRODUCTS ARE COMPLIANT WITH APPLICABLE LOCAL, EUROPEAN OR USA FEDERAL HEALTH AND SAFETY LAWS OR REGULATIONS.

MATTOP TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	CORRECTION
<ul style="list-style-type: none"> Sprockets don't slide on shaft with expanding chain. 	<ul style="list-style-type: none"> Debris on shaft restricts movement Limit device improperly located 	<ul style="list-style-type: none"> Clean shaft Determine max expansion & locate limit device accordingly
<ul style="list-style-type: none"> Chain tracks crooked 	<ul style="list-style-type: none"> Shafts are misaligned Return rollers skewed 	<ul style="list-style-type: none"> Align head & tail shaft to be parallel & horizontal (string level useful) Adjust return rollers to be parallel & level
<ul style="list-style-type: none"> Chain jumps sprocket teeth 	<ul style="list-style-type: none"> No provision for catenary Improper catenary moves from head to tail Improper shaft drop Improper sprocket positioning 	<ul style="list-style-type: none"> Provide for catenary per Rex recommendation p. 16 Set shaft per p.8 Sprockets must be positioned to engage tooth pocket on chain
<ul style="list-style-type: none"> Chain breakage 	<ul style="list-style-type: none"> Impact loading Overbackflexing Jam up Pins coming out 	<ul style="list-style-type: none"> Don't drop load Return roller too small dia. See p. 6 Clear cause of jam End plugs missing Check and replace. Or, for 4700 style melt end of pin to form a head.
<ul style="list-style-type: none"> Transfer plate problems <ul style="list-style-type: none"> a) Finger breakage b) Finger climb top of chain ribs c) Product tippage d) Cracks thru mounting holes e) Transfer plates don't move w/chain 	<ul style="list-style-type: none"> Screws too tight to allow plates to move Fingers don't properly engage chain Debris in between chain ribs Plates are too loose "Strictly" mounting surface, restricts plate movement. 	<ul style="list-style-type: none"> Adjust screw tension Use proper screw Positioning transfer plates correctly Clean off chain & remove wedged parts Secure properly w/correct fastener to keep plate from "rocking". This rocking can cause failure thru mounting holes & product tippage Clean mounting surface & check for level

The number one cause of chain transfer plate problems is the mounting surface not being straight and level.

The number two cause is mounting the plates too tight or too loose.

SYMPTOM	CAUSE	CORRECTION
<ul style="list-style-type: none"> • Rapid or unusual chain wear 	<ul style="list-style-type: none"> • Wear tracks 	<ul style="list-style-type: none"> • Don't use plastic wear tracks on glass lines where breakage occurs •• Don't use dead soft stainless steel. 1/4 Hard (20 Rc min) or 1/2 Hard (30 Rc min).
<ul style="list-style-type: none"> • Pulsation • Chain jumps sprocket teeth 	<ul style="list-style-type: none"> • Not uniform coefficient of friction •• Improper catenary ••• Debris causes "sticking" locally •••• Idler sprockets don't turn freely ••••• Inadequate guide clearance Abrasive debris 	<ul style="list-style-type: none"> • Lubricate • Don't mix plastic and metal wear tracks •• Be sure catenary stays at the head end ••• Clean wear tracks •••• Check to be sure sprockets aren't tight on tail shaft. Rebore if necessary. Clean shaft. ••••• Be sure chain is not being "pinched" by side guides.
<ul style="list-style-type: none"> • Rapid sprocket tooth wear 	<ul style="list-style-type: none"> • Abrasive debris 	<ul style="list-style-type: none"> • Most commonly a problem when using plastic sprockets. Change to metal sprockets or eliminate abrasive debris



Caution

Care should be used when handling the chain to avoid crushed or pinched fingers. Use a come-along or tie off the chain to keep it under control at all times

A MatTop chain assembly tool is available from Rex for 4707, 5996, and 5997 chains.



WARNING

Before working inside conveyor frames or coming in contact with conveyor components, always make sure all drives are locked out and tagged.



Caution

All cleaners and lubricants must be compatible with chain, wear strip and sprocket materials (See Item4, General Guidelines). If component materials or chemicals are not listed in Corrosion Resistance Guides, contact Rexnord Marbett Engineering or your cleaner/lubricant manufacturer for assistance.



Caution

If any flame cutting, welding, etc. is done near conveyors, protect the chain and other components or remove them from the conveyor and store in a safe location. Thermoplastic and similar materials can burn and give off toxic fumes.



Caution

The chain can easily be twisted, causing deformation. Make all chain connections on the conveyor frame.



WARNING

To avoid personal injury, all machinery must be turned off and locked out, prior to chain installation, inspection, maintenance and removal.

Always wear safety glasses.



Caution

Never walk on conveyors. If it is absolutely necessary, first cover chains and tracks with clean cardboard and then clean-up afterwards.



Caution

It is recommended that steam not be held on chains for prolonged periods. Chains may deform or become permanently damaged.

SPECIAL NOTE:
Conveyor Operation & Packaging Line Controls -
If machine stoppages cause conveyors to accumulate the full length, the controls should sequentially stop conveyors and then restart them after machines are clear. This minimizes Product Backline Pressure and wear between chain and container bottoms.



Caution

Do not attempt to connect or disconnect chain unless chain construction is clearly known and understood.



Caution

Strong caustic agents should not be used with plastic chains.



Caution

Always thoroughly rinse all cleaning agents completely off of the chain and conveyor frame. Make sure the underside of the chain is also rinsed thoroughly.