



**USERS MANUAL
FOR
HORIZONTAL CONVEYORS
SERIES L**

CUSTOMER: _____

—

SERIAL#: _____

DATE OF MFG: _____

**CONVEYOR
MODEL:** _____





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0. INTRODUCTION



This user manual will explain the specifications concerning the L series conveyor system. The user manual covers explanations from installation to operation of the L series conveyor system.

A. DIMENSIONS

The L series conveyor is built to customer specifications. Depending on length and width the L series conveyors are available in 3" or 6" high anodized extruded aluminum profile. Standard lengths are available in foot increments, standard widths available in 2" increments. Special dimensions available upon request.

B. SPECIFICATIONS

1.0 Frame

The conveyor frame of anodized extruded aluminum profile 80mm (3 inches) in height by 25mm (1 inch) thick. Furthermore steel parts are used in areas that require high strength (motor plate, telescopes, legs etc.). The belt support consists of galvanized sheet metal (1.5mm thick). High quality ball bearings and hardened sprockets guarantee a long lasting maintenance free operation. Optional infeed hoppers are manufactured from stainless steel sheet metal 1.5mm thick.

2.0 Belt

The standard belt consist of an endless polyurethane two ply fabric with double finger joints to insure maximum belt life. The belt guidance is assured by the THRU self-aligning design along the entire length on both sides of the conveyor. The belt laps $\frac{1}{2}$ " per side under the side rails. The belt tension is preset at the factory at a medium tension.

2.1 Optional belt types:

- a) Non slip PVC belts.
- b) Smooth endless Polyurethane belts with/without cleats and/or SPONDAFLEX sidewall design.

Note:

- *For conveyors with Spondaflex design:*

Keep enough clearance between the Spondaflex material and any container standing in front of the conveyor. This will extend the lifetime of the belt.

WARNING:



Over tightening of the belt may void warranty.

3.0 Legs

The legs are made from zinc plated perforated steel tubing to guarantee optimum resistance to corrosion and an easy height adjustment. They slide into steel telescopes, mounted to the conveyor frame, to allow an easy height adjustment. Each leg is equipped with leveling pads (standard) or optional with \varnothing 2 3/8" (60mm) caster for easy mobility.

4.0 Drive

4.1. Motor

The standard gear motor is a Dayton 110 VAC 60 HZ, single phase TEFC gear motor.

Optional motors:

- 90 VDC, permanent magnet TENV gearmotor.
- 260/440 VAC, 3-phase gearmotor.
- 110 VAC powerized roller \varnothing 4.5"/ \varnothing 3" right angle drive package.

Note:

Special motor HP, size and torque available upon request.

4.2. Control

The standard control consists of a single pole manual motor starter switch. This standard unit is overload protected and mounted inside a NEMA 1 enclosure.

Optional controls:

- Variable speed control, to be used with a 90 VDC permanent magnet gearmotor.
- Three pole manual motor starter switch with overload protection, to be used with 3-phase gearmotor.
- 220 VAC 60 Hz variable speed inverter HITACHI - SINGLE PHASE INPUT - (to be used with 3-phase gearmotor).
- 440 VAC 60 Hz variable speed inverter HITACHI - THREE PHASE INPUT - (to be used with 3-phase gearmotor).



Note:

Special control systems available upon request.

4.3. Power transmission

A roller chain transmits power to the drive roller. The drive and idle rollers are mounted on lubricated ball bearings. The drive roller transmits the power to the belt.

C. INSTALLATION

Every conveyor is pre-tested at the factory. All conveyors are shipped with a 15 feet cord terminating with a standard 3-prong plug ready to be plugged in any 110 VAC receptacle with ground. The direction of rotation is factory preset.

Note:

Conveyors with 3-phase gear motors might have the wrong direction of rotation preset at the factory, depending on the polarity of your 3-phase outlet. In order to set the direction, follow these instructions:

WARNING:

**ALWAYS UNPLUG THE CONVEYOR FROM
ITS POWER SOURCE BEFORE ANY
MAINTENANCE IS DONE**

- 1. Connect the conveyor to a 3-phase power source according to the motor wiring. (A wiring diagram is located on the inside of the cover of the electrical housing)**
- 2. Turn on the manual motor starter switch.**
 - a. If the belt runs in the desired direction the conveyor is ready to run.**
 - b. If the belt does not run into the desired direction proceed as follows:**
 - Disconnect the conveyor from the power source!**
 - Open the enclosure of the motor starter switch.**
 - Swap two wires on the line side of the manual motor starter switch (either L1 with L2, L1 with L3 or L2 with L3).**
 - Close the enclosure of the motor starter switch.**
 - Connect the conveyor to the power source.**
 - Turn the manual motor starter switch ON.**



WARNING:
**THE CONVEYOR MUST BE CONNECTED TO GROUND, FOR
THE SAFETY OF OPERATING PERSONNEL !!!**

D. OPERATION

WARNING:
**Any height or angle adjustment of the of
the conveyor should be made carefully.
Avoid injuries by choosing a proper
lifting device.**

1.0 Height adjustment of the conveyor legs

1.1. Conveyor height adjustment/down

- 1. STOP the conveyor.**
- 2. Tighten the screw knob. (Pos.# 43)**
- 3. Remove the height adjusting pins.**
- 4. Insert the pins in the proper hole setting and insert the safety pin.**
- 5. Release the set knob in order to slide the telescopes down to the desired position.**
- 6. Tighten the screw knob. (Pos.# 43)**

1.2. Conveyor height adjustment/up

- 1. STOP the conveyor.**
- 2. Remove the height adjusting pins.**
- 3. Release the set knob in order to slide the telescopes up to the desired position.**
- 4. Insert the pins in the proper hole setting and insert the safety pin.
Tighten the screw knob.**

Note:
***The screw knob is not supposed
to fit into the holes of the tubing.***



2.0 To operate the L type conveyor, perform the following:

1. Plug the power cord into a power source according to the motor voltage.
2. Adjust the conveyor in the desired height.
3. Turn the manual motor starter switch to the “on” position.

Note:

If the conveyor is equipped with optional s-style roller separators or a discharge chute allow enough clearance between the belt and the devices to clear the cleats (if equipped with cleats) as they turn around the idle roller.

WARNING:

**THIS CONVEYOR IS DESIGNED TO
OPERATE IN A REASONABLY CLEAN,
DUST-FREE AND MOISTURE-FREE
INDUSTRIAL ENVIRONMENT !!!
OPERATING THE CONVEYOR IN A WET
ENVIRONMENT OR IN THE PRESENCE
OF OIL, METAL SHAVINGS, ETC., IS
DANGEROUS FOR THE OPERATOR !!
THIS MAY CAUSE DAMAGE TO THE
CONVEYOR AND VOID THE WARRANTY !!**

E. PREVENTIVE MAINTENANCE

The L series conveyor is essentially maintenance free. However, a few easy preventive maintenance steps will increase the lifetime of the conveyor.

- Control the tension of the drive chain regularly. The tension is preset at the factory. If necessary, to adjust the tension, turn off the conveyor and unplug it from the power source. Loosen the four nuts (Pos.4) on the motor plate. Pull the motor vertically up- or downwards until the right tension of the chain is achieved. To test the proper tension you should be able to pull the two ends of the chain as they lay around the motor sprocket with your fingers towards each other about $\frac{1}{4}$ to $\frac{1}{2}$ inch from each side. Make sure that the motor sprocket runs parallel with the chain. Re-tighten the four nuts (Pos. 4).
- Keep the conveyor clean! Especially moving parts, like belt, rollers and chain can create an additional load on the motor if they are not clean. Make sure that no plastic parts are caught underneath the side rails. Do not use sharp cleaners



or alcohol to clean the conveyor. Use a common household cleaner with warm water to clean the belt.

- Attached with the conveyor spare parts list is a list of recommended spare parts. Keeping these items in stock will reduce the down time of your conveyor, if it needs to be repaired.

Belt Change:

The following instructions describe the procedure for replacement of the belt on the L series conveyors. The mentioned part numbers refer to the attached spare parts drawing of the conveyor.

WARNING!
ALWAYS UNPLUG THE CONVEYOR FROM ANY
POWER SOURCE BEFORE SERVICING!

1. Take off all the roller guards, part # 17 (not Motor guard Part # 39)
2. Release Belt tension: (Note: Before you release the belt tension make a note of the dimension between the frame and the tensioning arms (#15) for easier re- assembly)
3. Loosen the nuts (#16) which tighten the tensioning arms (#15) against the frame.
4. Loosen the set screws (#10) to be able to take the shaft out of the roller assembly.
5. Take out the shaft (#49) and remove the idle roller (#42) The belt now is completely loose.
6. Remove one side rail (non-motor side #35)
7. Take the conveyor off the leg assembly and turn it motor side down.
8. Remove the two nuts (#27) which connect the Motor post (#29) with the frame (non motor side)
9. Slide off the worn belt and slide on the new belt.
10. For the re-assembly use reversed order of above steps.

Belt Tensioning and Tracking:

1. Once the new belt is installed, set the tension by tightening the tensioning arms (#15) to approx. 2–3 mm below the dimension between frame and tensioning arms that you noted before you disassembled the conveyor. (Step 2. Above)



2. Connect the Conveyor to proper Power Source and turn it on. (ATTENTION: THE ROLLER GUARDS ARE NOT INSTALLED YET. KEEP YOUR HANDS AWAY FROM ROTATING PARTS!!!)
3. How to track the belt: *The final belt tension is adjusted during the tracking process. The Belt is always tracked from the idle end, NOT motor end!*
4. The process of tracking the belt might take 10-20 minutes. Observe the motion of the belt. By adjusting the tensioning arms (#15) towards or away from the frame the tracking of the belt is influenced. To adjust the tensioning arms towards the frame, turn the nut (#16) that sits against the frame counter clockwise. To adjust the tensioning arms away from the frame, turn the nut clockwise. When turning the nut to track the belt use only half revolutions at a time and observe if the belt moves into the right direction.
5. *Adjust the tensioning arm away from the frame on the side where the belt tends to run to. If the belt runs to the right, bring out the right tensioning arm, if it moves to the left, bring out the left tensioning arm. Remember to do this cautiously in half revolutions with the nut (#16) to avoid an over tighten of the belt.*
6. For Conveyors with Central V Guide Tracking System manual tracking is not necessary, since the V guide tracks the belt automatically. Ensure that the belt is not over tightened. The tension should just be enough to guarantee a motion without slip.

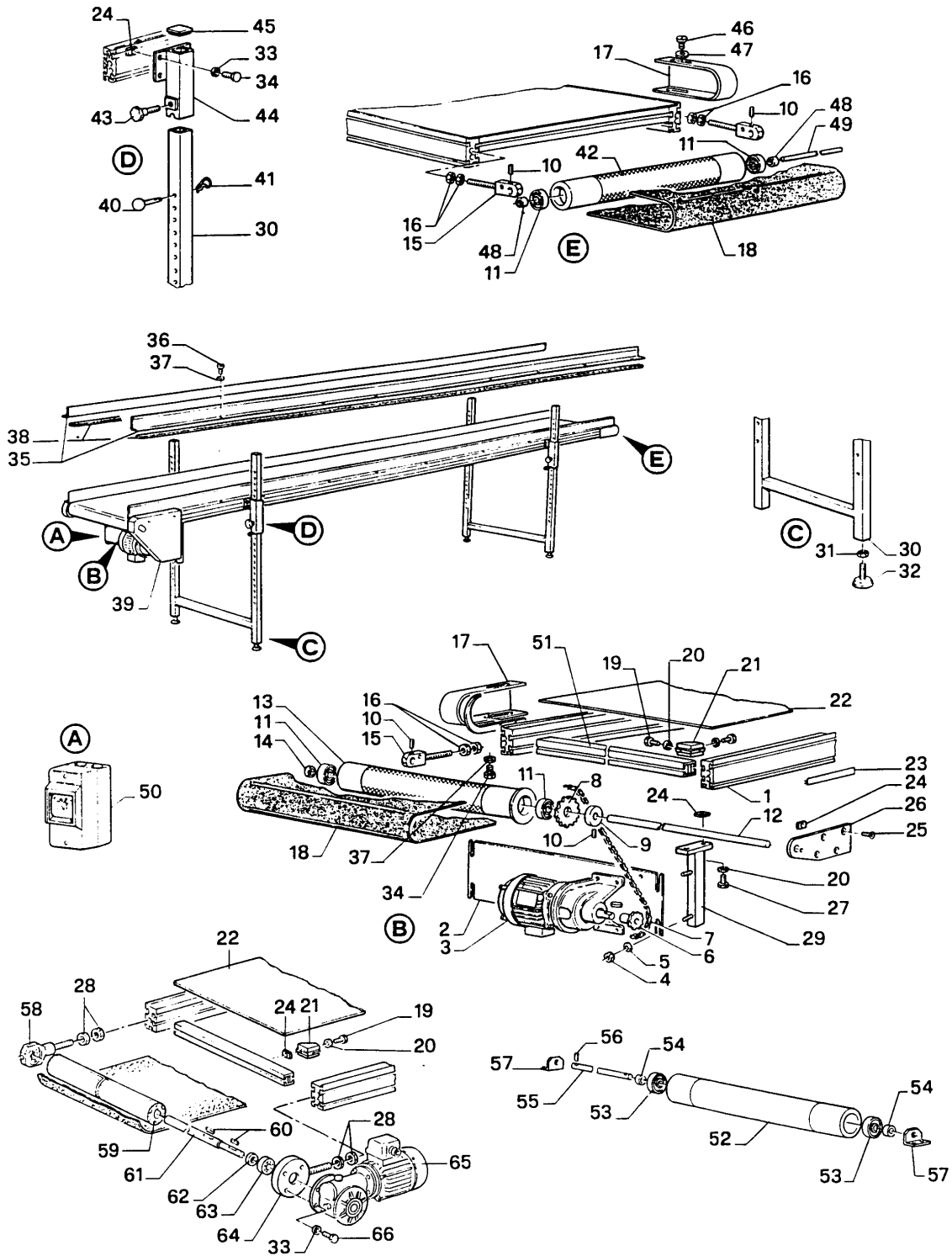
F. ACCESSORIES

1. Discharge chute. 16-gauge stainless steel chute with standard hardware for mounting on the discharge end of the conveyor.
2. Infeed hopper. 16-gauge stainless steel tapered hopper made to customer specification with PVC part retainer flap.
3. Special side rails. 3.5" and 6" side rails with PVC skirting to avoid parts jamming between the belt and the side rails.
4. Part separator. The separators are mounted on the discharge end of the conveyor and are used to separate parts from runner systems. The separators are available in the following models:
 - S1, separator with one roller.
 - S1-"finger", separator with "finger" type roller
 - S1/2, separator with two rollers.
 - S1/S, separator with one spiral roller.
 - S1/2- star, separator with geared PVC sprockets



5. Casters are available in the following dimensions:

- Ø 2½" locking -- non locking
- Ø 3" locking -- non locking





Pos.	Description	Order #	Recommended Spare Parts
1	Anodized extruded aluminum profile type L	L 01	
2	Motor mounting plate	L 02	
3	Gearmotor (refer to the QC sheet of the Conveyor)	L 03	
4	Nut, M8	L 04	
5	Lock washer, Ø 8 mm	L 05	
6	Motor sprocket, 13 / 17 teeth (refer to QC-Sheet)	L 06	1
7	Chain (sold in 10ft incl. (3) master links)	L 07	1
8	Drive roller sprocket, 21 / 30 teeth (refer to QC-Sheet)	L 08	1
9	Locking collar, Ø10-25 mm	L 09	1
10	Set screw, M6 x 10	L 10	1
11	Roller bearing, 6202 ZZ – Roller Ø 60 mm	L 11	4
11 A	Roller bearing, 1204 – Roller Ø 100 mm	L 11 A	4
12	Shaft Ø 15 mm for drive roller Ø 60mm,	L 12	1
12 A	Shaft Ø 20 mm / drive roller Ø 100mm	L 12 A	1
13	Drive roller Ø 60 mm	L 13	1
13 A	Drive roller Ø 100 mm	L 13 A	1
14	Spacer, 5 mm	L 14	1
15	Tensioning arm L, LH	L 15	
15a	Tensioning arm L, RH	L 15a	
16	Nut, M14	L 16	
17	Roller guard	L 17	
18	Endless belt (refer to QC-sheet)	L 18	1
19	Hex head screw, TE M8 x 20	L 19	
20	Lock washer, Ø 8 mm	L 20	
21	Angle bracket – transverse support	L 21	
22	Galv. Belt pan sheet metal	L 22	
23	Channel cover PVC black	L 23	
24	Square nut, M8	L 24	
25	Screw, TPSCE M8 x 18	L 25	
26	Support plate for drive roller	L 26	
27	Hex head screw, TE M8 x 20	L 27	
28	Nut, M16	L 28	
29	Post motor mounting plate, LH	L 29	
29 A	Post motor mounting plate, RH	L 29 A	
30	Perforated leg for L	L 30	
Pos.	Description	Order#	Recommended Spare Parts
31	Flat head nut M10 (pair)	L 31	
32	Leveling pad / Caster, Ø 2 ½" / Ø 3"	L 32	



	(refer to QC-sheet)		
33	Lock washer Ø 8mm	L 33	
34	Hex head screw, TE M8 x 16	L 34	
35	Side rails (refer to QC-sheet)	L 35	
35 A	PVC Skirting (only with 3.5 & 6 inches side rail -- refer to QC-sheet))	L35 A	
36	Screw, TC M4 x 16	L 36	
37	Washer, Ø 4-16 mm	L 37	
38	Wear strip LOFRENE	L 38	
39	Chain guard for L	L 39	
40	Pin with plastic ball	L 40	
41	Safety pin	L 41	
42	Idle roller	L 42	1
43	Screw knob, Ø 40 M10 x 15	L 43	
44	Leg telescope L, LH	L 44	
45	Plastic cap for perforated tubing	L 45	
46	Screw, TC M4 x 20	L 46	
47	Washer, Ø 4-16 mm	L 47	
48	Spacer, 4 mm	L 48	
49	Shaft Ø 15 mm for idle roller Ø 60 mm	L 49	
49 A	Shaft Ø 20 mm for idle roller Ø 100 mm	L 49 A	
50	Manual motor starter switch 110 VAC	L 50	
51	Transverse support aluminum	L 51	
52	Support roller	L 52	
53	Roller bearing 6Z00 ZZ	L 53	
54	Washer, Ø 10 mm	L 54	
55	Shaft for support roller, Ø 10 mm	L 55	
56	Set screw, M 3 x18 mm	L 56	
57	Bracket for support roller shaft	L 57	
58	Self aligning support KOYO (Rt. angle motor only)	L 58	
59	Drive roller (RT angle motor only)	L 59	1
60	Spline, 6 x 30 mm (RT angle motor only)	L 60	2
61	Shaft for drive roller (RT angle motor only)	L 61	1
62	Spacer, Ø 12 x 25 mm (RT angle motor)	L 62	1
63	Roller bearing, 6202 ZZ (RT angle motor)	L 63	1
64	Flange (RT angle motor only)	L 64	1
65	RT angle Gearmotor RMI 40F1	L 65	
66	Hex head screw, TE M8 x 25 (RT angle motor only)	L 66	

I. HOW TO ORDER SPARE PARTS:

1. Determine the part number by utilizing the above spare part drawing and spare parts list.



2. To this number add the serial number of the conveyor.
3. Example: You want to order a conveyor belt for your conveyor with the serial # CE000.
The Part number for a replacement belt is: L18
The Serial number of the conveyor is: CE000

THE ORDER NUMBER IS: L18 CE000