DYNA-VEYOR

FORTY-THREE YEARS OF SERVICE AND DEPENDABILITY

800.326.5009

DYNA-VEYOR
FORTY-THREE YEARS OF SERVICE AND DEPENDABILITY

DYNA-VEYOR CUSTOM MOLDS ALL OF THEIR HIGH PRECISION THERMOPLASTIC COMPONENTS.
DYNA-VEYOR CHAIN DESIGNS HAVE BEEN IN THE MARKETPLACE SINCE 1960. THERMOPLASTIC
CONVEYOR COMPONENTS SERVE SAFE, QUIET CLEAN PRODUCT FOR CONTAINER CONVEYANCE
FOR FOOD PROCESSING, BOTTLING, DISTILLING, PHARMACEUTICAL, DAIRY, FOOD SERVICE,
ASSEMBLY, AND GENERAL INDUSTRIAL APPLICATIONS. THIS SELECTION OF A HIGH STRENGTH
ENGINEERING THERMOPLASTIC RESIN (ACETAL) RESULTED IN LONG-LIFE CONVEYING CHAINS
WITH OPERATION CAPABILITIES APPROACHING THOSE OF STAINLESS STEEL CHAINS. ACETAL
HAS A HIGH TENSIL STRENGTH, FATIGUE ENDURANCE AND RIGIDITY AS WELL AS EXCEPTIONAL
DIMENSIONAL STABILITY. ITS HIGH MOISTURE RESISTANCE ALLOWS FOR UTILIZATION IN WET
ENVIRONMENTS WHERE THE WATER PRESENT SERVES AS AN EFFECTIVE LUBRICANT OR CLEANER.
ACETAL IS NOTED FOR ITS LOW COEFFICIENT OF FRICTION AND EXCELLENT ABRASION RESIS-
TANCE. CHEMICAL RESISTANCE OF ACETAL IS OUTSTANDING (FOR pH BETWEEN 2 & 10 PAGE 13).
HIGH THERMAL RESISTANCE ALLOWS PERIODIC STEAM CLEANING (max 10 psi) AND INTERMITTENT
OPERATION AT TEMPERATURES UP TO 185 DEG. F (SEE TEMPERATURE CHART PAGE 17) ACETAL
HAS AN INTERNALLY LUBRICATED CHARACTERISTIC, WHICH ELIMINATES LUBRICATION IN MANY
APPLICATIONS, THUS AVOIDING THE CONTAMINATION POTENTIAL. THIS CHARACTERISTIC ALSO
REDUCES POWER AND WEAR REQUIREMENTS AND UNIT LOADING, EVEN WHEN RUNNING DRY.
THE USE OF ACETAL ELIMINATES THE NOISY METAL ON METAL CONTACT OF STEEL CHAINS
(AN IMPORTANT FACTOR WHEN OSHA COMPLIANCE IS A CONCERN). ALL CHAINS ARE AVAILABLE
IN FDA AND USDA GRADES. THERMOPLASTIC RESIN WITH A LOW FRICTION ADDITIVE CREATES
ADDITIONAL FEATURES. THE COEFFICIENT OF FRICTION IS LOWERED MORE, AND THE SLIPPING
SURFACES OF THE LOW FRICTION ACETAL CHAIN SLIDE UNDER CONVEYED PRODUCTS WITHOUT
SCORING OR SOILING CONTAINERS, RUBBING OFF COATINGS OR PLATINGS, OR DAMAGING
SOFT ALUMINUM CANS. DYNA-VEYOR HAS TRAINED PEOPLE AVAILABLE TO ASSIST IN ANY
CONVEYING PROBLEM. OUR REPS ARE LOCATED IN VARIOUS CITIES THROUGHOUT THE UNITED
STATES. STANDARD PRODUCTS CAN BE SHIPPED IMMEDIATELY FROM FACTORY STOCKS AND
CONVENIENTLY LOCATED WAREHOUSING REPS, OR FROM STOCKING POWER TRANSMISSION
DISTRIBUTORS.

PART DIMENSIONS ARE SUBJECT TO CHANGE DUE TO MATERIAL SELECTION AND DESIGN IMPROVEMENTS.

SPECIAL NOTE:
      PLASTIC PIN CONSTRUCTION AVAILABLE IN ALL 1700 SERIES
      1873 #60 / 63 BASE CHAIN IS SOLID ROLLER CONSTRUCTION
      CHEMICAL RESISTANT CHAINS ARE AVAILABLE IN ALL CHAIN SERIES pH 2 to 12 or pH 1 to 13
      COLOR VARIATIONS MAY BE OCCASIONALLY DETECTED DUE TO RESIN TYPES

TABLE OF CONTENTS

STRAIGHT RUNNING CHAINS

CHAIN DIMENSIONS – 820 & 831 TYPE

Chain No. Acetal (Gray)	Chain No. LF Acetal (Brown)	DIMENSIONS IN INCHES — ALL DIMENSIONS NOMINAL									
		Plate Width A	Link Per Foot	Pin Diam. B	Chain Pitch C	Plate Thickness D	Overall Ht. E	Overall Barrel Width F	Plate Bot. To Chain Bot. G	Guide Clearance H	Weight Per Foot
DV-325 – D820	DV-325 – LF820	3-1/4	8	1/4	1-1/2	5/32	9/32	1-21/32	3/8	1-3/4	0.56
DV-400 – D820	DV-400 – LF820	4	8	1/4	1-1/2	5/32	9/32	1-21/32	3/8	1-3/4	0.64
DV-450 – D820	DV-450 – LF820	4-1/2	8	1/4	1-1/2	5/32	9/32	1-21/32	3/8	1-3/4	0.69
DV-600 – D820	DV-600 – LF820	6	8	1/4	1-1/2	5/32	9/32	1-21/32	3/8	1-3/4	0.84
DV-750 – D820	DV-750 – LF820	7-1/2	8	1/4	1-1/2	5/32	9/32	1-21/32	3/8	1-3/4	0.99
DV-325 – D831	DV-325 – LF831	3-1/4	8	1/4	1-1/2	3/16	9/32	1-21/32	11/32	1-3/4	0.61
DV-450 – D831	DV-450 – LF831	4-1/2	8	1/4	1-1/2	3/16	9/32	1-21/32	11/32	1-3/4	0.75
DV-600 – D831	DV-600 – LF831	6	8	1/4	1-1/2	3/16	9/32	1-21/32	11/32	1-3/4	0.87
DV-750 – D831	DV-750 – LF831	7-1/2	8	1/4	1-1/2	3/16	9/32	1-21/32	11/32	1-3/4	1.08

PINS MADE OF 303SS
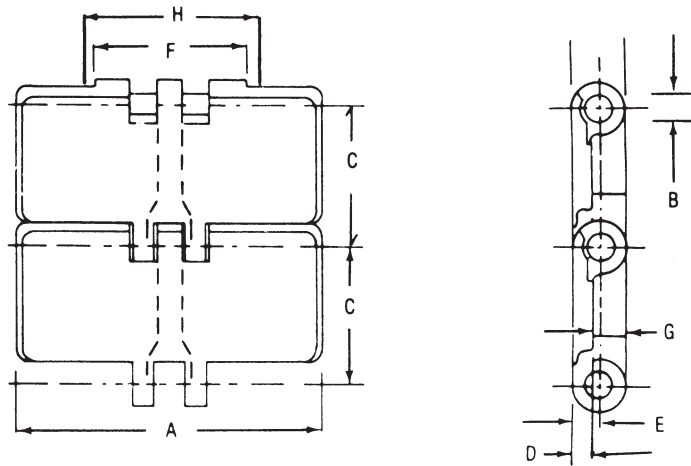
CHAIN DIMENSIONS – 821 TYPE (DIRECT REPLACEMENT)

Chain No. Acetal* (Grey)	Chain No. LF Acetal (Brown)	DIMENSIONS IN INCHES — ALL DIMENSIONS NOMINAL									
		Plate Width A	Link Per Foot	Pin Diam. B	Chain Pitch C	Plate Thickness D	Overall Ht. E	Overall Barrel Width F	Plate Bot. To Chain Bot. G	Guide Clearance H	Weight Per Foot
DV-750 – D821	DV-750 – LF821	7-1/2	8	1/4	1-1/2	3/16	5/16	5-3/8	3/8	5-1/2	1.70
DV-100 – D821	DV-100 – LF821	10	8	1/4	1-1/2	3/16	5/16	5-3/8	3/8	5-1/2	2.00
DV-120 – D821	DV-120 – LF821	12	8	1/4	1-1/2	3/16	5/16	5-3/8	3/8	5-1/2	2.20

PINS MADE OF 303SS

MULTIFLEX & BI-DIRECTIONAL CHAINS

1700 SERIES

TRAVEL

LINK MATERIAL		Width	Min. Radius
LF ACETAL SS PINS	WHITE ACETAL SS PINS		
PART NUMBER		2-11/64"	5-1/2"
DV-1700LF	DV-1700W		

	CHAIN PITCH	1.968"
L	HT OVER C/L	15/32"
T	THICKNESS	7/64"
	GUIDE CL	2-9/32"
G	DIMENSION	15/32"
H	OVERALL HT	15/16"
E	PIN DIA	5/16"
	WT/FT, LB	.85

1701 TAB SERIES

TRAVEL
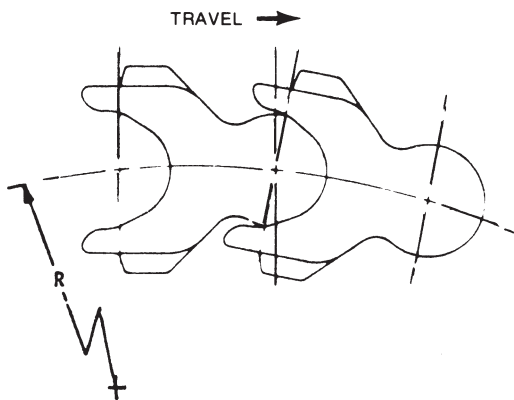
LINK MATERIAL		Width	Min. Radius
LF ACETAL SS PINS	WHITE ACETAL SS PINS		
PART NUMBER		2-3/32"	5-1/2"
DV-1701TAB-LF	DV-1701TAB-W		
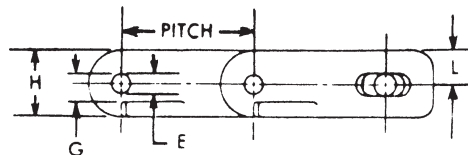
	CHAIN PITCH	1.968"
L	HT OVER C/L	1/2"
T	THICKNESS	3/16"
	GC, STRA.	2-11/32"
	GC, TAB RTN	2-1/4"
	GC, CURVE	2-1/4"
TW	TAB WIDTH	2-5/8"
H	OVERALL HT	63/64"
G	CHAIN T/TAB T	3/4"
E	PIN DIA	5/16"
	WT/FT, LB	1.0
TT	TAB THICKNESS	3/16'
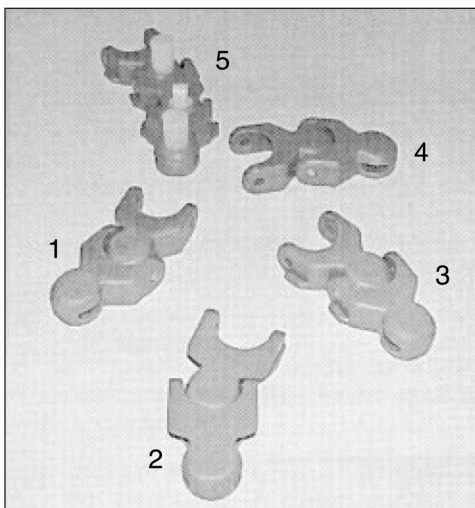
1. DV-1702-LF (LF Straight Side) Bi-directional
2. DV-1700-LF (Low Friction)
3. DV-1701TAB-LF (Low Friction) Bi-directional
4. DV-1701-LF (LF Bevel Side) Bi-directional
5. DV-1703TAB-LF (Extended Pin) MTO Bi-directional

• PROVIDES ADVANTAGES IN PRODUCT HANDLING.
• DESIGN PROVIDES PRODUCT PROTECTION AND STABILITY
• SMALL SIDEFLEX RADIUS PERMITS MORE EFFICIENT USE OF EXISTING FLOOR SPACE
• LOW WEAR MATERIAL PREVENTS RAPID BUILD-UP OF CHAIN TENSION
• FDA/USDA APPROVED RESINS AND 303 SS PINS
• PLASTIC PIN CONSTRUCTION AVAILABLE
• 10 FT = APPROX. 61 LINKS

ALPINE CONVEYORS • CASE & CRATE HANDLING • PARTS HANDLING • CAN, BOTTLE & CARTON HANDLING

FLEX CHAINS

CHAIN DIMENSIONS – 880 & 879 TYPE

Chain No. Acetal* (Grey)	Chain No. LF Acetal (Brown)	DIMENSIONS IN INCHES — ALL DIMENSIONS NOMINAL												
		Plate Width A	Link Per Foot	Minimum Side Flex Radius B	Chain Pitch C	Plate Thickness D	Overall Ht. E	Overall Barrel Width F	Plate Bot. To Chain Bot. G	Guide Clearance Straight H	Guide Clearance Curved H1	Weight Per Foot	Tab Width I	Plate Bot. to Tab Top J
DV-325 – D880	DV-325 – LF880	3-1/4	8	18	1-1/2	5/32	19/64	1-11/16	5/8	1-3/4	1-5/8	0.60	—	—
DV-450 – D880	DV-450 – LF880	4-1/2	8	24	1-1/2	5/32	19/64	1-11/16	5/8	1-3/4	1-5/8	0.70	—	—
DV-325 – D880 TAB	DV-325 – LF880 TAB	3-1/4	8	18	1-1/2	5/32	19/64	1-11/16	5/8	1-13/16	1-3/4	0.63	2-13/32	15/32
DV-450 – D880 TAB	DV-450 – LF880 TAB	4-1/2	8	24	1-1/2	5/32	19/64	1-11/16	5/8	1-13/16	1-3/4	0.74	2-13/32	15/32
DV-325 – D879	DV-325 – LF879	3-1/4	8	18	1-1/2	3/16	19/64	1-11/16	5/8	1-3/4	1-5/8	0.60	—	—
DV-450 – D879	DV-450 – LF879	4-1/2	8	24	1-1/2	3/16	19/64	1-11/16	5/8	1-3/4	1-5/8	0.70	—	—
DV-325 – D879 TAB	DV-325 – LF879 TAB	3-1/4	8	18	1-1/2	316	19/64	1-11/16	5/8	1-13/16	1-3/4	0.63	2-13/32	15/32
DV-450 – D879 TAB	DV-450 – LF879 TAB	4-1/2	8	24	1-1/2	3/16	19/64	1-11/16	5/8	1-13/16	1-3/4	0.74	2-13/32	15/32

PINS MADE OF 303SS

NON-TAB SERIES

TAB SERIES

*Food Industry Qualifications
These chains are in compliance with current FDA and USDA regulations
governing use of chains in direct contact with food products.

FLEX CHAINS

CHAIN DIMENSIONS – 882 & 882 TAB TYPE (DIRECT REPLACEMENT)

Chain Number	DIMENSIONS IN INCHES — ALL DIMENSIONS NOMINAL														
	Plate Width K	Link Per Foot	Minimum Side Flex Radius H	Chain Pitch	Plate Thickness T	Overall Height C/L-L L	Plate Bottom Barrel Width Q	To Chain Bottom H	Weight Per Foot	Tab Width J	Plate Bottom to Tab Top G	Guide Clearance Straight GC	Guide Clearance Curved GC	Pin E
DV-450 – LF882	4-1/2	8	24	1-1/2	3/16	3/8	2-13/32	11/16	1.30	—	—	2-7/16	2-9/32	11/32
DV-750 – LF882	7-1/2	8	24	1-1/2	3/16	3/8	2-13/32	11/16	1.60	—	—	2-7/16	2-9/32	11/32
DV-100 – LF882	10	8	24	1-1/2	3/16	3/8	2-13/32	11/16	1.90	—	—	2-7/16	2-9/32	11/32
DV-120 – LF882	12	8	24	1-1/2	3/16	3/8	2-13/32	11/16	2.13	—	—	2-7/16	2-9/32	11/32
DV-450 – LF882 TAB	4-1/2	8	24	1-1/2	3/16	3/8	2-1/4	7/8	1.33	3	11/16	2-3/8	2-9/32	11/32
DV-750 – LF882 TAB	7-1/2	8	24	1-1/2	3/16	3/8	2-1/4	7/8	1.63	3	11/16	2-3/8	2-9/32	11/32
DV-100 – LF882 TAB	10	8	24	1-1/2	3/16	3/8	2-1/4	7/8	1.90	3	11/16	2-3/8	2-9/32	11/32
DV-120 – LF882 TAB	12	8	24	1-1/2	3/16	3/8	2-1/4	7/8	2.13	3	11/16	2-3/8	2-9/32	11/32

PINS MADE OF 303SS

882 SERIES
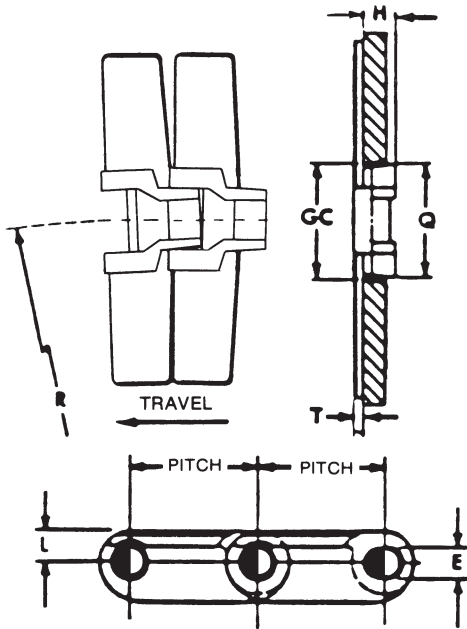
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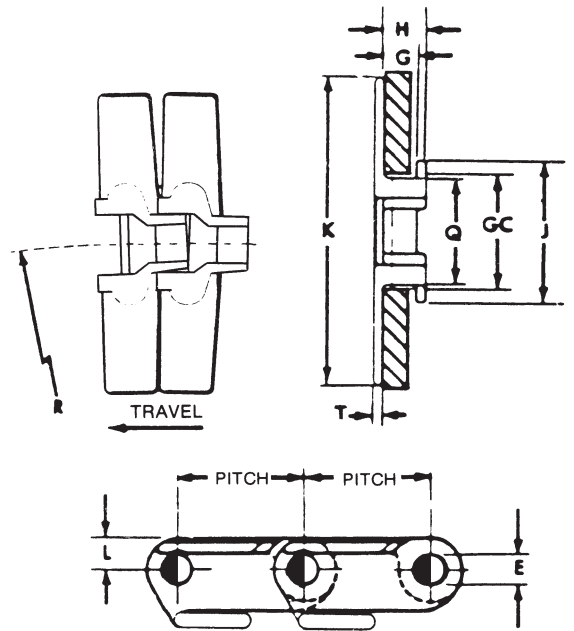
*Food Industry Qualifications
These chains are in compliance with current FDA and USDA regulations
governing use of chains in direct contact with food products.

LF 1873 TAB SIDE-FLEX CHAINS

PREFIX MATERIAL TYPES

AS	ANTI-STATIC
D	ACETAL GRAY
WD	ACETAL WHITE
FR	FIRE RETARDANT
HPB	ADDED PERFORMANCE BROWN
HPW	ADDED PERFORMANCE WHITE
HS	HEAT RESISTANT
LF	LOW FRICTION BROWN
WLF	LOW FRICTION WHITE
HR/MR	HEAT/MELT RESISTANT
P	CHEMICAL RESISTANT
SCR	SUPER CHEMICAL RESISTANT
UV	ULTRAVIOLET RESISTANT
CCR	CC-RED
PCB	PC-BLUE
FT	FREEZER TUNNEL
VAC	VACUUM HOLE CHAIN
SLW	SUPER LOW WEAR

SIDE-FLEX SS BASE CHAIN

| Chain Information	Chain Pitch	Width (Inches)	Width (Decimal)	mm	Minimum Radius (Inches)	Minimum Radius (mm)
DV-1873 – 250 TAB	3/4"	2-1/2"	2.5	57.2 mm	14"	355.6 mm
DV-1873 – 325 TAB	3/4"	3-1/4"	3.25	82.6 mm	14"	355.6 mm
DV-1873 – 450 TAB	3/4"	4-1/2"	4.5	114.3 mm	14"	355.6 mm
DV-1873 – 600 TAB	3/4"	6"	6.0	152.4 mm	18"	457.2 mm
DV-1873 – 750 TAB	3/4"	7-1/2"	7.5	190.5 mm	18"	457.2 mm
DV-1873 – 100 TAB	3/4"	10"	10.0	254.0 mm	18"	457.2 mm
DV-1873 – 120 TAB	3/4"	12"	12.0	304.8 mm	24"	609.6 mm

1873 TAB G SS GRIPPER CHAIN SERIES

ALL CHAINS ARE OFFERED IN: FDA APPROVED
GRADES OF GRAY ACETAL, WHITE ACETAL,
LOW FRICTION (BROWN), LOW WEAR (WHITE)
& CHEMICAL RESISTANCE (WHITE)

1873 TAB G SS

Item	Abbreviation	Inches	Decimal	mm
DV-LF1873 TAB G SS	K/W	3-3/4"	3.75	95.3
CHAIN PITCH	CP	3/4"	0.75	19.1
TAB WIDTH	J	2-1/4"	2.25	57.2
THICKNESS OF TOP	TT	5/32"	0.1562	4.0
PLATE OVERALL WIDTH	K	3-3/4"	3.75	95.3
OVERALL WIDTH	Q	1-1/4"	1.25	31.8
GUIDE CLEARANCE STRAIGHT	GC S	1-11/32"	1.3438	34.1
GUIDE CLEARANCE CURVE	GC C	1-3/8"	1.375	34.9
PLATE BOTTOM TO CHAIN BOTTOM	H	1"	1	25.4
PLATE BOTTOM TO TAB TOP	G	13/16"	0.8125	20.6
PLATE BOTTOM TO ATTACHMENT TOP	A	1-5/16"	1.3125	33.3
INSIDE RETAINER	L	3-25/64"	3.3906	86.1
RETAINER BOTTOM TO PLATE TOP	M	3/8"	0.375	9.5
MINIMUM TURNING RADIUS	MTR	15"	15	95.3
MINIMUM SIDEFLEX RADIUS	R	15"	15	381.0
HEIGHT OVER CENTER LINE	C	1-1/8"	1.125	28.6
HEIGHT OVER CENTERLINE	B	1-3/4"	1.75	44.4
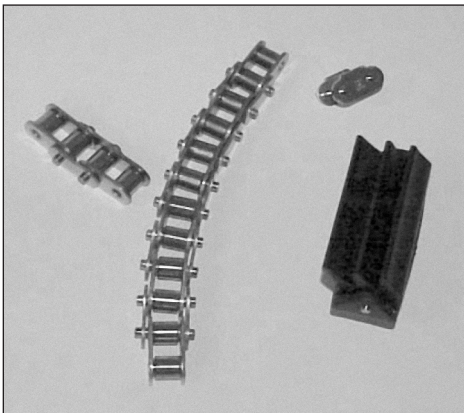
LF

PBT

ST NYLON
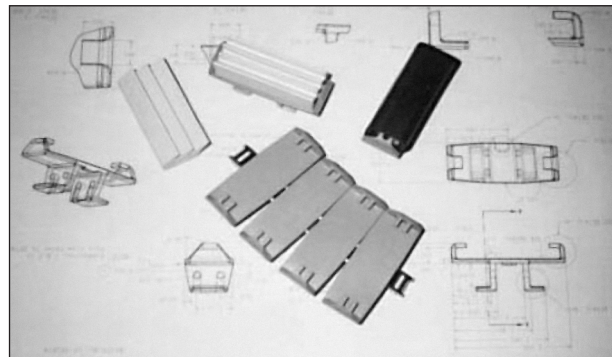
THERMOPLASTIC SPROCKETS

Sprocket	Teeth	OD	Pitch	Root
P820				
P820 19	19	4.610	4.620	4.095
P820 21	21	5.120	5.089	4.564
P820 23	23	5.590	5.560	5.035
P820 25	25	6.070	6.032	5.507
IDLER				
DV 21	19EQV	4.800		
DV 23	21EQV	5.110		
DV 25	23EQV	5.600		
DV 25	25EQV	6.890		
P821				
P821 21	21	5.120	5.089	4.564
P821 23	23	5.590	5.560	5.036
P821 25	25	6.070	6.032	5.507
P880				
P880 10	10	4.820	4.854	4.234
P880 11	11	5.310	5.324	4.704
P880 12	12	5.800	5.796	5.178
P882				
P880 10	10	4.920	4.854	4.083
P880 11	11	5.410	5.324	4.505
P880 12	12	5.900	5.796	5.025
U1700				
U1700 8	8	5.250	5.143	4.275
U1700 10	10	6.500	6.369	5.382
U1700 12	12	7.720	7.604	6.618
U820				
U820 19	19	4.610	4.620	4.095
U820 21	21	5.120	5.089	4.564
U820 23	23	5.590	5.560	5.035
U820 25	25	6.070	6.032	5.507
U820 27	27	6.560	6.504	5.979
U820 29	29	7.050	6.978	6.453
U820 31	31	7.530	7.452	6.927
U820 41	41	9.930	9.826	9.301
U821				
U821 21	21	5.120	5.089	4.564
U821 23	23	5.590	5.560	5.036
U821 25	25	6.070	6.032	5.507
U880				
U880 9	9	4.333	4.386	3.766
U880 10	10	4.820	4.854	4.234
U880 11	11	5.310	5.324	4.704
U880 12	12	5.800	5.796	5.178
U880 15	15	7.260	7.215	6.595
U882				
U882 9	9	4.430	4.386	3.616
U882 10	10	4.920	4.854	4.083
U882 11	11	5.410	5.324	4.505
U882 12	12	5.900	5.796	5.025

Type	Face	L/T/B	Hub	Teeth
820	1.685	1.685	2.335	19 21 23 25
880	0.830	1.625	2.500	10 11 12
882	0.885	1.875	2.500	10 11 12
1700	0.430	1.575	3.500	8 10 12
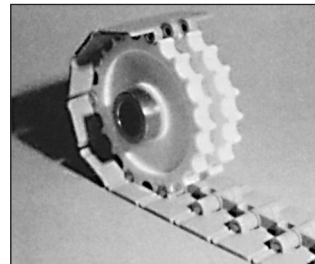
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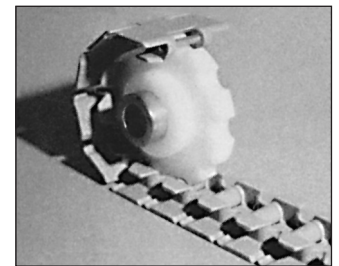
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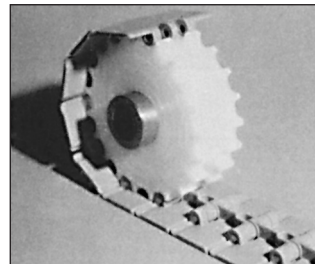
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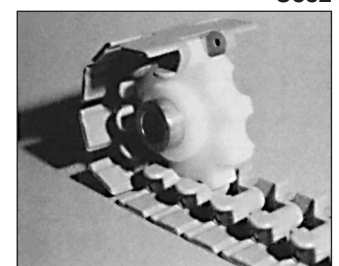
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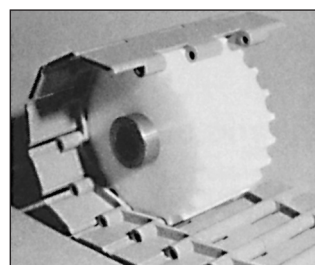
U821

U1700

THERMOPLASTIC IDLERS
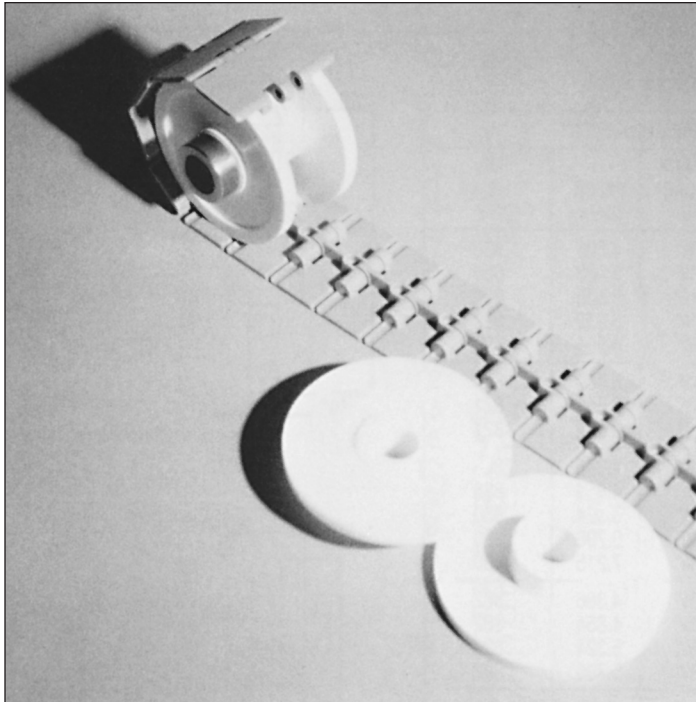
Split Design for Use With 820, 821, 880, 880 TAB, 882 and 882 TAB Designs

HEAVY DUTY • CHEMICAL RESISTANT

2½"

OD

1¾"
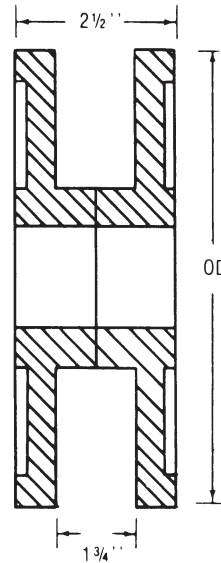
SPECIAL FEATURES

- Self Tracking
- Fixed or Free Running
- Rigid and Tough
- Ultra-High Loading Capacity
- Silent Running
- No Lubrication
- 90% Less Weight Than Steel
- Clean and Hygienic
- Maintenance Free
- Resistant to Most Chemical and Corrosive Conditions
- For Steel and Plastic Chain
- May be Keyed to Shaft or Free-Wheel
- Adjustable Face Width (see below)

RECOMMENDED SET COLLAR CLEARANCE = 1/32"

820
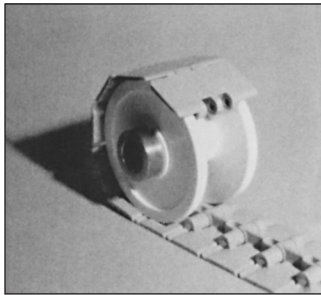
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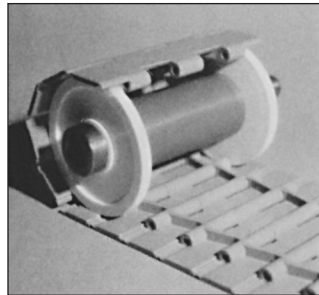
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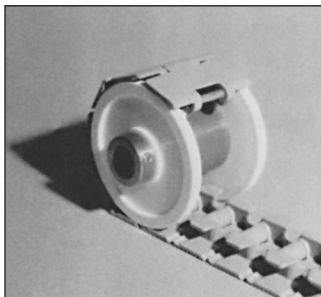
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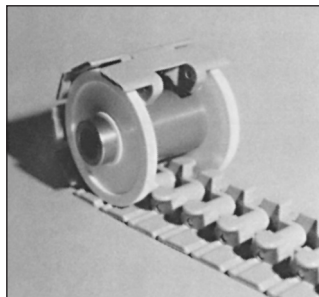
Part No.	No. of Teeth	Stock Bore	Pitch Diameter
LOW FRICTION ACETAL IDLERS			
DV-19	19 Equ.	3/4" & 1"	4.620
DV-21	21 Equ.	3/4" & 1"	5.089
DV-23	23 Equ.	3/4" & 1"	5.560
DV-25	25 Equ.	3/4" & 1"	6.032
CHEMICAL RESISTANT IDLERS			
DV-19-P	19 Equ.	3/4" & 1"	4.620
DV-21-P	21 Equ.	3/4" & 1"	5.089
DV-23-P	23 Equ.	3/4" & 1"	5.560
DV-25-P	25 Equ.	3/4" & 1"	6.032
Spacers Supplied for 821, 880 TAB, 882, 882 TAB See Price Sheet			

STEEL SPROCKETS

S820
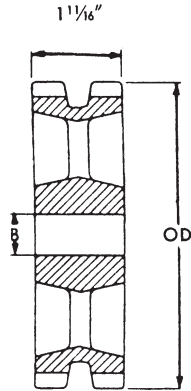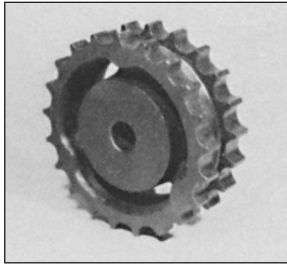
S880
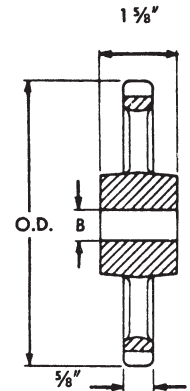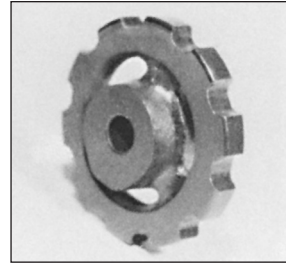
S821
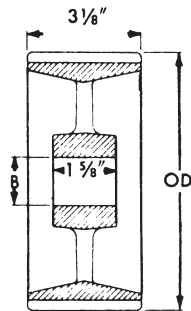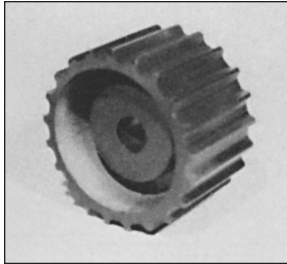
S882
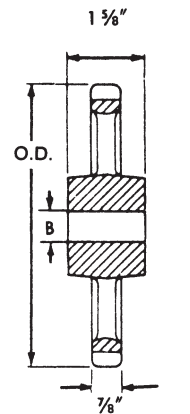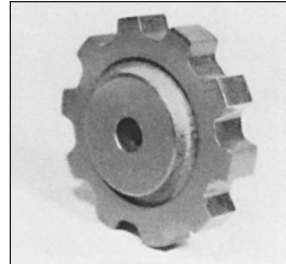
Part No.	No. of Teeth	Stock Bore B	Pitch Diameter	For Chain Type
STEEL SPROCKETS*				
S820-19	19	3/4"	4.620	820
S820-21	21	3/4"	5.089	820
S820-23	23	3/4"	5.560	820
S820-25	25	3/4"	6.032	820
S820-27	27	3/4"	6.504	820
S821-21	21	1"	5.089	821
S821-23	23	1"	5.560	821
S821-25	25	1"	6.032	821
S880-9	9	3/4"	4.386	880
S880-10	10	3/4"	4.854	880
S880-11	11	3/4"	5.324	880
S880-12	12	3/4"	5.796	880
S880-15	15	3/4"	7.215	880
S882-9	9	3/4"	4.386	882
S882-10	10	3/4"	4.854	882
S882-11	11	3/4"	5.324	882
S882-12	12	3/4"	5.796	882

*OTHER SIZES AVAILABLE UPON REQUEST

Low Wear Acetal Sprockets Stock Shaft Bore = 3/4" & 1" (see page 8)
Chemical Resistant Sprockets Stock Bore = 3/4" & 1" (see page 8)
UHMW Sprockets Stock Bore = 3/4" & 1" (see page 8)

INTERLOCKING WEAR STRIPS

LOW FRICTION • LOW WEAR

Extends through the underside
to rest on ways

Conical hole 5/32" diameter
at base. 3/8" diameter at top
to receive round tapered
head of screw

3/16" tolerance to permit normal
expansion and contraction

TRAVEL

The molded wear strips are made from acetal, which has a lubricating ingredient, this material possesses exceptional and desirable properties for conveyor chain wear strips. The configuration, size, thickness, and connecting joint characteristics have resulted in an advanced design for more efficient and economical conveyor chain operation.

DYNA-VEYOR WEAR STRIPS…

Contribute to pulsation free conveyors
Eliminate pitted and dirty ways
No humping
Easily installed
Provide clean conveyed items...cans, bottles, and boxes
Reduce friction extending life of chain
Use less power
Minimize product breakage
Sanitary
Quiet operation
Easily cleaned

Physical and mechanical...

Tensile Strength ^{9} 73°F — 8800 PSI
Rockwell Hardness — M80
Tensile Impact Strength ^{9} 73°F
  70 ft. lb. per sq. in.
Water Absorption ^{9} 73°F .22%
Shear Strength — 7700 PSI
Coefficient of Friction — Less than .1

Chemical Properties...

High resistance to strong alkalies and detergents.
Approved by the National Sanitation Foundation for use with potable water.

OUTSTANDING MOUNTING DESIGN…

Dyna-Veyor Wear Strips have a positive mating method. The configuration of the joining ends produce a "locked" connection with a tolerance of 3/16" that permits normal expansion and contraction while in use. These are secured by stainless steel flat head machine screw 8-32° with hex head nut.

Catalog No.	DIMENSIONS IN INCHES				
	Overall Length of Strips	Center to Center of Fasterner	Width of Strips	For Chains With Plate Widths	Strip Thickness
WS-015	16	15	3/4	3-1/4 – 4-1/2	3/16

These fasteners always fit in their hole in a manner that allows no interference with the plate link of the chain. The top strip at the connecting joint is molded to extend through the under strip and rests on the way. The hole for the screw is conical in shape and accepts the tapered shape of the machine screw for a positive fit.

COEFFICIENTS OF FRICTION

DRY .... .07
WATER .... .06
SOAP & WATER .... .06

The 15" mounting centers of the DYNA-VEYOR strips require less holes per conveyor length. The top side of the strips have rounded edges for longer wear and smoother operation.

CURVED WEAR STRIPS   (SOLID TRACKS & CURVES AVAILABLE ON REQUEST)

ONE-PIECE LINK CHAIN

Chain Series	Track Number	RAD C/L A	Track Inside D	Radius Outside E	Bolt I B	Circle O C	Width W	Thickness* T	Guide Clearance Straight	Guide Clearance Curved
BEVEL DESIGN WEAR STRIP										
880 N/T & 881 N/T	U18B3	A = 18	17-3/16	18-13/16	16-11/16	19-5/16	1.000	3/8	1-3/4	1-5/8
	U24B3	A = 24	23-3/16	24-13/16	22-11/16	25-5/16	1.000	3/8	1-3/4	1-5/8
	U30B3	A = 30	29-3/16	30-13/16	28-7/16	31-9/16	1.500	3/8	1-3/4	1-5/8
RECTANGULAR DESIGN WEAR STRIP										
880 TAB & 881 TAB	U18R3	A = 18	17-1/8	18-7/8	16-1/4	19-3/4	1.500	3/8	1-13/16	1-3/4
	U24R3	A = 24	23-1/8	24-7/8	22-1/4	25-3/4	1.500	3/8	1-13/16	1-3/4
	U30R3	A = 30	29-1/8	30-7/8	28-1/4	31-3/4	1.500	3/8	1-13/16	1-3/4
BEVEL DESIGN WEAR STRIP										
882 N/T	U24B5	A = 24	22-55/64	25-9/64	21-63/64	26-1/64	1.500	5/8	2-7/16	2-9/32
	U30B5	A = 30	28-55/64	31-9/64	27-63/64	32-1/64	1.500	5/8	2-7/16	2-9/32
RECTANGULAR DESIGN WEAR STRIP										
882 TAB	U24R5	A = 24	22-55/64	25-9/64	21-63/64	26-1/64	1.500	5/8	2-3/8	2-9/32
	U30R5	A = 30	28-55/64	31-9/64	27-63/64	32-1/64	1.500	5/8	2-3/8	2-9/32
BEVEL DESIGN WEAR STRIP										
1701 N/T BEVEL	U24B5	A = 24	22-29/32	25-3/32	22-1/32	25-31/32	1.500	3/4	2-11/32	2-3/16
	U30B5	A = 30	28-29/32	31-3/32	28-1/32	21-31/32	1.500	5/8	2-11/32	2-3/16
RECTANGULAR DESIGN WEAR STRIP										
1701 TAB RECTANGULAR	U24R5	A = 24	22-7/8	25-1/8	22	26	1.500	5/8	2-11/32	2-1/4
	U30R5	A = 30	28-7/8	31-1/8	28	32	1.500	5/8	2-11/32	2-1/4

*THICKNESS TOLERANCE = 0-1/16"
GUIDE CLEARANCE = ± 1/64"

MOUNTING

1/16" to 1/8" GAP

GUIDE CLEARANCE CURVE

1"

GUIDE CLEARANCE STRAIGHT

Line up corner strip and subsequent straight strip edges to ensure pulsation free operation.

BEVEL

RECTANGULAR
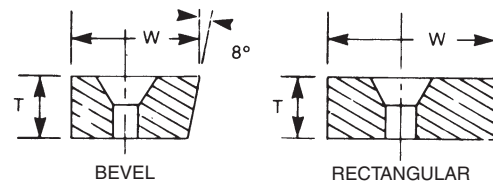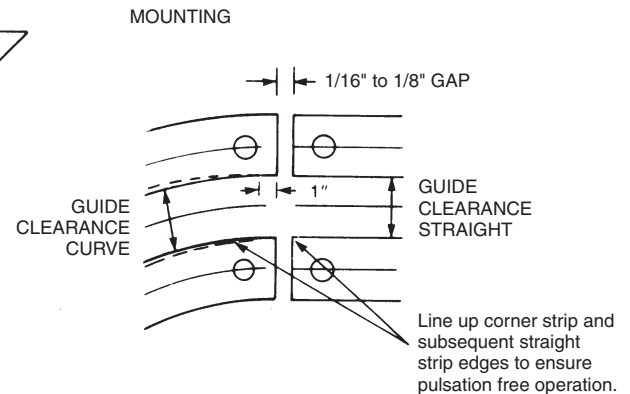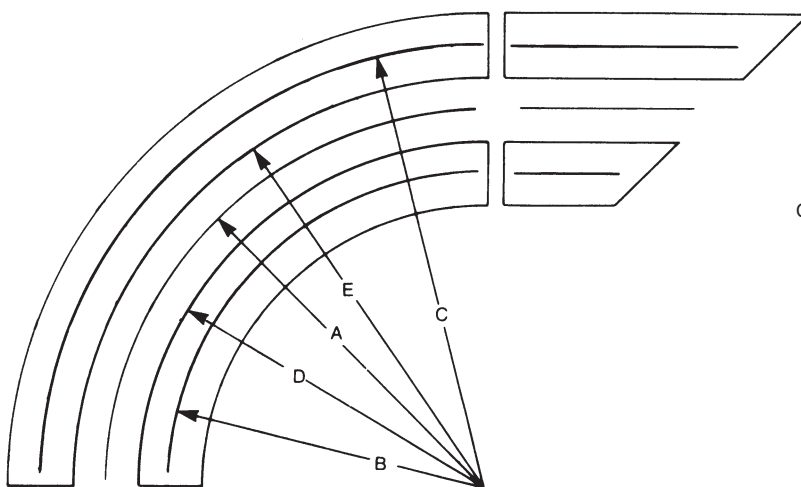
ALL DIMENSIONS NOMINAL

CHEMICAL RESISTANCE — ACETAL CHAINS

PARTIAL LISTING   *For Higher Chemical Resistance Contact DYNA-VEYOR*

TABLE A

Material	Time Month	Vis. Obs.	Material	Time Month	Vis. Obs.
Control (Air)	12	N.C.	50% Ethanol	6	N.C.
				12	N.C.
INORGANIC CHEMICALS				6	N.C.
10% Ammonium Hydroxide	6	Disc.	Heptane	6	N.C.
	12	Disc.		12	N.C.
	6	Disc.		6	N.C.
3% Hydrogen Peroxide	6	N.C.	Oleic Acid	6	N.C.
	12	N.C.		12	N.C.
10% Hydrochloric Acid	6			6	N.C.
10% Nitric Acid	6		6% Phenol	6	N.C.
10% Sodium Chloride	6	N.C.		12	Disc.
	12	SI. Disc.	Toluene	6	N.C.
	6	SI. Disc.		12	N.C.
2% Sodium Carbonate	6	N.C.			N.C.
	12	N.C.	**OTHER MATERIALS**		
20% Sodium Carbonate	6	N.C.	Automatic Transmission Fluid	6	N.C.
1% Sodium Hydroxide	6	N.C.	Anti-Freeze (Telar)	6	N.C.
	12	N.C.	Brake Fluid, "Super 9"	6	N.C.
10% Sodium Hydroxide	6	N.C.		12	N.C.
	12	N.C.	Brake Fluid, "Lockheed 21"	6	N.C.
	6	SI. Disc.		12	N.C.
60% Sodium Hydroxide	6	SI. Disc.		6	N.C.
4.6% Sodium Hypochlorite	6	Pitted	Brake Fluid, "Delco 222"	6	N.C.
26% Sodium Thiosulfate	6	N.C.	Detergents		
3% Sulfuric Acid	6	N.C.	"Acclaim"	6	SI. Disc.
	12	N.C.	"Calgonite"	6	SI. Disc.
30% Sulfuric Acid	6		"Electro-Sol"	6	N.C.
Buffer, pH 7.0	6	SI. Disc.	50% Igepal	6	N.C.
Buffer, pH 10.0	6	SI. Disc.		12	N.C.
Buffer, pH 4.0	4			6	N.C.
Water (Distilled)	6	N.C.	Detergent Solution	6	SI. Disc.
	12	N.C.	1% Soap Solution	6	N.C.
	12	Disc.	Gasolines		
			Mobil Regular (93.5 Octane)	6	N.C.
ORGANIC CHEMICALS			Mobil "Hi-Test" (99.0 Octane)	6	N.C.
5% Acetic Acid	6	N.C.	Sunoco "280" (103 Octane)	6	N.C.
	12	N.C.	Kerosene	6	N.C.
Acetone	6	N.C.	Linseed Oil	6	N.C.
	12	N.C.	Lubricating Grease	6	N.C.
	6	N.C.	Mineral Oil ("Nujol")	6	N.C.
Aniline	6	Reddish Tint		12	N.C.
Benzene	6	N.C.		6	N.C.
Carbon Tetrachloride	6	N.C.	Motor Oil (10W30)	6	N.C.
	12	N.C.		12	N.C.
	6	N.C.		6	N.C.
10% Citric Acid	6	N.C.			
	12	N.C.			
Diethyl Ether	6	N.C.			
Dimethyl Formamide	6	N.C.			
Ethyl Acetate	6	N.C.			
Ethylene Dichloride	6	N.C.			
50% Ethylene Glycol	6	SI. Disc.			
95% Ethanol	6	N.C.			
	12	N.C.			
	6	N.C.			

SPECIAL NOTE: With thermoplastics do not use cleaning or lubricating agents with a pH below 4 or above 10 or chemicals containing free **chlorine** or free **ammonia**. These agents may cause immediate attack or "crazing" after several applications due to concentration by evaporation.

*CONTACT FACTORY FOR MORE INFORMATION

NOTES: X = Not Recommended;   NC = No Change;   Disc. = Discoloration;
      SI. Disc. = Slight Discoloration

ENGINEERING PROCEDURES

PROCEDURES:

1. Determine needed conveyor speed and chain width required for necessary product flow.

   (Refer to Table 2A)

   (A)

   $$\frac{\text{PRODUCTS PER MINUTE}}{\text{PRODUCTS PER FOOT OF CHAIN}} = \text{REQUIRED CONVEYOR SPEED}$$

   (B)

   $$\text{CONTAINERS PER SQ./FT.} = \frac{166.277}{D^2}$$

2. Select plate top and chain type using product material, abrasion, lubrication, chemical resistance and temperature range conditions as guides.

   (Refer to Table 7 – Temperature Range, page 17)
   (Refer to Page 13 – Chemical Resistance)
   (Refer to Page 21 – Special Application Chains)

3. Select wear strip material using plate top material, lubrication types, chain loading and abrasion as considerations.

   (C)

WEAR STRIP	NO LUBRICATION		LUBRICATED	
	No Abrasion	Abrasion	No Abrasion	Abrasion
STAINLESS STEEL	G	G	G	G
LW90	G	S	G	G
UHMW	S	—	S	—
NYLON	G	—	G	—

   A. <u>LW90 – special formulated for aluminum and steel can handling</u>.
   B. Stainless steel should be hard cold finished to 32-63 RMS with hardness of 25-30 RC.
   C. Plastic polymer strips and corner tracks may deflect in high load conditions and should be avoided in such applications.

4. Determine friction factor between chain type and wear strip material.

   (Refer to Table 3)

5. Determine friction factor betwen chain type and chain material.

   (Refer to Table 4)

6. Determine plate top width, additional number of strands when applicable and conveyor speed.

   (Refer to Step 1 above and Tables 2B & 2C)

7. Calculate product weight per foot of chain using charts.

   (Refer to Table 2A) or,

   (D)

   $$\text{PRODUCT WT. PER FT.} = \text{PRODUCTS PER FT.} \times \text{WT. PER PRODUCT}$$

8. Calculate conveyor weight per foot of conveyor.

   (Refer to Table 1 for chain weight)
   (Refer to Step 6 above for product weight)

   (E)

   $$\text{PRODUCT WT. PER FT.} + \text{CHAIN WT. PER FT.} = \text{CONVEYOR WEIGHT PER FOOT}$$

9. Determine conveyor service factor using service factor table.

   (Refer to Table 5)

   TABLE 5 – SERVICE FACTOR SF **(F)**

START/STOP	SLIPPAGE PERCENT DURING OPERATING/RUN TIME			
	None	0/10	10/50	50/100
NONE	1.0	1.3	1.6	1.9
INFREQUENT	1.5	1.7	2.0	2.3
FREQUENT	2.2	2.3	2.4	2.6

TABLE 1 – CHAIN WEIGHT PER FOOT OF CHAIN

TYPE	2	2-1/4	2-5/8	3-1/4	4	4-1/2	6	7-1/2	10	12
815	—	1.45	1.60	1.85	2.15	2.35	2.95	3.55	—	—
820	—	—	—	0.56	0.65	0.70	0.85	1.00	—	—
821	—	—	—	—	—	—	—	1.70	2.20	2.20
831	—	—	—	0.60	—	0.75	—	1.10	—	—
843	0.60	—	—	0.70	—	—	—	—	—	—
864	—	—	—	2.25	—	2.70	3.60	3.85	—	—
866	—	—	—	2.10	—	2.55	3.20	3.65	—	—
863	—	—	—	1.40	—	1.50	1.70	1.80	—	—
880	—	—	—	0.80	—	0.70	—	—	—	—
880T	—	—	—	0.65	—	0.75	—	—	—	—
881	—	—	—	2.00	—	2.50	—	3.70	—	—
881T	—	—	—	2.00	—	2.50	—	3.70	—	—
882	—	—	—	—	—	1.30	—	1.60	1.90	—
882T	—	—	—	—	—	1.35	—	1.65	1.95	2.15
1700	—	0.85	—	—	—	—	—	—	—	—
1701	—	1.00	—	—	—	—	—	—	—	—

SYMBOLS & FORMULAS

SYMBOLS & FORMULAS:

1 $\dfrac{\text{PRODUCTS PER MINUTE}}{\text{PRODUCT PER FOOT}}$ = CONVEYOR SPEED

2 $\dfrac{\text{144 SQ. IN.}}{2}$ = PRODUCTS PER SQUARE FOOT

D = DIAMETER OF PRODUCT

3 GUIDE RAIL SPACE
RS = [(NO. OF ROWS · 1) x (.886 D)] + D
.886 (0) CIRCLE INS SQUARE

4 STRAIGHT RUN
[(M + 2W) x FW x L + (M x FM x L)] x SERVICE FACTOR

5 STRAIGHT RUN WITH INCLINE
[(M + 2W) x FW x H + (M x V)] x SERVICE FACTOR

6 CONVENTIONAL 1700/1701 WITHOUT SLIPPAGE
[(M + 2W) x FW x L] x SERVICE FACTOR

7 CONVENTIONAL 1700/1701 SLIPPAGE
[(M + 2W) x FW x L + (M x FM x Ls)] x SERVICE FACTOR
*For starting friction under load, add .15 to running (FW & FM)

8 FRICTION FACTORS
Fm = RUNNING FRICTION CHAIN TO PRODUCT
Fw = RUNNING FRICTION CHAIN TO WEAR STRIP
V = VERTICAL RISE
H = HORIZONTAL LENGTH

9 SLOPE = RISE PER FOOT
– OR –

SLOPE = $\dfrac{\text{12 x RISE}}{\text{HORIZONTAL LENGTH}}$

SLOPE FACTOR = $\dfrac{\text{SLOPE PER FOOT}}{12}$

10 FS (FACTOR OF SAFEY) = $\dfrac{\text{CHAIN ULTIMATE STRENGTH}}{\text{CHAIN WORKING LOAD}}$

11 CHAIN SPEED = $\dfrac{\text{CHAIN PITCH x NUMBER OF TEETH x RPM}}{\text{CHAIN WORKING LOAD}}$

12 SPROCKET SPEED = $\dfrac{\text{12 x FPM}}{\text{NUMBER OF TEETH x PITCH}}$

TABLE 2B
Products Conveyed Per Foot of Chain
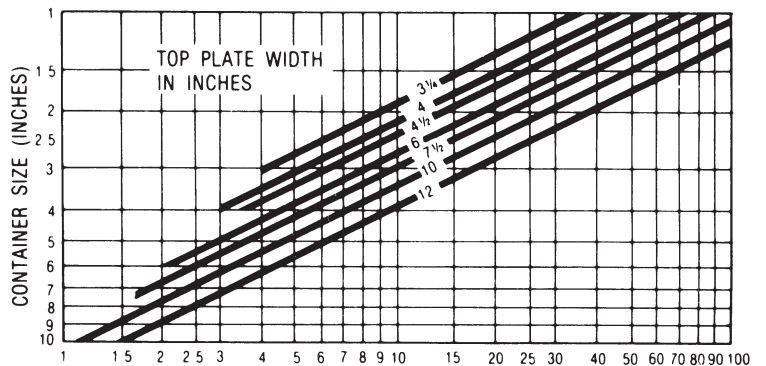
TABLE 2C
Products Per Minute / Per Foot Speed

15
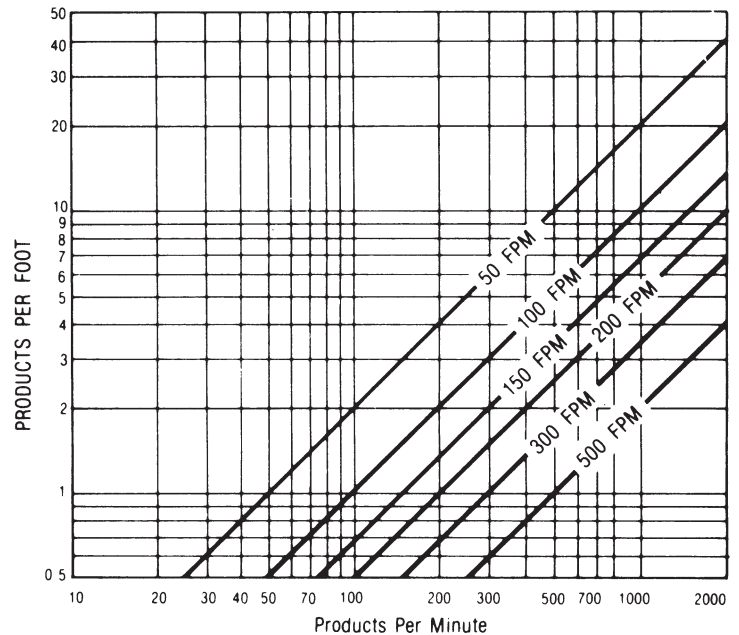
FRICTION

WEAR STRIP FRICTION TABLES:

TABLE 3 – FRICTION FACTORS F/W

| Plate Top Type | Condition | WEAR STRIP MATERIAL | | | |
		Stainless Steel	Carbon Steel	UHMW	Nylon
CARBON & STAINLESS STEEL	Dry	.50	.50	.40	.40
	Water	.40	.40*	.30	.30
	Soap & Water	.30	.20*	.20	.20
	Oil	.20	.20	.20	.20
ACETAL	Dry	.40	.40	.35	.35
	Water	.30	.30*	.25	.25
	Soap & Water	.20	.20*	.15	.15
LOW FRICTION	Dry	.25	.25	.20	.20
	Water	.20	.20*	.20	.20
	Soap & Water	.15	.15*	.15	.15
LOW WEAR+	Dry	.07	.07	L/R	L/R
	Water	.06	.06	.06	.06
	Soap & Water	.06	.06+	.06	.06

* = Not recommended
+ = Substantially reduce or eliminate soap lubrication
+ = Specially formulated for aluminum can handling systems
L/R = Limited

PRODUCT & PLATE TOP FRICTION TABLES:

TABLE 4 – FRICTION FACTORS F/M

| Plate Material | Condition | TOP PLATE MATERIAL | | | |
| | | Running Friction Coefficients | | | |
		Stainless Steel	Carbon Steel*	Acetal	Nylon
PLASTIC PAPER* FIBER	Dry	.40	.40	.30	.30
	Water	.30	.30	.20	.20
	Soap & Water	.20	.20	.10	.10
METAL	Dry	.50	.50	.40	.40
	Water	.40	.40	.30	.30
	Soap & Water	.20	.20	.20	.20
	Oil	.20	.20	.20	.20
GLASS	Dry	.50	.50	.40	.40
	Water	.45	.45	.30	.30
	Soap & Water	.25	.25	.20	.20
	Oil	.20	.20	.20	.20
INDUSTRIAL PARTS	Dry	.50	.50	.40	.40
	Water	.45	.45	.30	.30
	Soap & Water	.25	.25	.20	.20
	Oil	.20	.20	.20	.20

* = Water and soap/water lubrication not recommended
L/R = Limited

CALCULATION OF STRAIGHT CHAIN PULL:

CHAIN PULL $\longrightarrow$ $P = [L (W + M) FW + P1 + P2] SF$

PULL DUE TO PRODUCT SLIPPAGE $\longrightarrow$ $P1 = W \times FM \times L$

PULL FOR RETURN STRAND $\longrightarrow$ $P2 = W \times FW \times L$

P   CHAIN PULL

L   CONVEYOR LENGTH (SPROCKET CENTER TO CENTER DISTANCE IN FEET)

W   CHAIN WEIGHT PER FOOT (TABLE 1)

M   WEIGHT OF PRODUCT x NUMBER OF PRODUCTS PER FOOT OF CHAIN (REFER TO TABLES 2A, 2B, & 2C)

FW   FRICTION FACTOR BETWEEN PLATE TOP AND WEARING SURFACE (TABLE 3)

FM   FRICTION FACTOR BETWEEN CHAIN TOP AND PRODUCT SURFACE (TABLE 4)

SF   SERVICE FACTOR (TABLE 5)

P1   0 (WITH NO PRODUCT SLIPPAGE)

P1   M x FM x L

P2   ADDITIONAL PULL DUE TO CHAIN RETURN LENGTH W x FW x L

AFTER COMPLETION OF CHAIN PULL CALCULATION, PROCEED TO CHAIN SELECTION STEPS AND CHAIN LIMIT GRAPH.

CHAIN SELECTION STEPS

1. Locate on vertical axis chain pull "P" calculated.

2. Locate on horizontal axis appropriate speed/length ratio.

3. Draw straight lines on Graph No. 1 (see page 18):
   a) One line parallel to vertical axis at speed/length value.
   b) One line parallel to horizontal axis at chain pull value.

4. Intersect point of Step 3(a) and (b) lines provides a value that must be evaluated against chain capacity lines on graph. The chain capacity line above the intersect point of lines 3(a) and (b) indicates the proper chain for normal applications.

Refer to Chain Limits Graph 1 on Page 18.

FLEX CHAIN CALCULATION FORMULAS

CALCULATION OF SIDE FLEXING CHAIN PULL:

To evaluate the chain pull for side flexing chain applications, each component or chain section is found independently, and then summed to arrive at the pounds of pull which the chain must be able to withstand. In the figure below, calculate the chain pull for Section 1, Section 2, and Section 3. Add the results of the three sections.
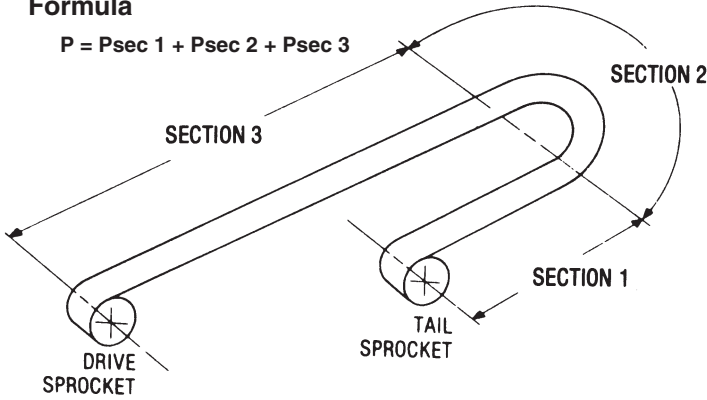
FORMULA $\longrightarrow$ $\boxed{P = P1 + P2 + P3 + P4}$

SECTION PULL $\longrightarrow$ $\boxed{P = [L\,(W + M)\,FW + P1 + P2]\,RF \times SF}$

PULL DUE TO PRODUCT SLIPPAGE $\longrightarrow$ $\boxed{P1 = M \times FM \times L}$

PULL FOR RETURN STRAND $\longrightarrow$ $\boxed{P2 = W \times FW \times L}$

Formula

P = Psec 1 + Psec 2 + Psec 3

CALCULATION PROCEDURE:

1. To evaluate chain pull for Section 1, use:

   $\boxed{Psec1 = [L\,(W + M)\,FW + P1 + P2]\,SF}$

   A. Section 1 is the initial straight section.
   B. Values for P1 are found in Tables 1-5.

2. To evaluate chain pull for Section 2, use:

   $\boxed{Psec2 = [L\,(W + M)\,FW + P1 + P2] \times RF \times SF}$

   A. Section 2 is the curved section following Section 1.
   B. The RF/Radius Factor is located in Table 6.
   C. Length through turns are found using factors located in Table 6.

3. To evaluate chain pull for Section 3, use:

   $\boxed{Psec3 = [L\,(W + M)\,FW + P1 + P2] \times RF \times SF}$

   A. Section 3 is the straight section between curved section and the drive sprocket.
   B. The RF/Radius Factor should again be taken from Table 6.

   When calculating additional curve and straight sections, apply the appropriate RF/Radius Factors to all additional sections.

TABLE 5 – SERVICE FACTOR SF

| START/STOP | SLIPPAGE PERCENT DURING OPERATING/RUN TIME | | | |
	None	0/10	10/50	50/100
NONE	1.0	1.3	1.6	1.9
INFREQUENT	1.5	1.7	2.0	2.3
FREQUENT	2.2	2.3	2.4	2.6

TABLE 6 – RADIUS/CORNER FACTORS

| CURVE | ACETAL CHAINS | | STEEL CHAINS | | LENGTH THROUGH RADIUS |
Degree	No Lube	Lube	No Lube	Lube	Length
30	1.20	1.10	1.20	1.10	.50 x R = K
60	1.40	1.15	1.50	1.25	1.00 x R = K
90	1.60	1.20	1.80	1.40	1.50 x R = K
120	1.90	1.30	2.20	1.60	2.00 x R = K
145	2.20	1.40	2.70	1.80	2.50 x R = K
180	2.50	1.60	3.00	2.00	3.00 x R = K

K = Length through corner

TABLE 7 – TEMPERATURE GUIDE IN DEGREES F.

| Material | MINIMUM TEMPERATURE | MAXIMUM TEMPERATURE | |
	Dry or Wet	Dry	Wet
ACETAL	−40	185	160
PBT/HT	−10	325	140
NYLON	−40	170	150
STAINLESS	−100	800	800
STEEL	−40	350	350
WOOD	−50	160	160
LW	−40	185	160
SLW	−40	185	160
POLYPROPYLENE	34	220	190
POLYETHYLENE	−50	150	120

HORSEPOWER CALCULATIONS

$$\text{REQUIRED HP} = \frac{\text{CHAIN TENSION x CHAIN SPEED}}{33,000} \times \text{SERVICE FACTOR}$$

For allowable conveyor speed limits — Apply factor Table 9.

For required horsepower — Look up Table 10.

The following formula determines the theoretical horsepower based on calculated chain pull. Therefore, proper service factors are to be applied to overcome prime mover startup and frictional losses.

HP   HORSEPOWER — Look up Table 10

SF   SERVICE FACTOR — Look up Table 5

FPM   FEET PER MINUTE — Look up Graph 1

CT   CHAIN PULL

$$\text{HP} = \frac{\text{CT x FPM}}{33000} \times \text{SF}$$

TABLE 8 – WORKING LOAD LIMITS

CHAIN SERIES	WORKING LOAD LIMIT
815	615
820	375
821	630
831	360
843	770
879	360
880	360
881	770
882	425
1700	600
1701	600
1873	630
SBR	1500

*Standard Series

NOTE: PBT and Polyethylene chemical resistant chains working load limits for chemical resistant chains are two-thirds of those limits listed for standard series acetal chains.

TABLE 9 – SPEED LIMIT FACTORS

FPM	SLF
0 ... 50	1.0
50 ... 100	1.2
100 ... 165	1.4
165 ... 230	1.6
230 ... 300	2.2
300 ... 360	2.8
360 ... 400	3.2
400 ... 460	+

(P x SLF = Adjusted Working Load)

After completion of chain pull calculation, multiply chain pull by the speed limit factor for desired speed.

The total factored chain pull value can then be compared to Table 8 Working Load Chain Limits for suitability instead of, or as a check of, the speed/length ratio limit. A value less than the working load limit of the chain series selected indicates relative permissable use.

TABLE 10 – HORSEPOWER

TENSION I	FEET PER MINUTE SPEED							
	10	25	50	100	150	200	250	300
25	.01	.02	0.04	0.08	0.11	0.15	0.19	0.23
50	.02	.04	0.08	0.15	0.23	0.30	0.38	0.45
70	.02	.06	0.11	0.23	0.34	0.45	0.57	0.68
100	.03	.08	0.15	0.30	0.45	0.61	0.76	0.91
150	.05	.11	0.23	0.45	0.68	0.91	1.14	1.36
200	.06	.15	0.30	0.61	0.91	1.21	1.52	1.82
250	.08	.19	0.38	0.76	1.14	1.52	1.89	2.27
300	.09	.23	0.45	0.91	1.36	1.82	2.27	2.73
350	.11	.27	0.53	1.06	1.59	2.12	2.65	3.18
400	.12	.30	0.61	1.21	1.82	2.42	3.03	3.64
450	.14	.34	0.68	1.36	2.05	2.73	3.41	4.09
500	.15	.38	0.76	1.52	2.27	3.03	3.79	4.55
550	.17	.42	0.83	1.67	2.50	3.33	4.17	5.00
600	.18	.45	0.91	1.82	2.73	3.64	4.55	5.45
650	.20	.49	0.98	1.97	2.95	3.94	4.92	5.91
700	.21	.53	1.06	2.12	3.18	4.24	5.30	6.36
750	.23	.57	1.14	2.27	3.41	4.55	5.68	6.82
800	.24	.61	1.21	2.42	3.64	4.85	6.06	7.27

Chain tension calculations must be adjusted or factored by the appropriate service factor or factors when applicable. The adjusted chain pull or working load should not exceed recommended chain working loads as per Table 8.

Drive requirements may then be selected from standard horsepower selection tables.

GRAPH 1 — THERMOPLASTIC CHAIN LIMITS
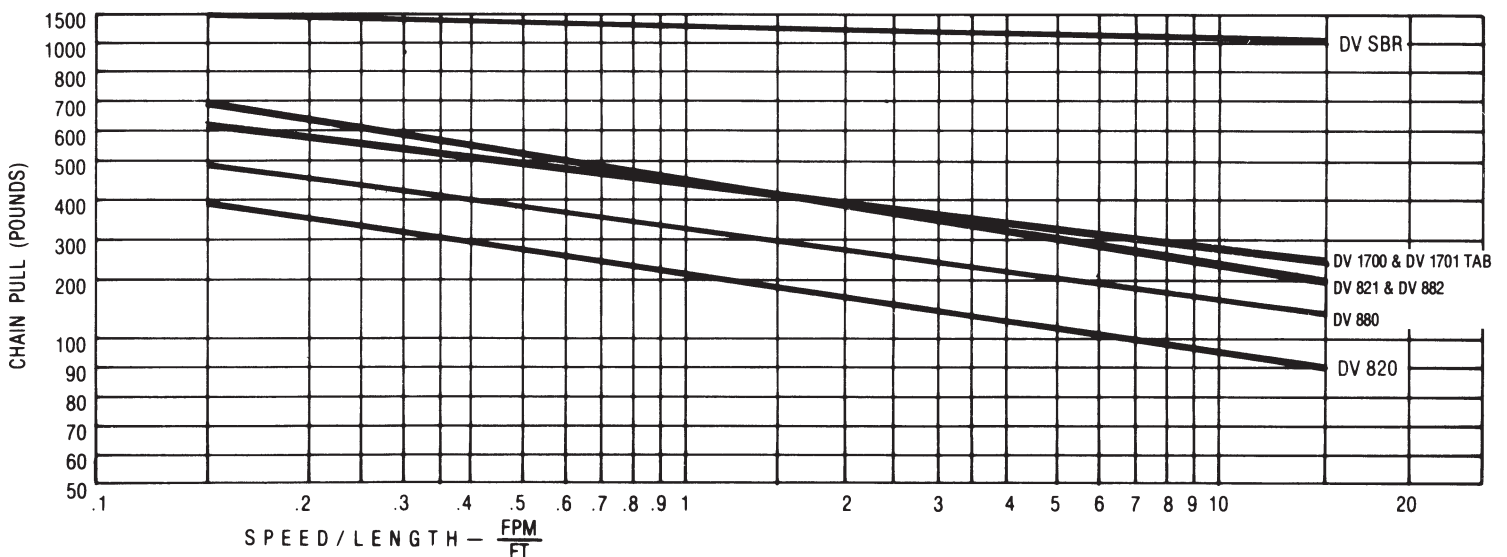
MULTIFLEX CHAIN PULL FORMULAS

CALCULATION OF MULTIFLEX SIDE FLEXING CHAIN PULL:

To evaluate the chain pull for multiflexing chains in standard conveyor applications, each component or conveyor section is calculated independently, and the sections summed to arrive at the pounds of pull which the chain must be able to withstand. In the figure below, calculate the chain pull for Section 1, Section 2, and Section 3. Add the results of the three sections.

FORMULA $\longrightarrow$ $\boxed{P = P1 + P2 + P3 + P4}$

SECTION PULL $\longrightarrow$ $\boxed{P = [L\ (W + M)\ FW + P1 + P2]\ x\ RF\ x\ SF}$

PULL DUE TO PRODUCT SLIPPAGE $\longrightarrow$ $\boxed{P1 = M\ x\ FM\ x\ L}$

PULL FOR RETURN STRAND $\longrightarrow$ $\boxed{P2 = W\ x\ FW\ x\ L}$

CALCULATION PROCEDURE:

For configurations without corner discs.
For configurations with corner discs.
For configurations with multiple levels.

CONFIGURATIONS WITHOUT CORNER DISCS:

1. To evaluate chain pull for Section 1, use:

   $\boxed{Psec1 = [L\ (W + M)\ FW + P1 + P2]\ SF}$

   A. Section 1 is the initial straight section.
   B. Values for P1 are found in Tables 1-5.

2. To evaluate chain pull for Section 2, use:

   $\boxed{Psec2 = [L\ (W + M)\ FW + P1 + P2]\ x\ RF\ x\ SF}$

   A. Section 2 is the curved section following Section 1.
   B. The RF/Radius Factor is located in Table 6.
   C. Length through turns are found using factors located in Table 6.

3. To evaluate chain pull for Section 3, use:

   $\boxed{Psec3 = [L\ (W + M)\ FW + P1 + P2]\ x\ RF\ x\ SF}$

   A. Section 3 is the straight section between curved section and the drive sprocket.
   B. The RF/Radius Factor should again be taken from Table 6.

> **When calculating additional curve and straight sections, apply the appropriate RF/Radius Factors to all additional sections.**

CONVENTIONAL CONFIGURATIONS WITH CORNER DISCS:

$$P\ =\ \boxed{CLF\ x\ CTF\ x\ (2W + M)}$$

– or –

Length Factor x Turn Factor x (2 x Chain Wt. Per Ft. + Product Wt. Per Ft.)

CONFIGURATIONS WITH MULTIPLE LEVELS ELEVATING OR LOWERING:

$$P\ =\ \boxed{CDN\ x\ CDF\ x\ CLF\ x\ CSF}$$

– or –

Number of Discs Factor x Spacing Factor x Load Factor x Slope Factor

P	CHAIN PULL
L	CONVEYOR LENGTH (SPROCKET CENTER TO CENTER DISTANCE IN FEET)
W	1700 = 0.85 LBS. (TABLE 1) 1701 = 1.00 LBS. (TABLE 1)
M	WEIGHT OF PRODUCT x NUMBER OF PRODUCTS PER FOOT OF CHAIN (REFER TO TABLES 2A, 2B, & 2C)
FW	FRICTION FACTOR BETWEEN PLATE TOP AND WEARING SURFACE (TABLE 3)
FM	FRICTION FACTOR BETWEEN CHAIN TOP AND PRODUCT SURFACE (TABLE 4)
SF	SERVICE FACTOR (TABLE 5)
P1	0 (WITH NO PRODUCT SLIPPAGE)
P1	M x FM x L
P2	ADDITIONAL PULL DUE TO CHAIN RETURN LENGTH W x FW x L
RF	TURN/RADIUS FACTOR (TABLE 6, PAGE 17)
CTF	CONVEYOR TURN FACTOR (CTF / TABLE 1)
CLF	CONVEYOR LENGTH FACTOR (CLF / TABLE 2)
CDN	NUMBER OF DISCS FACTOR (CDN / TABLE 3)
CDF	CONVEYOR DISC FACTOR (CDF / TABLE 4)
CMF	CONVEYOR LOAD FACTOR (CMF / TABLE 5)
CSF	CONVEYOR SLOPE FACTOR (CSF / TABLE 6)

AFTER COMPLETION OF CHAIN PULL CALCULATION, PROCEED TO CHAIN SELECTION STEPS AND CHAIN SPEED/LENGTH RATIO LIMITS (GRAPH 1).

CHAIN SELECTION STEPS

1. Locate on vertical axis chain pull "P" calculated.

2. Locate on horizontal axis appropriate speed/length ratio.

3. Draw straight lines on Graph No. 1 (see page 18):
   a) One line parallel to vertical axis at speed/length value.
   b) One line parallel to horizontal axis at chain pull value.

4. Intersect point of Step 3(a) and (b) lines provides a value that must be evaluated against chain capacity lines on graph. The chain capacity line above the intersect point of lines 3(a) and (b) indicates the proper chain for normal applications.

> **When headshaft chain tension is greater than allowable chain working load, break the conveyor system into shorter sections and recalculate chain loads for each section.**

MULTIFLEX CHAIN PULL TABLES

Without Corner Discs
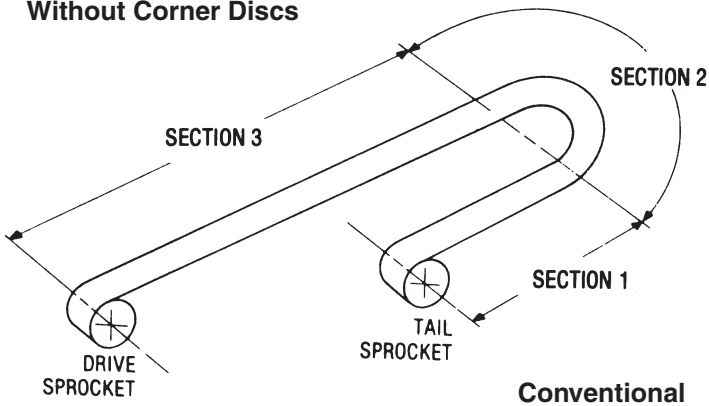
Conventional

CLF	LENGTH OF CONVEYOR FOOTAGE FACTOR	[LF]
CDF	DISTANCE BETWEEN DISCS	[D]
CRF	TURN / RADIUS / CORNER FACTOR	[R]
CDN	NUMBER OF DISCS IN THE CONVEYOR	[N]
CSF	RISE OR SLOPE OF INCLINE IN DEGREES	[S]
CMF	PRODUCT POUNDS PER FOOT OF CONVEYOR	[M]
CTF	CORNER LOAD FACTOR FOR CONVEYORS WITHOUT DISCS	[T]
CPS	PRODUCT SLIPPAGE / PEAK LOADING FACTOR FOR SLIPPAGE AND STOP-START PEAK LOADING WHEN OCCURRING	[P]

P = CDN x CDF x CLF x CSF

MULTI LEVEL — 7 DISC SYSTEM
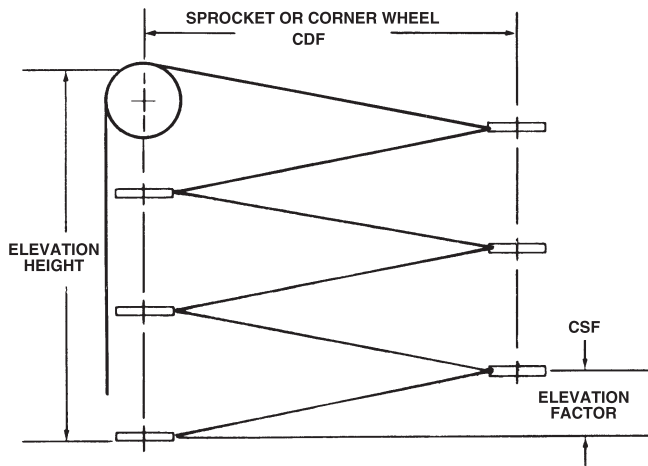
See page 17 for useful symbols and formulas.

MULTIFLEX FACTOR TABLES

CTF – TURN FACTOR
TABLE 1

Number of Turns	Factor
0	1.0
1	1.1
2	1.2
3	1.3

CDF – DISC SPACE FACTOR
TABLE 4

Disc Space Feet	Factor
5	0.25
10	1.00
15	1.25
20	1.75

CLF – LENGTH FACTOR
TABLE 2

Length Feet	Factor
0	0
20	5
40	10
60	15
80	20
100	25
120	30
140	35
160	40
180	45
200	50

CMF – LOAD FACTOR
TABLE 5

Load	Factor
1	1.5
2	2.5
3	3.0
4	3.5
5	4.0
6	4.5
7	5.0
8	5.5
9	6.0
10	6.5
11	7.0
12	7.5
13	8.0
14	8.5
15	9.0

CDN – DISC NUMBER FACTOR
TABLE 3

Number of Discs	Factor
1	10
2	15
3	20
4	25
5	30
6	40
7	50
8	60
9	70
10	80
11	90
12	100
13	115
14	130
15	145
16	160

CSF – SLOPE FACTOR
TABLE 6

Degrees	Up Factor	Down Factor
1	1.10	.90
2	1.15	.85
3	1.20	.80
4	1.25	.75
5	1.35	.65
6	1.45	.55

SPECIAL PROBLEM APPLICATIONS

NEW OFFERINGS FOR PROBLEM SOLVING AND FINE TUNING
OF CONTAINER HANDLING AND PACKAGING

1. CHEMICAL RESISTANT — For problem applications in the 2-12 pH range.

2. ANTI-MAGNETIC — All plastic (link & pin) construction suited for metal detection equipment.

3. ANTI-STATIC — Material available which will eliminate electrical charge build-up. A must for electronics industry and some metal detection.

4. ELECTRICALLY CONDUCTIVE — For elimination of any static build-up.

5. FLAME RETARDANT — For any open flame application.

6. WEAR RESISTANT NYLON

7. HEAT/MELT RESISTANT — For baking or part processing hot parts.

8. HIGH IMPACT — For situations where product conveyed tends to "DROP" onto line.

9. HIGH PERFORMANCE — Lowest coefficient of friction material, increases wear life, reduces wear elongation, reduces backline pressure and more energy efficient.

10. HIGH FRICTION CHAIN — For applications that need a higher coefficient of friction.

11. HIGH FRICTION INSERT CHAIN — With inserts, attachments or a molded product for packaging problem applications. Insertion to increase friction, for example, on incline applications.

12. HIGH TEMPERATURE — Up to 350°F plus.

13. HEAT STABILIZED — Resists thermal degradation from hot water sprays. For example, in rinsers and pasteurizers.

14. IRRADIATION CHAIN — For use in food sterilization processing. Used for years in Europe to retard spoilage, soon to be accepted in USA. To prevent bacteria growth, and extend food shelf life.

15. CHEMICAL & IMPACT RESISTANT

16. LOW TEMPERATURE — For freezer tunnels, to −40°F.

17. LOW WEAR OR WEAR RESISTANT — Outlasts LF applications 5:1, for metal and aluminum can handling, high speeds, low loads, plastic to metal.

18. ALL PLASTIC CONSTRUCTION — Links and pins of plastic for reduction in HP requirements for all existing applications.

19. SUPER CHEMICAL RESISTANT — For extended range chemical resistance.

20. SUPER LOW WEAR — For added lubrication and increased abrasion resistance in plastic to plastic and metal to plastic, under various combinations of speed and loads.

21. ABRASION & IMPACT RESISTANT — For applications requiring resistance to abrasion and impact.

22. SUPER TOUGH — For hostile environments.

23. FOR CHAIN AND ROLLER LUG BLOCK ASSEMBLIES

24. ULTRA VIOLET — UV stabilized for outdoor use and ink-label UV processing.

25. FOR VACUUM LINE APPLICATIONS — Hole pattern in chain creates suction for elevating or lowering cans or light products.

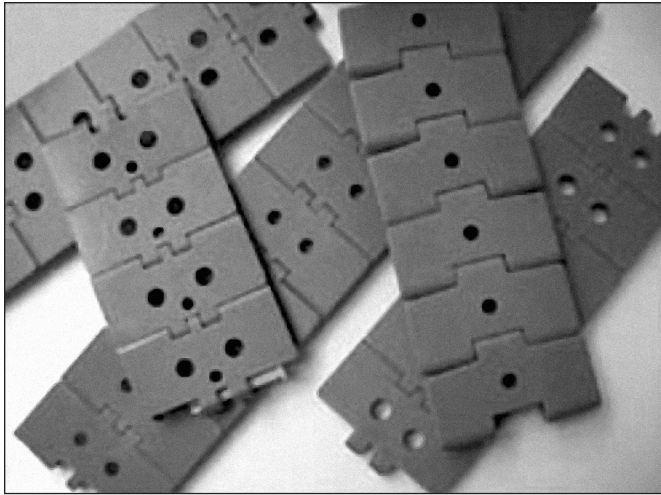26. COLOR COORDINATED PER CUSTOMER SPECIFICATIONS.

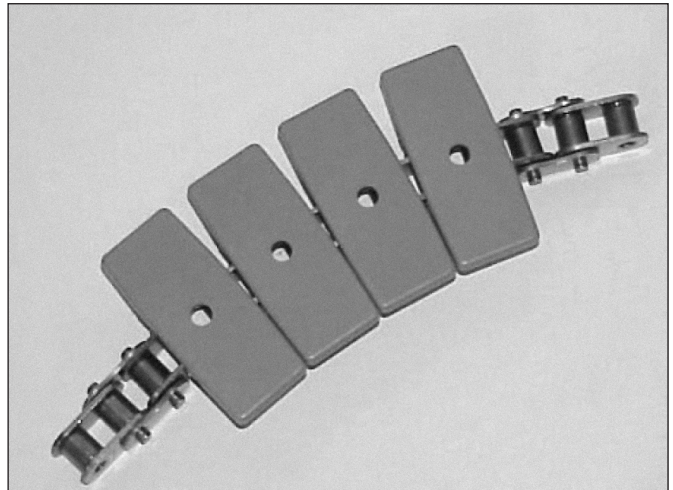## TECHNICAL SERVICES
We Have the Answers
973.484.1119

VACUUM LINE CHAINS

- LIFTS CANS/UNITS ON INCLINE OR VERTICAL

- STANDARD HOLE PATTERNS

- CUSTOM HOLE PATTERNS

- MADE TO ORDER TO YOUR SPECIFICATIONS

HIGH FRICTION INSERT CHAINS

In conveying a product, no two applications are alike. There are many applications for reduced friction on lines. The most frequently used is a low friction acetal, having a Teflon filled base, which lowers the coefficient of friction between chain and wearstrips as well as between chain and product.

There are at least two other materials, each with its own particular set of parameters which further reduce friction, and the need for lubrication to assist product conveyance.

BUT WHAT ABOUT ADDRESSING AN APPLICATION THAT NEEDS A HIGHER COEFFICIENT OF FRICTION FOR VARIOUS REASONS?

SOLUTION: A CHAIN WITH HIGH FRICTION INSERTS, ALLOWING INCLINE AND DECLINE ANGLES, PLUS POSITIVE PRODUCT PICK UP.

MULTI HIGH FRICTION LINK

DOVETAIL HIGH FRICTION LINK

HIGH FRICTION LINK
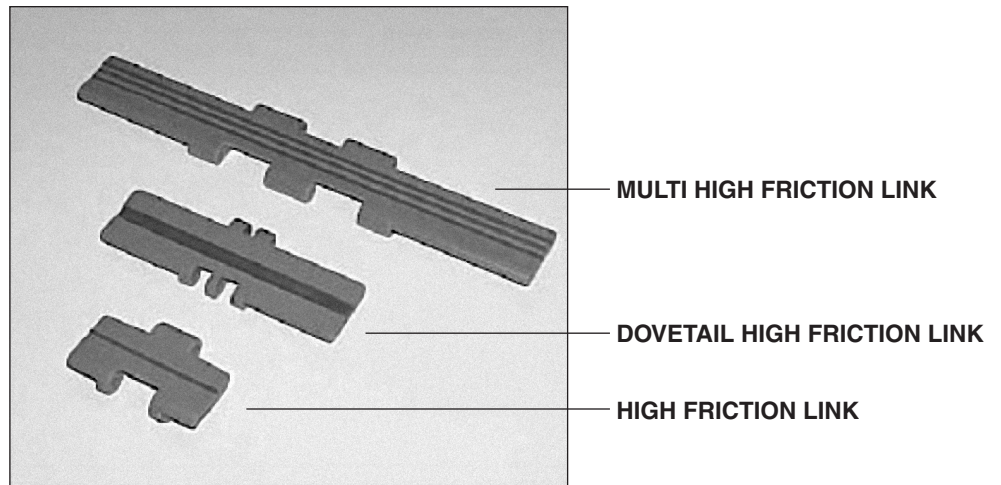
HF   0.025 HEIGHT ABOVE CHAIN TOP
DHF   0.150 HEIGHT ABOVE CHAIN TOP

Other Configurations Available   **www.dyna-veyor.com • e-mail: dynaveyor@aol.com**

1873 GRIPPER PARTS
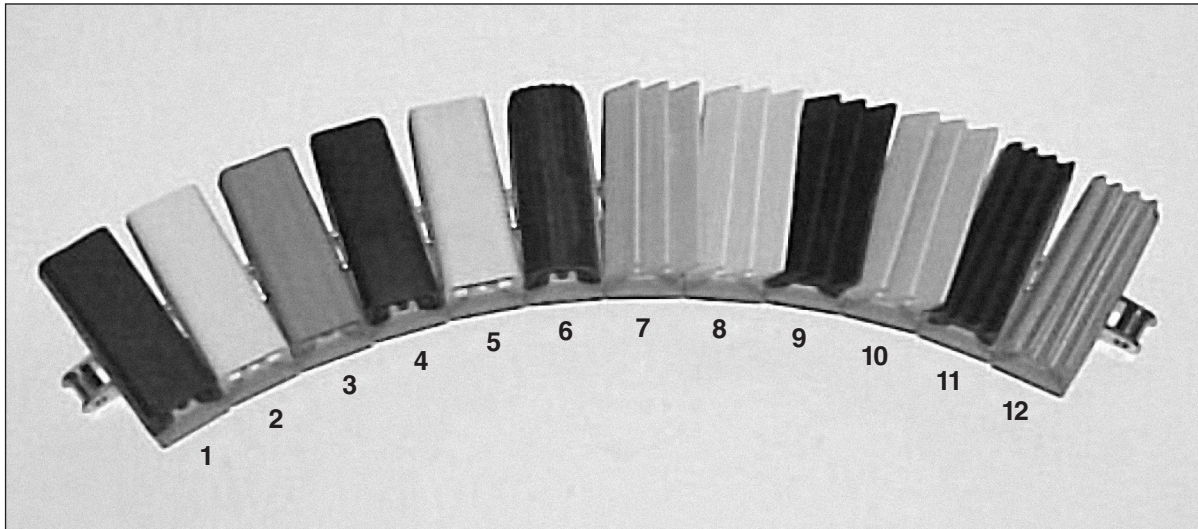
Number	Description	Duro	DV Part Number
1	D BLACK	45	DV 5000-056
2	D WHITE EPDM	45	DV 5000-056 EPDM
3	D TAN HI TEMP	45	DV 5000-177
4	D BLACK	60	DV 5000-332
5	D WHITE	60	DV 5000-358
6	D RIBBED BLACK	50	DV 5000-356
7	D FINGER TAN	50	DV 5000-121
8	D FINGER WHITE EPDM	50	DV 5000-163
9	D FINGER BLACK	50	DV 5000-175
10	D FINGER TAN	60	DV 5000-221
11	D FINGER BLACK	45	DV 5000-173
12	D FINGER TAN	45	DV 5000-183

APPLICATION INFORMATION
USE EDPM FOR OZONE AND NEOPRENE FOR OIL

INTERCHANGEABLE REPLACEMENT CHAINS

DIRECT INTERCHANGEABLE REPLACEMENT CHAINS PARTIAL LISTING	COMPETITION — TYPICAL NUMBERING TYPES PARTIAL LISTING
DV-325-LF820 DV-400-LF820 DV-450-LF820 DV-600-LF820 DV-750-LF820	LF-820 K 3-1/4 LF820 K 4 LF820 K 4-1/2 LF820 K 6 LF820 K 7-1/2
DV-750-LF821 DV-100-LF821 DV-120-LF821	LF821 K 7-1/2 LF821 K 10 LF821 K 12
DV-325-LF831 DV-450-LF831 DV-750-LF831	LF831 K 3-1/4 LF831 K 4-1/2 LF831 K 7-1/2
DV-325-LF879 DV-450-LF879 DV-325-LF879TAB DV-450-LF879TAB	LF879 K 3-/14 LF879 K 4-1/2 LF879TAB K 3-1/4 LF879TAB K 4-1/2
DV-325-LF880 DV-450-LF880 DV-325-LF880TAB DV-450-LF880TAB	LF880 K 3-/14 LF880 K 4-1/2 LF880TAB K 3-1/4 LF880TAB K 4-1/2
DV-325-LF880BO* DV-450-LF880BO* DV-325-LF880BOTAB* DV-450-LF880BOTAB*	LF880BO K 3-/14 LF880BO K 4-1/2 LF880BOTAB K 3-1/4 LF880BOTAB K 4-1/2
DV-450-LF882 DV-750-LF882 DV-100-LF882 DV-120-LF882	LF882 K 4-1/2 LF882 K 7-1/2 LF882 K 10 LF882 K 12
DV-450-LF882TAB DV-750-LF882TAB DV-100-LF882TAB DV-120-LF882TAB	LF882TAB K 4-1/2 LF882TAB K 7-1/2 LF882TAB K 10 LF882TAB K 12
DV-1700-LF DV-1701-LF TAB DV-1701-LF BEVEL DV-1702-LF STRAIGHT DV-1700-LF EXTENDED LUG DV-1701-LF TAB EXTENDED LUG DV-1701-LF BEVEL EXTENDED LUG DV-1702-LF STRAIGHT EXTENDED LUG	LF1700 LF1701 TAB LF1701 BEVEL LF1702 STRAIGHT LF1700 EXTENDED LUG LF1701 TAB EXTENDED LUG LF1701 BEVEL EXTENDED LUG LF1702 STRAIGHT EXTENDED LUG
DV-1731TAB HCW DV-1731TAB HCW EXTENDED LUG	1731 TAB 1731 EXTENDED LUG
DV-1700W DV-1701W TAB DV-1701W BEVEL DV-1`702W STRAIGHT SIDE	W1700 W1701 TAB W1701 BEVEL W1702 STRAIGHT SIDE
DV-325-1873-GC GRIPPER CHAIN SS BASE	1873-GC GRIPPER CHAIN SS BASE

*PARTIAL LISTINGS. CHECK AVAILABILITY.

ALL SERIES AVAILABLE IN CHEMICAL RESISTANT MATERIAL AND/OR PLASTIC PINS