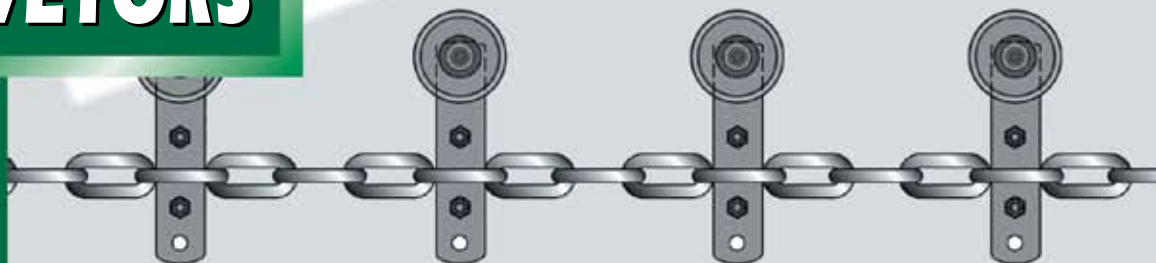
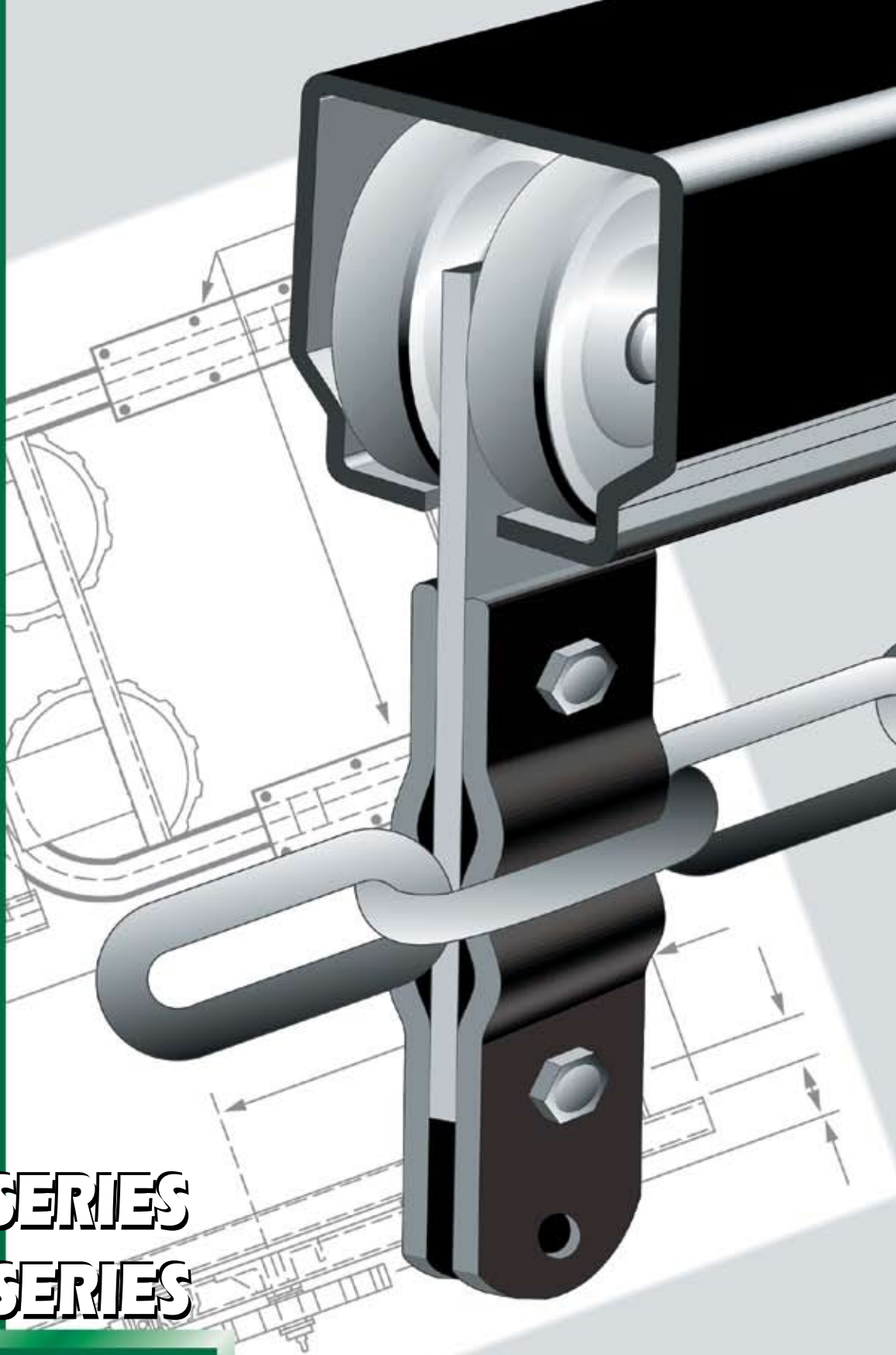


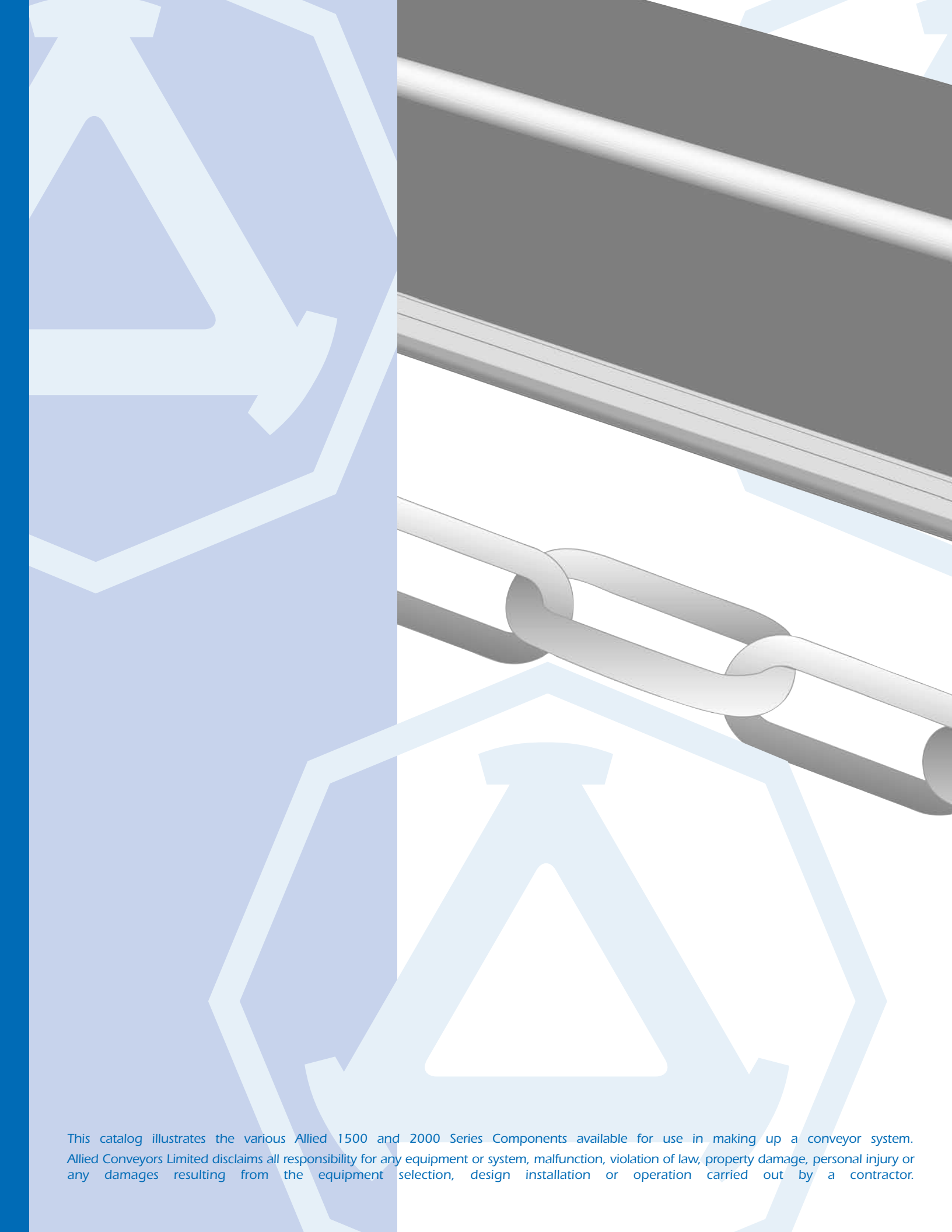


**Allied
Conveyors
Limited**
Manufacturing
Engineers

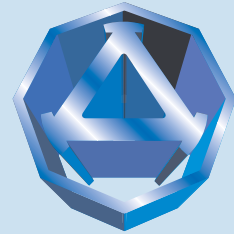
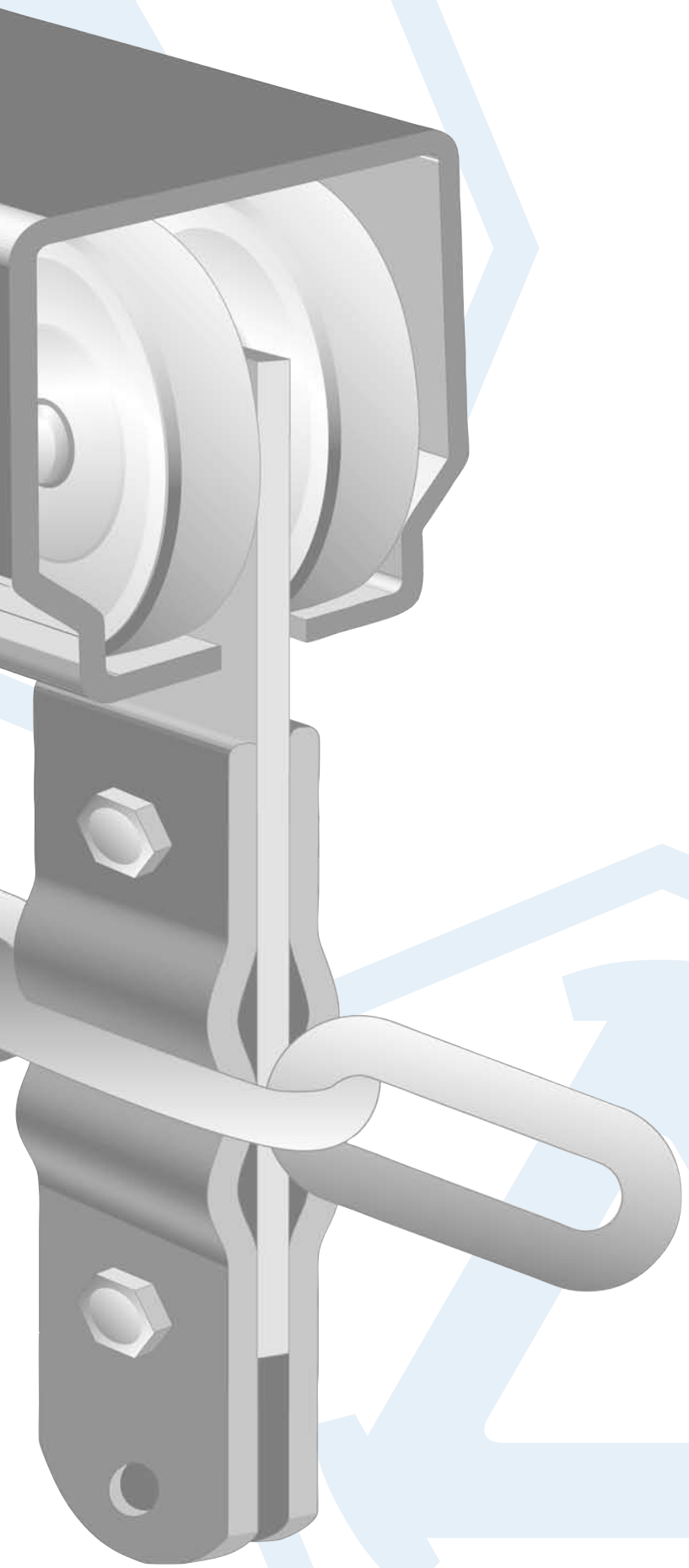
**1500 SERIES
2000 SERIES**

MONOVEYORS





This catalog illustrates the various Allied 1500 and 2000 Series Components available for use in making up a conveyor system. Allied Conveyors Limited disclaims all responsibility for any equipment or system, malfunction, violation of law, property damage, personal injury or any damages resulting from the equipment selection, design installation or operation carried out by a contractor.



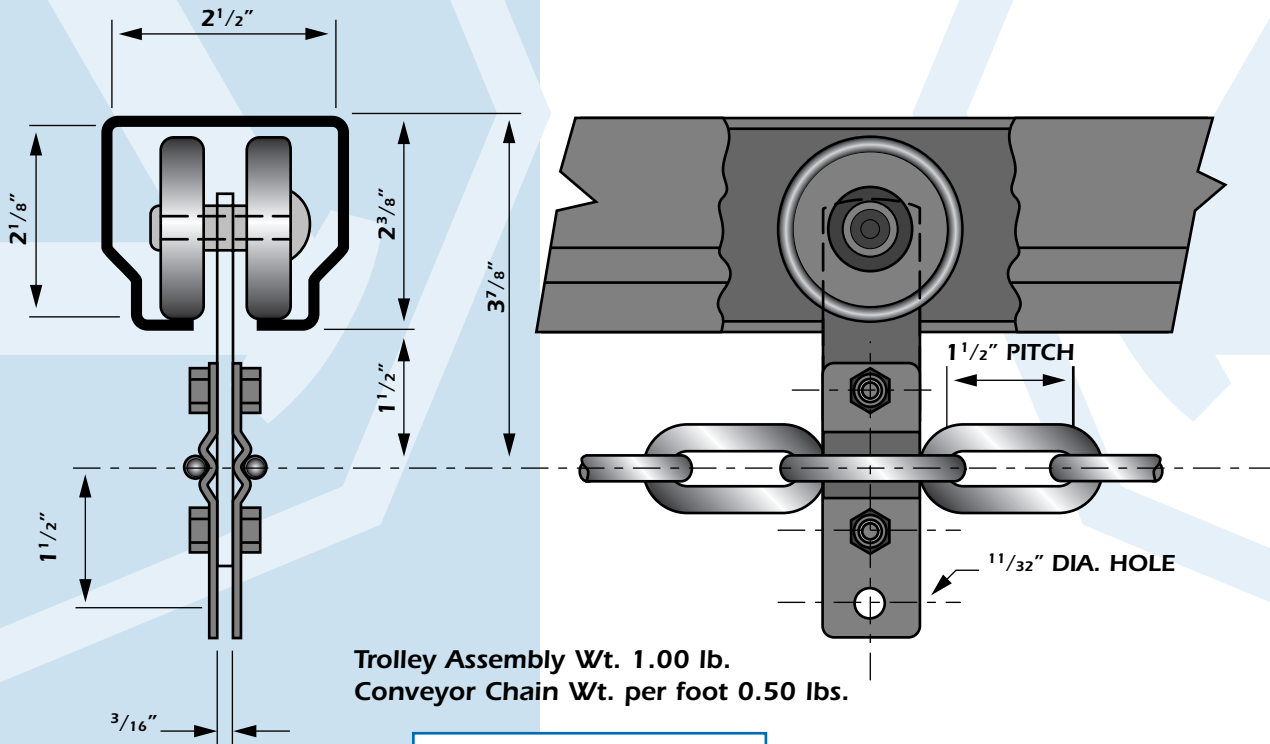
The Allied Conveyors 1500 and 2000 Series Monoveyors are designed to offer a medium duty alternative to the standard 3" – 348, 4" – 458, and 6" – 678 normal and heavy duty monoveyors having high carbon I beam track.

Based on Allied Conveyors years of experience the 1500 and 2000 Series Monoveyors offer a system with the absolute minimum of moving parts (2 wheels every 12") with an exposed chain not requiring any connecting pins or lubrication resulting in a minimum of maintenance.

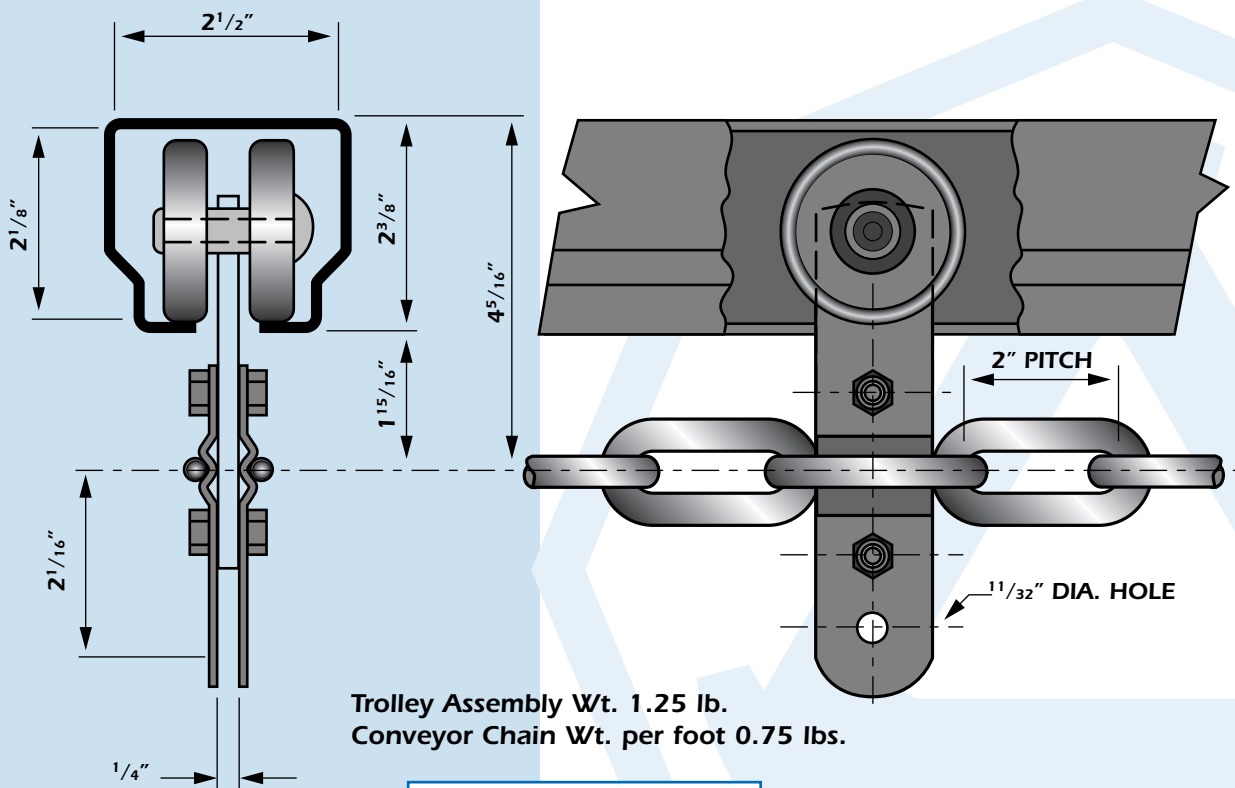
The chain on the typical enclosed track monoveyor has as many as six (6) wheels per foot both vertical and horizontal held in place by cotter pins or special forged pins all requiring lubrication and maintenance.

TROLLEYS

The standard Allied Conveyors 1500 and 2000 Series Monoveyor trolleys are equipped with 2" diameter ball bearing wheels with wide face and rounded corners which are riveted to a central hanger. Bolted to this hanger are two accurately formed side bars which hold the conveyor chain and maintain its alignment.



AC 1504 TROLLEY



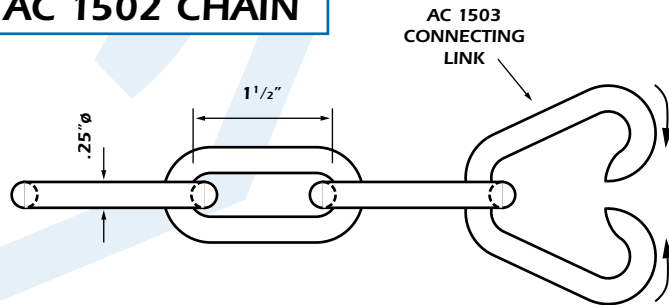
AC 2003 TROLLEY

CONVEYOR CHAIN:

The chain used in Allied Conveyors 1500 and 2000 Series Monoveyors is 1-1/2 inch and 2 inch pitch respectively. Each link is formed and welded in a jig for pitch accuracy, case hardened for abrasion resistance and plated for rust protection.

In clean conditions and ambient temperatures with proper maintenance and lubrication, these conveyors operate with a coefficient of friction of 2% to 3%. In adverse conditions, operating through spray washes, paint ovens, spray booths, dry-off and bake ovens at 400°F, the coefficient of friction increases to an average of 5% to give a maximum chain pull of 750 lbs. or a total moving load of 15,000 lbs. to 24,000 lbs.

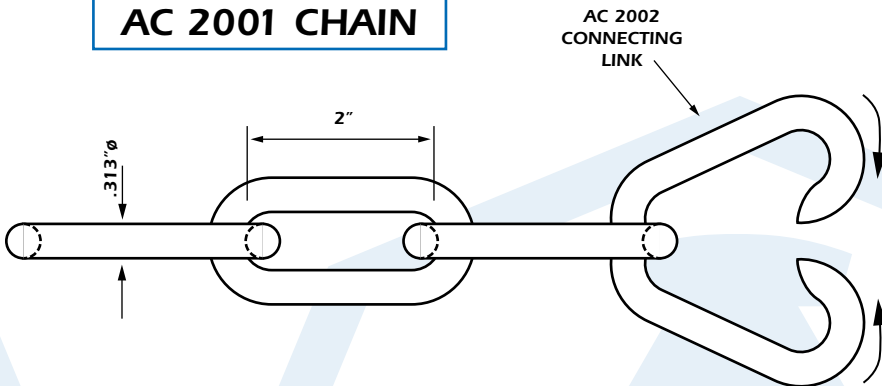
AC 1502 CHAIN



AC 1502 CHAIN

Ultimate Tensile Strength	4500#
Yield Strength	1500#
Max. Recommended Chain Pull	450#

AC 2001 CHAIN

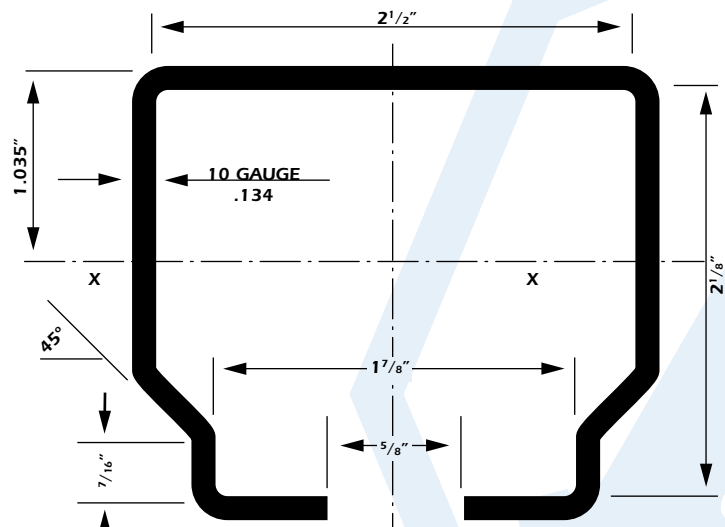


AC 2001 CHAIN

Ultimate Tensile Strength	7500#
Yield Strength	2500#
Max. Recommended Chain Pull	750#

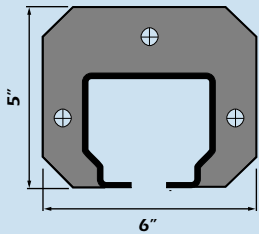
TRACK:

The Allied Conveyors Series 1500 and 2000 track is roll formed for uniformity with a section that provides a smooth runway, side guide and hold-downs for the trolleys. Being fully enclosed, it eliminates an accident hazard to personnel working in the immediate vicinity. It keeps the running flanges clear of obstructions and it protects the trolleys from direct spray in washing operations. The extra width of the section provides stability on long spans and high load capacity.



AC 1501 TRACK,
20 FT. LONG

Section Modulus, Axis XX.....	.64
Moment of Inertia, Axis XX86
Area.....	1.11 sq. in.
Weight per foot.....	3.75 lbs.



OPTIONAL BOLTED
END PLATE FOR
MODULAR CONSTRUCTION

LIVE LOAD

Lbs./Ft.

	15	25	35	50	60	75	100	150	200	250
Span (in feet)	15.5	13.5	12.5	11.5	10.5	10	9	8	7.5	6.5
Deflection (in inches)	.75	.67	.59	.57	.47	.47	.40	.37	.037	.0128

SUSPENSION:

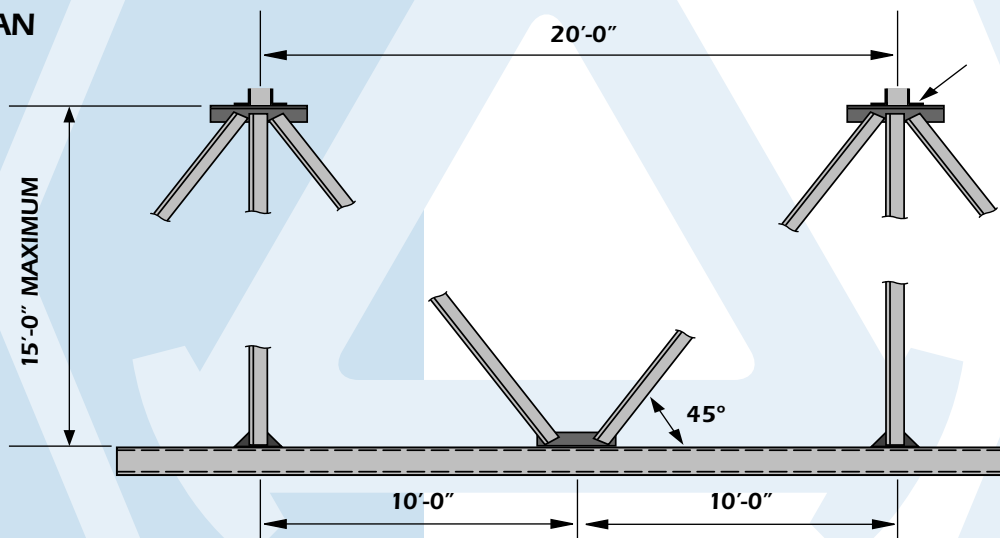
To arrive at the suspension centres, the live load per foot of conveyor must be determined by using similar calculations used to determine the size of the drive required.

These include the weight of the conveyor chain, trolleys, carriers and live load or product being carried (total moving load).

Assume the total live load is 10,000 lbs. Divide by conveyor length of 400 ft. to give a live load of 25 lbs./ft. At this live load a hanger spacing of 13.5 ft. is required, with a deflection of .67" (see table above).

All vertical hangers should have a 45° brace on both sides in the direction of travel and a sway brace at a minimum of ever second hanger.

SPAN



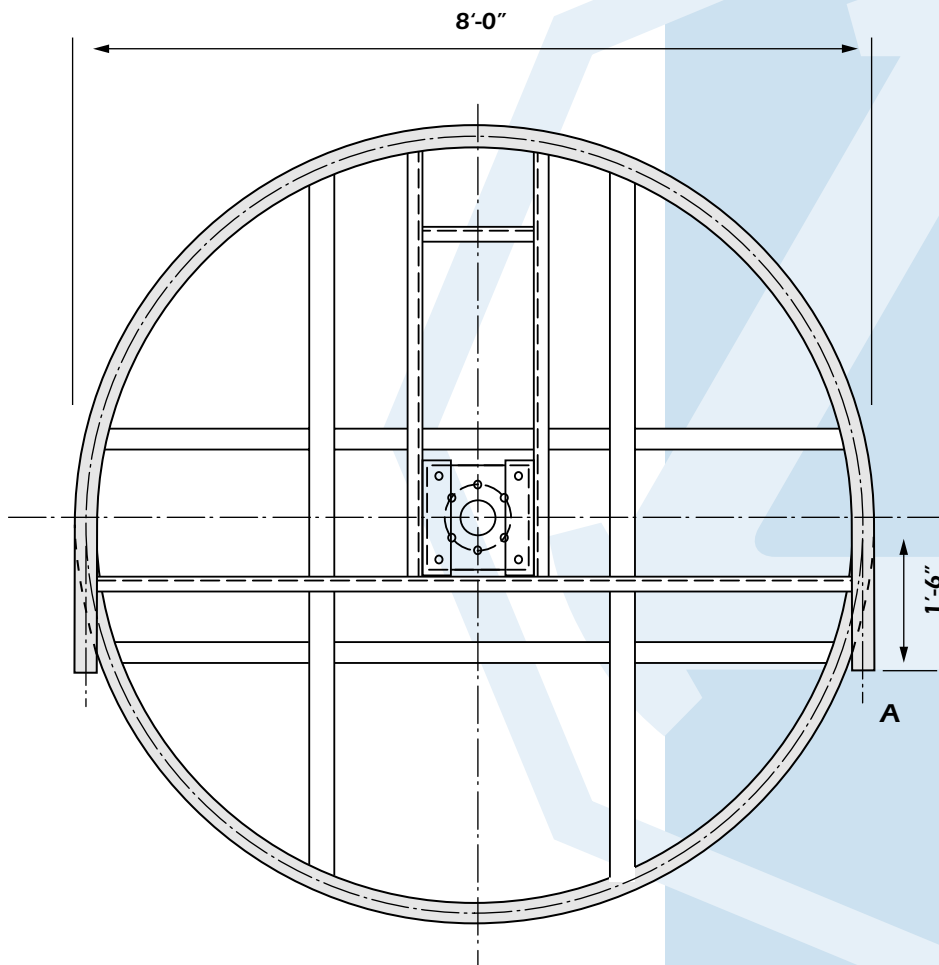
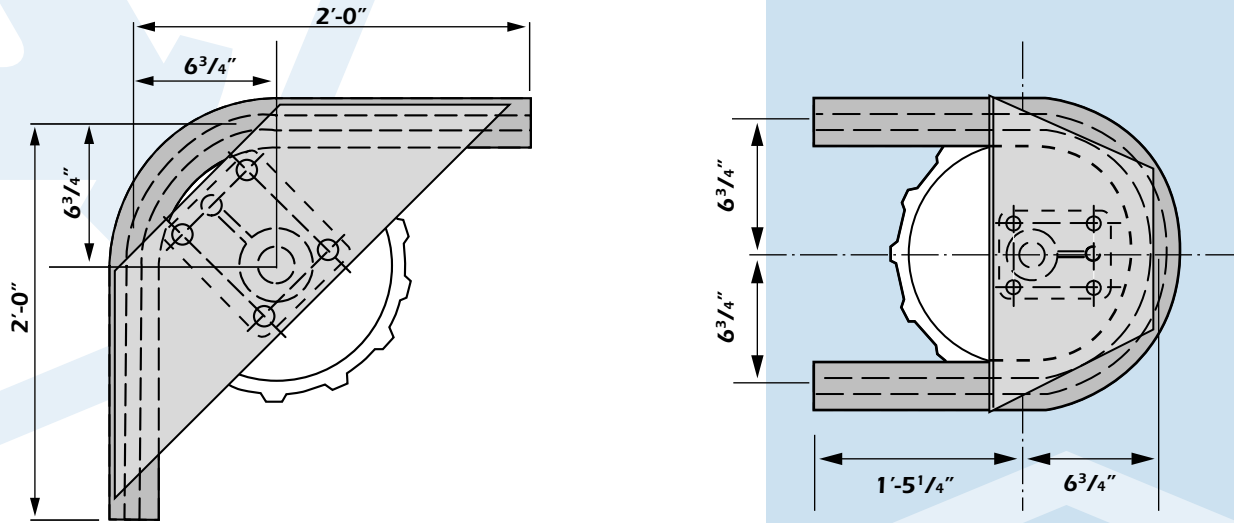
AC 1501 TRACK

TRACTION WHEELS:

Allied Conveyors traction wheels with precision bearings are supplied on all horizontal turns to provide smoother conveyor operation and absolute minimum friction.

Since the chain is being carried around the turn it does not have to depend on small individual side guide rollers with unground bearings mounted on the chain imposing an extreme load on the inside of the track.

Traction wheels can be supplied from 15" pitch diameter up to 96" pitch diameter and any degree of turn required.



DRIVE UNITS:

One of the most important components of a monoveyor installation is the drive unit which should be simple, reliable and efficient.

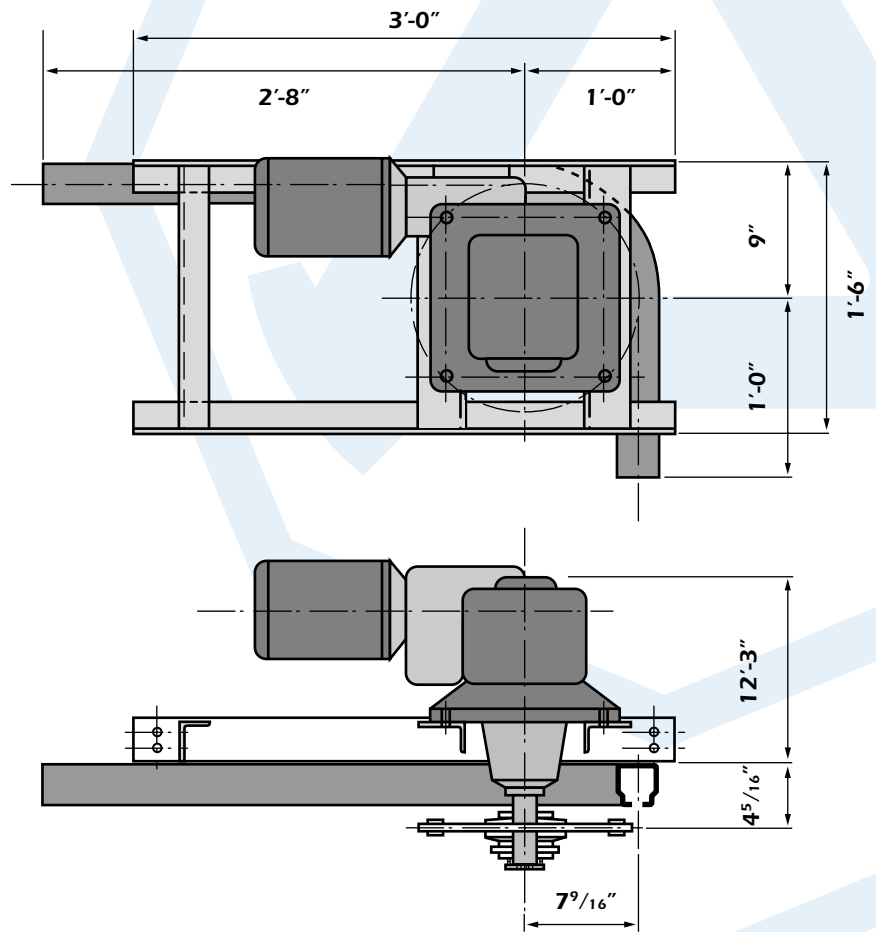
Allied Conveyors drive units have been developed and improved over the last 35 years, having hundreds of drive units in everyday use driving miles of conveyor.

Of the three drives available for monoveyors, the sprocket drive is the only one available for the 1500 and 2000 series monoveyor except by special order.

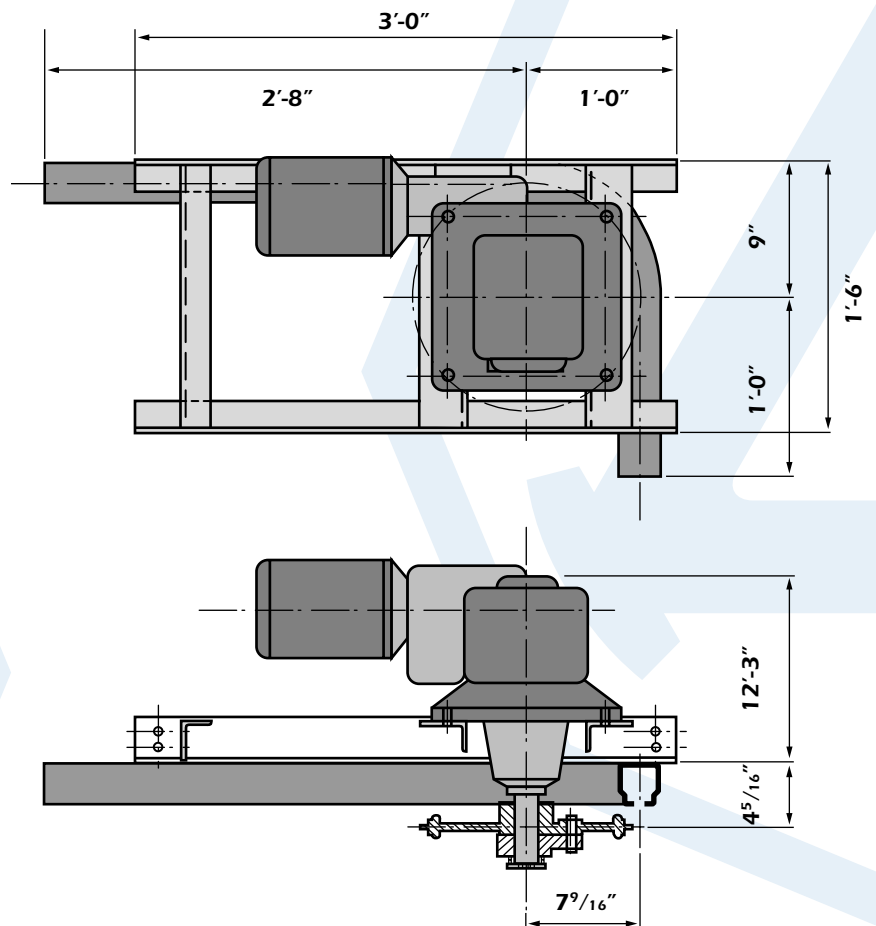
With the drive motor an integral part of the gear reducer and the drive sprocket mounted on the reducer output shaft both of the Allied light and heavy duty drives consist of only three components with shear hub or torque limiter for over load protection.

The average caterpillar drive supplied on other enclosed track monoveyors consists of at least eleven components which must be maintained and finally replaced.

Maximum recommended speed is 50 F.P.M.



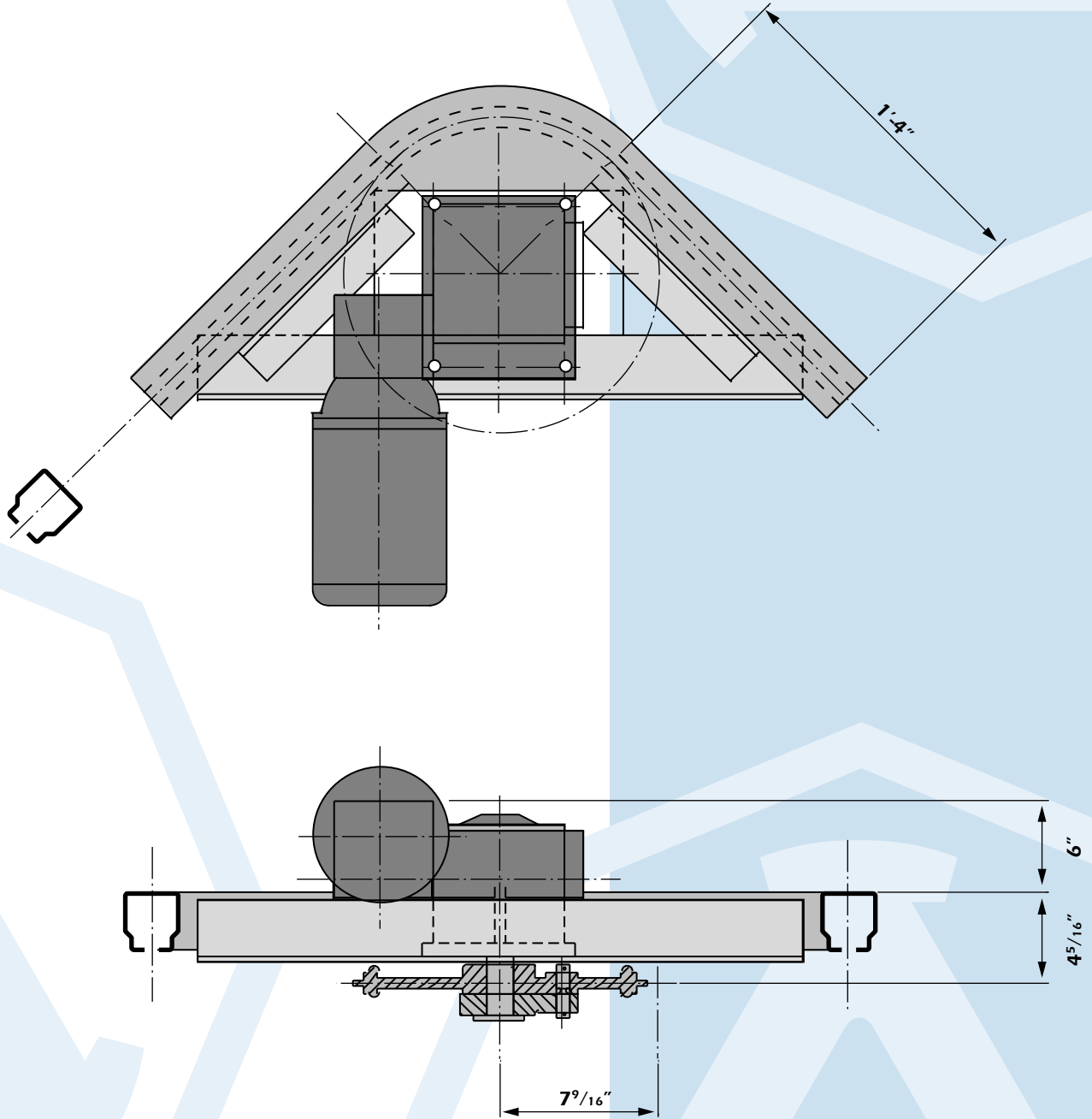
12-T SPROCKET DRIVE WITH TORQUE LIMITER ASSEMBLY



12-T SPROCKET DRIVE WITH SHEAR HUB ASSEMBLY

LOW HEADROOM DRIVE UNIT:

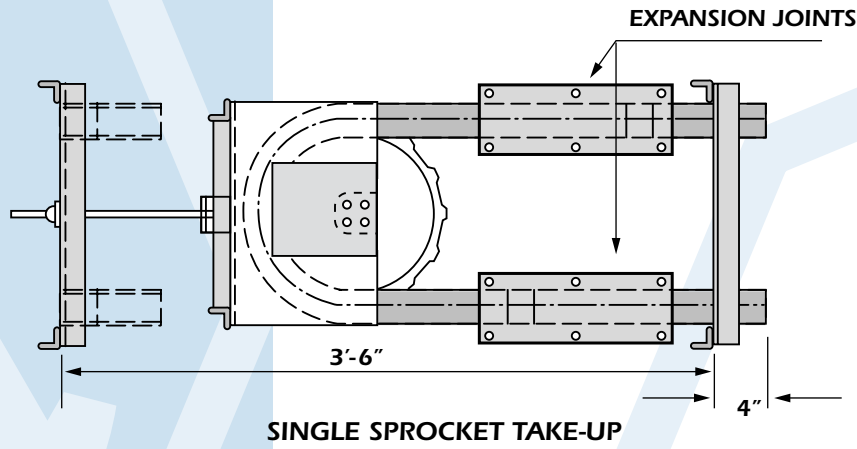
The standard drive units can be supplied with a low headroom compact drive assembly of similar capacity, depending on the space and headroom available.



**12-T COMPACT SPROCKET DRIVE
C/W SHEAR HUB ASSEMBLY**

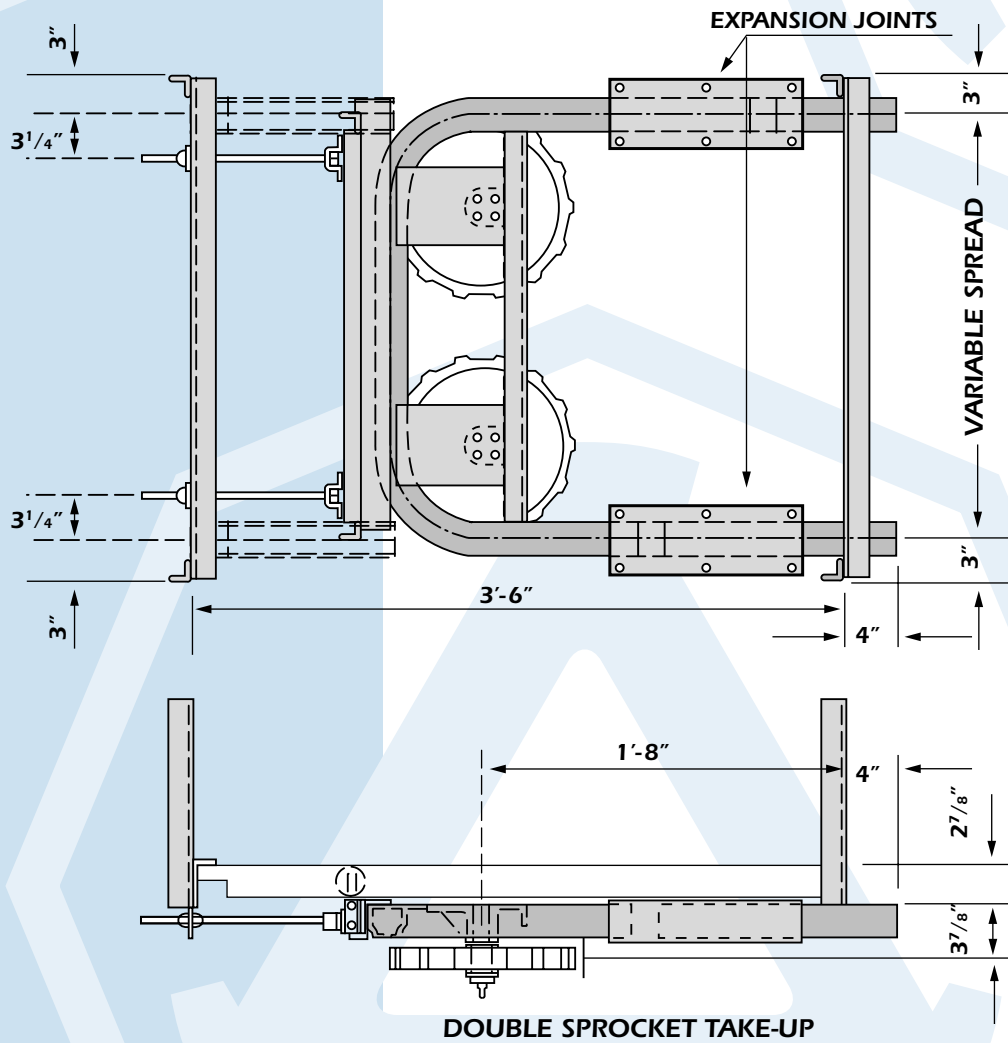
DRIVE SPROCKETS:

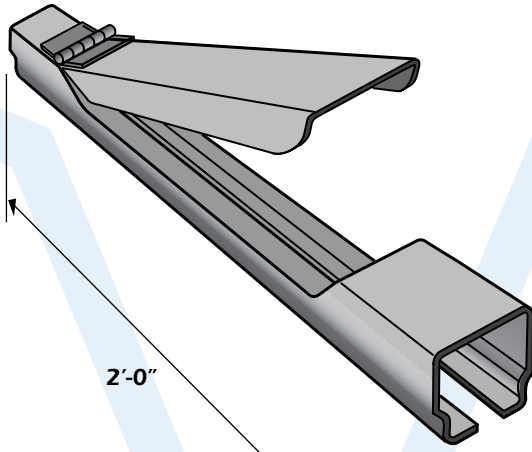
The drive sprockets are available at 15", 20" and 24" in diameter depending on the speed and the product spacing.



TAKE-UPS:

A take-up assembly is required on every system to compensate for wear and chain expansion if operating in elevated temperatures such as a bake oven. Take-ups are available in manual screw, automatic spring and automatic air.

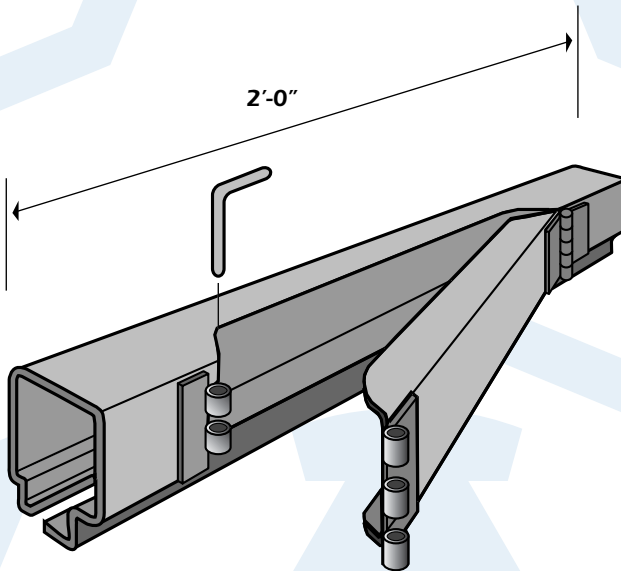




**AC 1571
INSPECTION GATE**
Weight: 8 lbs

**TROLLEY INSPECTION GATE:
(For Maintenance and Inspection)**

The track section with hinged panel is designed for trolley inspection and maintenance.



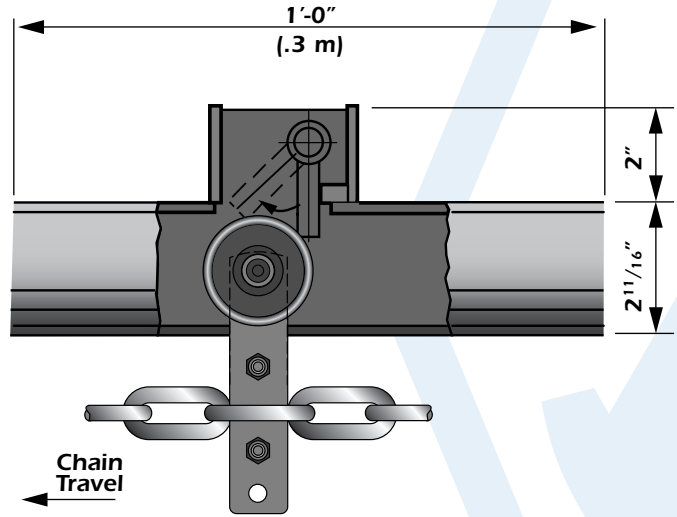
**AC 1572
INSTALLATION GATE**
Weight: 8 lbs

CHAIN INSTALLATION GATE:

This track section is supplied for ease in chain and trolley installation and removal.

ANTI-BACK UP SAFETY STOP:

In the unlikely event of chain failure anti-back-up safety stops are recommended on any loaded inclines of approx. 5'-0" drop or more. These stops will prevent the runaway action caused by the loose chain.

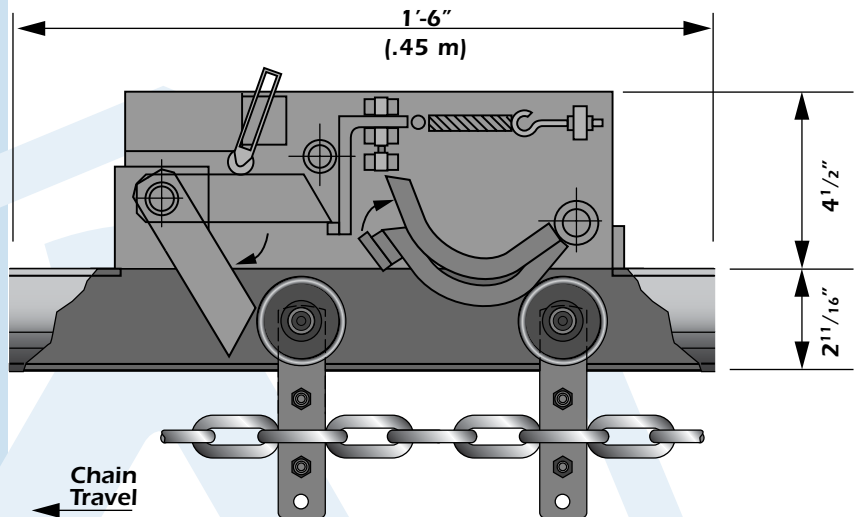


**AC 1569
ANTI-BACKUP
STOP ASSEMBLY**
Weight: 2 lbs

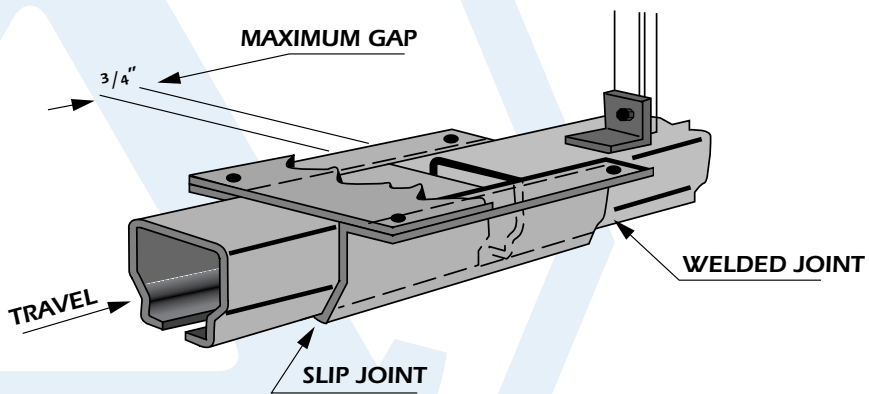
ANTI-RUNAWAY SAFETY STOP:

Anti runaway safety stops are recommended on any loaded decline of approx. 5'-0" drop or more. The stop is activated by the conveyor chain accelerating beyond its design speed.

Can be supplied with limit switch cut out.



**AC 1570
ANTI-RUNAWAY
STOP ASSEMBLY**
Weight: 15 lbs



**AC 1542
STANDARD EXPANSION JOINT**
WEIGHT (LESS TRACK) 2.6 LBS.

EXPANSION JOINT:

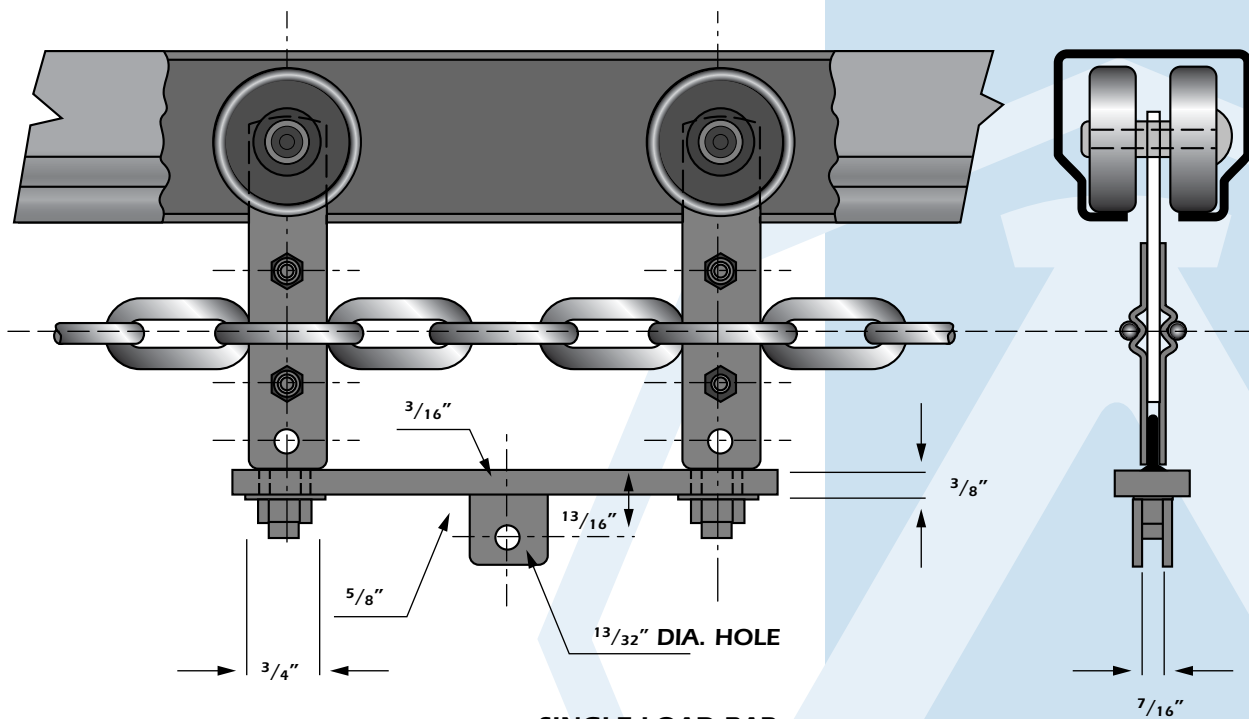
Formed steel sliding expansion joints are available for oven conveyors and are usually required when temperatures exceed 200°F.

The expansion of steel track and chain due to elevated temperatures is as follows:

.000078" per foot of length for 1°F of temperature rise.

SINGLE LOAD BAR:

The single load bar used for carrying unit loads from 100 lbs. to 200 lbs. is attached to two trolleys 6" and 8" on centers.

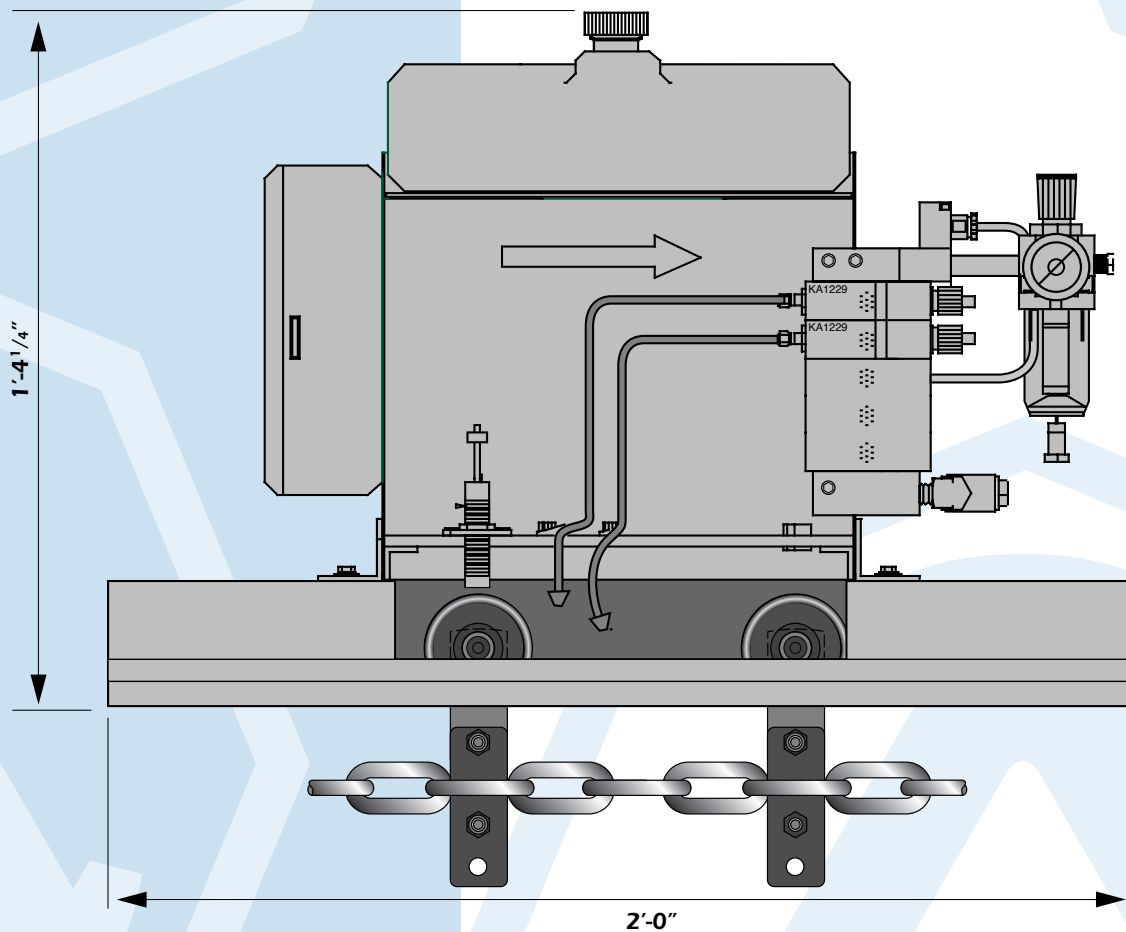


SINGLE LOAD BAR
WEIGHT 1.5 LBS.

AUTOMATIC 2 POINT LUBRICATOR:

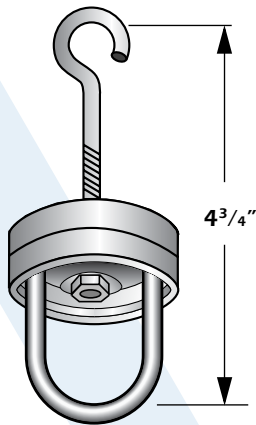
The automatic lubricator is designed to deliver oil to the wheels. It is pneumatically operated and electrically controlled for complete automatic operation. The unit comes completely equipped with an oil reservoir, air line regulator and gauge, and a 168 hour timer which is used to program lubrication cycles.

Premounted to standard track section

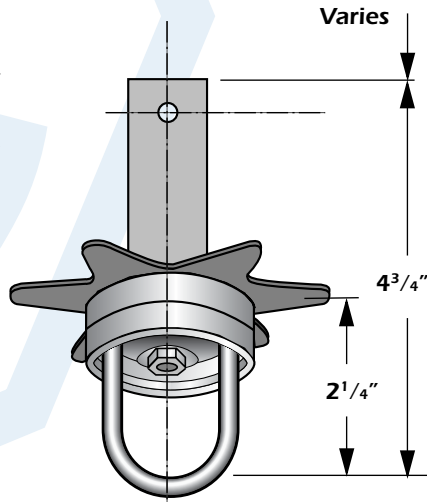


AC 2038 AUTOMATIC 2 POINT LUBRICATOR

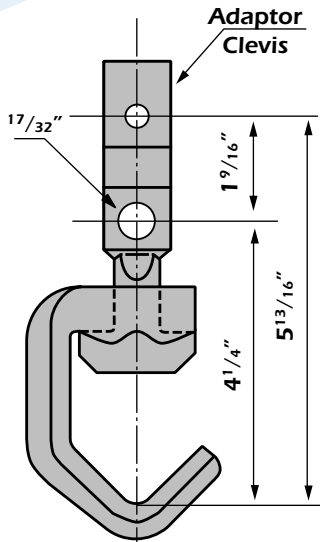
Weight: 60 lbs



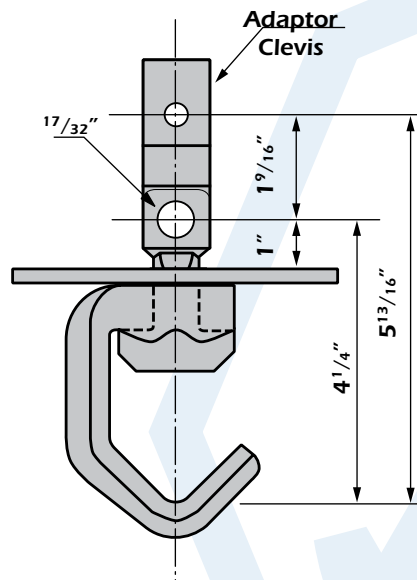
**AC 1546
SWIVEL ROTATOR**



**RIGID ROTATOR
C/W 6 POINT STAR**



**AC 8140
90° INDEXER HOOK
CAPACITY 150 POUNDS**



**AC 8139
90° INDEXER HOOK
C/W 4 POINT STAR
CAPACITY 150 POUNDS**

SWIVEL ROTATORS:

This free spinning ball bearing swivel assembly can be rotated by hand or automatically rotated at any point on the system with the installation of a rub rail.

RIGID ROTATOR C/W 6 POINT STAR:

The addition of the 6 point star provides positive rotation.

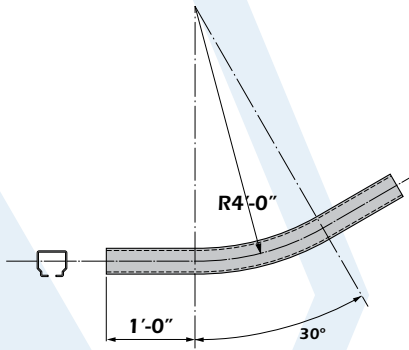
90 DEGREE INDEXER HOOK:

Cast two piece cam construction provides 90 degree indexing.

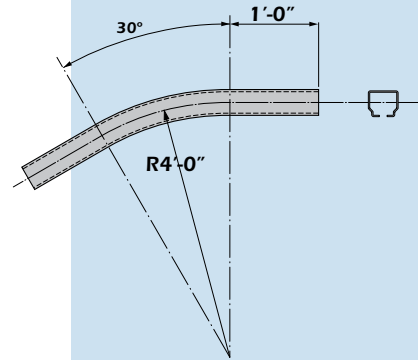
90 DEGREE INDEXER HOOK C/W 4 POINT STAR:

The addition of the 4 point star to the standard hook allows automatic indexing.

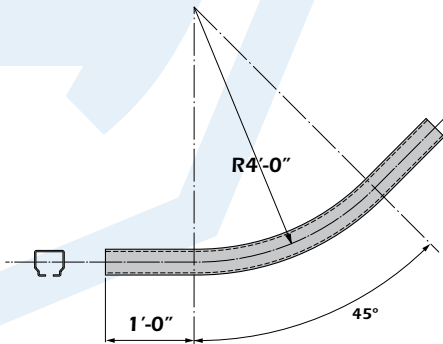
VERTICAL TRACK BENDS



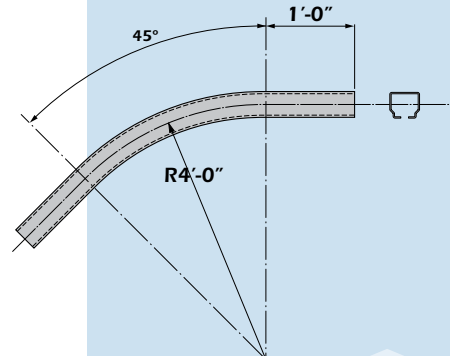
AC 1528
LOWER VERTICAL DIP
 4'-0" RAD. X 30°



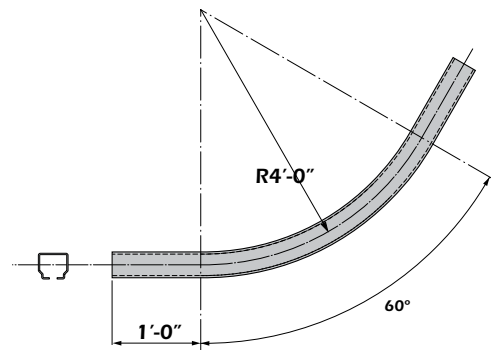
AC 1531
UPPER VERTICAL DIP
 4'-0" RAD. X 30°



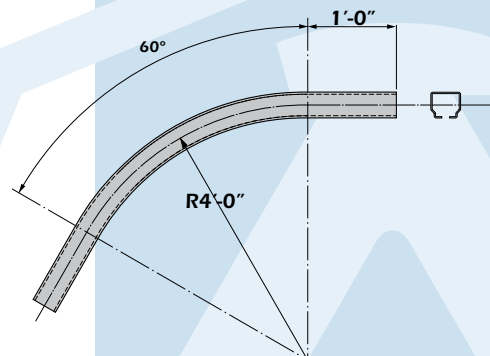
AC 1529
LOWER VERTICAL DIP
 4'-0" RAD. X 45°



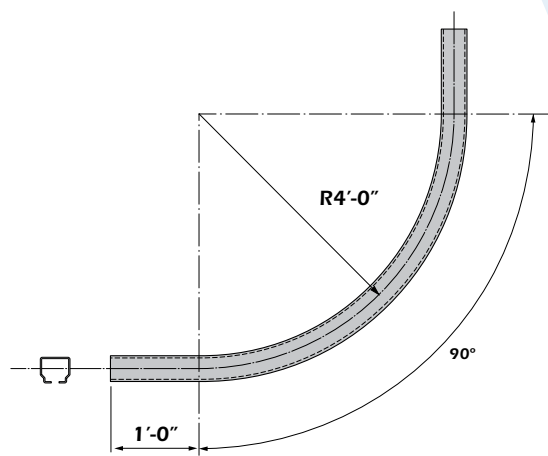
AC 1532
UPPER VERTICAL DIP
 4'-0" RAD. X 45°



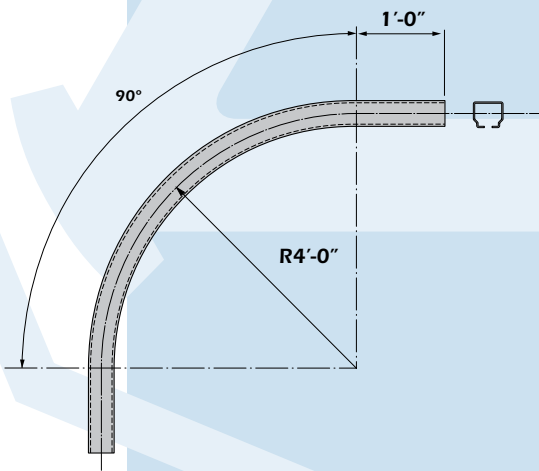
AC 1530
LOWER VERTICAL DIP
 4'-0" RAD. X 60°



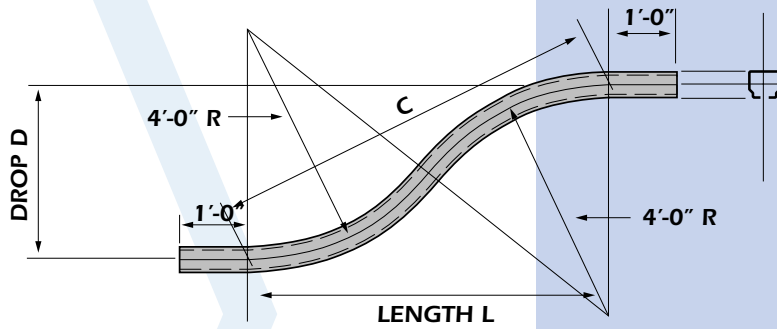
AC 1533
UPPER VERTICAL DIP
 4'-0" RAD. X 60°



SPECIAL
LOWER VERTICAL DIP
 4'-0" RAD. X 90°



SPECIAL
UPPER VERTICAL DIP
 4'-0" RAD. X 90°

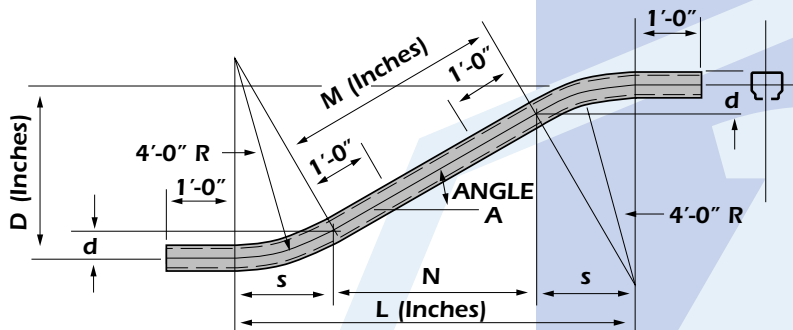


Continuous Reverse Curve with 4'-0" Radius

TABLE IV

Drop "D"	Length "L"	Chord "C"	Drop "D"	Length "L"	Chord "C"	Drop "D"	Length "L"	Chord "C"
0'-6"	2'-9 ⁷ / ₁₆ "	2'-9 ¹⁵ / ₁₆ "	1'-7"	4'-9 ⁵ / ₁₆ "	5'-0 ³ / ₈ "	3'-4"	6'-6"	7'-3 ⁵ / ₈ "
0'-7"	3'-0"	3'-0 ¹¹ / ₁₆ "	1'-8"	4'-10 ⁵ / ₈ "	5'-2"	3'-6"	6'-7 ³ / ₈ "	7'-5 ¹³ / ₁₆ "
0'-8"	3'-2 ³ / ₈ "	3'-3 ³ / ₁₆ "	1'-9"	4'-11 ¹⁵ / ₁₆ "	5'-3 ¹ / ₂ "	3'-8"	6'-8 ¹¹ / ₁₆ "	7'-7 ¹⁵ / ₁₆ "
0'-9"	3'-4 ⁹ / ₁₆ "	3'-5 ⁹ / ₁₆ "	1'-10"	5'-1 ¹ / ₈ "	5'-5"	3'-10"	6'-9 ¹⁵ / ₁₆ "	7'-10"
0'-10"	3'-6 ¹¹ / ₁₆ "	3'-7 ¹³ / ₁₆ "	1'-11"	5'-2 ³ / ₈ "	5'-6 ⁷ / ₁₆ "	4'-0"	6'-11 ¹ / ₈ "	8'-0"
0'-11"	3'-8 ⁵ / ₈ "	3'-9 ¹⁵ / ₁₆ "	2'-0"	5'-3 ¹ / ₂ "	5'-7 ⁷ / ₈ "	4'-3"	7'-0 ¹³ / ₁₆ "	8'-2 ¹⁵ / ₁₆ "
1'-0"	3'-10 ¹ / ₂ "	4'-0"	2'-2"	5'-5 ¹¹ / ₁₆ "	5'-10 ⁵ / ₈ "	4'-6"	7'-2 ⁵ / ₁₆ "	8'-5 ¹³ / ₁₆ "
1'-1"	4'-0 ¹ / ₄ "	4'-1 ⁵ / ₁₆ "	2'-4"	5'-7 ³ / ₄ "	6'-1 ⁵ / ₁₆ "	4'-9"	7'-3 ¹¹ / ₁₆ "	8'-8 ⁵ / ₈ "
1'-2"	4'-1 ¹⁵ / ₁₆ "	4'-3 ⁷ / ₈ "	2'-6"	5'-9 ¹¹ / ₁₆ "	6'-3 ⁷ / ₈ "	5'-0"	7'-5"	8'-11 ¹⁵ / ₁₆ "
1'-3"	4'-3 ⁹ / ₁₆ "	4'-5 ¹¹ / ₁₆ "	2'-8"	5'-11 ⁹ / ₁₆ "	6'-6 ³ / ₈ "	5'-3"	7'-6 ¹ / ₈ "	9'-2"
1'-4"	4'-5 ¹ / ₁₆ "	4'-7 ⁷ / ₁₆ "	2'-10"	6'-1 ⁵ / ₁₆ "	6'-8 ¹³ / ₁₆ "	5'-6"	7'-7 ³ / ₁₆ "	9'-4 ⁹ / ₁₆ "
1'-5"	4'-6 ⁹ / ₁₆ "	4'-9 ¹ / ₈ "	3'-0"	6'-2 ¹⁵ / ₁₆ "	6'-11 ¹ / ₈ "	5'-9"	7'-8 ¹ / ₈ "	9'-7 ¹ / ₈ "
1'-6"	4'-8"	4'-10 ¹³ / ₁₆ "	3'-2"	6'-4 ¹ / ₂ "	7'-1 ⁷ / ₁₆ "	6'-0"	7'-8 ¹⁵ / ₁₆ "	9'-9 ⁹ / ₁₆ "

When selecting a reverse curve the angle of incline must be considered with relation to the spacing and size of work on the conveyor. This incline can be checked by referring to Table V.



Reverse Curve with Intermediate Tangent with 4'-0" Radius

TABLE V

Angle "A"	"s" (Inches)	"d" (Inches)
10°	8.33	0.73
20°	16.42	2.89
30°	24.00	6.43
45°	33.94	14.06
60°	41.57	24.00
75°	46.36	35.58

TABLE VI

Angle "A"	"N" (Inches)	"M" (Inches)
10°	5.67 (D-2d)	5.76 (D-2d)
20°	2.75 (D-2d)	2.92 (D-2d)
30°	1.73 (D-2d)	2.00 (D-2d)
45°	1.00 (D-2d)	1.41 (D-2d)
60°	0.58 (D-2d)	1.15 (D-2d)
75°	0.27 (D-2d)	1.03 (D-2d)

ALLIED CONVEYORS LTD.

OTHER PRODUCTS DESIGNED, FABRICATED AND INSTALLED
BY THIS COMPANY ARE AS FOLLOWS:

POWER & FREE OVERHEAD CONVEYORS

FLOOR TYPE DRAG CONVEYORS

FLAT-TOP PALLET CONVEYORS

CROSS-ROD CONVEYORS

SLAT CONVEYORS

BELT CONVEYORS

POWERED BELT & ROLLER CURVES

CHAIN OR BELT DRIVEN LINE-ROLLER CONVEYORS

WIRE MESH CONVEYORS

SPINDLE TYPE CONVEYORS

FREE MONORAILS COMP. ETC. BOX & TONGUE SWITCHES

HYDRAULIC & PNEUMATIC HANDLING DEVICES

CARTON SEALING ARRANGEMENTS



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Tel.: (905) 839-5196 Fax: (905) 839-5150

E-mail: allied_conveyors@msn.com

www.alliedconveyors.com

IN U.S.A.

ALLIED CONVEYORS INC.

5211 Echo Road, Bloomfield Hills, Michigan, U.S.A. 48302

Tel.: (248) 626-6040 Fax: (248) 626-2607

Data given in this publication are intended only to aid the engineer in preliminary evaluations and is subject to change without notice.

