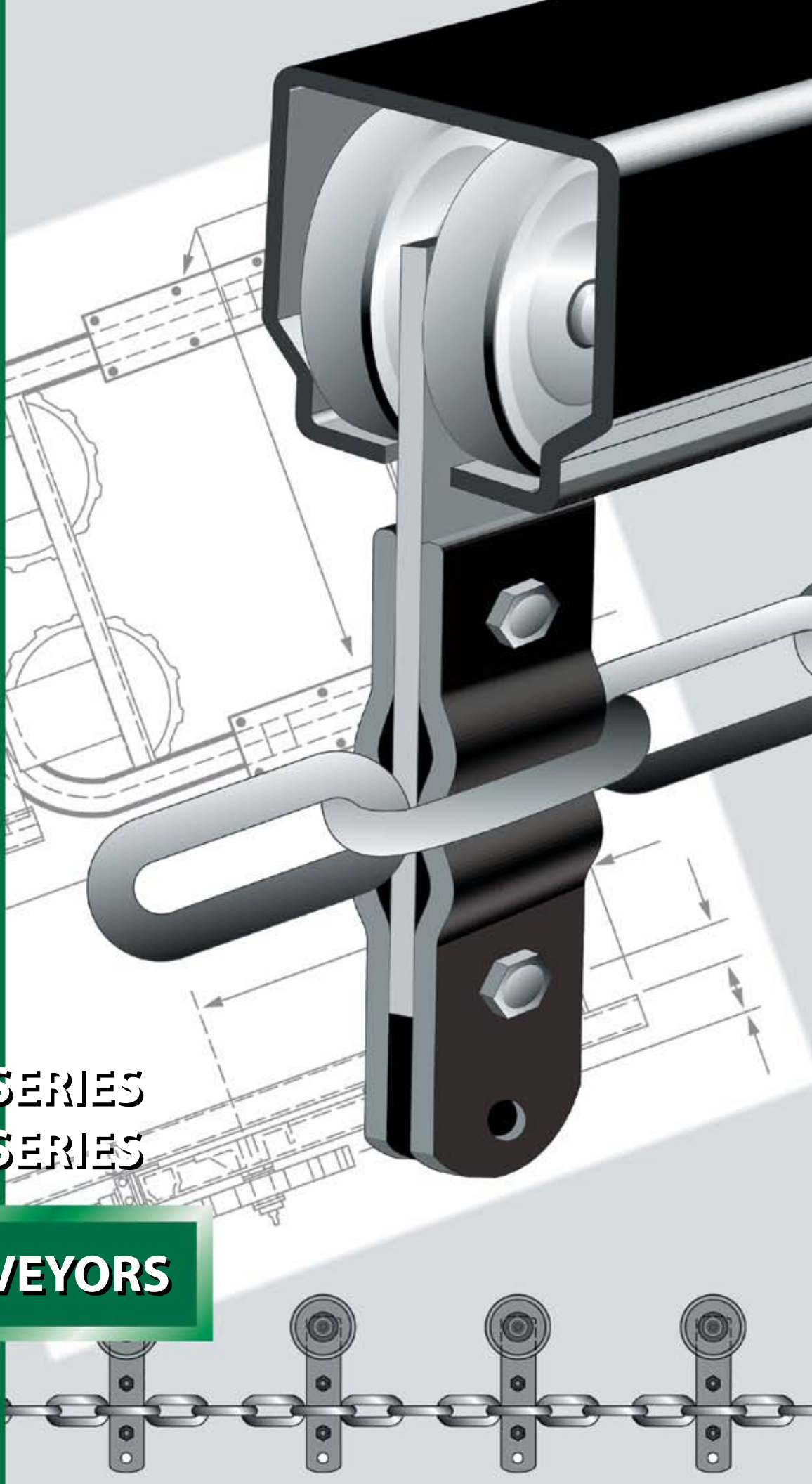




1500 SERIES
2000 SERIES

MONOVEYORS

January, 2009

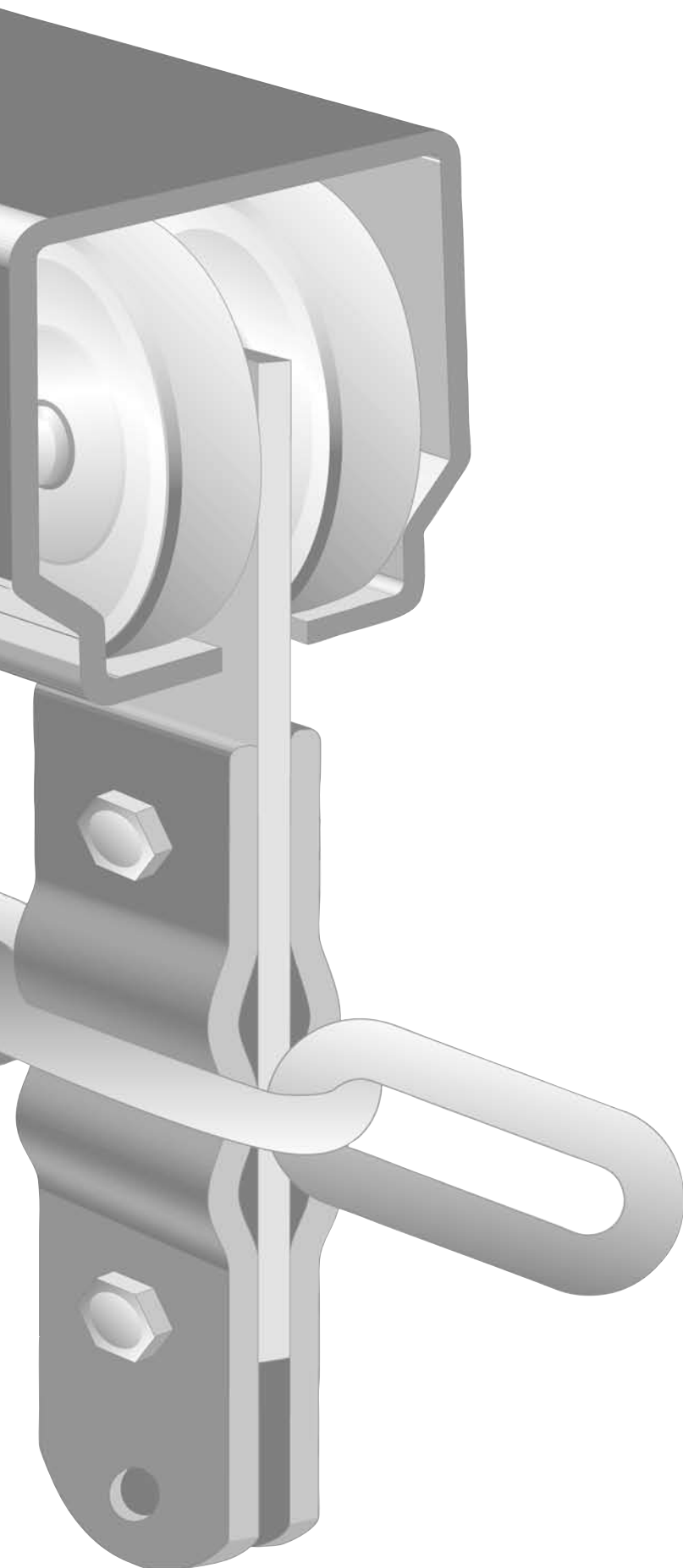


Founded in 1958 in Pickering, Ontario, Allied Conveyors Limited established a reputation as an industry leader in the design, manufacture and installation of premium quality materials handling systems. Recently acquired by interests in the United States, the company now operates under the name Allied Conveyor Systems, Inc. and proudly continues the 50 year old company traditions from Statham, Georgia.

We offer a wide variety of overhead conveyors that are suitable for various applications, from paint finish and processing, to in-line and flexible assembly operations in the automotive, electronic, agriculture, and many other industries. Our conveyors have also established a strong presence for distribution and warehousing applications.



This catalog illustrates the various Allied 1500 -2000 Series Components available for use in making up a conveyor system. Allied Conveyor Systems, Inc. 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.



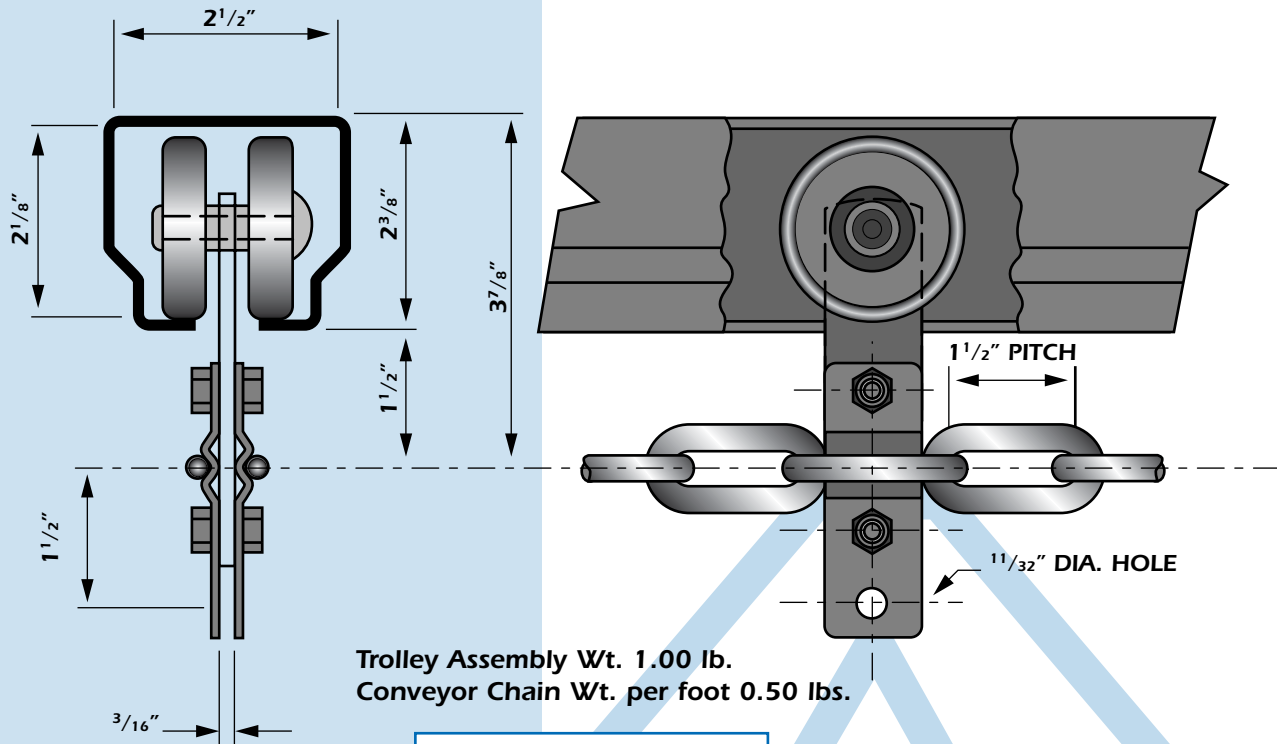
The Allied Conveyors 1500 and 2000 Series Monoveyors are designed to offer a medium duty alternative to the standard 3" – 348, 4" – 458, and 6" – 678 normal and heavy duty monoveyors with a high carbon I beam track.

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

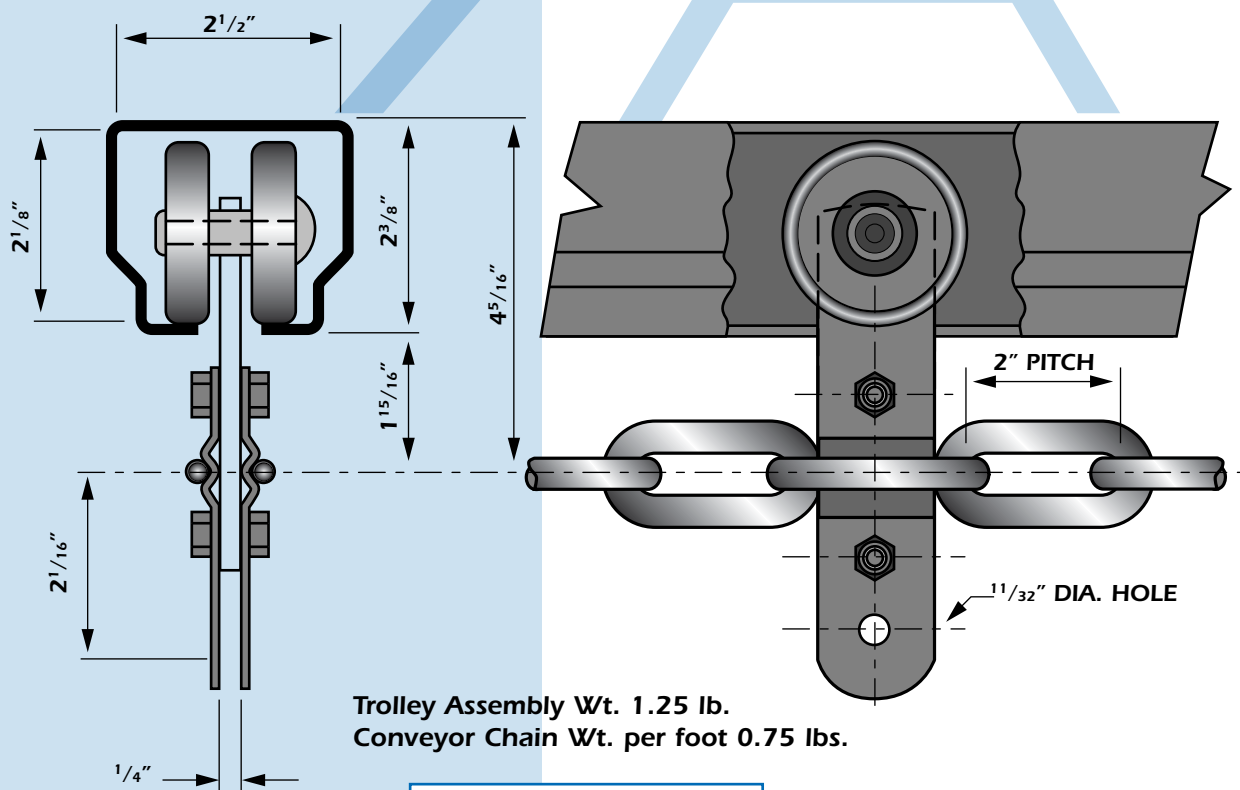
In comparison, the chain on the typical enclosed track monoveyor has as many as six wheels per foot, both vertical and horizontal, held in place by cotter pins or special forged pins, all requiring lubrication and maintenance.

TROLLEYS:

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



AC 1504 TROLLEY



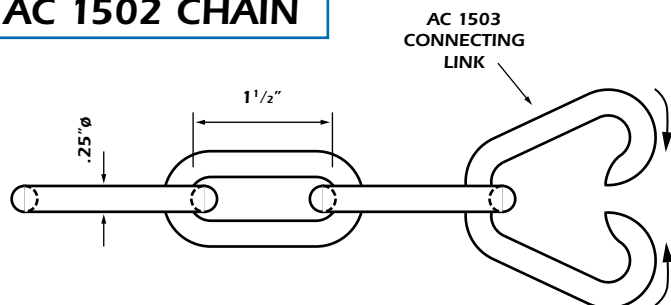
AC 2003 TROLLEY

CONVEYOR CHAIN:

The chain used in Allied Conveyors 1500 and 2000 Series Monoveyors is 1-1/2" and 2" 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, and with proper maintenance and lubrication, these conveyors operate with a coefficient of friction of 2-3%. 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 yield a maximum chain pull of 750 lbs. or a total moving load of 15,000-24,000 lbs.

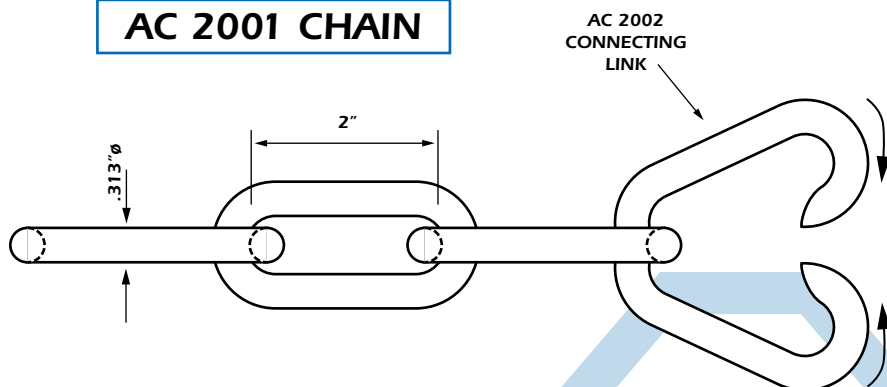
AC 1502 CHAIN



AC 1502 CHAIN

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

AC 2001 CHAIN



AC 2001 CHAIN

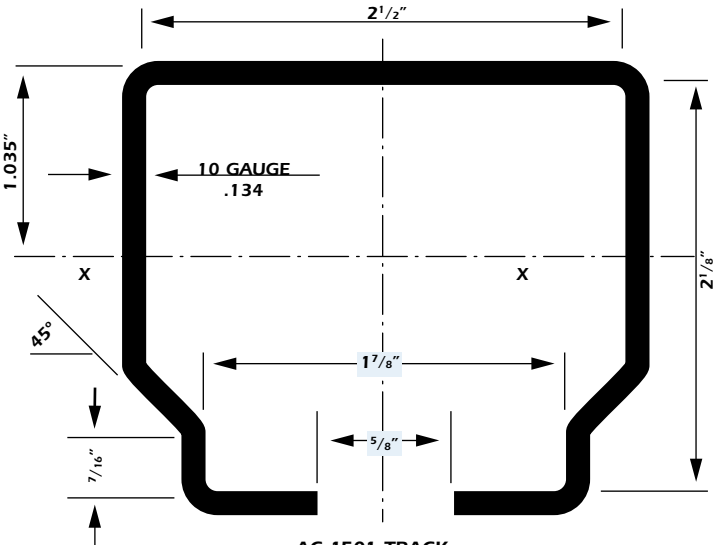
Ultimate Tensile Strength	7500#
Yield Strength	2500#
Max. Recommended Chain Pull	750#

TRACK:

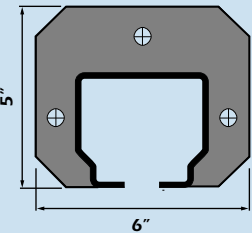
The Allied Conveyors Series 1500 and 2000 track is roll-formed for uniformity, with a section that provides a smooth runway, a side guide, and hold-downs for the trolleys. The fully-enclosed track:

- Reduces risk of injury to personnel working in the immediate vicinity.
- Keeps the running flanges clear of obstructions.
- Protects the trolleys from direct spray in washing operations.

Additionally, the extra width of the section provides stability on long spans and a high load capacity.



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.

Span (in feet)
Deflection (in inches)

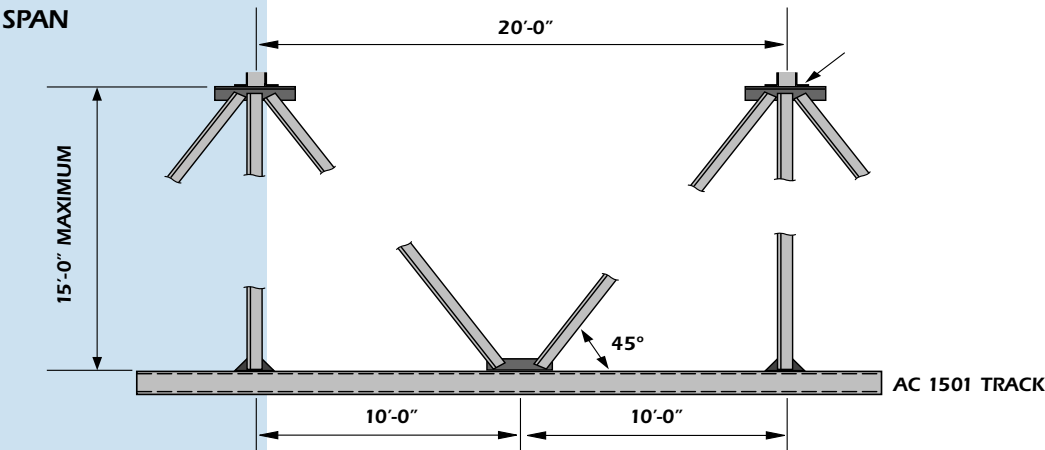
15	25	35	50	60	75	100	150	200	250
15.5	13.5	12.5	11.5	10.5	10	9	8	7.5	6.5
.75	.67	.59	.57	.47	.47	.40	.37	.037	.0128

SUSPENSION:

To arrive at the suspension centers, the live load per foot of conveyor must be determined by calculations similar to those 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).

For example: assume the total live load is 10,000 lbs. Divide by a conveyor length of 400 feet to get 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 each side in the direction of travel, as well as a sway brace at a minimum of every second hanger.

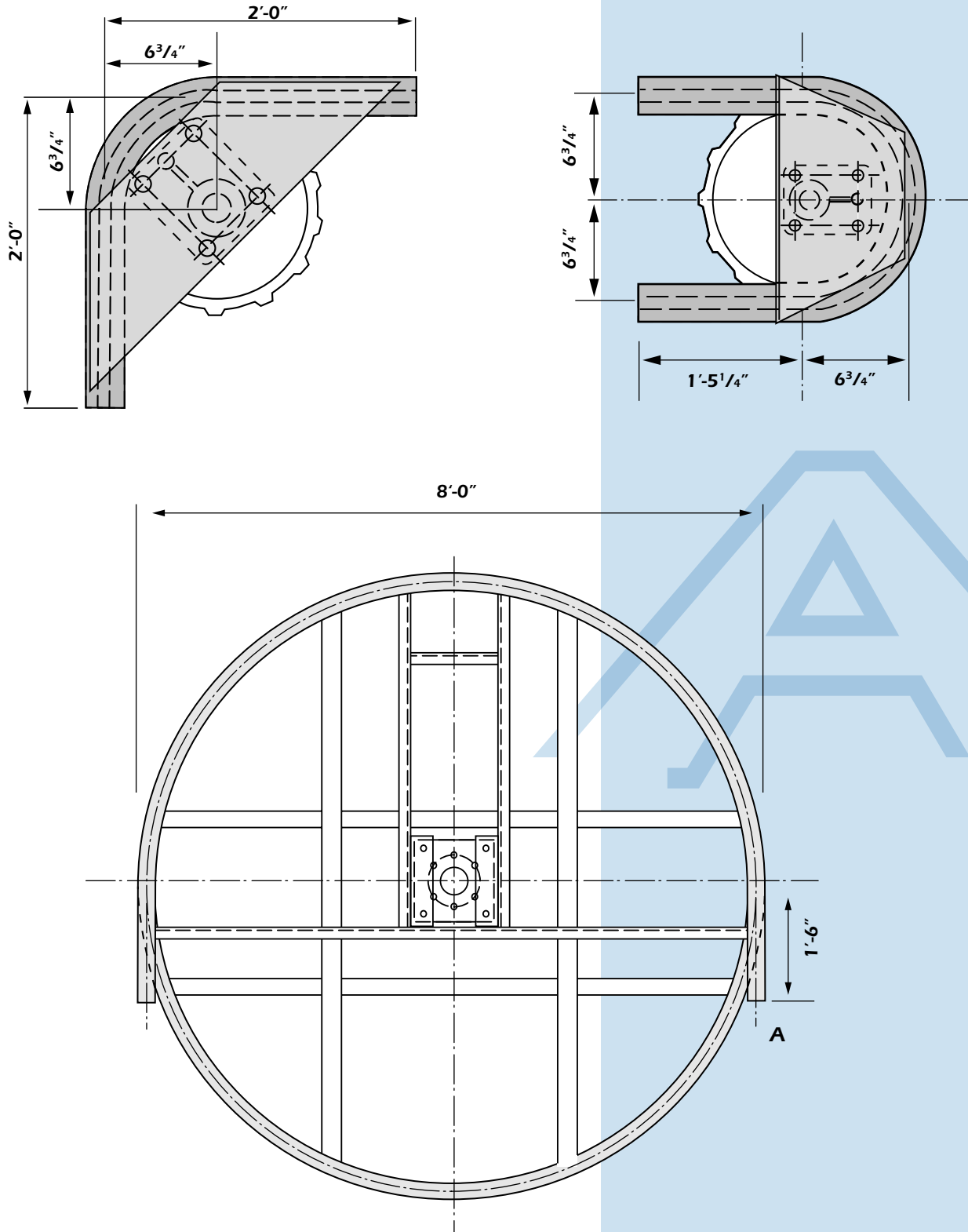


TRACTION WHEELS:

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

Because 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 are available in pitch diameters of 15" up to 96", at any degree of turn required.



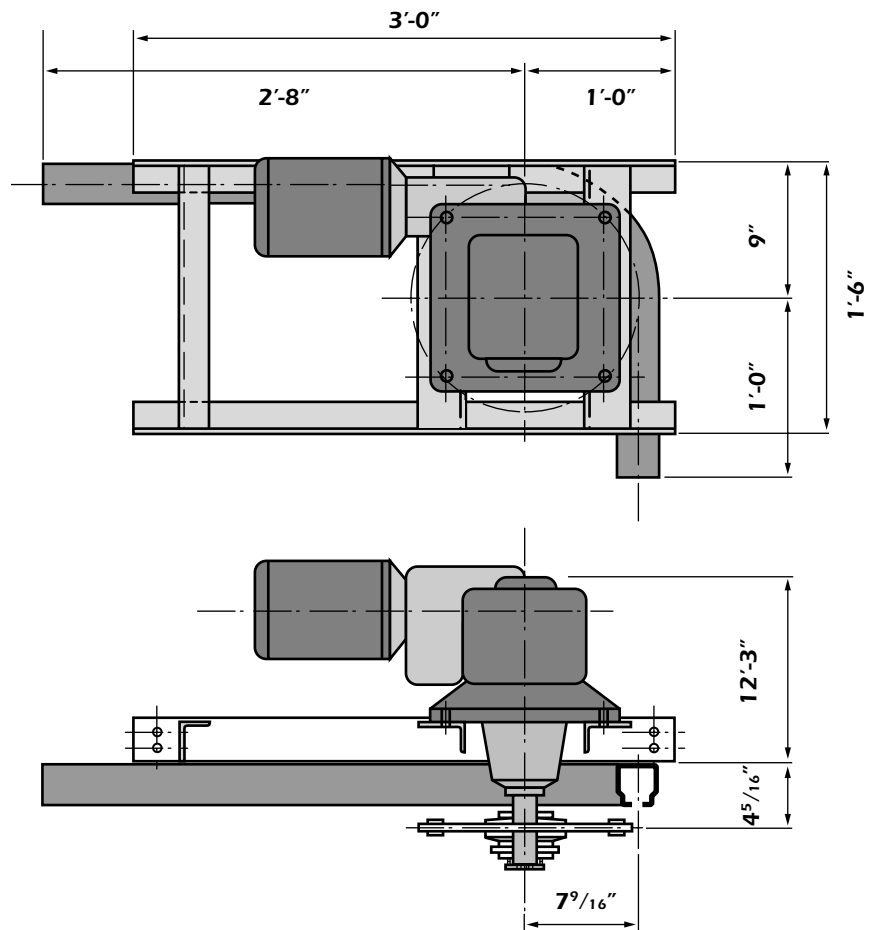
DRIVE UNITS:

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

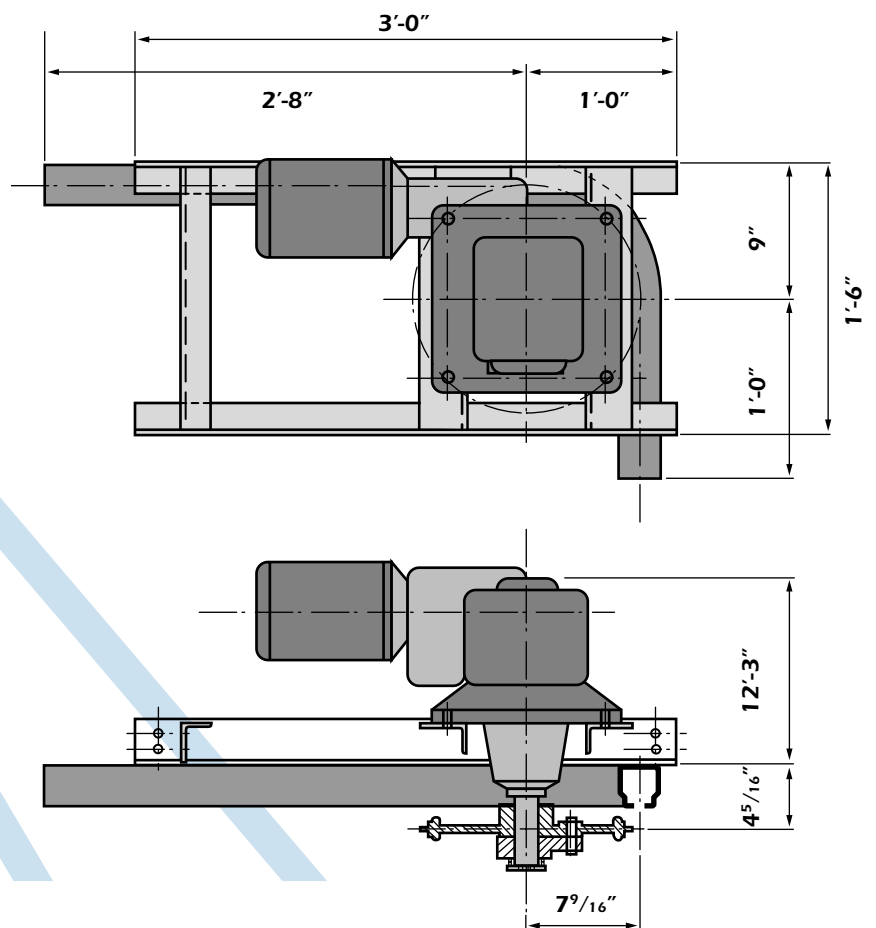
Allied Conveyors drive units have been developed and improved upon over the last 35 years, with hundreds of these units driving miles of conveyor every day. Both of the Allied light and heavy duty drives consist of only three components: the drive motor, which is an integral part of the gear reducer; the drive sprocket, mounted on the reducer output shaft; and the shear hub or torque limiter, for overload protection. In comparison, the average caterpillar drive supplied on other enclosed track monoveyors consists of at least eleven components that must be maintained and finally replaced.

Of the three drives available for Allied's monoveyors, the sprocket drive should be used with the 1500 and 2000 series system; other drives may be made available by special order.

The maximum recommended speed is 50 F.P.M.



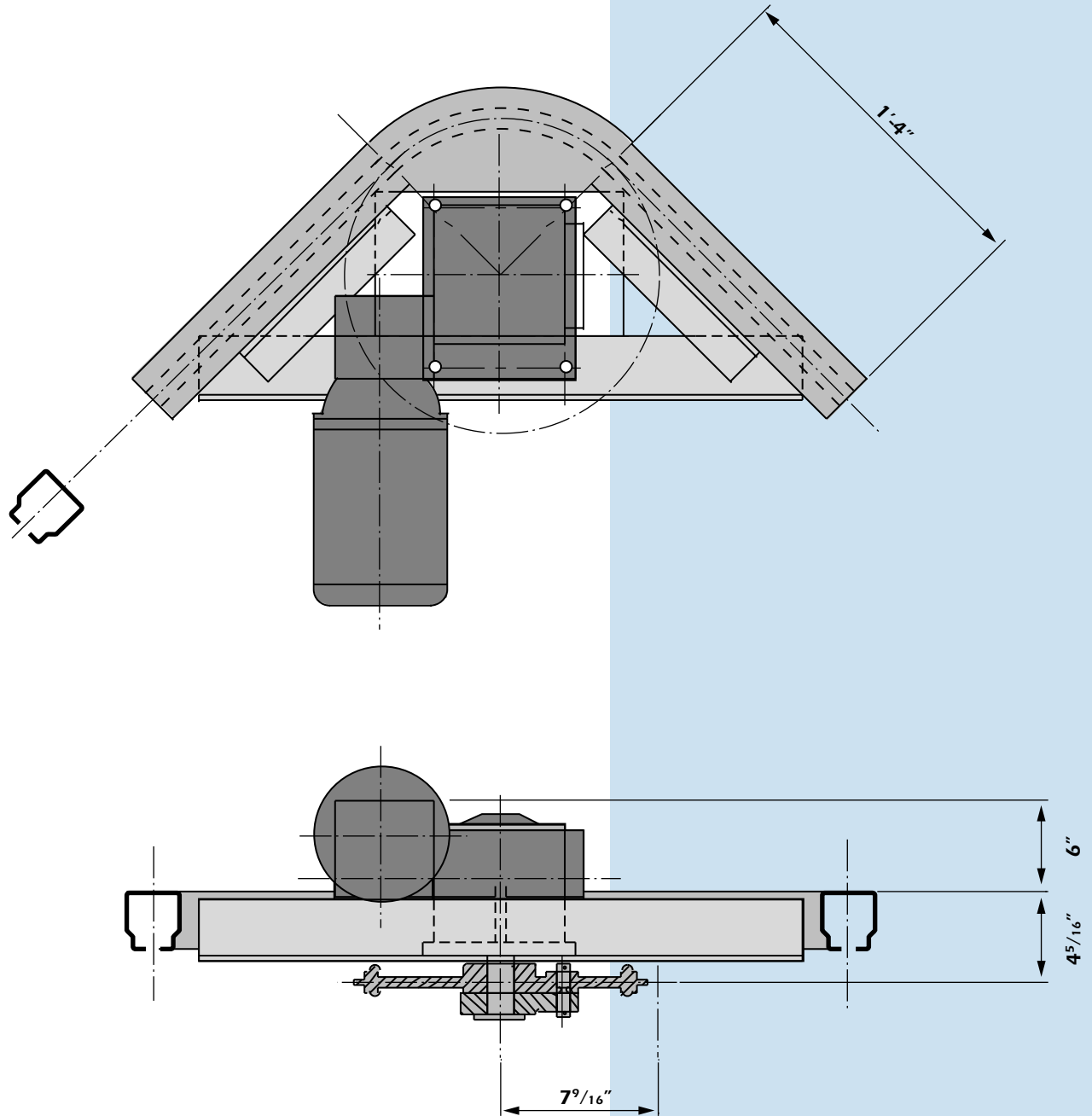
12-T SPROCKET DRIVE WITH TORQUE LIMITER ASSEMBLY



12-T SPROCKET DRIVE WITH SHEAR HUB ASSEMBLY

LOW HEADROOM DRIVE UNIT:

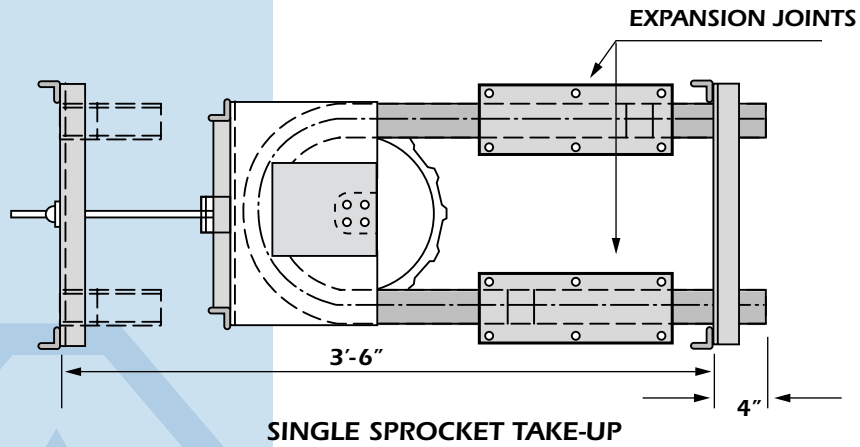
The standard drive units can be supplied with a low headroom compact drive assembly of similar capacity, depending on the space and headroom available.



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

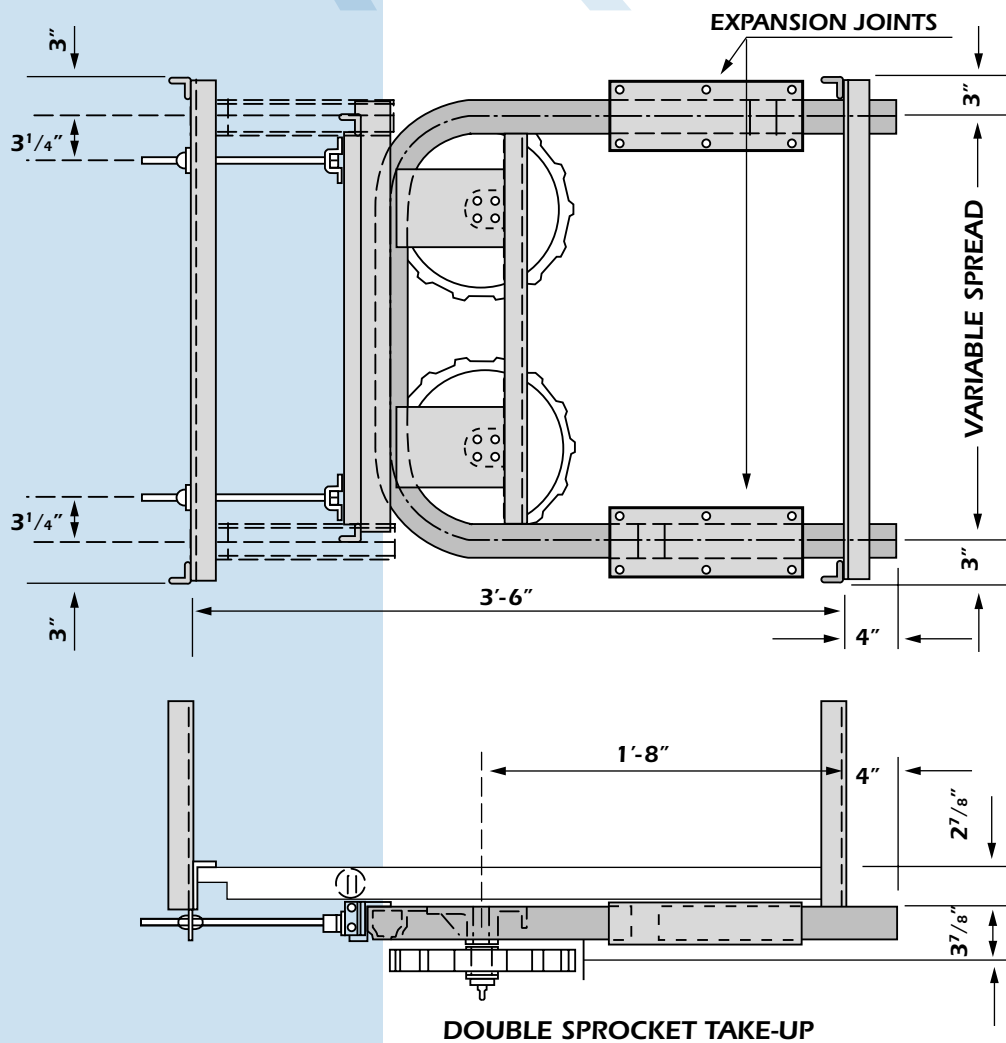
DRIVE SPROCKETS:

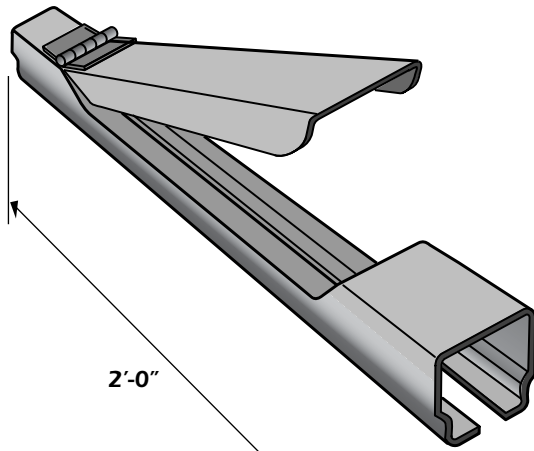
The drive sprockets are available at 15", 20" and 24" in diameter, depending on the speed and product spacing.



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 in a bake oven. Allied's take-ups are available in manual screw, automatic spring and automatic air.

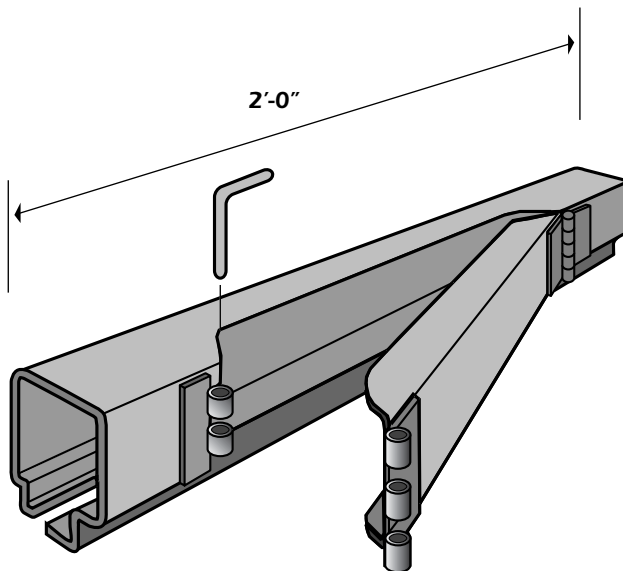




**AC 1571
INSPECTION GATE**
Weight: 8 lbs

TROLLEY INSPECTION GATE:

This track section is equipped with a hinged panel for trolley inspection and maintenance.



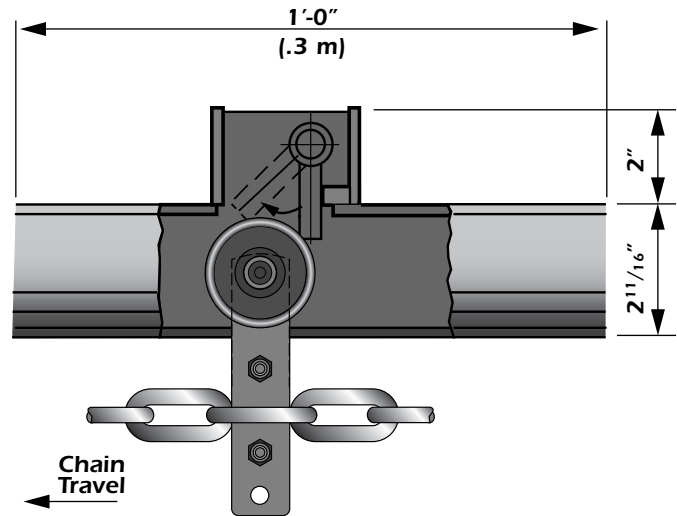
**AC 1572
INSTALLATION GATE**
Weight: 8 lbs

CHAIN INSTALLATION GATE:

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

Anti-Back-Up Safety Stop:

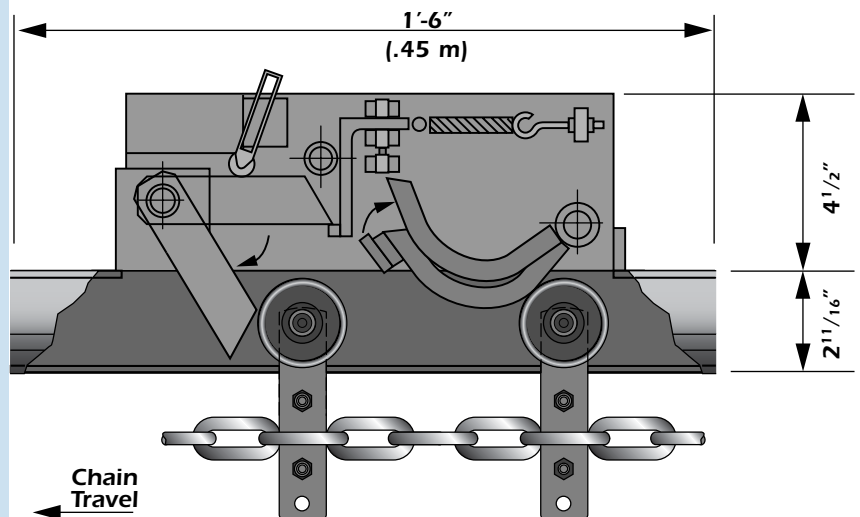
In the unlikely event of chain failure, anti-back-up safety stops are recommended on any loaded inclines of approximately 5' 0" drop or more. These stops will prevent runaway action caused by the loose chain.



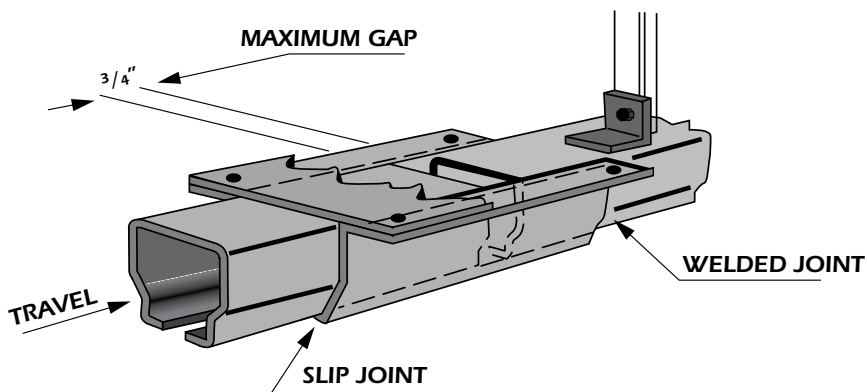
**AC 1569
ANTI-BACKUP
STOP ASSEMBLY**
Weight: 2 lbs

Anti-Runaway Safety Stop:

Anti-runaway safety stops are recommended on any loaded decline of approximately 5' 0" drop or more. The stop is activated by the conveyor chain accelerating beyond its design speed. This stop can be supplied with a limit switch cutout.



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



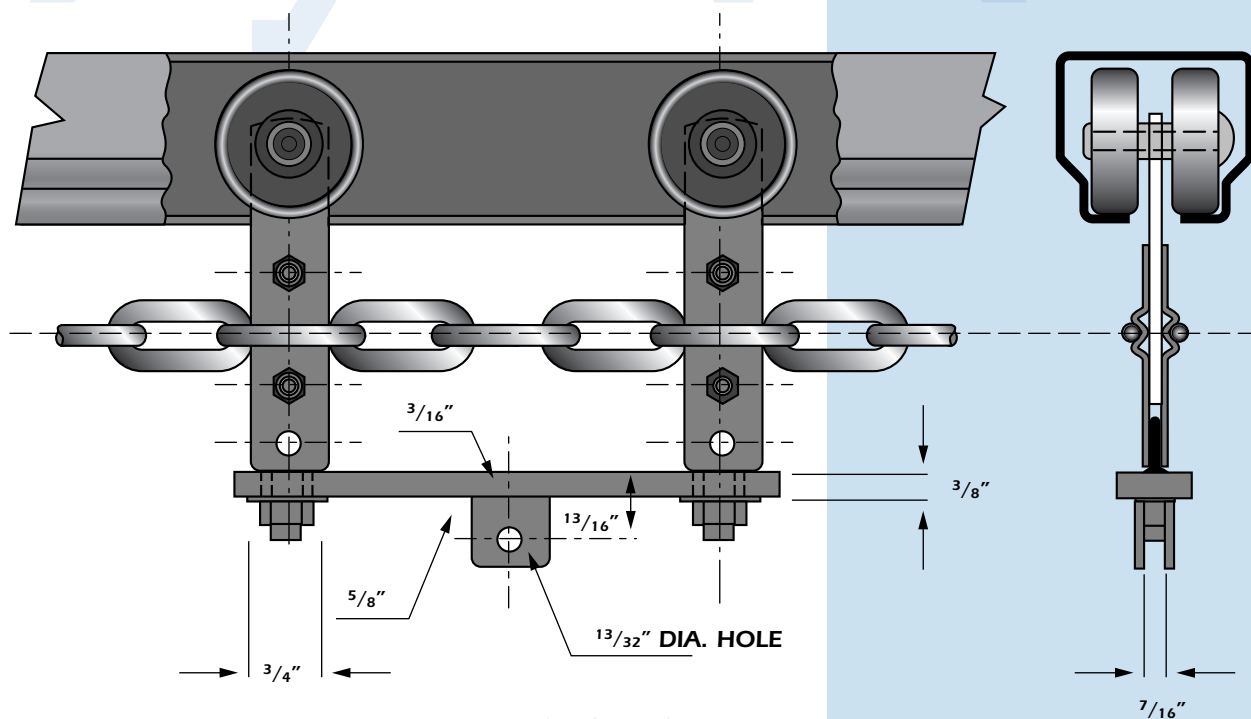
AC 1542
STANDARD EXPANSION JOINT
 WEIGHT (LESS TRACK) 2.6 LBS.

EXPANSION JOINT:

The expansion of steel track and chain due to elevated temperatures is typically .000078" per foot of length for 1°F of temperature rise. Formed steel sliding expansion joints are available for oven conveyors and are usually required when temperatures exceed 200°F.

SINGLE LOAD BAR:

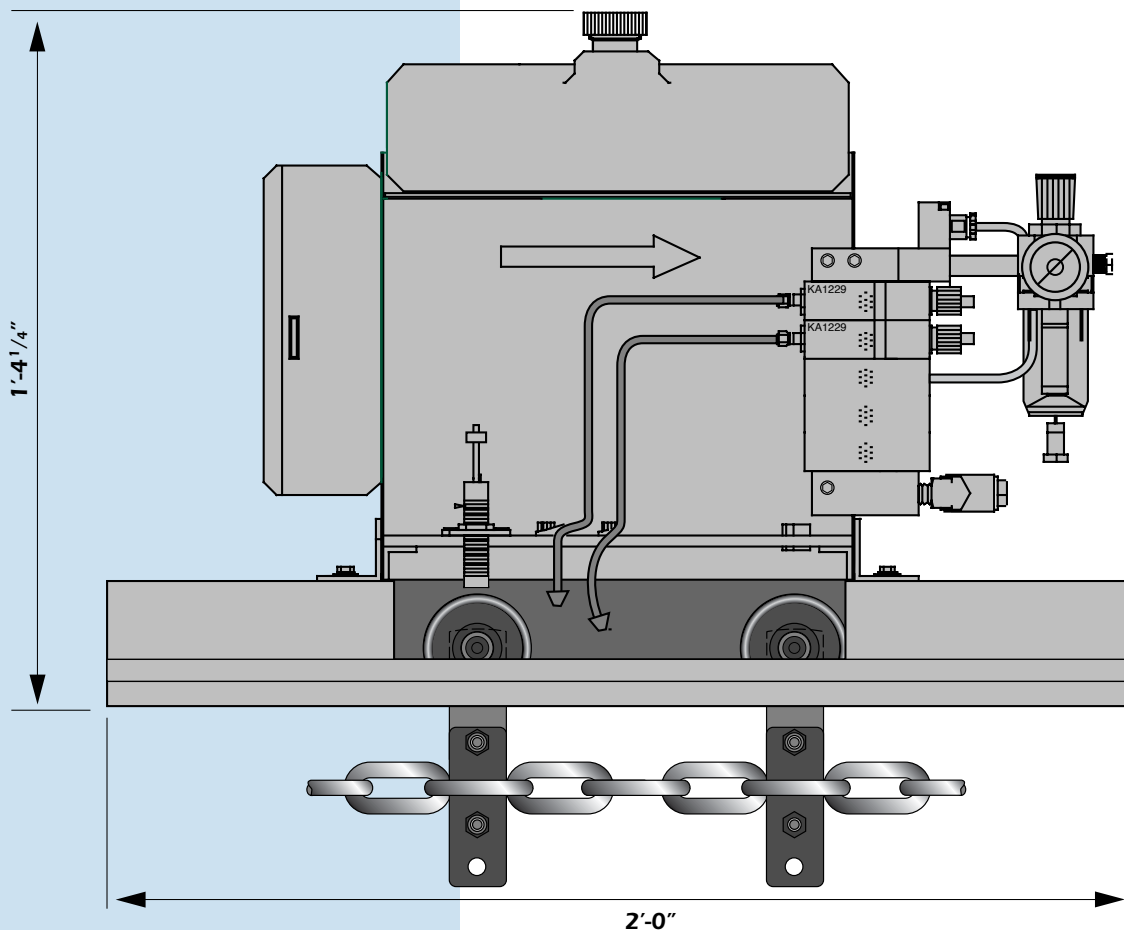
This single load bar is used for carrying unit loads from 100 lbs. to 200 lbs. and is attached to two trolleys 6" and 8" on centers.



SINGLE LOAD BAR
 WEIGHT 1.5 LBS.

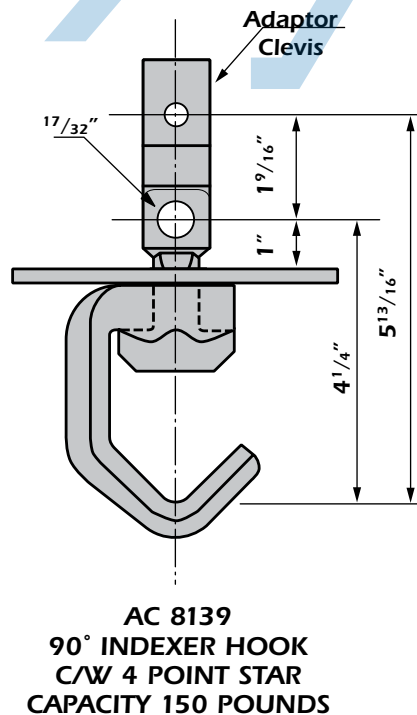
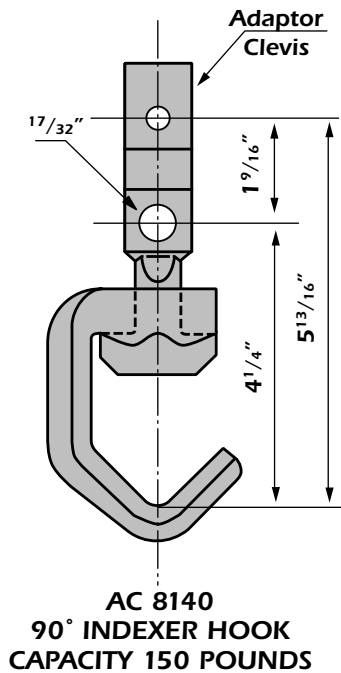
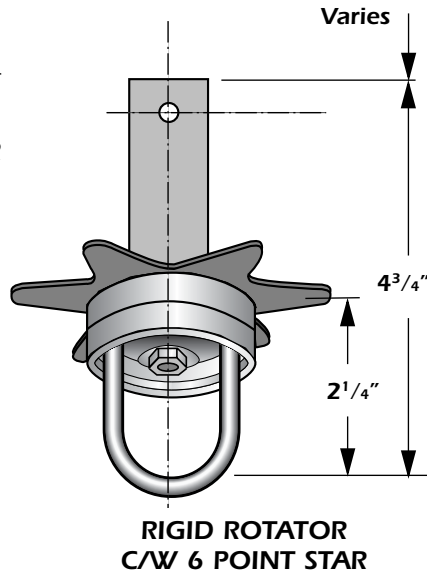
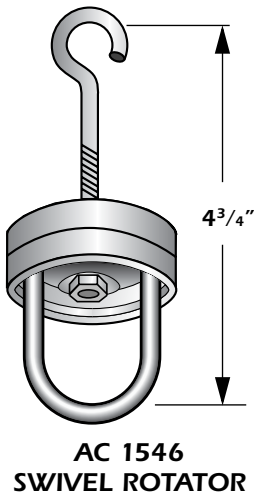
AUTOMATIC 2 POINT LUBRICATOR:

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



AC 2038 AUTOMATIC 2 POINT LUBRICATOR

Weight: 60 lbs



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.

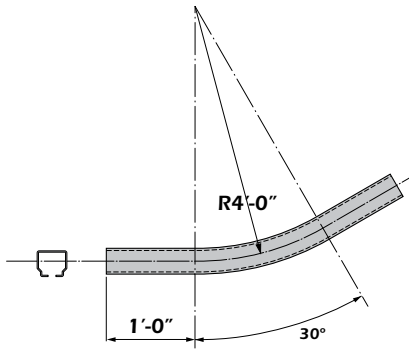
90 DEGREE INDEXER HOOK:

The cast, two-piece cam construction provides 90 degree indexing.

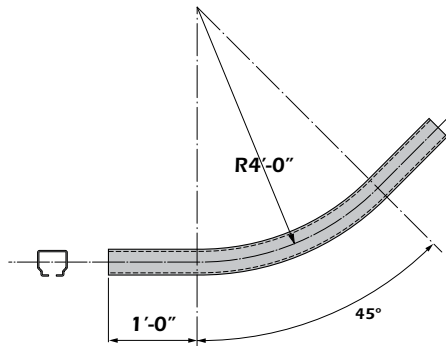
90 DEGREE INDEXER HOOK C/W 4 POINT STAR:

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

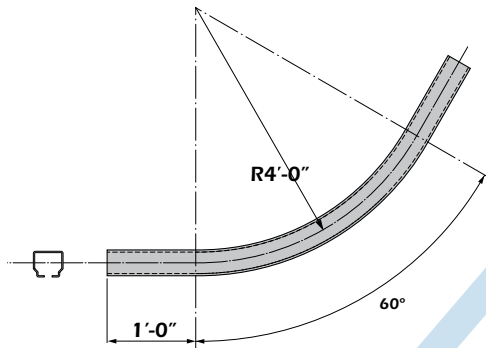
VERTICAL TRACK BENDS



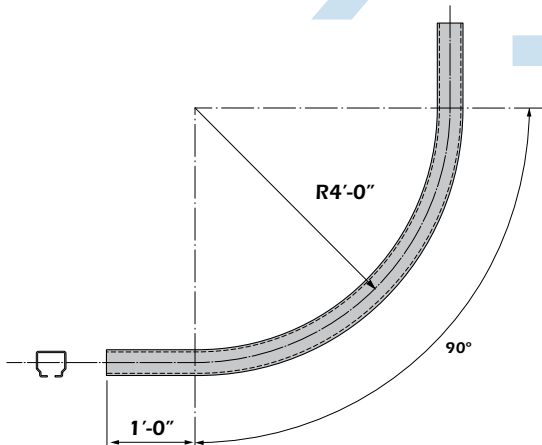
AC 1528
LOWER VERTICAL DIP
4'-0" RAD. X 30°



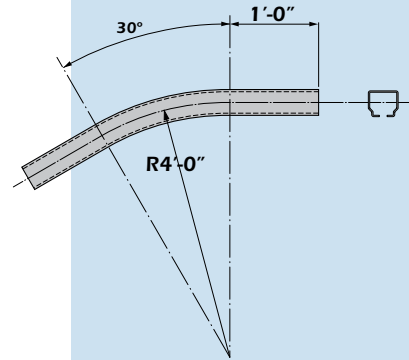
AC 1529
LOWER VERTICAL DIP
4'-0" RAD. X 45°



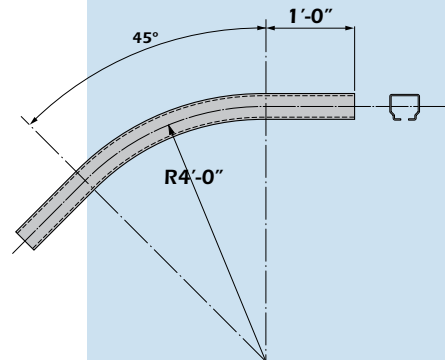
AC 1530
LOWER VERTICAL DIP
4'-0" RAD. X 60°



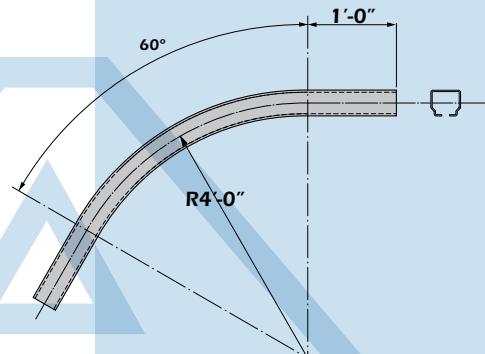
SPECIAL
LOWER VERTICAL DIP
4'-0" RAD. X 90°



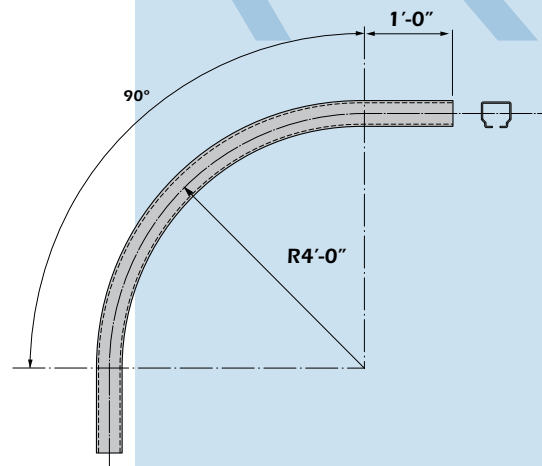
AC 1531
UPPER VERTICAL DIP
4'-0" RAD. X 30°



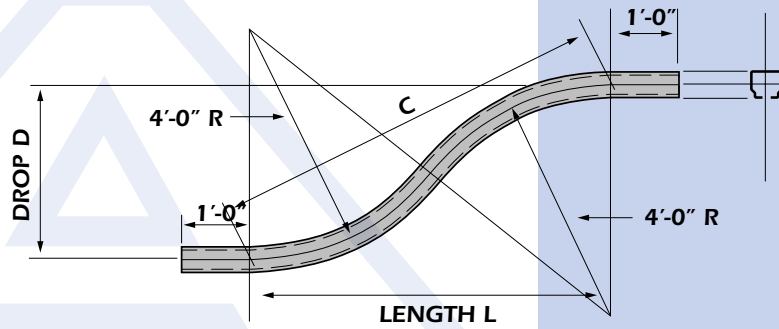
AC 1532
UPPER VERTICAL DIP
4'-0" RAD. X 45°



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



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

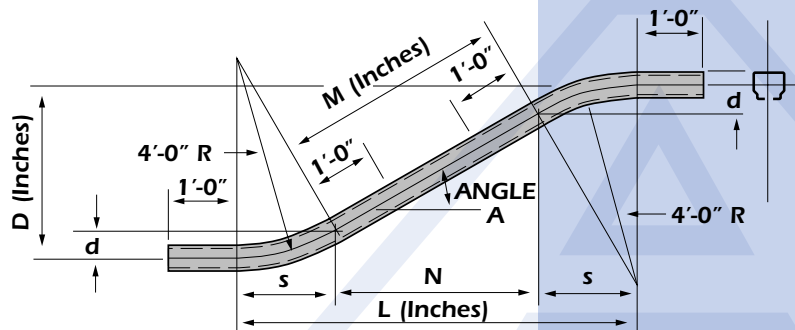


Continuous Reverse Curve with 4'-0" Radius

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 ¹⁵ / 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. Refer to Table V to aid in determining the incline.



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 CONVEYOR SYSTEMS, INC.

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



Allied Conveyor Systems, Inc.
PO Box 1054
Statham, GA 30666
USA

866.959.2993

www.AlliedConveyorSystems.com

This catalog illustrates the various Allied 1500-2000 Series Components available for use in making up a conveyor system. Allied Conveyor Systems, Inc. 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.