



Saf-T-Bar Series H Conductor Bar

The advanced "Series H" Saf-T-Bar system features integral insulated conductors to provide years of safe, economical, and trouble-free service. It is designed for compact, low-cost installation, and minimum maintenance.

Series H conductors are supplied in 20 foot lengths with factory installed insulating covers. Joint fittings and covers are ordered separately.

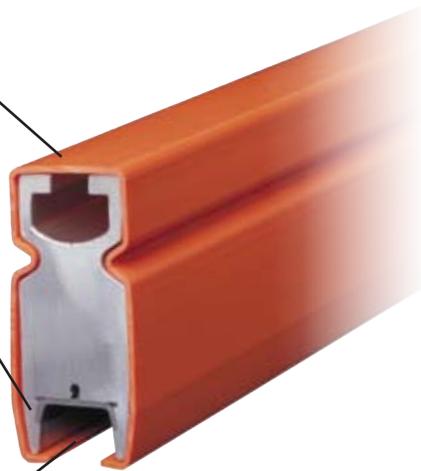
Series H is ideal for:

- Heavy duty cranes and monorails
- Wet locations
- Port authority equipment
- Dusty and dirty environments
- Environments conducive to electrical tracking

Skin-tight insulation runs cooler, will not deform under clamp pressure. Standard insulation is 160°F (71° C). Alternative insulations are available

Metal guideways assure positive tracking of collector shoe with or without insulating cover

Flat contact surface for maximum conductor wear; the stainless steel channel insert provides resistance to corrosion and electrical pitting.



Current Capacities

HC500	500
HC750	750
HC1000	1000
HC1500	1500

Material

All capacities: Aluminum with 304 Stainless Steel Contact Strip

Other available features

- Contact shoe with flat surface of sintered copper and graphite, self-lubricating to effectively draw current to the collector. Heat sink collector heads available for high current draw.
- Compact mounting of conductor in vertical or horizontal position without special parts or fittings.
- Collectors are available in either single or dual arm construction. Single (L, LL), and pantograph dual-arm constructions (D, DD) are available.

Atmospheric specifications

In wet atmospheres, the system should be mounted on insulated hangers with the conductor in the downturn position. In dirty and dusty atmospheres, mount the conductor in the downturn position. If the atmosphere is likely to cause electrical over-surface tracking, choose hanger clamps with spool insulators rather than the standard coated hanger clamp.

Insulating hanger option

A plastic slide hanger is available as an alternative design.

Insulating cover options

Prefix A Standard rigid vinyl for cranes and hoists
Suffix H Medium heat plastic to 260°F for cranes and hoists
Suffix FI High heat fiberglass to 375°F for cranes and hoists

Saf-T-Bar Series H Conductor Bar Characteristics



HC500 (HH)
HC750 (HH)



HC1000 (HH)



HC1500 (HH)

Series H Conductor Bars are constructed of extruded aluminum with a stainless steel "U" shaped contact surface which guides collector shoe movement and minimizes collector shoe wear.

Bars are provided in four sizes: 500, 750, 1000, or 1500 Amp, each with "Standard Heat" rigid PVC insulation, "Medium Heat" Lexan, or "High Heat" fiberglass insulations are available by request. The standard rail length is 20 feet (6.10 m).

		Bar Type:	HC500	HC750	HC1000	HC1500
Specifications	Nominal Current (amps) ¹		500	750	1000	1500
	DC Resistance (ohms/ft)		0.0000194	0.0000194	0.0000155	0.0000067
	AC Impedance (ohms/ft at 60Hz) measured at 3.5" c/c		0.0000301	0.0000301	0.0000279	0.0000389
	AC Impedance (ohms/ft at 60Hz) measured at 5.0" c/c		0.0000363	0.0000363	0.0000355	0.0000385
	Wt lb/ft (kg/m)		1.390 (0.1922)	1.390 (0.1922)	1.616 (0.2234)	3.141(0.4328)
	Max. Voltage (V)		600	600	600	600
Common Characteristics	Nominal Support Spacing (ft)		10 foot (3.05 m)			
	Standard Rail Length (ft)		20 ft (6.10 m)			
	Maximum Rail Temperature		160°F (71.1° C) at 260 PSI (Standard Heat Cover) 260°F (126.7° C) at 260 PSI (Medium Heat Lexan Cover) 360°F (182.2° C) at 260 PSI (High Heat Fiberglass Cover)			
	Conductor Mounting Orientation		Can be installed vertically or horizontally			
	Curves		Consult Factory			

¹ Nominal current is based on 30°C and is for 100% duty.

Basic Series H Part Numbers ⁶

Bar Type	Phase Conductor Std Heat ²	Phase Conductor Med Heat ³	WT lb (kg)	Joint Kit Std Heat ⁴	Joint Kit Med Heat Lexan ⁴	Power Feed Std Heat ⁴	Expansion Gap Assemblies ⁵	Power Feed Med Heat Lexan ⁴
HC500	HC500X20	HC500HHX20	24.0 (10.89)	HA500J	HA500HHJ	HA500F	HA500XG-8*	HA500HHF
HC750	HC750X20	HC750HHX20	24.0 (10.89)	HA750J	HA750HHJ	HA750F	HA750XG-8*	HA750HHF
HC1000	HC1000X20	HC1000HHX20	30.0 (13.61)	HA1000J	HA1000HHJ	HA1000F	HA1000XG-8*	HA1000HHF
HC1500	HC1500X20	HC1500HHX20	60.0 (27.22)	HA1500J	HA1500HHJ	HA1500F	HA1500XG-8*	HA1500HHF

² Complete with "standard heat" cover (orange rigid PVC, 160°F heat distortion point, 260 psi, self extinguishing)

³ Complete with "medium heat" cover (red Lexan, 260°F heat distortion point, 260 psi, self extinguishing)

⁴ See Pg. 72

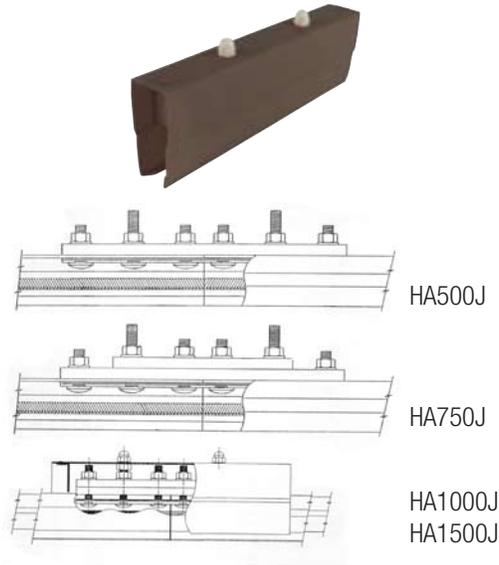
⁵ Powerfeeds and Expansion kits: medium heat Lexan and high heat fiberglass versions are available - Contact Factory

⁶ End caps available for standard heat applications only - Part Nos.: **HA500N, HA750N, HA1000N, HA1500N** - See pg. 72

Saf-T-Bar Series H Components

Splice Joints

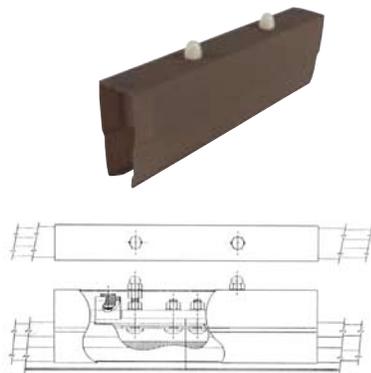
The bolted Splice Joint assembly is comprised of two stacked spring plates located inside the hollow portion of the conductor.



Used on Bar:	Part No. Std Heat	Part No. Med Heat	Wt (kg)
HC500	HA500J	HA500HHJ	1.0 (0.45)
HC750	HA750J	HA750HHJ	1.5 (0.48)
HC1000	HA1000J	HA1000HHJ	2.0 (0.91)
HC1500	HA1500J	HA1500HHJ	3.0 (1.36)

Powerfeed

The Powerfeed supplies power to the bar and is inserted in place of the bar splice joint. Or it can be mounted at any point along the conductor by cutting the bar and insulating cover.



Used on Bar:	Terminals	Part No. Std Heat	Part No. Med Heat	Wt lb (kg)
HC500	Two 350 MCM	HA500F	HA500HHF	3.0 (1.36)
HC750	Two 350 MCM	HA750F	HA750HHF	3.0 (1.36)
HC1000	Two 350 MCM	HA1000F	HA1000HHF	3.0 (1.36)
HC1500	Three 350 MCM-2	HA1500F	HA1500HHF	6.0 (2.72)

End Cap

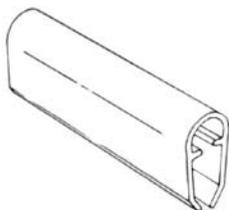
End caps are to be driven onto the exposed ends of the conductors to completely insulate the bar. Cap is 4" (102 mm) long.



Used on Bar:	Part No.	Wt lb (kg)
HC500	HA500N	0.50 (0.23)
HC750	HA750N	0.50 (0.23)
HC1000	HA1000N	0.50 (0.23)
HC1500	HA1500N	0.75 (0.34)

Isolation Joints

Isolation joints are required for circuit segmentation and are comprised of an insulating angle with attachment hardware to secure and space the adjacent rails.



Used on Bar:	Part No.	Wt lb (kg)
HC500	HA1000IS	2.0 (0.91)
HC750	HA1000IS	2.0 (0.91)
HC1000	HA1000IS	2.0 (0.91)
HC1500	HA1000IS	2.0 (0.91)

Saf-T-Bar Series H Components

Hanger Clamps and Anchors

Hanger clamp bracket should be attached to the runway beam by welding or bolting. Conductors should be spaced 5" (127 mm) inches apart, however, a minimum of 3.5" (89 mm) is acceptable. Hanger clamp brackets require 9/16" (14.3 mm) holes for 1/2" hanger clamp bolts.

To properly support the conductor and to keep standard rail overhang to 24" (610 mm), space the first two brackets on 6' (1.83 m) centers and all other brackets on 10' (3.05 m) centers.

The "Anchor" is a non-sliding version of the hanger which provides a solid fixing point on the conductor bar. Anchor clamp kit consists of an insulated keeper straddling each side of the standard hanger. The usual hanger bolt is replaced by a cup-point set screw that is tightened against the keeper plate at the desired anchor location. On HA1000H hangers, the set screw becomes the mounting bolt. ON HA1000K hangers, the set screw is threaded into the base of the insulator spool. HA1000PA anchors come with a drilled hole in the vertical stiffener. At the installation site, a hole is drilled through the conductor bar to accommodate a threaded rod. Threaded rod is captured by acorn nuts on both sides of the clamp.



HA1000H/HA



HA1000K/KA



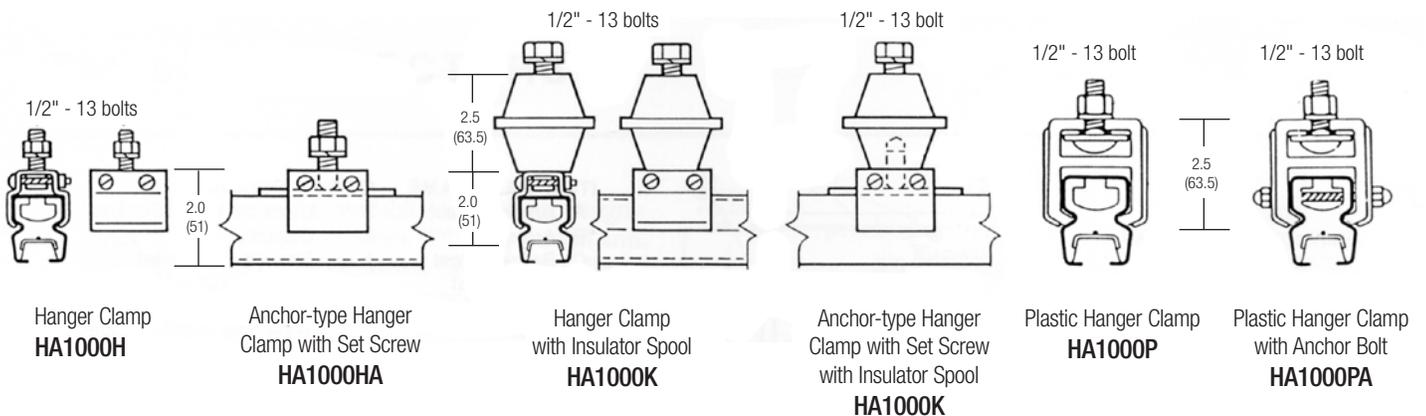
HA1000P/PA

Hanger Clamp Type ²	Usage	Part No. ¹	Wt lb (kg)
Hanger, coated steel	Normal atmospheres	HA1000H	0.5 (0.23)
Hanger, coated steel with insulator spool	Wet atmospheres	HA1000K	1.0 (0.45)
Hanger, Plastic	In lieu of: HA1000H or HA1000K	HA1000P	0.5 (0.23)
Anchor, coated steel with anchor clamp kit	Normal atmospheres	HA1000HA	0.6 (0.27)
Anchor, coated steel with insulator spool and anchor clamp kit	Wet atmospheres	HA1000KA	1.1 (0.50)
Anchor, plastic with anchor clamp kit		HA1000PA	0.6 (0.27)

¹Suffix "A" indicates anchor options

²All H Series components are available with stainless steel hardware, designated by the suffix "SS"

Hanger Clamp Mounting



Saf-T-Bar Series H Expansion Gaps

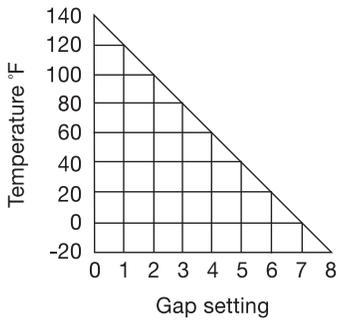


HA500XG-8

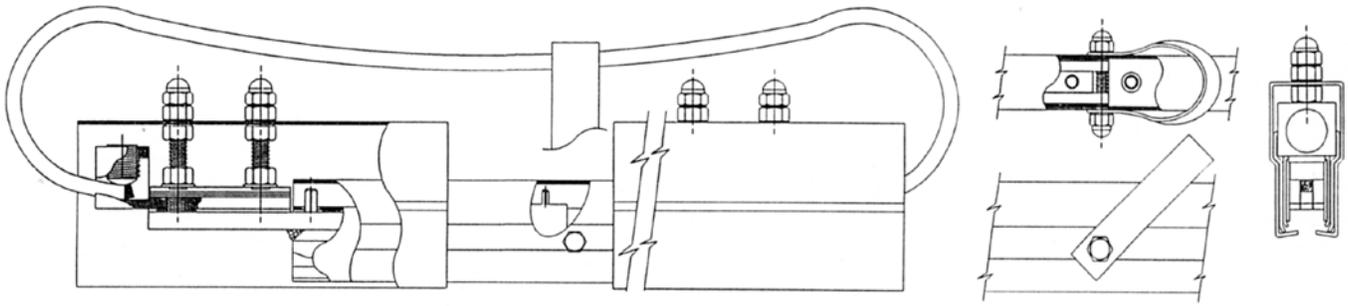
Expansion Gap assemblies are pre-assembled and ready to be installed between two adjacent sections of rail to compensate for thermal expansion of the rail due to environmental changes and power-generated heat. Each end of the expansion section is attached to its mating rail with a powerfeed type of rail splice.

Aluminum conductors will expand one inch in 70 feet per 100° F temperature variation. The Expansion Gap will handle expansions of up to 8". The Expansion Gap assembly is 12" long "closed" and 20" long expanded (with the maximum gap of 8".) The gap is normally set at 4" in an average 60° F environment. An Expansion Gap assembly is required for every 500 feet (or fraction thereof) in system length to handle a 100 degree F maximum temperature variation. A proportional decrease in the 500 foot interval is required for greater temperature variations.

Center point of all conductor runs using expansion gaps requires an anchor clamp kit to locate rail settings.



For Bar	Powerfeeds included	Jumpers included	Part No.	Wt lb (kg)
HC500	HA500F	# 3/0 x 40"	HA500XG-8"	13.0 (5.90)
HC750	HA750F	Two # 3/0 x 50"	HA750XG-8"	13.0 (5.90)
HC1000	HA1000F	Two # 3/0 x 50"	HA1000XG-8"	15.0 (6.80)
HC1500	HA1500F	Two 350 MC x 50"	HA1500XG-8"	20.0 (9.07)



Saf-T-Bar Series H Collectors

Standard L



For collector movement of 2" in direction of contact and $\pm 1"$ lateral drift.

Description	Intermittent Only	Continuous or Intermittent	Part No.
Single arm	300A	200A	HA300LS
Tandem arm	600A	400A	HA600LLS
Single arm	450A	300A	HA400LS
Tandem arm	900A	600A	HA800LLS

Standard D



For collector movement of 3" in direction of contact and $\pm 3"$ lateral drift.

Description	Intermittent Only	Continuous or Intermittent	Part No.
Dual Parallel Arm, Single	300A	200A	HA300DS
Dual Parallel Arm, Tandem	600A	200A	HA600DDS
Dual Parallel Arm, Single	450A	300A	HA400DS
Dual Parallel Arm, Tandem	900A	600A	HA800DDS

Heat Sink L



For collector movement of 2" in direction of contact and $\pm 1"$ lateral drift.

Description	Intermittent Only	Continuous or Intermittent	Part No.
Single arm	500A	400A	HA400LSHS
Tandem arm	1000A	800A	HA800LLSHS

Heat Sink D



For collector movement of 3" in direction of contact and $\pm 3"$ lateral drift

Description	Intermittent Only	Continuous or Intermittent	Part No.
Single arm	500A	400A	HA400DSHS
Tandem arm	1000A	800A	HA800DDSHS

Saf-T-Bar Series H Collector Parts and Shoes

Collector Parts

Type	L Series	D Series	Heat Sink L Series	Heat Sink D Series
Body	302B	50-901	302B	
Contact Shoe	300SHP (6") 400SHP (8")	300SHP (6") 400SHP (8")	400SHPHS (x2)	400SHPHS (x2)
Spring	300Z	300Z	300Z	300Z
Arm	300LP	50-902	300LP	50-902
Spool	1000Q	1000Q	50-906	50-906
Welding cable	WR002RD1600			
Heat sink assembly	-	-	400YHP-Head	400YHP-Head

Collector Shoes

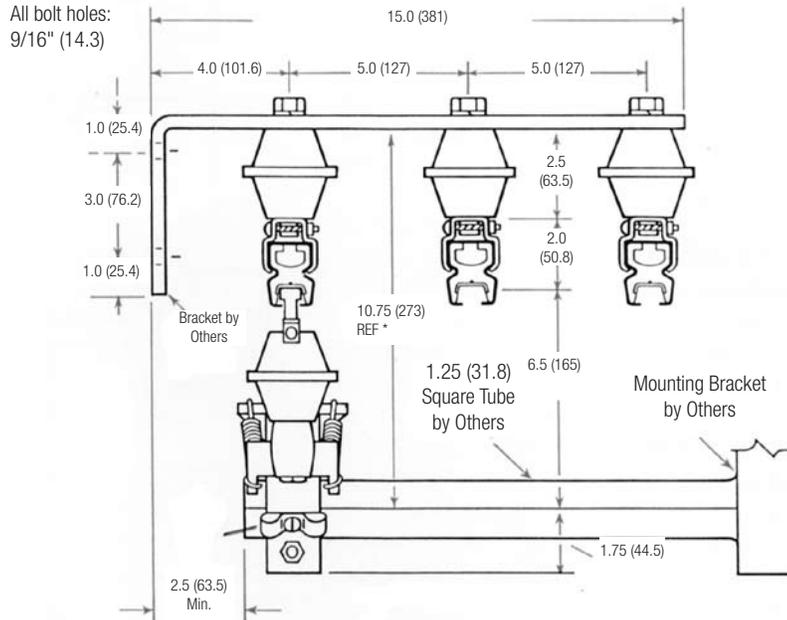


300SHP

Qty	Description	Shoe Size	Capacity (amps)		Part No.
			Continuous	Intermittent	
1	Single	5/8" x 6"	200	300	300SHP
2	Dual	5/8" x 6"	400	600	300SHP
1	Single	5/8 x 8"	300	450	400SHP
2	Dual	5/8 x 8"	600	900	400SHP
1	Single, Heat Sink Design	5/8 x 8"	400	500	400SHPHS
2	Dual, Heat Sink Design	5/8 x 8"	800	1000	400SHPHS

Saf-T-Bar Series H Dimensions

Installed End View



HC1000 Conductor Shown Above
 * For HC1500 Conductor, add 1.0" (25.4 mm)

Collector Side View

