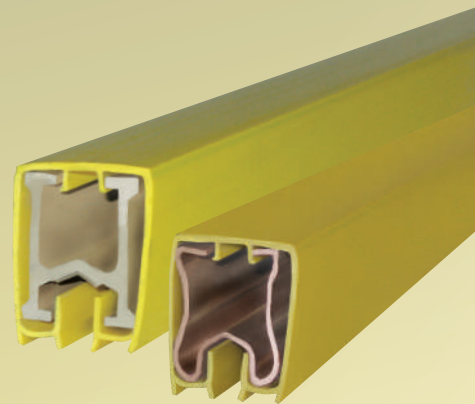


SAFE-LINE V
Heavy Conductor Bar System

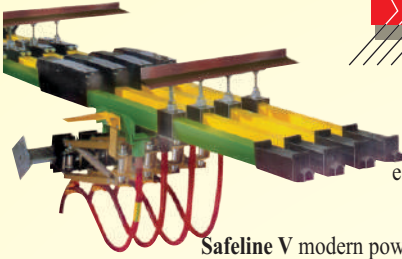


Wide Range of Conductor Bar System

MOBILE ELECTRIFICATION SYSTEMS

Safeline V-Heavy Conductor Bar System

SAFE-LINE V



Heavy Conductor Bar System

Safeline V insulated conductor bar system are used for power transmission. Current capacity from 500 Amps. to 2000 Amps., rated at 100% duty cycle and nominal voltage up to 600V Conductor Bar provide a safe and economical power for track guided mobile machinery.

Safeline V modern power supply system using single pole insulated conductor. The applications of this system are travelling cranes, container traffic and special application used for high energy consumption under difficult conditions. The conductor material is copper (500 Amps., 800 Amps., 1000 Amps., 1250 Amps) aluminium (500 Amps., 800 Amps., 1000 Amps., 1250 Amps) The aluminium conductor bar is provided provided proven and patented stainless steel contact surface. For high temperature conditions; a high temperature insulation cover up to 140° C is available. The phase conductor are yellow colour and earth insulation cover is green.

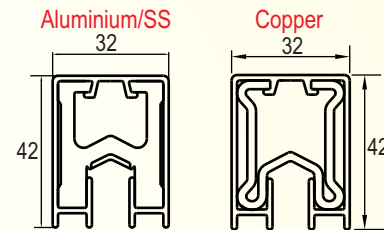
The spring loaded collector can be used for horizontal / vertical installation in single or double version. Installation of conductor bar system is simple maintenance is confine to a routine check of collectors.

FEATURES

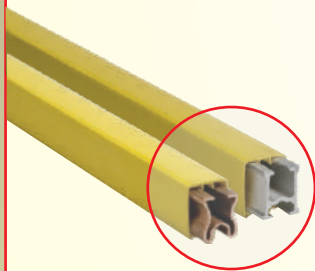
- Insulated Conductor Bar are touch proof.
- Quick & easy Installation.
- 500, 800, 1000 & 1250 in same standard.
- 500, 800, 1000, 1250 Amps Aluminium / Stainless Steel.
- 500, 800, 1000, 1250 Amps. Copper.
- No expansion joint upto 200 meter long system.
- Horizontal Installation.
- Spring loaded Current Collectors 250A / 500A.
- IEC-60204-1 (Safety of Machinery):
- IEC-60529 (Protection Class using Housing)
- IEC -60364-5-54 (Electrical Installation upto 1000V)

MAIN APPLICATION

- Crane and Hoist
- Monorail
- Automated storage System.
- Moving equipment
- Elevators
- Amusement Park Rides
- Transfer Car
- People mover



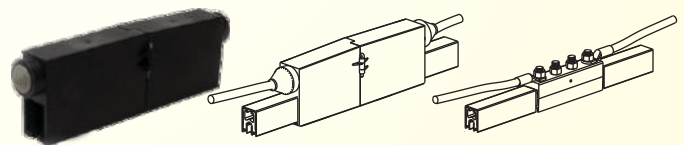
COMPONENTS / PARTS



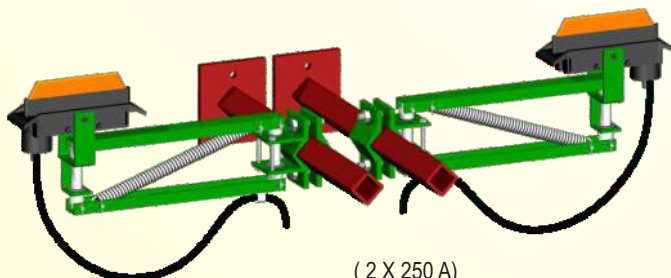
250A Current Collector



Power Feed Cover For Copper / Aluminium (assembly)



AL Conductor Joint / Joint Cover (for Aluminum & Copper DSL)

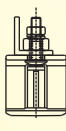


(2 X 250 A)
500A Current Collector

Hanger Clamp with Insulator



Hanger Clamp



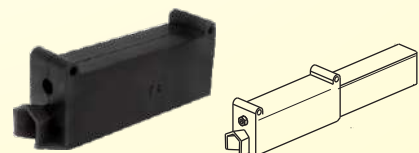
Collector bracket



Web bracket



End Cover For Copper / Aluminium (assembly)



Safeline V-Heavy Conductor Bar System

SAFE-LINE V

TECHNICAL DATA SAFELINE - V - HEAVY BAR SYSTEM

Conductor Bar System	Aluminium/Stainless Steel				Copper			
Type	VA500	VA800	VA1000	VA1250	VC500	VC800	VC1000	VC1250
Nominal Current (A) AT 100% Duty and 35°C	500	800	1000	1250	500	800	1000	1250
DC resistance (Ω/KM) At +35°C	0.098	0.074	0.051	0.028	0.104	0.057	0.044	0.033
Imedence (Ω/KM) At 80mm bars spacing And +35°C	0.157	0.145	0.137	0.099	0.161	0.136	0.130	0.127
Voltage grade [V]	1000							
Support Spacing [mm]	2250							
Bar Length [mm]	4500							
Minimum pitch centre [mm]	80							
Traveling speed [m/ m]	600 max							
Permissible ambient temperature	-30°C + 55°C (Standard Insulation) -30°C+140°C (High Temperature Insulation)							

High temperature insulation on request up to 140° C

THE INTERMITTENT RATING FOR CONDUCTORS

% RATING				
ALLOWABLE CURRENT (AMPS)	100%	80%	60%	40%
	500	550	640	775
	800	880	1020	1240
	1000	1100	1400	1550
	1250	1375	1750	1980

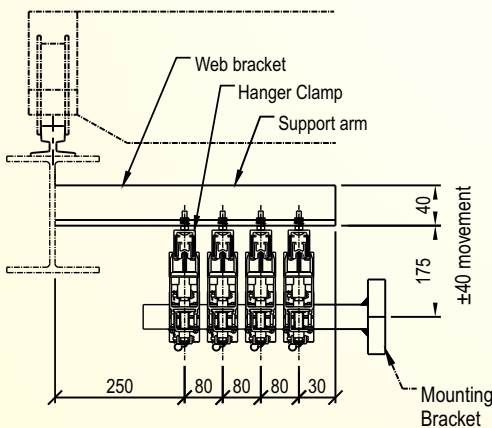
CURRENT CAPACITY FACTOR FOR DIFFERENT AMBIENT TEMPERATURE

Ambient Temperature		35°C	40°C	45°C	50°C	55°C
Standard Insulation	Galvanized Iron	1.0	0.90	0.80	0.70	0.60
	Aluminum rail	1.0	0.92	0.81	0.76	0.68
	Copper rail	1.0	0.93	0.87	0.82	0.78

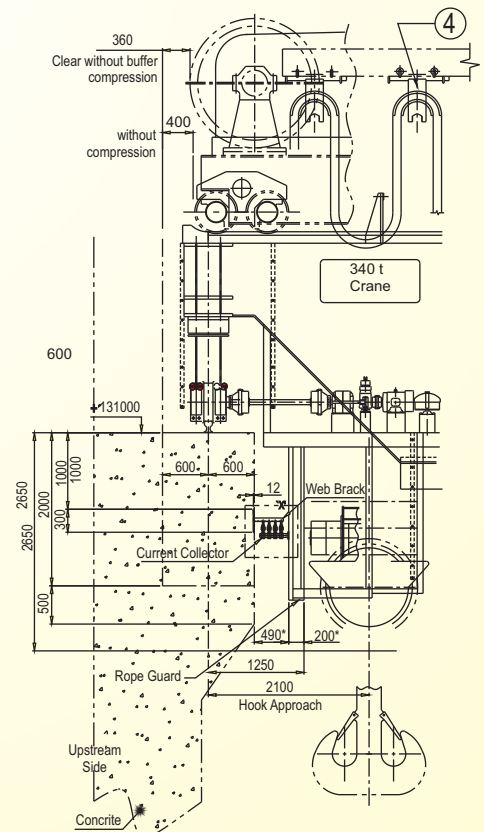
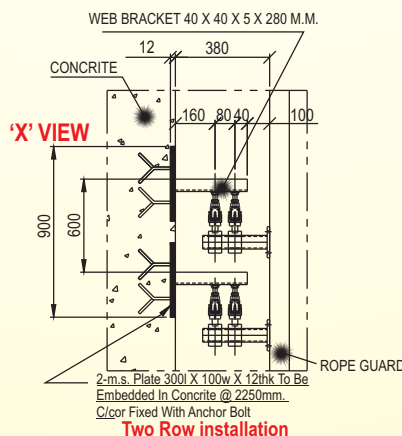
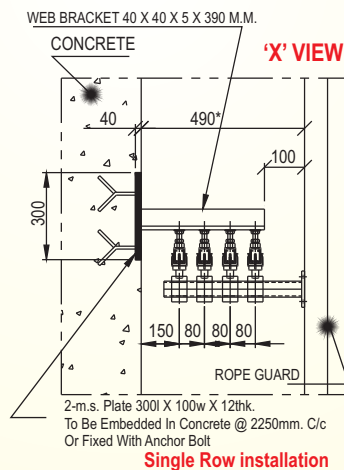
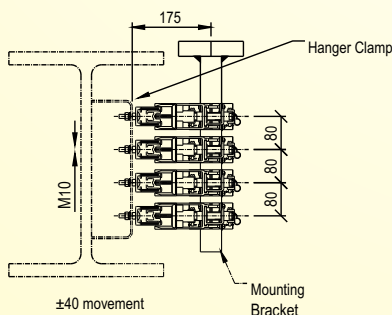
Ambient Temperature		110°C	115°C	120°C	125°C	130°C	135°C	140°C
High Temperature	Galvanized Iron	1.0	0.9	0.8	0.7	0.6	0.5	0.4
	Aluminum rail	1.0	0.92	0.81	0.76	0.68	0.63	0.59
	Copper rail	1.0	0.93	0.87	0.82	0.78	0.74	0.72

INSTALLATIONS TYPICAL

Horizontal operation of current collectors



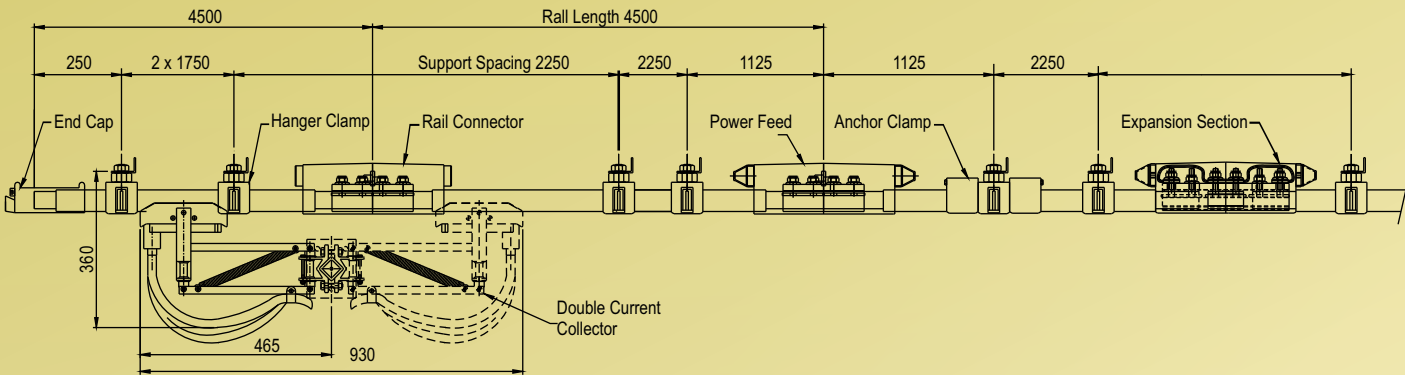
Vertical operation of current collectors



Safeline V-Heavy Conductor Bar System



SYSTEM ARRANGEMENT FOR SALINE-V (500-2000Amps.)



Effects of various Power feed Positions on Volt Drop Calculations.

Selection of feed-in points. The feed-in point for every application must be selected because the length L between power feed and conductor rail end is used for calculating the voltage drop. Following feed - in points can normally be used.

Powered Position	Schematic Diagram Collector symbol Indicates Positions of Maximum Volt Drop	Effective Length to be used in Volt Drop Calculations	Voltage Drop
Endfeed		$LVD = L$	Voltage Drop The allowable volt drop determines, the maximum allowable resistance of conductor. The value of volt drop within a conductor system is effected by effective length of system and current drawn. Volt Drop Calculation For A. C. Machine 3 phase ΔU Volt drop = length (D) x Impedance (Z) x Current (I) x $3\sqrt{}$ $U \% = \frac{\Delta U}{U_n} \times 100 [\%]$
Center-feed		$LVD = \frac{L}{2}$	
Two end feed		$LVD = \frac{L}{4}$	
Two feeds both in from end		$LVD = \frac{L}{6}$	
Three feeds at in from ends and centre		$LVD = \frac{L}{10}$	

PRODUCT RANGE - INDIVIDUAL

System Design	Insulated Conductor Bar			Heavy Conductor Bar		Enclosed Conductor Bar
Conductor Bar System	Safeline - W	Safeline - M	Safeline - C	Safeline -V	Safeline - V	Safe-Duct
Type of Joints	Bolted	Pin	Joint Less	Aluminium	Copper	Bolted /Joint less
Nominal Current (A)	60 - 400	60-315	40-140	500 -800-1000-1250	500-800-1000-1250-2000	40-60-80-100-140-200
Volts (V)	600	600	600	600	600	600
Support Spacing (m)	1.125	1.125	1.2	2.25	2.25	1.333
Bar Cover Length (mm)	4500	4500	4800	4500	4500	4000
Outside Dimensions (mm)	23 x 27	20 x 22	34 x 19	42 x 32	42 x 32	85 x 56

H. O. Unit -I : C-15/16, Nand Jyot Industrial Estate, Andheri-Kurla Road, Mumbai - 400072 ,
Tel : (022) 42469700/730
E-mail : sales@socgroup.in

Unit - II: Plot No. 4912, G. I. D. C., Phase IV, Vatva, Ahmedabad - 382445
Tel.: (079) 68169700/702/712
E-mail : enquiry2@socgroup.in

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