



HIBUS™ Series for Conductors

HIBUS Series

With over 80 years of experience designing and manufacturing accessory products for electric power utilities, AFL is a recognized leader, providing superior product solutions and improving reliability of critical infrastructure components used for the transmission and distribution of electricity.

We commit to being proactive to our customers' needs and it is with this commitment that we are introducing the Hinged Bushing (HIBUS) clamp series, available in both suspension and trunnion configurations. Designed to reduce static and dynamic stress at the attachment point on transmission conductors, HIBUS clamps are a versatile, cost-effective choice.



The HIBUS Series features the Conductor Suspension (left) and Conductor Trunnion (above).

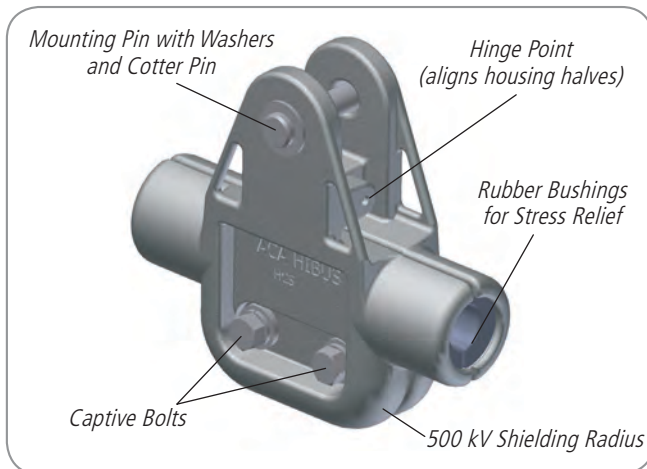
HIBUS Series – Conductor Suspension



The HIBUS clamp is designed to reduce static and dynamic stress at the attachment point on transmission conductors without the use of armor rods or line guards. Rated for 250°C operation, the HIBUS clamp has a specially formulated bushing material for high temperature conductors. The hinged concept on the suspension configuration provides self-alignment of the housing halves. All hardware is captive except for the mounting pin.

Test results have shown that the unique bushing system significantly reduces the bending strain level produced by the effects of Aeolian vibration as compared to standard clamps using armor rods or line guards. This proven level of performance eliminates the need for any type of attachment using rods. Test reports available include corona test, high temperature profile, standard and high temperature slip, ultimate strength, and catastrophic conductor failure impact strength.

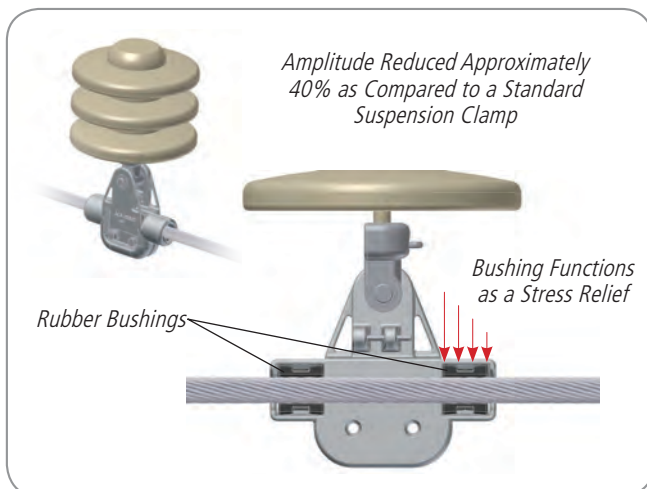
Suspension Components



Features

- Suitable for all ACSR and ACSS conductors
- Self-aligning housing halves
- Stress relief bushings reduce bending strain 40%
- Aluminum clamp body with captive stainless steel mounting bolts
- Galvanized steel mounting pin with two washers and cotter pin for added security
- Optional bolt, nut, and cotter pin ("BNC" suffix) available on some sizes. Contact AFL for availability.
- Optional Live-line Attachment Tool available
- Line angles up to 30° for single unit, up to 60° for two units
- Rated for 500 kV applications
- Rated for 250°C high temperature applications (with special bushings)

Suspension Configuration



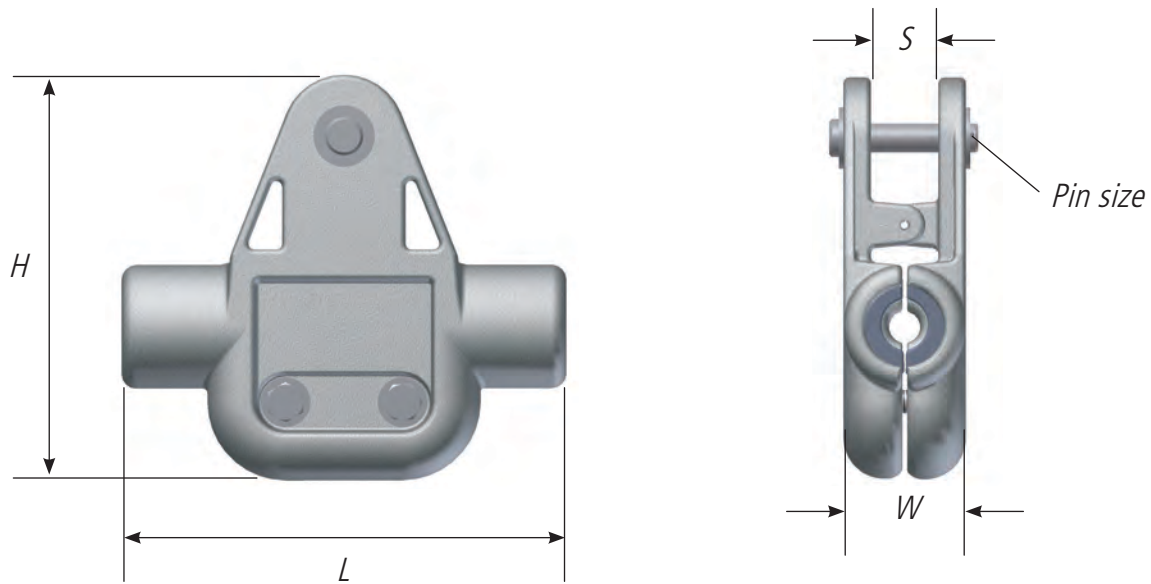
Ordering Information

HCSHT	1073	LL	BNC
HCS = HIBUS Series Conductor Suspension HCSHT = HIBUS Series Conductor Suspension for high temperature applications	Conductor Range Code	Blank = no Live-line Attachment Point LL = include Live-line Attachment Point	Blank = Clevis Pin and Cotter Pin Attachment BNC = Bolt, Nut, Cotter Pin Attachment (Note: limited availability for BNC, contact AFL)

ORDERING EXAMPLE: HCSHT1073LL

HIBUS Series Conductor Suspension, 1.073-1.115 range, rated for 250°C high temperature application and including a Live-line Attachment Point.

HIBUS Series – Conductor Suspension



STANDARD CONDUCTORS: ACSR, AAC, AAAC, ACAR

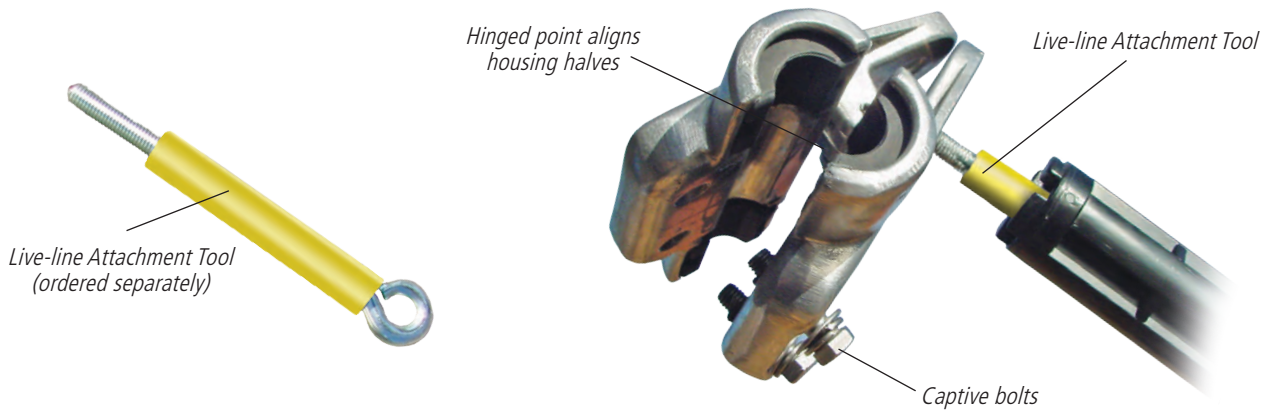
HIGH TEMPERATURE CONDUCTORS: ACSS, HS285

AFL NO.		RANGE (IN)		RANGE (MM)		LENGTH (L)	HEIGHT (H)	WIDTH (W)	CLEVIS WIDTH (S)	WEIGHT (LBS)	VERT. LOAD RATING (LBS)	PIN/BOLT SIZE
STANDARD	HIGH TEMP.	MIN	MAX	MIN	MAX							
HCS710	HCSHT710	0.710	0.755	18.0	19.2	9.5"	8.6"	2.6"	1.4"	7.5	25,000	.625" x 3.25"
HCS756	HCSHT756	0.756	0.799	19.2	20.3							
HCS800	HCSHT800	0.800	0.842	20.3	21.4							
HCS843	HCSHT843	0.843	0.883	21.4	22.4							
HCS880	HCSHT880	0.880	0.931	22.4	23.6							
HCS932	HCSHT932	0.932	0.980	23.7	24.9							
HCS981	HCSHT981	0.981	1.027	24.9	26.1	9.5"	8.8"	2.9"	1.4"	7.8	25,000	.625" x 3.25"
HCS1028	HCSHT1028	1.028	1.072	26.1	27.2							
HCS1073	HCSHT1073	1.073	1.115	27.3	28.3							
HCS1116	HCSHT1116	1.116	1.156	28.3	29.4							
HCS1157	HCSHT1157	1.157	1.196	29.4	30.4							
HCS1197	HCSHT1197	1.197	1.237	30.4	31.4							
HCS1238	HCSHT1238	1.238	1.294	31.4	32.9	10.0"	9.6"	3.3"	1.4"	8.1	25,000	.625" x 3.25"
HCS1295	HCSHT1295	1.295	1.349	32.9	34.3							
HCS1350	HCSHT1350	1.350	1.401	34.3	35.6							
HCS1402	HCSHT1402	1.402	1.451	35.6	36.9							
HCS1452	HCSHT1452	1.452	1.499	36.9	38.1							
HCS1500	HCSHT1500	1.500	1.545	38.1	39.2							
HCS1546	HCSHT1546	1.546	1.569	39.3	39.9	10.9"	10.4"	3.8"	1.5"	9.7	30,000	.750" x 4.00"
HCS1570	HCSHT1570	1.570	1.639	39.9	41.6							
HCS1640	HCSHT1640	1.640	1.707	41.7	43.4							
HCS1708	HCSHT1708	1.708	1.771	43.4	45.0							
HCS1772	HCSHT1772	1.772	1.833	45.0	46.6							
HCS1834	HCSHT1834	1.834	1.892	46.6	48.1							

*Dimensions are approximate and will vary slightly according to conductor size.

HIBUS Series – Conductor Suspension

Live-line Attachment Tool



Installation Sequence for Live-line Attachment



1. HIBUS Suspension with the Live-line Attachment Tool ordered from AFL



2. Secure the HIBUS Suspension to the "Hot Stick" using the Live-line Attachment Tool



3. With the HIBUS Suspension in the open position, locate the unit on the conductor



4. Once in position, rotate the "Hot Stick" (with Live-line Attachment Tool attached) in a clockwise direction until the HIBUS Suspension is fully closed



5. Remove the "Hot Stick" from the Live-line Attachment Tool



6. Attach a "Drive Socket" to the "Hot Stick" (normally included with standard hot stick kits)



7. Tighten the captive bolts on the HIBUS Suspension to the specified torque



8. Remove the Live-line Attachment Tool with the "Hot Stick" and attach the HIBUS Suspension to the insulator with the mounting pin provided

Ordering Information

DESCRIPTION	AFL NO.
Live-line Attachment Tool (order separately)	HIBUS-LLT

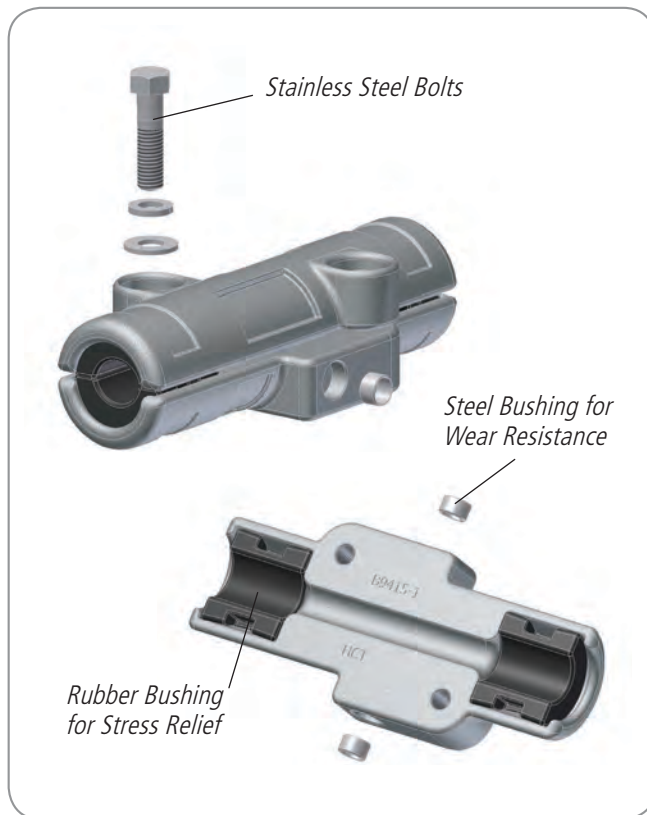
HIBUS Series – Conductor Trunnion



The HIBUS Series Conductor Trunnion is designed to reduce static and dynamic stress at the attachment point on transmission conductors without the use of armor rods or line guards. Rated for 250°C operation, the HIBUS Series Conductor Trunnion has a specially formulated bushing material for high temperature conductors.

Test results have shown that the unique bushing system significantly reduces the bending strain level produced by the effects of Aeolian vibration as compared to standard clamps using armor rods or line guards. This proven level of performance eliminates the need for any type of attachment using rods. Test reports available include corona test, high temperature profile, standard and high temperature slip, ultimate strength, and catastrophic conductor failure impact strength.

Trunnion Components

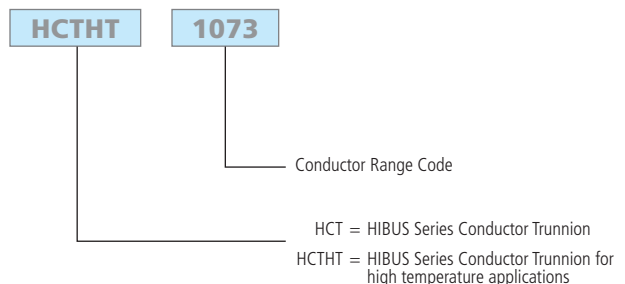


The unit features captive hardware.

Features

- Suitable for all ACSR and ACSS conductors
- Stress relief bushings reduce bending strain 40%
- Aluminum body with secured captive stainless steel mounting bolts
- Wear resistant with steel bushing insert in mounting trunnion hole
- Line angles up to 30° for single unit, up to 60° for two units
- Rated for 500 kV applications
- Rated for 250°C high temperature applications (with special bushings)

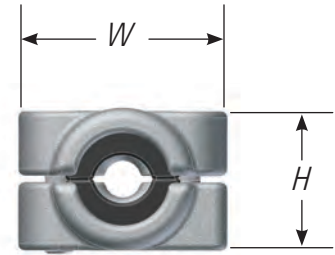
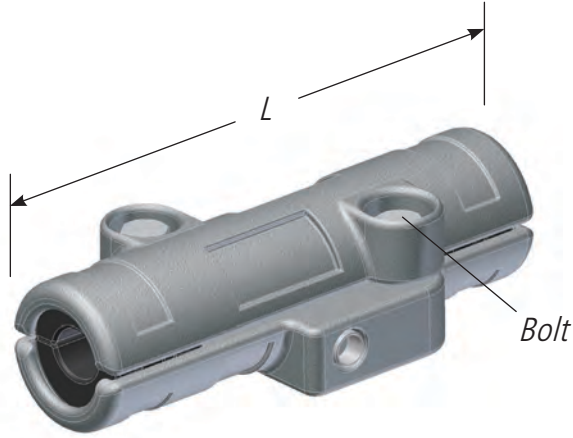
Ordering Information



ORDERING EXAMPLE: HCTHT1073

HIBUS Series Conductor Trunnion, 1.073-1.115 range, rated for 250°C high temperature application.

HIBUS Series – Conductor Trunnion

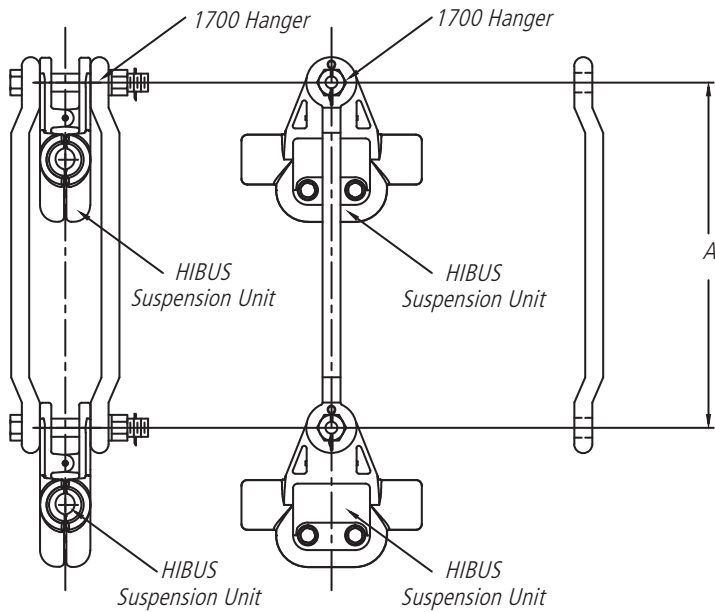


STANDARD CONDUCTORS: ACSR, AAC, AAAC, ACAR

HIGH TEMPERATURE CONDUCTORS: ACSS, HS285

AFL NO.		RANGE (IN)		RANGE (MM)		LENGTH (L)	HEIGHT (H)	WIDTH (W)	WEIGHT (LBS)	VERT. LOAD RATING (LBS)	BOLT SIZE
STANDARD	HIGH TEMP.	MIN	MAX	MIN	MAX						
HCT710	HCTHT710	0.710	0.755	19.2	19.2	9.5"	2.6"	3.8"	4.5	25,000	1/2" – 13 UNC
HCT756	HCTHT756	0.756	0.799	20.3	20.3						
HCT800	HCTHT800	0.800	0.842	21.4	21.4						
HCT843	HCTHT843	0.843	0.883	22.4	22.4						
HCT880	HCTHT880	0.880	0.931	23.6	23.6						
HCT932	HCTHT932	0.932	0.980	24.9	24.9						
HCT981	HCTHT981	0.981	1.027	26.1	26.1	9.5"	3.0"	3.8"	4.5	25,000	1/2" – 13 UNC
HCT1028	HCTHT1028	1.028	1.072	27.2	27.2						
HCT1073	HCTHT1073	1.073	1.115	28.3	28.3						
HCT1116	HCTHT1116	1.116	1.156	29.4	29.4						
HCT1157	HCTHT1157	1.157	1.196	30.4	30.4						
HCT1197	HCTHT1197	1.197	1.237	31.4	31.4						
HCT1238	HCTHT1238	1.238	1.294	32.9	32.9						
HCT1295	HCTHT1295	1.295	1.349	34.3	34.3	10.0"	3.4"	3.8"	4.2	25,000	1/2" – 13 UNC
HCT1350	HCTHT1350	1.350	1.401	35.6	35.6						
HCT1402	HCTHT1402	1.402	1.451	36.9	36.9						
HCT1452	HCTHT1452	1.452	1.499	38.1	38.1						
HCT1500	HCTHT1500	1.500	1.545	39.2	39.2						
HCT1546	HCTHT1546	1.546	1.569	39.9	39.9						
HCT1570	HCTHT1570	1.570	1.639	41.6	41.6						

HIBUS Series – Hanger Links



Available in both Standard and High Temperature.

Ordering information HIBUS Suspension Unit – Standard

AFL NO.	ITEMS PER ASSEMBLY		DIMENSIONS IN INCHES
	1	2	
STANDARD	1	2	A
HCS710-12HL	1700-E-12	HCS710	12.0
HCS710-18HL	1700-E-18	HCS710	18.0
HCS756-12HL	1700-E-12	HCS756	12.0
HCS756-18HL	1700-E-18	HCS756	18.0
HCS800-12HL	1700-E-12	HCS800	12.0
HCS800-18HL	1700-E-18	HCS800	18.0
HCS843-12HL	1700-E-12	HCS843	12.0
HCS843-18HL	1700-E-18	HCS843	18.0
HCS880-12HL	1700-E-12	HCS880	12.0
HCS880-18HL	1700-E-18	HCS880	18.0
HCS932-12HL	1700-E-12	HCS932	12.0
HCS932-18HL	1700-E-18	HCS932	18.0
HCS981-12HL	1700-E-12	HCS981	12.0
HCS981-18HL	1700-E-18	HCS981	18.0
HCS1028-12HL	1700-E-12	HCS1028	12.0
HCS1028-18HL	1700-E-18	HCS1028	18.0
HCS1073-12HL	1700-E-12	HCS1073	12.0
HCS1073-18HL	1700-E-18	HCS1073	18.0
HCS1116-12HL	1700-E-12	HCS1116	12.0
HCS1116-18HL	1700-E-18	HCS1116	18.0
HCS1157-12HL	1700-E-12	HCS1157	12.0
HCS1157-18HL	1700-E-18	HCS1157	18.0
HCS1197-12HL	1700-E-12	HCS1197	12.0
HCS1197-18HL	1700-E-18	HCS1197	18.0

AFL NO.	ITEMS PER ASSEMBLY		DIMENSIONS IN INCHES
	1	2	
STANDARD	1	2	A
HCS1238-12HL	1700-E-12	HCS1238	12.0
HCS1238-18HL	1700-E-18	HCS1238	18.0
HCS1295-12HL	1700-E-12	HCS1295	12.0
HCS1295-18HL	1700-E-18	HCS1295	18.0
HCS1350-12HL	1700-E-12	HCS1350	12.0
HCS1350-18HL	1700-E-18	HCS1350	18.0
HCS1402-12HL	1700-E-12	HCS1402	12.0
HCS1402-18HL	1700-E-18	HCS1402	18.0
HCS1452-12HL	1700-E-12	HCS1452	12.0
HCS1452-18HL	1700-E-18	HCS1452	18.0
HCS1500-12HL	1700-E-12	HCS1500	12.0
HCS1500-18HL	1700-E-18	HCS1500	18.0
HCS1546-12HL	1700-E-12	HCS1546	12.0
HCS1546-18HL	1700-E-18	HCS1546	18.0
HCS1570-12HL	1700-E-12	HCS1570	12.0
HCS1570-18HL	1700-E-18	HCS1570	18.0
HCS1640BNC-12HL	1700-E-12	HCS1640BNC	12.0
HCS1640BNC-18HL	1700-E-18	HCS1640BNC	18.0
HCS1708BNC-12HL	1700-E-12	HCS1708BNC	12.0
HCS1708BNC-18HL	1700-E-18	HCS1708BNC	18.0
HCS1772BNC-12HL	1700-E-12	HCS1772BNC	12.0
HCS1772BNC-18HL	1700-E-18	HCS1772BNC	18.0
HCS1834BNC-12HL	1700-E-12	HCS1834BNC	12.0
HCS1834BNC-18HL	1700-E-18	HCS1834BNC	18.0

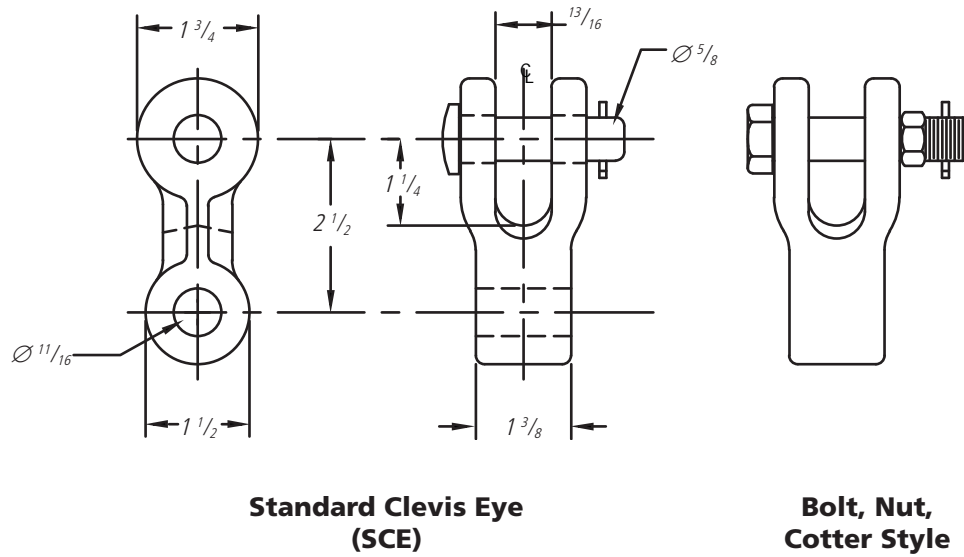
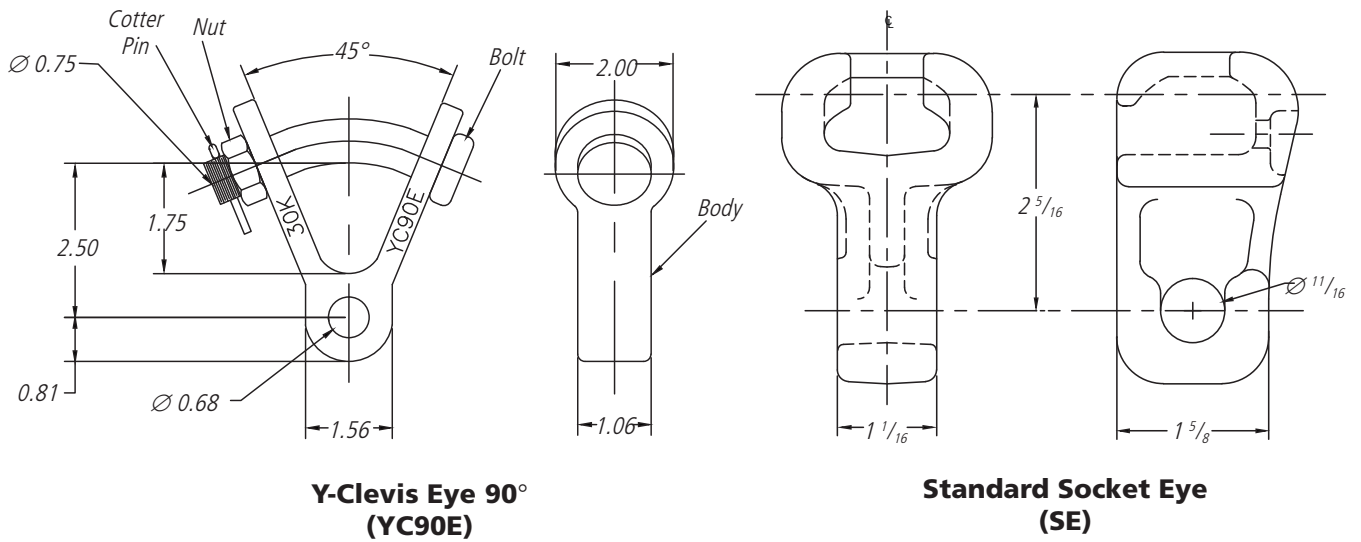
HIBUS Series – Hanger Links

Ordering information HIBUS Suspension Unit – High Temperature

AFL NO.	ITEMS PER ASSEMBLY		DIMENSIONS IN INCHES
	1	2	
HIGH TEMP.			A
HCSHT710-12HL	1700-E-12	HCSHT710	12.0
HCSHT710-18HL	1700-E-18	HCSHT710	18.0
HCSHT756-12HL	1700-E-12	HCSHT756	12.0
HCSHT756-18HL	1700-E-18	HCSHT756	18.0
HCSHT800-12HL	1700-E-12	HCSHT800	12.0
HCSHT800-18HL	1700-E-18	HCSHT800	18.0
HCSHT843-12HL	1700-E-12	HCSHT843	12.0
HCSHT843-18HL	1700-E-18	HCSHT843	18.0
HCSHT880-12HL	1700-E-12	HCSHT880	12.0
HCSHT880-18HL	1700-E-18	HCSHT880	18.0
HCSHT932-12HL	1700-E-12	HCSHT932	12.0
HCSHT932-18HL	1700-E-18	HCSHT932	18.0
HCSHT981-12HL	1700-E-12	HCSHT981	12.0
HCSHT981-18HL	1700-E-18	HCSHT981	18.0
HCSHT1028-12HL	1700-E-12	HCSHT1028	12.0
HCSHT1028-18HL	1700-E-18	HCSHT1028	18.0
HCSHT1073-12HL	1700-E-12	HCSHT1073	12.0
HCSHT1073-18HL	1700-E-18	HCSHT1073	18.0
HCSHT1116-12HL	1700-E-12	HCSHT1116	12.0
HCSHT1116-18HL	1700-E-18	HCSHT1116	18.0
HCSHT1157-12HL	1700-E-12	HCSHT1157	12.0
HCSHT1157-18HL	1700-E-18	HCSHT1157	18.0
HCSHT1197-12HL	1700-E-12	HCSHT1197	12.0
HCSHT1197-18HL	1700-E-18	HCSHT1197	18.0

AFL NO.	ITEMS PER ASSEMBLY		DIMENSIONS IN INCHES
	1	2	
HIGH TEMP.			A
HCSHT1238-12HL	1700-E-12	HCSHT1238	12.0
HCSHT1238-18HL	1700-E-18	HCSHT1238	18.0
HCSHT1295-12HL	1700-E-12	HCSHT1295	12.0
HCSHT1295-18HL	1700-E-18	HCSHT1295	18.0
HCSHT1350-12HL	1700-E-12	HCSHT1350	12.0
HCSHT1350-18HL	1700-E-18	HCSHT1350	18.0
HCSHT1402-12HL	1700-E-12	HCSHT1402	12.0
HCSHT1402-18HL	1700-E-18	HCSHT1402	18.0
HCSHT1452-12HL	1700-E-12	HCSHT1452	12.0
HCSHT1452-18HL	1700-E-18	HCSHT1452	18.0
HCSHT1500-12HL	1700-E-12	HCSHT1500	12.0
HCSHT1500-18HL	1700-E-18	HCSHT1500	18.0
HCSHT1546-12HL	1700-E-12	HCSHT1546	12.0
HCSHT1546-18HL	1700-E-18	HCSHT1546	18.0
HCSHT1570-12HL	1700-E-12	HCSHT1570	12.0
HCSHT1570-18HL	1700-E-18	HCSHT1570	18.0
HCSHT1640BNC-12HL	1700-E-12	HCSHT1640BNC	12.0
HCSHT1640BNC-18HL	1700-E-18	HCSHT1640BNC	18.0
HCSHT1708BNC-12HL	1700-E-12	HCSHT1708BNC	12.0
HCSHT1708BNC-18HL	1700-E-18	HCSHT1708BNC	18.0
HCSHT1772BNC-12HL	1700-E-12	HCSHT1772BNC	12.0
HCSHT1772BNC-18HL	1700-E-18	HCSHT1772BNC	18.0
HCSHT1834BNC-12HL	1700-F-12	HCSHT1834BNC	12.0
HCSHT1834BNC-18HL	1700-E-18	HCSHT1834BNC	18.0

HIBUS Series Hardware



Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)	MATERIAL
YC90E-688-1062	30,000	2.7	Body – Ductile Iron Bolt, Nut – Forged Steel Cotter Pin – Stainless Steel
SE-1062	30,000	1.17	Hot Dip Galvanized Ductile Iron
SCE-55-1375	30,000	1.58	Hot Dip Galvanized Ductile Iron





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