

# TRAVIS PATTERN & FOUNDRY

Founded in 1922 by Paul N. Travis, Travis Pattern and Foundry began as a small business producing patterns for sand casting. As the company grew, nonferrous foundry operations were added and industrial castings became a major part of the business.

The company experienced significant growth in the 1970's when it began producing a proprietary line of irrigation products. Self propelled irrigation systems were developed; then, as the product lines grew, casting operations increased and steel forming and galvanizing capabilities were added.

From the mid 1980's until the present, nonferrous casting operations have increased and more diverse product lines have been added. To support the power transmission industry, Travis Switchgear manufactures disconnect switches of many types and sizes. The acquisition of Product Design Unlimited in 1992 gave us the ability to provide a full range of sub-station connectors.

Travis Pattern and Foundry has experienced immense changes since its inception. Travis supplies an extensive range of products to a growing number of customers all over the world. Our facility has prevailed among the most modern anywhere. We continue to update our production equipment to keep up with new technology and provide the highest quality products available.



# GENERAL INFORMATION

## ALUMINUM CONNECTORS

### **MATERIAL:**

WELDED – 356-T6

BOLTED – 356-T6

COMPRESSION – 1100 GRADE (EC) , 1060-O

### **ALLOY COMPOSITION:**

356-T6 SI 6.5-7.5 FE .50 CU .35 MG .25-.40 MN .35 ZN .35 TI .25 BAL. ALU.

1100 (EC) SI .15 FE .6-.8 CU .10 ZN .05 ALU. 99.0

1060-O SI.25 FE 35 CU.05 MG .03 MN .03 TI .03 V .05 ZN .05 AL 99.6

### **HARDWARE:**

BOLTS: 2024-T4 ALLOY, COATED WITH NO. 205 ALUMILITE AND LUBRICATED WITH NO-OX-ID.

NUTS: 6061-T6 ALLOY

LOCK WASHERS: 7075-T6 ALLOY

### **NOMINAL TORQUE VALUES FOR LUBRICATED ALUMINUM BOLTS:**

3/8" = 15 FOOT POUNDS

1/2" = 25 FOOT POUNDS

5/8" = 40 FOOT POUNDS

## BRONZE CONNECTORS

### **MATERIAL:**

BOLTED – 833 (CONTACT METAL)

COMPRESSION – C-110 COPPER

### **ALLOY COMPOSITION:**

833 CU 93.0 TN 1.5 PB 1.5 ZN 4.0

### **HARDWARE:**

BOLTS : SILICON BRONZE (Not Lubricated)

NUTS & LOCK WASHERS: SILICON BRONZE

### **NOMINAL TORQUE VALUES FOR SILICON BRONZE BOLTS:**

3/8" = 20 FOOT POUNDS

1/2" = 40 FOOT POUNDS

5/8" = 55 FOOT POUNDS

# SPECIAL FEATURES

<u>FEATURE</u>	<u>SUFFIX</u>
Static eliminator spring .....	SE
Hot-dip tin plating (pad only).....	TP
Tin Plate all.....	TPA
Electro tin plating.....	ETP
Silver plating.....	AG
Internal fit.....	I
External fit.....	E
Center-formed pad.....	CF
Side-formed pad .....	SF
Transverse pad.....	V
Contact surface on both sides of pad .....	DF
Pads at angle.....degree deviation from parallel	
Change to 1/2" hardware .....	1/2HW
U-bolts in lieu of hex bolts.....	U
Special construction.....	SP(*)
(*describe special requirements on order)	
Stainless Bolt, Lock Washer and Silicon Bronze Nut....	BCH
Smooth Bore, No thread.....	SB(*)
Ground stud.....	GS
No locks.....	NL
Machined contact surface.....	MCS
Schedule 80 accommodation.....	H
Short Barrel.....	SHB
Silicon Bronze Hardware.....	SBHW
With out hardware shield (4x4 EHV).....	WOS
With one hardware shield (4x4 EHV).....	W1S
With two hardware shield (4x4 EHV).....	W2S

# TERMS AND CONDITIONS OF SALE

## Prices and Terms of Payment

Quotations are firm when accepted within 30 days. Payment terms are net 30 days from date of invoice.

## Transportation of Shipments

All prices are F.O.B. shipping point. Shipments over \$1000.00 will be freight allowed and prepaid to regular freight station or terminal nearest destination in U.S. except Alaska and Hawaii. Product Design reserves the right to determine the method of transportation and routing. When the Purchaser specifies other than the least expensive method, transportation expense will be borne by the Purchaser.

## Packaging

Product Design reserves the right to ship in standard packaging. All export or special types of packaging are subject to additional charges.

## Sales Tax

Prices do not include sales, use, excise or similar taxes. The Company reserves the right to add tax as may be required by law.

## Limitation of Liability

The Company's liability on any claim of any kind, including negligence, for any loss or damage resulting from this contract, from the manufacture, sale, resale, delivery, repair or use of our equipment furnished on this contract shall in no case exceed the price invoiced on the order. In no event shall the Company be liable for special or consequential damage.

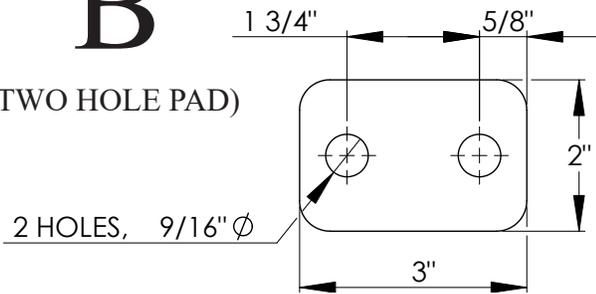
## Guarantee

Product Design warrants that its manufactured products will be free from defects in material, workmanship and title. If it appears within one year from date of shipment that the product does not meet the warranty specified under normal and proper use of the product, it will be repaired or replaced at the company's expense F.O.B. factory.

# PAD SIZES

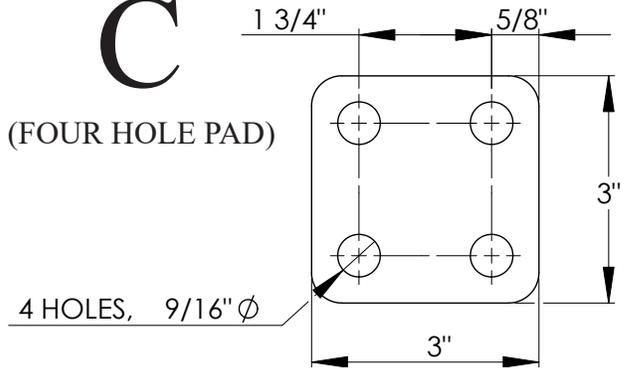
## B

(TWO HOLE PAD)



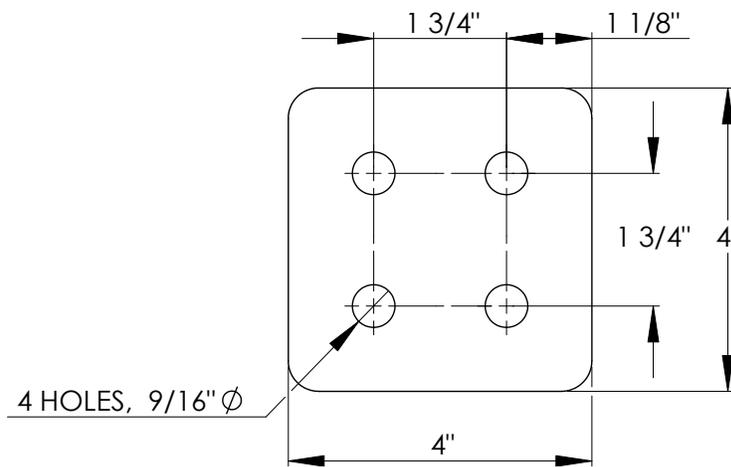
## C

(FOUR HOLE PAD)



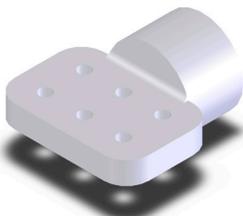
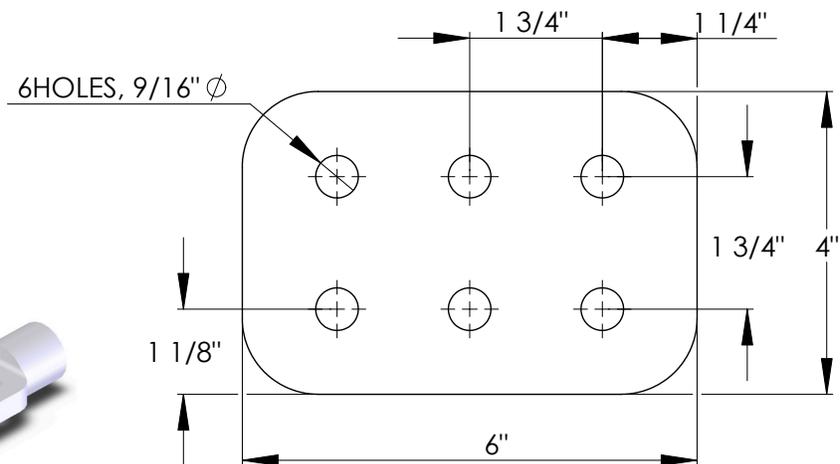
## D

(FOUR BY FOUR PAD)



## 6HP

(FOUR BY SIX PAD)



Standard orientation

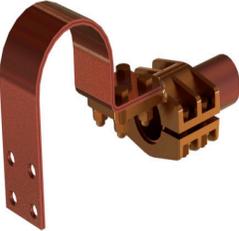
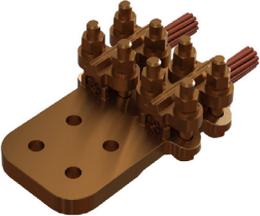
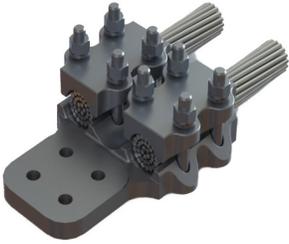
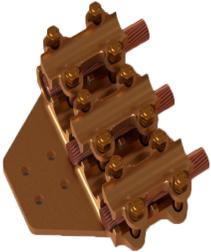
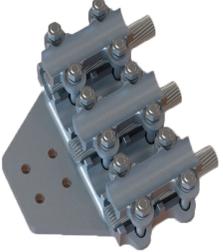


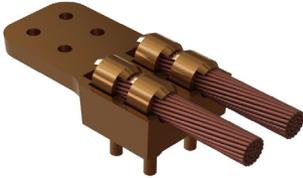
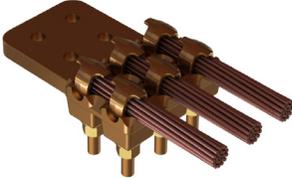
Long orientation  
use suffix -6HPL

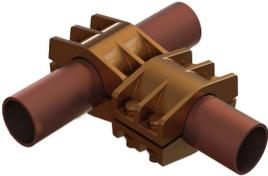
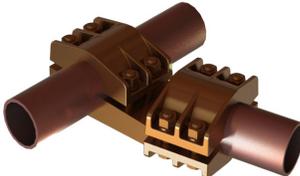
\*The tabulated measurements throughout this catalog that do not pertain to NEMA standards are approximate and subject to change. Please contact your local sales agent or the factory directly when overall dimensions are critical to any particular application. All PDU connectors are manufactured to NEMA CC1 standards.



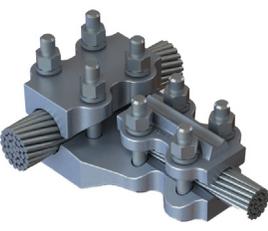
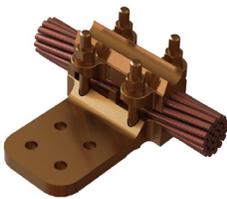
**SECTION 11 BOLTED TERMINALS**

CABLE TO FLAT PAD		PIPE TO FLAT PAD	
			
11-1	11-1A	11-2	11-2A
PIPE TO FLAT PAD EXPANSION		UNIVERSAL CROSS CABLE TO FLAT PAD	
			
11-2EX	11-2AEX	11-3	
DOUBLE CABLE TO FLAT PAD		TRIPLE CABLE TO FLAT PAD	
			
11-4	11-4A	11-4-3COND	11-4A-3COND
CABLE TO FLAT (EYE)		CABLE TO FLAT PAD (EYE)	
			
11-5	11-6	11-7	11-8

SECTION 11 BOLTED TERMINALS	
CABLE TO FLAT PAD (EYE)	
	
11-9	11-10

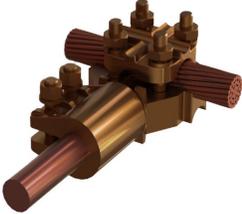
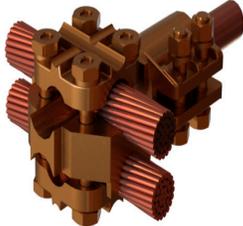
SECTION 12 BOLTED TEE CONNECTORS			
PIPE TO PIPE, TEE		PIPE TO ANGLE PIPE, TEE	
			
12-1	12-1A	12-2	12-2A
PIPE TO DOUBLE PIPE		PIPE TO CABLE, TEE	
			
12-3	12-3A	12-4	12-4A
PIPE TO DOUBLE CABLE, TEE		PIPE TO FLAT PAD, TEE	
			
12-4-2T	12-4A-2T	12-5	12-5A

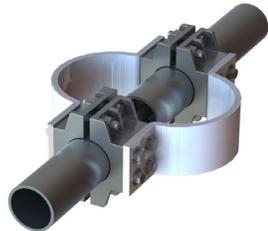
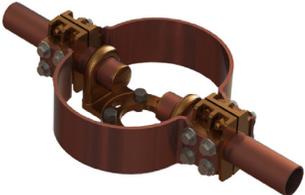
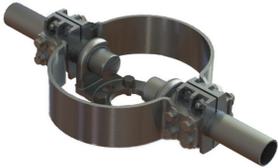
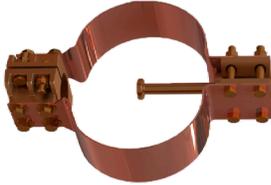
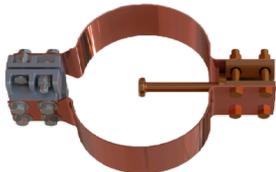
**SECTION 12 BOLTED TEE CONNECTORS**

CABLE TO CABLE, TEE		CABLE TO PIPE, TEE	
			
12-6	12-6A	12-7	12-7A
CABLE TO FLAT PAD, TEE			
			
12-8	12-8A		

**SECTION 13 BOLTED COUPLERS**

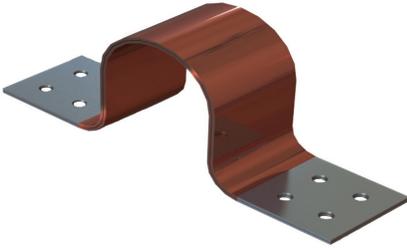
PIPE TO PIPE		PIPE TO CABLE	
			
13-1	13-1A	13-2	13-2A
PIPE TO PIPE ELBOW		PIPE TO PIPE VA ELBOW	CABLE TO CABLE COUPLER
			
13-3	13-3A	13-3-VA & 13-3A-VA	13-4 & 13-4A

SECTION 14 BOLTED STUD CONNECTORS			
STUD TO PIPE		STUD TO CABLE	
			
14-1	14-1A	14-2	14-2A
STUD TO CABLE “+”	STUD TO 2 CABLES “+”	STUD TO FLAT PAD	
			
14-2WRX	14-2WRX2	14-3	14-3A

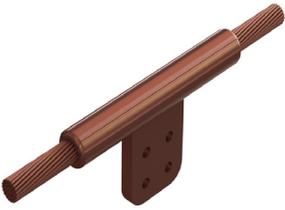
SECTION 15 BOLTED EXPANSION TERMINALS AND CONNECTORS			
PIPE TO FLAT PAD		PIPE TO PIPE	
			
15-1	15-1A	15-2	15-2A
EXPANSION BUS SUPPORTS		STUD TO PIPE	
			
15-3	15-3A	15-4	15-4A

**SECTION 15 BOLTED EXPANSION TERMINALS AND CONNECTORS**

**EXPANSION CONNECTORS**

	
<p>15-5</p>	<p>15-5A</p>

**SECTION 16 COMPRESSION FITTINGS**

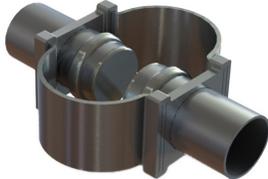
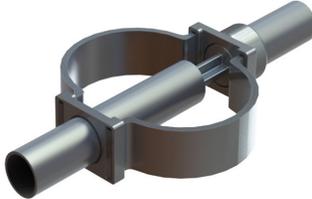
CABLE TO PAD	CABLE TO PAD, A1C	DOUBLE CABLE TO PAD		
				
<p>16-1</p>	<p>16-1A</p>	<p>16-1A-A1C</p>	<p>16-1A-2B</p>	
DOUBLE CABLE TO PAD, A1C		CABLE TO PAD, TEE		CABLE TO CABLE, TEE
				
<p>16-1A-2B-A1C</p>	<p>16-2</p>	<p>16-2A</p>	<p>16-3 &amp; 16-3A</p>	

**SECTION 16-SW SWAGE FITTINGS**

CABLE TO FLAT PAD	DOUBLE TO FLAT	PIPE TO FLAT PAD	CABLE TO CABLE, TEE
			
<p>16-SWC-1</p>	<p>16-SWC-1-2B</p>	<p>16-SWC-2</p>	<p>16-SWC-3</p>

SECTION 17 GROUND CLAMPS			
CABLE TO ROD/PIPE	CABLE TO FLAT	BRAID TO ROD/PIPE	CABLE TO POST
			
17-1	17-2	17-3	17-4
CABLE TO ROD/PIPE	PIPE TO MULTI-CABLE, CROSS	CABLE TO GROUNDING	CABLE TO GROUNDING
			
17-5	17-5.5	17-6	17-6A
PIPE TO GROUNDING	PIPE TO STUD	PAD TO STUD	
			
17-7	17-7A	17-8	

SECTION 18 WELDMENT CONNECTORS			
PIPE TO PAD	PIPE TO PAD EX	PIPE TO PIPE, TEE	PIPE TO ANGLE PIPE
			
18-1	18-1EX	18-2	18-3

SECTION 18 WELDMENT CONNECTORS			
PIPE TO PIPE, VEE	PIPE TO PIPE Y	PIPE TO PIPE COUPLER	PIPE TO PAD, TEE
			
18-4	18-5	18-6	18-7
PIPE TO PIPE ELBOW	CABLE TO PAD	(2) CABLE TO PAD	PIPE TO CABLE, TEE
			
18-8	18-9	18-10	18-11
PIPE TO CABLE	PIPE TO PIPE EX/SUPPORT	PIPE TO PIPE EX	PIPE TO PAD
			
18-12	18-13	18-14	18-15
STUD TO PIPE	GROUNDING STUD	INTERNAL PLUG	EXTERNAL PLUG
			
18-16	18-17	18-18	18-19

SECTION 18-SW SWAGE CONNECTORS			
PIPE TO FLAT PAD	PIPE TO FLAT PAD-EX	PIPE TO PIPE , TEE	PIPE TO ANGLE PIPE, TEE
			
18-SW-1	18-SW-1-EX	18-SW-2	18-SW-3
PIPE TO ANGLE PIPE, VEE	PIPE TO PIPE, Y	PIPE TO PIPE, COUPLER	PIPE TO ANGLE PIPE, TEE
			
18-SW-4	18-SW-5	18-SW-6	18-SW-7
PIPE TO PIPE, ELBOW	EX COUPLER SUPPORT	EX COUPLER PIPE TO PIPE	EX TERMINAL TO PIPE
			
18-SW-8	18-SW-13	18-SW-14	18-SW-15
	GROUNDING STUD	END BELL	
			
	18-SW-17	18-SW-19	

**SECTION 19 BUS SUPPORTS**

PEDESTAL STYLE		OPEN BASE	
			
19-1	19-1A	19-2	19-2A
SINGLE RING		HOOK-ON	OPEN BASE WELD
			
19-3	19-3A	19-4	19-5
CABLE BUS SUPPORTS		DOUBLE CABLE BUS SUPPORTS	
			
19-6	19-6A	19-6-2CND	19-6-2CND
VERTICAL BUS WELD	VERTICAL BUS BOLTED		COUPLER SUPPORTS
			
19-7	19-8A	19-8A	19-9

SECTION 19 BUS SUPPORTS			
COUPLER SUPPORTS	SLIDING COUPLER SUPPORTS		BOLT CIRCLE HEIGHT ADAPTER
			
19-9A	19-10	19-10A	19-11

SECTION 110 PARALLEL CONNECTORS			
CABLE TO CABLE		CABLE TO CABLE U-BOLT STYLE	
			
110-1	110-1A	110-1U	
CABLE SPACER		CABLE SPACER, TEE	
			
110-1CS	110-1CS	110-CST	110-CST

SECTION 111 CORONA BELLS AND FLEXIBLE BRAIDS				
INTERNAL CORONA BELLS		EXTERNAL CORONA BELLS		FLEXIBLE TINNED BRAIDS
				
111-1	111-1	111-2	111-2	111-3

# BRONZE TERMINAL, CABLE TO FLAT PAD

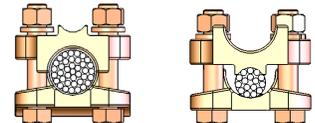
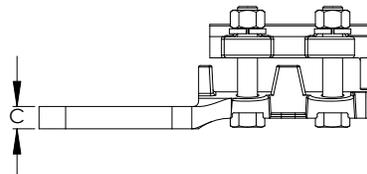
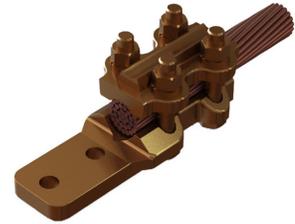
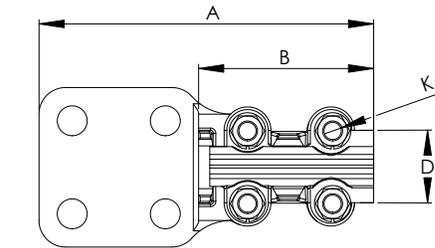
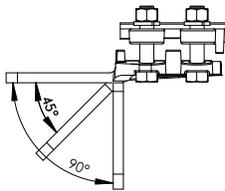
## SECTION

## 11-1

Cast of copper alloy for high conductivity and natural resistance to corrosion and stress, the type TU-terminals includes bolts, nuts, and lock washers made of silicon bronze for clamping strength and durability.

Bolt heads are captivated to facilitate single-wrench installation.

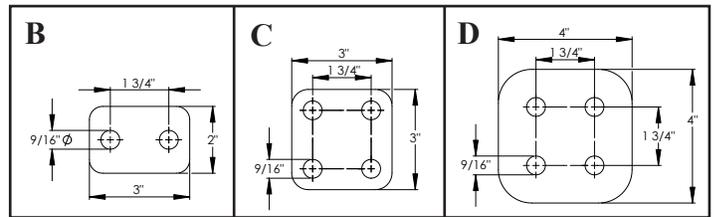
Side-formed NEMA pads are standard.



Wide Range denoted by: \*

Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

**Example:** A 45 degree tongue for number 11-101, should appear as 11-101-45.

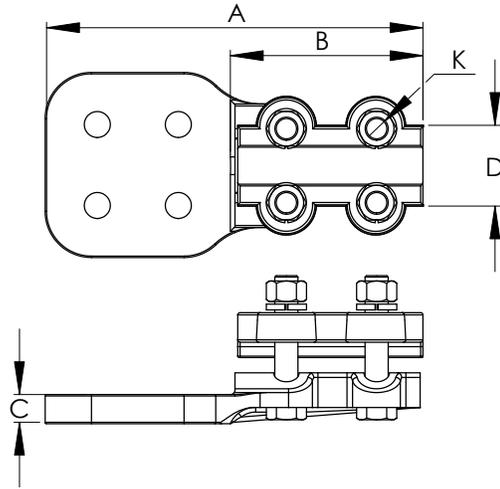
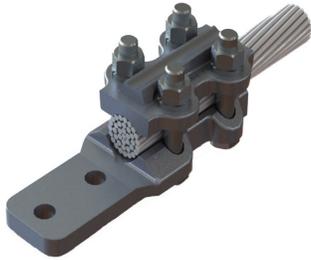


CATALOG NUMBER	STYLE PAD	CABLE AWG MIN.	SIZE MCM MAX	DIMENSIONS IN INCHES				
				A	B	C	D	K
11-101*	B	8	250	5 11/16	2 3/4	3/8	1/2	3/8
11-104*	B	8	600	6 1/4	3 1/8	3/8	3/4	3/8
11-105*	C	8	600	6 1/8	3 1/8	3/8	3/4	3/8
11-106*	D	8	600	7 1/8	3 1/8	3/8	3/4	3/8
11-110*	B	4/0	1000	7 1/8	3 3/4	5/8	7/8	1/2
11-111*	C	4/0	1000	7	3 3/4	5/8	1	1/2
11-112*	D	4/0	1000	8	3 3/4	5/8	1	1/2
11-113	B	1000	1500	7 1/2	4 1/4	1/2	1 1/4	1/2
11-114	C	1000	1500	7 1/2	4 1/4	1/2	1 1/4	1/2
11-115	D	1000	1500	8 3/4	4 1/4	3/4	1 1/4	1/2
11-116	B	1500	2000	8 3/4	5 1/8	3/4	1 5/8	1/2
11-117	C	1500	2000	8 3/4	5 1/8	1	1 5/8	1/2
11-118	D	1500	2000	9 3/4	5 1/8	1	1 5/8	1/2

SECTION

11-1A

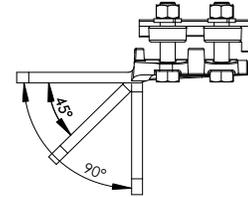
ALUMINUM TERMINAL,  
CABLE TO FLAT PAD



Cast of a lightweight aluminum alloy, the type ATU terminals include clamping hardware made of high-tensile aluminum.

Bolt heads are captivated to facilitate single-wrench installation.

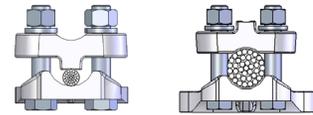
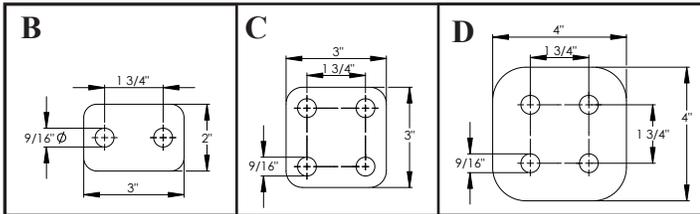
Side-formed NEMA pads are standard.



Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

**Example:**

A 90 degree tongue for a 11-126 should appear as 11-126-90.



Wide Range denoted by: \*

CATALOG NUMBER	PAD STYLE	ALUMINUM		ACSR		DIMENSIONS IN INCHES				
		CABLE AWG MIN.	SIZE MCM MAX	CABLE AWG MIN.	SIZE MCM MAX	A	B	C	D	K
11-125*	B	4	954	4	795	7 1/4	4	5/8	1 3/4	1/2
11-126*	C	4	954	4	795	7	4	5/8	1 3/4	1/2
11-127*	D	4	954	4	795	8 3/8	4	5/8	1 3/4	1/2
11-131	B	900	1272	715.5	1113	7	3 5/8	5/8	3 3/8	1/2
11-132	C	900	1272	715.5	1113	7	3 5/8	5/8	3 3/8	1/2
11-133	D	900	1272	715.5	1113	8 1/4	3 5/8	5/8	3 3/4	1/2
11-134	B	1272	1590	1113	1272	7 5/8	4 1/4	5/8	2	1/2
11-135	C	1272	1590	1113	1272	7 5/8	4 1/4	5/8	2 1/4	1/2
11-136	D	1272	1590	1113	1272	8 7/8	4 1/4	5/8	2 1/4	1/2
11-137	B	1590	2000	1272	1590	7 7/8	4 1/2	5/8	2 3/8	5/8
11-138	C	1590	2000	1272	1590	7 13/16	4 1/2	5/8	2 3/8	5/8
11-139	D	1590	2000	1272	1590	8 3/4	4 1/2	5/8	2 3/8	5/8

# BRONZE TERMINAL, PIPE TO FLAT PAD

SECTION

11-2

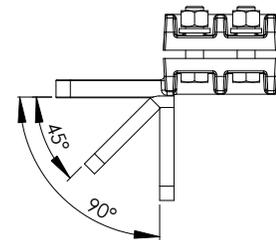
CATALOG NUMBER	PAD STYLE	PIPE SIZE IPS	DIMENSIONS IN INCHES					
			A	B	C	D	E	K
11-140	B	1/2	5	3	1/2	3/8	2 1/2	3/8
11-141	C	1/2	5	3	1/2	3/8	2 1/2	3/8
11-142	D	1/2	6	3	1/2	3/8	2 1/2	3/8
11-143	B	3/4	6	2 1/2	1	3/8	2 1/2	1/2
11-144	C	3/4	6	2 1/2	1	3/8	3 3/8	1/2
11-145	D	3/4	7	2 1/2	1	3/8	3 3/8	1/2
11-146	B	1	5 3/4	3 3/16	1	1/2	3 1/2	1/2
11-147	C	1	6 1/2	3 3/16	1 1/4	1/2	3 7/8	1/2
11-148	D	1	7 1/2	3 3/16	1 1/4	5/8	3 7/8	1/2
11-149	B	1 1/4	6 1/4	3 1/8	1 1/2	5/8	4 1/4	1/2
11-150	C	1 1/4	6 5/8	3 1/8	1 1/2	5/8	4 3/8	1/2
11-151	D	1 1/4	7 1/4	3 1/8	1 1/2	5/8	4 3/8	1/2
11-152	B	1 1/2	6 3/4	3 1/16	1 5/8	5/8	4 3/8	1/2
11-153	C	1 1/2	6 3/4	3 1/16	1 5/8	5/8	4 1/2	1/2
11-154	D	1 1/2	7 1/8	3 1/16	1 5/8	5/8	4 1/2	1/2
11-155	B	2	6 3/8	3 1/8	1 3/4	5/8	5 1/2	1/2
11-156	C	2	6 3/8	3 1/8	1 3/4	5/8	5 1/2	1/2
11-157	D	2	7 3/8	3 1/8	1 3/4	5/8	5 1/2	1/2
11-158	B	2 1/2	6 3/4	4	2 1/8	5/8	5 5/8	5/8
11-159	C	2 1/2	6 3/4	4	2 1/8	5/8	5 5/8	5/8
11-160	D	2 1/2	8 1/4	4	2 1/8	3/4	6 1/4	5/8
11-161	B	3	7 1/8	3 15/16	2 1/2	5/8	6 7/8	5/8
11-162	C	3	7 1/8	3 15/16	2 1/2	7/8	6 7/8	5/8
11-163	D	3	8 1/16	3 15/16	2 1/2	5/8	6 7/8	5/8
11-164	B	3 1/2	7 1/8	3 3/4	2 1/2	3/4	7 3/8	5/8
11-165	C	3 1/2	7 1/8	3 3/4	2 1/2	3/4	7 3/8	5/8
11-166	D	3 1/2	8 1/8	3 3/4	2 1/2	2 1/2	7 3/8	5/8
11-167	B	4	9 1/4	4 5/8	3 1/2	2/4	9 1/2	5/8
11-168	C	4	9 1/4	4 5/8	3 1/2	1	9 1/2	5/8
11-169	D	4	10 1/4	4 5/8	3 1/2	1	9 1/2	5/8
11-170	B	4 1/2	9 1/4	4 3/4	3 1/2	3/4	9 1/2	5/8
11-171	C	4 1/2	9 1/4	4 3/4	3 1/2	1	9 1/2	5/8
11-172	D	4 1/2	1 1/4	4 3/4	3 1/2	1	9 1/2	5/8
11-173	B	5	8 1/2	5 1/16	3 1/2	1	9 1/2	5/8
11-174	C	5	8 1/2	5 1/16	3 1/2	1	9 1/2	5/8
11-175	D	5	9 1/2	5 1/16	3 1/2	1	9 1/2	5/8
11-176	B	6	9 3/4	6	4 3/8	1 1/4	11	5/8
11-177	C	6	9 3/4	6	4 3/8	1 1/4	11	5/8
11-178	D	6	10 3/4	6	4 3/8	1 1/4	11	5/8



Cast of a high conductivity copper alloy, the type T pipe connector also includes bolts, nuts, and lock washers made of high strength silicon bronze.

Bolt heads are captivated to permit single-wrench installation.

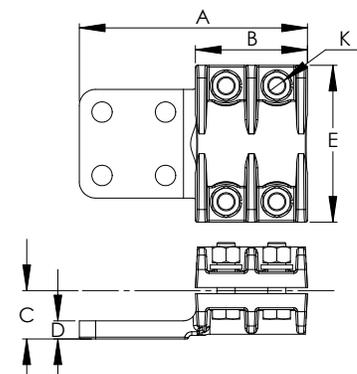
Side-formed NEMA pads are standard.



Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

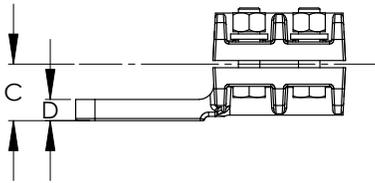
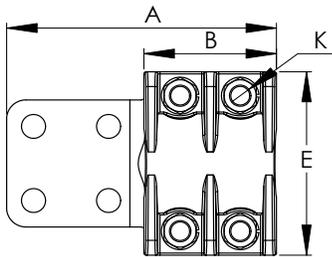
**Example:** A center-formed tongue for catalog number 11-140 should appear as 11-140-CF.

A 45 degree angle tongue for the same catalog number would be written as 11-140-45.



## SECTION

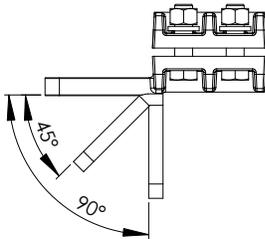
## 11-2A

ALUMINUM TERMINALS,  
PIPE TO FLAT PAD

Cast of a high conductivity aluminum alloy, the type AT pipe connector includes bolts, nuts, and lock washers made of high tensile aluminum.

Bolt heads are captivated to permit single-wrench installation.

Side-formed NEMA pads are standard.



Special tongue features will be provided if designated by the addition of a suffix to the catalog number.

**Example:** A center-formed tongue for catalog number 11-179 should appear as 11-179-CF.

A 45 degree angle tongue for the same catalog number would be written 11-179-45.

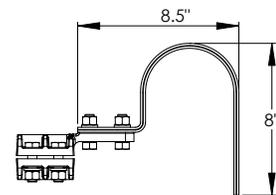
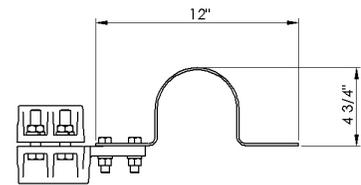
CATALOG NUMBER	PAD STYLE	PIPE SIZE IPS	DIMENSIONS IN INCHES					
			A	B	C	D	E	K
11-179	B	1/2	5	4	1/2	3/8	2 7/8	1/2
11-180	C	1/2	5	4	1/2	3/8	2 7/8	1/2
11-181	D	1/2	6	4	1/2	3/8	2 7/8	1/2
11-182	B	3/4	6 1/16	2 3/4	1	1/2	3 3/8	1/2
11-183	C	3/4	6 1/16	2 3/4	1	1/2	3 3/8	1/2
11-184	D	3/4	7 1/16	2 3/4	1	1/2	3 3/8	1/2
11-185	B	1	6 1/2	3 3/16	1 3/16	1/2	3 7/8	1/2
11-186	C	1	6 7/16	3 3/16	1 1/4	1/2	3 7/8	1/2
11-187	D	1	7 7/16	3 3/16	1 1/4	1/2	3 7/8	1/2
11-188	B	1 1/4	6 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-189	C	1 1/4	6 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-190	D	1 1/4	7 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-191	B	1 1/2	6 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-192	C	1 1/2	6 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-193	D	1 1/2	7 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-194	B	2	6 1/2	3 1/8	1 3/4	5/8	5 1/8	1/2
11-195	C	2	6 1/2	3 1/8	1 3/4	5/8	5 1/8	1/2
11-196	D	2	7 7/16	3 1/8	1 3/4	5/8	5 1/8	1/2
11-197	B	2 1/2	7 3/8	4	2	5/8	6 1/8	5/8
11-198	C	2 1/2	7 1/8	4	2	5/8	6 1/8	5/8
11-199	D	2 1/2	8 1/4	4	2	5/8	6 1/8	5/8
11-200	B	3	7 5/16	3 15/16	2 1/2	5/8	7	5/8
11-201	C	3	7 1/8	3 15/16	2 1/2	5/8	7	5/8
11-202	D	3	8 1/8	3 15/16	2 1/2	5/8	7	5/8
11-203	B	3 1/2	7	3 3/4	2 5/8	3/4	7 1/2	5/8
11-204	C	3 1/2	7	3 3/4	2 5/8	3/4	7 1/2	5/8
11-205	D	3 1/2	8	3 3/4	2 5/8	3/4	7 1/2	5/8
11-206	B	4	7 7/8	4 5/8	3	3/4	8 1/2	5/8
11-207	C	4	7 7/8	4 5/8	3	3/4	8 1/2	5/8
11-208	D	4	8 7/8	4 5/8	3	3/4	8 1/2	5/8
11-209	B	4 1/2	7 7/8	4 3/4	3	3/4	9 1/8	5/8
11-210	C	4 1/2	7 7/8	4 3/4	3	3/4	9 1/8	5/8
11-211	D	4 1/2	8 7/8	4 3/4	3	3/4	9 1/8	5/8
11-212	B	5	8 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-213	C	5	8 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-214	D	5	9 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-215	B	6	9 3/4	6	4 1/4	1 1/4	11	5/8
11-216	C	6	9 3/4	6	4 1/4	1 1/4	11	5/8
11-217	D	6	10 3/4	6	4 1/4	1 1/4	11	5/8

# BRONZE EXPANSION TERMINAL, PIPE TO FLAT PAD

SECTION

11-2EX

CATALOG NUMBER	PAD STYLE	PIPE SIZE IPS	DIMENSIONS IN INCHES					
			A	B	C	D	E	K
11-140-EX	B	1/2	5	3	1/2	3/8	2 1/4	3/8
11-141-EX	C	1/2	5	3	1/2	3/8	2 1/4	3/8
11-142-EX	D	1/2	6	3	1/2	3/8	2 1/4	3/8
11-143-EX	B	3/4	6	2 1/2	1	3/8	3 3/8	1/2
11-144-EX	C	3/4	6	2 1/2	1	3/8	3 3/8	1/2
11-145-EX	D	3/4	7	2 1/2	1	3/8	3 3/8	1/2
11-146-EX	B	1	5 3/4	3 3/16	1	1/2	3 7/8	1/2
11-147-EX	C	1	6 1/2	3 3/16	1 1/4	1/2	3 7/8	1/2
11-148-EX	D	1	7 1/2	3 3/16	1 1/4	5/8	3 7/8	1/2
11-149-EX	B	1 1/4	6 1/4	3 1/8	1 1/2	5/8	4 5/16	1/2
11-150-EX	C	1 1/4	6 1/4	3 1/8	1 1/2	5/8	4 5/16	1/2
11-151-EX	D	1 1/4	7 1/4	3 1/8	1 1/2	5/8	4 5/16	1/2
11-152-EX	B	1 1/2	6 1/8	3 1/16	1 1/2	5/8	4 3/8	1/2
11-153-EX	C	1 1/2	6 1/8	3 1/16	1 1/2	5/8	4 3/8	1/2
11-154-EX	D	1 1/2	7 1/8	3 1/16	1 1/2	5/8	4 3/8	1/2
11-155-EX	B	2	6 3/8	3 1/8	1 3/4	5/8	5 1/8	1/2
11-156-EX	C	2	6 3/8	3 1/8	1 3/4	5/8	5 1/8	1/2
11-157-EX	D	2	7 3/8	3 1/8	1 3/4	5/8	5 1/8	1/2
11-159-EX	C	2 1/2	6 3/4	4	2	5/8	6 1/8	5/8
11-160-EX	D	2 1/2	8 1/4	4	2	5/8	6 1/8	5/8
11-162-EX	C	3	7 1/8	3 15/16	2 1/2	7/8	7	5/8
11-163-EX	D	3	8 1/16	3 15/16	2 1/2	5/8	7	5/8
11-165-EX	C	3 1/2	7 1/8	3 3/4	2 1/2	3/4	7 1/2	5/8
11-166-EX	D	3 1/2	8 1/8	3 3/4	2 1/2	2 1/2	7 1/2	5/8
11-168-EX	C	4	9 1/4	4 5/8	3 1/2	1	8 1/2	5/8
11-169-EX	D	4	10 1/4	4 5/8	3 1/2	1	8 1/2	5/8
11-171-EX	C	4 1/2	9 1/4	4 3/4	3 1/2	1	9 1/8	5/8
11-172-EX	D	4 1/2	1 1/4	4 3/4	3 1/2	1	9 1/8	5/8
11-174-EX	C	5	8 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-175-EX	D	5	9 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-177-EX	C	6	9 3/4	6	4 3/8	1 1/4	11	5/8
11-178-EX	D	6	10 3/4	6	4 3/8	1 1/4	11	5/8



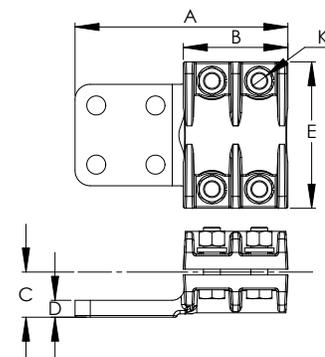
EX90

Cast of a high conductivity copper alloy, the type TEX pipe connector includes bolts, nuts, and lock washers made of high strength silicon bronze.

Bronze pad surface is coated with contact sealant and bolted to laminated shunt at factory.

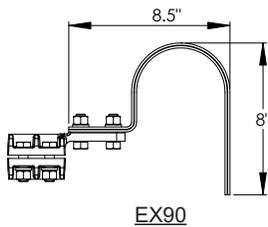
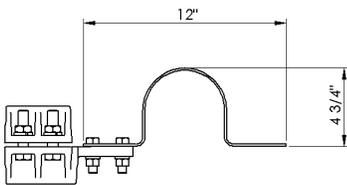
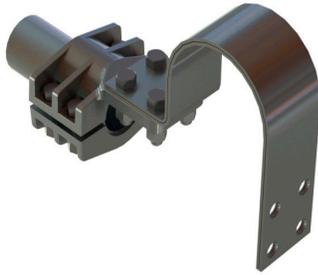
Use suffix EX90 for 90 degree expansion terminal as illustrated.

**Example:** 11-150-EX90



**SECTION**  
**11-2AEX**

**ALUMINUM EXPANSION TERMINAL,  
PIPE TO FLAT PAD**



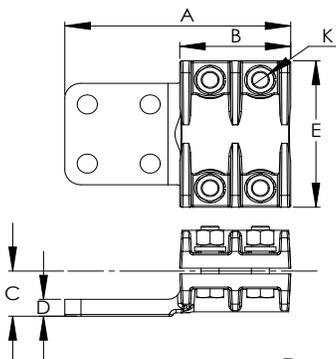
Cast of a high conductivity aluminum alloy, the type ATEX pipe connector also includes bolts, nuts, and lock washers made of high tensile aluminum for durability and clamping efficiency.

Aluminum pad surface is coated with contact sealant and bolted to laminated shunt at the factory. Preformed copper laminated shunt has tin plated contacts.

Use suffix EX90 for 90 degree expansion terminal as illustrated.

**Example:** 11-179-EX90

CATALOG NUMBER	PAD STYLE	TUBE SIZE IPS	DIMENSIONS IN INCHES					
			A	B	C	D	E	K
11-179-EX	B	1/2	5	4	1/2	3/8	2 7/8	1/2
11-180-EX	C	1/2	5	4	1/2	3/8	2 7/8	1/2
11-181-EX	D	1/2	6	4	1/2	3/8	2 7/8	1/2
11-182-EX	B	3/4	6 1/16	2 3/4	1	1/2	3 3/8	1/2
11-183-EX	C	3/4	6 1/16	2 3/4	1	1/2	3 3/8	1/2
11-184-EX	D	3/4	7 1/16	2 3/4	1	1/2	3 3/8	1/2
11-185-EX	B	1	6 1/2	3 3/16	1 3/16	1/2	3 7/8	1/2
11-186-EX	C	1	6 7/16	3 3/16	1 1/4	1/2	3 7/8	1/2
11-187-EX	D	1	7 7/16	3 3/16	1 1/4	1/2	3 7/8	1/2
11-188-EX	B	1 1/4	6 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-189-EX	C	1 1/4	6 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-190-EX	D	1 1/4	7 1/2	3 1/8	1 1/2	1/2	4 5/16	1/2
11-191-EX	B	1 1/2	6 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-192-EX	C	1 1/2	6 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-193-EX	D	1 1/2	7 5/16	3 1/16	1 1/2	5/8	4 3/8	1/2
11-194-EX	B	2	6 1/2	3 1/8	1 3/4	5/8	5 1/8	1/2
11-195-EX	C	2	6 1/2	3 1/8	1 3/4	5/8	5 1/8	1/2
11-196-EX	D	2	7 7/16	3 1/8	1 3/4	5/8	5 1/8	1/2
11-198-EX	C	2 1/2	7 1/8	4	2	5/8	6 1/8	5/8
11-199-EX	D	2 1/2	8 1/4	4	2	5/8	6 1/8	5/8
11-201-EX	C	3	7 1/8	3 15/16	2 1/2	5/8	7	5/8
11-202-EX	D	3	8 1/8	3 15/16	2 1/2	5/8	7	5/8
11-204-EX	C	3 1/2	7	3 3/4	2 5/8	3/4	7 1/2	5/8
11-205-EX	D	3 1/2	8	3 3/4	2 5/8	3/4	7 1/2	5/8
11-208-EX	D	4	8 7/8	4 5/8	3	3/4	8 1/2	5/8
11-211-EX	D	4 1/2	8 7/8	4 3/4	3	3/4	9 1/8	5/8
11-214-EX	D	5	9 1/2	5 1/16	3 1/2	1	9 5/8	5/8
11-217-EX	D	6	10 3/4	6	4 1/4	1 1/4	11	5/8



# BRONZE TERMINAL, UNIVERSAL CROSS CONNECTOR

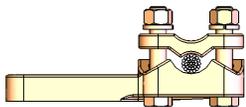
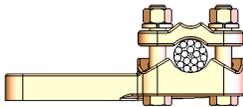
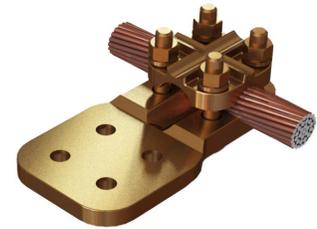
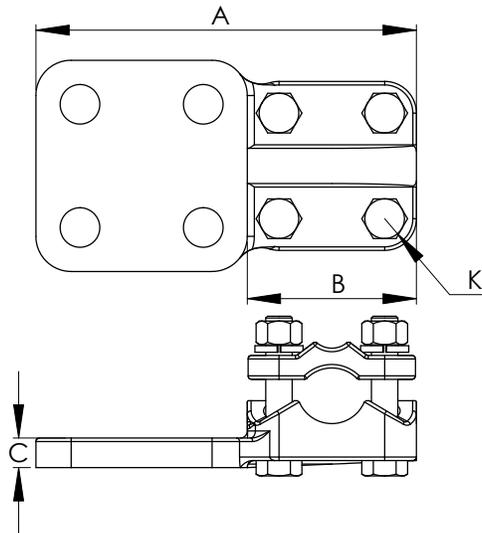
SECTION

11-3

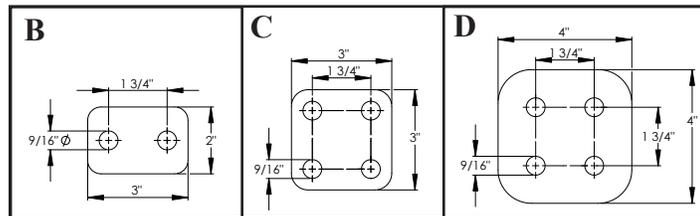
In addition to covering a wide cable range, the versatile type UCT connector features front and side entrances for adaptability in the field.

It utilizes a high conductivity copper alloy with clamping hardware made of high strength silicon bronze.

Bolt heads are captivated to permit single-wrench installation.

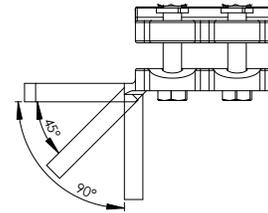
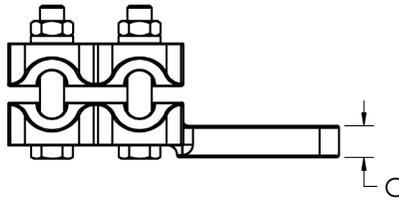
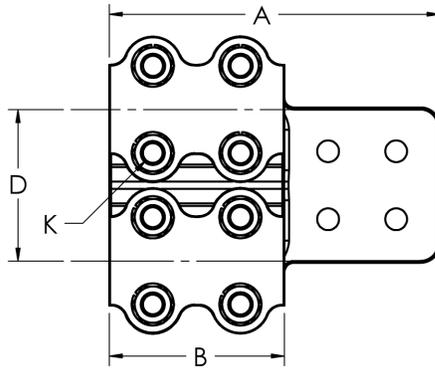


Wide Range



CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN.	MCM MAX.	A	B	C	K
11-218	B	2	800	6	2 3/4	1/2	3/8
11-219	C	2	800	6	2 3/4	1/2	3/8
11-220	D	2	800	6 3/4	2 3/8	1/2	3/8
11-221	B	4/0	1500	6 3/8	3 3/8	1/2	1/2
11-222	C	4/0	1500	6 3/8	3 3/8	1/2	1/2
11-223	D	4/0	1500	7 3/8	3 3/8	1/2	1/2
11-224	B	1000	2000	7 1/8	3 5/8	5/8	1/2
11-225	C	1000	2000	7 1/8	3 5/8	5/8	1/2
11-226	D	1000	2000	8 1/8	3 5/8	5/8	1/2

# BRONZE TERMINAL, DOUBLE CABLE TO FLAT PAD



Bronze straight bolt terminals are supplied with silicon bronze bolts, nuts and lockwashers.

Bolt heads are captivated in casting to facilitate single wrench installation.

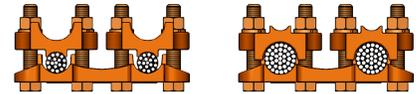
Side-formed pads with NEMA hole spacing are standard.

Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

### Example:

A 90 degree angle terminal for catalog number 11-230 should appear as 11-230-90.

Wide Range



CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES				
		AWG MIN.	MCM MAX.	A	B	C	D	K
11-230	B	8	600	6 3/8	3 1/8	1/2	1 5/8	3/8
11-231	C	8	600	6 3/8	3 1/8	1/2	1 5/8	3/8
11-232	D	8	600	7 3/4	3 1/8	1/2	1 5/8	3/8
11-233	B	4/0	1000	7 1/8	3 3/4	5/8	2	1/2
11-234	C	4/0	1000	7 1/8	3 3/4	5/8	2	1/2
11-235	D	4/0	1000	7 3/4	3 3/4	5/8	3 3/8	1/2
11-239	B	1000	2000	8 3/4	5 1/4	5/8	3 3/4	1/2
11-240	C	1000	2000	8 3/4	5 1/4	5/8	3 3/4	1/2
11-241	D	1000	2000	9 3/4	5 1/4	5/8	3 3/4	1/2

# ALUMINUM TERMINAL, DOUBLE CABLE TO FLAT PAD

SECTION

11-4A

Aluminum terminals are supplied with aluminum bolts, nuts and lockwashers.

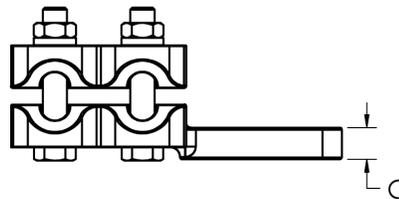
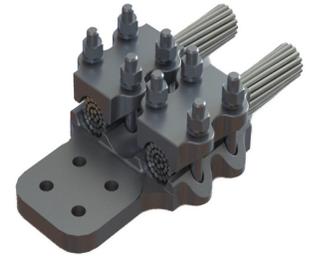
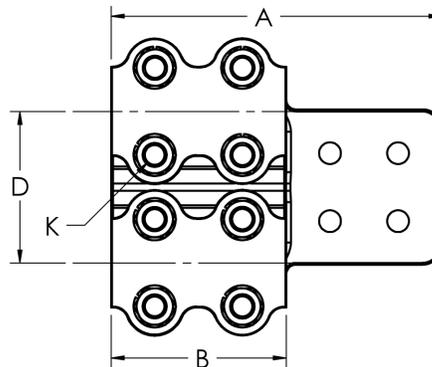
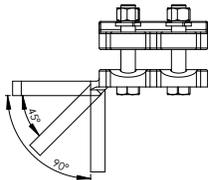
Bolt heads are captivated in casting to facilitate single wrench installation.

Side-formed pads with NEMA hole spacing are standard.

Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

**Example:**

A 90 degree angle terminal for catalog number 11-248 should appear as 11-248-90.



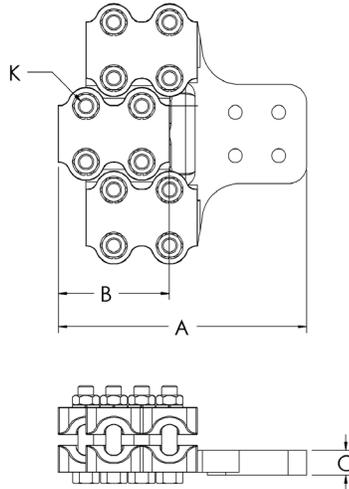
Wide Range denoted by: \*

CATALOG NUMBER	PAD STYLE	ALUMINUM CABLE SIZE		ACSR CABLE SIZE		DIMENSIONS IN INCHES				
		AWG or MCM MIN.	MAX.	AWG or MCM MIN.	MAX.	A	B	C	D	K
11-248*	B	4	954	4	795	7 3/8	4	5/8	3 1/4	1/2
11-249*	C	4	954	4	795	7 1/8	4	5/8	3 1/4	1/2
11-250*	D	4	954	4	795	8 3/4	4	5/8	3 1/4	1/2
11-251	B	900	1272	715.5	1113	7	3 5/8	5/8	3 1/2	1/2
11-252	C	900	1272	715.5	1113	7	3 5/8	5/8	3 1/2	1/2
11-253	D	900	1272	715.5	1113	8	3 5/8	5/8	3 1/2	1/2
11-254	B	1272	1590	1113	1272	7 1/2	4 1/4	5/8	3 1/2	1/2
11-255	C	1272	1590	1113	1272	7 5/8	4 1/4	5/8	3 1/2	1/2
11-256	D	1272	1590	1113	1272	8 3/4	4 1/4	3/4	3 1/2	1/2
11-260	B	1590	2000	1272	1590	7 3/4	4 1/2	5/8	4	5/8
11-261	C	1590	2000	1272	1590	7 3/4	4 1/2	5/8	4	5/8
11-262	D	1590	2000	1272	1590	9 3/8	4 1/2	3/4	4	3/4

SECTION

11-4-3COND

BRONZE TERMINALS, TRIPLE CABLE TO FLAT PAD



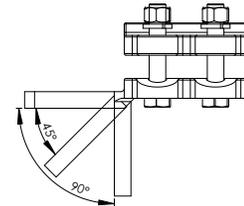
Bronze straight bolt terminals are supplied with silicon bronze bolts, nuts, and lockwashers.

Bolt heads are captivated in casting to facilitate single wrench installation.

Side-formed pads with NEMA hole spacing are standard.

Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

**Example:** A 90 degree angle terminal for catalog number 11-230-3COND should appear as 11-230-90-3COND.



Wide Range denoted by: \*

CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN.	MCM MAX.	A	B	C	K
11-230-3COND *	B	8	600	7 1/2	3 1/8	1/2	3/8
11-231-3COND *	C	8	600	7 1/2	3 1/8	1/2	3/8
11-232-3COND *	D	8	600	8 1/2	3 1/8	1/2	3/8
11-233-3COND *	B	4/0	1000	8	3 3/4	5/8	1/2
11-234-3COND *	C	4/0	1000	8	3 3/4	5/8	1/2
11-235-3COND *	D	4/0	1000	9	3 3/4	5/8	1/2
11-239-3COND	B	1000	2000	8 3/4	4 1/2	5/8	1/2
11-240-3COND	C	1000	2000	8 3/4	4 1/2	5/8	1/2
11-241-3COND	D	1000	2000	9 3/4	4 1/2	5/8	1/2

# ALUMINUM TERMINALS, TRIPLE CABLE TO FLAT PAD

## SECTION 11-4A-3COND

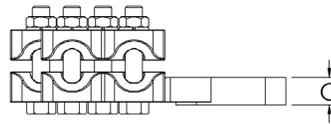
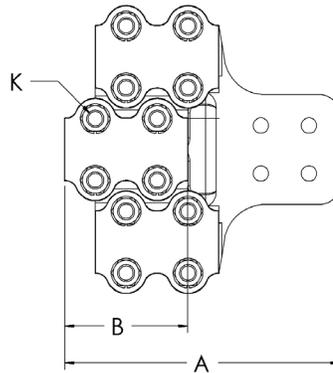
Aluminum terminals are supplied with aluminum bolts, nuts and lockwashers.

Bolt heads are captivated in casting to facilitate single wrench installation.

Side-formed pads with NEMA hole spacing are standard.

Special tongue features will be supplied, provided the catalog number is followed by the proper suffix.

**Example:** A 90 degree angle terminal for catalog number 11-248-3COND should appear as 11-248-3COND-90.

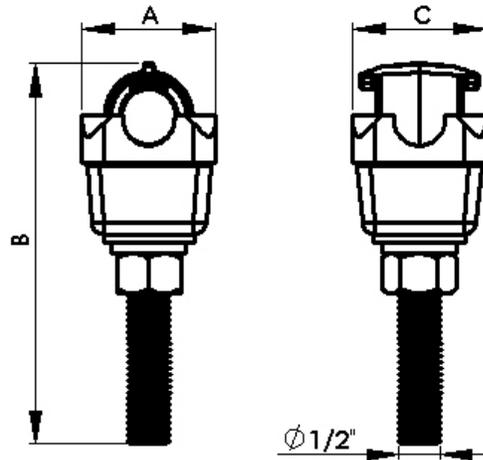


Wide Range denoted by: \*

CATALOG NUMBER	PAD STYLE	ALUMINUM CABLE SIZE		ACSR CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN.	MCM MAX.	AWG MIN.	MCM MAX.	A	B	C	K
11-248-3COND*	B	4	954	4	795	8	4	5/8	1/2
11-249-3COND*	C	4	954	4	795	8	4	5/8	1/2
11-250-3COND*	D	4	954	4	795	9	4	5/8	1/2
11-251-3COND	B	900	1272	715.5	1113	8 1/4	3 5/8	5/8	1/2
11-252-3COND	C	900	1272	715.5	1113	8 1/4	3 5/8	5/8	1/2
11-253-3COND	D	900	1272	715.5	1113	9 1/4	3 5/8	3/4	1/2
11-254-3COND	B	1272	1590	1113	1272	8 7/8	4 1/4	3/4	1/2
11-255-3COND	C	1272	1590	1113	1272	8 7/8	4 1/4	3/4	1/2
11-256-3COND	D	1272	1590	1113	1272	9 7/8	4 1/4	3/4	1/2
11-260-3COND	B	1590	2000	1272	1590	8 3/8	4 1/2	7/8	5/8
11-261-3COND	C	1590	2000	1272	1590	8 3/8	4 1/2	7/8	5/8
11-262-3COND	D	1590	2000	1272	1590	9 3/8	4 1/2	7/8	5/8

## SECTION

## 11-5

BRONZE BOLTED EYE TERMINAL,  
SINGLE CABLE TO FLAT

CATALOG NUMBER	CABLE SIZE		DIMENSIONS IN INCHES			MAX FLAT BAR THICKNESS
	AWG MIN.	MCM MAX.	A	B	C	
TT-101A-1	8	250	1 1/2	4 1/4	1 5/8	1 1/2
TT-102A-1	1/0	500	1 3/4	3 3/4	1 1/4	1/2
TT-103A-1	500	1000	2 1/4	4 1/2	2	1

Cast of a high conductivity copper alloy, these terminals are ideal for connecting copper cable directly to a flat pad.

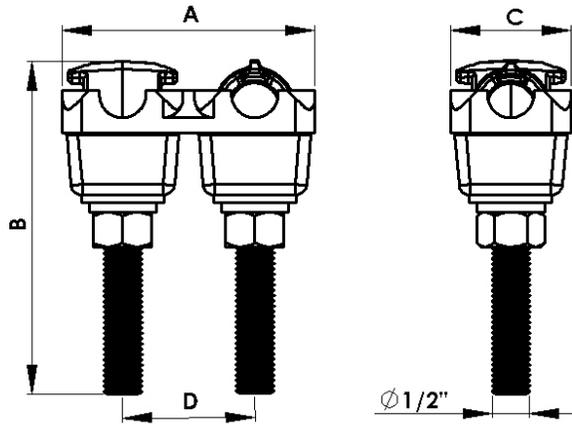
Designed for grounding or power applications.

Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

# BRONZE BOLTED EYE TERMINAL, DOUBLE OR SINGLE CABLE TO FLAT

SECTION

11-6



CATALOG NUMBER	CABLE SIZE		DIMENSIONS IN INCHES				MAX FLAT BAR THICKNESS
	AWG MIN.	MCM MAX.	A	B	C	D	
TT-101A-2	8	250	3 1/4	4 1/4	1 5/8	1 3/4	1 1/2
TT-102A-2	1/0	500	3 1/8	3 3/4	1 1/4	1 3/4	1/2
TT-103A-2*	500	1000	4 1/4	4 1/2	2	2 1/4	1

\* One way cup.

Cast of a high conductivity copper alloy, these terminals are ideal for connecting one or two copper cables directly to a flat pad.

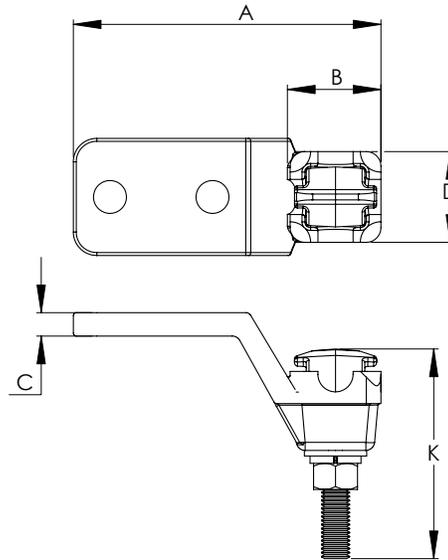
Designed for grounding or power applications.

Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

SECTION

11-7

BRONZE BOLTED EYE TERMINAL,  
SINGLE CABLE TO FLAT PAD



Cast of a high conductivity copper alloy, these single eyebolt terminals provide an ideal connection between one copper cable and a side formed flat pad.

Multiple pad sizes available.

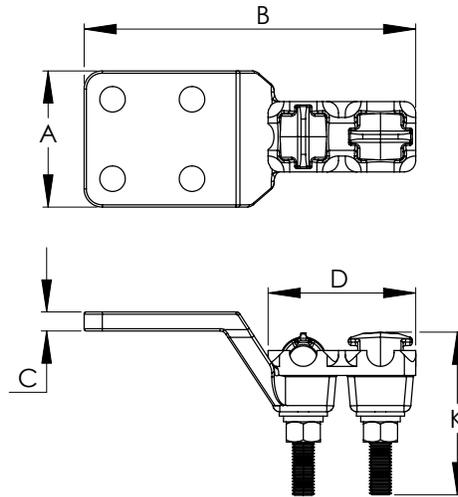
Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES				
		AWG MIN.	MCM MAX.	A	B	C	D	K
11-101-1EY	B	8	250	5 1/4	1 3/4	3/8	1 1/2	4 1/4
11-104-1EY	B	1/0	500	5 3/4	2	1/2	1 7/8	4 1/4
11-105-1EY	C	1/0	500	5 3/4	2	1/2	1 7/8	4 1/4
11-110-1EY	B	500	1000	6 1/8	2 1/2	1/2	2 3/8	4 1/4
11-111-1EY	C	500	1000	6 1/8	2 1/2	1/2	2 3/8	4 1/4
11-113-1EY	B	1000	1500	5 1/2	2 1/2	1/2	2 1/4	4 1/4
11-114-1EY	C	1000	1500	5 1/2	2 1/2	1/2	2 1/4	4 1/4

# BRONZE BOLTED DOUBLE EYE TERMINAL, DOUBLE OR SINGLE CABLE TO FLAT PAD

SECTION

11-8



CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES				
		AWG MIN.	MCM MAX.	A	B	C	D	K
11-101-2EY	B	8	250	2	6 7/8	3/8	3 3/8	4 1/4
11-104-2EY	B	1/0	500	2	7 3/4	1/2	4	4 1/4
11-105-2EY	C	1/0	500	3	7 3/4	1/2	4	4 1/4
11-110-2EY	B	500	1000	2	8 3/8	1/2	4 1/2	4 1/4
11-111-2EY	C	500	1000	3	8 3/8	1/2	4 1/2	4 1/4
11-113-2EY	B	1000	1500	2	9	1/2	4 3/4	4 1/4
11-114-2EY	C	1000	1500	3	9	1/2	4 3/4	4 1/4
11-116-2EY	B	1500	2000	2	9 7/8	1/2	5	4 1/4
11-117-2EY	C	1500	2000	3	9 7/8	1/2	5	4 1/4

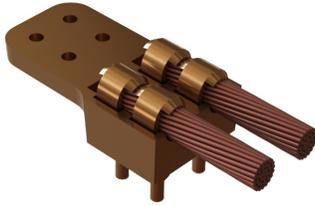
Cast of a high conductivity copper alloy, these single eyebolt terminals allow for a superlative connection between one or two copper cables and a side formed flat pad.

Multiple pad sizes available.

Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

## SECTION

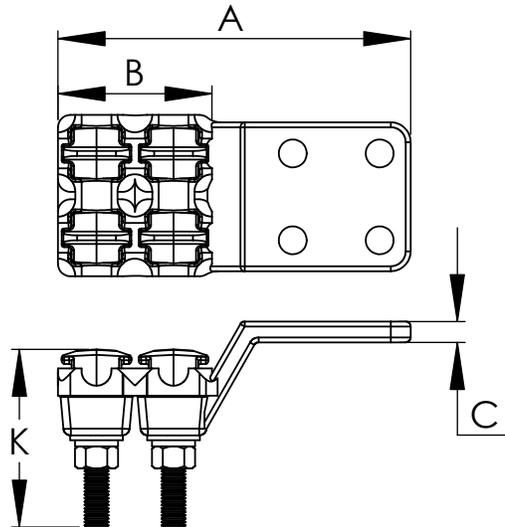
11-9

BRONZE BOLTED DOUBLE EYE TERMINAL,  
DOUBLE CABLE TO FLAT PAD

Cast of a high conductivity copper alloy, these double eyebolt terminals allow for a superlative connection between two copper cables and a side formed flat pad.

Multiple pad sizes available.

Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

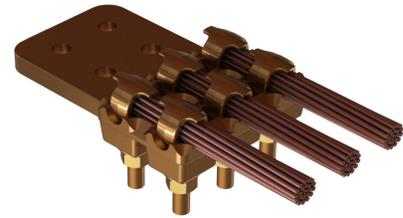
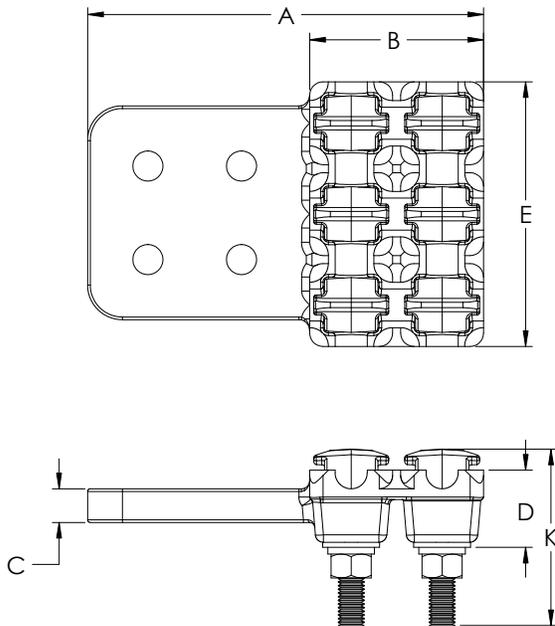


CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN.	MCM MAX.	A	B	C	K
11-230-2EY	B	1/0	500	6 1/2	3	1/2	4 1/4
11-231-2EY	C	1/0	500	6 1/2	3	1/2	4 1/4
11-232-2EY	D	1/0	500	7 1/2	3	1/2	4 1/4
11-233-2EY	B	500	1000	7 1/2	3 3/4	3/4	4 1/4
11-234-2EY	C	500	1000	7 1/2	3 3/4	3/4	4 1/4
11-235-2EY	D	500	1000	8 1/2	3 3/4	3/4	4 1/4

# BRONZE BOLTED DOUBLE EYE TERMINAL, TRIPLE CABLE TO FLAT PAD

SECTION

11-10



Cast of a high conductivity copper alloy, these triple eyebolt terminals allow for a superlative connection between three copper cables and a side formed flat pad.

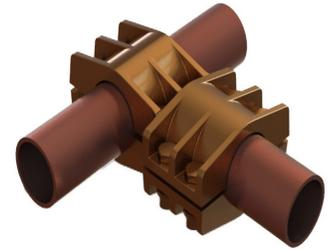
Eye bolt terminals are supplied with silicon bronze nuts and lock washers.

CATALOG NUMBER	PAD STYLE	CABLE SIZE		DIMENSIONS IN INCHES					
		AWG MIN.	MCM MAX.	A	B	C	D	E	K
11-231-3EY	C	1/0	500	6 1/2	3	1/2	1 1/2	5 1/4	4 1/4
11-232-3EY	D	1/0	500	6 1/2	3	1/2	1 1/2	5 1/4	4 1/4
11-234-3EY	C	500	1000	7	2 7/8	3/4	1 1/2	5 1/8	4 1/4
11-235-3EY	D	500	1000	8	2 7/8	3/4	1 1/2	5 1/8	4 1/4

# BRONZE TEE CONNECTORS, PIPE RUN TO PIPE TAP

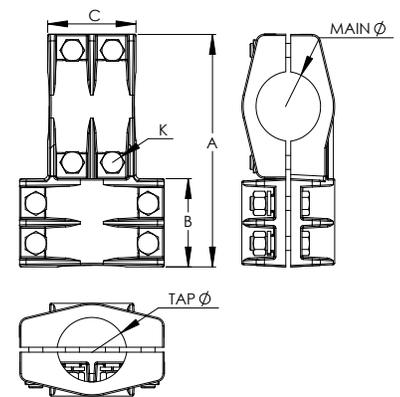
SECTION

12-1



## BRONZE TEE CONNECTORS, PIPE RUN TO PIPE TAP

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-101	1/2	1/2	4	3	3	3/8
12-102	3/4	1/2	4	3	2 3/4	3/8
12-103	3/4	3/4	4 3/8	2 1/2	3	3/8
12-104	1	1/2	4 1/2	3	3 3/16	1/2 & 3/8
12-105	1	3/4	4 5/8	2 3/4	3 3/16	1/2
12-106	1	1	7 1/4	3 3/16	3 3/16	1/2
12-107	1 1/4	1/2	7 1/2	3	3 1/8	1/2 & 3/8
12-108	1 1/4	3/4	7 1/4	2 3/4	3 1/8	1/2
12-109	1 1/4	1	7 3/8	3 3/16	3 1/8	1/2
12-110	1 1/4	1 1/4	7 5/8	3 1/8	3 1/8	1/2
12-111	1 1/2	1/2	7 3/8	3	3 1/16	1/2 & 3/8
12-112	1 1/2	3/4	7 3/4	2 3/4	3 1/16	1/2
12-113	1 1/2	1	5 5/8	3 3/16	3 1/16	1/2
12-114	1 1/2	1 1/4	7 3/4	3 1/8	3 1/16	1/2
12-115	1 1/2	1 1/2	7 3/4	3 1/16	3 1/16	1/2
12-116	2	1/2	7 1/8	3	3 1/8	1/2 & 3/8
12-117	2	3/4	5 3/4	2 3/4	3 1/8	1/2
12-118	2	1	8 1/2	3 3/16	3 1/8	1/2
12-119	2	1 1/4	8 5/8	3 1/8	3 1/8	1/2
12-120	2	1 1/2	8 7/8	3 1/16	3 1/8	1/2
12-121	2	2	8 1/4	3 1/8	3 1/8	1/2
12-122	2 1/2	1/2	9	3	4	5/8 & 3/8
12-123	2 1/2	3/4	9	2 3/4	4	5/8 & 1/2
12-124	2 1/2	1	9 1/2	3 3/16	4	5/8 & 1/2
12-125	2 1/2	1 1/4	10 3/8	3 1/8	4	5/8 & 1/2
12-126	2 1/2	1 1/2	6 3/4	3 1/16	4	5/8 & 1/2
12-127	2 1/2	2	9 5/8	3 1/8	4	5/8 & 1/2
12-128	2 1/2	2 1/2	7	3	3	5/8
12-129	3	1/2	9 3/4	3	3 15/16	5/8 & 3/8
12-130	3	3/4	9 3/4	2 3/4	3 15/16	5/8 & 1/2
12-131	3	1	10 1/8	3 3/16	3 15/16	5/8 & 1/2
12-132	3	1 1/4	10 3/8	3 1/8	3 15/16	5/8 & 1/2
12-133	3	1 1/2	10 1/4	3 1/16	3 15/16	5/8 & 1/2
12-134	3	2	10 1/2	3 1/8	3 15/16	5/8 & 1/2
12-135	3	2 1/2	11 1/2	4	3 15/16	5/8
12-136	3	3	11 3/8	3 15/16	3 15/16	5/8



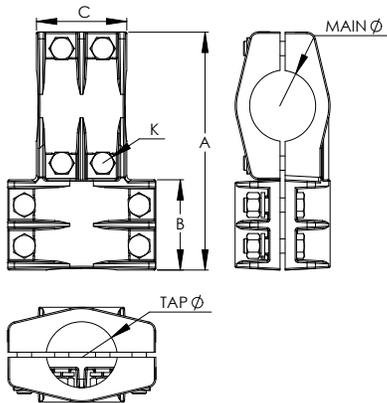
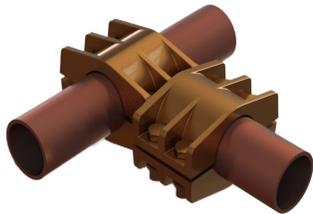
Made of a copper alloy for high conductivity and natural resistance to corrosion and stress, the Type PTP connector joins a pipe tap to the main. Bolts, nuts, and lockwashers are silicon bronze for clamping strength and resistance to corrosion. All bolt heads are recessed for single-wrench installation.

Continued on next page

SECTION

12-1

BRONZE TEE CONNECTORS,  
PIPE RUN TO PIPE TAP, continued



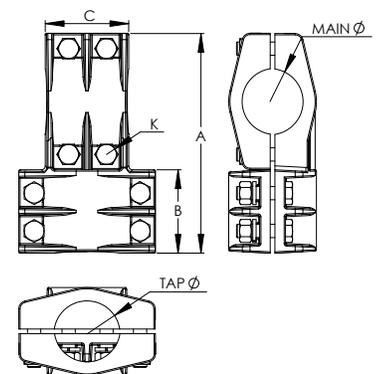
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-137	3 1/2	1/2	10 1/4	3	3 3/4	5/8 & 3/8
12-138	3 1/2	3/4	10 1/4	2 3/4	3 3/4	5/8 & 1/2
12-139	3 1/2	1	11 1/8	3 3/16	3 3/4	5/8 & 1/2
12-140	3 1/2	1 1/4	11 1/8	3 1/16	3 3/4	5/8 & 1/2
12-141	3 1/2	1 1/2	11 1/8	3 1/8	3 3/4	5/8 & 1/2
12-142	3 1/2	2	11 1/8	3 1/8	3 3/4	5/8 & 1/2
12-143	3 1/2	2 1/2	11 5/8	4	3 3/4	5/8
12-144	3 1/2	3	11 5/8	3 15/16	3 3/4	5/8
12-145	3 1/2	3 1/2	11 5/8	3 3/4	3 3/4	5/8
12-146	4	1/2	11 1/2	3	4 5/8	5/8 & 3/8
12-147	4	3/4	11 1/2	2 3/4	4 5/8	5/8 & 1/2
12-148	4	1	11 7/8	3 3/16	4 5/8	5/8 & 1/2
12-149	4	1 1/4	12 1/8	3 1/8	4 5/8	5/8 & 1/2
12-150	4	1 1/2	12 1/8	3 1/16	4 5/8	5/8 & 1/2
12-151	4	2	12 1/8	3 1/8	4 5/8	5/8 & 1/2
12-152	4	2 1/2	12 1/8	4	4 5/8	5/8
12-153	4	3	13	3 15/16	4 5/8	5/8
12-154	4	3 1/2	13 5/8	3 3/4	4 5/8	5/8
12-155	4	4	13 5/8	4 5/8	4 5/8	5/8
12-156	4 1/2	1/2	12	3	4 3/4	5/8 & 3/8
12-157	4 1/2	3/4	12	2 3/4	4 3/4	5/8 & 1/2
12-158	4 1/2	1	12 3/4	3 3/16	4 3/4	5/8 & 1/2
12-159	4 1/2	1 1/4	12 3/4	3 1/8	4 3/4	5/8 & 1/2
12-160	4 1/2	1 1/2	12 3/4	3 1/16	4 3/4	5/8 & 1/2
12-161	4 1/2	2	12 5/8	3 1/8	4 3/4	5/8 & 1/2
12-162	4 1/2	2 1/2	13 5/8	4	4 3/4	5/8
12-163	4 1/2	3	13 1/2	3 15/16	4 3/4	5/8
12-164	4 1/2	3 1/2	14 1/4	3 3/4	4 3/4	5/8
12-165	4 1/2	4	14 1/4	4 5/8	4 3/4	5/8
12-166	4 1/2	4 1/2	14 1/4	4 3/4	4 3/4	5/8
12-167	5	1/2	12 1/2	3	5 1/16	5/8 & 3/8
12-168	5	3/4	12 1/2	2 3/4	5 1/16	5/8 & 1/2
12-169	5	1	12 3/4	3 3/16	5 1/16	5/8 & 1/2
12-170	5	1 1/4	12 3/4	3 1/8	5 1/16	5/8 & 1/2
12-171	5	1 1/2	12 3/4	3 1/16	5 1/16	5/8 & 1/2
12-172	5	2	13 1/4	3 1/8	5 1/16	5/8 & 1/2
12-173	5	2 1/2	14	4	5 1/16	5/8
12-174	5	3	14	3 15/16	5 1/16	5/8
12-175	5	3 1/2	13 3/4	3 3/4	5 1/16	5/8
12-176	5	4	14 1/4	4 5/8	5 1/16	5/8
12-177	5	4 1/2	15 1/8	4 3/4	5 1/16	5/8
12-178	5	5	15 1/8	5 1/16	5 1/16	5/8
12-179	6	1/2	13 3/4	3	6	5/8 & 3/8
12-180	6	3/4	13 3/4	2 3/4	6	5/8 & 1/2
12-181	6	1	14 1/4	3 3/16	6	5/8 & 1/2
12-182	6	1 1/4	14 1/4	3 1/8	6	5/8 & 1/2
12-183	6	1 1/2	14 1/4	3 1/16	6	5/8 & 1/2
12-184	6	2	14 1/4	3 1/8	6	5/8 & 1/2
12-185	6	2 1/2	15 1/8	4	6	5/8
12-186	6	3	15 5/8	3 15/16	6	5/8
12-187	6	3 1/2	15 5/8	3 3/4	6	5/8
12-188	6	4	15 3/4	4 5/8	6	5/8
12-189	6	4 1/2	15 7/8	4 3/4	6	5/8
12-190	6	5	16 1/8	5 1/16	6	5/8
12-191	6	6	17 5/8	6	6	5/8

# ALUMINUM TEE CONNECTORS, PIPE RUN TO PIPE TAP

SECTION

12-1A

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-192	1/2	1/2	6 7/8	4	4	1/2
12-193	3/4	1/2	6 7/8	4	2 3/4	1/2
12-194	3/4	3/4	6 3/8	2 3/4	2 3/4	1/2
12-195	1	1/2	6 7/8	4	3 3/16	1/2
12-196	1	3/4	6 7/8	2 3/4	3 3/16	1/2
12-197	1	1	7 1/4	3 3/16	3 3/16	1/2
12-198	1 1/4	1/2	7 1/4	4	3 1/8	1/2
12-199	1 1/4	3/4	7 1/4	2 3/4	3 1/8	1/2
12-200	1 1/4	1	7 3/4	3 3/16	3 1/8	1/2
12-201	1 1/4	1 1/4	7 3/4	3 1/8	3 1/8	1/2
12-202	1 1/2	1/2	7 3/8	4	3 1/16	1/2
12-203	1 1/2	3/4	7 3/8	2 3/4	3 1/16	1/2
12-204	1 1/2	1	7 3/4	3 3/16	3 1/16	1/2
12-205	1 1/2	1 1/4	7 3/4	3 1/8	3 1/16	1/2
12-206	1 1/2	1 1/2	7 3/4	3 1/16	3 1/16	1/2
12-207	2	1/2	7 7/8	4	3 1/8	1/2
12-208	2	3/4	7 7/8	2 3/4	3 1/8	1/2
12-209	2	1	8 1/2	3 3/16	3 1/8	1/2
12-210	2	1 1/4	8 1/2	3 1/8	3 1/8	1/2
12-211	2	1 1/2	8 1/2	3 1/16	3 1/8	1/2
12-212	2	2	8 1/4	3 1/8	3 1/8	1/2
12-213	2 1/2	1/2	9	4	4	5/8 & 1/2
12-214	2 1/2	3/4	9	2 3/4	4	5/8 & 1/2
12-215	2 1/2	1	9 1/2	3 3/16	4	5/8 & 1/2
12-216	2 1/2	1 1/4	9 3/4	3 1/8	4	5/8 & 1/2
12-217	2 1/2	1 1/2	9 3/4	3 1/16	4	5/8 & 1/2
12-218	2 1/2	2	10 3/8	3 1/8	4	5/8 & 1/2
12-219	2 1/2	2 1/2	10 3/8	4	4	5/8
12-220	3	1/2	9 3/4	4	3 15/16	5/8 & 1/2
12-221	3	3/4	9 3/4	2 3/4	3 15/16	5/8 & 1/2
12-222	3	1	10 1/8	3 3/16	3 15/16	5/8 & 1/2
12-223	3	1 1/4	10 3/8	3 1/8	3 15/16	5/8 & 1/2
12-224	3	1 1/2	10 3/8	3 1/16	3 15/16	5/8 & 1/2
12-225	3	2	10 1/2	3 1/8	3 15/16	5/8 & 1/2
12-226	3	2 1/2	11 1/2	4	3 15/16	5/8
12-227	3	3	11 3/8	3 15/16	3 15/16	5/8



Where circumstances require a pipe connector of lightweight aluminum alloy, the Type APTP meets the most strenuous electrical and mechanical demands. Clamping hardware is high tensile aluminum. In order to facilitate single-wrench installation, all bolt heads are recessed.

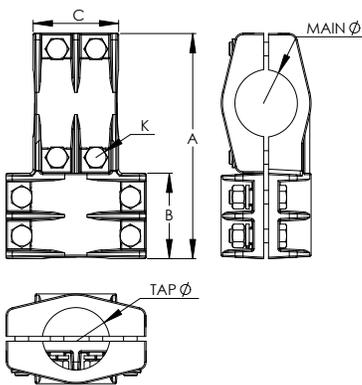
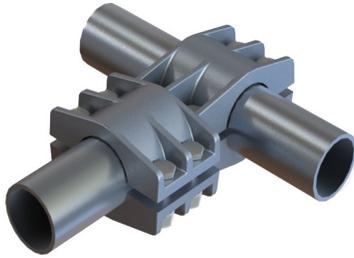
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## SECTION

## 12-1A

ALUMINUM TEE CONNECTORS,  
PIPE RUN TO PIPE TAP, continued

Continued from previous page



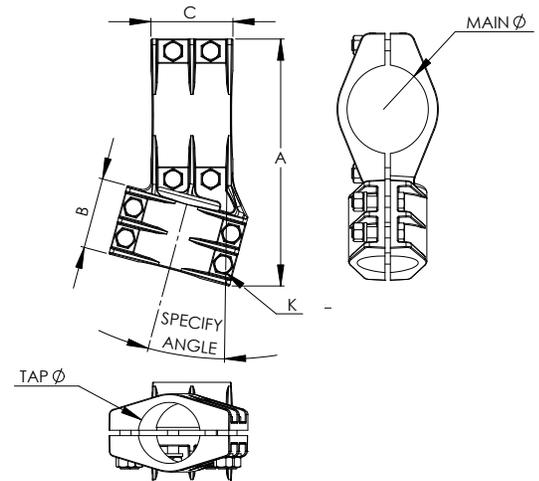
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-228	3 1/2	1/2	10 1/2	4	3 3/4	5/8 & 1/2
12-229	3 1/2	3/4	10 1/2	2 3/4	3 3/4	5/8 & 1/2
12-230	3 1/2	1	11 1/8	3 3/16	3 3/4	5/8 & 1/2
12-231	3 1/2	1 1/4	11 1/8	3 1/8	3 3/4	5/8 & 1/2
12-232	3 1/2	1 1/2	11 1/8	3 1/16	3 3/4	5/8 & 1/2
12-233	3 1/2	2	11 1/8	3 1/8	3 3/4	5/8
12-234	3 1/2	2 1/2	11 7/8	4	3 3/4	5/8 & 1/2
12-235	3 1/2	3	11 7/8	3 15/16	3 3/4	5/8
12-236	3 1/2	3 1/2	11 5/8	3 3/4	3 3/4	5/8
12-237	4	1/2	11 1/2	4	4 5/8	5/8 & 1/2
12-238	4	3/4	11 1/2	2 3/4	4 5/8	5/8 & 1/2
12-239	4	1	11 7/8	3 3/16	4 5/8	5/8 & 1/2
12-240	4	1 1/4	12 1/4	3 1/8	4 5/8	5/8 & 1/2
12-241	4	1 1/2	12 1/4	3 1/16	4 5/8	5/8 & 1/2
12-242	4	2	12 1/8	3 1/8	4 5/8	5/8 & 1/2
12-243	4	2 1/2	12 7/8	4	4 5/8	5/8
12-244	4	3	13	3 15/16	4 5/8	5/8
12-245	4	3 1/2	13 5/8	3 3/4	4 5/8	5/8
12-246	4	4	13 5/8	4 5/8	4 5/8	5/8
12-247	4 1/2	1/2	12	4	4 3/4	5/8 & 1/2
12-248	4 1/2	3/4	12	2 3/4	4 3/4	5/8 & 1/2
12-249	4 1/2	1	12	3 3/16	4 3/4	5/8 & 1/2
12-250	4 1/2	1 1/4	12 3/4	3 1/8	4 3/4	5/8 & 1/2
12-251	4 1/2	1 1/2	12 3/4	3 1/16	4 3/4	5/8 & 1/2
12-252	4 1/2	2	12 5/8	3 1/8	4 3/4	5/8 & 1/2
12-253	4 1/2	2 1/2	13 3/8	4	4 3/4	5/8
12-254	4 1/2	3	13 1/2	3 15/16	4 3/4	5/8
12-255	4 1/2	3 1/2	14 1/4	3 3/4	4 3/4	5/8
12-256	4 1/2	4	14 1/4	4 5/8	4 3/4	5/8
12-257	4 1/2	4 1/2	14 1/4	4 3/4	4 3/4	5/8
12-258	5	1/2	12 1/2	4	5 1/16	5/8 & 1/2
12-259	5	3/4	12 1/2	2 3/4	5 1/16	5/8 & 1/2
12-260	5	1	12 3/4	3 3/16	5 1/16	5/8 & 1/2
12-261	5	1 1/4	12 3/4	3 1/8	5 1/16	5/8 & 1/2
12-262	5	1 1/2	12 3/4	3 1/16	5 1/16	5/8 & 1/2
12-263	5	2	13 1/4	3 1/8	5 1/16	5/8 & 1/2
12-264	5	2 1/2	14	4	5 1/16	5/8
12-265	5	3	14	3 15/16	5 1/16	5/8
12-266	5	3 1/2	13 3/4	3 3/4	5 1/16	5/8
12-267	5	4	14 1/2	5	5	5/8
12-269	5	5	15 1/8	5 1/16	5 1/16	5/8
12-270	6	1/2	13 3/4	4	6	5/8 & 1/2
12-271	6	3/4	13 3/4	2 3/4	6	5/8 & 1/2
12-272	6	1	14 1/4	3 3/16	6	5/8 & 1/2
12-273	6	1 1/4	14 1/4	3 1/8	6	5/8 & 1/2
12-274	6	1 1/2	14 1/4	3 1/16	6	5/8 & 1/2
12-275	6	2	14 1/4	3 1/8	6	5/8 & 1/2
12-276	6	2 1/2	15 1/8	4	6	5/8
12-277	6	3	15 3/8	3 15/16	6	5/8
12-278	6	3 1/2	15 5/8	3 3/4	6	5/8
12-279	6	4	15 3/4	4 5/8	6	5/8
12-281	6	5	16 1/8	5 1/16	6	5/8
12-282	6	6	17 5/8	6	6	5/8

# BRONZE TEE CONNECTORS, PIPE RUN TO ANGLE PIPE TAP

SECTION

12-2

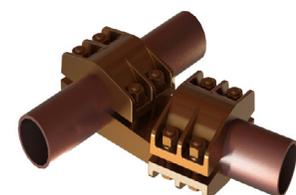
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-283-*	1/2	1/2	7	3	3	3/8
12-284-*	3/4	1/2	7	3	2 3/4	1/2 & 3/8
12-285-*	3/4	3/4	7	2 3/4	2 3/4	1/2
12-286-*	1	1/2	8 1/8	3	3 3/16	1/2 & 3/8
12-287-*	1	3/4	8 1/8	2 3/4	3 3/16	1/2
12-288-*	1	1	8 1/8	3 3/16	3 3/16	1/2
12-289-*	1 1/4	1/2	8 1/8	3	3 1/8	1/2 & 3/8
12-290-*	1 1/4	3/4	8 1/8	2 3/4	3 1/8	1/2
12-291-*	1 1/4	1	8 1/2	3 3/16	3 1/8	1/2
12-292-*	1 1/4	1 1/4	8 3/4	3 1/8	3 1/8	1/2
12-293-*	1 1/2	1/2	8	3	3 1/16	1/2 & 3/8
12-294-*	1 1/2	3/4	9	2 3/4	3 1/16	1/2
12-295-*	1 1/2	1	8 3/4	3 3/16	3 1/16	1/2
12-296-*	1 1/2	1 1/4	8 1/2	3 1/8	3 1/16	1/2
12-297-*	1 1/2	1 1/2	8 1/2	3 1/16	3 1/16	1/2
12-298-*	2	1/2	8 3/8	3	3 1/8	1/2 & 3/8
12-299-*	2	3/4	8 5/8	2 3/4	3 1/8	1/2
12-300-*	2	1	7	3 3/16	3 1/8	1/2
12-301-*	2	1 1/4	9 3/4	3 1/8	3 1/8	1/2
12-302-*	2	1 1/2	7 5/8	3 1/16	3 1/8	1/2
12-303-*	2	2	10	3 1/8	3 1/8	1/2
12-304-*	2 1/2	1/2	9 3/4	3	4	5/8 & 3/8
12-305-*	2 1/2	3/4	9 3/4	2 3/4	4	5/8 & 1/2
12-306-*	2 1/2	1	11 1/8	3 3/16	4	5/8 & 1/2
12-307-*	2 1/2	1 1/4	11 1/8	3 1/8	4	5/8 & 1/2
12-308-*	2 1/2	1 1/2	11 1/8	3 1/16	4	5/8 & 1/2
12-309-*	2 1/2	2	11 3/4	3 1/8	4	5/8 & 1/2
12-310-*	2 1/2	2 1/2	11 1/2	4	4	5/8
12-311-*	3	1/2	10	3	3 15/16	5/8 & 3/8
12-312-*	3	3/4	10	2 3/4	3 15/16	5/8 & 1/2
12-313-*	3	1	10 3/4	3 3/16	3 15/16	5/8 & 1/2
12-314-*	3	1 1/4	11 1/2	3 1/8	3 15/16	5/8 & 1/2
12-315-*	3	1 1/2	11 1/2	3 1/16	3 15/16	5/8 & 1/2
12-316-*	3	2	11 1/2	3 1/8	3 15/16	5/8 & 1/2
12-317-*	3	2 1/2	12 1/4	4	3 15/16	5/8
12-318-*	3	3	13 1/4	3 15/16	3 15/16	5/8
12-319-*	3 1/2	1/2	11 1/8	3	3 3/4	5/8 & 3/8
12-320-*	3 1/2	3/4	11 1/8	2 3/4	3 3/4	5/8 & 1/2
12-321-*	3 1/2	1	11 3/4	3 3/16	3 3/4	5/8 & 1/2
12-322-*	3 1/2	1 1/4	11 3/4	3 1/8	3 3/4	5/8 & 1/2
12-323-*	3 1/2	1 1/2	11 1/2	3 1/16	3 3/4	5/8 & 1/2
12-324-*	3 1/2	2	12	3 1/8	3 3/4	5/8 & 1/2
12-325-*	3 1/2	2 1/2	13	4	3 3/4	5/8
12-326-*	3 1/2	3	13 1/2	3 15/16	3 3/4	5/8
12-327-*	3 1/2	3 1/2	13 1/4	3 3/4	3 3/4	5/8



A strong and dependable connector for joining a pipe main to a tap whose angle varies from the perpendicular, the type PTA relies on a high conductivity copper alloy for its durability.

Bolts, nuts, and lockwashers are silicon bronze for clamping strength and resistance to corrosion. Bolt heads are recessed for single-wrench installation.

\*In ordering the type PTA tee connector, the varying angle must be designated in a suffix added to the catalog number. A 15° angle tap for catalog number 12-283, for instance, should be written 12-283-15 on the order.



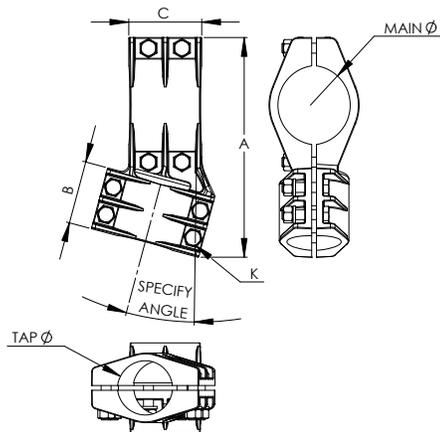
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## SECTION

## 12-2

BRONZE TEE CONNECTORS, PIPE  
RUN TO ANGLE PIPE TAP, continued

Continued from previous page



\*In ordering the type PTA tee connector, the varying angle must be designated in a suffix added to the catalog number. A 15° angle tap for catalog number 12-329, for instance, should be written 12-329-15 on the order.

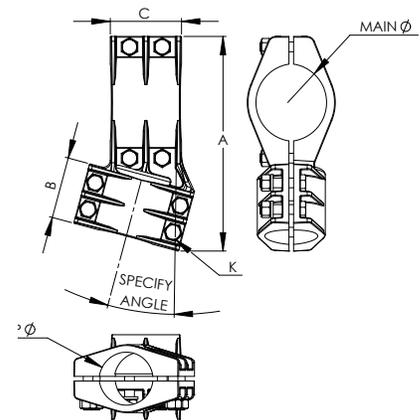
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-328-(* )	4	1/2	12 1/4	3	4 5/8	5/8 & 3/8
12-329-(* )	4	3/4	12 1/4	2 3/4	4 5/8	5/8 & 1/2
12-330-(* )	4	1	13	3 3/16	4 5/8	5/8 & 1/2
12-331-(* )	4	1 1/4	13	3 1/8	4 5/8	5/8 & 1/2
12-332-(* )	4	1 1/2	13	3 1/16	4 5/8	5/8 & 1/2
12-333-(* )	4	2	14 3/8	3 1/8	4 5/8	5/8 & 1/2
12-334-(* )	4	2 1/2	14	4	4 5/8	5/8
12-335-(* )	4	3	14 1/4	3 15/16	4 5/8	5/8
12-336-(* )	4	3 1/2	14	3 3/4	4 5/8	5/8
12-337-(* )	4	4	15 1/8	4 5/8	4 5/8	5/8
12-338-(* )	4 1/2	1/2	12 7/8	3	4 3/4	5/8 & 3/8
12-339-(* )	4 1/2	3/4	12 7/8	2 3/4	4 3/4	5/8 & 1/2
12-340-(* )	4 1/2	1	13	3 3/16	4 3/4	5/8 & 1/2
12-341-(* )	4 1/2	1 1/4	13	3 1/8	4 3/4	5/8 & 1/2
12-342-(* )	4 1/2	1 1/2	13	3 1/16	4 3/4	5/8 & 1/2
12-343-(* )	4 1/2	2	14	3 1/8	4 3/4	5/8 & 1/2
12-344-(* )	4 1/2	2 1/2	14	4	4 3/4	5/8
12-345-(* )	4 1/2	3	14	3 15/16	4 3/4	5/8
12-346-(* )	4 1/2	3 1/2	14	3 3/4	4 3/4	5/8
12-347-(* )	4 1/2	4	15 1/8	4 5/8	4 3/4	5/8
12-348-(* )	4 1/2	4 1/2	15 1/8	4 3/4	4 3/4	5/8
12-349-(* )	5	1/2	13 1/4	3	5 1/16	5/8 & 3/8
12-350-(* )	5	3/4	13 1/4	2 3/4	5 1/16	5/8 & 1/2
12-351-(* )	5	1	13 3/4	3 3/16	5 1/16	5/8 & 1/2
12-352-(* )	5	1 1/4	13 3/4	3 1/8	5 1/16	5/8 & 1/2
12-353-(* )	5	1 1/2	14 1/4	3 1/16	5 1/16	5/8 & 1/2
12-354-(* )	5	2	14 5/8	3 1/8	5 1/16	5/8 & 1/2
12-355-(* )	5	2 1/2	15 3/8	4	5 1/16	5/8
12-356-(* )	5	3	15 1/2	3 15/16	5 1/16	5/8
12-357-(* )	5	3 1/2	15	3 3/4	5 1/16	5/8
12-358-(* )	5	4	16	4 5/8	5 1/16	5/8
12-359-(* )	5	4 1/2	16	4 3/4	5 1/16	5/8
12-360-(* )	5	5	16 1/4	5 1/16	5 1/16	5/8
12-361-(* )	6	1/2	14 3/4	3	6	5/8 & 3/8
12-362-(* )	6	3/4	14 3/4	2 3/4	6	5/8 & 1/2
12-363-(* )	6	1	15 1/4	3 3/16	6	5/8 & 1/2
12-364-(* )	6	1 1/4	15 1/4	3 1/8	6	5/8 & 1/2
12-365-(* )	6	1 1/2	15 1/4	3 1/16	6	5/8 & 1/2
12-366-(* )	6	2	15 1/4	3 1/8	6	5/8 & 1/2
12-367-(* )	6	2 1/2	16 1/2	4	6	5/8
12-368-(* )	6	3	16 1/2	3 15/16	6	5/8
12-369-(* )	6	3 1/2	16 5/8	3 3/4	6	5/8
12-370-(* )	6	4	17 1/2	4 5/8	6	5/8
12-371-(* )	6	4 1/2	17 5/8	4 3/4	6	5/8
12-372-(* )	6	5	18	5 1/16	6	5/8
12-373-(* )	6	6	19	6	6	5/8

# ALUMINUM TEE CONNECTORS, PIPE RUN TO ANGLE PIPE TAP

SECTION

12-2A

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-374-(*)	1/2	1/2	7	4	4	1/2
12-375-(*)	3/4	1/2	7	2 7/8	2 3/4	1/2
12-376-(*)	3/4	3/4	7	2 3/4	2 3/4	1/2
12-377-(*)	1	1/2	8 1/8	4	3 3/16	1/2
12-378-(*)	1	3/4	8 1/8	2 3/4	3 3/16	1/2
12-379-(*)	1	1	8 1/8	3 3/16	3 3/16	1/2
12-380-(*)	1 1/4	1/2	8 1/8	4	3 1/8	1/2
12-381-(*)	1 1/4	3/4	8 1/8	2 3/4	3 1/8	1/2
12-382-(*)	1 1/4	1	8 1/2	3 3/16	3 1/8	1/2
12-383-(*)	1 1/4	1 1/4	8 3/4	3 1/8	3 1/8	1/2
12-384-(*)	1 1/2	1/2	8	4	3 1/16	1/2
12-385-(*)	1 1/2	3/4	9	2 3/4	3 1/16	1/2
12-386-(*)	1 1/2	1	8 3/4	3 3/16	3 1/16	1/2
12-387-(*)	1 1/2	1 1/4	8 1/2	3 1/8	3 1/16	1/2
12-388-(*)	1 1/2	1 1/2	8 1/2	3 1/16	3 1/16	1/2
12-389-(*)	2	1/2	8 3/8	4	3 1/8	1/2
12-390-(*)	2	3/4	8 5/8	2 3/4	3 1/8	1/2
12-391-(*)	2	1	9 1/2	3 3/16	3 1/8	1/2
12-392-(*)	2	1 1/4	9 5/8	3 1/8	3 1/8	1/2
12-393-(*)	2	1 1/2	9 3/4	3 1/16	3 1/8	1/2
12-394-(*)	2	2	10	3 1/8	3 1/8	1/2
12-395-(*)	2 1/2	1/2	9 3/4	4	4	5/8 & 1/2
12-396-(*)	2 1/2	3/4	9 3/4	2 3/4	4	5/8 & 1/2
12-397-(*)	2 1/2	1	11 1/8	3 3/16	4	5/8 & 1/2
12-398-(*)	2 1/2	1 1/4	11 1/8	3 1/8	4	5/8 & 1/2
12-399-(*)	2 1/2	1 1/2	11 1/8	3 1/16	4	5/8 & 1/2
12-400-(*)	2 1/2	2	11 1/8	3 1/8	4	5/8 & 1/2
12-401-(*)	2 1/2	2 1/2	11 1/2	4	4	5/8
12-402-(*)	3	1/2	10	4	3 15/16	5/8 & 1/2
12-403-(*)	3	3/4	10	2 3/4	3 15/16	5/8 & 1/2
12-404-(*)	3	1	10 3/4	3 3/16	3 15/16	5/8 & 1/2
12-405-(*)	3	1 1/4	11 3/4	3 1/8	3 15/16	5/8 & 1/2
12-406-(*)	3	1 1/2	11 1/2	3 1/16	3 15/16	5/8 & 1/2
12-407-(*)	3	2	11 1/2	3 1/8	3 15/16	5/8 & 1/2
12-408-(*)	3	2 1/2	11 5/8	4	3 15/16	5/8
12-409-(*)	3	3	13 1/4	3 15/16	3 15/16	5/8
12-410-(*)	3 1/2	1/2	11 1/8	4	3 3/4	5/8 & 1/2
12-411-(*)	3 1/2	3/4	11 1/8	2 3/4	3 3/4	5/8 & 1/2
12-412-(*)	3 1/2	1	11 3/4	3 3/16	3 3/4	5/8 & 1/2
12-413-(*)	3 1/2	1 1/4	11 3/4	3 1/8	3 3/4	5/8 & 1/2
12-414-(*)	3 1/2	1 1/2	12	3 1/16	3 3/4	5/8 & 1/2
12-415-(*)	3 1/2	2	12 1/4	3 1/8	3 3/4	5/8 & 1/2
12-416-(*)	3 1/2	2 1/2	13	4	3 3/4	5/8
12-417-(*)	3 1/2	3	13	3 15/16	3 3/4	5/8
12-418-(*)	3 1/2	3 1/2	13 1/4	3 3/4	3 3/4	5/8



Cast of lightweight aluminum alloy, the type APTA adapts to situations requiring the junction of a tubular main to a tap whose angle varies from the perpendicular. All clamping hardware is made of high tensile aluminum. To facilitate installation, bolt heads are recessed.

\*In ordering the type APTA tee connector, the varying angle must be written as a suffix after the catalog number.

A 15° angle tap for catalog number 12-374, for example, should appear as 12-374-15.

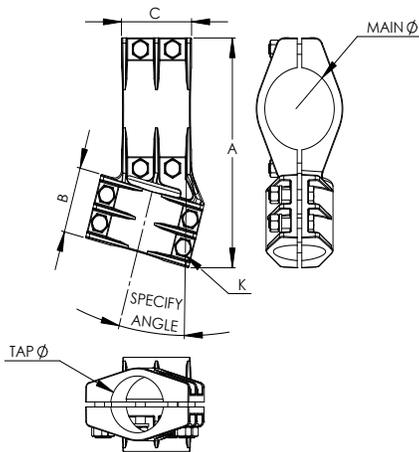
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## SECTION

## 12-2A

ALUMINUM TEE CONNECTORS PIPE  
RUN TO ANGLE PIPE TAP, continued

Continued from previous page



\*In ordering the type APTA tee connector, the varying angle must be written as a suffix after the catalog number. A 15° angle tap for catalog number 12-419, for example, should appear as 12-419-15.

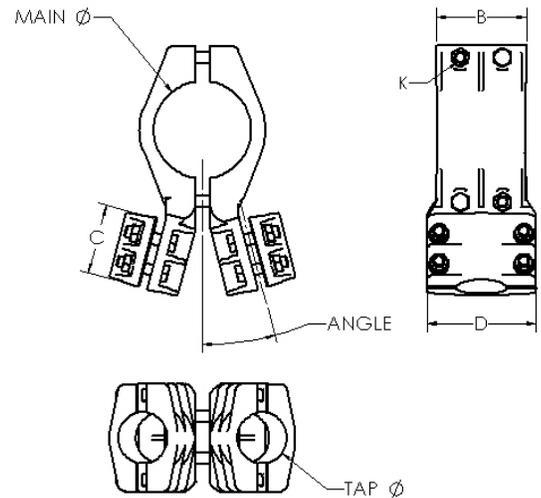
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
12-419-(*)	4	1/2	12 1/4	4	4 5/8	5/8 & 1/2
12-420-(*)	4	3/4	12 1/4	2 3/4	4 5/8	5/8 & 1/2
12-421-(*)	4	1	13	3 3/16	4 5/8	5/8 & 1/2
12-422-(*)	4	1 1/4	13	3 1/8	4 5/8	5/8 & 1/2
12-423-(*)	4	1 1/2	13	3 1/16	4 5/8	5/8 & 1/2
12-424-(*)	4	2	13 1/4	3 1/8	4 5/8	5/8 & 1/2
12-425-(*)	4	2 1/2	14	4	4 5/8	5/8
12-426-(*)	4	3	14 1/4	3 15/16	4 5/8	5/8
12-427-(*)	4	3 1/2	13 1/4	3 3/4	4 5/8	5/8
12-428-(*)	4	4	15 7/8	4 5/8	4 5/8	5/8
12-429-(*)	4 1/2	1/2	12 7/8	4	4 3/4	5/8 & 1/2
12-430-(*)	4 1/2	3/4	12 7/8	2 3/4	4 3/4	5/8 & 1/2
12-431-(*)	4 1/2	1	13	3 3/16	4 3/4	5/8 & 1/2
12-432-(*)	4 1/2	1 1/4	13	3 1/8	4 3/4	5/8 & 1/2
12-433-(*)	4 1/2	1 1/2	13	3 1/16	4 3/4	5/8 & 1/2
12-434-(*)	4 1/2	2	14 3/8	3 1/8	4 3/4	5/8 & 1/2
12-435-(*)	4 1/2	2 1/2	14	4	4 3/4	5/8
12-436-(*)	4 1/2	3	14	3 15/16	4 3/4	5/8
12-437-(*)	4 1/2	3 1/2	14	3 3/4	4 3/4	5/8
12-438-(*)	4 1/2	4	15 1/8	4 5/8	4 3/4	5/8
12-439-(*)	4 1/2	4 1/2	15 1/8	4 3/4	4 3/4	5/8
12-440-(*)	5	1/2	13 1/4	4	5 1/16	5/8 & 1/2
12-441-(*)	5	3/4	13 1/4	2 3/4	5 1/16	5/8 & 1/2
12-442-(*)	5	1	13 3/4	3 3/16	5 1/16	5/8 & 1/2
12-443-(*)	5	1 1/4	13 3/4	3 1/8	5 1/16	5/8 & 1/2
12-444-(*)	5	1 1/2	14 1/4	3 1/16	5 1/16	5/8 & 1/2
12-445-(*)	5	2	14 5/8	3 1/8	5 1/16	5/8 & 1/2
12-446-(*)	5	2 1/2	15 3/8	4	5 1/16	5/8
12-447-(*)	5	3	15 1/2	3 15/16	5 1/16	5/8
12-448-(*)	5	3 1/2	15	3 3/4	5 1/16	5/8
12-449-(*)	5	4	16	4 5/8	5 1/16	5/8
12-450-(*)	5	4 1/2	16	4 3/4	5 1/16	5/8
12-451-(*)	5	5	16 1/4	5 1/16	5 1/16	5/8
12-452-(*)	6	1/2	14 3/4	4	6	5/8 & 1/2
12-453-(*)	6	3/4	14 3/4	2 3/4	6	5/8 & 1/2
12-454-(*)	6	1	15 1/4	3 3/16	6	5/8 & 1/2
12-455-(*)	6	1 1/4	15 1/4	3 1/8	6	5/8 & 1/2
12-456-(*)	6	1 1/2	15 1/4	3 1/16	6	5/8 & 1/2
12-457-(*)	6	2	15 1/4	3 1/8	6	5/8 & 1/2
12-458-(*)	6	2 1/2	16 1/2	4	6	5/8
12-459-(*)	6	3	16 1/2	3 15/16	6	5/8
12-460-(*)	6	3 1/2	16 5/8	3 3/4	6	5/8
12-461-(*)	6	4	17 1/2	4 5/8	6	5/8
12-462-(*)	6	4 1/2	17 5/8	4 3/4	6	5/8
12-463-(*)	6	5	18	5 1/16	6	5/8
12-464-(*)	6	6	19	6	6	5/8

# BRONZE VEE CONNECTORS, PIPE RUN TO DOUBLE PIPE TAP

SECTION

12-3

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			B	C	D	K
12-465-*	1/2	1/2	3	3	2 1/4	3/8
12-466-*	3/4	1/2	2 3/4	3	2 1/4	1/2 & 3/8
12-467-*	3/4	3/4	2 3/4	2 3/4	3 3/8	1/2
12-468-*	1	1/2	3 3/16	3	2 1/4	1/2 & 3/8
12-469-*	1	3/4	3 3/16	2 3/4	3 3/8	1/2
12-470-*	1	1	3 3/16	3 3/16	3 7/8	1/2
12-471-*	1 1/4	1/2	3 1/8	3	2 1/4	1/2 & 3/8
12-472-*	1 1/4	3/4	3 1/8	2 3/4	3 3/8	1/2
12-473-*	1 1/4	1	3 1/8	3 3/16	3 7/8	1/2
12-474-*	1 1/4	1 1/4	3 1/8	3 1/8	4 5/16	1/2
12-475-*	1 1/2	1/2	3 1/16	3	2 1/4	1/2 & 3/8
12-476-*	1 1/2	3/4	3 1/16	2 3/4	3 3/8	1/2
12-477-*	1 1/2	1	3 1/16	3 3/16	3 7/8	1/2
12-478-*	1 1/2	1 1/4	3 1/16	3 1/8	4 5/16	1/2
12-479-*	1 1/2	1 1/2	3 1/16	3 1/16	4 3/8	1/2
12-480-*	2	1/2	3 1/8	3	2 1/4	1/2 & 3/8
12-481-*	2	3/4	3 1/8	2 3/4	3 3/8	1/2
12-482-*	2	1	3 1/8	3 3/16	3 7/8	1/2
12-483-*	2	1 1/4	3 1/8	3 1/8	4 5/16	1/2
12-484-*	2	1 1/2	3 1/8	3 1/16	4 3/8	1/2
12-485-*	2	2	3 1/8	3 1/8	5 1/8	1/2
12-486-*	2 1/2	1/2	4	3	2 1/4	5/8 & 1/2
12-487-*	2 1/2	3/4	4	2 3/4	3 3/8	5/8 & 1/2
12-488-*	2 1/2	1	4	3 3/16	3 7/8	5/8 & 1/2
12-489-*	2 1/2	1 1/4	4	3 1/8	4 5/16	5/8 & 1/2
12-490-*	2 1/2	1 1/2	4	3 1/16	4 3/8	5/8 & 1/2
12-491-*	2 1/2	2	4	3 1/8	5 1/8	5/8 & 1/2
12-492-*	2 1/2	2 1/2	4	4	6 1/8	5/8
12-493-*	3	1/2	3 15/16	3	2 1/4	5/8 & 3/8
12-494-*	3	3/4	3 15/16	2 3/4	3 3/8	5/8 & 1/2
12-495-*	3	1	3 15/16	3 3/16	3 7/8	5/8 & 1/2
12-496-*	3	1 1/4	3 15/16	3 1/8	4 5/16	5/8 & 1/2
12-497-*	3	1 1/2	3 15/16	3 1/16	4 3/8	5/8 & 1/2
12-498-*	3	2	3 15/16	3 1/8	5 1/8	5/8 & 1/2
12-499-*	3	2 1/2	3 15/16	4	6 1/8	5/8
12-500-*	3	3	3 15/16	3 15/16	7	5/8
12-501-*	3 1/2	1/2	3 3/4	3	2 1/4	5/8 & 3/8
12-502-*	3 1/2	3/4	3 3/4	2 3/4	3 3/8	5/8 & 1/2
12-503-*	3 1/2	1	3 3/4	3 3/16	3 7/8	5/8 & 1/2
12-504-*	3 1/2	1 1/4	3 3/4	3 1/8	4 5/16	5/8 & 1/2
12-505-*	3 1/2	1 1/2	3 3/4	3 1/16	4 3/8	5/8 & 1/2
12-506-*	3 1/2	2	3 3/4	3 1/8	5 1/8	5/8 & 1/2
12-507-*	3 1/2	2 1/2	3 3/4	4	6 1/8	5/8
12-508-*	3 1/2	3	3 3/4	3 15/16	7	5/8
12-509-*	3 1/2	3 1/2	3 3/4	3 3/4	7 1/2	5/8



An efficient connector for joining two taps to a single main, the type PTV utilizes a high conductivity copper alloy. The silicon bronze clamping hardware increases clamping strength and resists corrosion. For single-wrench installation, all bolt heads are captivated.

\*Orders for this type of vee connector require the addition of a suffix to the catalog number for denoting the varying angle from center plane (see image above).

If the angle varies 15° from the perpendicular, for example, and the number being requested is 12-465, it should appear on the order as 12-465-15.

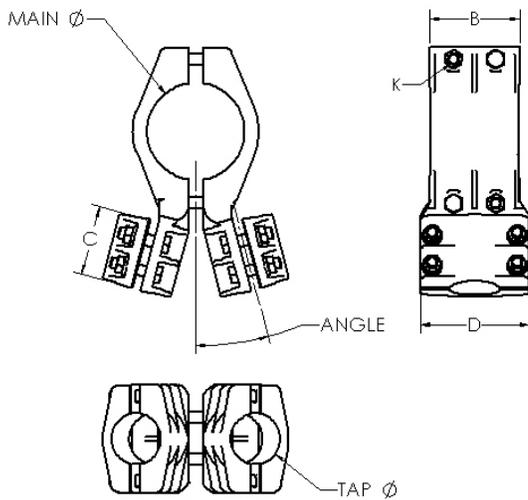
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## SECTION

## 12-3

BRONZE VEE CONNECTORS, PIPE RUN  
TO DOUBLE PIPE TAP, continued

Continued from previous page



Orders for this type of vee connector require the addition of a suffix to the catalog number for denoting the varying angle from center plane (see image above).

\*If the angle varies 15° from the perpendicular, for example, and the number being requested is 12-510, it should appear on the order as 12-510-15.

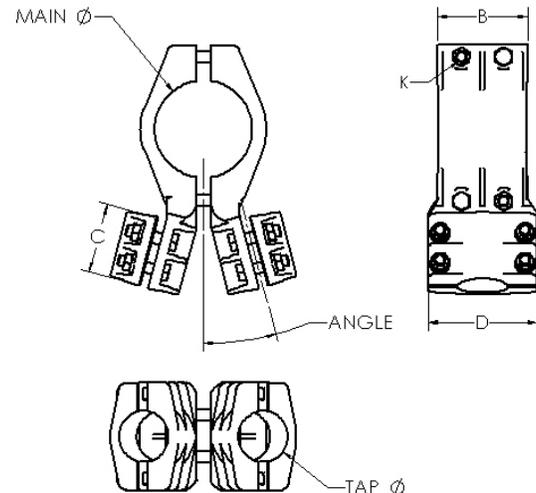
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			B	C	D	K
12-510-(*)	4	1/2	4 5/8	3	2 1/4	5/8 & 3/8
12-511-(*)	4	3/4	4 5/8	2 3/4	3 3/8	5/8 & 1/2
12-512-(*)	4	1	4 5/8	3 3/16	3 7/8	5/8 & 1/2
12-513-(*)	4	1 1/4	4 5/8	3 1/8	4 5/16	5/8 & 1/2
12-514-(*)	4	1 1/2	4 5/8	3 1/16	4 3/8	5/8 & 1/2
12-515-(*)	4	2	4 5/8	3 1/8	5 1/8	5/8 & 1/2
12-516-(*)	4	2 1/2	4 5/8	4	6 1/8	5/8
12-517-(*)	4	3	4 5/8	3 15/16	7	5/8
12-518-(*)	4	3 1/2	4 5/8	3 3/4	7 1/2	5/8
12-519-(*)	4	4	4 5/8	4 5/8	8 1/2	5/8
12-520-(*)	4 1/2	1/2	4 3/4	3	2 1/4	5/8 & 3/8
12-521-(*)	4 1/2	3/4	4 3/4	2 3/4	3 3/8	5/8 & 1/2
12-522-(*)	4 1/2	1	4 3/4	3 3/16	3 7/8	5/8 & 1/2
12-523-(*)	4 1/2	1 1/4	4 3/4	3 1/8	4 5/16	5/8 & 1/2
12-524-(*)	4 1/2	1 1/2	4 3/4	3 1/16	4 3/8	5/8 & 1/2
12-525-(*)	4 1/2	2	4 3/4	3 1/8	5 1/8	5/8 & 1/2
12-526-(*)	4 1/2	2 1/2	4 3/4	4	6 1/8	5/8
12-527-(*)	4 1/2	3	4 3/4	3 15/16	7	5/8
12-528-(*)	4 1/2	3 1/2	4 3/4	3 3/4	7 1/2	5/8
12-529-(*)	4 1/2	4	4 3/4	4 5/8	8 1/2	5/8
12-530-(*)	4 1/2	4 1/2	4 3/4	4 3/4	9	5/8
12-531-(*)	5	1/2	5 1/16	3	2 1/4	5/8 & 3/8
12-532-(*)	5	3/4	5 1/16	2 3/4	3 3/8	5/8 & 1/2
12-533-(*)	5	1	5 1/16	3 3/16	3 7/8	5/8 & 1/2
12-534-(*)	5	1 1/4	5 1/16	3 1/8	4 5/16	5/8 & 1/2
12-535-(*)	5	1 1/2	5 1/16	3 1/16	4 3/8	5/8 & 1/2
12-536-(*)	5	2	5 1/16	3 1/8	5 1/8	5/8 & 1/2
12-537-(*)	5	2 1/2	5 1/16	4	6 1/8	5/8
12-538-(*)	5	3	5 1/16	3 15/16	7	5/8
12-539-(*)	5	3 1/2	5 1/16	3 3/4	7 1/2	5/8
12-540-(*)	5	4	5 1/16	4 5/8	8 1/2	5/8
12-541-(*)	5	4 1/2	5 1/16	4 3/4	9	5/8
12-542-(*)	5	5	5 1/16	5 1/16	9 5/8	5/8
12-543-(*)	6	1/2	6	3	2 1/4	5/8 & 3/8
12-544-(*)	6	3/4	6	2 3/4	3 3/8	5/8 & 1/2
12-545-(*)	6	1	6	3 3/16	3 7/8	5/8 & 1/2
12-546-(*)	6	1 1/4	6	3 1/8	4 5/16	5/8 & 1/2
12-547-(*)	6	1 1/2	6	3 1/16	4 3/8	5/8 & 1/2
12-548-(*)	6	2	6	3 1/8	5 1/8	5/8 & 1/2
12-549-(*)	6	2 1/2	6	4	6 1/8	5/8
12-550-(*)	6	3	6	3 15/16	7	5/8
12-551-(*)	6	3 1/2	6	3 3/4	7 1/2	5/8
12-552-(*)	6	4	6	4 5/8	8 1/2	5/8
12-553-(*)	6	4 1/2	6	4 3/4	9	5/8
12-554-(*)	6	5	6	5 1/16	9 5/8	5/8
12-555-(*)	6	6	6	6	11	5/8

# ALUMINUM VEE CONNECTORS, PIPE RUN TO DOUBLE PIPE TAP

SECTION

12-3A

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			B	C	D	K
12-556-(* )	1/2	1/2	4	4	2 7/8	1/2
12-557-(* )	3/4	1/2	2 3/4	4	2 7/8	1/2
12-558-(* )	3/4	3/4	2 3/4	2 3/4	3 3/8	1/2
12-559-(* )	1	1/2	3 3/16	4	2 7/8	1/2
12-560-(* )	1	3/4	3 3/16	2 3/4	3 3/8	1/2
12-561-(* )	1	1	3 3/16	3 3/16	3 7/8	1/2
12-562-(* )	1 1/4	1/2	3 1/8	4	2 7/8	1/2
12-563-(* )	1 1/4	3/4	3 1/8	2 3/4	3 3/8	1/2
12-564-(* )	1 1/4	1	3 1/8	3 1/16	3 7/8	1/2
12-565-(* )	1 1/4	1 1/4	3 1/8	3 1/8	4 5/16	1/2
12-566-(* )	1 1/2	1/2	3 1/16	4	2 7/8	1/2
12-567-(* )	1 1/2	3/4	3 1/16	2 3/4	3 3/8	1/2
12-568-(* )	1 1/2	1	3 1/16	3 3/16	3 7/8	1/2
12-569-(* )	1 1/2	1 1/4	3 1/16	3 1/8	4 5/16	1/2
12-570-(* )	1 1/2	1 1/2	3 1/16	3 1/16	4 3/8	1/2
12-571-(* )	2	1/2	3 1/8	4	2 7/8	1/2
12-572-(* )	2	3/4	3 1/8	2 3/4	3 3/8	1/2
12-573-(* )	2	1	3 1/8	3 3/16	3 7/8	1/2
12-574-(* )	2	1 1/4	3 1/8	3 1/8	4 5/16	1/2
12-575-(* )	2	1 1/2	3 1/8	3 1/16	4 3/8	1/2
12-576-(* )	2	2	3 1/8	3 1/8	5 1/8	1/2
12-577-(* )	2 1/2	1/2	4	4	2 7/8	5/8 & 1/2
12-578-(* )	2 1/2	3/4	4	2 3/4	3 3/8	5/8 & 1/2
12-579-(* )	2 1/2	1	4	3 3/16	3 7/8	5/8 & 1/2
12-580-(* )	2 1/2	1 1/4	4	3 1/8	4 5/16	5/8 & 1/2
12-581-(* )	2 1/2	1 1/2	4	3 1/16	4 3/8	5/8 & 1/2
12-582-(* )	2 1/2	2	4	3 1/8	5 1/8	5/8 & 1/2
12-583-(* )	2 1/2	2 1/2	4	4	6 1/8	5/8
12-584-(* )	3	1/2	3 15/16	4	2 7/8	5/8 & 1/2
12-585-(* )	3	3/4	3 15/16	2 3/4	3 3/8	5/8 & 1/2
12-586-(* )	3	1	3 15/16	3 3/16	3 7/8	5/8 & 1/2
12-587-(* )	3	1 1/4	3 15/16	3 1/8	4 5/16	5/8 & 1/2
12-588-(* )	3	1 1/2	3 15/16	3 1/16	4 3/8	5/8 & 1/2
12-589-(* )	3	2	3 15/16	3 1/8	5 1/8	5/8 & 1/2
12-590-(* )	3	2 1/2	3 15/16	4	6 1/8	5/8
12-591-(* )	3	3	3 15/16	3 15/16	7	5/8
12-592-(* )	3 1/2	1/2	3 3/4	4	2 7/8	5/8 & 1/2
12-593-(* )	3 1/2	3/4	3 3/4	2 3/4	3 3/8	5/8 & 1/2
12-594-(* )	3 1/2	1	3 3/4	3 3/16	3 7/8	5/8 & 1/2
12-595-(* )	3 1/2	1 1/4	3 3/4	3 1/8	4 5/16	5/8 & 1/2
12-596-(* )	3 1/2	1 1/2	3 3/4	3 1/16	4 3/8	5/8 & 1/2
12-597-(* )	3 1/2	2	3 3/4	3 1/8	5 1/8	5/8 & 1/2
12-598-(* )	3 1/2	2 1/2	3 3/4	4	6 1/8	5/8
12-599-(* )	3 1/2	3	3 3/4	3 15/16	7	5/8
12-600-(* )	3 1/2	3 1/2	3 3/4	3 3/4	7 1/2	5/8



A strong, lightweight connector for joining two taps to a single main, the type APTV, which is cast of aluminum alloy, features clamping hardware made of high-tensile aluminum. All bolt heads are captivated.

Orders for this type of vee connector require the addition of a suffix to the catalog number that designates the proper angle of variation from the perpendicular.

\*If the angle varies 15° from the perpendicular, for example, and the number being requested is 12-556, it should appear on the order as 12-556-15.

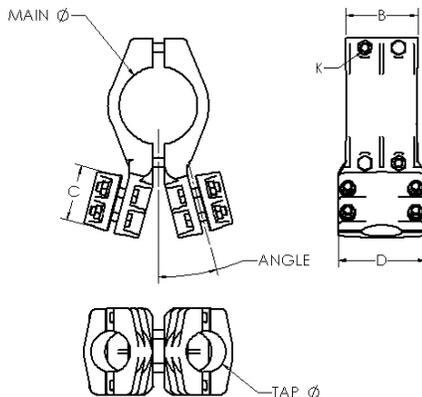
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## SECTION

## 12-3A

ALUMINUM VEE CONNECTORS, PIPE  
RUN TO DOUBLE PIPE TAP, continued

Continued from previous page



Orders for this type of vee connector require the addition of a suffix to the catalog number that designates the proper angle of variation from the perpendicular.

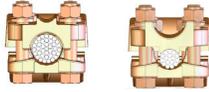
\*If the angle varies 15° from the perpendicular, for example, and the number being requested is 12-601, it should appear on the order as 12-601-15.

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			B	C	D	K
12-601-(*)	4	1/2	4 5/8	4	2 7/8	5/8 & 1/2
12-602-(*)	4	3/4	4 5/8	2 3/4	3 3/8	5/8 & 1/2
12-603-(*)	4	1	4 5/8	3 3/16	3 7/8	5/8 & 1/2
12-604-(*)	4	1 1/4	4 5/8	3 1/8	4 5/16	5/8 & 1/2
12-605-(*)	4	1 1/2	4 5/8	3 1/16	4 3/8	5/8 & 1/2
12-606-(*)	4	2	4 5/8	3 1/8	5 1/8	5/8 & 1/2
12-607-(*)	4	2 1/2	4 5/8	4	6 1/8	5/8
12-608-(*)	4	3	4 5/8	3 15/16	7	5/8
12-609-(*)	4	3 1/2	4 5/8	3 3/4	7 1/2	5/8
12-610-(*)	4	4	4 5/8	4 5/8	8 1/2	5/8
12-611-(*)	4 1/2	1/2	4 3/4	4	2 7/8	5/8 & 1/2
12-612-(*)	4 1/2	3/4	4 3/4	2 3/4	3 3/8	5/8 & 1/2
12-613-(*)	4 1/2	1	4 3/4	3 3/16	3 7/8	5/8 & 1/2
12-614-(*)	4 1/2	1 1/4	4 3/4	3 1/8	4 5/16	5/8 & 1/2
12-615-(*)	4 1/2	1 1/2	4 3/4	3 1/16	4 3/8	5/8 & 1/2
12-616-(*)	4 1/2	2	4 3/4	3 1/8	5 1/8	5/8 & 1/2
12-617-(*)	4 1/2	2 1/2	4 3/4	4	6 1/8	5/8
12-618-(*)	4 1/2	3	4 3/4	3 15/16	7	5/8
12-619-(*)	4 1/2	3 1/2	4 3/4	3 3/4	7 1/2	5/8
12-620-(*)	4 1/2	4	4 3/4	4 5/8	8 1/2	5/8
12-621-(*)	4 1/2	4 1/2	4 3/4	4 3/4	9 1/8	5/8
12-622-(*)	5	1/2	5 1/16	4	2 7/8	5/8 & 1/2
12-623-(*)	5	3/4	5 1/16	2 3/4	3 3/8	5/8 & 1/2
12-624-(*)	5	1	5 1/16	3 3/16	3 7/8	5/8 & 1/2
12-625-(*)	5	1 1/4	5 1/16	3 1/8	4 5/16	5/8 & 1/2
12-626-(*)	5	1 1/2	5 1/16	3 1/16	4 3/8	5/8 & 1/2
12-627-(*)	5	2	5 1/16	3 1/8	5 1/8	5/8 & 1/2
12-628-(*)	5	2 1/2	5 1/16	4	6 1/8	5/8
12-629-(*)	5	3	5 1/16	3 15/16	7	5/8
12-630-(*)	5	3 1/2	5 1/16	3 3/4	7 1/2	5/8
12-631-(*)	5	4	5 1/16	4 5/8	8 1/2	5/8
12-632-(*)	5	4 1/2	5 1/16	4 3/4	9 1/8	5/8
12-633-(*)	5	5	5 1/16	5 1/16	9 5/8	5/8
12-634-(*)	6	1/2	6	4	2 7/8	5/8 & 1/2
12-635-(*)	6	3/4	6	2 3/4	3 3/8	5/8 & 1/2
12-636-(*)	6	1	6	3 3/16	3 7/8	5/8 & 1/2
12-637-(*)	6	1 1/4	6	3 1/8	4 5/16	5/8 & 1/2
12-638-(*)	6	1 1/2	6	3 1/16	4 3/8	5/8 & 1/2
12-639-(*)	6	2	6	3 1/8	5 1/8	5/8 & 1/2
12-640-(*)	6	2 1/2	6	4	6 1/8	5/8
12-641-(*)	6	3	6	3 15/16	7	5/8
12-642-(*)	6	3 1/2	6	3 3/4	7 1/2	5/8
12-643-(*)	6	4	6	4 5/8	8 1/2	5/8
12-644-(*)	6	4 1/2	6	4 3/4	9 1/8	5/8
12-645-(*)	6	5	6	5 1/16	9 5/8	5/8
12-646-(*)	6	6	6	6	11	5/8

# BRONZE TEE CONNECTORS, PIPE RUN TO CABLE TAP

SECTION

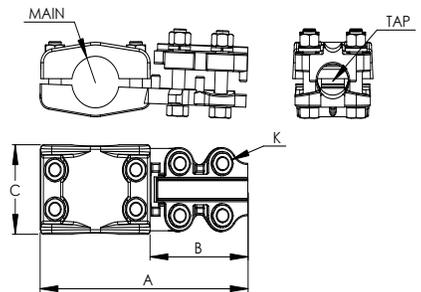
12-4



Wide Range denoted by: \*



CATALOG NUMBER	IPS MAIN	CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	A	B	C	K
12-647*	1/2	8	600	6	3 1/8	3	3/8
12-649*	3/4	8	600	6 1/4	3 1/8	2 3/4	1/2 & 3/8
12-651*	1	8	600	7	3 1/8	3 3/16	1/2 & 3/8
12-652	1	4/0	1000	7 3/4	3 3/4	3 3/16	1/2
12-654*	1 1/4	8	600	6 1/2	3 1/8	3 1/8	1/2 & 3/8
12-655*	1 1/4	4/0	1000	6 3/4	3 3/4	3 1/8	1/2
12-657*	1 1/2	8	600	7 5/8	3 1/8	3 1/16	1/2 & 3/8
12-658*	1 1/2	4/0	1000	8 1/4	3 3/4	3 1/16	1/2
12-659	1 1/2	1000	1500	9	4 1/4	3 1/16	1/2
12-661*	2	8	600	8 1/4	3 1/8	3 1/8	1/2 & 3/8
12-662*	2	4/0	1000	9 1/8	3 3/4	3 1/8	1/2
12-663	2	1000	1500	9 1/2	4 1/4	3 1/8	1/2
12-665*	2 1/2	8	600	9 1/2	3 1/8	4	5/8 & 3/8
12-666*	2 1/2	4/0	1000	10	3 3/4	4	5/8 & 1/2
12-667	2 1/2	1000	1500	10 1/2	4 1/4	4	5/8 & 1/2
12-670*	3	8	600	10	3 1/8	3 15/16	5/8 & 3/8
12-671*	3	4/0	1000	10 3/4	3 3/4	3 15/16	5/8 & 1/2
12-672	3	1000	1500	11 1/4	4 1/4	3 15/16	5/8 & 1/2
12-675*	3 1/2	8	600	11 1/4	3 1/8	3 3/4	5/8 & 3/8
12-676*	3 1/2	4/0	1000	11 1/4	3 3/4	3 3/4	5/8 & 1/2
12-677	3 1/2	1000	1500	11 3/4	4 1/4	3 3/4	5/8 & 1/2
12-680*	4	8	600	11 7/8	3 1/8	4 5/8	5/8 & 3/8
12-681*	4	4/0	1000	12 1/4	3 3/4	4 5/8	5/8 & 1/2
12-682	4	1000	1500	13	4 1/4	4 5/8	5/8 & 1/2
12-685*	4 1/2	8	600	12 3/4	3 1/8	4 3/4	5/8 & 3/8
12-686*	4 1/2	4/0	1000	12 3/4	3 3/4	4 3/4	5/8 & 1/2
12-687	4 1/2	1000	1500	13 3/8	4 1/4	4 3/4	5/8 & 1/2
12-690*	5	8	600	12 7/8	3 1/8	5 1/16	5/8 & 3/8
12-691*	5	4/0	1000	13 1/4	3 3/4	5 1/16	5/8 & 1/2
12-692	5	1000	1500	13 3/4	4 1/4	5 1/16	5/8 & 1/2
12-695*	6	8	600	14	3 1/8	6	5/8 & 3/8
12-696*	6	4/0	1000	14 3/4	3 3/4	6	5/8 & 1/2
12-697	6	1000	1500	15 1/4	4 1/4	6	5/8 & 1/2



Cast of a copper alloy for high conductivity and natural resistance to stress, the type BTPC is a strong and reliable connector in cases that require the junction of a cable tap to the pipe main.

For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are made of silicon bronze. In order to assist installation, all bolt heads are recessed.

**SECTION**

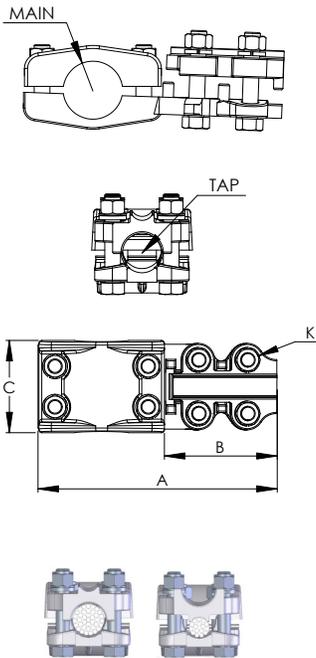
**12-4A**

**ALUMINUM TEE CONNECTORS,  
PIPE RUN TO CABLE TAP**



When a more economical and lightweight connector is necessary for joining a cable tap to the pipe main, the type ATPC, which is made of an aluminum alloy, meets those requirements.

High tensile aluminum clamping hardware adds strength and durability to the connector which, for greater convenience, offers captivated bolt heads that permit single-wrench installation.



Wide Range denoted by: \*

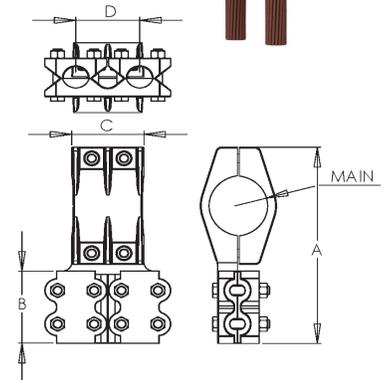
CATALOG NUMBER	IPS MAIN	ALUMINUM CABLE TAP		ACSR CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	K
12-699	1/2	4	954	4	795	6 7/8	4	4	1/2
12-703*	3/4	4	954	4	795	7 5/8	4	2 3/4	1/2
12-707*	1	4	954	4	795	8	4	3 3/16	1/2
12-711*	1 1/4	4	954	4	795	8 1/4	4	3 1/8	1/2
12-715*	1 1/2	4	954	4	795	8 5/8	4	3 1/16	1/2
12-716	1 1/2	900	1272	715.5	1113	8	4	3 1/16	1/2
12-719*	2	4	954	4	795	9 1/2	4	3 1/8	1/2
12-720	2	900	1272	715.5	1113	9 3/8	3 5/8	3 1/8	5/8
12-723*	2 1/2	4	954	4	795	10 1/8	4	4	5/8 & 1/2
12-724	2 1/2	900	1272	715.5	1113	10 1/2	3 5/8	4	5/8 & 1/2
12-725	2 1/2	1272	1590	1113	1272	11	4 1/4	4	5/8 & 1/2
12-728*	3	4	954	4	795	11 1/4	4	3 15/16	5/8 & 1/2
12-729*	3	900	1272	715.5	1113	11	3 5/8	3 15/16	5/8 & 1/2
12-730	3	1272	1590	1113	1272	11 3/4	4 1/4	3 15/16	5/8 & 1/2
12-733*	3 1/2	4	954	4	795	11 1/2	4	3 3/4	5/8 & 1/2
12-734	3 1/2	900	1272	715.5	1113	11 1/8	3 5/8	3 3/4	5/8 & 1/2
12-735	3 1/2	1272	1590	1113	1272	11 7/8	4 1/4	3 3/4	5/8 & 1/2
12-737*	4	4	954	4	795	12 1/2	4	4 5/8	5/8 & 1/2
12-738	4	900	1272	715.5	1113	12 1/2	3 5/8	4 5/8	5/8 & 1/2
12-739	4	1272	1590	1113	1272	12 3/4	4 1/4	4 5/8	5/8 & 1/2
12-740	4	1590	2000	1272	1590	13 1/2	4 1/2	4 5/8	5/8
12-742*	4 1/2	4	954	4	795	12 5/8	4	4 3/4	5/8 & 1/2
12-743	4 1/2	900	1272	715.5	1113	12 5/8	3 5/8	4 3/4	5/8 & 1/2
12-744	4 1/2	1272	1590	1113	1272	14 5/8	4 1/4	4 3/4	5/8 & 1/2
12-745	4 1/2	1590	2000	1272	1590	15 1/4	4 1/2	4 3/4	5/8
12-747*	5	4	954	4	795	13	4	5 1/16	5/8 & 1/2
12-748	5	900	1272	715.5	1113	13 3/4	3 5/8	5 1/16	5/8 & 1/2
12-749	5	1272	1590	1113	1272	14 5/8	4 1/4	5 1/16	5/8 & 1/2
12-750	5	1590	2000	1272	1590	14 1/2	4 1/2	5 1/16	5/8
12-752*	6	4	954	4	795	15 5/8	4	6	5/8 & 1/2
12-753	6	900	1272	715.5	1113	14 3/4	3 5/8	6	5/8 & 1/2
12-754	6	1272	1590	1113	1272	15 1/4	4 1/4	6	5/8 & 1/2
12-755	6	1590	2000	1272	1590	15 1/2	4 1/2	6	5/8

# BRONZE TEE CONNECTORS, PIPE RUN TO DOUBLE CABLE TAP

## SECTION 12-4-2T

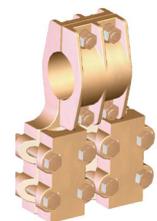
\* Please indicate either side by side "IL" or back to back "BB" orientation

CATALOG NUMBER	IPS MAIN	CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	A	B	C	D
12-647-2T*	1/2	8	600	6 1/2	3 1/8	3	1 1/2
12-649-2T*	3/4	8	600	6 1/2	3 1/8	2 3/4	1 1/2
12-651-2T*	1	8	600	7	3 1/8	3 3/16	1 1/2
12-652-2T*	1	4/0	1000	7 3/4	3 3/4	3 3/16	2
12-654-2T*	1 1/4	8	600	8 1/4	3 1/8	3 1/8	1 1/2
12-655-2T*	1 1/4	4/0	1000	8 1/4	3 3/4	3 1/8	2
12-657-2T*	1 1/2	8	600	7 1/2	3 1/8	3 1/16	1 1/2
12-658-2T*	1 1/2	4/0	1000	8 1/2	3 3/4	3 1/16	2
12-659-2T*	1 1/2	1000	1500	8 5/8	4 1/4	3 1/16	3 1/2
12-661-2T*	2	8	600	8 1/4	3 1/8	3 1/8	1 1/2
12-662-2T*	2	4/0	1000	9	3 3/4	3 1/8	2
12-663-2T*	2	1000	1500	9 5/8	4 1/4	3 1/8	3 1/2
12-665-2T*	2 1/2	8	600	9 1/4	3 1/8	4	1 1/2
12-666-2T*	2 1/2	4/0	1000	10	3 3/4	4	3 1/2
12-667-2T*	2 1/2	1000	1500	10 3/8	4 1/4	4	3 1/2
12-670-2T*	3	8	600	10 1/8	3 1/8	3 15/16	1 1/2
12-671-2T*	3	4/0	1000	10 7/8	3 3/4	3 15/16	2
12-672-2T*	3	1000	1500	12 1/2	4 1/4	3 15/16	4
12-675-2T*	3 1/2	8	600	10 5/8	3 1/8	3 3/4	1 1/2
12-676-2T*	3 1/2	4/0	1000	11 3/8	3 3/4	3 3/4	2
12-677-2T*	3 1/2	1000	1500	11 3/4	4 1/4	3 3/4	3 1/2
12-680-2T*	4	8	600	11 5/8	3 1/8	4 5/8	1 1/2
12-681-2T*	4	4/0	1000	12 3/8	3 3/4	4 5/8	2
12-682-2T*	4	1000	1500	12 3/4	4 1/4	4 5/8	3 1/2
12-685-2T*	4 1/2	8	600	12 1/8	3 1/8	4 3/4	1 1/2
12-686-2T*	4 1/2	4/0	1000	12 7/8	3 3/4	4 3/4	2
12-687-2T*	4 1/2	1000	1500	13 1/4	4 1/4	4 3/4	3 1/2
12-690-2T*	5	8	600	12 3/4	3 1/8	5 1/16	1 1/2
12-691-2T*	5	4/0	1000	13 1/2	3 3/4	5 1/16	2
12-692-2T*	5	1000	1500	13 7/8	4 1/4	5 1/16	3 1/2
12-695-2T*	6	8	600	14 1/8	3 1/8	6	1 1/2
12-696-2T*	6	4/0	1000	14 7/8	3 3/4	6	2
12-697-2T*	6	1000	1500	15 1/4	4 1/4	6	3 1/2

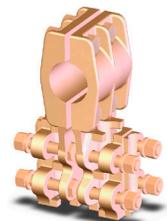


Cast of a copper alloy for high conductivity and natural resistance to stress, the Type BTPC2 is a strong and reliable connector in cases that require the junction of a double cable tap to a pipe main. For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are made of silicon bronze. In order to assist installation, all bolt heads are recessed.

For side by side orientation use suffix "-2T-IL"

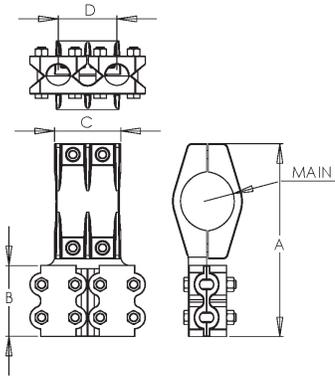


For back to back orientation use suffix "-2T-BB"



**SECTION**  
**12-4A-2T**

**ALUMINUM TEE CONNECTORS,  
PIPE RUN TO DOUBLE CABLE TAP**



To join a single pipe main to two cable taps use the type ATPC2. High tensile aluminum clamping hardware adds strength and durability to the connector which, for greater convenience, offers captivated bolt heads that permit single-wrench installation.

For side by side orientation use suffix "-2T-IL"



For back to back orientation use suffix "-2T-BB"



\* Please indicate either side by side "IL" or back to back "BB" orientation

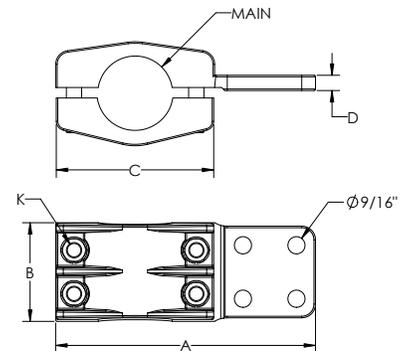
CATALOG NUMBER	IPS MAIN	ALUMINUM CABLE TAP		ASCR CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	D
12-647-2T*	1/2	4	954	4	795	6	4	2 7/8	3 1/4
12-703-2T*	3/4	4	954	4	795	6 3/4	4	2 3/4	3 1/4
12-707-2T*	1	4	954	4	795	7	4	3 3/16	3 1/4
12-711-2T*	1 1/4	4	954	4	795	7 1/2	4	3 1/8	3 1/4
12-715-2T*	1 1/2	4	954	4	795	8 1/4	4	3 1/16	3 1/4
12-716-2T*	1 1/2	900	1272	715.5	1113	8 1/2	3 5/8	3 1/16	3 3/4
12-719-2T*	2	4	954	4	795	8 3/4	4	3 1/8	3 1/4
12-720-2T*	2	900	1272	715.5	1113	9	3 5/8	3 1/8	3 3/4
12-723-2T*	2 1/2	4	954	4	795	9 3/4	4	4	3 1/4
12-724-2T*	2 1/2	900	1272	715.5	1113	10	3 5/8	4	3 3/4
12-725-2T*	2 1/2	1272	1590	1113	1272	10 1/2	4 1/4	4	3 1/2
12-728-2T*	3	4	954	4	795	11 1/4	4	3 15/16	3 1/4
12-729-2T*	3	900	1272	715.5	1113	11 1/4	3 5/8	3 15/16	3 3/4
12-730-2T*	3	1272	1590	1113	1272	11 1/4	4 1/4	3 15/16	3 1/2
12-733-2T*	3 1/2	4	954	4	795	11 3/4	4	3 3/4	3 1/4
12-734-2T*	3 1/2	900	1272	715.5	1113	11 1/2	3 5/8	3 3/4	3 3/4
12-735-2T*	3 1/2	1272	1590	1113	1272	12	4 1/4	3 3/4	3 1/2
12-737-2T*	4	4	954	4	795	13	4	4 5/8	3 1/2
12-738-2T*	4	900	1272	715.5	1113	12	3 5/8	4 5/8	3 3/4
12-739-2T*	4	1272	1590	1113	1272	13	4 1/4	4 5/8	3 3/4
12-740-2T*	4	1590	2000	1272	1590	13 3/8	4 1/2	4 5/8	4
12-742-2T*	4 1/2	4	954	4	795	12 1/4	4	4 3/4	3 1/4
12-743-2T*	4 1/2	900	1272	715.5	1113	12 1/2	3 5/8	4 3/4	3 3/4
12-744-2T*	4 1/2	1272	1590	1113	1272	13	4 1/4	4 3/4	3 1/2
12-745-2T*	4 1/2	1590	2000	1272	1590	13 1/4	4 1/2	4 3/4	4
12-747-2T*	5	4	954	4	795	12 3/4	4	5 1/16	3 1/4
12-748-2T*	5	900	1272	715.5	1113	13	3 5/8	5 1/16	3 3/4
12-749-2T*	5	1272	1590	1113	1272	13 1/2	4 1/4	5 1/16	3 1/2
12-750-2T*	5	1590	2000	1272	1590	13 3/4	4 1/2	5 1/16	4
12-752-2T*	6	4	954	4	795	13 3/4	4	6	3 1/4
12-753-2T*	6	900	1272	715.5	1113	14	3 5/8	6	3 3/4
12-754-2T*	6	1272	1590	1113	1272	14 1/2	4 1/4	6	3 1/2
12-755-2T*	6	1590	2000	1272	1590	14 3/4	4 1/2	6	4

# BRONZE TEE CONNECTORS, PIPE RUN TO PAD TAP

SECTION

12-5

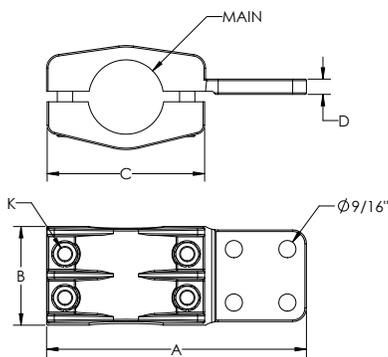
CATALOG NUMBER	IPS MAIN	PAD STYLE	DIMENSIONS IN INCHES				
			A	B	C	D	K
12-757	1/2	B	5 1/2	3	2 1/4	3/8	3/8
12-758	1/2	C	5 1/2	3	2 1/4	3/8	3/8
12-759	1/2	D	6 1/2	3	2 1/4	3/8	3/8
12-760	3/4	B	6 3/4	2 3/4	3 3/8	3/8	1/2
12-761	3/4	C	6 3/4	2 3/4	3 3/8	3/8	1/2
12-762	3/4	D	7 1/8	2 3/4	3 3/8	3/8	1/2
12-763	1	B	7 1/8	3 3/16	3 7/8	3/8	1/2
12-764	1	C	7 1/8	3 3/16	3 7/8	3/8	1/2
12-765	1	D	8 1/8	3 3/16	3 7/8	3/8	1/2
12-766	1 1/4	B	7 3/4	3 1/8	4 5/16	3/8	1/2
12-767	1 1/4	C	8 1/2	3 1/8	4 5/16	3/8	1/2
12-768	1 1/4	D	9 1/2	3 1/8	4 5/16	3/8	1/2
12-771	1 1/2	B	7 5/8	3 1/16	4 3/8	5/8	1/2
12-772	1 1/2	C	7 5/8	3 1/16	4 3/8	5/8	1/2
12-773	1 1/2	D	8 5/8	3 1/16	4 3/8	5/8	1/2
12-776	2	B	8 1/8	3 1/4	5 1/8	1/2	1/2
12-777	2	C	8 1/2	3 1/4	5 1/8	1/2	1/2
12-778	2	D	9 1/8	3 1/4	5 1/8	1/2	1/2
12-781	2 1/2	B	9 1/8	4 1/8	6 1/8	1/2	5/8
12-782	2 1/2	C	9 1/8	4 1/8	6 1/8	1/2	5/8
12-783	2 1/2	D	10 1/2	4 1/8	6 1/8	5/8	5/8
12-786	3	B	10 3/8	4	7	5/8	5/8
12-787	3	C	10 1/4	4	7	5/8	5/8
12-788	3	D	11 1/4	4	7	5/8	5/8
12-792	3 1/2	B	10 1/2	3 3/4	7 1/2	3/4	5/8
12-793	3 1/2	C	10 1/2	3 3/4	7 1/2	3/4	5/8
12-794	3 1/2	D	11 3/4	3 3/4	7 1/2	3/4	5/8
12-798	4	B	11 1/4	4 5/8	8 1/2	3/4	5/8
12-799	4	C	11 1/4	4 5/8	8 1/2	3/4	5/8
12-800	4	D	12 1/2	4 5/8	8 1/2	3/4	5/8
12-804	4 1/2	B	12 1/8	4 3/4	9 1/8	3/4	5/8
12-805	4 1/2	C	12 1/8	4 3/4	9 1/8	3/4	5/8
12-806	4 1/2	D	13 1/8	4 3/4	9 1/8	3/4	5/8
12-810	5	B	13 1/4	5 1/16	9 5/8	1	5/8
12-811	5	C	13 1/4	5 1/16	9 5/8	1	5/8
12-812	5	D	14 1/4	5 1/16	9 5/8	1	5/8
12-816	6	B	14	6	11	1 1/8	5/8
12-817	6	C	14	6	11	1 1/8	5/8
12-818	6	D	15	6	11	1 1/8	5/8



The type BTPB connector joins copper pipe to copper flat pad. This tee connector offers strength and durability with its high conductivity copper alloy casting and clamping hardware made of silicon bronze. This connector like the others, features recessed bolt heads for single-wrench installation.

## SECTION

## 12-5A

ALUMINUM TEE CONNECTORS,  
PIPE RUN TO FLAT PAD TAP

Manufactured of a strong, lightweight aluminum alloy, the type ATPB joins aluminum pipe main to aluminum flat pad.

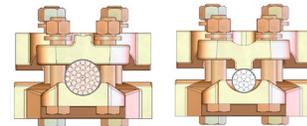
For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are high tensile aluminum. To facilitate installation, all bolt heads are recessed.

CATALOG NUMBER	IPS MAIN	PAD STYLE	DIMENSIONS IN INCHES				
			A	B	C	D	K
12-824	1/2	B	5 1/2	4	2 7/8	3/8	1/2
12-825	1/2	C	5 1/2	4	2 7/8	3/8	1/2
12-826	1/2	D	6 1/2	4	2 7/8	3/8	1/2
12-827	3/4	B	6 3/4	2 3/4	3 3/8	3/8	1/2
12-828	3/4	C	6 3/4	2 3/4	3 3/8	3/8	1/2
12-829	3/4	D	7 1/8	2 3/4	3 3/8	3/8	1/2
12-830	1	B	7 1/8	3 3/16	3 7/8	3/8	1/2
12-831	1	C	7 1/8	3 3/16	3 7/8	3/8	1/2
12-832	1	D	8 1/4	3 3/16	3 7/8	3/8	1/2
12-833	1 1/4	B	7 5/8	3 1/8	4 5/16	3/8	1/2
12-834	1 1/4	C	7 5/8	3 1/8	4 5/16	3/8	1/2
12-835	1 1/4	D	8 5/8	3 1/8	4 5/16	3/8	1/2
12-837	1 1/2	B	7 5/8	3 1/16	4 3/8	1/2	1/2
12-838	1 1/2	C	7 5/8	3 1/16	4 3/8	1/2	1/2
12-839	1 1/2	D	8 3/4	3 1/16	4 3/8	1/2	1/2
12-842	2	B	8 1/2	3 1/8	5 1/8	1/2	1/2
12-843	2	C	8 1/2	3 1/8	5 1/8	1/2	1/2
12-844	2	D	9 1/2	3 1/8	5 1/8	1/2	1/2
12-847	2 1/2	B	10 1/2	4	6 1/8	1/2	5/8
12-848	2 1/2	C	10 1/2	4	6 1/8	1/2	5/8
12-849	2 1/2	D	11	4	6 1/8	1/2	5/8
12-852	3	B	10 3/8	3 15/16	7	5/8	5/8
12-853	3	C	10 1/4	3 15/16	7	5/8	5/8
12-854	3	D	11 7/8	3 15/16	7	5/8	5/8
12-858	3 1/2	B	10 1/2	3 3/4	7 1/2	3/4	5/8
12-859	3 1/2	C	10 1/2	3 3/4	7 1/2	3/4	5/8
12-860	3 1/2	D	11 3/4	3 3/4	7 1/2	3/4	5/8
12-864	4	B	11 1/2	4 5/8	8 1/2	3/4	5/8
12-865	4	C	11 1/2	4 5/8	8 1/2	3/4	5/8
12-866	4	D	12 1/2	4 5/8	8 1/2	3/4	5/8
12-870	4 1/2	B	12 1/8	4 3/4	9 1/8	3/4	5/8
12-871	4 1/2	C	12 1/8	4 3/4	9 1/8	3/4	5/8
12-872	4 1/2	D	13 1/8	4 3/4	9 1/8	3/4	5/8
12-876	5	B	13 1/8	5 1/16	9 5/8	1	5/8
12-877	5	C	13 1/8	5 1/16	9 5/8	1	5/8
12-878	5	D	14 3/8	5 1/16	9 5/8	1	5/8
12-882	6	B	14	6	11	1 1/8	5/8
12-883	6	C	14	6	11	1 1/8	5/8
12-884	6	D	15	6	11	1 1/8	5/8

# BRONZE TEE CONNECTORS, CABLE RUN TO CABLE TAP

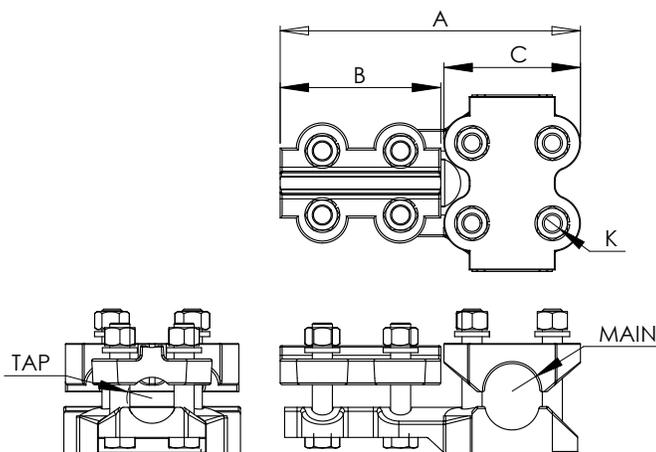
SECTION

12-6



Wide Range denoted by: \*

CATALOG NUMBER	CABLE MAIN		CABLE TAP		DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	K
12-890*	8	600	8	600	5 3/8	3 1/8	2 1/4	3/8
12-892*	4/0	1000	8	600	6 1/8	3 1/8	3	3/8
12-893*	4/0	1000	4/0	1000	6 3/4	3 3/4	3	1/2
12-895*	1000	1500	8	600	6 1/8	3 1/8	3	1/2
12-896*	1000	1500	4/0	1000	7 1/8	3 3/4	3 3/8	1/2
12-897	1000	1500	1000	1500	7 1/4	4 1/4	3	1/2
12-899*	1500	2000	8	600	6 7/8	3 1/8	3 3/4	1/2
12-900*	1500	2000	4/0	1000	7 1/2	3 3/4	3 3/4	1/2
12-901	1500	2000	1000	1500	8	4 1/4	3 3/4	1/2
12-902	1500	2000	1500	2000	8 7/8	5 1/8	3 3/4	1/2

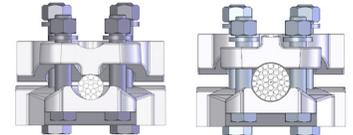
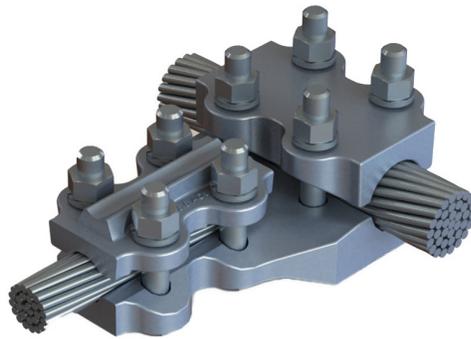


The type BTCC which effectively joins a cable tap to another cable relies on its high conductivity copper alloy for strength and durability. Bolts, nuts, and lockwashers of silicon bronze for more dependable clamping efficiency and resistance to corrosion. Bolt heads are captivated to facilitate single-wrench installation.

SECTION

12-6A

ALUMINUM TEE CONNECTORS,  
CABLE RUN TO CABLE TAP



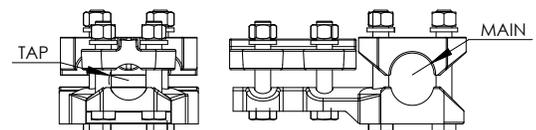
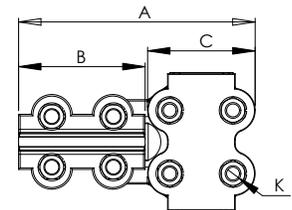
Wide Range denoted by: \*

CATALOG NUMBER	ALUMINUM CABLE MAIN		ALUMINUM CABLE TAP		ACSR CABLE MAIN		ACSR CABLE TAP		DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	K
12-908*	4	954	4	954	4	795	4	795	6 7/8	4	2 7/8	1/2
12-915*	900	1272	4	954	715.5	1113	4	795	7 1/2	4	3 1/2	1/2
12-917	900	1272	900	1272	715.5	1113	715.5	1113	7 1/8	3 5/8	3 1/2	1/2
12-920*	1272	1590	4	954	1113	1272	4	795	7 3/8	4	3 3/8	1/2
12-922	1272	1590	900	1272	1113	1272	715.5	1113	7	3 5/8	3 3/8	1/2
12-923	1272	1590	1272	1590	1113	1272	1113	1272	7 5/8	4 1/4	3 3/8	1/2
12-926*	1590	2000	4	954	1272	1590	4	795	7 3/4	4	3 3/4	5/8 & 1/2
12-927	1590	2000	900	1272	1272	1590	715.5	1113	7 3/8	3 5/8	3 3/4	5/8 & 1/2
12-928	1590	2000	1272	1590	1272	1590	1113	1272	8	4 1/4	3 3/4	5/8 & 1/2
12-929	1590	2000	1590	2000	1272	1590	1272	1590	8 1/4	4 1/2	3 3/4	5/8

Connecting a cable tap to the cable main can be accomplished with efficiency and economy when the type ATTC is employed.

Cast of a lightweight aluminum alloy, it includes bolts, nuts, and lockwashers made of high tensile aluminum for clamping strength and resistance to wear.

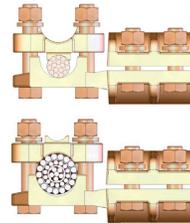
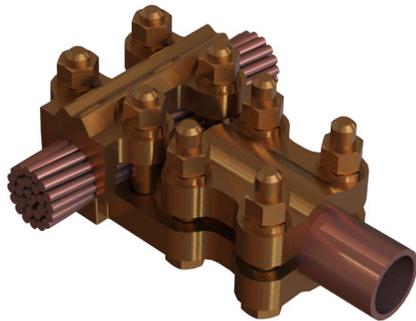
To facilitate single-wrench installation, all bolt heads are caprivated.



# BRONZE TEE CONNECTORS, CABLE RUN TO PIPE TAP

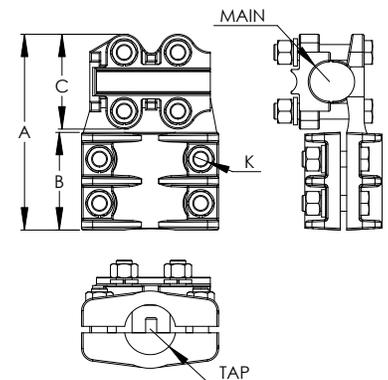
SECTION

12-7



Wide Range denoted by: \*

CATALOG NUMBER	CABLE MAIN		PIPE TAP	DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX		A	B	C	K
12-932*	8	600	3/4	5	2 3/4	2 1/4	3/8 & 1/2
12-933*	4/0	1000	3/4	5 3/4	2 3/4	3	1/2
12-935*	8	600	1	5 7/16	3 3/16	2 1/4	3/8 & 1/2
12-936*	4/0	1000	1	6 3/16	3 3/16	3	1/2
12-938*	8	600	1 1/4	5 3/8	3 1/8	2 1/4	3/8 & 1/2
12-939*	4/0	1000	1 1/4	6 1/8	3 1/8	3	1/2
12-940*	8	600	1 1/2	5 5/16	3 1/16	2 1/4	3/8 & 1/2
12-941*	4/0	1000	1 1/2	6 1/16	3 1/16	3	1/2
12-942*	8	600	2	5 3/8	3 1/8	2 1/4	3/8 & 1/2
12-943*	4/0	1000	2	6 1/8	3 1/8	3	1/2
12-944	1000	1500	2	6 1/2	3 1/8	3 3/8	1/2
12-945	4/0	1000	2 1/2	7	4	3	1/2 & 5/8
12-946	1000	1500	2 1/2	7 3/8	4	3 3/8	1/2 & 5/8
12-947	1500	2000	2 1/2	7 3/4	4	3 3/4	1/2 & 5/8

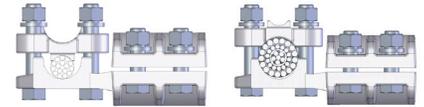
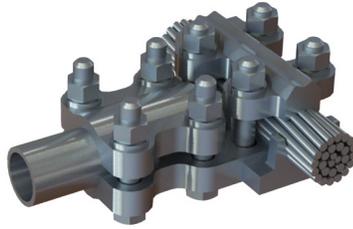


Designed to connect a pipe tap to a cable with maximum dependability, the type BTCP is cast of a copper alloy for high conductivity and natural resistance to corrosion and stress.

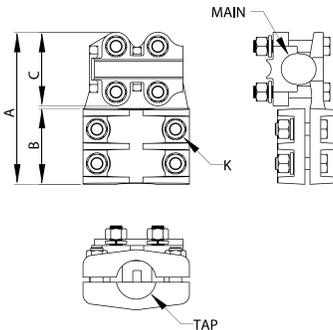
Silicon bronze clamping hardware reinforces the strength and durability of the connector. Recessed bolt heads are conveniently provided to expedite installation.

## SECTION

## 12-7A

ALUMINUM TEE CONNECTORS,  
CABLE RUN TO PIPE TAP

Wide Range denoted by: \*



Inexpensive and lightweight because of its aluminum alloy casting, the type ATCP joins a pipe tap to a cable main.

Clamping hardware is made of high-tensile aluminum.

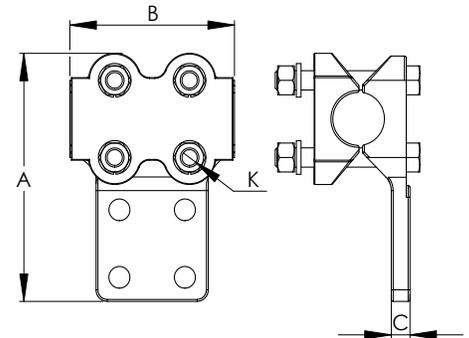
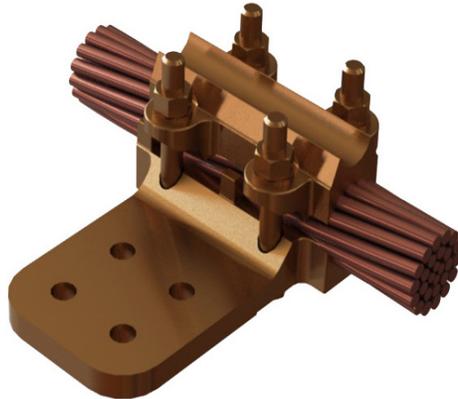
All bolt heads are recessed for easier single-wrench installation.

CATALOG NUMBER	ALUMINUM CABLE MAIN		ACSR MAIN		PIPE TAP	DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX	AWG MIN	MCM MAX		A	B	C	K
12-957*	4	954	4	795	1/2	5 3/4	2 7/8	2 7/8	1/2
12-958*	4	954	4	795	3/4	5 5/8	2 3/4	2 7/8	1/2
12-959*	4	954	4	795	1	6 1/16	3 3/16	2 7/8	1/2
12-960*	4	954	4	795	1 1/4	6	3 1/8	2 7/8	1/2
12-961*	4	954	4	795	1 1/2	5 15/16	3 1/16	2 7/8	1/2
12-962*	4	954	4	795	2	6	3 1/8	2 7/8	1/2
12-963	900	1272	715.5	1113	1/2	6 3/8	2 7/8	3 1/2	1/2
12-964	900	1272	715.5	1113	3/4	6 1/4	2 3/4	3 1/2	1/2
12-965	900	1272	715.5	1113	1	6 11/16	3 3/16	3 1/2	1/2
12-966	900	1272	715.5	1113	1 1/4	6 5/8	3 1/8	3 1/2	1/2
12-967	900	1272	715.5	1113	1 1/2	6 9/16	3 1/16	3 1/2	1/2
12-968	900	1272	715.5	1113	2	6 5/8	3 1/8	3 1/2	1/2
12-969	900	1272	715.5	1113	2 1/2	7 1/2	4	3 1/2	1/2 & 3/8
12-970	1272	1590	1113	1272	1/2	6 1/4	2 7/8	3 3/8	1/2
12-971	1272	1590	1113	1272	3/4	6 7/8	2 3/4	3 3/8	1/2
12-972	1272	1590	1113	1272	1	6 9/16	3 3/16	3 3/8	1/2
12-973	1272	1590	1113	1272	1 1/4	6 1/2	3 1/8	3 3/8	1/2
12-974	1272	1590	1113	1272	1 1/2	6 7/16	3 1/16	3 3/8	1/2
12-975	1272	1590	1113	1272	2	6 1/2	3 1/8	3 3/8	1/2
12-976	1272	1590	1113	1272	2 1/2	7 3/8	4	3 3/8	5/8 & 1/2
12-977	1272	1590	1113	1272	3	7 5/16	3 15/16	3 3/8	5/8 & 1/2
12-978	1590	2000	1272	1590	1/2	6 5/8	2 7/8	3 3/4	5/8 & 1/2
12-979	1590	2000	1272	1590	3/4	6 1/2	2 3/4	3 3/4	5/8 & 1/2
12-980	1590	2000	1272	1590	1	6 15/16	3 3/16	3 3/4	5/8 & 1/2
12-981	1590	2000	1272	1590	1 1/4	6 7/8	3 1/8	3 3/4	5/8 & 1/2
12-982	1590	2000	1272	1590	1 1/2	6 13/16	3 1/16	3 3/4	5/8 & 1/2
12-983	1590	2000	1272	1590	2	6 7/8	3 1/8	3 3/4	5/8 & 1/2
12-984	1590	2000	1272	1590	2 1/2	7 3/4	4	3 3/4	5/8 & 1/2
12-985	1590	2000	1272	1590	3	7 11/16	3 15/16	3 3/4	5/8 & 1/2

# BRONZE TEE CONNECTORS, CABLE RUN TO FLAT PAD TAP

SECTION

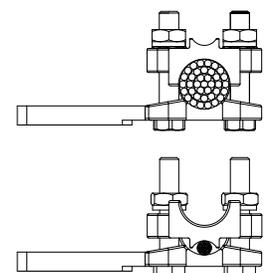
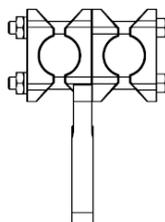
12-8



CATALOG NUMBER	CABLE MAIN		PAD STYLE	DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX		A	B	C	K
12-1080*	8	600	B	6	3 1/8	1/2	3/8
12-1081*	8	600	C	5 1/2	3 1/8	3/8	3/8
12-1082*	8	600	D	6 1/2	3 1/8	3/8	3/8
12-1086*	4/0	1000	B	6 1/4	3 3/4	5/8	1/2
12-1087*	4/0	1000	C	6 1/4	3 3/4	5/8	1/2
12-1088*	4/0	1000	D	7 1/4	3 3/4	5/8	1/2
12-1089	1000	1500	B	6 3/4	4 1/4	5/8	1/2
12-1090	1000	1500	C	6 3/4	4 1/4	5/8	1/2
12-1091	1000	1500	D	7 1/4	4 1/4	5/8	1/2
12-1092	1500	2000	B	7	5 1/8	5/8	1/2
12-1093	1500	2000	C	7	5 1/8	5/8	1/2
12-1094	1500	2000	D	8	5 1/8	5/8	1/2

A rugged, dependable connector cast of copper alloy for high conductivity and natural resistance to corrosion and stress, the type BTCB couples a cable run to a single bar tap.

All bolts, nuts, and lock-washers made of high strength silicon bronze insure clamping efficiency. Bolt heads are captivated.



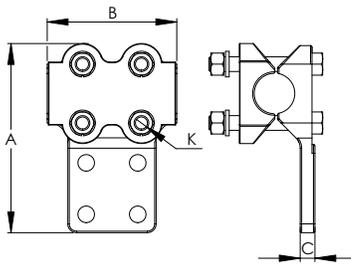
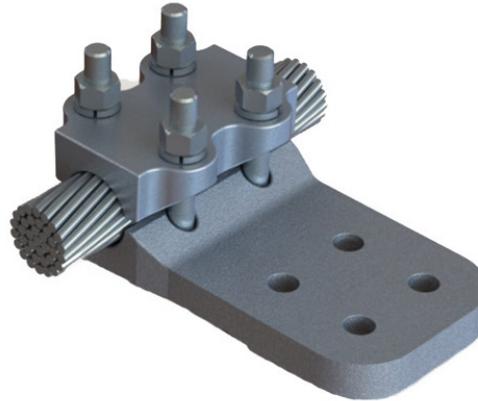
For double run bronze tee connectors use suffix (-2COND)  
EX: 12-1090-2COND

Wide Range denoted by: \*

**SECTION**

**12-8A**

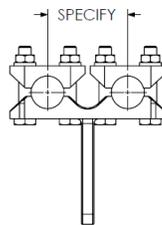
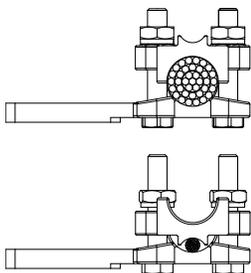
**ALUMINUM TEE CONNECTORS,  
CABLE RUN TO FLAT PAD TAP**



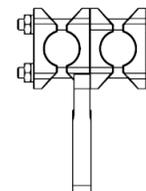
CATALOG NUMBER	CABLE MAIN				PAD STYLE	DIMENSIONS IN INCHES			
	AAC		ACSR			A	B	C	K
	AWG MIN	MCM MAX	AWG MIN	MCM MAX					
12-1101*	4	954	4	795	B	5 7/8	4	5/8	1/2
12-1102*	4	954	4	795	C	6 1/4	4	3/4	1/2
12-1103*	4	954	4	795	D	7 1/4	4	5/8	1/2
12-1107*	900	1272	715.5	1113	B	6 3/4	3 5/8	5/8	1/2
12-1108*	900	1272	715.5	1113	C	6 3/4	3 5/8	5/8	1/2
12-1109*	900	1272	715.5	1113	D	7 1/4	3 5/8	5/8	1/2
12-1110	1272	1590	1113	1272	B	6 5/8	4 1/4	5/8	1/2
12-1111	1272	1590	1113	1272	C	6 5/8	4 1/4	5/8	1/2
12-1112	1272	1590	1113	1272	D	8	4 1/4	5/8	1/2
12-1113	1590	2000	1272	1590	B	6 3/4	4 1/2	5/8	5/8
12-1114	1590	2000	1272	1590	C	6 3/4	4 1/2	5/8	5/8
12-1115	1590	2000	1272	1590	D	8	4 1/2	5/8	5/8

The type ATCB is a rugged dependable connector for joining a cable run to a single bar tap.

Aluminum clamping hardware adds strength and durability to this tee connector which features captivated bolt heads.



EX: 12-1111-2COND



EX: 12-1111-2COND(BB)

Wide Range denoted by: \*

Specify if a specific spacing is desired.  
For 6" spacing, EX: 12-1111-2C-6

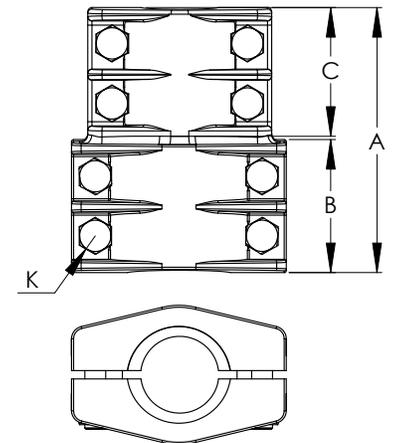
# BRONZE COUPLER-REDUCERS, PIPE TO PIPE

SECTION

13-1



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-101	1/2	1/2	6	3	3	3/8
13-102	3/4	1/2	5 3/4	2 3/4	3	1/2 & 3/8
13-103	3/4	3/4	5 1/2	2 3/4	2 3/4	1/2
13-104	1	1/2	6 3/16	3 3/16	3	1/2 & 3/8
13-105	1	3/4	5 7/16	3 3/16	2 3/4	1/2
13-106	1	1	6 3/8	3 3/16	3 3/16	1/2
13-107	1 1/4	1/2	6 1/8	3 1/8	3	3/8 & 1/2
13-108	1 1/4	3/4	5 7/8	3 1/8	2 3/4	1/2
13-109	1 1/4	1	6 5/16	3 1/8	3 3/16	1/2
13-110	1 1/4	1 1/4	6 1/4	3 1/8	3 1/8	1/2
13-111	1 1/2	1/2	6 1/16	3 1/16	3	1/2 & 3/8
13-112	1 1/2	3/4	5 13/16	3 1/16	2 3/4	1/2
13-113	1 1/2	1	6 1/4	3 1/16	3 3/16	1/2
13-114	1 1/2	1 1/4	6 3/16	3 1/16	3 1/8	1/2
13-115	1 1/2	1 1/2	6 1/8	3 1/16	3 1/16	1/2
13-116	2	3/4	5 7/8	3 1/8	2 3/4	1/2
13-117	2	1	6 5/16	3 1/8	3 3/16	1/2
13-118	2	1 1/4	6 1/4	3 1/8	3 1/8	1/2
13-119	2	1 1/2	6 3/16	3 1/8	3 1/16	1/2
13-120	2	2	6 1/4	3 1/8	3 1/8	1/2
13-121	2 1/2	3/4	6 3/4	4	2 3/4	5/8 & 1/2
13-122	2 1/2	1	7 3/16	4	3 3/16	5/8 & 1/2
13-123	2 1/2	1 1/4	7 1/8	4	3 1/8	5/8 & 1/2
13-124	2 1/2	1 1/2	7 1/16	4	3 1/16	5/8 & 1/2
13-125	2 1/2	2	7 1/8	4	3 1/8	5/8 & 1/2
13-126	2 1/2	2 1/2	5 1/2	4	4	5/8
13-127	3	1	7 1/8	3 15/16	3 3/16	5/8 & 1/2
13-128	3	1 1/4	7 1/16	3 15/16	3 1/8	5/8 & 1/2
13-129	3	1 1/2	7	3 15/16	3 1/16	5/8 & 1/2
13-130	3	2	7 1/16	3 15/16	3 1/8	5/8 & 1/2
13-131	3	2 1/2	7 15/16	3 15/16	4	5/8
13-132	3	3	7 7/8	3 15/16	3 15/16	5/8
13-133	3 1/2	1 1/4	6 7/8	3 3/4	3 1/8	5/8 & 1/2
13-134	3 1/2	1 1/2	6 13/16	3 3/4	3 1/16	5/8 & 1/2
13-135	3 1/2	2	6 7/8	3 3/4	3 1/8	5/8 & 1/2
13-136	3 1/2	2 1/2	7 3/4	3 3/4	4	5/8
13-137	3 1/2	3	7 11/16	3 3/4	3 15/16	5/8
13-138	3 1/2	3 1/2	7 1/2	3 3/4	3 3/4	5/8



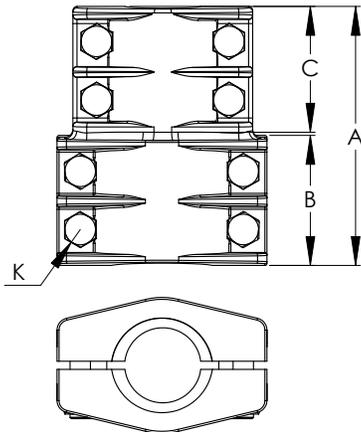
The type BRPP coupler-reducer combines the rugged durability and high conductivity of its copper alloy casting with high strength silicon bronze clamping hardware.

Bolt heads are recessed to permit single-wrench installation.

Continued on next page



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The type BRPP coupler-reducer combines the rugged durability and high conductivity of its copper alloy casting with high strength silicon bronze clamping hardware.

Bolt heads are recessed to permit single-wrench installation.

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-139	4	1 1/2	7 11/16	4 5/8	3 1/16	5/8 & 1/2
13-140	4	2	7 3/4	4 5/8	3 1/8	5/8 & 1/2
13-141	4	2 1/2	8 5/8	4 5/8	4	5/8
13-142	4	3	8 9/16	4 5/8	3 15/16	5/8
13-143	4	3 1/2	8 3/8	4 5/8	3 3/4	5/8
13-144	4	4	9 1/4	4 5/8	4 5/8	5/8
13-145	4 1/2	1 1/2	7 13/16	4 3/4	3 1/16	5/8 & 1/2
13-146	4 1/2	2	7 7/8	4 3/4	3 1/8	5/8 & 1/2
13-147	4 1/2	2 1/2	8 3/4	4 3/4	4	5/8
13-148	4 1/2	3	8 11/16	4 3/4	3 15/16	5/8
13-149	4 1/2	3 1/2	8 1/2	4 3/4	3 3/4	5/8
13-150	4 1/2	4	9 3/8	4 3/4	4 5/8	5/8
13-151	4 1/2	4 1/2	9 1/2	4 3/4	4 3/4	5/8
13-152	5	2	8 3/16	5 1/16	3 1/8	5/8 & 1/2
13-153	5	2 1/2	9 1/16	5 1/16	4	5/8
13-154	5	3	9	5 1/16	3 15/16	5/8
13-155	5	3 1/2	8 13/16	5 1/16	3 3/4	5/8
13-156	5	4	9 11/16	5 1/16	4 5/8	5/8
13-157	5	4 1/2	9 13/16	5 1/16	4 3/4	5/8
13-158	5	5	10 1/8	5 1/16	5 1/16	5/8
13-159	6	2 1/2	10	6	4	5/8
13-160	6	3	9 15/16	6	3 15/16	5/8
13-161	6	3 1/2	9 3/4	6	3 3/4	5/8
13-162	6	4	10 5/8	6	4 5/8	5/8
13-163	6	4 1/2	10 3/4	6	4 3/4	5/8
13-164	6	5	11 1/16	6	5 1/16	5/8
13-165	6	6	12	6	6	5/8

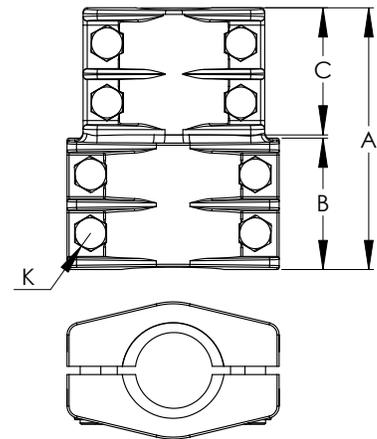
# ALUMINUM COUPLER-REDUCERS, PIPE TO PIPE

SECTION

13-1A

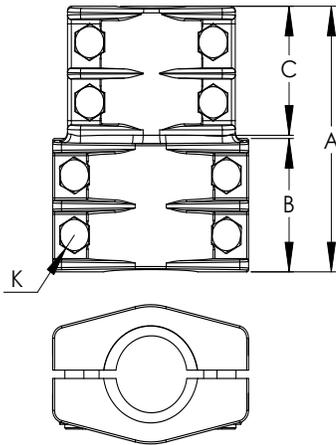


CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-166	1/2	1/2	8	4	4	1/2
13-167	3/4	1/2	6 3/4	2 3/4	4	1/2
13-168	3/4	3/4	5 1/2	2 3/4	2 3/4	1/2
13-169	1	1/2	7 3/16	3 3/16	4	1/2
13-170	1	3/4	5 15/16	3 3/16	2 3/4	1/2
13-171	1	1	6 3/8	3 3/16	3 3/16	1/2
13-172	1 1/4	1/2	7 1/8	3 1/8	4	1/2
13-173	1 1/4	3/4	5 7/8	3 1/8	2 3/4	1/2
13-174	1 1/4	1	6 5/16	3 1/8	3 3/16	1/2
13-175	1 1/4	1 1/4	6 1/4	3 1/8	3 1/8	1/2
13-176	1 1/2	1/2	7 1/16	3 1/16	4	1/2
13-177	1 1/2	3/4	5 13/16	3 1/16	2 3/4	1/2
13-178	1 1/2	1	6 1/4	3 1/16	3 3/16	1/2
13-179	1 1/2	1 1/4	6 3/16	3 1/16	3 1/8	1/2
13-180	1 1/2	1 1/2	6 1/8	3 1/16	3 1/16	1/2
13-181	2	3/4	5 7/8	3 1/8	2 3/4	1/2
13-182	2	1	6 5/16	3 1/8	3 3/16	1/2
13-183	2	1 1/4	6 1/4	3 1/8	3 1/8	1/2
13-184	2	1 1/2	6 3/16	3 1/8	3 1/16	1/2
13-185	2	2	6 1/4	3 1/8	3 1/8	1/2
13-186	2 1/2	3/4	6 3/4	4	2 3/4	5/8 & 1/2
13-187	2 1/2	1	7 3/16	4	3 3/16	5/8 & 1/2
13-188	2 1/2	1 1/4	7 1/8	4	3 1/8	5/8 & 1/2
13-189	2 1/2	1 1/2	7 1/16	4	3 1/16	5/8 & 1/2
13-190	2 1/2	2	7 1/8	4	3 1/8	5/8 & 1/2
13-191	2 1/2	2 1/2	8	4	4	5/8
13-192	3	1	7 1/8	3 15/16	3 3/16	5/8 & 1/2
13-193	3	1 1/4	7 1/16	3 15/16	3 1/8	5/8 & 1/2
13-194	3	1 1/2	7	3 15/16	3 1/16	5/8 & 1/2
13-195	3	2	7 1/16	3 15/16	3 1/8	5/8 & 1/2
13-196	3	2 1/2	7 15/16	3 15/16	4	5/8
13-197	3	3	7 7/8	3 15/16	3 15/16	5/8
13-198	3 1/2	1 1/4	6 7/8	3 3/4	3 1/8	5/8 & 1/2
13-199	3 1/2	1 1/2	6 13/16	3 3/4	3 1/16	5/8 & 1/2
13-200	3 1/2	2	6 7/8	3 3/4	3 1/8	5/8 & 1/2
13-201	3 1/2	2 1/2	7 3/4	3 3/4	4	5/8
13-202	3 1/2	3	7 11/16	3 3/4	3 15/16	5/8
13-203	3 1/2	3 1/2	7 1/2	3 3/4	3 3/4	5/8



Cast of a lightweight aluminum alloy, Type ARPP couples pipes of the same or different sizes end on end. Bolts, nuts, and lockwashers made of high tensile aluminum provide clamping efficiency and resistance to corrosion. All bolt heads are captivated for single-wrench installation.

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CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-204	4	1 1/2	7 11/16	4 5/8	3 1/16	5/8 & 1/2
13-205	4	2	7 3/4	4 5/8	3 1/8	5/8 & 1/2
13-206	4	2 1/2	8 5/8	4 5/8	4	5/8
13-207	4	3	8 9/16	4 5/8	3 15/16	5/8
13-208	4	3 1/2	8 3/8	4 5/8	3 3/4	5/8
13-209	4	4	9 1/4	4 5/8	4 5/8	5/8
13-210	4 1/2	1 1/2	7 13/16	4 3/4	3 1/16	5/8 & 1/2
13-211	4 1/2	2	7 7/8	4 3/4	3 1/8	5/8 & 1/2
13-212	4 1/2	2 1/2	8 3/4	4 3/4	4	5/8
13-213	4 1/2	3	8 11/16	4 3/4	3 15/16	5/8
13-214	4 1/2	3 1/2	8 1/2	4 3/4	3 3/4	5/8
13-215	4 1/2	4	9 3/8	4 3/4	4 5/8	5/8
13-216	4 1/2	4 1/2	9 1/2	4 3/4	4 3/4	5/8
13-217	5	2	8 3/16	5 1/16	3 1/8	5/8 & 1/2
13-218	5	2 1/2	9 1/16	5 1/16	4	5/8
13-219	5	3	9	5 1/16	3 15/16	5/8
13-220	5	3 1/2	8 13/16	5 1/16	3 3/4	5/8
13-221	5	4	9 11/16	5 1/16	4 5/8	5/8
13-222	5	4 1/2	9 13/16	5 1/16	4 3/4	5/8
13-223	5	5	10 1/8	5 1/16	5 1/16	5/8
13-224	6	2 1/2	10	6	4	5/8
13-225	6	3	9 15/16	6	3 15/16	5/8
13-226	6	3 1/2	9 3/4	6	3 3/4	5/8
13-227	6	4	10 5/8	6	4 5/8	5/8
13-228	6	4 1/2	10 3/4	6	4 3/4	5/8
13-229	6	5	11 1/16	6	5 1/16	5/8
13-230	6	6	12	6	6	5/8

Cast of a lightweight aluminum alloy, type ARPP couples pipes of the same or different sizes end on end.

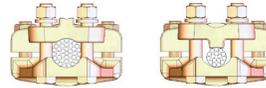
Bolts, nuts, and lockwashers made of high tensile aluminum provide clamping efficiency and resistance to corrosion.

All bolt heads are captivated for single-wrench installation.

# BRONZE COUPLER-REDUCERS, PIPE TO CABLE

SECTION

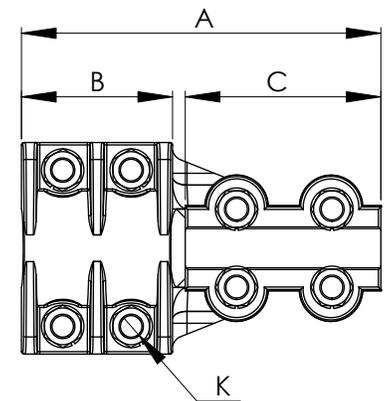
13-2



Wide Range denoted by: \*



CATALOG NUMBER	IPS MAIN	CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	A	B	C	K
13-231*	1/2	8	600	6 1/8	3	3 1/8	3/8
13-232*	3/4	8	600	5 7/8	2 3/4	3 1/8	1/2 & 3/8
13-235*	1	8	600	6 5/16	3 3/16	3 1/8	1/2 & 3/8
13-236*	1	4/0	1000	6 15/16	3 3/16	3 3/4	1/2
13-238*	1 1/4	8	600	6 1/4	3 1/8	3 1/8	1/2 & 3/8
13-239*	1 1/4	4/0	1000	6 7/8	3 1/8	3 3/4	1/2
13-241*	1 1/2	8	600	6 3/16	3 1/16	3 1/8	1/2 & 3/8
13-242*	1 1/2	4/0	1000	6 13/16	3 1/16	3 3/4	1/2
13-243	1 1/2	1000	1500	7 5/16	3 1/16	4 1/4	1/2
13-244*	2	8	600	6 1/4	3 1/8	3 1/8	1/2 & 3/8
13-245*	2	4/0	1000	6 7/8	3 1/8	3 3/4	1/2
13-246	2	1000	1500	7 3/8	3 1/8	4 1/4	1/2
13-247	2	1500	2000	8 1/4	3 1/8	5 1/8	1/2
13-248*	2 1/2	8	600	7 1/8	4	3 1/8	5/8 & 3/8
13-249*	2 1/2	4/0	1000	7 3/4	4	3 3/4	5/8 & 1/2
13-250	2 1/2	1000	1500	8 1/4	4	4 1/4	5/8 & 1/2
13-251	2 1/2	1500	2000	9 1/8	4	5 1/8	5/8 & 1/2
13-252*	3	8	600	7 1/16	3 15/16	3 1/8	5/8 & 3/8
13-253*	3	4/0	1000	7 11/16	3 15/16	3 3/4	5/8 & 1/2
13-254	3	1000	1500	8 3/16	3 15/16	4 1/4	5/8 & 1/2
13-255	3	1500	2000	9 1/16	3 15/16	5 1/8	5/8 & 1/2
13-256*	3 1/2	8	600	6 7/8	3 3/4	3 1/8	5/8 & 3/8
13-257*	3 1/2	4/0	1000	7 1/2	3 3/4	3 3/4	5/8 & 1/2
13-258	3 1/2	1000	1500	8	3 3/4	4 1/4	5/8 & 1/2
13-259	3 1/2	1500	2000	8 7/8	3 3/4	5 1/8	5/8 & 1/2
13-260*	4	8	600	7 3/4	4 5/8	3 1/8	5/8 & 3/8
13-261*	4	4/0	1000	8 3/8	4 5/8	3 3/4	5/8 & 1/2
13-262	4	1000	1500	8 7/8	4 5/8	4 1/8	5/8 & 1/2
13-263	4	1500	2000	9 3/4	4 5/8	5 1/8	5/8 & 1/2
13-264*	4 1/2	8	600	7 7/8	4 3/4	3 1/8	5/8 & 3/8
13-265*	4 1/2	4/0	1000	8 1/2	4 3/4	3 3/4	5/8 & 1/2
13-266	4 1/2	1000	1500	9	4 3/4	4 1/4	5/8 & 1/2
13-267	4 1/2	1500	2000	9 7/8	4 3/4	5 1/8	5/8 & 1/2
13-268*	5	8	600	8 3/16	5 1/16	3 1/8	5/8 & 3/8
13-269*	5	4/0	1000	8 13/16	5 1/16	3 3/4	5/8 & 1/2
13-270	5	1000	1500	9 5/16	5 1/16	4 1/4	5/8 & 1/2
13-271	5	1500	2000	10 3/16	5 1/16	5 1/8	5/8 & 1/2
13-272	6	8	600	9 1/8	6	3 1/8	5/8 & 3/8
13-273*	6	4/0	1000	9 3/4	6	3 3/4	5/8 & 1/2
13-274	6	1000	1500	10 1/4	6	4 1/4	5/8 & 1/2
13-275	6	1500	2000	11 1/8	6	5 1/8	5/8 & 1/2



Made of a copper alloy for high conductivity and natural resistance to corrosion and stress, the heavy duty type BRPC connector intended to link a cable to a pipe bus offers rugged dependability in the field.

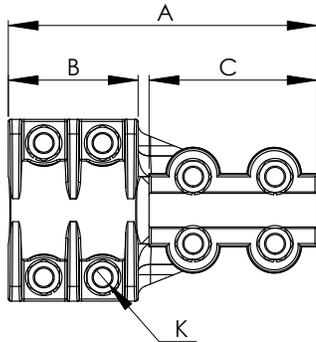
To enhance clamping efficiency and further reduce the effects of corrosion, bolts, nuts, and lockwashers are high strength silicon bronze.

Recessed bolt heads allow single-wrench installation.

SECTION

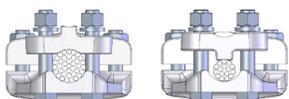
13-2A

ALUMINUM COUPLER-REDUCERS,  
PIPE TO CABLE



The lightweight aluminum type ARPC which efficiently joins a cable to a pipe bus features high strength aluminum clamping hardware.

A heavy duty connector, reliable and durable under conditions of electrical and environmental stress, it offers the added convenience of recessed bolt heads to facilitate single-wrench installation.



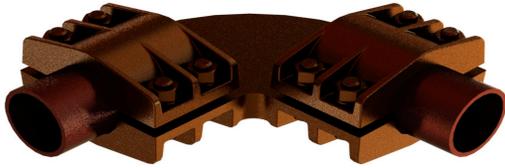
Wide Range denoted by: \*

CATALOG NUMBER	IPS MAIN	ALUMINUM CABLE TAP		ACSR CABLE TAP		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	K
13-276	1/2	4	954	4	795	8	4	4	1/2
13-280*	3/4	4	954	4	795	6 3/4	2 3/4	4	1/2
13-284*	1	4	954	4	795	7 3/16	3 3/16	4	1/2
13-288*	1 1/4	4	954	4	795	7 1/8	3 1/8	4	1/2
13-292*	1 1/2	4	954	4	795	7 1/16	3 1/16	4	1/2
13-293	1 1/2	900	1272	715.5	1113	6 11/16	3 1/16	3 5/8	1/2
13-296*	2	4	954	4	795	7 1/8	3 1/8	4	1/2
13-297	2	900	1272	715.5	1113	6 3/4	3 1/8	3 5/8	1/2
13-300*	2 1/2	4	954	4	795	8	4	4	5/8 & 1/2
13-301	2 1/2	900	1272	715.5	1113	7 5/8	4	3 5/8	5/8 & 1/2
13-302	2 1/2	1272	1590	1113	1272	8 1/4	4	4 1/4	5/8 & 1/2
13-305*	3	4	954	4	795	7 15/16	3 15/16	4	5/8 & 1/2
13-306	3	900	1272	715.5	1113	7 9/16	3 15/16	3 5/8	5/8 & 1/2
13-307	3	1272	1590	1113	1272	8 3/16	3 15/16	4 1/4	5/8 & 1/2
13-310*	3 1/2	4	954	4	795	7 3/4	3 3/4	4	5/8 & 1/2
13-311	3 1/2	900	1272	715.5	1113	7 3/8	3 3/4	3 5/8	5/8 & 1/2
13-312	3 1/2	1272	1590	1113	1272	8	3 3/4	4 1/4	5/8 & 1/2
13-314*	4	4	954	4	795	8	4 5/8	4	5/8 & 1/2
13-315	4	900	1272	715.5	1113	8 1/4	4 5/8	3 5/8	5/8 & 1/2
13-316	4	1272	1590	1113	1272	8 1/4	4 5/8	4 1/4	5/8 & 1/2
13-317	4	1590	2000	1272	1590	8 1/2	4 5/8	4 1/2	5/8
13-319*	4 1/2	4	954	4	795	8 3/4	4 3/4	4	5/8 & 1/2
13-320	4 1/2	900	1272	715.5	1113	8 3/8	4 3/4	3 5/8	5/8 & 1/2
13-321	4 1/2	1272	1590	1113	1272	9	4 3/4	4 1/4	5/8 & 1/2
13-322	4 1/2	1590	2000	1272	1590	9 1/4	4 3/4	4 1/2	5/8
13-324*	5	4	954	4	795	9 1/16	5 1/16	4	5/8 & 1/2
13-325	5	900	1272	715.5	1113	8 11/16	5 1/16	3 5/8	5/8 & 1/2
13-326	5	1272	1590	1113	1272	9 5/16	5 1/16	4 1/4	5/8 & 1/2
13-327	5	1590	2000	1272	1590	9 9/16	5 1/16	4 1/2	5/8
13-329	6	4	954	4	795	10	6	4	5/8 & 1/2
13-330	6	900	1272	715.5	1113	9 5/8	6	3 5/8	5/8 & 1/2
13-331	6	1272	1590	1113	1272	10 1/4	6	4 1/4	5/8 & 1/2
13-332	6	1590	2000	1272	1590	10 1/2	6	4 1/2	5/8

# BRONZE COUPLER PIPE RUN TO PIPE TAP, ELBOW

SECTION

13-3

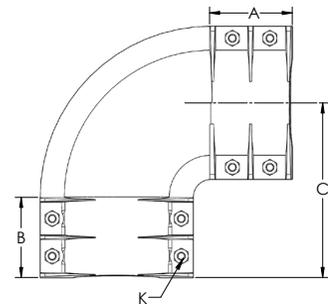


Style for 2 1/2" IPS and below



Style for 3" IPS and up

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-333-(* )	1/2	1/2	3	3	2 3/8	3/8
13-335-(* )	3/4	3/4	2 3/4	2 3/4	3 1/2	1/2
13-338-(* )	1	1	3 3/16	3 3/16	3 7/8	1/2
13-342-(* )	1 1/4	1 1/4	3 1/8	3 1/8	4 3/8	1/2
13-347-(* )	1 1/2	1 1/2	3 1/16	3 1/16	4 3/8	1/2
13-352-(* )	2	2	3 1/8	3 1/8	5 1/8	1/2
13-358-(* )	2 1/2	2 1/2	4	4	6 1/8	5/8
13-364-(* )	3	3	3 15/16	3 15/16	7	5/8
13-370-(* )	3 1/2	3 1/2	3 3/4	3 3/4	7 1/2	5/8
13-376-(* )	4	4	4 5/8	4 5/8	8 1/2	5/8
13-383-(* )	4 1/2	4 1/2	4 3/4	4 3/4	8 1/2	5/8
13-390-(* )	5	5	5 1/16	5 1/16	9 1/2	5/8
13-397-(* )	6	6	6	6	11	5/8



A rugged connector for linking pipes of the same size at an angle, the type BEPP depends on its high conductivity copper alloy for natural resistance to corrosion and stress in the field.

To further enhance its clamping strength, all bolts, nuts, and lock-washers are silicon bronze.

The recessed bolt heads facilitate single-wrench installation.

On all part numbers please specify the angle needed by adding the angle at the end of the part number (\*).

**Example:** For a 45° 13-397-\* please write part number as 13-397-45.

**SECTION**

**13-3A**

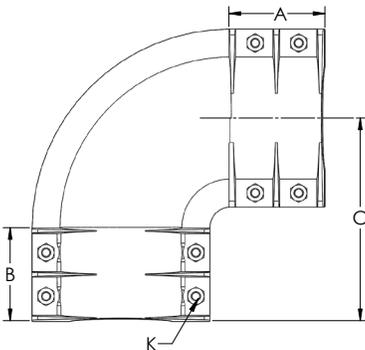
**ALUMINUM COUPLER PIPE  
RUN TO PIPE TAP, ELBOW**



Style for 2 1/2" IPS and below



Style for 3" IPS and up



Made of a lightweight aluminum alloy, the type AEPP offers strength and durability in situations requiring the connection of pipes of the same size at an angle.

The high tensile aluminum clamping hardware effectively resists corrosion and enhances the strength of the connector.

In addition, all bolt heads are captivated to permit single-wrench installation.

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-398-(*)	1/2	1/2	4	4	2 3/8	1/2
13-400-(*)	3/4	3/4	2 3/4	2 3/4	3 1/2	1/2
13-403-(*)	1	1	3 3/16	3 3/16	3 7/8	1/2
13-407-(*)	1 1/4	1 1/4	3 1/8	3 1/8	4 3/8	1/2
13-412-(*)	1 1/2	1 1/2	3 1/16	3 1/16	4 3/8	1/2
13-417-(*)	2	2	3 1/8	3 1/8	5 1/8	1/2
13-423-(*)	2 1/2	2 1/2	4	4	6 1/8	5/8
13-429-(*)	3	3	3 15/16	3 15/16	7	5/8
13-435-(*)	3 1/2	3 1/2	3 3/4	3 3/4	7 1/2	5/8
13-441-(*)	4	4	4 5/8	4 5/8	8 1/2	5/8
13-448-(*)	4 1/2	4 1/2	4 3/4	4 3/4	8 1/2	5/8
13-455-(*)	5	5	5 1/16	5 1/16	9 1/2	5/8
13-462-(*)	6	6	6	6	11	5/8

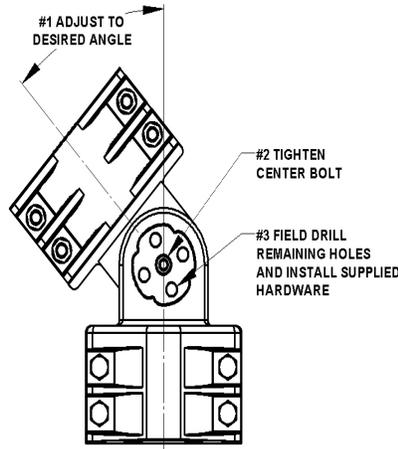
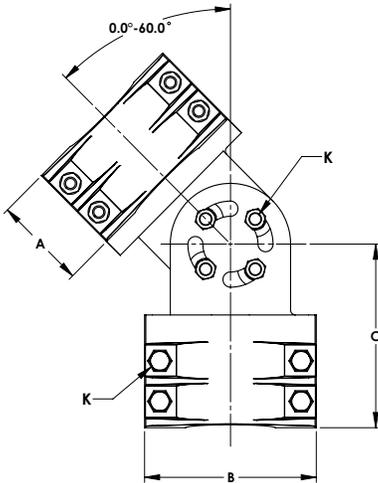
On all part numbers please specify the angle needed by adding the angle at the end of the part number (\*).

Example: For a 45° 13-398-\* please write part number as 13-398-45.

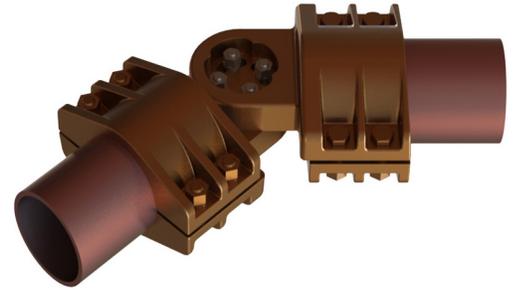
# BRONZE VARIABLE ANGLE COUPLER PIPE RUN TO PIPE TAP

SECTION

13-3-VA



\*Field drill required for 2 1/2" IPS and below



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-347-VA*	1 1/2	1 1/2	3 1/16	4 3/8	6 1/8	1/2
13-352-VA*	2	2	3 1/8	5 1/8	6 1/8	1/2
13-358-VA*	2 1/2	2 1/2	4	6 1/8	7	5/8
13-364-VA	3	3	3 15/16	7	7	5/8
13-370-VA	3 1/2	3 1/2	3 3/4	7 1/2	9	5/8
13-376-VA	4	4	4 5/8	8 1/2	9 1/8	5/8
13-383-VA	4 1/2	4 1/2	4 3/4	9 1/8	9 3/4	5/8
13-390-VA	5	5	5 1/16	9 5/8	10	5/8
13-397-VA	6	6	6	11	11 7/8	5/8

VA= Variable Angle

A rugged connector for linking pipes of the same size, the type BEPP depends on its high conductivity copper alloy for natural resistance to corrosion and stress in field.

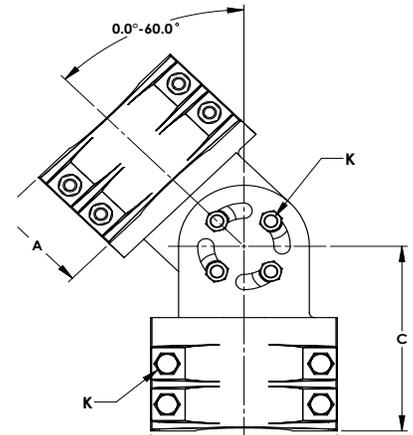
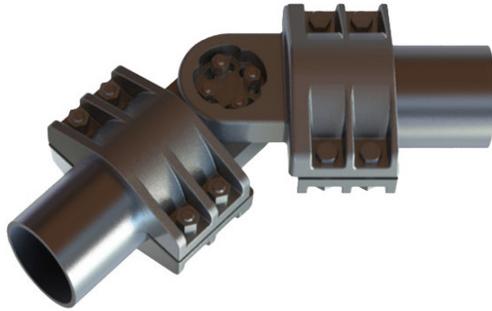
The variable angle elbow application pertains to elbow linkages requiring non-standard angle connections ranging from 0°-60°.

To further enhance its clamping strength, all bolts, nuts, and lockwashers are silicon bronze.

SECTION

13-3A-VA

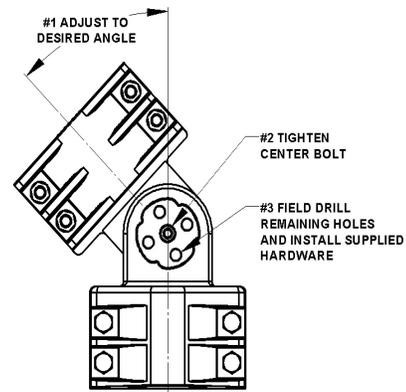
ALUMINUM VARIABLE ANGLE  
COUPLER PIPE RUN TO PIPE TAP



Made of a lightweight aluminum alloy, the type AEPP offers strength and durability in situations requiring the connection of pipes of same size.

The variable angle elbow application pertains to elbow linkages requiring non-standard angle connections ranging from 0°-60°.

The high tensile aluminum clamping hardware effectively resists corrosion and enhances the strength of the connector.



\*Field drill required for 2 1/2" IPS and below

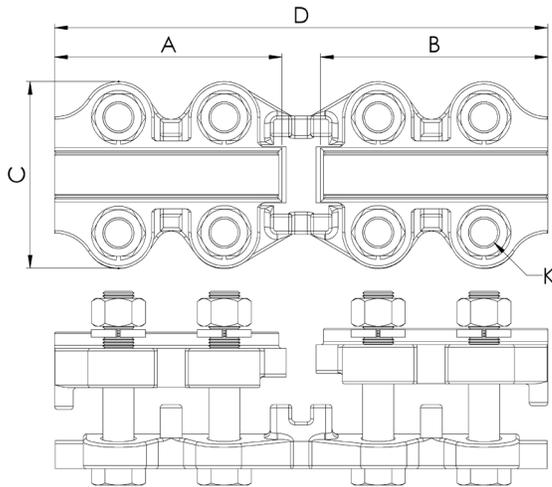
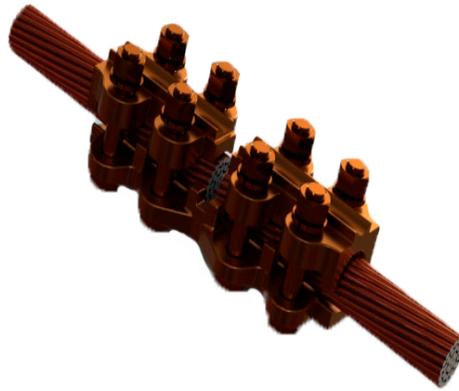
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			
			A	B	C	K
13-412-VA*	1 1/2	1 1/2	3 1/16	4 3/8	6 1/8	1/2
13-417-VA*	2	2	3 1/8	5 1/8	6 1/8	1/2
13-423-VA*	2 1/2	2 1/2	4	6 1/8	7	5/8
13-429-VA	3	3	3 15/16	7	7	5/8
13-435-VA	3 1/2	3 1/2	3 3/4	7 1/2	6 3/4	5/8
13-441-VA	4	4	4 5/8	8 1/2	9 1/8	5/8
13-448-VA	4 1/2	4 1/2	4 3/4	9 1/8	9 3/4	5/8
13-455-VA	5	5	5 1/16	9 5/8	10	5/8
13-462-VA	6	6	6	11	11 7/8	5/8

VA= Variable Angle

# BRONZE COUPLER, CABLE RUN TO CABLE TAP

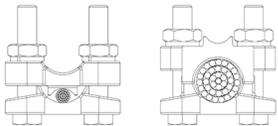
SECTION

13-4



Cast of copper alloy for high conductivity and natural resistance to corrosion and stress, the type BCC-couplers includes bolts, nuts, and lock washers made of silicon bronze for clamping strength and durability.

Also, to facilitate single-wrench installation, all bolts heads are captivated.



Wide Range denoted by: \*

CATALOG NUMBER	CABLE RANGE		DIMENSIONS IN INCHES				
	MIN	MAX	A	B	C	D	K
13-500*	8	600	3 1/8	3 1/8	2 1/4	6 1/4	3/8
13-505*	4/0	1000	3 3/4	3 3/4	3	7 1/2	1/2
13-510	1000	1500	4 1/4	4 1/4	3 3/8	8 1/2	1/2
13-515	1500	2000	5 1/8	5 1/8	3 3/4	10 1/4	1/2

SECTION

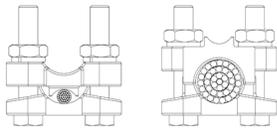
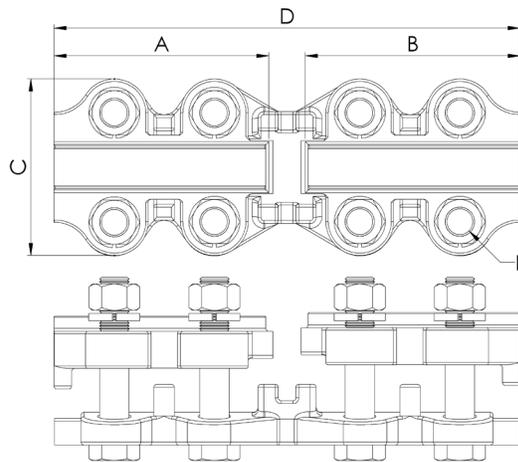
13-4A

ALUMINUM COUPLER,  
CABLE RUN TO CABLE TAP



Cast of a lightweight aluminum alloy, the type ACC couplers include clamping hardware made of high tensile aluminum.

All bolt heads are captivated to facilitate single-wrench installation.



Wide Range denoted by: \*

CATALOG NUMBER	CABLE RANGE		DIMENSIONS IN INCHES				
	AAC	ACSR	A	B	C	D	K
13-520	4-954	4-795	4	4	2 7/8	8	1/2
13-525	900-1272	715.5-1113	3 5/8	3 5/8	3 1/2	7 1/4	1/2
13-530	1272-1590	1113-1272	4 1/4	4 1/4	3 3/8	8 1/2	1/2
13-535	1590-2000	1272-1590	4 1/2	1/2	3 3/4	9	5/8

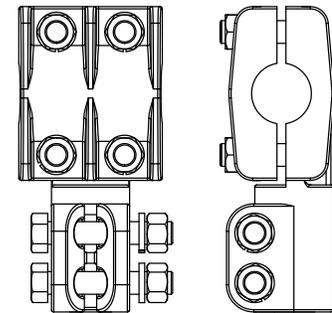
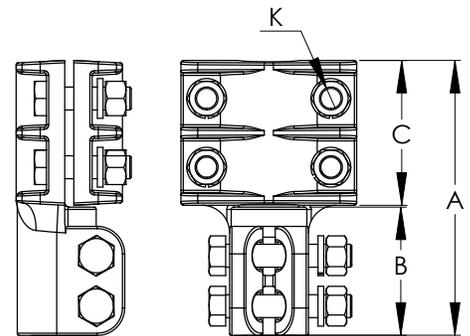
# BRONZE STUD CONNECTORS, STUD TO PIPE

SECTION

14-1



CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	B	C	K
14-101	1/2-13	1/2	5	2	3	3/8
14-102	1/2-13	3/4	4 3/4	2	2 3/4	1/2 & 3/8
14-103	1/2-13	1	5 3/16	2	3 3/16	1/2 & 3/8
14-104	3/4-16	1/2	5	2	3	3/8
14-105	3/4-16	3/4	4 3/4	2	2 3/4	1/2 & 3/8
14-106	3/4-16	1	5 3/16	2	3 3/16	1/2 & 3/8
14-107	1-14	1/2	5 1/4	2 1/4	3	1/2 & 3/8
14-108	1-14	3/4	4 3/4	2 1/4	2 3/4	1/2
14-109	1-14	1	5 7/16	2 1/4	3 3/16	1/2
14-110	1-14	1 1/4	5 3/8	2 1/4	3 1/8	1/2
14-111	1 1/8-12	1/2	5 1/4	2 1/4	3	1/2 & 3/8
14-112	1 1/8-12	3/4	5	2 1/4	2 3/4	1/2
14-113	1 1/8-12	1	5 7/16	2 1/4	3 3/16	1/2
14-114	1 1/8-12	1 1/4	5 3/8	2 1/4	3 1/8	1/2
14-115	1 1/4-12	1/2	5 1/2	2 1/2	3	1/2 & 3/8
14-116	1 1/4-12	3/4	5 1/4	2 1/2	2 3/4	1/2
14-117	1 1/4-12	1	5 11/16	2 1/2	3 3/16	1/2
14-118	1 1/4-12	1 1/4	5 5/8	2 1/2	3 1/8	1/2
14-119	1 1/4-12	1 1/2	5 9/16	2 1/2	3 1/16	1/2
14-120	1 1/2-12	1/2	5 1/2	2 1/2	3	1/2 & 3/8
14-121	1 1/2-12	3/4	5 1/4	2 1/2	2 3/4	1/2
14-122	1 1/2-12	1	5 11/16	2 1/2	3 3/16	1/2
14-123	1 1/2-12	1 1/4	5 5/8	2 1/2	3 1/8	1/2
14-124	1 1/2-12	1 1/2	5 9/16	2 1/2	3 1/16	1/2
14-125	1 1/2-12	2	5 5/8	2 1/2	3 1/8	1/2
14-126	1 3/4-12	3/4	5 1/4	2 1/2	2 3/4	1/2
14-127	1 3/4-12	1	5 11/16	2 1/2	3 3/16	1/2
14-128	1 3/4-12	1 1/4	5 5/8	2 1/2	3 1/8	1/2
14-129	1 3/4-12	1 1/2	5 9/16	2 1/2	3 1/16	1/2
14-130	1 3/4-12	2	5 5/8	2 1/2	3 1/8	1/2
14-131	2-12	1	5 11/16	2 1/2	3 3/16	5/8
14-132	2-12	1 1/4	5 5/8	2 1/2	3 1/8	5/8
14-133	2-12	1 1/2	5 9/16	2 1/2	3 1/16	5/8
14-134	2-12	2	5 5/8	2 1/2	3 1/8	5/8
14-135	2-12	2 1/2	6 1/2	2 1/2	4	5/8



90 DEGREE  
(USE SUFFIX -90)

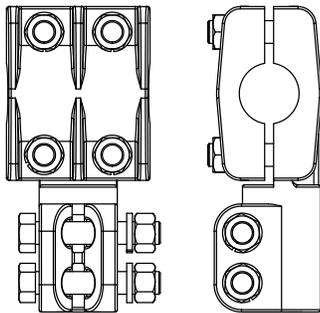
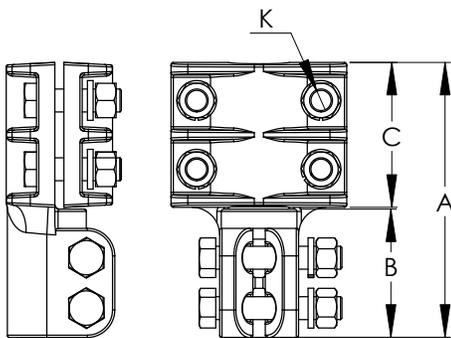
Cast of high conductivity copper alloy, the type BSP efficiently connects a threaded stud to a pipe bus. Bolts, nuts, and lockwashers are high strength silicon bronze.

For unthreaded studs or stud sizes not listed, please specify with the order. Pipes at 90° to the stud will also be readily provided so long as the suffix "-90" is added to the catalog number.

Continued on next page



Continued from previous page

90 DEGREE  
(USE SUFFIX -90)

For unthreaded studs or stud sizes not listed, please specify with the order. Pipes at 90° to the stud will also be readily provided so long as the suffix "-90" is added to the catalog number.

CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	B	C	K
14-136	2 1/4-12	1 1/4	5 5/8	2 1/2	3 1/8	5/8 & 1/2
14-137	2 1/4-12	1 1/2	5 9/16	2 1/2	3 1/16	5/8 & 1/2
14-138	2 1/4-12	2	5 5/8	2 1/2	3 1/8	5/8 & 1/2
14-139	2 1/4-12	2 1/2	6 1/2	2 1/2	4	5/8 & 1/2
14-140	2 1/2-12	1 1/2	5 9/16	2 1/2	3 1/16	5/8 & 1/2
14-141	2 1/2-12	2	5 5/8	2 1/2	3 1/8	5/8 & 1/2
14-142	2 1/2-12	2 1/2	6 1/2	2 1/2	4	5/8 & 1/2
14-143	2 1/2-12	3	6 7/16	2 1/2	3 15/16	5/8 & 1/2
14-144	2 3/4-12	1 1/2	6 5/16	3 1/4	3 1/16	5/8
14-145	2 3/4-12	2	6 3/8	3 1/4	3 1/8	5/8
14-146	2 3/4-12	2 1/2	7 1/4	3 1/4	4	5/8
14-147	2 3/4-12	3	7 3/16	3 1/4	3 15/16	5/8
14-148	2 3/4-12	3 1/2	7	3 1/4	3 3/4	5/8
14-149	3-12	2	6 3/8	3 1/4	3 1/8	5/8 & 1/2
14-150	3-12	2 1/2	7 1/4	3 1/4	4	5/8
14-151	3-12	3	7 3/16	3 1/4	3 15/16	5/8
14-152	3-12	3 1/2	7	3 1/4	3 3/4	5/8
14-153	3-12	4	7 7/8	3 1/4	4 5/8	5/8
14-154	3 1/4-12	2 1/2	7 1/4	3 1/4	4	5/8
14-155	3 1/4-12	3	7 3/16	3 1/4	3 15/16	5/8
14-156	3 1/4-12	3 1/2	7	3 1/4	3 3/4	5/8
14-157	3 1/4-12	4	7 7/8	3 1/4	4 5/8	5/8
14-158	3 1/2-12	2 1/2	7 1/2	3 1/2	4	5/8
14-159	3 1/2-12	3	7 7/16	3 1/2	3 15/16	5/8
14-160	3 1/2-12	3 1/2	7 1/4	3 1/2	3 3/4	5/8
14-161	3 1/2-12	4	8 1/8	3 1/2	4 5/8	5/8
14-162	4-12	2 1/2	7 1/2	3 1/2	4	5/8
14-163	4-12	3	7 7/16	3 1/2	3 15/16	5/8
14-164	4-12	3 1/2	7 1/4	3 1/2	3 3/4	5/8
14-165	4-12	4	8 1/8	3 1/2	4 5/8	5/8

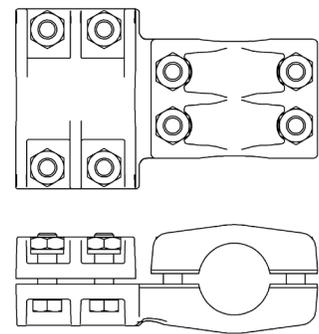
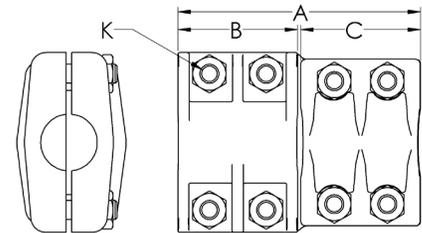
# ALUMINUM STUD CONNECTORS, STUD TO PIPE

SECTION

14-1A



CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	B	C	K
14-166	1/2-13	1/2	7 1/8	3 1/8	4	1/2
14-167	1/2-13	3/4	5 7/8	3 1/8	2 3/4	1/2
14-168	1/2-13	1	6 5/16	3 1/8	3 3/16	1/2
14-169	3/4-16	1/2	7 1/8	3 1/8	4	1/2
14-170	3/4-16	3/4	5 7/8	3 1/8	2 3/4	1/2
14-171	3/4-16	1	6 5/16	3 1/8	3 3/16	1/2
14-172	1-14	1/2	7 1/8	3 1/8	4	1/2
14-173	1-14	3/4	5 7/8	3 1/8	2 3/4	1/2
14-174	1-14	1	6 5/16	3 1/8	3 3/16	1/2
14-175	1-14	1 1/4	6 1/4	3 1/8	3 1/8	1/2
14-176	1 1/8-12	1/2	7 1/8	3 1/8	4	1/2
14-177	1 1/8-12	3/4	5 7/8	3 1/8	2 3/4	1/2
14-178	1 1/8-12	1	6 5/16	3 1/8	3 3/16	1/2
14-179	1 1/8-12	1 1/4	6 1/4	3 1/8	3 1/8	1/2
14-180	1 1/4-12	1/2	7 1/8	3 1/8	4	1/2
14-181	1 1/4-12	3/4	5 7/8	3 1/8	2 3/4	1/2
14-182	1 1/4-12	1	6 5/16	3 1/8	3 3/16	1/2
14-183	1 1/4-12	1 1/4	6 1/4	3 1/8	3 1/8	1/2
14-184	1 1/4-12	1 1/2	6 3/16	3 1/8	3 1/16	1/2
14-185	1 1/2-12	1/2	7 1/8	3 1/8	4	1/2
14-186	1 1/2-12	3/4	5 7/8	3 1/8	2 3/4	1/2
14-187	1 1/2-12	1	6 5/16	3 1/8	3 3/16	1/2
14-188	1 1/2-12	1 1/4	6 1/4	3 1/8	3 1/8	1/2
14-189	1 1/2-12	1 1/2	6 3/16	3 1/8	3 1/16	1/2
14-190	1 1/2-12	2	6 1/4	3 1/8	3 1/8	1/2
14-191	1 3/4-12	3/4	6 1/4	3 1/2	2 3/4	1/2
14-192	1 3/4-12	1	6 11/16	3 1/2	3 3/16	1/2
14-193	1 3/4-12	1 1/4	6 5/8	3 1/2	3 1/8	1/2
14-194	1 3/4-12	1 1/2	6 9/16	3 1/2	3 1/16	1/2
14-195	1 3/4-12	2	6 5/8	3 1/2	3 1/8	1/2



90 DEGREE  
(USE SUFFIX -90)

Cast of a lightweight aluminum alloy, the type AT connects a threaded stud to a pipe bus. Bolts, nuts, and lockwashers are high tensile aluminum for durability and clamping efficiency.

Requests for unthreaded studs or stud sizes not listed must be specified on the order. Tubes at 90° to the stud will also be readily provided so long as the suffix “-90” appears at the end of the catalog number.

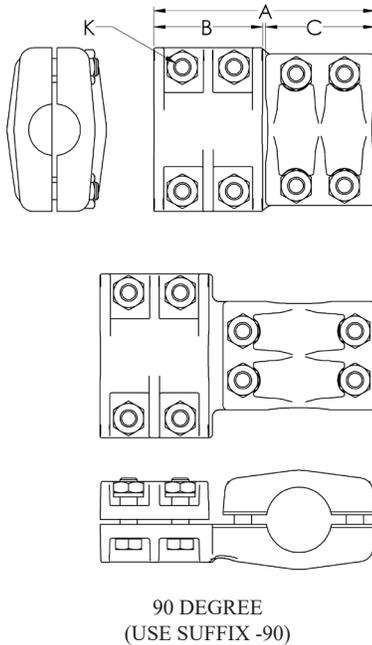
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## SECTION

## 14-1A

ALUMINUM STUD CONNECTORS  
STUD TO PIPE, continued

Continued from previous page



Requests for unthreaded studs or stud sizes not listed must be specified on the order.

Pipes at 90° to the stud will also be readily provided so long as the suffix "-90" appears at the end of the catalog number.

CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	B	C	K
14-196	2-12	1	6 11/16	3 1/2	3 3/16	1/2
14-197	2-12	1 1/4	6 5/8	3 1/2	3 1/8	1/2
14-198	2-12	1 1/2	6 9/16	3 1/2	3 1/16	1/2
14-199	2-12	2	6 5/8	3 1/2	3 1/8	1/2
14-200	2-12	2 1/2	7 1/2	3 1/2	4	5/8 & 1/2
14-201	2 1/4-12	1 1/4	6 5/8	3 1/2	3 1/8	1/2
14-202	2 1/4-12	1 1/2	6 9/16	3 1/2	3 1/16	1/2
14-203	2 1/4-12	2	6 5/8	3 1/2	3 1/8	1/2
14-204	2 1/4-12	2 1/2	7 3/8	3 1/2	3 7/8	5/8 & 1/2
14-205	2 1/2-12	1 1/2	6 9/16	3 1/2	3 1/16	1/2
14-206	2 1/2-12	2	6 5/8	3 1/2	3 1/8	1/2
14-207	2 1/2-12	2 1/2	7 1/2	3 1/2	4	5/8 & 1/2
14-208	2 1/2-12	3	7 7/16	3 1/2	3 15/16	5/8 & 1/2
14-209	2 3/4-12	1 1/2	7 1/16	4	3 1/16	5/8 & 1/2
14-210	2 3/4-12	2	7 1/8	4	3 1/8	5/8 & 1/2
14-211	2 3/4-12	2 1/2	8	4	4	5/8
14-212	2 3/4-12	3	7 15/16	4	3 15/16	5/8
14-213	2 3/4-12	3 1/2	7 3/4	4	3 3/4	5/8
14-214	3-12	2	7 1/8	4	3 1/8	5/8 & 1/2
14-215	3-12	2 1/2	8	4	4	5/8
14-216	3-12	3	7 15/16	4	3 15/16	5/8
14-217	3-12	3 1/2	7 3/4	4	3 3/4	5/8
14-218	3-12	4	8 5/8	4	4 5/8	5/8
14-219	3 1/4-12	2 1/2	8	4	4	5/8
14-220	3 1/4-12	3	7 15/16	4	3 15/16	5/8
14-221	3 1/4-12	3 1/2	7 3/4	4	3 3/4	5/8
14-222	3 1/4-12	4	8 5/8	4	4 5/8	5/8
14-223	3 1/2-12	2 1/2	8 1/4	4 1/4	4	5/8
14-224	3 1/2-12	3	8 3/16	4 1/4	3 15/16	5/8
14-225	3 1/2-12	3 1/2	8	4 1/4	3 3/4	5/8
14-226	3 1/2-12	4	8 3/4	4 1/4	4 5/8	5/8
14-227	4-12	2 1/2	8 1/4	4 1/4	4	5/8
14-228	4-12	3	8 3/16	4 1/4	3 15/16	5/8
14-229	4-12	3 1/2	8	4 1/4	3 3/4	5/8
14-230	4-12	4	8 3/4	4 1/4	4 5/8	5/8

# BRONZE STUD CONNECTORS STUD TO CABLE

SECTION

14-2

CATALOG NUMBER	STUD SIZE	AWG MIN	MCM MAX	DIMENSIONS IN INCHES			
				A	B	C	K
14-231*	1/2-13	8	600	5 1/8	2	3 1/8	3/8
14-232*	5/8-11	8	600	5 1/8	2	3 1/8	3/8
14-233*	3/4-16	8	600	5 1/8	2	3 1/8	3/8
14-235*	1-14	8	600	5 3/8	2 1/4	3 1/8	1/2 & 3/8
14-236*	1-14	4/0	1000	6	2 1/4	3 3/4	1/2
14-238*	1 1/8-12	8	600	5 3/8	2 1/4	3 1/8	1/2 & 3/8
14-239*	1 1/8-12	4/0	1000	6	2 1/4	3 3/4	1/2
14-241*	1 1/4-12	8	600	5 1/2	2 1/2	3 1/8	1/2 & 3/8
14-242*	1 1/4-12	4/0	1000	6 1/4	2 1/2	3 3/4	1/2
14-244*	1 1/2-12	8	600	5 5/8	2 1/2	3 1/8	1/2 & 3/8
14-245*	1 1/2-12	4/0	1000	6 1/4	2 1/2	3 3/4	1/2
14-246	1 1/2-12	1000	1500	6 3/4	2 1/2	4 1/4	1/2
14-244S*	1 3/4-12	8	600	5 5/8	2 1/2	3 1/8	1/2 & 3/8
14-245S	1 3/4-12	4/0	1000	6 1/4	2 1/2	3 3/4	1/2
14-246S	1 3/4-12	1000	1500	6 3/4	2 1/2	4 1/4	1/2
14-247*	2-12	8	600	5 5/8	2 1/2	3 1/8	5/8 & 3/8
14-248*	2-12	4/0	1000	6 1/4	2 1/2	3 3/4	5/8 & 1/2
14-249	2-12	1000	1500	6 3/4	2 1/2	4 1/4	5/8 & 1/2
14-250	2-12	1500	2000	7 5/8	2 1/2	5 1/8	5/8 & 1/2
14-251*	2 1/4-12	8	600	5 5/8	2 1/2	3 1/8	5/8 & 3/8
14-252*	2 1/4-12	4/0	1000	6 1/4	2 1/2	3 3/4	5/8 & 1/2
14-253	2 1/4-12	1000	1500	6 3/4	2 1/2	4 1/4	5/8 & 1/2
14-254	2 1/4-12	1500	2000	7 5/8	2 1/2	5 1/8	5/8 & 1/2
14-255*	2 1/2-12	8	600	5 5/8	2 1/2	3 1/8	5/8 & 3/8
14-256*	2 1/2-12	4/0	1000	6 1/4	2 1/2	3 3/4	5/8 & 1/2
14-257	2 1/2-12	1000	1500	6 3/4	2 1/2	4 1/4	5/8 & 1/2
14-258	2 1/2-12	1500	2000	7 5/8	2 1/2	5 1/8	5/8 & 1/2
14-259*	2 3/4-12	8	600	6 3/8	3 1/4	3 1/8	5/8 & 3/8
14-260*	2 3/4-12	4/0	1000	7	3 1/4	3 3/4	5/8 & 1/2
14-261	2 3/4-12	1000	1500	7 1/2	3 1/4	4 1/4	5/8 & 1/2
14-262	2 3/4-12	1500	2000	8 3/8	3 1/4	5 1/8	5/8 & 1/2
14-263*	3-12	8	600	6 3/8	3 1/4	3	5/8 & 3/8
14-264*	3-12	4/0	1000	7	3 1/4	3 3/4	5/8 & 1/2
14-265	3-12	1000	1500	7 1/2	3 1/4	4 1/4	5/8 & 1/2
14-266	3-12	1500	2000	8 3/8	3 1/4	5 1/8	5/8 & 1/2
14-267*	3 1/4-12	4/0	1000	7	3 1/4	3 3/4	5/8 & 1/2
14-268	3 1/4-12	1000	1500	7 1/2	3 1/4	4 1/4	5/8 & 1/2
14-269	3 1/4-12	1500	2000	8 3/8	3 1/4	5 1/8	5/8 & 1/2
14-270*	3 1/2-12	4/0	1000	7 1/4	3 1/2	3 3/4	5/8 & 1/2
14-271	3 1/2-12	1000	1500	7 3/4	3 1/2	4 1/4	5/8 & 1/2
14-272	3 1/2-12	1500	2000	8 5/8	3 1/2	5 1/8	5/8 & 1/2
14-273*	4-12	4/0	1000	7 1/4	3 1/2	3 3/4	5/8 & 1/2
14-274	4-12	1000	1500	7 3/4	3 1/2	4 1/4	5/8 & 1/2
14-275	4-12	1500	2000	8 5/8	3 1/2	5 1/8	5/8 & 1/2

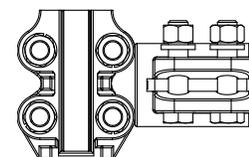
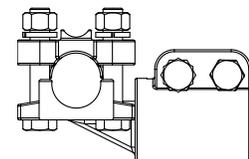
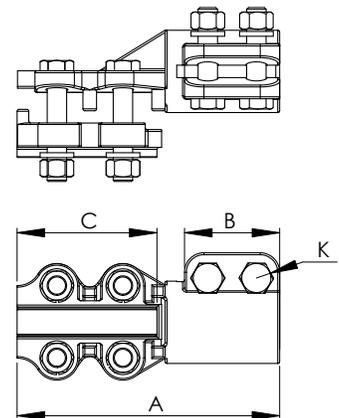


A strong and dependable connector for joining a threaded stud to a cable, the type BSC relies on a high conductivity copper alloy for its durability.

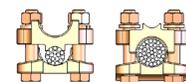
Clamping hardware is silicon bronze for resistance to corrosion.

For unthreaded studs or stud sizes not listed, please specify with the order.

Cables at 90 degree to the stud will be readily supplied but the suffix "-90" must appear at the end of the catalog number.



90 DEGREE  
(USE SUFFIX -90)



Wide Range denoted by: \*

**SECTION**

**14-2A**

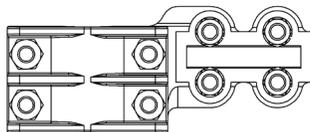
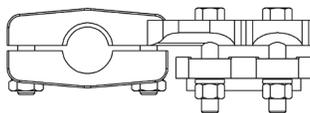
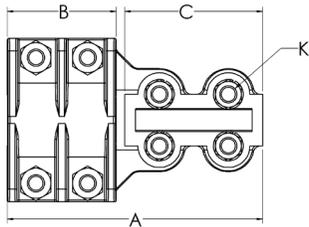
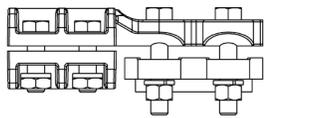
**ALUMINUM STUD CONNECTORS,  
STUD TO CABLE**



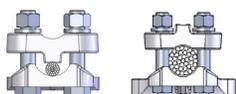
An efficient connector for joining a threaded stud to a cable, the type ASC relies on a lightweight aluminum alloy for its durability. High tensile aluminum bolts, nuts, and lockwashers increase clamping strength and resist corrosion.

Orders for cables at 90° to the stud require the addition of the suffix “-90” to the catalog number.

Unthreaded studs or stud sizes not listed must be specified with the order.



90 DEGREE  
(USE SUFFIX -90)



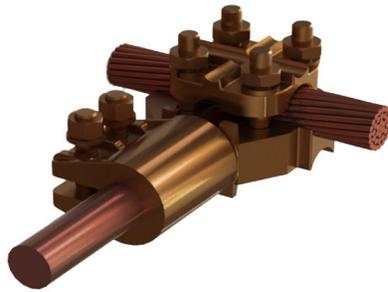
Wide Range denoted by: \*

CATALOG NUMBER	STUD SIZE	ALUMINUM		ACSR		DIMENSIONS IN INCHES			
		AWG MIN.	MCM MAX	AWG MIN.	MCM MAX.	A	B	C	K
14-276	1/2-13	4	954	4	795	7 1/8	3 1/8	4	1/2
14-277	3/4-16	4	954	4	795	7 1/8	3 1/8	4	1/2
14-281*	1-14	4	954	4	795	7 1/8	3 1/8	4	1/2
14-285*	1 1/8-12	4	954	4	795	7 1/8	3 1/8	4	1/2
14-289*	1 1/4-12	4	954	4	795	7 1/8	3 1/8	4	1/2
14-292*	1 1/2-12	4	954	4	795	7 1/8	3 1/8	4	1/2
14-293	1 1/2-12	900	1272	715.5	1113	6 3/4	3 1/8	3 5/8	1/2
14-296*	1 3/4-12	4	954	4	795	7 1/2	3 1/2	4	1/2
14-297	1 3/4-12	900	1272	715.5	1113	7 1/8	3 1/2	3 5/8	1/2
14-299*	2-12	4	954	4	795	7 1/2	3 1/2	4	1/2
14-300	2-12	900	1272	715.5	1113	7 1/8	3 1/2	3 5/8	1/2
14-301	2-12	1272	1590	1113	1272	7 3/4	3 1/2	4 1/4	1/2
14-302*	2 1/4-12	4	954	4	795	7 1/2	3 1/2	4	1/2
14-303	2 1/4-12	900	1272	715.5	1113	7 1/8	3 1/2	3 5/8	1/2
14-304	2 1/4-12	1272	1590	1113	1272	7 3/4	3 1/2	4 1/4	1/2
14-305*	2 1/2-12	4	954	4	795	7 1/2	3 1/2	4	1/2
14-306	2 1/2-12	900	1272	715.5	1113	7 1/8	3 1/2	3 5/8	1/2
14-307	2 1/2-12	1272	1590	1113	1272	7 3/4	3 1/2	4 1/4	1/2
14-308	2 1/2-12	1590	2000	1272	1590	8	3 1/2	4 1/2	5/8 & 1/2
14-309*	2 3/4-12	4	954	4	795	8	4	4	5/8 & 1/2
14-310	2 3/4-12	900	1272	715.5	1113	7 5/8	4	3 5/8	5/8 & 1/2
14-311	2 3/4-12	1272	1590	1113	1272	8 1/4	4	4 1/4	5/8 & 1/2
14-312	2 3/4-12	1590	2000	1272	1590	8 1/2	4	4 1/2	5/8
14-313*	3-12	4	954	4	795	8	4	4	5/8 & 1/2
14-314	3-12	900	1272	715.5	1113	7 5/8	4	3 5/8	5/8 & 1/2
14-315	3-12	1272	1590	1113	1272	8 1/4	4	4 1/4	5/8 & 1/2
14-316	3-12	1590	2000	1272	1590	8 1/2	4	4 1/2	5/8
14-317	3 1/4-12	900	1272	715.5	1113	7 5/8	4	3 5/8	5/8 & 1/2
14-318	3 1/4-12	1272	1590	1113	1272	8 1/4	4	4 1/4	5/8 & 1/2
14-319	3 1/4-12	1590	2000	1272	1590	8 1/2	4	4 1/2	5/8
14-320	3 1/2-12	900	1272	715.5	1113	7 7/8	4 1/4	3 5/8	5/8 & 1/2
14-321	3 1/2-12	1272	1590	1113	1272	8 1/2	4 1/4	4 1/4	5/8 & 1/2
14-322	3 1/2-12	1590	2000	1272	1590	8 3/4	4 1/4	4 1/2	5/8
14-323	4-12	900	1272	715.5	1113	7 7/8	4 1/4	3 5/8	5/8 & 1/2
14-324	4-12	1272	1590	1113	1272	8 1/2	4 1/4	4 1/4	5/8 & 1/2
14-325	4-12	1590	2000	1272	1590	8 3/4	4 1/4	4 1/2	5/8

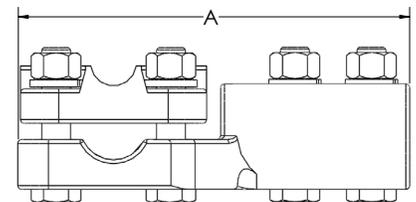
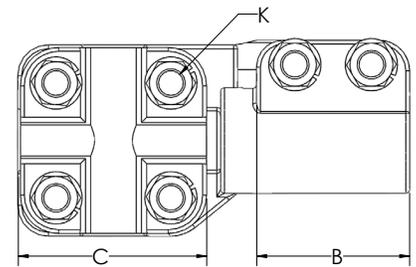
# BRONZE STUD CONNECTORS STUD TO CABLE (PARALLEL OR PERPENDICULAR)

SECTION

14-2WRX



CATALOG NUMBER	STUD SIZE	CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	A	B	C	K
14-231-WRX	1/2-13	2	800	5 1/8	2	2 3/8	3/8
14-232-WRX	5/8-11	2	800	5 1/8	2	2 3/8	3/8
14-233-WRX	3/4-16	2	800	5 1/8	2	2 3/8	3/8
14-235-WRX	1-14	1/0	1250	6	2 1/4	3	1/2
14-238-WRX	1 1/8-12	1/0	1250	6	2 1/4	3	1/2
14-241-WRX	1 1/4-12	1/0	1250	6	2 1/2	3	1/2
14-244-WRX	1 1/2-12	1/0	1250	6	2 1/2	3	1/2
14-245-WRX	1 3/4-12	1/0	1250	6	2 1/2	3	1/2
14-247-WRX	2-12	1/0	1250	6	2 1/2	3	5/8
14-251-WRX	2 1/4-12	1/0	1250	6	2 1/2	3	5/8
14-255-WRX	2 1/2-12	1/0	1250	6	2 1/2	3	5/8
14-259-WRX	2 3/4-12	1/0	1250	7 1/4	3 1/4	3	5/8
14-263-WRX	3-12	1/0	1250	7 1/4	3 1/4	3	5/8
14-267-WRX	3 1/4-12	1/0	1250	7 1/4	3 1/4	3	5/8
14-270-WRX	3 1/2-12	1/0	1250	7 3/4	3 1/2	3	5/8
14-273-WRX	4-12	1/0	1250	7 3/4	3 1/2	3	5/8



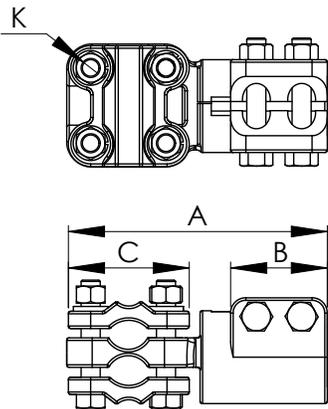
A strong and dependable connector for joining a threaded stud to a cable, the type BSCX relies on a high conductivity copper alloy for its durability.

Clamping hardware is silicon bronze. For unthreaded studs or stud sizes not listed, please specify with the order.

**SECTION**

**14-2WRX2**

**BRONZE STUD CONNECTORS STUD TO CABLE (PARALLEL OR PERPENDICULAR)**



A strong and dependable connector for joining a threaded stud to a cable, the type BSCX relies on a high conductivity copper alloy for its durability.

Clamping hardware is silicon bronze for resistance to corrosion.

For unthreaded studs or stud sizes not listed, please specify with the order.

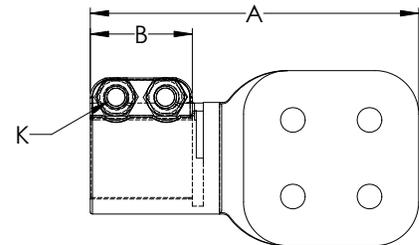
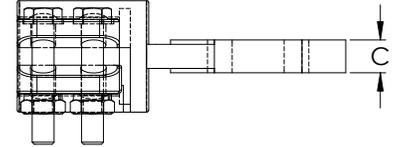
CATALOG NUMBER	STUD SIZE	CABLE SIZE		DIMENSIONS IN INCHES			
		AWG MIN	MCM MAX	A	B	C	K
14-235-WRX2	1-14	2/0	1000	4 7/8	2 1/4	2 3/8	1/2
14-238-WRX2	1 1/8-12	2/0	1000	4 7/8	2 1/4	2 3/8	1/2
14-241-WRX2	1 1/4-12	2/0	1000	5 3/8	2 1/2	2 3/8	1/2
14-244-WRX2	1 1/2-12	2/0	1000	5 3/8	2 1/2	2 3/8	1/2
14-247-WRX2	2-12	2/0	1000	5 3/8	2 1/2	2 3/8	5/8
14-251-WRX2	2 1/4-12	2/0	1000	5 3/8	2 1/2	2 3/8	5/8
14-255-WRX2	2 1/2-12	2/0	1000	5 3/8	2 1/2	2 3/8	5/8
14-259-WRX2	2 3/4-12	2/0	1000	6	3 1/4	2 3/8	5/8
14-263-WRX2	3-12	2/0	1000	6	3 1/4	2 3/8	5/8
14-267-WRX2	3 1/4-12	2/0	1000	6	3 1/4	2 3/8	5/8
14-270-WRX2	3 1/2-12	2/0	1000	6 3/8	3 1/2	2 3/8	5/8
14-273-WRX2	4-12	2/0	1000	6 3/8	3 1/2	2 3/8	5/8

# BRONZE STUD CONNECTORS STUD TO PAD

SECTION

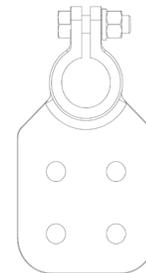
14-3

CATALOG NUMBER	STUD SIZE	PAD STYLE	DIMENSIONS IN INCHES			
			A	B	C	K
14-326	1/2-13	B	6	2	1/2	3/8
14-327	1/2-13	C	6	2	1/2	3/8
14-328	1/2-13	D	7	2	1/2	3/8
14-329	3/4-16	B	6	2	1/2	3/8
14-330	3/4-16	C	6	2	1/2	3/8
14-331	3/4-16	D	7	2	1/2	3/8
14-332	1-14	B	6 1/4	2 1/4	5/8	1/2
14-333	1-14	C	6 1/4	2 1/4	5/8	1/2
14-334	1-14	D	7 1/4	2 1/4	3/4	1/2
14-336	1 1/8-12	B	6 1/4	2 1/4	5/8	1/2
14-337	1 1/8-12	C	6 1/4	2 1/4	5/8	1/2
14-338	1 1/8-12	D	7 1/4	2 1/4	3/4	1/2
14-341	1 1/4-12	B	6 1/2	2 1/2	3/4	1/2
14-342	1 1/4-12	C	6 1/2	2 1/2	3/4	1/2
14-343	1 1/4-12	D	7 1/2	2 1/2	3/4	1/2
14-346	1 1/2-12	B	6 1/2	2 1/2	1/2	1/2
14-347	1 1/2-12	C	6 1/2	2 1/2	5/8	1/2
14-348	1 1/2-12	D	7 1/2	2 1/2	3/4	1/2
14-351	1 3/4-12	B	6 7/8	2 1/2	3/4	1/2
14-352	1 3/4-12	C	7 7/8	2 1/2	5/8	1/2
14-353	1 3/4-12	D	7 7/8	2 1/2	1	1/2
14-356	2-12	B	6 7/8	2 1/2	5/8	5/8
14-357	2-12	C	6 7/8	2 1/2	7/8	5/8
14-358	2-12	D	7 7/8	2 1/2	1	5/8
14-362	2 1/4-12	B	6 7/8	2 1/2	5/8	5/8
14-363	2 1/4-12	C	6 7/8	2 1/2	5/8	5/8
14-364	2 1/4-12	D	7 7/8	2 1/2	1 1/8	5/8
14-368	2 1/2-12	B	7 1/8	2 1/2	5/8	5/8
14-369	2 1/2-12	C	7 1/8	2 1/2	5/8	5/8
14-370	2 1/2-12	D	8 1/8	2 1/2	3/4	5/8
14-373	2 3/4-12	B	7 1/8	3 1/4	5/8	5/8
14-374	2 3/4-12	C	7 1/8	3 1/4	5/8	5/8
14-375	2 3/4-12	D	8 1/8	3 1/4	3/4	5/8
14-378	3-12	B	7 3/8	3 1/4	3/4	5/8
14-379	3-12	C	7 3/8	3 1/4	3/4	5/8
14-380	3-12	D	8 3/8	3 1/4	1 1/8	5/8
14-384	3 1/4-12	B	7 5/8	3 1/4	3/4	5/8
14-385	3 1/4-12	C	7 5/8	3 1/4	3/4	5/8
14-386	3 1/4-12	D	8 5/8	3 1/4	1	5/8
14-390	3 1/2-12	B	7 5/8	3 1/2	3/4	5/8
14-391	3 1/2-12	C	7 5/8	3 1/2	3/4	5/8
14-392	3 1/2-12	D	8 5/8	3 1/2	1	5/8
14-396	4-12	B	7 7/8	3 1/2	1 1/8	5/8
14-397	4-12	C	7 7/8	3 1/2	1 1/8	5/8
14-398	4-12	D	8 7/8	3 1/2	1 1/8	5/8

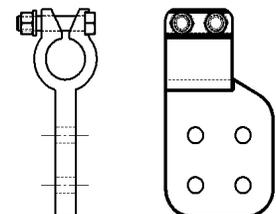


The BSTB which joins a threaded stud to a flat bar bus offers strength and durability because of its high conductivity copper alloy casting and silicon bronze clamping hardware.

Unthreaded studs or stud sizes not listed must be specified with the order.



90 DEGREE  
(USE SUFFIX -90)

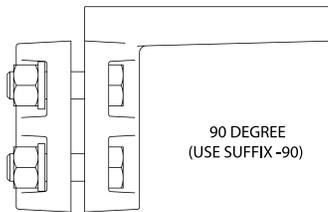
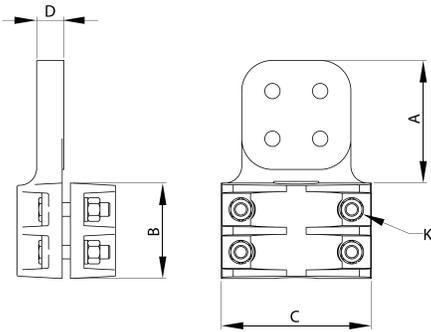


TRANSVERSE 90 DEGREE  
(USE SUFFIX -V-90)

EX: 14-348V-90

## SECTION

## 14-3A

ALUMINUM STUD CONNECTORS,  
STUD TO BAR

Manufactured of a light-weight aluminum alloy, the type ASTB, which connects a threaded stud to a flat bar bus, features clamping hardware of high tensile aluminum for resistance to corrosion.

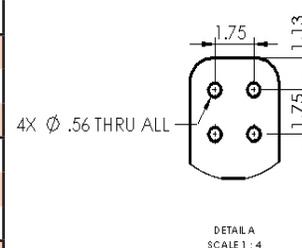
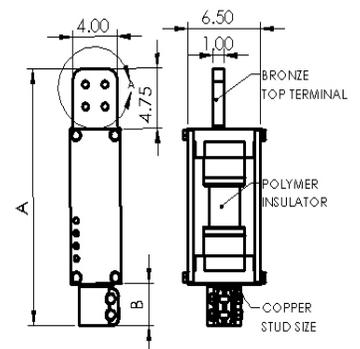
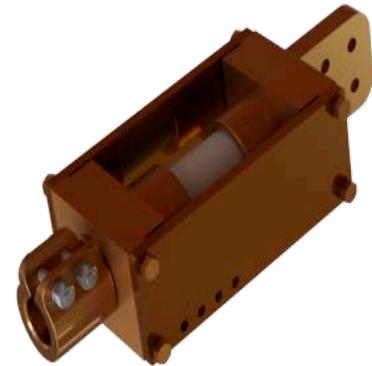
CATALOG NUMBER	STUD SIZE	PAD STYLE	DIMENSIONS IN INCHES				
			A	B	C	D	K
14-402	1/2-13	B	3 1/4	3 1/8	4 3/4	5/8	1/2
14-403	1/2-13	C	3 1/4	3 1/8	4 3/4	5/8	1/2
14-404	1/2-13	D	4 1/4	3 1/8	4 3/4	3/4	1/2
14-405	3/4-16	B	3 3/4	3 1/8	4 3/4	5/8	1/2
14-406	3/4-16	C	3 3/4	3 1/8	4 3/4	5/8	1/2
14-407	3/4-16	D	4 3/4	3 1/8	4 3/4	3/4	1/2
14-408	1-14	B	3 3/4	3 1/8	4 3/4	5/8	1/2
14-409	1-14	C	3 3/4	3 1/8	4 3/4	5/8	1/2
14-410	1-14	D	4 3/4	3 1/8	4 3/4	3/4	1/2
14-412	1 1/8-12	B	3 3/4	3 1/8	4 3/4	5/8	1/2
14-413	1 1/8-12	C	3 3/4	3 1/8	4 3/4	5/8	1/2
14-414	1 1/8-12	D	4 3/4	3 1/8	4 3/4	3/4	1/2
14-417	1 1/4-12	B	3 3/4	3 1/8	4 3/4	5/8	1/2
14-418	1 1/4-12	C	3 3/4	3 1/8	4 3/4	5/8	1/2
14-419	1 1/4-12	D	4 3/4	3 1/8	4 3/4	3/4	1/2
14-422	1 1/2-12	B	3 3/4	3 1/8	4 3/4	5/8	1/2
14-423	1 1/2-12	C	3 3/4	3 1/8	4 3/4	5/8	1/2
14-424	1 1/2-12	D	4 3/4	3 1/8	4 3/4	3/4	1/2
14-427	1 3/4-12	B	3 3/4	3 1/2	4 3/4	5/8	1/2
14-428	1 3/4-12	C	3 3/4	3 1/2	4 3/4	5/8	1/2
14-429	1 3/4-12	D	4 3/4	3 1/2	4 3/4	3/4	1/2
14-432	2-12	B	3 3/4	3 1/2	5 1/2	3/4	1/2
14-433	2-12	C	3 3/4	3 1/2	5 1/2	3/4	1/2
14-434	2-12	D	4 3/4	3 1/2	5 1/2	3/4	1/2
14-438	2 1/4-12	B	3 3/4	3 1/2	5 1/2	3/4	1/2
14-439	2 1/4-12	C	3 3/4	3 1/2	5 1/2	3/4	1/2
14-440	2 1/4-12	D	4 3/4	3 1/2	5 1/2	3/4	1/2
14-444	2 1/2-12	B	3 3/4	3 1/2	5 1/2	3/4	1/2
14-445	2 1/2-12	C	3 3/4	3 1/2	5 1/2	3/4	1/2
14-446	2 1/2-12	D	4 3/4	3 1/2	5 1/2	3/4	1/2
14-449	2 3/4-12	B	3 3/4	4	7 1/2	3/4	5/8
14-450	2 3/4-12	C	3 3/4	4	7 1/2	3/4	5/8
14-451	2 3/4-12	D	4 3/4	4	7 1/2	1	5/8
14-454	3-12	B	3 3/4	4	7 1/2	3/4	5/8
14-455	3-12	C	3 3/4	4	7 1/2	3/4	5/8
14-456	3-12	D	4 3/4	4	7 1/2	1	5/8
14-460	3 1/4-12	B	4 3/8	4	8 1/2	3/4	5/8
14-461	3 1/4-12	C	4 3/8	4	8 1/2	3/4	5/8
14-462	3 1/4-12	D	5 3/8	4	8 1/2	1	5/8
14-466	3 1/2-12	B	4 3/8	4 1/4	8 1/2	3/4	5/8
14-467	3 1/2-12	C	4 3/8	4 1/4	8 1/2	3/4	5/8
14-468	3 1/2-12	D	5 3/8	4 1/4	8 1/2	1	5/8
14-472	4-12	B	4 3/8	4 1/4	8 1/2	3/4	5/8
14-473	4-12	C	4 3/8	4 1/4	8 1/2	3/4	5/8
14-474	4-12	D	5 3/8	4 1/4	8 1/2	1	5/8

# TEST TERMINAL COPPER STUD CONNECTORS TO BRONZE PAD

SECTION

14-3-TT

CATALOG NUMBER	STUD SIZE	PAD STYLE	AMPERAGE	DIMENSIONS (IN)	
				A	B
14-TT-336	1 1/8-12	B	2000	19	3
14-TT-337	1 1/8-12	C	2000	19	3
14-TT-338	1 1/8-12	D	2000	20	3
14-TT-341	1 1/4-12	B	2000	19	3
14-TT-342	1 1/4-12	C	2000	19	3
14-TT-343	1 1/4-12	D	2000	20	3
14-TT-346	1 1/2-12	B	2000	19	3
14-TT-347	1 1/2-12	C	2000	19	3
14-TT-348	1 1/2-12	D	2000	20	3
14-TT-351	1 3/4-12	B	2000	19	3
14-TT-352	1 3/4-12	C	2000	19	3
14-TT-353	1 3/4-12	D	2000	20	3
14-TT-356	2-12	B	3000	19	3
14-TT-357	2-12	C	3000	19	3
14-TT-358	2-12	D	3000	20	3
14-TT-362	2 1/4-12	B	3000	19	3
14-TT-363	2 1/4-12	C	3000	19	3
14-TT-364	2 1/4-12	D	3000	20	3
14-TT-368	2 1/2-12	B	3000	19	3
14-TT-369	2 1/2-12	C	3000	19	3
14-TT-370	2 1/2-12	D	3000	20	3
14-TT-373	2 3/4-12	B	3000	19	3
14-TT-374	2 3/4-12	C	3000	19	3
14-TT-375	2 3/4-12	D	3000	20	3
14-TT-378	3-12	B	3000	19	3
14-TT-379	3-12	C	3000	19	3
14-TT-380	3-12	D	3000	20	3
14-TT-384	3 1/4-12	B	3000	19	3
14-TT-385	3 1/4-12	C	3000	19	3
14-TT-386	3 1/4-12	D	3000	20	3
14-TT-390	3 1/2-12	B	3000	19	3
14-TT-391	3 1/2-12	C	3000	19	3
14-TT-392	3 1/2-12	D	3000	20	3
14-TT-396	4-12	B	4000	19	3
14-TT-397	4-12	C	4000	19	3
14-TT-398	4-12	D	4000	20	3

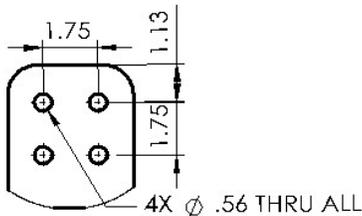
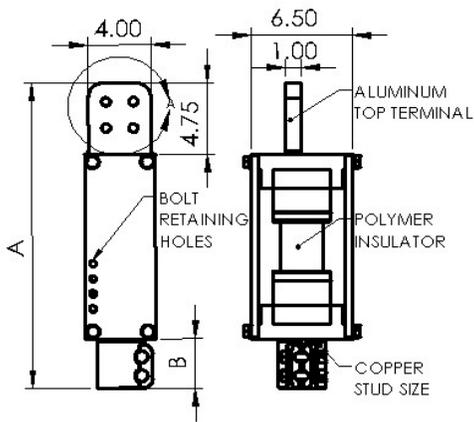
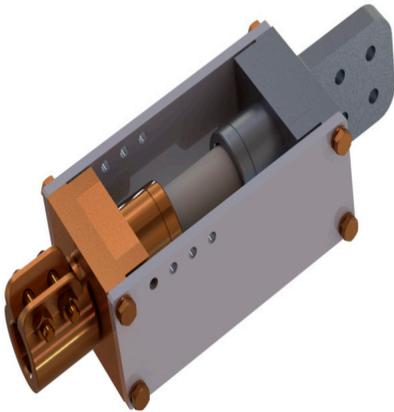


The Travis Test Terminal makes isolating equipment without disconnecting ridge bus an easy process. Additionally, Travis Test Terminals are comprised of a bronze bottom terminal eliminating galvanic corrosion at the stud. Within the assembly of the terminal, the transition is made from the bronze bottom terminal to the bronze pad top terminal.

The configuration shown here is for 4" wide D pads. If drawings are required for B or C pads, please call the factory.

**SECTION**  
**14-3A-TT**

**TEST TERMINAL COPPER STUD CONNECTORS TO ALUMINUM PAD**



DETAIL A  
SCALE 1:4

CATALOG NUMBER	STUD SIZE	PAD STYLE	AMPERAGE	DIMENSIONS (IN)	
				A	B
14-TT-422	1 1/2-12	B	2000	19	3
14-TT-423	1 1/2-12	C	2000	19	3
14-TT-424	1 1/2-12	D	2000	20	3
14-TT-427	1 3/4-12	B	2000	19	3
14-TT-428	1 3/4-12	C	2000	19	3
14-TT-429	1 3/4-12	D	2000	20	3
14-TT-432	2-12	B	3000	19	3
14-TT-433	2-12	C	3000	19	3
14-TT-434	2-12	D	3000	20	3
14-TT-438	2 1/4-12	B	3000	19	3
14-TT-439	2 1/4-12	C	3000	19	3
14-TT-440	2 1/4-12	D	3000	20	3
14-TT-444	2 1/2-12	B	3000	19	3
14-TT-445	2 1/2-12	C	3000	19	3
14-TT-446	2 1/2-12	D	3000	20	3
14-TT-449	2 3/4-12	B	3000	19	3
14-TT-450	2 3/4-12	C	3000	19	3
14-TT-451	2 3/4-12	D	3000	20	3
14-TT-454	3-12	B	3000	19	3
14-TT-455	3-12	C	3000	19	3
14-TT-456	3-12	D	3000	20	3
14-TT-460	3 1/4-12	B	3000	19	3
14-TT-461	3 1/4-12	C	3000	19	3
14-TT-462	3 1/4-12	D	3000	20	3
14-TT-466	3 1/2-12	B	3000	19	3
14-TT-467	3 1/2-12	C	3000	19	3
14-TT-468	3 1/2-12	D	3000	20	3
14-TT-472	4-12	B	4000	19	3
14-TT-473	4-12	C	4000	19	3
14-TT-474	4-12	D	4000	20	3

The Travis Test Terminal makes isolating equipment without disconnecting ridge bus an easy process. Additionally, Travis Test Terminals are comprised of a bronze bottom terminal eliminating galvanic corrosion at the stud. Within the assembly of the terminal, the transition is made from the bronze stud connector to the aluminum top pad.

The configuration shown here is for 4" wide D pads. If drawings are required for B or C pads or if an aluminum stud connector is required, please call the factory.

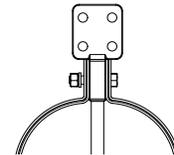
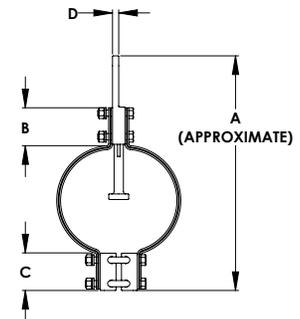
# BRONZE EXPANSION TERMINALS, PIPE TO FLAT PAD

SECTION

15-1

CATALOG NUMBER	PIPE SIZE IPS	PAD STYLE	DIMENSIONS IN INCHES				HARDWARE
			A	B	C	D	
15-234	3/4	B	12	2 3/4	2 3/4	3/8	1/2
15-235	3/4	C	12	2 3/4	2 3/4	3/8	1/2
15-236	3/4	D	12	2 3/4	2 3/4	3/8	1/2
15-237	1	B	16	3 3/16	3 3/16	7/16	1/2
15-238	1	C	16	3 3/16	3 3/16	7/16	1/2
15-239	1	D	16	3 3/16	3 3/16	7/16	1/2
15-240	1 1/4	B	16	3 1/8	3 1/8	7/16	1/2
15-241	1 1/4	C	16	3 1/8	3 1/8	7/16	1/2
15-242	1 1/4	D	16	3 1/8	3 1/8	7/16	1/2
15-243	1 1/2	B	16	3 1/16	3 1/16	1/2	1/2
15-244	1 1/2	C	16	3 1/16	3 1/16	1/2	1/2
15-245	1 1/2	D	16	3 1/16	3 1/16	1/2	1/2
15-246	2	B	16	3 1/8	3 1/8	1/2	1/2
15-247	2	C	16	3 1/8	3 1/8	1/2	1/2
15-248	2	D	16	3 1/8	3 1/8	1/2	1/2
15-249	2 1/2	B	16	4	4	5/8	5/8
15-250	2 1/2	C	16	4	4	5/8	5/8
15-251	2 1/2	D	16	4	4	5/8	5/8
15-252	3	B	16	3 15/16	3 15/16	11/16	5/8
15-253	3	C	16	3 15/16	3 15/16	11/16	5/8
15-254	3	D	16	3 15/16	3 15/16	11/16	5/8
15-255	3 1/2	B	16	3 3/4	3 3/4	3/4	5/8
15-256	3 1/2	C	16	3 3/4	3 3/4	3/4	5/8
15-257	3 1/2	D	16	3 3/4	3 3/4	3/4	5/8
15-258	4	B	16	4 5/8	4 5/8	7/8	5/8
15-259	4	C	16	4 5/8	4 5/8	7/8	5/8
15-260	4	D	16	4 5/8	4 5/8	7/8	5/8
15-261	4 1/2	B	16	4 3/4	4 3/4	1	5/8
15-262	4 1/2	C	16	4 3/4	4 3/4	1	5/8
15-263	4 1/2	D	16	4 3/4	4 3/4	1	5/8
15-264	5	B	25	5 1/16	5 1/16	1 1/8	5/8
15-265	5	C	25	5 1/16	5 1/16	1 1/8	5/8
15-266	5	D	25	5 1/16	5 1/16	1 1/8	5/8
15-267	6	B	25	6	6	1 1/4	5/8
15-268	6	C	25	6	6	1 1/4	5/8
15-269	6	D	25	6	6	1 1/4	5/8

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-269H



For Pad Rotated 90 Degrees  
Use Suffix (V)  
Example 15-244V

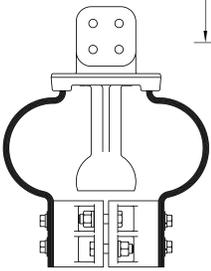
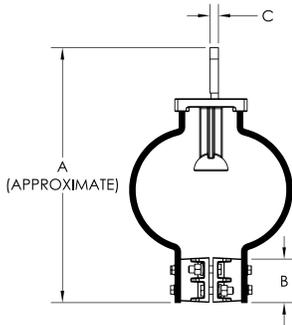
To protect equipment bushings, switch gear, and insulators from expanding or contracting pressures, the type BETP, which joins a pipe to a flat bar bus, efficiently compensates for temperature variations.

Made of a high conductivity copper alloy for strength and durability, it features flexible shunts of laminated soft copper designed to carry the maximum current of the bus it connects.

To enhance clamping capabilities and resistance to corrosion, all bolts, nuts, and lockwashers are silicon bronze. For single-wrench installation, bolt heads are captivated.

## SECTION

## 15-1A

ALUMINUM EXPANSION  
TERMINALS, PIPE TO FLAT PAD

For Pad Rotated 90 Degrees  
Use Suffix (V)

Example 15-292V

When it is necessary to connect a pipe to a flat bar bus and compensate for temperature variations, the type AETP is a dependable connector.

Made of a lightweight aluminum alloy, it effectively protects equipment bushings, switch gear, and insulators from expanding or contracting bar pressures.

The flexible shunts of laminated soft aluminum are designed to carry the maximum current of the bus it connects.

Bolts, nuts, and lockwashers of high tensile aluminum insure clamping strength and resistance to wear. To facilitate installation, all bolt heads are captivated.

CATALOG NUMBER	PIPE SIZE IPS	PAD STYLE	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-270	1/2	B	16.5	4	3/8	1/2
15-271	1/2	C	16.5	4	3/8	1/2
15-272	1/2	D	17.5	4	3/8	1/2
15-273	3/4	B	16.5	2 3/4	3/8	1/2
15-274	3/4	C	16.5	2 3/4	3/8	1/2
15-275	3/4	D	17.5	2 3/4	3/8	1/2
15-276	1	B	16.5	3 3/16	7/16	1/2
15-277	1	C	16.5	3 3/16	7/16	1/2
15-278	1	D	17.5	3 3/16	7/16	1/2
15-279	1 1/4	B	16.5	3 1/8	7/16	1/2
15-280	1 1/4	C	16.5	3 1/8	7/16	1/2
15-281	1 1/4	D	17.5	3 1/8	7/16	1/2
15-282	1 1/2	B	16.5	3 1/16	1/2	1/2
15-283	1 1/2	C	16.5	3 1/16	1/2	1/2
15-284	1 1/2	D	17.5	3 1/16	1/2	1/2
15-285	2	B	16.5	3 1/8	1/2	1/2
15-286	2	C	16.5	3 1/8	1/2	1/2
15-287	2	D	17.5	3 1/8	1/2	1/2
15-288	2 1/2	B	16.5	4	5/8	5/8
15-289	2 1/2	C	16.5	4	5/8	5/8
15-290	2 1/2	D	17.5	4	5/8	5/8
15-291	3	B	16.5	3 15/16	11/16	5/8
15-292	3	C	16.5	3 15/16	11/16	5/8
15-293	3	D	17.5	3 15/16	11/16	5/8
15-294	3 1/2	B	16.5	3 3/4	3/4	5/8
15-295	3 1/2	C	16.5	3 3/4	3/4	5/8
15-296	3 1/2	D	17.5	3 3/4	3/4	5/8
15-297	4	B	16.5	4 5/8	7/8	5/8
15-298	4	C	16.5	4 5/8	7/8	5/8
15-299	4	D	17.5	4 5/8	7/8	5/8
15-300	4 1/2	B	16.5	4 3/4	1	5/8
15-301	4 1/2	C	16.5	4 3/4	1	5/8
15-302	4 1/2	D	17.5	4 3/4	1	5/8
15-303	5	B	22	5 1/16	1 1/8	5/8
15-304	5	C	22	5 1/16	1 1/8	5/8
15-305	5	D	23	5 1/16	1 1/8	5/8
15-306	6	B	25.5	6	1 1/4	5/8
15-307	6	C	25.5	6	1 1/4	5/8
15-308	6	D	26.5	6	1 1/4	5/8

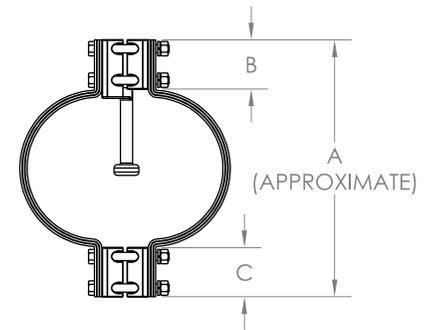
FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-308H

# BRONZE EXPANSION COUPLER, PIPE TO PIPE

SECTION

15-2

CATALOG NUMBER	SIZE IPS	IPS TAP	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-101	1/2	1/2	12	3	3	3/8
15-103	3/4	3/4	12	2 3/4	2 3/4	1/2
15-106	1	1	16	3 3/16	3 3/16	1/2
15-110	1 1/4	1 1/4	16	3 1/8	3 1/8	1/2
15-114	1 1/2	1 1/2	16	3 1/16	3 1/16	1/2
15-119	2	2	16	3 1/8	3 1/8	1/2
15-124	2 1/2	2 1/2	16	4	4	5/8
15-129	3	3	16	3 15/16	3 15/16	5/8
15-135	3 1/2	3 1/2	16	3 3/4	3 3/4	5/8
15-149	4 1/2	4 1/2	18	4 3/4	4 3/4	5/8
15-157	5	5	25	5	5	5/8
15-165	6	6	26	6	6	5/8

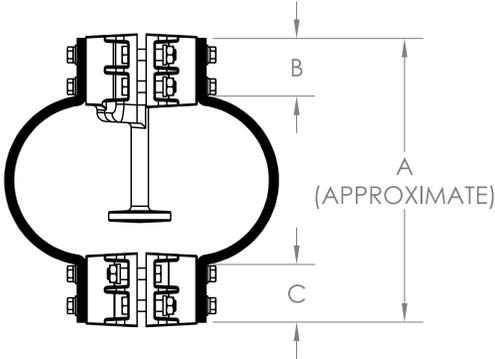


FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-149H

A rugged connector for joining a tube to a pipe bus, the type BETT, cast of a high conductivity copper alloy for durability, also compensates for temperature variations and thus protects equipment bushings, switch gear, and insulators from expanding or contracting pressures.

Flexible shunts of laminated soft copper are designed to carry the maximum current of the bus it connects. It features silicon bronze clamping hardware for resistance to corrosion.



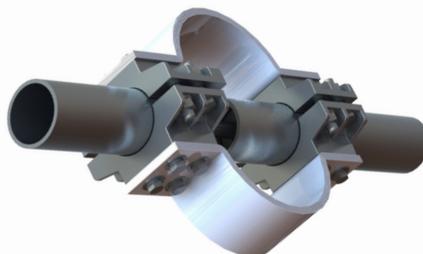


CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-166	1/2	1/2	15	4	4	3/8
15-168	3/4	3/4	15	2 3/4	2 3/4	1/2
15-171	1	1	16	3 3/16	3 3/16	1/2
15-175	1 1/4	1 1/4	16	3 1/8	3 1/8	1/2
15-179	1 1/2	1 1/2	16	3 1/16	3 1/16	1/2
15-184	2	2	16	3 1/8	3 1/8	1/2
15-189	2 1/2	2 1/2	16	4	4	5/8
15-194	3	3	16	3 15/16	3 15/16	5/8
15-200	3 1/2	3 1/2	16	3 3/4	3 3/4	5/8
15-207	4	4	16	4 5/8	4 5/8	5/8
15-214	4 1/2	4 1/2	16	4 3/4	4 3/4	5/8
15-222	5	5	20.5	5 1/16	5 1/16	5/8
15-230	6	6	24	6	6	5/8

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-214H

Featuring a more lightweight aluminum alloy casting, the type AETT joins a pipe to pipe bus with maximum efficiency by also compensating for temperature variations and thereby protecting equipment bushings, switch gear, and insulators from expanding or contracting pressures.

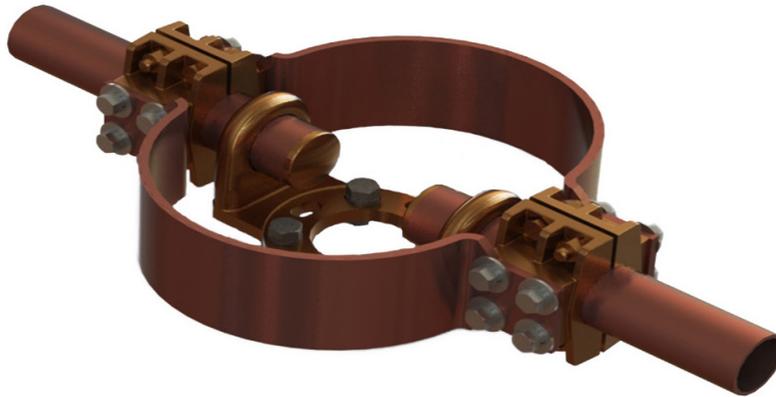
Made of laminated soft aluminum, the flexible shunts are designed to withstand the maximum current of the bus it connects. Since all bolts, nuts, and lockwashers are made of high tensile aluminum, the connector demonstrates greater clamping strength and resistance to corrosion in the field.



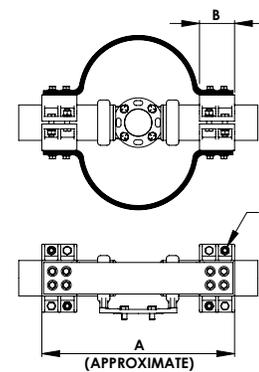
# BRONZE EXPANSION COUPLERS, BUS SUPPORTS

SECTION

15-3



CATALOG NUMBER	IPS MAIN	MOUNTING BOLT CIRCLE	DIMENSIONS IN INCHES		
			A	B	K
15-416	1/2	3	12	3	3/8
15-417	1/2	5	12	3	3/8
15-418	3/4	3	12	2 3/4	1/2
15-419	3/4	5	12	2 3/4	1/2
15-420	1	3	16	3 3/16	1/2
15-421	1	5	16	3 3/16	1/2
15-422	1 1/4	3	16	3 1/8	1/2
15-423	1 1/4	5	16	3 1/8	1/2
15-424	1 1/2	3	16	3 1/16	1/2
15-425	1 1/2	5	16	3 1/16	1/2
15-426	2	3	18	3 1/8	1/2
15-427	2	5	18	3 1/8	1/2
15-428	2 1/2	3	18	4	5/8
15-429	2 1/2	5	18	4	5/8
15-430	3	3	18	3 15/16	5/8
15-431	3	5	18	3 15/16	5/8
15-432	3 1/2	3	18	3 3/4	5/8
15-433	3 1/2	5	18	3 3/4	5/8
15-434	4	3	18	4 5/8	5/8
15-435	4	5	18	4 5/8	5/8
15-436	4 1/2	3	18	4 3/4	5/8
15-437	4 1/2	5	18	4 3/4	5/8
15-438	5	3	25	5 1/16	5/8
15-439	5	5	25	5 1/16	5/8
15-440	6	3	26	6	5/8
15-441	6	5	26	6	5/8



To protect equipment bushings, switch gear, and insulators from expanding or contracting pressures, the type BEBS, which joins a pipe to a pipe bus, efficiently compensates for temperature variations.

Made of a high conductivity copper alloy for strength and durability, it features flexible shunts of laminated soft copper designed to carry the maximum current of the bus it connects.

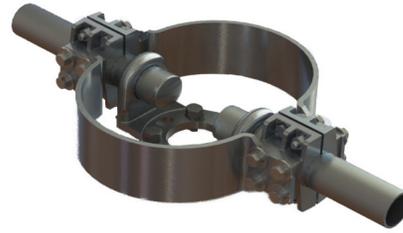
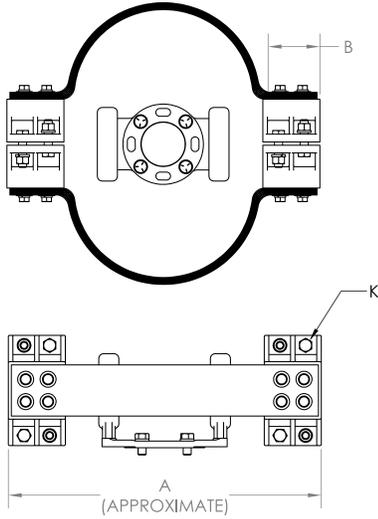
To enhance clamping capabilities and resistance to corrosion, all bolts, nuts, and lockwashers are silicon bronze.

Steel galvanized bolts and lockwashers are supplied for mounting to the insulator cap.

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-441H

## SECTION

## 15-3A

ALUMINUM EXPANSION  
COUPLERS, BUS SUPPORTS

When it is necessary to join a pipe to a pipe bus and compensate for temperature variations, the type AEBS proves a dependable connector.

Made of a lightweight aluminum alloy, it effectively protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

The flexible shunts of laminated soft aluminum are designed to carry the maximum current of the bus it connects.

Bolts, nuts, and lockwashers of high tensile aluminum insure greater clamping strength and resistance to wear.

Steel galvanized bolts and lockwashers are normally supplied for mounting to the insulator cap. Bus end plugs are also included.

CATALOG NUMBER	IPS MAIN	MOUNTING BOLT CIRCLE	DIMENSIONS IN INCHES		
			A	B	K
15-442	1/2	3	12	4	1/2
15-443	1/2	5	12	4	1/2
15-444	3/4	3	12	2 3/4	1/2
15-445	3/4	5	12	2 3/4	1/2
15-446	1	3	16	3 3/16	1/2
15-447	1	5	21	3 3/16	1/2
15-448	1 1/4	3	16	3 1/8	1/2
15-449	1 1/4	5	21	3 1/8	1/2
15-450	1 1/2	3	16	3 1/16	1/2
15-451	1 1/2	5	21	3 1/16	1/2
15-452	2	3	18	3 1/8	1/2
15-453	2	5	21	3 1/8	1/2
15-454	2 1/2	3	18	4	5/8
15-455	2 1/2	5	21	4	5/8
15-456	3	3	18	3 15/16	5/8
15-457	3	5	21	3 15/16	5/8
15-458	3 1/2	3	18	3 3/4	5/8
15-459	3 1/2	5	21	3 3/4	5/8
15-460	4	3	18	4 5/8	5/8
15-461	4	5	23	4 5/8	5/8
15-462	4 1/2	3	18	4 3/4	5/8
15-463	4 1/2	5	23	4 3/4	5/8
15-464	5	3	25	5 1/16	5/8
15-465	5	5	26	5 1/16	5/8
15-466	6	3	25	6	5/8
15-467	6	5	26	6	5/8

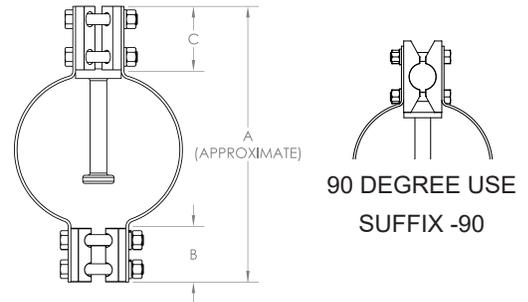
FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-467H

# BRONZE EXPANSION CONNECTORS, STUD TO PIPE

SECTION

15-4

CATALOG NUMBER	STUD SIZE	IPS TAP	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-468	1/2-13	1/2	12	3	2	3/8
15-469	1/2-13	3/4	12	2 3/4	2	1/2 & 3/8
15-470	1/2-13	1	16	3 3/16	2	1/2 & 3/8
15-471	3/4-16	1/2	12	3	2	3/8
15-472	3/4-16	3/4	12	2 3/4	2	1/2 & 3/8
15-473	3/4-16	1	16	3 3/16	2	1/2 & 3/8
15-474	1-14	1/2	12	3	2 1/4	1/2 & 3/8
15-475	1-14	3/4	12	2 3/4	2 1/4	1/2
15-476	1-14	1	16	3 3/16	2 1/4	1/2
15-477	1-14	1 1/4	16	3 1/8	2 1/4	1/2
15-478	1 1/8-12	1/2	12	3	2 1/4	1/2 & 3/8
15-479	1 1/8-12	3/4	12	2 3/4	2 1/4	1/2
15-480	1 1/8-12	1	16	3 3/16	2 1/4	1/2
15-481	1 1/8-12	1 1/4	16	3 1/8	2 1/4	1/2
15-482	1 1/4-12	1/2	12	3	2 1/2	1/2 & 3/8
15-483	1 1/4-12	3/4	12	2 3/4	2 1/2	1/2
15-484	1 1/4-12	1	16	3 3/16	2 1/2	1/2
15-485	1 1/4-12	1 1/4	16	3 1/8	2 1/2	1/2
15-486	1 1/4-12	1 1/2	16	3 1/16	2 1/2	1/2
15-487	1 1/2-12	1/2	12	3	2 1/2	1/2 & 3/8
15-488	1 1/2-12	3/4	12	2 3/4	2 1/2	1/2
15-489	1 1/2-12	1	16	3 3/16	2 1/2	1/2
15-490	1 1/2-12	1 1/4	16	3 1/8	2 1/2	1/2
15-491	1 1/2-12	1 1/2	16	3 1/16	2 1/2	1/2
15-492	1 1/2-12	2	16	3 1/8	2 1/2	1/2
15-493	1 3/4-12	3/4	12	2 3/4	2 1/2	1/2
15-494	1 3/4-12	1	12	3 3/16	2 1/2	1/2
15-495	1 3/4-12	1 1/4	16	3 1/8	2 1/2	1/2
15-496	1 3/4-12	1 1/2	16	3 1/16	2 1/2	1/2
15-497	1 3/4-12	2	16	3 1/8	2 1/2	1/2
15-498	2-12	1	16	3 3/16	2 1/2	5/8 & 1/2
15-499	2-12	1 1/4	16	3 1/8	2 1/2	5/8 & 1/2
15-500	2-12	1 1/2	16	3 1/16	2 1/2	5/8 & 1/2
15-501	2-12	2	16	3 1/8	2 1/2	5/8 & 1/2
15-502	2-12	2 1/2	16	4	2 1/2	5/8
15-503	2 1/4-12	1 1/4	16	3 1/8	2 1/2	5/8 & 1/2
15-504	2 1/4-12	1 1/2	16	3 1/16	2 1/2	5/8 & 1/2
15-505	2 1/4-12	2	16	3 1/8	2 1/2	5/8 & 1/2
15-506	2 1/4-12	2 1/2	16	4	2 1/2	5/8
15-507	2 1/2-12	1 1/2	16	3 1/16	2 1/2	5/8 & 1/2
15-508	2 1/2-12	2	16	3 1/8	2 1/2	5/8 & 1/2
15-509	2 1/2-12	2 1/2	16	4	2 1/2	5/8
15-510	2 1/2-12	3	16	3 15/16	2 1/2	5/8
15-511	2 3/4-12	1 1/2	16	3 1/16	3 1/4	5/8 & 1/2
15-512	2 3/4-12	2	16	3 1/8	3 1/4	5/8 & 1/2
15-513	2 3/4-12	2 1/2	16	4	3 1/4	5/8
15-514	2 3/4-12	3	16	3 15/16	3 1/4	5/8
15-515	2 3/4-12	3 1/2	16	3 3/4	3 1/4	5/8



A rugged connector for joining a threaded stud to a pipe bus, the type BESP cast of a high conductivity copper alloy for durability also compensates for temperature variations and thus protects equipment bushings, switch gear, and insulators from expanding or contraction pressures.

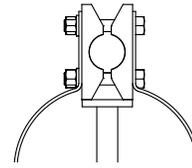
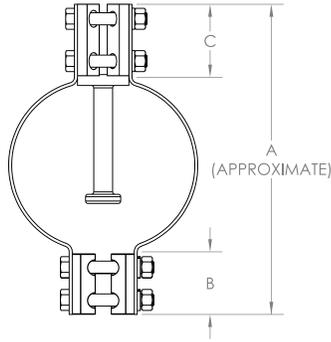
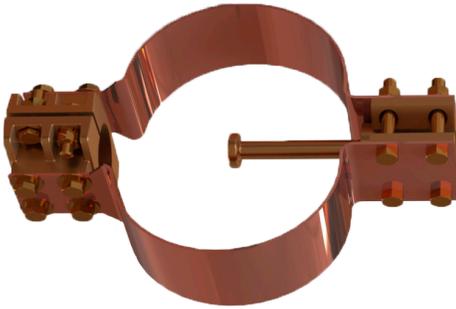
Flexible shunts of laminated soft copper are designed to carry the maximum current of the bus it connects.

It features silicon bronze clamping hardware for resistance to corrosion and recessed bolt heads for single-wrench installation.

Unthreaded studs or stud sizes not listed must be specified with the order.

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-515H

Continued on next page



90 DEGREE USE  
SUFFIX -90

Continued from previous page

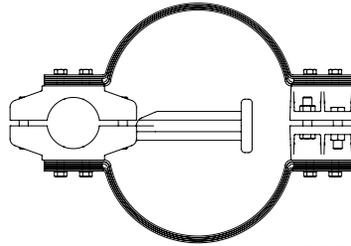
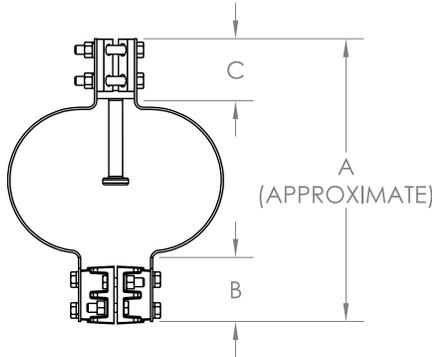
CATALOG NUMBER	STUD SIZE	IPS TAP	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-516	3-12	2	16	3 1/8	3 1/4	5/8 & 1/2
15-517	3-12	2 1/2	16	4	3 1/4	5/8
15-518	3-12	3	16	3 15/16	3 1/4	5/8
15-519	3-12	3 1/2	16	3 3/4	3 1/4	5/8
15-520	3-12	4	16	4 5/8	3 1/4	5/8
15-521	3 1/4-12	2 1/2	16	4	3 1/4	5/8
15-522	3 1/4-12	3	16	3 15/16	3 1/4	5/8
15-523	3 1/4-12	3 1/2	16	3 3/4	3 1/4	5/8
15-524	3 1/4-12	4	16	4 5/8	3 1/4	5/8
15-525	3 1/2-12	2 1/2	16	4	3 1/2	5/8
15-526	3 1/2-12	3	16	3 15/16	3 1/2	5/8
15-527	3 1/2-12	3 1/2	16	3 3/4	3 1/2	5/8
15-528	3 1/2-12	4	16	4 5/8	3 1/2	5/8
15-529	4-12	2 /12	16	4	3 1/2	5/8
15-530	4 -12	3	16	3 15/16	3 1/2	5/8
15-531	4 -12	3 /12	16	3 3/4	3 1/2	5/8
15-532	4-12	4	16	4 5/8	3 1/2	5/8

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-532H

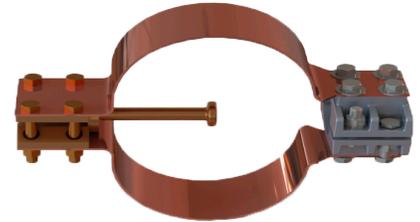
# EXPANSION CONNECTORS, BRONZE STUD TO ALUMINUM PIPE

SECTION

15-4A



90 DEGREE USE  
SUFFIX -90



CATALOG NUMBER	STUD SIZE	IPS TAP	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-533	1/2-13	1/2	12	4	2	1/2 & 3/8
15-534	1/2-13	3/4	12	2 3/4	2	1/2 & 3/8
15-535	1/2-13	1	16	3 3/16	2	1/2 & 3/8
15-536	3/4-16	1/2	12	4	2	1/2 & 3/8
15-537	3/4-16	3/4	12	2 3/4	2	1/2 & 3/8
15-538	3/4-16	1	16	3 3/16	2	1/2 & 3/8
15-539	1-14	1/2	12	4	2 1/4	1/2
15-540	1-14	3/4	12	2 3/4	2 1/4	1/2
15-541	1-14	1	16	3 3/16	2 1/4	1/2
15-542	1-14	1 1/4	16	3 1/8	2 1/4	1/2
15-543	1 1/8-12	1/2	12	4	2 1/4	1/2
15-544	1 1/8-12	3/4	12	2 3/4	2 1/4	1/2
15-545	1 1/8-12	1	16	3 3/16	2 1/4	1/2
15-546	1 1/8-12	1 1/4	16	3 1/8	2 1/4	1/2
15-547	1 1/4-12	1/2	12	4	2 1/2	1/2
15-548	1 1/4-12	3/4	12	2 3/4	2 1/2	1/2
15-549	1 1/4-12	1	16	3 3/16	2 1/2	1/2
15-550	1 1/4-12	1 1/4	16	3 1/8	2 1/2	1/2
15-551	1 1/4-12	1 1/2	16	3 1/16	2 1/2	1/2
15-552	1 1/2-12	1/2	12	4	2 1/2	1/2
15-553	1 1/2-12	3/4	12	2 3/4	2 1/2	1/2
15-554	1 1/2-12	1	16	3 3/16	2 1/2	1/2
15-555	1 1/2-12	1 1/4	16	3 1/8	2 1/2	1/2
15-556	1 1/2-12	1 1/2	16	3 1/16	2 1/2	1/2
15-557	1 1/2-12	2	16	3 1/8	2 1/2	1/2
15-558	1 3/4-12	3/4	12	2 3/4	2 1/2	1/2
15-559	1 3/4-12	1	16	3 3/16	2 1/2	1/2
15-560	1 3/4-12	1 1/4	16	3 1/8	2 1/2	1/2
15-561	1 3/4-12	1 1/2	16	3 1/16	2 1/2	1/2
15-562	1 3/4-12	2	16	3 1/8	2 1/2	1/2
15-563	2-12	1	16	3 3/16	2 1/2	5/8 & 1/2
15-564	2-12	1 1/4	16	3 1/8	2 1/2	5/8 & 1/2
15-565	2-12	1 1/2	16	3 1/16	2 1/2	5/8 & 1/2
15-566	2-12	2	16	3 1/8	2 1/2	5/8 & 1/2
15-567	2-12	2 1/2	16	4	2 1/2	5/8

The type AESP joins a bronze stud to an aluminum tube with maximum efficiency by also compensating for temperature variations and thereby protecting equipment bushings, switch gear, and insulators from expanding or contracting pressures.

The laminated flexible shunts are designed to withstand the maximum current of the bus it connects.

Bolts, nuts, and lockwashers made of a high strength material enhance clamping strength and resistance to corrosion in the field.

For unthreaded studs or stud sizes not listed, please specify with the order.

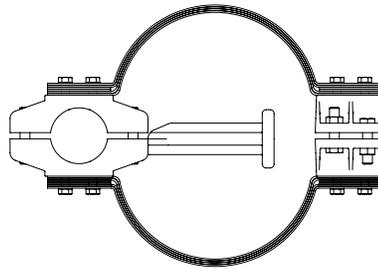
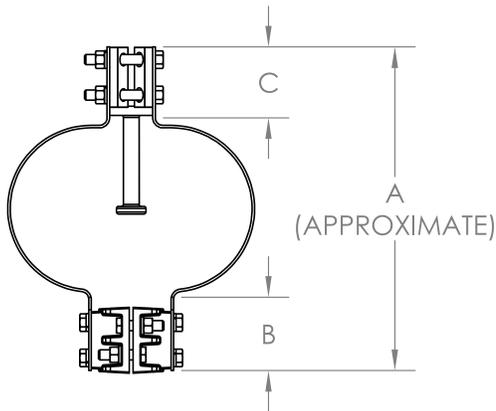
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FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H)  
EX. 15-567H

SECTION

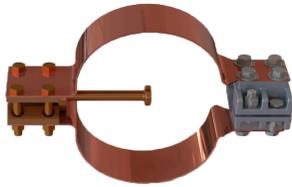
15-4A

EXPANSION CONNECTORS,  
BRONZE STUD TO ALUMINUM PIPE



90 DEGREE USE  
SUFFIX -90

Continued from previous page



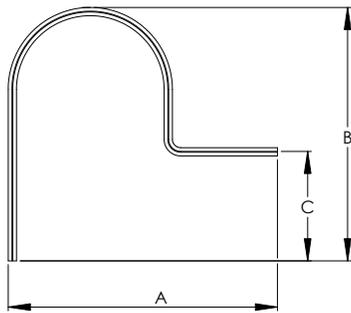
CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES			HARDWARE
			A	B	C	
15-568	2 1/4-12	1 1/4	12	3 1/8	2 1/2	5/8 & 1/2
15-569	2 1/4-12	1 1/2	12	3 1/16	2 1/2	5/8 & 1/2
15-570	2 1/4-12	2	12	3 1/8	2 1/2	5/8 & 1/2
15-571	2 1/4-12	2 1/2	14	4	2 1/2	5/8
15-572	2 1/2-12	1 1/2	12	3 1/16	2 1/2	5/8 & 1/2
15-573	2 1/2-12	2	12	3 1/8	2 1/2	5/8 & 1/2
15-574	2 1/2-12	2 1/2	14	4	2 1/2	5/8
15-575	2 1/2-12	3	14	3 15/16	2 1/2	5/8
15-576	2 3/4-12	1 1/2	12	3 1/16	3 1/4	5/8 & 1/2
15-577	2 3/4-12	2	12	3 1/8	3 1/4	5/8 & 1/2
15-578	2 3/4-12	2 1/2	14	4	3 1/4	5/8
15-579	2 3/4-12	3	14	3 15/16	3 1/4	5/8
15-580	2 3/4-12	3 1/2	14	3 3/4	3 1/4	5/8
15-581	3-12	2	12	3 1/8	3 1/4	5/8 & 1/2
15-582	3-12	2 1/2	14	4	3 1/4	5/8
15-583	3-12	3	14	3 15/16	3 1/4	5/8
15-584	3-12	3 1/2	14	3 3/4	3 1/4	5/8
15-585	3-12	4	14	4 5/8	3 1/4	5/8
15-586	3 1/4-12	2 1/2	14	4	3 1/4	5/8
15-587	3 1/4-12	3	14	3 15/16	3 1/4	5/8
15-588	3 1/4-12	3 1/2	14	3 3/4	3 1/4	5/8
15-589	3 1/4-12	4	14	4 5/8	3 1/4	5/8
15-590	3 1/2-12	2 1/2	14	4	3 1/2	5/8
15-591	3 1/2-12	3	14	3 15/16	3 1/2	5/8
15-592	3 1/2-12	3 1/2	14	3 3/4	3 1/2	5/8
15-593	3 1/2-12	4	14	4 5/8	3 1/2	5/8
15-594	4-12	2 1/2	14	4	3 1/2	5/8
15-595	4-12	3	14	3 15/16	3 1/2	5/8
15-596	4-12	3 1/2	14	3 3/4	3 1/2	5/8
15-597	4-12	4	14	4 5/8	3 1/2	5/8

FOR EHPS (SCH80) INTERNAL  
PIPE FITTINGS USE SUFFIX (H)  
EX. 15-597H

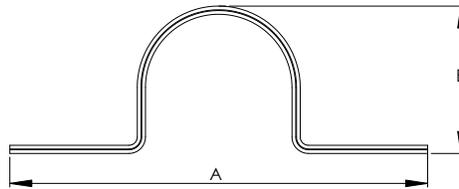
# BRONZE EXPANSION CONNECTORS STRAIGHT AND 90 DEGREE BENDS

SECTION

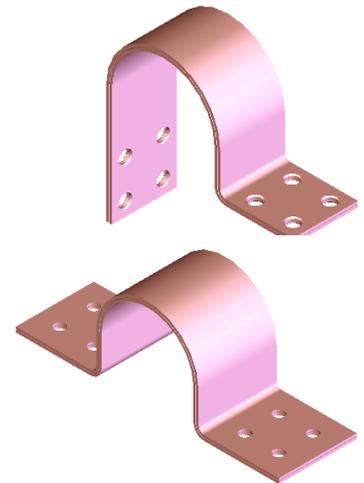
15-5



90 Degree



Straight



## STRAIGHT EXPANSION BENDS

CATALOG NUMBER	PAD STYLE	DIMENSIONS IN INCHES		CURRENT RATING
		A	B	
15-679	B	17	6	400
15-680	C	17	6	690
15-681	D	17	6	900
15-682	B	17	6	640
15-683	C	17	6	970
15-684	D	17	6	1200

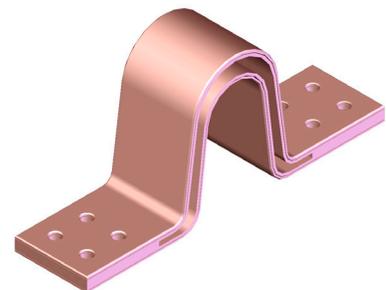
Made of a high conductivity copper, the type BEB and type BEB90 efficiently compensate for temperature variations and therefore protect equipment bushings, switch gear, and insulators from expanding or contracting pressures.

The flexible shunts of laminated soft copper are designed to carry the maximum current listed.

Other current ratings are available upon request.

## 90° EXPANSION BENDS

CATALOG NUMBER	PAD STYLE	DIMENSIONS IN INCHES			CURRENT RATING
		A	B	C	
15-685	B	7	9	3	400
15-686	C	7	9	3	690
15-687	D	8	9	4	900
15-688	B	8	9	3	640
15-689	C	8	9	3	970
15-690	D	9	9	4	1200

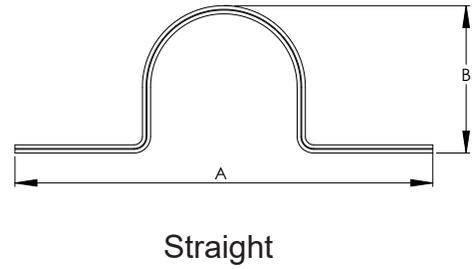
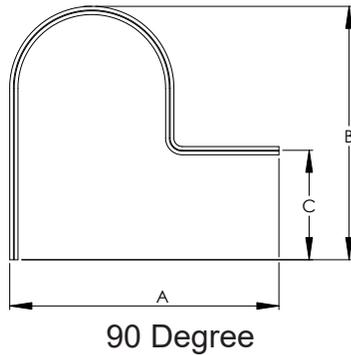
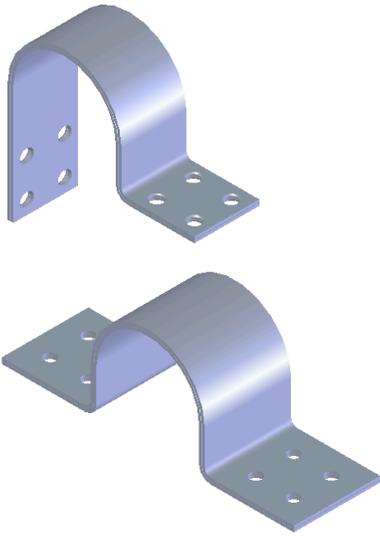


For example: 15-684-2000AMP

SECTION

15-5A

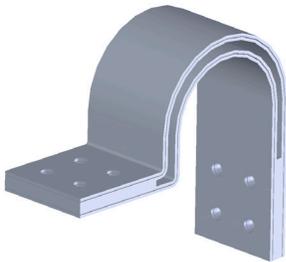
ALUMINUM EXPANSION CONNECTORS  
STRAIGHT AND 90 DEGREE BENDS



Made of a lightweight aluminum alloy, the type AEB and type AEB90 effectively protect equipment bushings, switch gear, and insulators from expanding or contracting pressures.

The flexible shunts of laminated soft aluminum can withstand the maximum current listed.

Other current ratings are available upon request.



STRAIGHT EXPANSION BENDS

CATALOG NUMBER	PAD STYLE	DIMENSIONS IN INCHES		CURRENT RATING
		A	B	
15-691	B	17	6	340
15-692	C	17	6	540
15-693	D	17	6	700
15-694	B	17	6	540
15-695	C	17	6	760
15-696	D	17	6	960

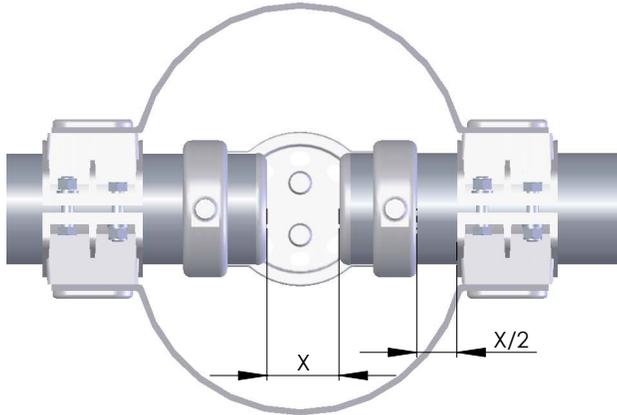
90° EXPANSION BENDS

CATALOG NUMBER	PAD STYLE	DIMENSIONS IN INCHES			CURRENT RATING
		A	B	C	
15-697	B	7	9	3	340
15-698	C	7	9	3	540
15-699	D	8	9	4	700
15-700	B	8	9	3	540
15-701	C	8	9	3	760
15-702	D	9	9	4	960

For example: 15-702-1200AMP

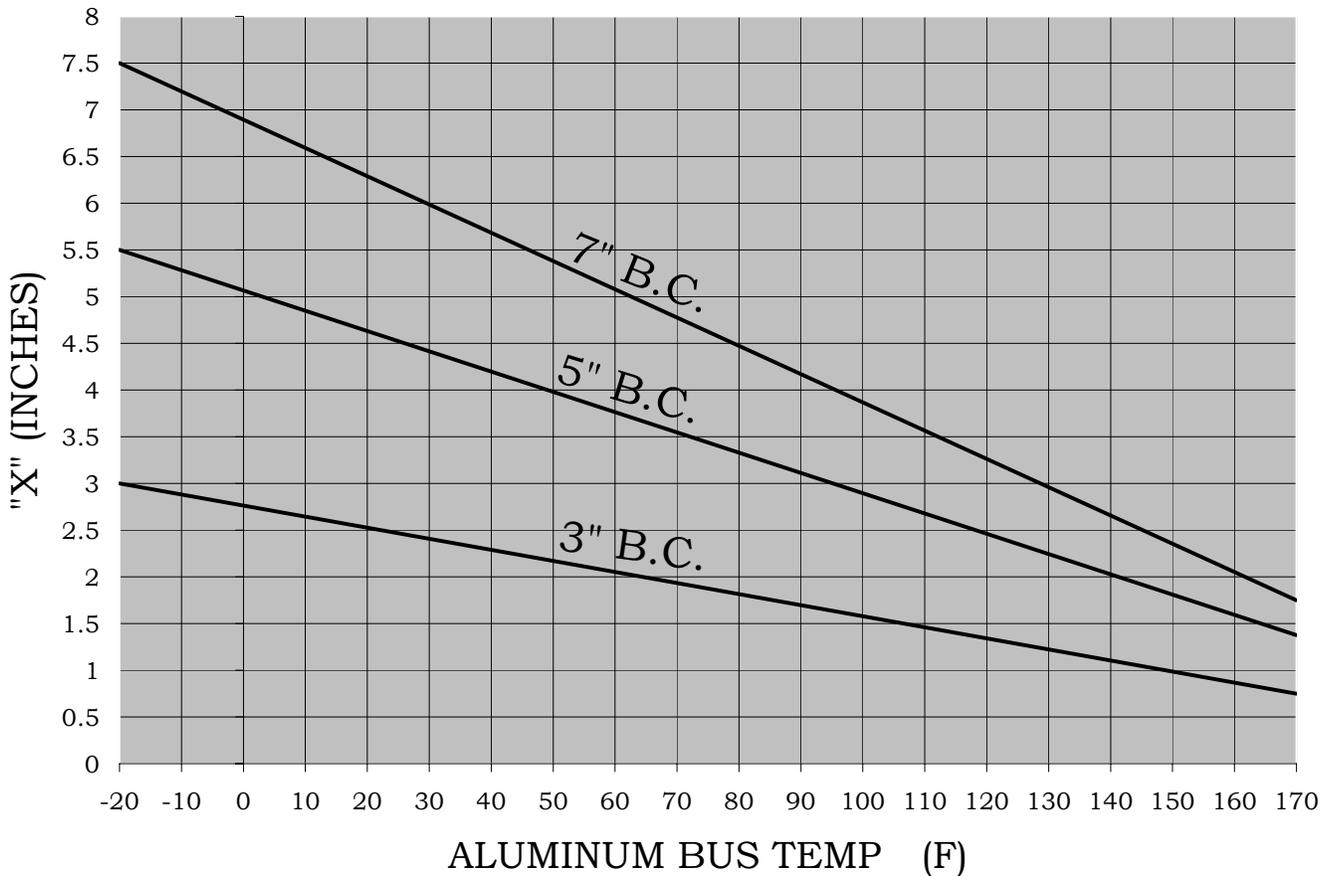
# EXPANSION SUPPORT INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS



1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of  
 240ft.(120ft per side)-----7" B.C.  
 160ft.(80ft. per side)-----5" B.C.  
 80ft. (40ft per side)-----3" B.C.  
 Find the appropriate dimension "X"
3. "X" measurement to be taken with the end plugs in stalled.

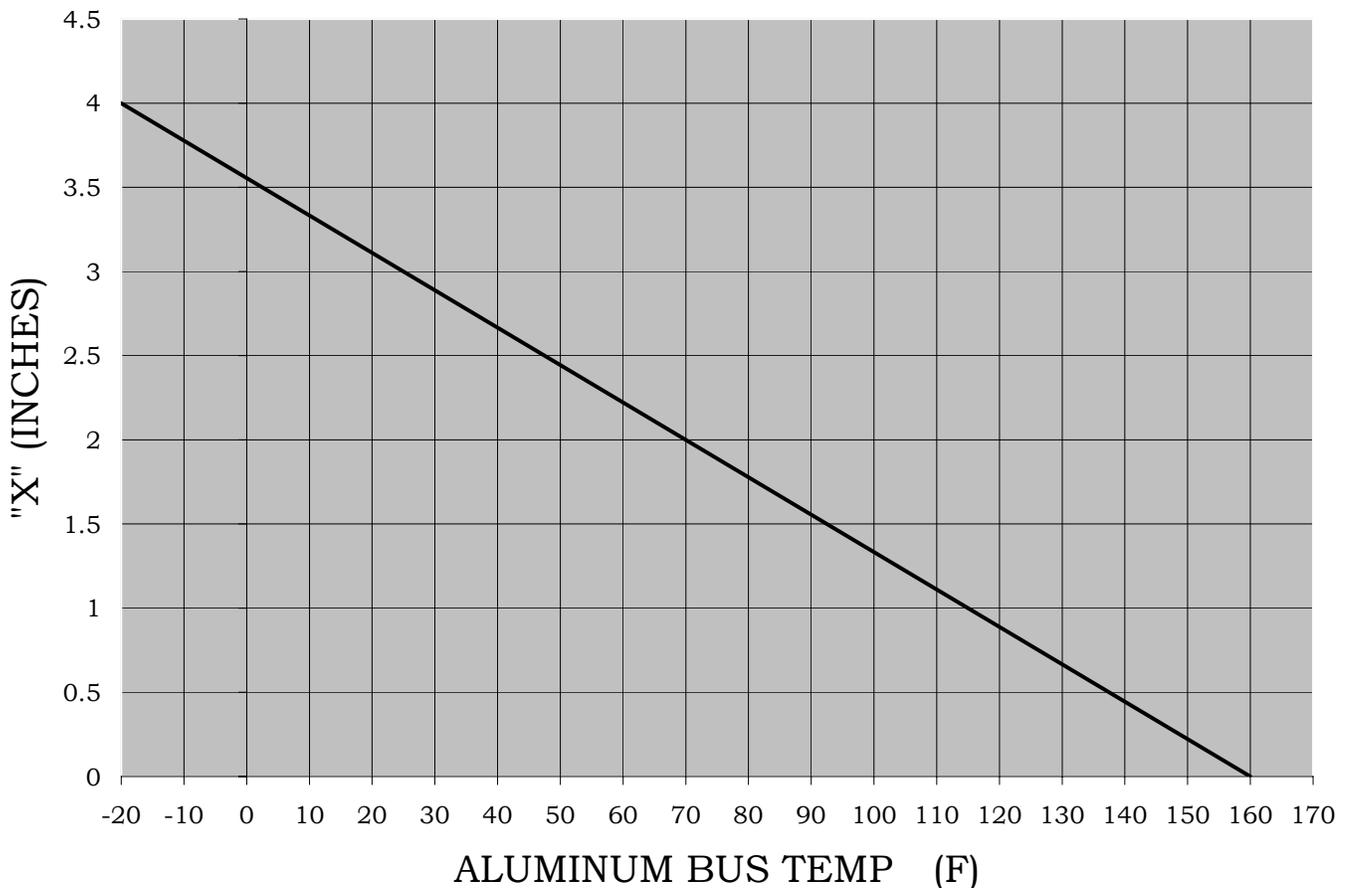
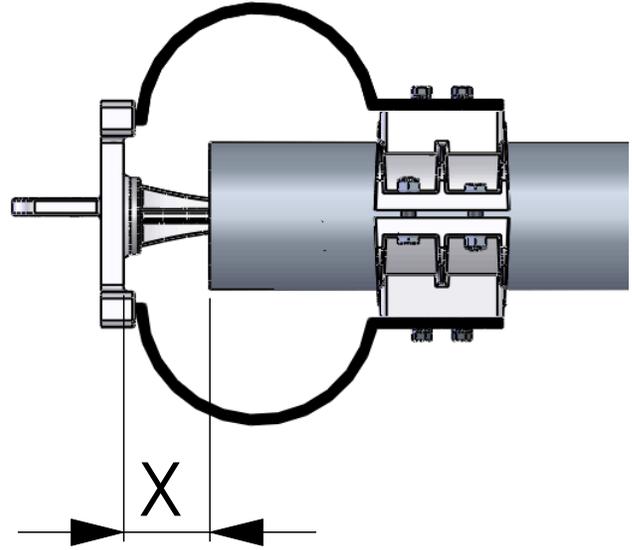
(Extended to conserve phase spacing.)



# EXPANSION TERMINAL INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS

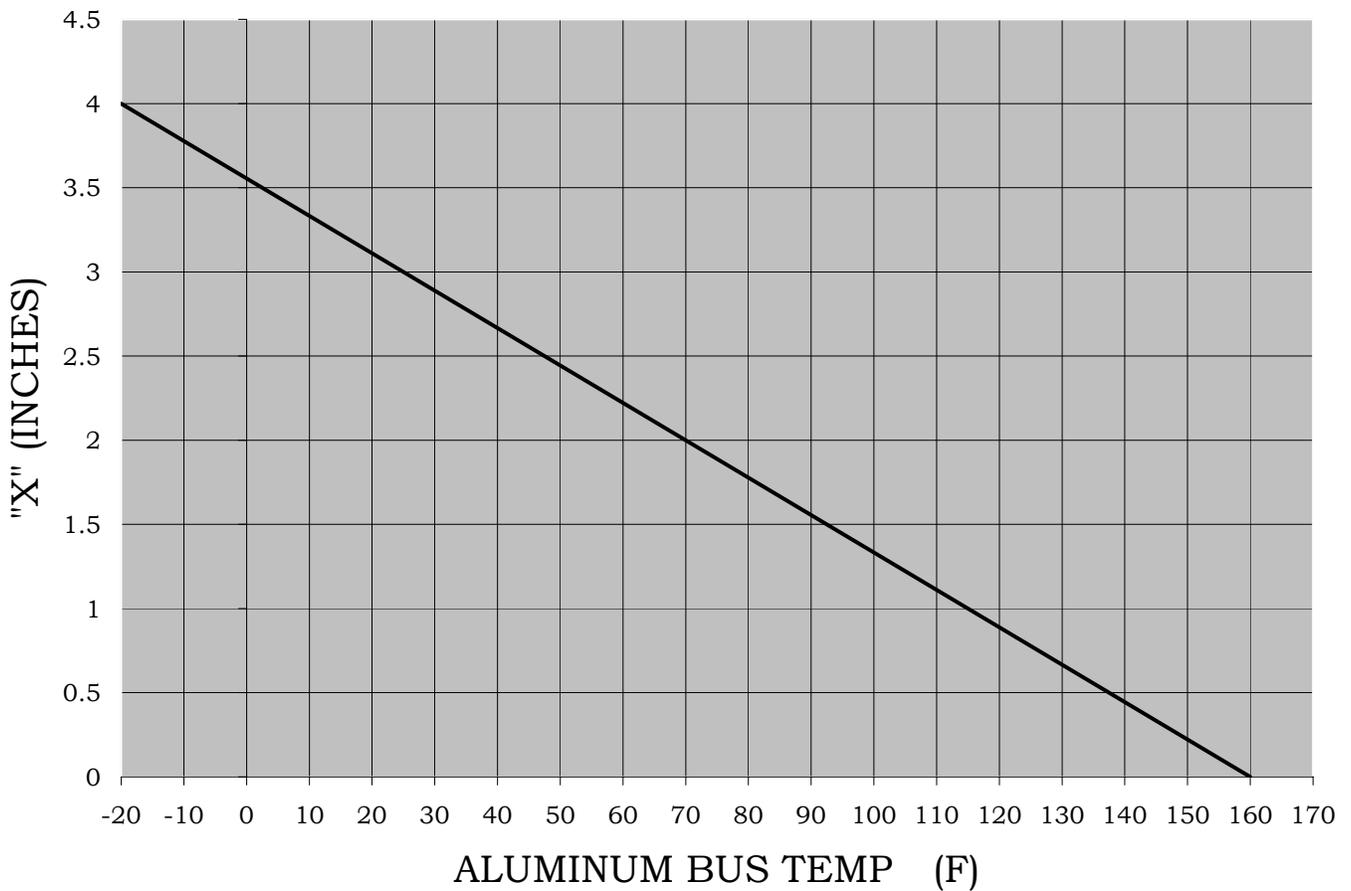
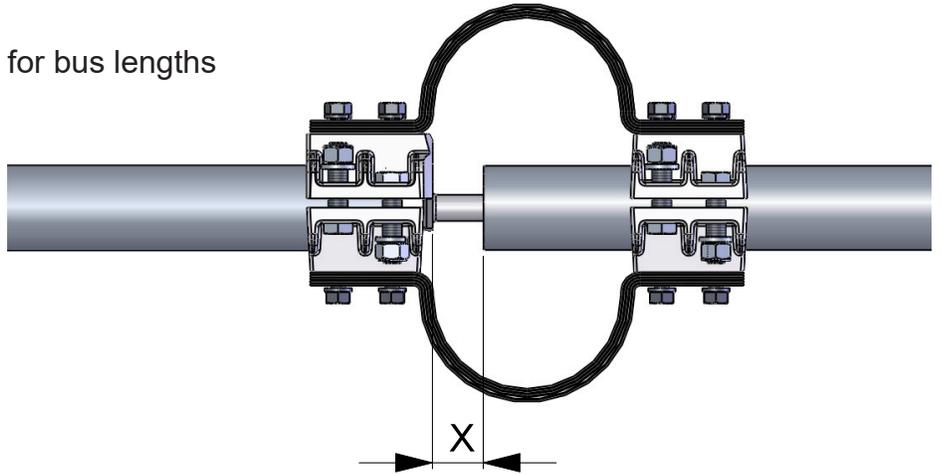
1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of 140ft. find the appropriate dimension "X".
3. The chart may only be used for bus lengths less than 140ft.



# EXPANSION COUPLER INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS

1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of 140ft. find the appropriate dimension "X".
3. The chart may only be used for bus lengths less than 140ft.



# COPPER COMPRESSION FITTINGS CABLE TO FLAT PAD

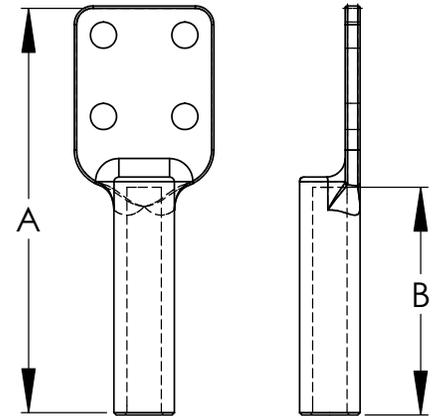
SECTION

16-1



## COPPER TYPE BCP

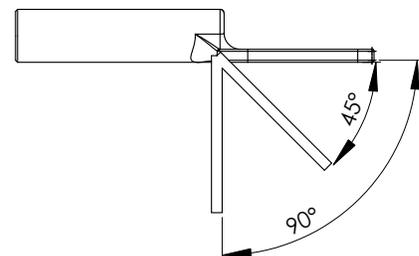
CATALOG NUMBER W/ PAD SIZE	CABLE SIZE AWG or MCM		DIMENSIONS IN INCHES		DIE REF	PAD THICKNESS
	MIN	MAX	A	B		
16-101B	2		6 1/4	2	0.640	1/4
16-102B	1/0		6 7/16	2 3/4	0.840	5/16
16-103B	2/0		6 7/8	2 3/4	0.840	5/16
16-104B	3/0		6 7/8	2 3/4	0.840	5/16
16-106B	4/0		6 7/8	2 3/4	0.840	5/16
16-106C	4/0		7 9/16	3	0.840	5/16
16-107B	250		6 15/16	2 3/4	0.840	5/16
16-107C	250		7 9/16	3	0.840	5/16
16-109B	300		7 3/8	3	1.0	5/16
16-109C	300		7 1/2	3	1.0	5/16
16-111B	350		6 1/2	2 5/8	1.125	3/8
16-111C	350		7 9/16	3	1.0	5/16
16-111D	350		8 1/2	3 1/2	1.0	5/16
16-113B	500		7 7/8	3 3/4	1.125	5/16
16-113C	500		8 3/4	4	1.125	3/8
16-113D	500		8 5/8	3 3/4	1.125	5/16
16-115B	750		8 5/8	4	1.312	3/8
16-115C	750		8 5/8	4	1.312	3/8
16-115D	750		9 1/4	3 3/4	1.312	3/8
16-117B	800		9 1/4	4	1.5	3/8
16-117C	800		9 1/4	4	1.5	7/16
16-117D	800		9 1/4	4 1/4	1.5	7/16
16-119B	1000		8 3/4	4	1.5	7/16
16-119C	1000		8 3/4	4	1.5	7/16
16-119D	1000		9 1/2	4 1/2	1.5	5/16
16-120B	1250		10 1/8	5	2.375	3/4
16-120C	1250		10 1/8	5	2.375	3/4
16-120D	1250		9 1/2	4 1/2	2.375	5/16
16-121B	1500		9	4 1/4	2.375	5/8
16-121C	1500		9 1/4	4 1/2	2.375	5/8
16-121D	1500		9 1/2	4 1/2	2.375	5/8
16-122B	2000		9	4 1/4	2.375	3/4
16-122C	2000		9 1/4	4 1/2	2.375	3/4
16-122D	2000		9 1/2	4 1/2	2.375	3/4



The pure copper compression terminals for connecting copper cable bus to a flat pad have the crimping die sizes clearly marked for ease of installation.

For pads other than parallel to the cable bus add the degree variation from parallel to the catalog No.

**Example:** for pad 45 degrees from parallel to cable run specify catalog 16-113C-45.



To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

SECTION

16-1A

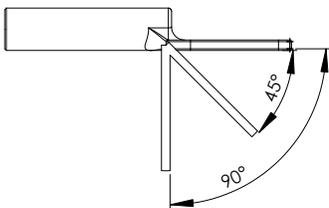
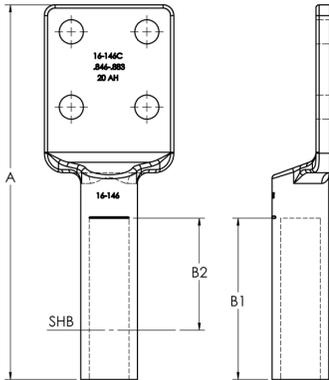
ALUMINUM COMPRESSION  
FITTINGS CABLE TO FLAT PAD



The cast electrical aluminum compression terminals for connecting aluminum cable bus to a flat pad have the crimping die sizes clearly marked for ease of installation.

For pads other than parallel to the cable bus add the degree variation from parallel to the catalog No.

**Example:** for pad 45 degree from parallel to cable run specify catalog 16-161C-45.



Add suffix for the following Special configurations;

- SHB Short barrel
- FC Include filler compound
- FAB Fabricated form extruded billet in lieu of cast

ALUMINUM TYPE ACP

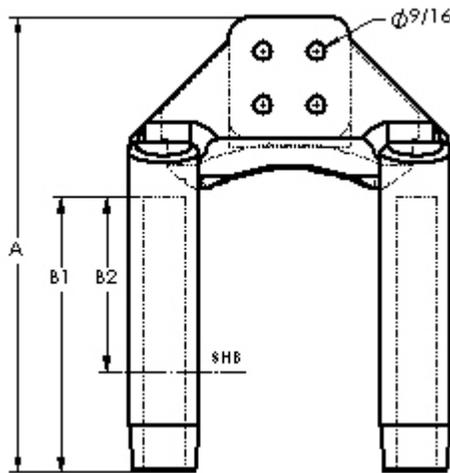
CATALOG NUMBER W/ PAD SIZE	AAC SIZE AWG or MCM MIN. MAX	ACSR SIZE AWG OR MCM MIN. MAX	CONDUCTOR DIAMETER	DIMENSIONS		SHB B2	DIE REF.	PAD THICKNESS
				A	B1			
16-123B	#2	#2	.292-.325	6 1/4	2	NA	.625	3/8
16-124B	1/0	1/0	.326-.398	6 1/2	3	NA	0.840	3/8
16-124C	1/0	1/0	.326-.398	6 1/2	3	NA	0.840	3/8
16-125B	2/0	2/0	.399-.447	6 1/2	3	NA	0.840	3/8
16-125C	2/0	2/0	.399-.447	6 1/2	3	NA	0.840	3/8
16-128B	3/0	3/0	.448-.502	6 1/2	3	NA	0.840	3/8
16-128C	3/0	3/0	.448-.502	6 1/2	3	NA	0.840	3/8
16-129B	4/0	4/0	.503-.563	6 1/2	3	NA	0.840	3/8
16-129C	4/0	4/0	.503-.563	6 1/2	3	NA	0.840	3/8
16-130B	266.8-300	266.8(26/7)	.564-.642	8 7/8	3 3/4	NA	1.125	3/8
16-130C	266.8-300	266.8(26/7)	.564-.642	8 7/8	3 3/4	NA	1.312	3/8
16-134B	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	8 7/8	3 3/4	NA	1.125	3/8
16-134C	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	8 7/8	3 3/4	NA	1.312	3/8
16-139B	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	8 7/8	3 3/4	NA	1.125	3/8
16-139C	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	8 7/8	3 3/4	NA	1.312	3/8
16-144B	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	8 7/8	3 3/4	NA	1.312	3/8
16-144C	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	8 7/8	3 3/4	NA	1.312	3/8
16-146B	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	8 7/8	3 3/4	NA	1.312	3/8
16-146C	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	8 7/8	3 3/4	NA	1.312	3/8
16-148B	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	9 1/4	4	NA	1.500	3/8
16-148C	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	9 1/4	4	NA	1.500	3/8
16-152B	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	11 1/2	6	4	1.843	5/8
16-152C	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	12	6 1/2	4	1.843	5/8
16-152D	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	12 1/4	6 1/2	4	1.843	5/8
16-161B	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	11 1/2	6 1/4	4	1.843	5/8
16-161C	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	11	6	4	1.843	5/8
16-161D	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	12 1/4	6 1/4	4	1.843	5/8
16-164B	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	11 1/8	6 1/4	5	2.125	3/4
16-164C	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	11 3/8	6 3/8	5	2.125	3/4
16-164D	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	12 3/16	6 1/2	5	2.125	3/4
16-165C	1192.5(61)-1272(61)	1033.5(54/7)- 1113(54/19)	1.217-1.300	13 3/8	8 1/2	5 1/2	2.375	3/4
16-165D	1192.5(61)-1272(61)	1033.5(54/7)- 1113(54/19)	1.217-1.300	14 3/8	8 1/2	5 1/2	2.375	3/4
16-167C	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	13 1/4	8 1/2	5 1/5	2.375	3/4
16-167D	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	14 3/8	8 1/2	5 1/2	2.375	3/4
16-168C	1590(61)-1700(127)	1351.3(54/19)-1510.5(45/7)	1.425-1.503	13 3/8	8 1/2	5 1/2	2.375	3/4
16-168D	1590(61)-1700(127)	1351.3(54/19)-1510.5(45/7)	1.425-1.503	14 3/8	8 1/2	5 3/8	2.375	3/4
16-169C	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	13 3/8	8 1/2	5 3/8	2.375	3/4
16-169D	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	14 3/8	8 1/2	5 3/8	2.375	3/4
16-170D	2000(91)(127)	1780(84/19)	1.546-1.659	15	9	6 1/4	2.937	3/4
16-171D	2250(91)(127)	2156(84/19)	1.660-1.762	15	9	6 1/2	2.937	3/4
16-172D	2500(127)		1.763-1.824	15	9	6 1/2	2.937	3/4
16-173D	3000(127)		1.825-1.996	15	9	6 3/4	2.937	3/4
16-174D	3500(127)		1.997-2.160	15	9	6 3/4	2.937	3/4

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

# ALUMINUM COMPRESSION FITTINGS DOUBLE CABLE TO FLAT PAD

SECTION

16-1A-2B



ALUMINUM DOUBLE CABLE COMPRESSION								
CATALOG NUMBER W/ PAD SIZE	AAC AWG or MCM MIN. MAX	ACSR AWG OR MCM MIN. MAX	CONDUCTOR DIAMETER	DIMENSIONS		SHB	DIE REF.	PAD THICKNESS
				A	B1			
16-152D-2C-*	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	13 1/4	7 3/8	3 7/8	1.843	3/4
16-161D-2C-*	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	13 1/8	7	4 5/8	1.843	3/4
16-164D-2C-*	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	12 1/2	6 1/2	5 1/2	2.125	3/4
16-165D-2C-*	1192.5(61)-1272(61)	1033.5(54/7)- 1113(54/19)	1.217-1.300	14 1/2	8 1/2	5 1/2	2.375	3/4
16-167D-2C-*	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	14 1/2	8 1/2	5 1/2	2.375	3/4
16-168D-2C-*	1590(61)-1700(127)	1351.3(54/19)-1510.5(45/7)	1.425-1.503	14 7/8	8 1/2	5 3/8	2.375	3/4
16-169D-2C-*	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	14 7/8	8 1/2	5 3/8	2.375	3/4
16-170D-2C-8	2000(91)(127)	1780(84/19)	1.546-1.659	15	8 1/2	6 1/4	2.937	1
16-171D-2C-8	2250(91)(127)	2156(84/19)	1.660-1.762	15 1/4	8 1/2	6 1/2	2.937	1
16-172D-2C-8	2500(127)		1.763-1.824	15 1/4	9	6 1/2	2.937	1
16-173D-2C-8	3000(127)		1.825-1.996	15 1/4	9	6 3/4	2.937	1
16-174D-2C-8	3500(127)		1.997-2.160	15 1/4	9	6 3/4	2.937	1

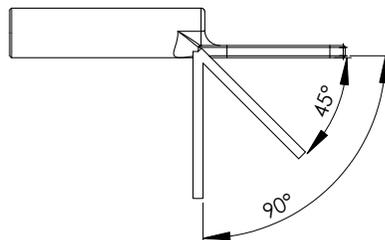
PLEASE SPECIFY CABLE SPACING (\*).  
6" AND 8" ONLY (EX) 16-152D-2C-8

\* 170 AND UP 8" SPACING ONLY

The cast electrical aluminum compression terminals for connecting aluminum cable bus to a flat pad have the crimping die sizes clearly marked for ease of installation.

Add suffix for the following Special configurations;

- SHB Short barrel
- FC Include filler compound



For pads other than parallel to the cable bus add the degree variation from parallel to the catalog No.

**Example:** for pad 45 deg. from parallel to cable run specify catalog 16-161D-2C-6-45.

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

SECTION

16-1A-A1C

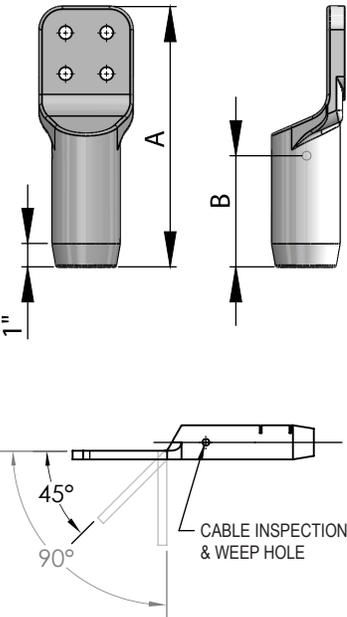
ALUMINUM SINGLE COMPRESSION FITTINGS - CABLE TO FLAT PAD



The A1C aluminum compression terminals for connecting aluminum cable to a flat pad utilizes a standard hex die and can be installed with a single crimp. The crimping die sizes are clearly marked for ease of installation.

For pads other than parallel to the cable bus add the degree variation from parallel to the catalog number.

**Example:** For a pad 45 degrees from parallel to cable run, specify catalog A1C-161C-45.

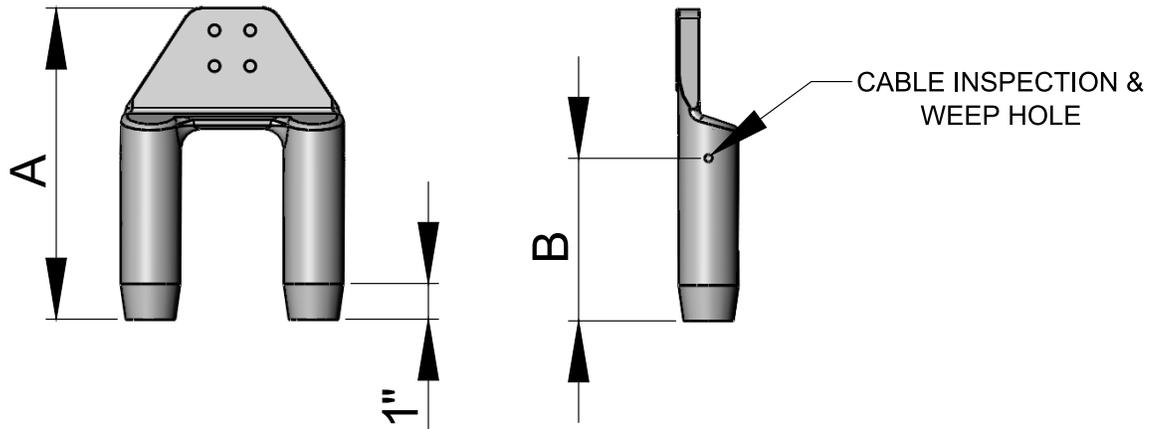


ALUMINUM TYPE A1C

CATALOG NUMBER W/ PAD SIZE	AAC SIZE AWG or MCM MIN. MAX	ACSR SIZE AWG or MCM MIN. MAX	CONDUCTOR DIAMETER	DIMENSIONS		DIE REF.	PAD THICKNESS
				A	B		
A1C-123B	#2	#2	.292-.325	6 1/4	2	0.640	3/8
A1C-124B	1/0	1/0	.326-.398	6 1/2	3	0.840	3/8
A1C-124C	1/0	1/0	.326-.398	6 1/2	3	0.840	3/8
A1C-125B	2/0	2/0	.399-.447	6 1/2	3	0.840	3/8
A1C-125C	2/0	2/0	.399-.447	6 1/2	3	0.840	3/8
A1C-128B	3/0	3/0	.448-.502	6 1/2	3	0.840	3/8
A1C-128C	3/0	3/0	.448-.502	6 1/2	3	0.840	3/8
A1C-129B	4/0	4/0	.503-.563	6 1/2	3	0.840	3/8
A1C-129C	4/0	4/0	.503-.563	6 1/2	3	0.840	3/8
A1C-130B	266.8-300	266.8(26/7)	.564-.642	8 7/8	3 3/4	1.125	3/8
A1C-130C	266.8-300	266.8(26/7)	.564-.642	8 7/8	3 3/4	1.312	3/8
A1C-134B	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	8 7/8	3 3/4	1.125	3/8
A1C-134C	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	8 7/8	3 3/4	1.312	3/8
A1C-139B	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	8 7/8	3 3/4	1.125	3/8
A1C-139C	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	8 7/8	3 3/4	1.312	3/8
A1C-144B	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	8 7/8	3 3/4	1.312	3/8
A1C-144C	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	8 7/8	3 3/4	1.312	3/8
A1C-146B	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	8 7/8	3 3/4	1.312	3/8
A1C-146C	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	8 7/8	3 3/4	1.312	3/8
A1C-148B	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	8 1/2	4	1.500	3/8
A1C-148C	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	8 1/2	4	1.500	3/8
A1C-152B	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	9 1/2	3 3/4	1.843	5/8
A1C-152C	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	9 1/2	3 3/4	1.843	5/8
A1C-152D	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	10 1/2	4 3/4	1.843	5/8
A1C-161B	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	9 1/2	3 3/4	1.843	5/8
A1C-161C	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	9 1/2	3 3/4	1.843	5/8
A1C-161D	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	10 1/2	4 3/4	1.843	5/8
A1C-164B	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	9 1/2	3 3/4	2.125	3/4
A1C-164C	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	9 1/2	3 3/4	2.125	3/4
A1C-164D	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	10 1/2	4 3/4	2.125	3/4
A1C-165C	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	10 1/2	4 1/2	2.375	3/4
A1C-165D	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	11 1/2	5 1/2	2.375	3/4
A1C-167C	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	10 1/2	4 1/2	2.375	3/4
A1C-167D	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	11 1/2	5 1/2	2.375	3/4
A1C-168C	1590(61)-1700(127)	1351.5(54/19)-1510.5(45/7)	1.425-1.503	10 1/2	4 1/2	2.375	3/4
A1C-168D	1590(61)-1700(127)	1351.5(54/19)-1510.5(45/7)	1.425-1.503	11 1/2	5 1/2	2.375	3/4
A1C-169C	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	10 1/2	4 1/2	2.375	3/4
A1C-169D	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	11 1/2	5 1/2	2.375	3/4
A1C-170D	2000(91)(127)	1780(84/19)	1.546-1.659	12	6	2.937	3/4
A1C-171D	2250(91)(127)	2156(84/19)	1.660-1.762	12	6	2.937	3/4
A1C-172D	2500(127)		1.763-1.824	12	6	2.937	3/4
A1C-173D	3000(127)		1.825-1.996	12	6	2.937	3/4
A1C-174D	3500(127)		1.997-2.160	12	6	2.937	3/4

# ALUMINUM SINGLE COMPRESSION FITTINGS - DOUBLE CABLE TO FLAT PAD

## SECTION 16-1A-2B-A1C



### ALUMINUM DOUBLE CABLE SINGLE COMPRESSION

CATALOG NUMBER W/PAD SIZE	AAC AWG or MCM MIN. MAX	ACSR AWG or MCM MIN. MAX	CONDUCTOR DIAMETER	DIMENSIONS		DIE REF.	PAD THICKNESS
				A	B		
A1C-152D-2C-*	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	10 1/2	4 3/4	1.843	3/4
A1C-161D-2C-*	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	10 1/2	4 3/4	1.843	3/4
A1C-164D-2C-*	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	10 1/2	4 3/4	2.125	3/4
A1C-165D-2C-*	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	11 1/2	5 1/2	2.375	3/4
A1C-167D-2C-*	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	11 1/2	5 1/2	2.375	3/4
A1C-168D-2C-*	1590(61)-1700(127)	1351.5(54/19)-1510.5(45/7)	1.425-1.503	11 1/2	5 1/2	2.375	3/4
A1C-169D-2C-*	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	11 1/2	5 1/2	2.375	3/4
A1C-170D-2C-8	2000(91)(127)	1780(84/19)	1.546-1.659	12	6	2.937	1
A1C-171D-2C-8	2250(91)(127)	2156(84/19)	1.660-1.762	12	6	2.937	1
A1C-172D-2C-8	2500(127)		1.763-1.824	12	6	2.937	1
A1C-173D-2C-8	3000(127)		1.825-1.996	12	6	2.937	1
A1C-174D-2C-8	3500(127)		1.997-2.160	12	6	2.937	1

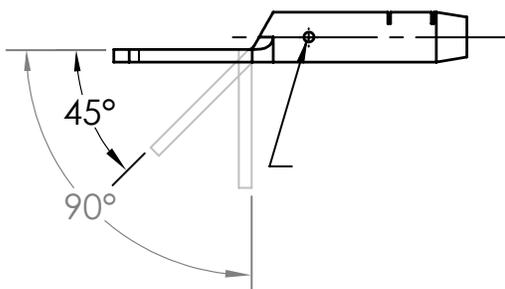
PLEASE SPECIFY CABLE SPACING (\*).  
6" AND 8" ONLY (EX) A1C-152D-2C-8.

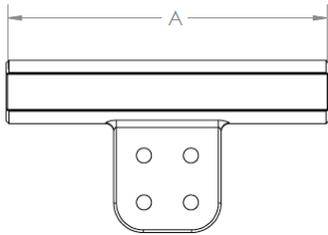
\*170 AND UP 8" SPACING ONLY

The A1C aluminum compression terminals for connecting aluminum cable to a flat pad utilizes a standard hex die and can be installed with a single crimp. The crimping die sizes are clearly marked for ease of installation.

For pads other than parallel to the cable bus add the degree variation from parallel to the catalog number.

**Example:** For a pad 45 degrees from parallel to cable run, specify catalog A1C-161C-45.





The pure copper compression tee terminals for connecting copper cable bus to a perpendicular flat pad have the crimping die sizes clearly marked for ease of installation.

## COPPER TYPE-T

CATALOG NUMBER W/ PAD SIZE	CABLE SIZE		DIE REF.	PAD THICKNESS	
	AWG or MCM	A			
	MIN.	MAX			
16-101B-T	2		6	0.64	1/4
16-102B-T	1/0		8	0.84	1/4
16-103B-T	2/0		8	0.84	1/4
16-104B-T	3/0		8	0.84	1/4
16-106B-T	4/0		8	0.84	1/4
16-106C-T	4/0		8	0.84	1/4
16-107B-T	250		8	0.84	1/4
16-107C-T	250		8	0.84	1/4
16-109B-T	300		8	0.84	1/4
16-109C-T	300		8	0.84	1/4
16-111B-T	350		8	0.84	1/4
16-111C-T	350		8	0.84	1/4
16-111D-T	350		8	0.84	1/4
16-113B-T	500		10	1.125	1/4
16-113C-T	500		10	1.125	1/4
16-113D-T	500		10	1.125	1/4
16-115B-T	750		11	1.5	3/8
16-115C-T	750		11	1.5	3/8
16-115D-T	750		11	1.5	1/2
16-117B-T	800		11 7/8	1.5	3/8
16-117C-T	800		11 7/8	1.5	3/8
16-117D-T	800		11 7/8	1.5	1/2
16-119B-T	1000		12	1.5	3/8
16-119C-T	1000		12	1.5	3/8
16-119D-T	1000		12	1.5	1/2

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

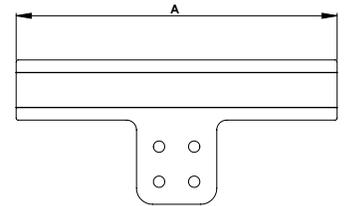
# ALUMINUM COMPRESSION TEE FITTINGS CABLE TO FLAT PAD

SECTION

16-2A



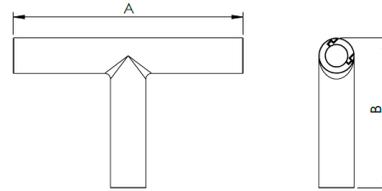
ALUMINUM TYPE-T						
CATALOG NUMBER W/ PAD SIZE	AAC AWG or MCM MIN. MAX	ACSR AWG OR MCM MIN. MAX	CONDUCTOR DIAMETER	DIMENSIONS	DIE REF.	PAD THICKNESS
				A		
16-124B-T	1/0	1/0	.326-.398	7 1/2	0.840	1/2
16-125B-T	2/0	2/0	.399-.447	7 1/2	0.840	1/2
16-128B-T	3/0	3/0	.448-.502	7 1/2	0.840	1/2
16-129B-T	4/0	4/0	.503-.563	7 1/2	0.840	1/2
16-130B-T	266.8-300	266.8(26/7)	.564-.642	10	1.312	1/2
16-130C-T	266.8-300	266.8(26/7)	.564-.642	10	1.312	3/4
16-134B-T	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	10	1.312	1/2
16-134C-T	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	10	1.312	3/4
16-139B-T	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	10	1.312	1/2
16-139C-T	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	10	1.312	3/4
16-144B-T	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	10	1.312	1/2
16-144C-T	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	10	1.312	3/4
16-146B-T	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	10	1.312	1/2
16-146C-T	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	10	1.312	3/4
16-148B-T	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	12	1.500	1/2
16-148C-T	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	12	1.500	3/4
16-152B-T	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	12	1.843	1/2
16-152C-T	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	12	1.843	3/4
16-152D-T	700(61)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	12	1.843	3/4
16-161B-T	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	12	1.843	1/2
16-161C-T	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	12	1.843	3/4
16-161D-T	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	12	1.843	3/4
16-164B-T	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	13	2.125	1/2
16-164C-T	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	13	2.125	3/4
16-164D-T	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	13	2.125	3/4
16-165C-T	1192.5(61)-1272(61)	1033.5(54/7)- 1113(54/19)	1.217-1.300	14	2.375	3/4
16-165D-T	1192.5(61)-1272(61)	1033.5(54/7)- 1113(54/19)	1.217-1.300	14	2.375	1
16-167C-T	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	14	2.375	3/4
16-167D-T	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	14	2.375	1
16-168C-T	1590(61)-1700(127)	1351.3(54/19)-1510.5(54/19)	1.425-1.503	14	2.375	3/4
16-168D-T	1590(61)-1700(127)	1351.3(54/19)-1510.5(54/19)	1.425-1.503	14	2.375	1
16-169C-T	1750(127)	1570.5(54/19)-1590(54/19)	1.504-1.545	14	2.375	3/4
16-169D-T	1750(127)	1570.5(54/19)-1590(54/19)	1.504-1.545	14	2.375	1
16-170D-T	2000(91)(127)	1780(84/19)	1.546-1.659	16	2.937	1
16-171D-T	2250(91)(127)	2156(84/19)	1.660-1.762	16	2.937	1
16-172D-T	2500(127)		1.763-1.824	16	2.937	1
16-173D-T	3000(127)		1.825-1.996	16	2.937	1
16-174D-T	3500(127)		1.997-2.160	16	2.937	1



The fab electrical aluminum compression terminals for connecting aluminum cable bus to a perpendicular flat pad have the crimping die sizes clearly marked for ease of installation.

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

# COPPER COMPRESSION TEE FITTINGS CABLE TO CABLE



The pure copper compression tee terminals for connecting copper cable main to a copper cable tap have the crimping die sizes clearly marked for ease of installation.

## COPPER TYPE CT

CATALOG NUMBER	CABLE SIZE AWG or MCM MIN MAX	DIMENSIONS IN INCHES		DIE REF
		A	B	
101	2	5 3/4	1 1/2	.640
102	1/0	5 3/4	1 1/2	.840
103	2/0	6	2	.840
104	3/0	6	2	.840
106	4/0	6	1 1/2	1.000
107	250	6	1 1/2	1.000
109	300	6 1/2	2 1/4	1.125
111	350	7 1/2	1 3/4	1.125
113	500	7 5/8	3 3/4	1.312
115	750	9	3 3/4	1.843
117	800	11 1/8	6 3/4	1.843
119	1000	14	9 1/4	1.843
121	1500	14	9 1/4	2.375
122	2000	14	9 1/4	2.937

To establish an item number define the run and tap by the corresponding numbers above and add a suffix "R" for the run and "T" for the tap.

For example, to depict a connector consisting of a 750MCM run and a 500MCM tap the part number should be created as follows;

Find the corresponding values

115 = 750MCM

113 = 500MCM

Fill in the blanks

16-\_\_R-\_\_T

And you have a part number

**16-115R-113T**

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

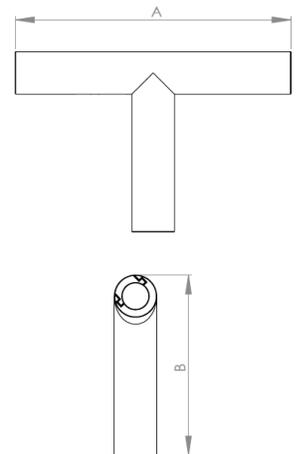
# ALUMINUM COMPRESSION TEE FITTINGS CABLE TO CABLE

SECTION

16-3A

## ALUMINUM TYPE CT

CATALOG NUMBER	AAC SIZE AWG or MCM MIN MAX		ACSR SIZE AWG or MCM MIN MAX		CONDUCTOR DIAMETER	DIMENSIONS IN INCHES		DIE REF
	A	B						
124	1/0		1/0		.355-.398	7 1/2	3 7/8	.840
125	2/0		2/0		.414-.447	7 1/2	3 7/8	.840
128	3/0		3/0		.464-.502	7 1/2	3 7/8	.840
129	4/0		4/0		.522-.563	7 1/2	3 7/8	.840
130	266.8-300		266.8(26/7)		.586-.642	10	5 1/16	1.312
134	336.4(19)-350(37)		336.4(36/1)-336.4(18/1)		.666-.684	10	5 1/16	1.312
139	397.5(19)-400(37)		336.4(26/7)-397.5(18/1)		.721-.743	10	5 1/16	1.312
144	450(37)-500(37)		397.5(24/7)-477(18/1)		.772-.814	10	5 1/16	1.312
146	550(61)-556.5(37)		477(24/7)-477(30/7)		.846-.883	10	5 1/16	1.312
148	600(37)-650(91)		556.5(24/7)-556.5(30/7)		.879-.953	12	5 1/2	1.500
152	700(61)-817(61)		605(26/7)-715.5(30/19)		.964-1.028	12	7 7/8	1.843
161	900(37)-1000(61)		795(24/7)-874.5(54/7)		1.092-1.152	12	7 7/8	1.843
164	1033.5(37)-1113(61)		900(54/7)-954(54/7)		1.162-1.216	13	9 1/8	2.125
165	1192.5(61)-1272(61)		1033.5(54/7)-1113(54/19)		1.246-1.300	14	10 5/8	2.375
167	1400(91)-1510.5(61)		1272(45/7)-1351.5(54/19)		1.345-1.424	14	10 5/8	2.375
168	1590(61)-1700(127)		1351.3(54/19)-1510.5(54/19)		1.424-1.506	14	10 5/8	2.375
169	1750(127)		1570.5(54/19)-1590(54/19)		1.506-1.545	14	10 5/8	2.375
170	2000(91)(127)		1780(84/19)		1.602-1.659	16	11	2.937
171	2250(91)(127)		2156(84/19)		1.729-1.762	16	11	2.937
172	2500(127)				1.824	16	11	2.937
173	3000(127)				1.996	16	11	2.937
174	3500(127)				2.160	16	11	2.937



To establish an item number define the run and tap by the corresponding numbers above and add a suffix "R" for the run and "T" for the tap.

For example, to depict a connector consisting of a 1590 ACSR run and a 795 ACSR tap the part number should be created as follows;

Find the corresponding values

169 = 1590 ACSR

161 = 795 ACSR

Fill in the blanks

16-\_\_\_R-\_\_\_T

And you have a part number

**16-169R-161T**

The fab electrical aluminum compression terminals for connecting an aluminum cable main to an aluminum cable tap have the crimping die sizes clearly marked for ease of installation.

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

## COMPRESSION DIE INFORMATION FOR COMPRESSION TERMINALS

Die Ref.	ALCOA	BURNDY	T&B	KEARNEY	HUSKIE
0.640	73AH	243	52	5/8	
0.840	74AH	249	76	.840 OR .849	HA60-28
1.000	75AH	251		1.00	HA60-29
1.125	76AH	490,347,316	96	1-1/8	HA60-30
1.312	20AH	327,317,426,300	106	1-5/16	HA60-20
1.500	24AH	318,261,608	125	1-1/2	HA60-21
1.625	27AH	301		K6027AH	HA60-22
1.843	30AH	292,302,352,579	150	K6030AH	HA60-23
2.125	34AH	422,575	160,161	2-1/8	HA60-24
2.375	38AH	478,728	189	2-3/8	HA100-26
2.750	44AH			2-3/4	HA100-36
2.937	48AH		250	2-15/16	HA100-38

To insure the long term service and reliability of compression connectors the use of filler compounds is essential. Additional filler should be used in any application where the connector is installed with the barrel in the upright position.

# ALUMINUM SWAGE CONNECTORS CABLE TO FLAT PAD

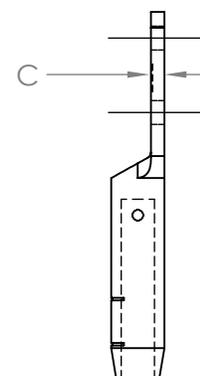
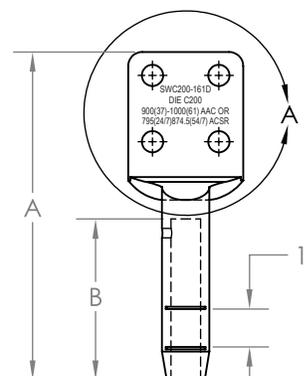
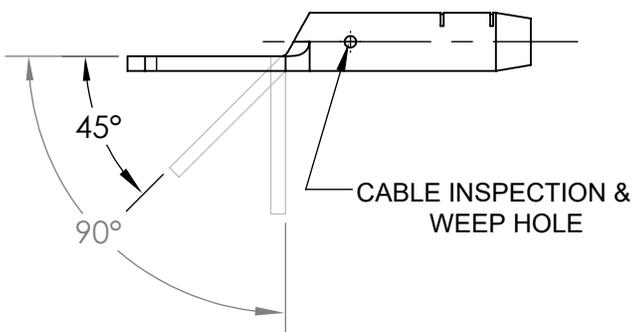
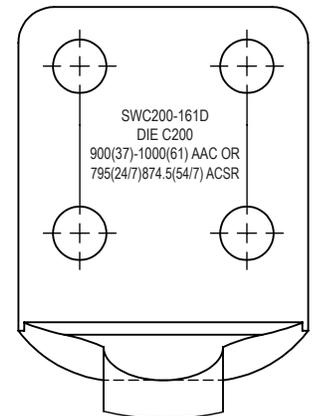
SECTION

16-SWC-1

ALUMINUM SWAGE CABLE CONNECTORS										
CATALOG NUMBER W/ PAD SIZE	AAC SIZE OR MCM	AWG MIN. MAX	ACSR SIZE OR MCM	AWG MIN. MAX	CONDUCTOR DIAMETER	FITTING OD	SWAGE DIE	DIMENSIONS IN INCHES		
								A	B	C
SWC100-124B		1/0		1/0	0.326-0.398	1	C100	6 1/2	2 3/8	5/16
SWC100-124C		1/0		1/0	0.326-0.398	1	C100	6 1/2	2 3/8	5/16
SWC100-125B		2/0		2/0	0.399-0.447	1	C100	6 1/2	2 3/8	5/16
SWC100-125C		2/0		2/0	0.399-0.447	1	C100	6 1/2	2 3/8	5/16
SWC100-128B		3/0		3/0	0.448-0.502	1	C100	6 1/2	2 3/8	5/16
SWC100-128C		3/0		3/0	0.448-0.502	1	C100	6 1/2	2 3/8	5/16
SWC100-129B		4/0		4/0	0.503-0.563	1	C100	6 1/2	2 3/8	5/16
SWC100-129C		4/0		4/0	0.503-0.563	1	C100	6 1/2	2 3/8	5/16
SWC125-130B	266.8-300		266.8(26/7)		0.564-0.642	1.25	C125	8 3/4	3 7/8	3/8
SWC125-130C	266.8-300		266.8(26/7)		0.564-0.642	1.25	C125	8 3/4	3 7/8	3/8
SWC125-134B	336.4(19)-350(37)		336.4(36/1)-336.4(18/1)		0.643-0.684	1.25	C125	8 3/4	3 7/8	3/8
SWC125-134C	336.4(19)-350(37)		336.4(36/1)-336.4(18/1)		0.643-0.684	1.25	C125	8 3/4	3 7/8	3/8
SWC125-139B	397.5(19)-400(37)		336.4(26/7)-397.5(18/1)		0.685-0.743	1.25	C125	8 3/4	3 7/8	3/8
SWC125-139C	397.5(19)-400(37)		336.4(26/7)-397.5(18/1)		0.685-0.743	1.25	C125	8 3/4	3 7/8	3/8
SWC150-144B	450(37)-500(37)		397.5(24/7)-477(18/1)		0.744-0.814	1.5	C150	8 3/4	3 7/8	7/16
SWC150-144C	450(37)-500(37)		397.5(24/7)-477(18/1)		0.744-0.814	1.5	C150	8 3/4	3 7/8	7/16
SWC150-146B	550(61)-556.5(37)		477(24/7)-477(30/7)		0.815-0.883	1.5	C150	8 3/4	3 7/8	7/16
SWC150-146C	550(61)-556.5(37)		477(24/7)-477(30/7)		0.815-0.883	1.5	C150	8 3/4	3 7/8	7/16
SWC175-148C	600(37) - 715.5(61)		556.5(24/7) - 605(26/7)		0.884-0.976	1.75	C175	9 3/8	3 7/8	5/8
SWC175-148D	600(37) - 715.5(61)		556.5(24/7) - 605(26/7)		0.884-0.976	1.75	C175	9 3/8	3 7/8	3/4
SWC188-152C	750(37) - 817(61)		605(30/7)-715.5(30/19)		0.977-1.081	1.875	C188	9 3/8	3 7/8	5/8
SWC188-152D	750(37) - 817(61)		605(30/7)-715.5(30/19)		0.977-1.081	1.875	C188	9 3/8	3 7/8	3/4
SWC200-161C	900(37)-1000(61)		795(24/7)-874.5(54/7)		1.082-1.152	2	C200	9 3/8	3 7/8	3/4
SWC200-161D	900(37)-1000(61)		795(24/7)-874.5(54/7)		1.082-1.152	2	C200	9 3/8	3 7/8	3/4
SWC200-164C	1033.5(37)-1113(61)		900(54/7)-954(54/7)		1.153-1.216	2	C200	9 3/8	3 7/8	3/4
SWC200-164D	1033.5(37)-1113(61)		900(54/7)-954(54/7)		1.153-1.216	2	C200	9 3/8	3 7/8	3/4
SWC225-165C	1192.5(61)-1272(61)		1033.5(54/7)-1113(54/19)		1.217-1.300	2.25	C225	9 3/4	3 7/8	3/4
SWC225-165D	1192.5(61)-1272(61)		1033.5(54/7)-1113(54/19)		1.217-1.300	2.25	C225	9 3/4	3 7/8	3/4
SWC225-167C	1400(91)-1510.5(61)		1272(45/7)-1351.5(54/19)		1.301-1.424	2.25	C225	9 3/4	3 7/8	3/4
SWC225-167D	1400(91)-1510.5(61)		1272(45/7)-1351.5(54/19)		1.301-1.424	2.25	C225	9 3/4	3 7/8	3/4
SWC225-168C	1590(61)-1700(127)		1351.3(54/19)-1510.5(45/7)		1.425-1.503	2.25	C225	9 3/4	3 7/8	3/4
SWC225-168D	1590(61)-1700(127)		1351.3(54/19)-1510.5(45/7)		1.425-1.503	2.25	C225	9 3/4	3 7/8	3/4
SWC225-169C	1750(127)		1510.5(54/19)-1590(54/19)		1.504-1.545	2.25	C225	9 3/4	3 7/8	3/4
SWC225-169D	1750(127)		1510.5(54/19)-1590(54/19)		1.504-1.545	2.25	C225	9 3/4	3 7/8	3/4
SWC275-170C	2000(91)(127)		1780(84/19)		1.546-1.659	2.75	C275	10 3/8	4 1/4	7/8
SWC275-170D	2000(91)(127)		1780(84/19)		1.546-1.659	2.75	C275	10 3/8	4 1/4	7/8
SWC275-171C	2250(91)(127)		2156(84/19)		1.660-1.762	2.75	C275	10 3/8	4 1/4	7/8
SWC275-171D	2250(91)(127)		2156(84/19)		1.660-1.762	2.75	C275	10 3/8	4 1/4	7/8
SWC275-172C	2500(127)				1.763-1.824	2.75	C275	10 3/8	4 1/4	7/8
SWC275-172D	2500(127)				1.763-1.824	2.75	C275	10 3/8	4 1/4	7/8

The Swage cable to flat pad connectors have the swage die sizes clearly marked for ease of installation. For pads other than parallel to the cable bus add the degree variation from parallel to the catalog number.

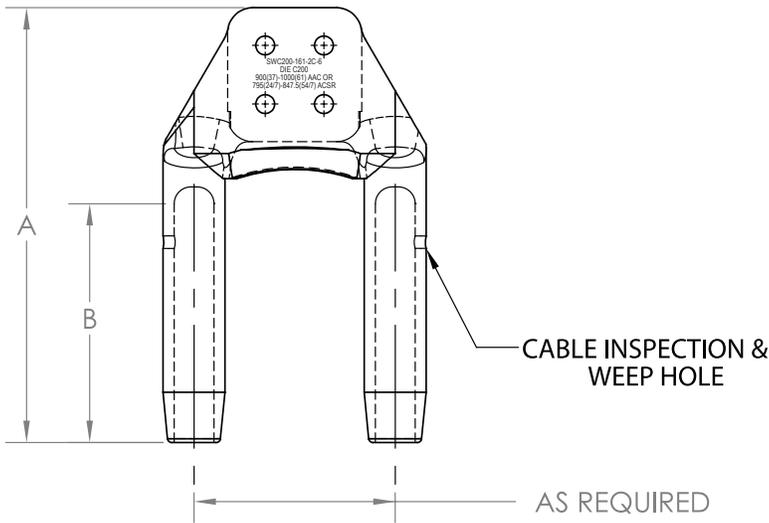
**Example:** If a 45-degree, D pad were requested for 900(37) AAC cable connectors, the corresponding catalog number would be SWC200-161D-45.



# SECTION

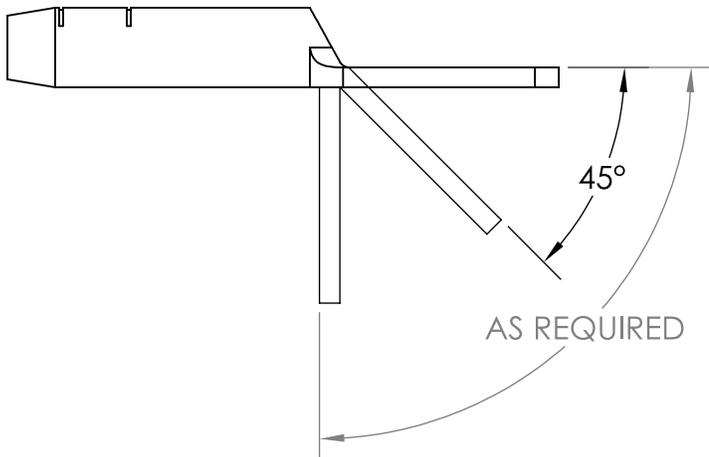
## 16-SWC-1-2B

# ALUMINUM SWAGE CONNECTORS DOUBLE CABLE TO FLAT PAD



NOTE: AT LEAST 4" OF SPACING NEEDED UP TO SWC225. SWC275 HAS A MINIMUM OF 6" SPACING.

CATALOG NUMBER	AAC	ACSR	CONDUCTOR DIAMETER	FITTING OD	SWAGE DIE	DIMENSIONS IN INCHES		PAD THICKNESS
						A	B	
SWC150-144D-2C	450(37)-500(37)	397.5(24/7)-477(18/1)	0.744-0.814	1.5	C150	9 1/4	4 1/2	1/2
SWC150-146D-2C	550(61)-556.5(37)	477(24/7)-477(30/7)	0.815-0.883	1.5	C150	9 1/4	4 1/2	1/2
SWC175-148D-2C	600(37) - 715.5(61)	556.5(24/7) - 605(26/7)	0.884-0.976	1.75	C175	9 1/4	4 1/2	3/4
SWC188-152D-2C	750(37) -817(61)	605(30/7)-715.5(30/19)	0.977-1.081	1.875	C188	10 3/4	4 1/2	3/4
SWC200-161D-2C	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	2	C200	10 3/4	4 1/2	3/4
SWC200-164D-2C	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	2	C200	11 1/4	4 1/2	3/4
SWC225-165D-2C	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	2.25	C225	11 1/4	4 1/2	3/4
SWC225-167D-2C	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	2.25	C225	11 1/4	4 1/2	3/4
SWC225-168D-2C	1590(61)-1700(127)	1351.3(54/19)-1510.5(45/7)	1.425-1.503	2.25	C225	11 1/4	4 1/2	3/4
SWC225-169D-2C	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	2.25	C225	11 1/4	4 1/2	3/4
SWC275-170D-2C	2000(91)(127)	1780(84/19)	1.546-1.659	2.75	C275	12 3/4	4 1/2	7/8
SWC275-171D-2C	2250(91)(127)	2156(84/19)	1.660-1.762	2.75	C275	12 3/4	4 1/2	7/8
SWC275-172D-2C	2500(127)		1.763-1.824	2.75	C275	12 3/4	4 1/2	7/8



For connectors requiring different cable spacing add the dimension suffix in inches stating what center to center of the barrels is required.

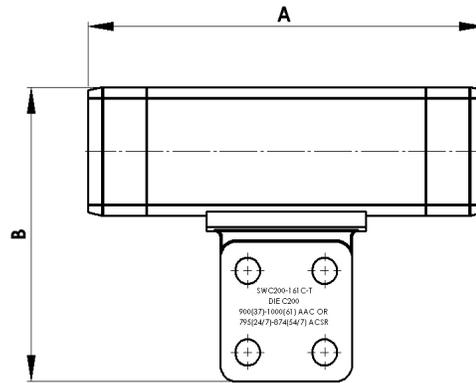
For pads other than parallel to the cable bus add the degree variation from parallel to the catalog number. Also, please list cable spacing in every part number, as shown in the example.

**Example:** If a double cable Swage terminal were requested for a 1033.5(37) AAC cables, with a 6 inch spacing, and a 45-degree pad. The corresponding catalog number would be SWC200-164D-2C-6-45.

# ALUMINUM SWAGE CONNECTORS CABLE TO FLAT PAD

## SECTION 16-SWC-2

The Swage Split Tees for connecting cable bus to a perpendicular flat pad have the crimping die sizes clearly marked for ease of installation.



CATALOG NUMBER	AAC OR MCM	AWG MIN. MAX	ACSR OR MCM	AWG MIN. MAX	CONDUCTOR DIAMETER	FITTING OD	SWAGE DIE	DIMENSIONS IN INCHES		PAD THICKNESS
								A	B	
SWC100-124B-T		1/0		1/0	0.326-0.399	1	C100	9	4 1/2	5/16
SWC100-125B-T		2/0		2/0	0.399-0.447	1	C100	9	4 1/2	5/16
SWC100-128B-T		3/0		3/0	0.448-0.502	1	C100	9	4 1/2	5/16
SWC100-129B-T		4/0		4/0	0.503-0.563	1	C100	9	4 1/2	5/16
SWC125-130B-T		266.8-300		266.8(26/7)	0.564-0.642	1.25	C125	9	4 3/4	3/8
SWC125-130C-T		266.8-300		266.8(26/7)	0.564-0.642	1.25	C125	9	4 3/4	3/8
SWC125-134B-T		336.4(19)-350(37)		336.4(36/1)-336.4(18/1)	0.643-0.684	1.25	C125	9	4 3/4	3/8
SWC125-134C-T		336.4(19)-350(37)		336.4(36/1)-336.4(18/1)	0.643-0.684	1.25	C125	9	4 3/4	3/8
SWC125-139B-T		397.5(19)-400(37)		336.4(26/7)-397.5(18/1)	0.685-0.743	1.25	C125	9	4 3/4	3/8
SWC125-139C-T		397.5(19)-400(37)		336.4(26/7)-397.5(18/1)	0.685-0.743	1.25	C125	9	4 3/4	3/8
SWC150-144B-T		450(37)-500(37)		397.5(24/7)-477(18/1)	0.744-0.814	1.5	C150	9	5	7/16
SWC150-144C-T		450(37)-500(37)		397.5(24/7)-477(18/1)	0.744-0.814	1.5	C150	9	5	7/16
SWC150-146B-T		550(61)-556.5(37)		477(24/7)-477(30/7)	0.815-0.883	1.5	C150	9	5	7/16
SWC150-146C-T		550(61)-556.5(37)		477(24/7)-477(30/7)	0.815-0.883	1.5	C150	9	5	7/16
SWC175-148B-T		600(37) - 715.5(61)		556.5(24/7) - 605(26/7)	0.884-0.976	1.75	C175	9	5 1/4	5/8
SWC175-148C-T		600(37) - 715.5(61)		556.5(24/7) - 605(26/7)	0.884-0.976	1.75	C175	9	5 1/4	5/8
SWC188-152B-T		750(37) - 817(61)		605(30/7)-715.5(30/19)	0.977-1.081	1.875	C188	9	5 3/8	5/8
SWC188-152C-T		750(37) - 817(61)		605(30/7)-715.5(30/19)	0.977-1.081	1.875	C188	9	5 3/8	5/8
SWC188-152D-T		750(37) - 817(61)		605(30/7)-715.5(30/19)	0.977-1.081	1.875	C188	9	6 3/8	3/4
SWC200-161B-T		900(37)-1000(61)		795(24/7)-874.5(54/7)	1.082-1.152	2	C200	9	5 1/2	3/4
SWC200-161C-T		900(37)-1000(61)		795(24/7)-874.5(54/7)	1.082-1.152	2	C200	9	5 1/2	3/4
SWC200-161D-T		900(37)-1000(61)		795(24/7)-874.5(54/7)	1.082-1.152	2	C200	9	6 1/2	3/4
SWC200-164B-T		1033.5(37)-1113(61)		900(54/7)-954(54/7)	1.153-1.216	2	C200	9	5 1/2	3/4
SWC200-164C-T		1033.5(37)-1113(61)		900(54/7)-954(54/7)	1.153-1.216	2	C200	9	5 1/2	3/4
SWC200-164D-T		1033.5(37)-1113(61)		900(54/7)-954(54/7)	1.153-1.216	2	C200	9	6 1/2	3/4
SWC225-165C-T		1192.5(61)-1272(61)		1033.5(54/7)-1113(54/19)	1.217-1.300	2.25	C225	9	5 3/4	3/4
SWC225-165D-T		1192.5(61)-1272(61)		1033.5(54/7)-1113(54/19)	1.217-1.300	2.25	C225	9	6 3/4	3/4
SWC225-167C-T		1400(91)-1510.5(61)		1272(45/7)-1351.5(54/19)	1.301-1.424	2.25	C225	9	5 3/4	3/4
SWC225-167D-T		1400(91)-1510.5(61)		1272(45/7)-1351.5(54/19)	1.301-1.424	2.25	C225	9	6 3/4	3/4
SWC225-168C-T		1590(61)-1700(127)		1351.3(54/19)-1510.5(45/7)	1.425-1.503	2.25	C225	9	5 3/4	3/4
SWC225-168D-T		1590(61)-1700(127)		1351.3(54/19)-1510.5(45/7)	1.425-1.503	2.25	C225	9	6 3/4	3/4
SWC225-169C-T		1750(127)		1510.5(54/19)-1590(54/19)	1.504-1.545	2.25	C225	9	5 3/4	3/4
SWC225-169D-T		1750(127)		1510.5(54/19)-1590(54/19)	1.504-1.545	2.25	C225	9	6 3/4	3/4
SWC275-170D-T		2000(91)(127)		1780(84/19)	1.546-1.659	2.75	C275	9	7 1/4	7/8
SWC275-171D-T		2250(91)(127)		2156(84/19)	1.660-1.762	2.75	C275	9	7 1/4	7/8
SWC275-172D-T		2500(127)			1.763-1.824	2.75	C275	9	7 1/4	7/8

SECTION

16-SWC-3

ALUMINUM SWAGE CONNECTORS  
CABLE TO CABLE, TEE

CONDUCTOR IDENTIFIER NUMBER	AAC SIZE AWG or MCM MIN. MAX	ACSR SIZE AWG or MCM MIN. MAX	CONDUCTOR DIAMETER	FITTING OD	DIMENSIONS IN INCHES		SWAGE DIE
					A	B	
SWC100-124	1/0	1/0	0.326-0.398	1	9	5	C100
SWC100-125	2/0	2/0	0.399-0.447	1	9	5	C100
SWC100-128	3/0	3/0	0.448-0.502	1	9	5	C100
SWC100-129	4/0	4/0	0.503-0.563	1	9	5	C100
SWC125-130	266.8-300	266.8(26/7)	0.564-0.642	1.25	9	5 1/4	C125
SWC125-134	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	0.643-0.684	1.25	9	5 1/4	C125
SWC125-139	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	0.685-0.743	1.25	9	5 1/4	C125
SWC150-144	450(37)-500(37)	397.5(24/7)-477(18/1)	0.744-0.814	1.5	9	5 1/2	C150
SWC150-146	550(61)-556.5(37)	477(24/7)-477(30/7)	0.815-0.883	1.5	9	5 1/2	C150
SWC175-148	600(37) - 715.5(61)	556.5(24/7) - 605(26/7)	0.884-0.976	1.75	9	5 3/4	C175
SWC188-152	750(37) - 817(61)	605(30/7)-715.5(30/19)	0.977-1.081	1.875	9	5 7/8	C188
SWC200-161	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	2	9	6	C200
SWC200-164	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	2	9	6	C200
SWC225-165	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	2.25	9	6 1/4	C225
SWC225-167	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	2.25	9	6 1/4	C225
SWC225-168	1590(61)-1700(127)	1351.3(54/19)-1510.5(45/7)	1.425-1.503	2.25	9	6 1/4	C225
SWC225-169	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	2.25	9	6 1/4	C225
SWC275-170	2000(91)(127)	1780(84/19)	1.546-1.659	2.75	9	6 3/4	C275
SWC275-171	2250(91)(127)	2156(84/19)	1.660-1.762	2.75	9	6 3/4	C275
SWC275-172	2500(127)		1.763-1.824	2.75	9	6 3/4	C275

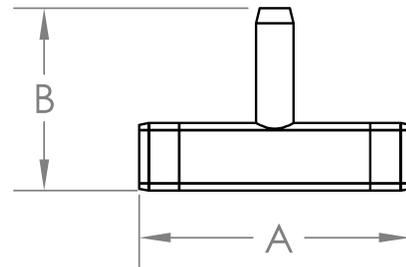
FILL IN THE BLANKS: SWC \_\_\_ - \_\_\_ R - SWC \_\_\_ - \_\_\_ T

**STEP1:** Use appropriate “run” conductor identifier number, follow ID number with an “R”.

**STEP2:** Find the tap conductor size, place the “tap” ID number after the “run” ID followed by a “T” on the end.

**Example:** The corresponding catalog number for a 1590 ACSR run to a 795 ACSR Tap would be SWC225-169R-SWC200-161T

The corresponding die number for the run would be C225 and the corresponding die number for the tap would be C200.

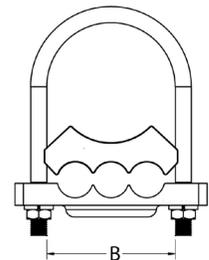
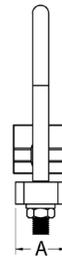


# BRONZE GROUND CLAMPS CABLE TO ROD OR PIPE

SECTION

17-1

CATALOG NUMBER	ROD DIAM. IN INCHES	PIPE SIZE IPS	CABLE SIZE		DIMENSIONS IN INCHES			NUMBER OF CABLES
			AWG MIN	MCM MAX	A	B	Hardware	
17-106	1/2 - 3/4	1/4-3/8	4	2/0	1 1/8	7/8	3/8	2
17-107	1/2 - 3/4	1/4-3/8	2/0	250	1 1/8	7/8	3/8	1
17-109	7/8	1/2	8	4	1 1/4	1	3/8	3
17-110	7/8	1/2	4	2/0	1 1/4	1	3/8	2
17-111	7/8	1/2	2/0	250	1 1/4	1	3/8	1
17-113	1	3/4	8	4	1 1/8	1 1/8	3/8	3
17-114	1	3/4	4	2/0	1 1/8	1 1/8	3/8	3
17-115	1	3/4	2/0	250	1 1/8	1 1/8	3/8	1
17-116	1	3/4	250	500	1 1/8	1 1/8	3/8	1
17-117	1 1/4	1	8	4	1 1/8	1 1/4	3/8	3
17-118	1 1/4	1	4	2/0	1 1/8	1 1/4	3/8	3
17-119	1 1/4	1	2/0	250	1 1/8	1 1/4	3/8	1
17-120	1 1/4	1	250	500	1 1/8	1 1/4	3/8	1
17-121	1 1/2	1 1/4	8	4	1 1/8	1 3/4	3/8	3
17-122	1 1/2	1 1/4	4	2/0	1 1/8	1 3/4	3/8	3
17-123	1 1/2	1 1/4	2/0	250	1 1/4	1 3/4	3/8	3
17-124	1 1/2	1 1/4	250	500	1 1/8	1 3/4	3/8	2
17-125	2	1 1/2	8	4	1 1/8	2	3/8	3
17-126	2	1 1/2	4	2/0	1 1/8	2	3/8	3
17-127	2	1 1/2	2/0	250	1 1/8	2	3/8	3
17-128	2	1 1/2	250	500	1 1/8	2	3/8	2
17-129	2 1/2	2	8	4	7/8	2 1/2	3/8	3
17-130	2 1/2	2	4	2/0	1	2 1/2	3/8	3
17-131	2 1/2	2	2/0	250	1 1/4	2 1/2	3/8	3
17-132	2 1/2	2	250	500	1 1/4	2 1/2	3/8	3
17-133	2 1/2	2	500	750	1 1/4	2 1/2	3/8	2
17-134	3	2 1/2	8	4	1 1/8	3	3/8	3
17-135	3	2 1/2	4	2/0	1 1/8	3	3/8	3
17-136	3	2 1/2	2/0	250	1 1/8	3	3/8	3
17-137	3	2 1/2	250	500	1 1/4	3	3/8	3
17-138	3	2 1/2	500	750	1 1/4	3	3/8	3
17-139	3	2 1/2	750	1000	1 1/4	3	3/8	3



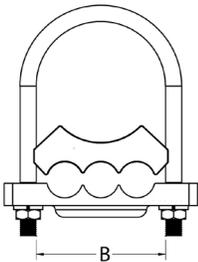
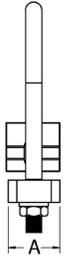
The type GRC is a corrosion-resistant bronze ground clamp for connecting one, two, or three equal cables clamped parallel to the rod or pipe. U-bolts, nuts, and lockwashers are stainless steel for durability in the field.

Continued on next page

# BRONZE GROUND CLAMPS CABLE TO ROD OR PIPE, continued

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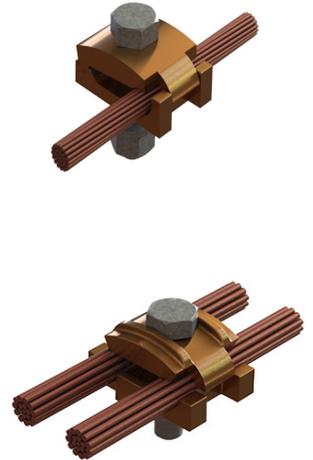
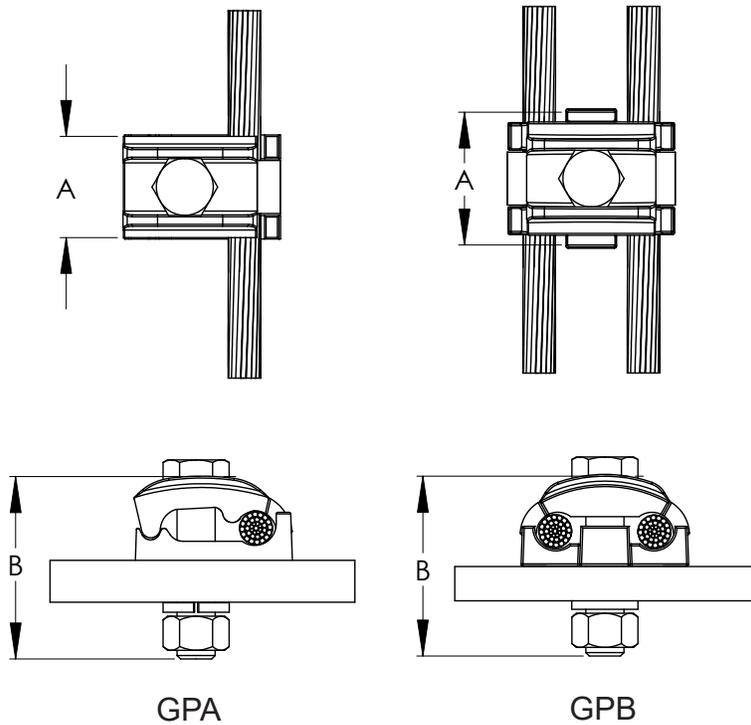
CATALOG NUMBER	ROD DIAM. IN INCHES	PIPE SIZE IPS	CABLE SIZE		DIMENSIONS IN INCHES			NUMBER OF CABLES
			AWG MIN	MCM MAX	A	B	Hardware	
17-140	3 1/2	3	8	4	7/8	3 1/2	3/8	3
17-141	3 1/2	3	4	2/0	7/8	3 1/2	3/8	3
17-142	3 1/2	3	2/0	250	1 1/8	3 1/2	3/8	3
17-143	3 1/2	3	250	500	1 1/4	3 1/2	3/8	3
17-144	3 1/2	3	500	750	1 1/4	3 1/2	3/8	3
17-145	3 1/2	3	750	1000	1 1/4	3 1/2	3/8	3
17-146	4	3 1/2	8	4	1 1/8	4	3/8	3
17-147	4	3 1/2	4	2/0	1 1/8	4	3/8	3
17-148	4	3 1/2	2/0	250	1 1/8	4	3/8	3
17-149	4	3 1/2	250	500	1 1/4	4	3/8	3
17-150	4	3 1/2	500	750	1 1/4	4	3/8	3
17-151	4	3 1/2	750	1000	1 1/4	4	3/8	3
17-152	4 1/2	4	8	4	1 1/8	4 1/2	3/8	3
17-153	4 1/2	4	4	2/0	1 1/8	4 1/2	3/8	3
17-154	4 1/2	4	2/0	250	1 1/8	4 1/2	3/8	3
17-155	4 1/2	4	250	500	1 1/4	4 1/2	3/8	3
17-156	4 1/2	4	500	750	1 1/4	4 1/2	3/8	3
17-157	4 1/2	4	750	1000	1 1/4	4 1/2	3/8	3
17-152M	5 1/2	5	8	4	7/8	5 7/8	3/8	3
17-153M	5 1/2	5	4	2/0	7/8	5 7/8	3/8	3
17-154M	5 1/2	5	2/0	250	1 7/8	5 7/8	3/8	3
17-155M	5 1/2	5	250	500	1 1/4	5 7/8	3/8	3
17-156M	5 1/2	5	500	750	1 1/4	5 7/8	3/8	3
17-157M	5 1/2	5	750	1000	1 1/4	5 7/8	3/8	3
17-152N	6 1/2	6	8	4	7/8	6 3/4	3/8	3
17-153N	6 1/2	6	4	2/0	7/8	6 3/4	3/8	3
17-154N	6 1/2	6	2/0	250	1 1/8	6 3/4	3/8	3
17-155N	6 1/2	6	250	500	1 1/4	6 3/4	3/8	3
17-156N	6 1/2	6	500	750	1 1/4	6 3/4	3/8	3
17-157N	6 1/2	6	750	1000	1 1/4	6 3/4	3/8	3



# BRONZE GROUND CLAMPS CABLE TO FLAT SURFACE

SECTION

17-2



## ONE CABLE TO FLAT SURFACE

GPA	CABLE SIZE		DIMENSIONS IN SURFACE		
CATALOG NUMBER	AWG MIN	MCM MAX	A	B	HARDWARE
17-158	8	4	1 3/8	2 1/4	3/8
17-159	4	300	1 3/8	2 1/4	1/2
17-160	250	500	1 1/2	2 1/4	1/2
17-161	500	750	1 1/2	2 1/4	1/2
17-162	750	1000	1 1/2	2 1/4	1/2
GPB	TWO CABLES TO FLAT SURFACE				
17-163	8	4	1 5/8	2 1/4	3/8
17-164	4	300	1 5/8	2 1/4	1/2
17-165	250	500	2 3/4	2 1/4	1/2
17-166	500	750	2	2 1/4	1/2
17-167	750	1000	2 3/4	2 1/4	1/2

\*Maximum flat bar thickness = 1/2"

Made of corrosion-resistant bronze, the GP series of tower ground clamps is designed for connecting one or two cables to a flat surface.

Each clamp includes bolts, nuts, and lockwashers of hot dip galvanized steel.

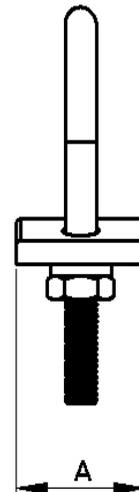
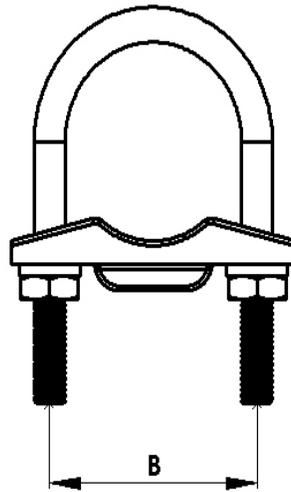
For silicon bronze hardware simply add suffix (SB) to the part number (17-159-SB). Ground clamps come standard with locks for easy single wrench installation.

For ground clamps with no locks add suffix (NL) to the part number (17-159-NL).

For plate thicknesses over 1/2" add the plate thickness after the part number.

EX: 17-164(1"plate)

# BRONZE GROUND CLAMPS BRAID TO ROD OR PIPE



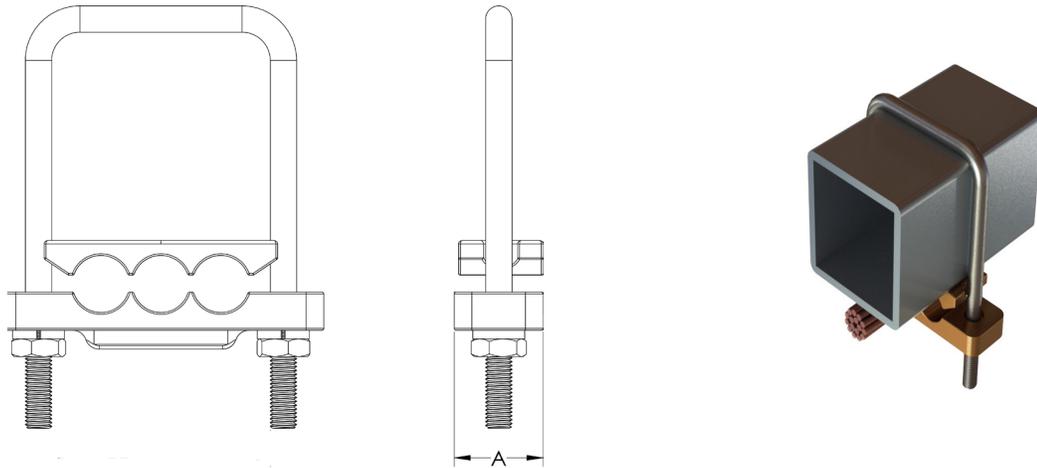
CATALOG NUMBER	ROD DIA. IN INCHES	PIPE SIZE IPS	DIMENSIONS IN INCHES		
			A	B	Hardware
17-174	7/8 or 1	1/2	7/8	1	3/8
17-175	7/8 or 1	3/4	7/8	1 1/8	3/8
17-176	1 1/4	1	1 1/8	1 1/4	3/8
17-177	1 1/2	1 1/4	1 1/2	1 3/4	3/8
17-178	2	1 1/2	1 5/8	2	3/8
17-179	2 1/2	2	1 1/2	2 1/2	3/8
17-180	3	2 1/2	2	3	3/8
17-181	3 1/2	3	2	3 1/2	3/8
17-182	4	3 1/2	1 1/2	4	3/8
17-183	4 1/2	4	1 1/2	4 1/2	3/8
17-183M	5 1/2	5	1 1/2	5 7/8	3/8
17-183N	6 1/2	6	1 1/2	6 3/4	3/8

A corrosion-resistant bronze ground clamp for connecting a braid to a rod or pipe, the type GCB also includes U-bolts, nuts, and lockwashers made of stainless steel to enhance its durability in the field.

# BRONZE GROUND CLAMPS CABLE TO SQUARE POST

SECTION

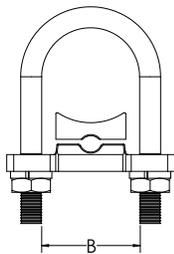
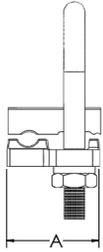
17-4



CATALOG NUMBER	POST SIZE	CABLE SIZE		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	A	Hardware
17-184	2 1/4 x 2 1/4	8	4	1 1/8	3/8
17-185	2 1/4 x 2 1/4	4	2/0	1 1/8	3/8
17-186	2 1/4 x 2 1/4	2/0	250	1 1/8	3/8
17-187	2 1/4 x 2 1/4	250	500	1 1/2	3/8
17-188	2 1/4 x 2 1/4	500	750	1 1/2	3/8
17-189	2 1/4 x 2 1/4	750	1000	1 1/2	3/8
17-190	2 1/2 x 2 1/2	8	4	1 1/8	3/8
17-191	2 1/2 x 2 1/2	4	2/0	1 1/8	3/8
17-192	2 1/2 x 2 1/2	2/0	250	1 1/8	3/8
17-193	2 1/2 x 2 1/2	250	500	1 1/2	3/8
17-194	2 1/2 x 2 1/2	500	750	1 1/2	3/8
17-195	2 1/2 x 2 1/2	750	1000	1 1/2	3/8

A dependable, corrosion-resistant bronze ground clamp, the type GCS connects one, two, or three equal cables clamped parallel to a square post. Stainless steel U-bolts, nuts, and lockwashers enhance its durability in the field.

# BRONZE GROUND CLAMPS CABLE TO ROD OR PIPE, PARALLEL OR PERPENDICULAR



The type GCX is a cast electrical bronze grounding clamp whose purpose is to connect one cable, either parallel or perpendicular, to a ground rod or pipe.

For resistance to corrosion, all clamping hardware is stainless steel.

CATALOG NUMBER	ROD DIAM. IN INCHES	PIPE SIZE IPS	CABLE SIZE		DIMENSIONS IN INCHES		
			AWG MIN	MCM MAX	A	B	Hardware
17-200	1/2 - 3/4	1/4-3/8	8	4	1 3/8	7/8	3/8
17-201	1/2 - 3/4	1/4-3/8	4	2/0	1 3/8	7/8	3/8
17-202	1/2 - 3/4	1/4-3/8	2/0	250	1 1/2	7/8	3/8
17-203	1/2 - 3/4	1/4-3/8	250	500	1 1/2	7/8	3/8
17-204	7/8	1/2	8	4	1 1/2	1	3/8
17-205	7/8	1/2	4	2/0	1 1/2	1	3/8
17-206	7/8	1/2	2/0	250	1 1/2	1	3/8
17-208	1	3/4	8	4	1 1/2	1 1/8	3/8
17-209	1	3/4	4	2/0	1 1/2	1 1/8	3/8
17-210	1	3/4	2/0	250	1 7/8	1 1/8	3/8
17-212	1 1/4	1	8	4	1 1/2	1 1/4	3/8
17-213	1 1/4	1	4	2/0	1 1/2	1 1/4	3/8
17-214	1 1/4	1	2/0	250	1 1/2	1 1/4	3/8
17-216	1 1/2	1 1/4	8	4	1 3/8	1 3/4	3/8
17-217	1 1/2	1 1/4	4	2/0	1 3/4	1 3/4	3/8
17-218	1 1/2	1 1/4	2/0	250	1 3/4	1 3/4	3/8
17-221	2	1 1/2	8	4	1 3/8	2	3/8
17-222	2	1 1/2	4	2/0	1 3/4	2	3/8
17-223	2	1 1/2	2/0	250	1 3/4	2	3/8
17-224	2	1 1/2	250	500	1 3/4	2	3/8
17-226	2 1/2	2	8	4	1 3/4	2 1/2	3/8
17-227	2 1/2	2	4	2/0	1 3/4	2 1/2	3/8
17-228	2 1/2	2	2/0	250	1 3/4	2 1/2	3/8
17-229	2 1/2	2	250	500	3 1/2	2 1/2	3/8
17-230	2 1/2	2	500	750	2 3/4	2 1/2	3/8
17-231	3	2 1/2	8	4	1 3/4	3	3/8

Continued on next page

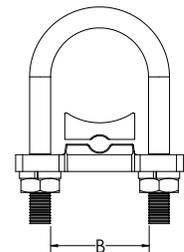
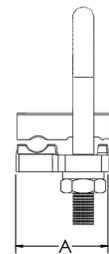
# BRONZE GROUND CLAMPS CABLE TO ROD OR PIPE PARALLEL OR PERPENDICULAR, continued

SECTION

17-5

Continued from previous page

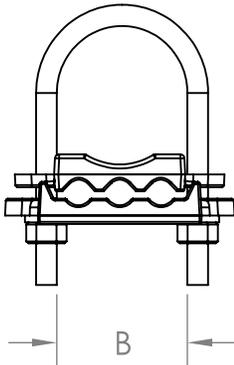
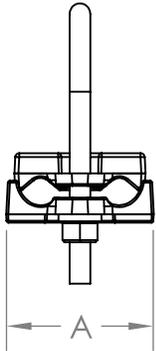
CATALOG NUMBER	ROD DIAM. IN INCHES	PIPE SIZE IPS	CABLE SIZE		DIMENSIONS IN INCHES		
			AWG MIN	MCM MAX	A	B	Hardware
17-232	3	2 1/2	4	2/0	1 1/2	3	3/8
17-233	3	2 1/2	2/0	250	1 3/4	3	3/8
17-234	3	2 1/2	250	500	3 1/2	3	3/8
17-235	3	2 1/2	500	750	1 3/4	3	3/8
17-236	3	2 1/2	750	1000	1 3/4	3	3/8
17-237	3 1/2	3	8	4	1 3/4	3 1/2	3/8
17-238	3 1/2	3	4	2/0	1 3/4	3 1/2	3/8
17-239	3 1/2	3	2/0	250	1 7/8	3 1/2	3/8
17-240	3 1/2	3	250	500	1 3/4	3 1/2	3/8
17-241	3 1/2	3	500	750	1 3/4	3 1/2	3/8
17-242	3 1/2	3	750	1000	1 3/4	3 1/2	3/8
17-243	4	3 1/2	8	4	1 3/4	4	3/8
17-244	4	3 1/2	4	2/0	1 7/8	4	3/8
17-245	4	3 1/2	2/0	250	1 7/8	4	3/8
17-246	4	3 1/2	250	500	1 7/8	4	3/8
17-247	4	3 1/2	500	750	1 7/8	4	3/8
17-248	4	3 1/2	750	1000	1 7/8	4	3/8
17-249	4 1/2	4	8	4	1 3/4	4 1/2	3/8
17-250	4 1/2	4	4	2/0	1 5/8	4 1/2	3/8
17-251	4 1/2	4	2/0	250	1 7/8	4 1/2	3/8
17-252	4 1/2	4	250	500	1 7/8	4 1/2	3/8
17-253	4 1/2	4	500	750	1 7/8	4 1/2	3/8
17-254	4 1/2	4	750	1000	1 7/8	4 1/2	3/8
17-255	5 1/2	5	8	4	1 3/4	5 7/8	3/8
17-256	5 1/2	5	4	2/0	1 3/4	5 7/8	3/8
17-257	5 1/2	5	2/0	250	1 7/8	5 7/8	3/8
17-258	5 1/2	5	250	500	1 7/8	5 7/8	3/8
17-259	5 1/2	5	500	750	1 7/8	5 7/8	3/8
17-260	5 1/2	5	750	1000	1 7/8	5 7/8	3/8
17-261	6 1/2	6	8	4	1 3/4	6 3/4	3/8
17-262	6 1/2	6	4	2/0	1 3/4	6 3/4	3/8
17-263	6 1/2	6	2/0	250	1 7/8	6 3/4	3/8
17-264	6 1/2	6	250	500	1 7/8	6 3/4	3/8
17-265	6 1/2	6	500	750	1 7/8	6 3/4	3/8
17-266	6 1/2	6	750	1000	1 7/8	6 3/4	3/8



SECTION

17-5.5

BRONZE GROUND CLAMPS MULTIPLE CABLE TO ROD OR PIPE PARALLEL OR PERPENDICULAR



CATALOG NUMBER	ROD DIAM. IN INCHES	PIPE SIZE IPS	CABLE SIZE		DIMENSIONS IN INCHES		
			AWG MIN	MCM MAX	A	B	Hardware
17-267*	1/2 - 3/4	1/4-3/8	4	2/0	1 3/4	7/8	3/8
17-268*	1/2 - 3/4	1/4-3/8	2/0	250	1 3/4	7/8	3/8
17-269**	1 1/4	1	4	2/0	2 1/4	1 1/4	3/8
17-270**	1 1/4	1	2/0	250	2 1/4	1 1/4	3/8
17-271**	1 1/2	1 1/4	4	2/0	2 1/4	1 3/4	3/8
17-272**	1 1/2	1 1/4	2/0	250	2 1/4	1 3/4	3/8
17-273	2	1 1/2	4	2/0	2 1/2	2	3/8
17-274	2	1 1/2	2/0	250	2 1/2	2	3/8
17-275	2 1/2	2	4	2/0	2 3/4	2 1/2	3/8
17-276	2 1/2	2	2/0	250	2 3/4	2 1/2	3/8
17-277	3	2 1/2	4	2/0	3 1/4	3	3/8
17-278	3	2 1/2	2/0	250	3 1/4	3	3/8
17-279	3 1/2	3	4	2/0	3 1/2	3 1/2	3/8
17-280	3 1/2	3	2/0	250	3 1/2	3 1/2	3/8
17-281	4	3 1/2	4	2/0	3 1/2	4	3/8
17-282	4	3 1/2	2/0	250	3 1/2	4	3/8

\* One cable in the parallel position or two cables in the perpendicular position.

\*\* Two cables in the parallel position or two cables in the perpendicular position.

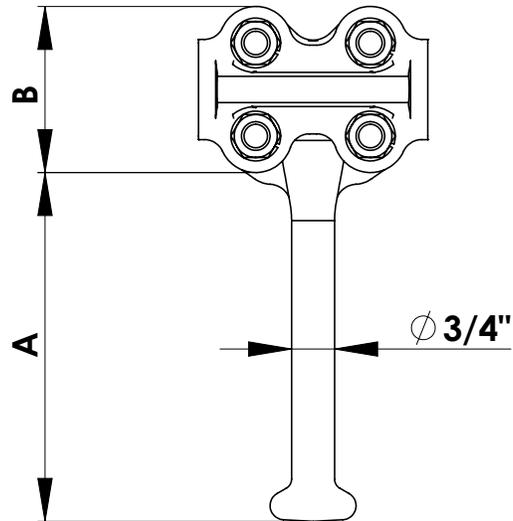
The cast bronze grounding clamp serves as a multi-purpose tool, for up to three copper cables parallel or two perpendicular to IPS or OD post. Clamps are supplied with stainless steel U-bolts and silicon bronze lock washers and nuts.



# BRONZE GROUNDING CABLE RUN TO GROUNDING ROD

SECTION

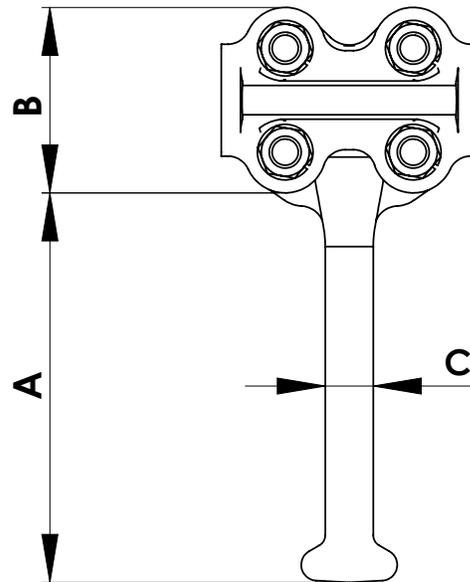
17-6



CATALOG NUMBER	CABLE SIZE		DIMENSIONS IN INCHES		
	AWG MIN	MCM MAX	A	B	HARDWARE
17-1201	8	600	6	2 1/4	3/8
17-1202	4/0	1000	6	3	1/2
17-1203	1000	1500	6	3 1/4	1/2
17-1204	1500	2000	6	3 1/3	1/2

Manufactured of a copper alloy for high conductivity and natural resistance to stress, the type BCGS conveniently joins a grounding stud to a copper cable. Bolt heads are captivated to facilitate single-wrench installation

# ALUMINUM GROUNDING CABLE RUN TO GROUNDING STUD



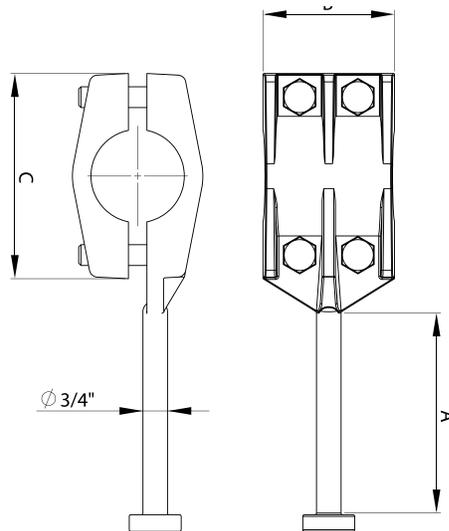
FAULT RATING: 5H = 47kA @ 15 CYCLES X/R=30								
CATALOG NUMBER	ALUMINUM MAIN		ACSR MAIN		DIMENSIONS IN INCHES			
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	C	K
17-1301	4	954	4	795	5	3 3/8	3/4	1/2
17-1302	900	1272	715.5	1113	6	3 1/2	3/4	1/2
17-1303	1272	1590	1113	1272	6	4 5/8	3/4	5/8
17-1304	1590	2000	1272	1590	6	4 3/8	3/4	5/8
FAULT RATING: 6H = 55kA @ 15 CYCLES X/R=30								
17-1305	4	954	4	795	6 1/2	3 3/8	1 1/4	1/2
17-1306	900	1272	715.5	1113	6 1/2	3 1/2	1 1/4	1/2
17-1307	1272	1590	1113	1272	6 1/2	4 5/8	1 1/4	5/8
17-1308	1590	2000	1272	1590	6 1/2	4 3/8	1 1/4	5/8

Manufactured of a strong, lightweight aluminum alloy, the type ACGS conveniently joins a grounding stud to an aluminum cable. For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are high tensile aluminum. Bolt heads are captivated to facilitate single-wrench installation

# BRONZE BOLTED GROUNDING CONNECTOR, PIPE TO STUD

SECTION

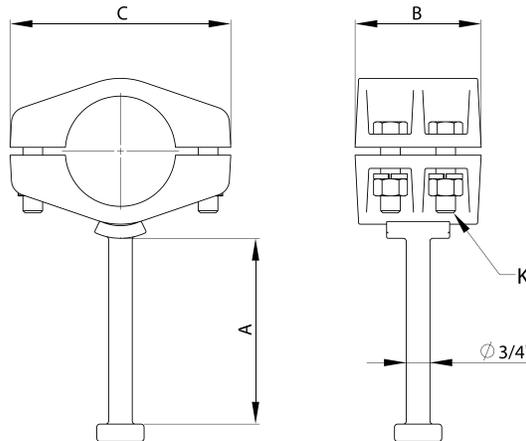
17-7



CATALOG NUMBER	PIPE MAIN IPS	ROD DIAMETER	DIMENSIONS IN INCHES			
			A	B	C	K
17-1401	1/2	3/4	6	2 7/8	3 3/8	3/8
17-1402	3/4	3/4	6	2 7/8	3 3/8	1/2
17-1403	1	3/4	6	3 1/8	3 7/8	1/2
17-1404	1 1/4	3/4	6	3 1/8	4 3/8	1/2
17-1405	1 1/2	3/4	6	3 1/8	4 3/8	1/2
17-1406	2	3/4	6	3 1/8	5 1/8	1/2
17-1407	2 1/2	3/4	6	4	6 1/8	1/2
17-1408	3	3/4	6	4	7	5/8
17-1409	3 1/2	3/4	6	3 3/4	7 1/2	5/8
17-1410	4	3/4	6	4 5/8	8 1/2	5/8
17-1411	4 1/2	3/4	6	4 3/4	9	5/8
17-1412	5	3/4	6	5	9 1/2	5/8
17-1413	6	3/4	6	6	11	5/8

Manufactured of a copper alloy for high conductivity and natural resistance to stress, the type BPGS conveniently joins a grounding stud to a copper pipe. For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are silicon bronze. Bolt heads are captivated to facilitate single-wrench installation

# ALUMINUM BOLTED GROUNDING CONNECTOR, PIPE TO STUD



CATALOG NUMBER	PIPE MAIN IPS	ROD DIAMETER	DIMENSIONS IN INCHES			
			A	B	C	K
17-1501	1/2	3/4	6	2 7/8	3 3/8	3/8
17-1502	3/4	3/4	6	2 7/8	3 3/8	1/2
17-1503	1	3/4	6	3 1/8	3 7/8	1/2
17-1504	1 1/4	3/4	6	3 1/8	4 3/8	1/2
17-1505	1 1/2	3/4	6	3 1/8	4 3/8	1/2
17-1506	2	3/4	6	3 1/8	5 1/8	1/2
17-1507	2 1/2	3/4	6	4	6 1/8	1/2
17-1508	3	3/4	6	4	7	5/8
17-1509	3 1/2	3/4	6	3 3/4	7 1/2	5/8
17-1510	4	3/4	6	4 1/2	8 1/2	5/8
17-1511	4 1/2	3/4	6	4 3/4	9	5/8
17-1512	5	3/4	6	5	9 5/8	5/8
17-1513	6	3/4	6	5 7/8	11	5/8

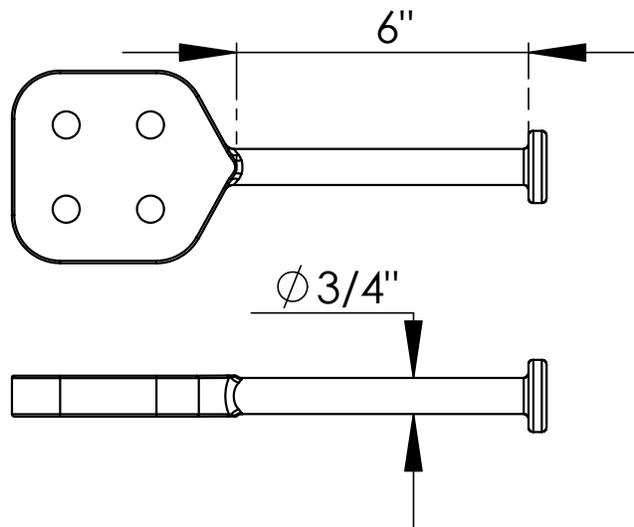
Manufactured of a strong, lightweight aluminum alloy, the type APGS conveniently joins a grounding stud to an aluminum pipe. For clamping strength and resistance to corrosion, bolts, nuts, and lockwashers are high tensile aluminum. Bolt heads are captivated to facilitate single-wrench installation

# ALUMINUM GROUNDING TERMINAL, FLAT PAD TO STUD

SECTION

17-8

Manufactured of a strong, lightweight aluminum alloy, the type APGS conveniently joins a grounding stud to an aluminum pad.

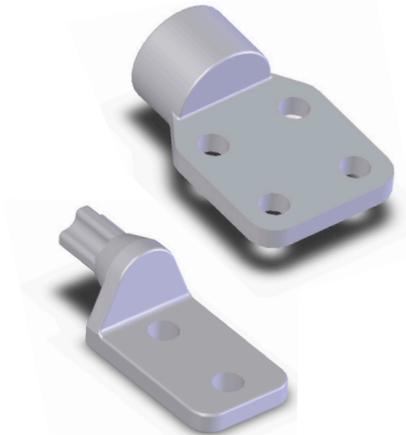
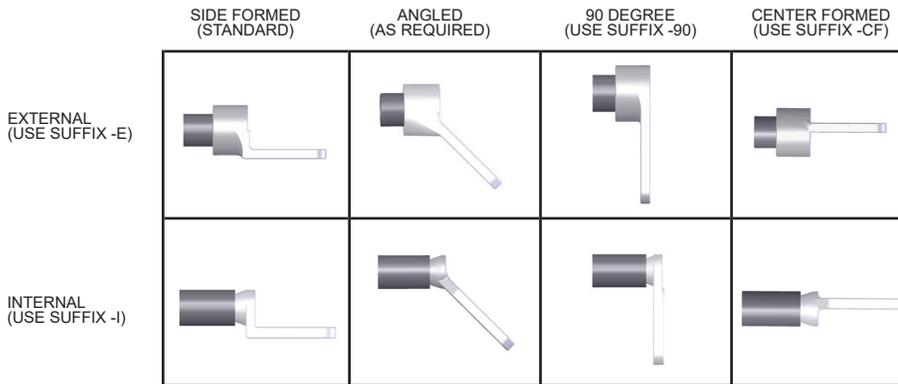


CATALOG NUMBER	PAD	PAD SIZE
2HP-GS	B	2" X 3" (2 HOLE)
4HP-GS	C	3" X 3" (4 HOLE)
4X4-GS	D	4" X 4" (4 HOLE)

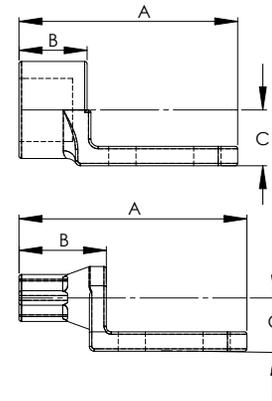
# ALUMINUM WELDMENT CONNECTORS PIPE TO FLAT PAD

SECTION

18-1



CATALOG NUMBER	PIPE MAIN IPS	PAD STYLE	DIMENSIONS IN INCHES			PAD THICKNESS
			A	B	C	
18-101	1/2	B	4 5/8	1 1/4	15/16	3/8
18-102	1/2	C	4 5/8	1 1/4	15/16	3/8
18-103	1/2	D	5 5/8	1 1/4	15/16	3/8
18-104	3/4	B	4 3/4	1 1/4	1	3/8
18-105	3/4	C	4 1/8	1	1	3/8
18-106	3/4	D	4 1/2	1	1	3/8
18-107	1	B	5	1 3/4	1 1/8	3/8
18-108	1	C	5	1 3/8	1 1/8	3/8
18-109	1	D	6	1 3/8	1 1/8	3/8
18-110	1 1/4	B	5 1/8	1 1/2	1 1/4	3/8
18-111	1 1/4	C	4 1/2	1 3/8	1 1/4	3/8
18-112	1 1/4	D	5 1/2	1 3/8	1 1/4	3/8
18-113	1 1/2	B	5 1/4	1 7/8	1 1/2	1/2
18-114	1 1/2	C	5	2	1 1/2	1/2
18-115	1 1/2	D	5 7/8	1 7/8	1 1/2	1/2
18-116	2	B	5 1/2	2	1 3/4	1/2
18-117	2	C	5 7/8	1 7/8	1 3/4	1/2
18-118	2	D	6	2	1 3/4	1/2
18-119	2 1/2	B	6	2 3/8	2 3/8	1/2
18-120	2 1/2	C	5 3/4	2 3/8	2 3/8	1/2
18-121	2 1/2	D	6 7/8	2 3/8	2 3/8	1/2
18-122	3	B	6	2 3/4	2 3/8	5/8
18-123	3	C	6	2 3/4	2 3/8	5/8
18-124	3	D	7 1/8	2 5/8	2 3/8	5/8
18-125	3 1/2	B	6 1/8	2 5/8	2 5/8	3/4
18-126	3 1/2	C	6 1/8	2 5/8	2 5/8	3/4
18-127	3 1/2	D	7 1/8	2 5/8	2 5/8	3/4
18-128	4	B	6 5/8	3 1/8	2 7/8	3/4
18-129	4	C	6 5/8	3 1/8	2 7/8	3/4
18-130	4	D	7 5/8	3 1/8	2 7/8	3/4
18-131	4 1/2	B	6 5/8	3 1/8	2 7/8	3/4
18-132	4 1/2	C	6 5/8	3 1/8	2 7/8	3/4
18-133	4 1/2	D	7 5/8	3 1/8	2 7/8	3/4
18-134	5	B	6 5/8	3 1/8	3 3/8	1
18-135	5	C	6 5/8	3 1/8	3 3/8	1
18-136	5	D	7 5/8	3 1/8	3 3/8	1
18-137	6	B	7	3 3/4	4	1 1/8
18-138	6	C	7 3/4	4 1/8	4	1 1/8
18-139	6	D	8 3/4	4 1/8	4	1 1/8



Cast of a lightweight and corrosion-resistant aluminum alloy, the type WAT secures a pipe to a flat bar bus more permanently and economically than other terminal connectors. Side formed NEMA pads are standard.

Any special tongue features will be readily provided if designated by the addition of a suffix to the catalog number.

**Example:** if a center-formed tongue were requested for catalog number 18-101E, that number should appear on the order as 18-101-CFE.

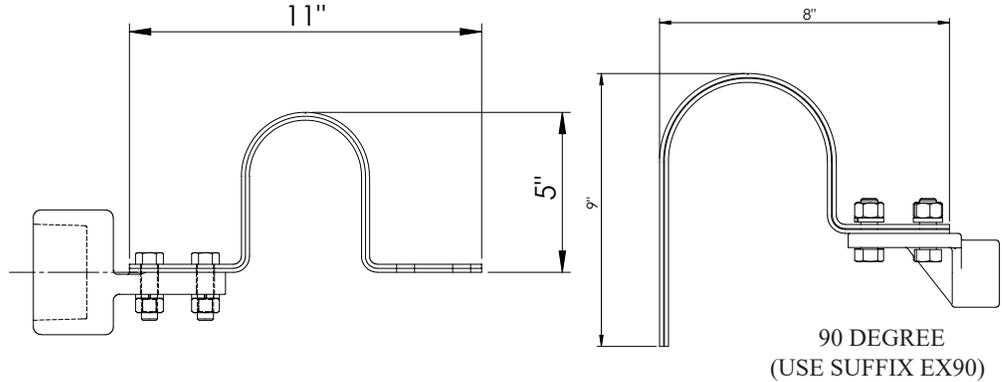
Similarly, a 45 degree tongue for the same catalog number should be written 18-101-E-45.

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H). EX: 18-139H-E

SECTION

18-1E-EX

ALUMINUM WELDMENT EXPANSION CONNECTORS PIPE TO FLAT PAD

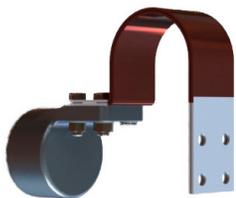


With a high conductivity aluminum alloy, the type WATEX secures a tube to flat bar bus with a flexible connection.

Center formed NEMA pads are standard.

Aluminum pad surface is coated with contacts sealant and bolted to laminated shunt at factory. Preformed copper laminated shunt has tin plated contacts.

Use suffix EX90 for 90 degree expansion terminal as illustrated.

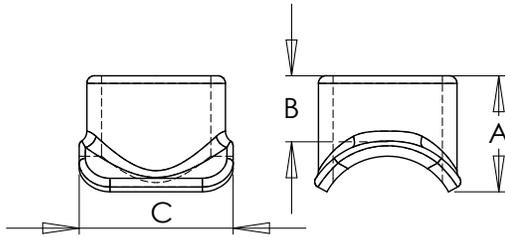


CATALOG NUMBER	PIPE MAIN IPS	PAD STYLE	DIMENSIONS IN INCHES			PAD THICKNESS
			A	B	C	
18-101E-EX	1/2	B	4 5/8	1 1/4	15/16	3/8
18-102E-EX	1/2	C	4 5/8	1 1/4	15/16	3/8
18-103E-EX	1/2	D	5 5/8	1 1/4	15/16	3/8
18-104E-EX	3/4	B	4 3/4	1 1/4	1	3/8
18-105E-EX	3/4	C	4 1/8	1	1	3/8
18-106E-EX	3/4	D	4 1/2	1	1	3/8
18-107E-EX	1	B	5	1 3/4	1 1/8	3/8
18-108E-EX	1	C	5	1 3/8	1 1/8	3/8
18-109E-EX	1	D	6	1 3/8	1 1/8	3/8
18-110E-EX	1 1/4	B	5 1/8	1 1/2	1 1/4	3/8
18-111E-EX	1 1/4	C	4 1/2	1 3/8	1 1/4	3/8
18-112E-EX	1 1/4	D	5 1/2	1 3/8	1 1/4	3/8
18-113E-EX	1 1/2	B	5 1/4	1 7/8	1 1/2	1/2
18-114E-EX	1 1/2	C	5	2	1 1/2	1/2
18-115E-EX	1 1/2	D	5 7/8	1 7/8	1 1/2	1/2
18-116E-EX	2	B	5 1/2	2	1 3/4	1/2
18-117E-EX	2	C	5 7/8	2 1/2	1 3/4	1/2
18-118E-EX	2	D	6	2	1 3/4	1/2
18-119E-EX	2 1/2	B	6	2 3/8	2 3/8	1/2
18-120E-EX	2 1/2	C	5 3/4	2 3/8	2 3/8	1/2
18-121E-EX	2 1/2	D	6 7/8	2 3/8	2 3/8	1/2
18-123E-EX	3	C	6	2 3/4	2 3/8	5/8
18-124E-EX	3	D	7 1/8	2 5/8	2 3/8	5/8
18-126E-EX	3 1/2	C	6 1/8	2 5/8	2 5/8	3/4
18-127E-EX	3 1/2	D	7 1/8	2 5/8	2 5/8	3/4
18-130E-EX	4	D	7 5/8	3 1/8	2 7/8	3/4
18-133E-EX	4 1/2	D	7 5/8	3 1/8	2 7/8	3/4
18-136E-EX	5	D	7 5/8	3 1/8	3 3/8	1
18-139E-EX	6	D	8 1/4	3 3/4	4	1 1/8

# ALUMINUM WELDMENT PIPE TO PIPE TEE CONNECTORS

SECTION

18-2



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		
			A	B	C
18-140	1/2	1/2	1 3/4	1	2
18-141	3/4	1/2	1 13/16	1	2
18-142	3/4	3/4	1 13/16	1	2 1/4
18-143	1	1/2	2	1	2
18-144	1	3/4	2	1	2 1/4
18-145	1	1	2	1 3/8	2 1/2
18-146	1 1/4	1/2	2 1/4	1	2
18-147	1 1/4	3/4	2 1/4	1	2 1/4
18-148	1 1/4	1	2 1/2	1 1/4	2 1/2
18-149	1 1/4	1 1/4	2 1/4	1 3/8	2 3/4
18-150	1 1/2	1/2	2 3/8	1	2
18-151	1 1/2	3/4	2 3/8	1	2 1/4
18-152	1 1/2	1	2 5/8	1 1/4	2 1/2
18-153	1 1/2	1 1/4	2 5/8	1 1/4	3
18-154	1 1/2	1 1/2	2 3/8	3 1/8	1 3/4
18-155	2	1/2	2 1/2	1	2
18-156	2	3/4	1 3/8	1	2 1/4
18-157	2	1	1 7/8	1 3/8	2 1/2
18-158	2	1 1/4	2 5/8	1 1/2	3 3/8
18-159	2	1 1/2	2	1	3
18-160	2	2	1 7/8	1	3 1/2
18-161	2 1/2	1/2	2 7/8	1	2
18-162	2 1/2	3/4	1 7/8	1	2 1/2
18-163	2 1/2	1	1 7/8	1 3/8	2 1/2
18-164	2 1/2	1 1/4	2 3/4	1 1/4	3
18-165	2 1/2	1 1/2	1 3/4	7/8	3 1/4
18-166	2 1/2	2	1 7/8	1	3 1/2
18-167	2 1/2	2 1/2	3	2 1/4	4 1/2
18-168	3	1/2	3 1/4	1	2
18-169	3	3/4	3 1/4	1	2 1/4
18-170	3	1	1 7/8	1 3/8	2 1/2
18-171	3	1 1/4	3 3/8	1 1/4	3
18-172	3	1 1/2	2 1/4	3 3/8	1 1/2
18-173	3	2	3 1/4	1 3/4	3 7/8
18-174	3	2 1/2	3 1/8	2 1/8	4 1/4
18-175	3	3	4 1/4	2 1/4	5 7/8
18-176	3 1/2	1/2	3 1/2	1	2
18-177	3 1/2	3/4	3 1/2	1	2 1/4
18-178	3 1/2	1	1 7/8	1 1/4	2 5/8
18-179	3 1/2	1 1/4	3 5/8	1 1/4	3
18-180	3 1/2	1 1/2	4	1 1/2	3 1/4
18-181	3 1/2	2	3 1/4	1 3/4	3 7/8
18-182	3 1/2	2 1/2	3 1/8	2 1/8	4 1/4
18-183	3 1/2	3	4 5/8	2 1/4	5
18-184	3 1/2	3 1/2	5	2 1/2	5 1/2

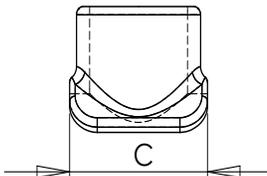
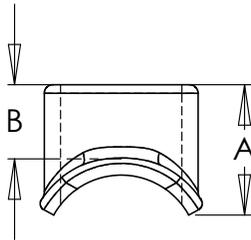
For a secure and reliable connection between a pipe main and a tubular tap at a 90 degree angle, the type TTW makes a particularly effective and economical choice.

It is cast of a lightweight and corrosion-resistant aluminum alloy.

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# ALUMINUM WELDMENT PIPE TO PIPE TEE CONNECTORS, continued

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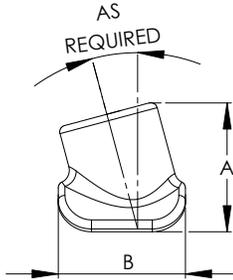


CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		
			A	B	C
18-185	4	1/2	3 3/4	1	2
18-186	4	3/4	3 3/4	1	2 1/2
18-187	4	1	2 3/4	1	3
18-188	4	1 1/4	3 1/2	1 1/4	3
18-189	4	1 1/2	1 3/4	7/8	3 1/4
18-190	4	2	2 3/8	1 3/4	3 1/2
18-191	4	2 1/2	4	2	4 1/4
18-192	4	3	3 3/4	2 1/4	5
18-193	4	3 1/2	4 1/2	2 1/2	5 1/2
18-194	4	4	4 1/2	2 3/8	6
18-195	4 1/2	1/2	3 3/4	1	2
18-196	4 1/2	3/4	3 3/4	1	2 1/4
18-197	4 1/2	1	4	1 1/4	2 1/2
18-198	4 1/2	1 1/4	4	1 1/4	3
18-199	4 1/2	1 1/2	4 1/4	1 1/2	3 1/4
18-200	4 1/2	2	4 1/4	1 3/4	3 1/2
18-201	4 1/2	2 1/2	4 3/8	2	4 1/4
18-202	4 1/2	3	4 1/2	2 1/4	5
18-203	4 1/2	3 1/2	5 1/2	2 1/2	5 1/2
18-204	4 1/2	4	5 1/2	2 1/2	6
18-205	4 1/2	4 1/2	5 3/4	2 3/4	6 3/4
18-206	5	1/2	4 3/8	1	2
18-207	5	3/4	4 3/8	1	2 1/4
18-208	5	1	4 1/2	1 1/4	2 1/2
18-209	5	1 1/4	4 5/8	1 1/4	3
18-210	5	1 1/2	4 7/8	1 1/2	3 1/4
18-211	5	2	5 1/8	1 3/4	3 1/2
18-212	5	2 1/2	5 1/8	2	5 1/4
18-213	5	3	5 1/4	2 1/4	5
18-214	5	3 1/2	5 1/2	2 1/2	5 1/2
18-215	5	4	4 1/2	2 1/2	6
18-216	5	4 1/2	5 3/4	2 3/4	6 3/4
18-217	5	5	5 3/4	2 1/2	8 1/2
18-218	6	1/2	4 3/4	1	2
18-219	6	3/4	4 3/4	1	2 1/4
18-220	6	1	5	1 1/4	2 1/2
18-221	6	1 1/4	5	1 1/4	3
18-222	6	1 1/2	5 1/4	1 1/2	3 1/4
18-223	6	2	5 1/2	1	3 1/2
18-224	6	2 1/2	5 1/2	2	4 1/4
18-225	6	3	5 3/4	2 1/4	5
18-226	6	3 1/2	6	2 1/2	5 1/2
18-227	6	4	6	2 1/2	6
18-228	6	4 1/2	6 1/4	2 3/4	6 3/4
18-229	6	5	7	2 3/8	8
18-230	6	6	6 1/2	2 1/2	8 1/2

# ALUMINUM WELDMENT PIPE TO ANGLE PIPE, TEE

SECTION

18-3



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-231	1/2	1/2	1 1/2	2
18-232	3/4	1/2	1 1/2	2
18-233	3/4	3/4	1 1/2	2 1/4
18-234	1	1/2	1 1/2	2 1/4
18-235	1	3/4	1 1/2	2 1/4
18-236	1	1	1 3/4	3
18-237	1 1/4	1/2	1 1/2	2
18-238	1 1/4	3/4	1 1/2	2 1/4
18-239	1 1/4	1	1 3/4	2 1/2
18-240	1 1/4	1 1/4	1 3/4	3
18-241	1 1/2	1/2	1 1/2	2
18-242	1 1/2	3/4	1 1/2	2 1/4
18-243	1 1/2	1	1 3/4	2 1/2
18-244	1 1/2	1 1/4	1 3/4	3
18-245	1 1/2	1 1/2	1 3/4	3 1/4
18-246	2	1/2	1 1/2	2
18-247	2	3/4	1 1/2	2 1/4
18-248	2	1	2 3/4	2 5/8
18-249	2	1 1/4	3	3
18-250	2	1 1/2	1 1/2	3 1/4
18-251	2	2	3 3/8	3 3/4
18-252	2 1/2	1/2	1 1/2	2
18-253	2 1/2	3/4	1 1/2	2 1/4
18-254	2 1/2	1	3 5/8	2 1/2
18-255	2 1/2	1 1/4	1 3/4	3
18-256	2 1/2	1 1/2	3 1/2	4 1/8
18-257	2 1/2	2	3 1/4	3 3/4
18-258	2 1/2	2 1/2	3 1/4	4 3/8
18-259	3	1/2	1 1/2	6
18-260	3	3/4	1 1/2	2
18-261	3	1	1 3/4	2 1/4
18-262	3	1 1/4	2 1/2	3
18-263	3	1 1/2	1 1/2	1 3/4
18-264	3	2	2	2
18-265	3	2 1/2	4 5/8	5 5/8
18-266	3	3	4 3/4	5 7/8
18-267	3 1/2	1/2	1/2	1 1/2
18-268	3 1/2	3/4	3/4	1 1/2
18-269	3 1/2	1	1	1 3/4
18-270	3 1/2	1 1/4	1 1/4	1 3/4
18-271	3 1/2	1 1/2	3 1/4	4 3/8
18-272	3 1/2	2	3 3/4	4
18-273	3 1/2	2 1/2	2 1/2	2 1/4
18-274	3 1/2	3	3	2 1/2
18-275	3 1/2	3 1/2	5 1/2	6 1/4

A reliable and economical connector for joining a pipe main to a tap whose angle varies from the perpendicular, the type TTWA cast of a lightweight and corrosion-resistant aluminum alloy makes a permanent connection. It can be used in self-supporting A-frame structures.

In ordering the type TTWA, the varying angle must be designated in a suffix added to the catalog number to insure maximum efficiency in filling the order.

**Example:** a 15 degree angle tap for catalog number 18-231, should be written as 18-231-15.

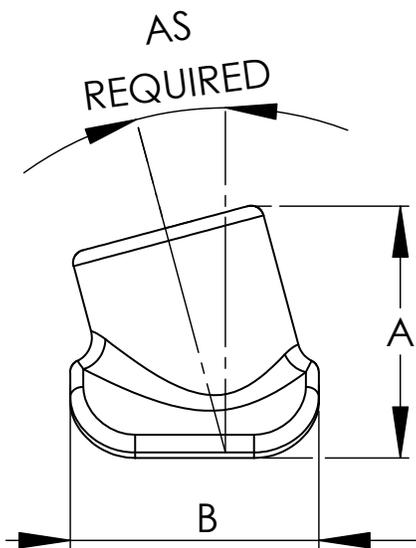
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## SECTION

## 18-3

ALUMINUM WELDMENT PIPE TO  
ANGLE PIPE, TEE, continued

Continued from previous page



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-277	4	3/4	3/4	1 1/2
18-278	4	1	1	1 3/4
18-279	4	1 1/4	1 1/4	3
18-280	4	1 1/2	1 1/2	3 1/4
18-281	4	2	3 1/4	3 1/8
18-282	4	2 1/2	4 1/4	5 3/8
18-283	4	3	5 1/2	5 7/8
18-284	4	3 1/2	2 1/2	5 3/4
18-285	4	4	5 1/2	7 1/4
18-286	4 1/2	1/2	1	2
18-287	4 1/2	3/4	1	2 1/4
18-288	4 1/2	1	1 1/4	2 1/2
18-289	4 1/2	1 1/4	1 1/4	3
18-290	4 1/2	1 1/2	1 1/2	3 1/4
18-291	4 1/2	2	1 3/4	3 1/2
18-292	4 1/2	2 1/2	2	4 1/4
18-293	4 1/2	3	2 1/4	5
18-294	4 1/2	3 1/2	2 1/2	5 1/2
18-295	4 1/2	4	2 1/2	6
18-296	4 1/2	4 1/2	2 3/4	6 3/4
18-297	5	1/2	1	2
18-298	5	3/4	1	2 1/4
18-299	5	1	1 1/4	2 1/2
18-300	5	1 1/4	1 1/4	3
18-301	5	1 1/2	1 1/2	3 1/4
18-302	5	2	5 1/4	4
18-303	5	2 1/2	5 1/2	5
18-304	5	3	5 1/4	5 3/4
18-305	5	3 1/2	5 1/4	5 3/4
18-306	5	4	5 3/8	6 3/8
18-307	5	4 1/2	5 1/4	6 1/2
18-308	5	5	2 3/4	8
18-309	6	1/2	1	2
18-310	6	3/4	1	2 1/4
18-311	6	1	1 1/4	2 1/2
18-312	6	1 1/4	1 1/4	3
18-313	6	1 1/2	1 1/2	3 1/4
18-314	6	2	1 3/4	3 1/2
18-315	6	2 1/2	2	4 1/4
18-316	6	3	5 1/8	5 7/8
18-317	6	3 1/2	2 1/2	5 1/2
18-318	6	4	5	7 3/8
18-319	6	4 1/2	2 3/4	7 1/4
18-320	6	5	6 5/8	8 1/2
18-321	6	6	3	8 1/2

# ALUMINUM WELDMENT PIPE TO ANGLE PIPE, VEE

SECTION

18-4

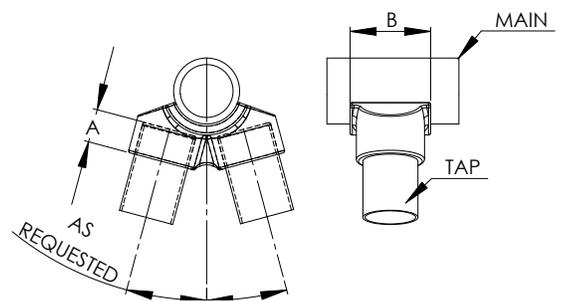
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-322	1/2	1/2	3/4	3 1/4
18-323	3/4	1/2	3/4	3 1/4
18-324	3/4	3/4	3/4	3 1/4
18-325	1	1/2	3/4	3 1/4
18-326	1	3/4	3/4	3 1/4
18-327	1	1	1	3 1/2
18-328	1 1/4	1/2	3/4	3 1/4
18-329	1 1/4	3/4	3/4	3 1/4
18-330	1 1/4	1	1	3 1/2
18-331	1 1/4	1 1/4	7/8	3 3/8
18-332	1 1/2	1/2	3/4	3 1/4
18-333	1 1/2	3/4	3/4	3 1/4
18-334	1 1/2	1	1	3 1/2
18-335	1 1/2	1 1/4	7/8	3 3/8
18-336	1 1/2	1 1/2	1 3/8	4
18-337	2	1/2	3/4	3 1/4
18-338	2	3/4	3/4	3 1/4
18-339	2	1	1 1/4	3
18-340	2	1 1/4	7/8	3 3/8
18-341	2	1 1/2	1 1/2	3 1/4
18-342	2	2	1 3/4	3
18-343	2 1/2	1/2	1 1/4	3
18-344	2 1/2	3/4	1 1/4	3
18-345	2 1/2	1	1 1/4	3
18-346	2 1/2	1 1/4	1 1/4	3
18-347	2 1/2	1 1/2	1 3/4	3 1/4
18-348	2 1/2	2	1 1/2	3 3/4
18-349	2 1/2	2 1/2	1 1/8	3 3/4
18-350	3	1/2	3/4	3 1/4
18-351	3	3/4	3/4	3 1/4
18-352	3	1	1	3 1/2
18-353	3	1 1/4	1 1/4	3
18-354	3	1 1/2	1 3/8	3 3/8
18-355	3	2	2 1/4	4 5/8
18-356	3	2 1/2	1 3/8	3 5/8
18-357	3	3	2	5
18-358	3 1/2	1/2	3/4	3 1/4
18-359	3 1/2	3/4	3/4	3 1/4
18-360	3 1/2	1	1	3 1/2
18-361	3 1/2	1 1/4	1 1/4	3 3/4
18-362	3 1/2	1 1/2	1 3/8	4
18-363	3 1/2	2	1 5/8	3 5/8
18-364	3 1/2	2 1/2	1 3/4	4 5/8
18-365	3 1/2	3	2	6
18-366	3 1/2	3 1/2	2 1/8	4 3/4
18-367	4	1/2	3/4	3 1/4
18-368	4	3/4	3/4	3 1/4
18-369	4	1	1	3 1/2



For joining a pipe main to taps whose angles vary from the perpendicular, the type TTWV offers economy and performance. Cast of a high conductivity, lightweight, and corrosion-resistant aluminum alloy, it can be used in self-supporting A-frame structures.

To insure maximum efficiency in filling the order, the varying angles should be designated by means of a suffix added to the catalog number.

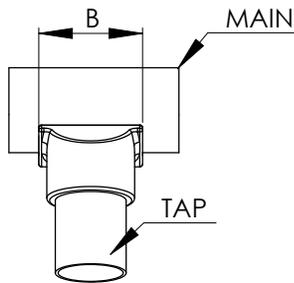
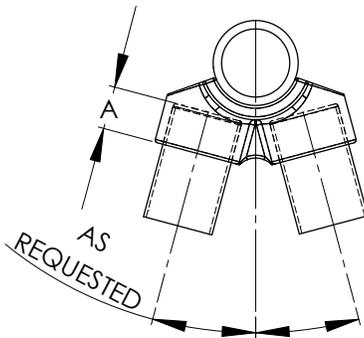
**Example:** a 15 degree angle tap for catalog number 18-322, for should be ordered as 18-322-15.



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ALUMINUM WELDMENT PIPE TO  
ANGLE PIPE, VEE, continued

Continued from previous page



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-370	4	1 1/4	1 1/4	3 3/4
18-371	4	1 1/2	1 3/8	4
18-372	4	2	2	4
18-373	4	2 1/2	1 5/8	4 3/4
18-374	4	3	2 1/4	6
18-375	4	3 1/2	1 7/8	6 1/4
18-376	4	4	3 3/8	5 7/8
18-377	4 1/2	1/2	3/4	3 1/4
18-378	4 1/2	3/4	3/4	3 1/4
18-379	4 1/2	1	1	3 1/2
18-380	4 1/2	1 1/4	1 1/4	3 3/4
18-381	4 1/2	1 1/2	1 3/8	4
18-382	4 1/2	2	2 1/4	4 5/8
18-383	4 1/2	2 1/2	1 3/4	5 1/8
18-384	4 1/2	3	2	6
18-385	4 1/2	3 1/2	1 7/8	6 1/4
18-386	4 1/2	4	2	6
18-387	4 1/2	4 1/2	2 1/4	7 1/2
18-388	5	1/2	3/4	3 1/4
18-389	5	3/4	3/4	3 1/4
18-390	5	1	1	3 1/2
18-391	5	1 1/4	1 1/4	3 3/4
18-392	5	1 1/2	1 3/8	4
18-393	5	2	1 5/8	4 5/8
18-394	5	2 1/2	1 7/8	6
18-395	5	3	2 1/4	6
18-396	5	3 1/2	2	5 5/8
18-397	5	4	2 3/4	5 1/2
18-398	5	4 1/2	3	7 1/8
18-399	5	5	3	7 1/8
18-400	6	1/2	3/4	3 1/4
18-401	6	3/4	3/4	3 1/4
18-402	6	1	1	3 1/2
18-403	6	1 1/4	1 1/4	3 3/4
18-404	6	1 1/2	1 3/8	4
18-405	6	2	2	4 1/4
18-406	6	2 1/2	2	4 1/4
18-407	6	3	3	5 5/8
18-408	6	3 1/2	1 7/8	6 1/4
18-409	6	4	2 7/8	6 1/8
18-410	6	4 1/2	2 1/4	7 1/2
18-411	6	5	2 1/2	8
18-412	6	6	3 1/4	8 5/8

# ALUMINUM WELDMENT PIPE TO PIPE, Y, PERPENDICULAR MAIN

SECTION

18-5

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-413	1/2	1/2	7/8	7/8
18-414	3/4	1/2	7/8	7/8
18-415	3/4	3/4	7/8	7/8
18-416	1	1/2	1	7/8
18-417	1	3/4	1	7/8
18-418	1	1	1 1/8	1
18-419	1 1/4	1/2	1 1/8	7/8
18-420	1 1/4	3/4	1 1/8	7/8
18-421	1 1/4	1	1 1/8	1
18-422	1 1/4	1 1/4	1 1/2	1 1/8
18-423	1 1/2	1/2	1 1/2	7/8
18-424	1 1/2	3/4	1 1/2	7/8
18-425	1 1/2	1	1 1/2	1
18-426	1 1/2	1 1/4	1 1/2	1 1/8
18-427	1 1/2	1 1/2	1 1/2	1 1/2
18-428	2	1/2	2 1/8	7/8
18-429	2	3/4	2 1/8	7/8
18-430	2	1	2 1/8	1
18-431	2	1 1/4	2 1/8	1 1/8
18-432	2	1 1/2	2 1/8	1 1/2
18-433	2	2	2 1/8	2 1/8
18-434	2 1/2	1/2	2 1/8	7/8
18-435	2 1/2	3/4	2 1/8	7/8
18-436	2 1/2	1	2 1/8	1
18-437	2 1/2	1 1/4	2 1/8	1 1/8
18-438	2 1/2	1 1/2	2 1/8	1 1/2
18-439	2 1/2	2	2 1/8	2 1/8
18-440	2 1/2	2 1/2	2 1/8	1 3/4
18-441	3	1/2	2	7/8
18-442	3	3/4	2	7/8
18-443	3	1	2	1
18-444	3	1 1/4	2	1 1/8
18-445	3	1 1/2	2	1 1/2
18-446	3	2	2	2 1/8
18-447	3	2 1/2	2	2 3/4
18-448	3	3	2	2
18-449	3 1/2	1/2	2 1/8	7/8
18-450	3 1/2	3/4	2 1/8	7/8
18-451	3 1/2	1	2 1/8	1
18-452	3 1/2	1 1/4	2 1/8	1 1/8
18-453	3 1/2	1 1/2	2 1/8	1 1/2
18-454	3 1/2	2	2 1/8	2 1/8
18-455	3 1/2	2 1/2	2 1/8	2 1/8
18-456	3 1/2	3	2 1/8	2
18-457	3 1/2	3 1/2	2 1/8	2 1/8
18-458	4	1/2	2 1/4	7/8
18-459	4	3/4	2 1/4	7/8
18-460	4	1	2 1/4	1

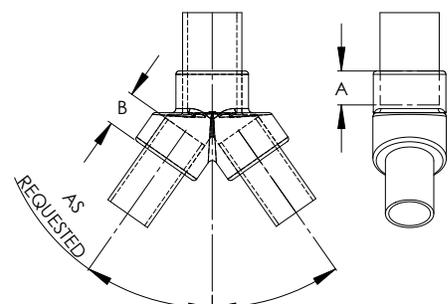


If an economical and permanent union is required between a pipe main and taps whose angles vary from the perpendicular, the type TTWP proves an efficient connector.

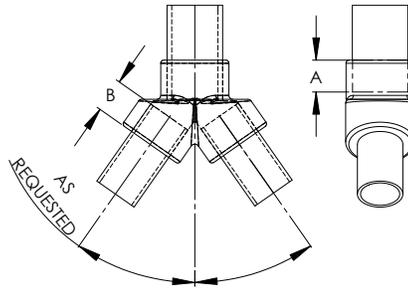
Durable and lightweight because of its high conductivity aluminum alloy, it can be especially useful in self-supporting A-frame structures.

Varying angles should be noted by means of a suffix added to the catalog number.

**Example:** a 15 degree angle tap for catalog number 18-413, should be written on the order as 18-413-15.



Continued on next page



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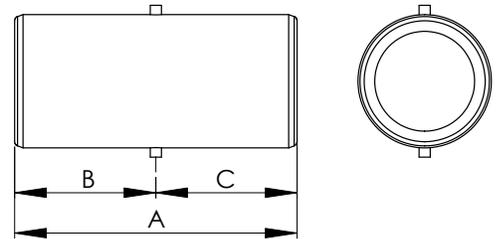
CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES	
			A	B
18-461	4	1 1/4	2 1/4	1 1/8
18-462	4	1 1/2	2 1/4	1 1/8
18-463	4	2	2 1/4	2 1/8
18-464	4	2 1/2	2 1/4	2 1/8
18-465	4	3	2 1/4	2
18-466	4	3 1/2	2 1/4	2 1/8
18-467	4	4	2 1/4	2 1/4
18-468	4 1/2	1/2	2 1/4	7/8
18-469	4 1/2	3/4	2 1/4	7/8
18-470	4 1/2	1	2 1/4	1
18-471	4 1/2	1 1/4	2 1/4	1 1/8
18-472	4 1/2	1 1/2	2 1/4	1 1/2
18-473	4 1/2	2	2 1/4	2 1/8
18-474	4 1/2	2 1/2	2 1/4	2 1/8
18-475	4 1/2	3	2 1/4	2
18-476	4 1/2	3 1/2	2 1/4	2 1/8
18-477	4 1/2	4	2 1/4	2 1/4
18-478	4 1/2	4 1/2	2 1/4	2 1/4
18-479	5	1/2	2 1/2	7/8
18-480	5	3/4	2 1/2	7/8
18-481	5	1	2 1/2	1
18-482	5	1 1/4	2 1/2	1 1/8
18-483	5	1 1/2	2 1/2	1 1/2
18-484	5	2	2 1/2	2 1/8
18-485	5	2 1/2	2 1/2	2 1/8
18-486	5	3	2 1/2	2
18-487	5	3 1/2	2 1/2	2 1/8
18-488	5	4	2 1/2	2 1/4
18-489	5	4 1/2	2 1/2	2 1/2
18-490	5	5	2 1/2	2 1/2
18-491	6	1/2	3 1/8	7/8
18-492	6	3/4	3 1/8	7/8
18-493	6	1	3 1/8	1
18-494	6	1 1/4	3 1/8	1 1/8
18-495	6	1 1/2	3 1/8	1 1/2
18-496	6	2	3 1/8	2 1/8
18-497	6	2 1/2	3 1/8	2
18-498	6	3	3 1/8	2 1/8
18-499	6	3 1/2	3 1/8	2 1/8
18-500	6	4	3 1/8	2 1/4
18-501	6	4 1/2	3 1/8	2 1/4
18-502	6	5	3 1/8	2 1/2
18-503	6	6	3 1/8	3 1/8

# ALUMINUM WELDMENT CONNECTORS PIPE TO PIPE COUPLER-REDUCER

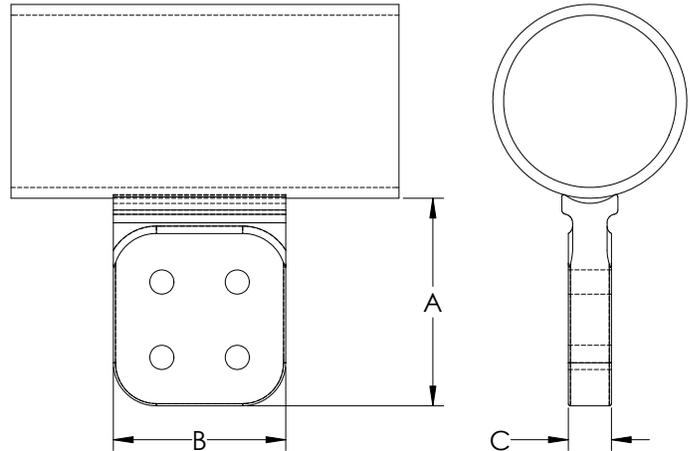
SECTION

18-6

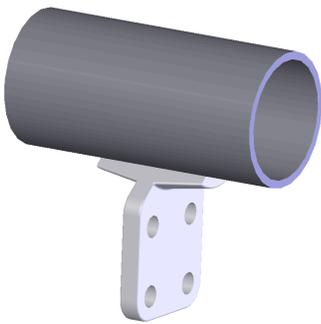
CATALOG NUMBER		IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		
SPS	SCH 80			A	B	C
18-504	18-505	1/2	1/2	2 1/2	1 1/4	1 1/4
18-506	18-507	3/4	1/2	3	1 3/4	1 1/4
18-508	18-509	3/4	3/4	3 1/2	1 3/4	1 3/4
18-510	18-511	1	1/2	3 1/2	2 1/4	1 1/4
18-512	18-513	1	3/4	4	2 1/4	1 3/4
18-514	18-515	1	1	4 1/2	2 1/4	2 1/4
18-516	18-517	1 1/4	1/2	4 1/4	3	1 1/4
18-518	18-519	1 1/4	3/4	4 3/4	3	1 3/4
18-520	18-521	1 1/4	1	5 1/4	3	2 1/4
18-522	18-523	1 1/4	1 1/4	6	3	3
18-524	18-525	1 1/2	3/4	4 7/8	3 1/8	1 3/4
18-526	18-527	1 1/2	1	5 7/16	3 3/16	2 1/4
18-528	18-529	1 1/2	1 1/4	6 3/16	3 3/16	3
18-530	18-531	1 1/2	1 1/2	6 1/4	3 1/8	3 1/8
18-532	18-533	2	1	5 13/16	3 9/16	2 1/4
18-534	18-535	2	1 1/4	6 9/16	3 9/16	3
18-536	18-537	2	1 1/2	6 3/4	3 9/16	3 3/16
18-538	18-539	2	2	7	3 1/2	3 1/2
18-540	18-541	2 1/2	1 1/4	6 7/16	3 7/16	3
18-542	18-543	2 1/2	1 1/2	6 5/8	3 7/16	3 3/16
18-544	18-545	2 1/2	2	7 11/16	4 3/16	3 1/2
18-546	18-547	2 1/2	2 1/2	9 3/8	4 3/16	4 3/16
18-548	18-559	3	1 1/2	6 5/16	3 1/8	3 3/16
18-550	18-551	3	2	6	3	3
18-552	18-553	3	2 1/2	6 1/2	3 1/8	3 3/8
18-554	18-555	3	3	6 1/4	3 1/8	3 1/8
18-556	18-557	3 1/2	2	8 11/16	5 1/8	3 9/16
18-558	18-569	3 1/2	2 1/2	8 3/16	5 1/8	3 3/16
18-560	18-561	3 1/2	3	8 1/4	5 1/8	3 1/8
18-562	18-563	3 1/2	3 1/2	10 1/4	5 1/8	5 1/8
18-564	18-565	4	2	10	6 7/16	3 9/16
18-566	18-567	4	2 1/2	9 7/8	6 7/16	3 7/16
18-568	18-579	4	3	9 9/16	6 7/16	3 1/8
18-570	18-571	4	3 1/2	11 9/16	6 7/16	5 1/8
18-572	18-573	4	4	12 7/8	6 7/16	6 7/16
18-574	18-575	4 1/2	2	9 9/16	6	3 9/16
18-576	18-577	4 1/2	2 1/2	9 9/16	6	3 9/16
18-578	18-589	4 1/2	3	9 1/8	6	3 1/8
18-580	18-581	4 1/2	3 1/2	11 1/8	6	5 1/8
18-582	18-583	4 1/2	4	12	6	6
18-584	18-585	4 1/2	4 1/2	12	6	6
18-586	18-587	5	2 1/2	11 3/16	8	3 3/16
18-588	18-599	5	3	11 3/8	8	3 1/8
18-590	18-591	5	3 1/2	13 1/8	8	5 1/8
18-592	18-593	5	4	14 7/16	8	6 7/16
18-594	18-595	5	4 1/2	16	8	8
18-596	18-597	5	5	16	4 3/4	4 3/4
18-598	18-699	6	3	12 1/8	9	3 1/8
18-600	18-601	6	3 1/2	14 1/8	9	5 1/8
18-602	18-603	6	4	15 7/8	9	6 7/8
18-604	18-605	6	4 1/2	17	9	8
18-606	18-607	6	5	17	9	8
18-608	18-609	6	6	18	9	9



Cast of a lightweight and corrosion-resistant aluminum alloy, the type WCT and type WCTH make reliable, economical, and permanent connections between tubes of the same or different sizes joined end on end.



For a secure and reliable connection between a pipe bus and a flat pad to which a choice of fittings may be bolted, the ype WTD tee connector is a particularly adaptable, efficient and economical choice. It is cast of a lightweight and corrosion-resistant aluminum alloy for dependability and durability in the field.



Wide Range 90 degree  
(not for use in full current load  
conditions with 4-6 in IPS)

CATALOG NUMBER	PIPE SIZE IPS	PAD STYLE	DIMENSIONS IN INCHES		
			A	B	C
18-622-WR	1-3	B	3 7/8	2	1/2
18-623-WR	1-3	C	3 1/2	3	3/4
18-624-WR	1-3	D	5	4	3/4
18-640-WR	3-6	B	3 7/8	2	3/4
18-641-WR	3-6	C	3 3/8	3	3/4
18-642-WR	3-6	D	4 7/8	4	1 1/8
18-622-90-WR	1-3	B	3 7/8	2	5/8
18-623-90-WR	1-3	C	3 5/8	3	5/8
18-624-90-WR	1-3	D	4 5/8	4	1
18-640-90-WR	3-6	B	4 1/8	2	5/8
18-641-90-WR	3-6	C	3 3/4	3	5/8
18-642-90-WR	3-6	D	5	4	1

FOR 90 DEGREE USE SUFFIX -90



For 90 degree applications that require a full current load a full saddle weld is required, please indicate the actual pipe size.

**Example:** a 4" pipe to a 90 degree 4x4 pad would appear as a 18-642-90(4"IPS)

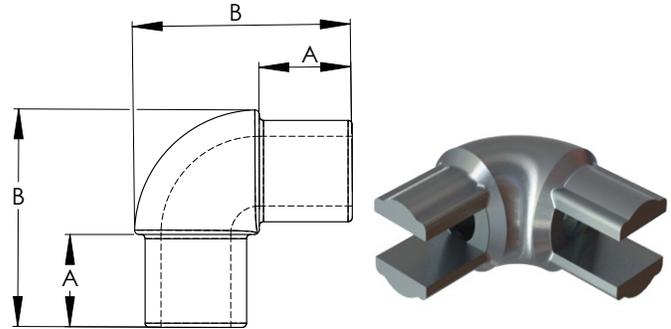
# ALUMINUM WELDMENT CONNECTORS PIPE TO PIPE, ELBOW

SECTION

18-8

\* Specify Angle

CATALOG NUMBER		PIPE SIZE IPS	DIMENSIONS IN INCHES	
SCH 40	SCH 80		A	B
18-649-*	18-649H-*	1/2	1 1/8	2 7/8
18-650-*	18-650H-*	3/4	1 1/8	2 7/8
18-651-*	18-651H-*	1	1 1/8	2 7/8
18-652-*	18-652H-*	1 1/4	2	3 3/4
18-653-*	18-653H-*	1 1/2	1 1/2	3 1/2
18-654-*	18-654H-*	2	2 1/4	5
18-655-*	18-655H-*	2 1/2	2 1/4	5 1/4
18-656-*	18-656H-*	3	3	7
18-657-*	18-657H-*	3 1/2	1 1/2	6
18-658-*	18-658H-*	4	4 1/2	9 1/4
18-659-*	18-659H-*	4 1/2	2 1/2	8
18-660-*	18-660H-*	5	2 1/2	9
18-661-*	18-661H-*	6	2 1/2	11



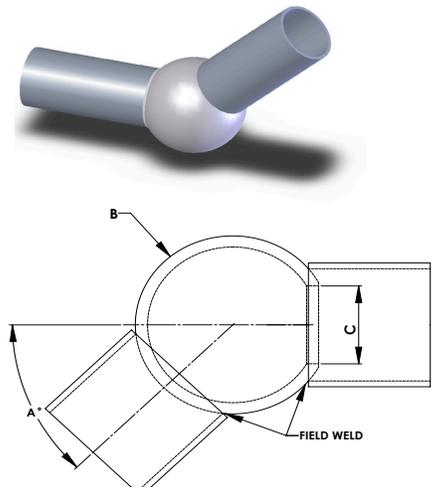
A rugged connector for linking pipes of the same size at an angle with permanence and reliability, the economical type WTE depends on its high conductivity, lightweight aluminum alloy casting for resistance to corrosion and stress in the field.

Varying angles should be properly designated as a suffix to the catalog number.

**Example:** if a 45 degree angle were requested for catalog number 18-649, the number should be written on the order as 18-649-45.

CATALOG NUMBER	PIPE SIZE IPS	MAX KV	DIMENSIONS-INCHES			
			A(MAX)	B	C	D
18-MAC-5	1 1/2	230	130	5	1 1/4	5/16
	2		115			
	2 1/2		105			
	3		90			
	3 1/2		80			
	4		60			
18-MAC-8	3	345	125	8	2 3/4	7/16
	3 1/2		120			
	4		110			
	5		95			
	6		75			
18-MAC-12	3	500	140	12	2 3/4	3/8
	3 1/2		135			
	4		130			
	5		120			
	6		100			

For applications requiring odd or undefined angles the multi angle coupler (MAC) series provides a convenient and flexible solution.



## SECTION

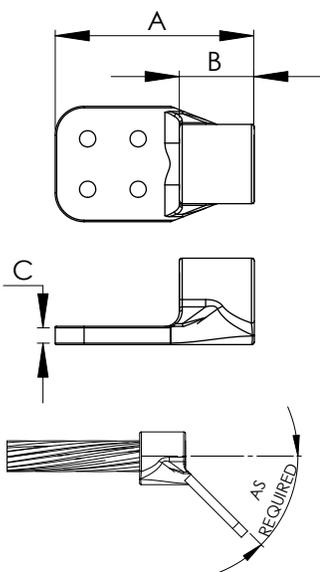
## 18-9

ALUMINUM WELDMENT  
CONNECTORS CABLE TO FLAT PAD

A reliable and economical connector for joining a cable to a flat bar bus, the type WCP cast of a lightweight and corrosion resistant aluminum alloy makes a permanent connection. Side formed NEMA pads are standard.

Any special tongue features will be readily supplied provided the catalog number is followed by the proper suffix.

**Example:** a 45 degree tongue for catalog number 18-662, for instance, should be ordered as 18-662-45.



CATALOG NUMBER	PAD STYLE	CABLE SIZE		CONDUCTOR DIAMETER IN INCHES	HOLE DIA. IN INCHES	DIMENSIONS IN INCHES		
		AAC	ACSR			A	B	C
18-662	B	1/0	1/0	.355-.398	7/16	3 3/4	3/4	3/8
18-663	C	1/0	1/0	.355-.398	7/16	3 3/4	3/4	3/8
18-664	D	1/0	1/0	.355-.398	7/16	4 3/4	3/4	3/8
18-665	B	2/0	2/0	.399-.447	1/2	3 3/4	3/4	3/8
18-666	C	2/0	2/0	.399-.447	1/2	3 3/4	3/4	3/8
18-667	D	2/0	2/0	.399-.447	1/2	4 3/4	3/4	3/8
18-668	B	3/0	3/0	.448-.502	9/16	3 7/8	7/8	1/2
18-669	C	3/0	3/0	.448-.502	9/16	3 7/8	7/8	1/2
18-670	D	3/0	3/0	.448-.502	9/16	4 7/8	7/8	1/2
18-671	B	4/0	4/0	.503-.563	5/8	5	1 3/4	1/2
18-672	C	4/0	4/0	.503-.563	5/8	5	1 3/4	1/2
18-673	D	4/0	4/0	.503-.563	5/8	6	1 3/4	1/2
18-674	B	250-300	266.8(26/7)	.564-.642	11/16	4 9/16	1 1/4	1/2
18-675	C	250-300	266.8(26/7)	.564-.642	11/16	4 9/16	1 1/4	1/2
18-676	D	250-300	266.8(26/7)	.564-.642	11/16	5 9/16	1 1/4	1/2
18-680	B	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	4 9/16	1 1/4	1/2
18-681	C	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	4 9/16	1 1/4	1/2
18-682	D	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	5 3/8	1 1/4	1/2
18-683	B	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	4 3/4	1 1/2	5/8
18-684	C	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	5 1/8	1 3/4	1/2
18-685	D	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	5 3/4	1 3/4	5/8
18-686	B	500(61)-556.5(37)	477(24/7)-477(30/7)	.776-.883	15/16	5 1/8	1 5/8	1/2
18-687	C	500(61)-556.5(37)	477(24/7)-477(30/7)	.776-.883	15/16	5 1/8	1 5/8	1/2
18-688	D	500(61)-556.5(37)	477(24/7)-477(30/7)	.776-.883	15/16	6 1/8	1 5/8	1/2

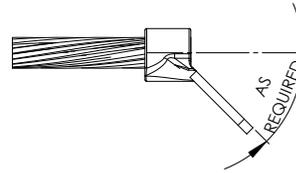
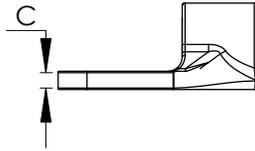
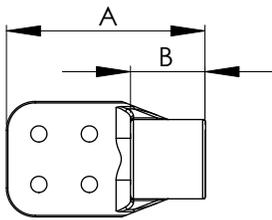
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# ALUMINUM WELDMENT CONNECTORS

## CABLE TO FLAT PAD, continued

SECTION

18-9



Continued from previous page

CATALOG NUMBER	PAD STYLE	CABLE SIZE		CONDUCTOR DIAMETER IN INCHES	HOLE DIA. IN INCHES	DIMENSIONS IN INCHES		
		AAC	ACSR			A	B	C
18-689	B	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	4 3/4	1 1/4	1/2
18-690	C	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	4 3/4	1/4	1/2
18-691	D	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	5 3/4	1/4	1/2
18-695	B	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	5 1/8	1 3/4	1/2
18-696	C	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	5 1/8	1 3/4	1/2
18-697	D	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	6	1 5/8	3/4
18-698	B	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	5	1 1/2	3/4
18-699	C	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	5 1/2	1 7/8	3/4
18-700	D	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	5 1/2	1 7/8	5/8
18-704	B	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	5 3/4	2 1/4	3/4
18-705	C	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	5 3/4	2 1/4	3/4
18-706	D	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	6 3/4	2 1/4	5/8
18-710	B	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	5 3/4	2 1/4	5/8
18-711	C	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	5 3/4	2 1/4	3/4
18-712	D	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	1 3/4	2 1/4	3/4
18-722	B	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	5 7/8	2 1/2	3/4
18-723	C	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	5 7/8	2 1/2	3/4
18-724	D	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	6 7/8	2 1/2	1
18-724-SP(1700AAC)	D	1600(127)-1700(127)	1431(54/19)-1510.5(54/19)	1.455-1.506	1 9/16	7	2 5/8	3/4
18-724-SP(1590ACSR)	D	1750(127)	1590(54/19)	1.507-1.545	1 5/8	7	2 5/8	3/4
18-724-SP(2000AAC)	D	2000(91)(127)	1780(84/19)	1.546-1.680	1 3/4	7 3/4	3	1
18-724-SP(2156ACSR)	D	2250(91)	2034(72/7)-2167(72/7)	1.681-1.801	1 7/8	7 3/4	3	1
18-724-SP(2500AAC)	D	2500(127)	2312(76/19)-2515(76/19)	1.802-1.880	2	7 3/4	3	1
18-724-SP(3000AAC)	D	3000(127)		1.890-1.998	2 1/8	7 3/4	3	1
18-724-SP(3500AAC)	D	3500(127)		1.999-2.159	2 1/4	7 3/4	3	1

## SECTION

## 18-10

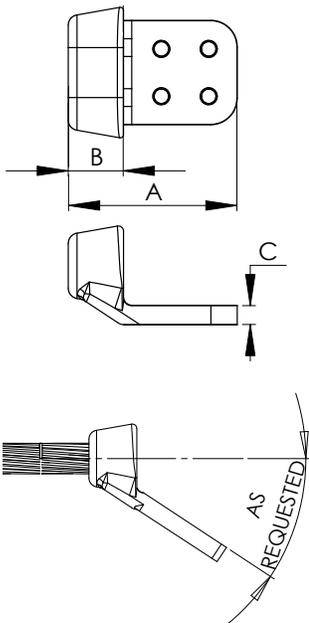
ALUMINUM WELDMENT CONNECTORS  
DOUBLE CABLE TO FLAT PAD

Featuring two-cable termination, the type WCP2 cast of a light-weight, corrosion resistant aluminum alloy makes an economical and reliable connection.

Side-formed NEMA pads are standard.

Any special tongue features will be readily provided if designated by adding a suffix to the catalog number.

**Example:** a 45 degree tongue for catalog number 18-725 should be ordered as 18-725-45.



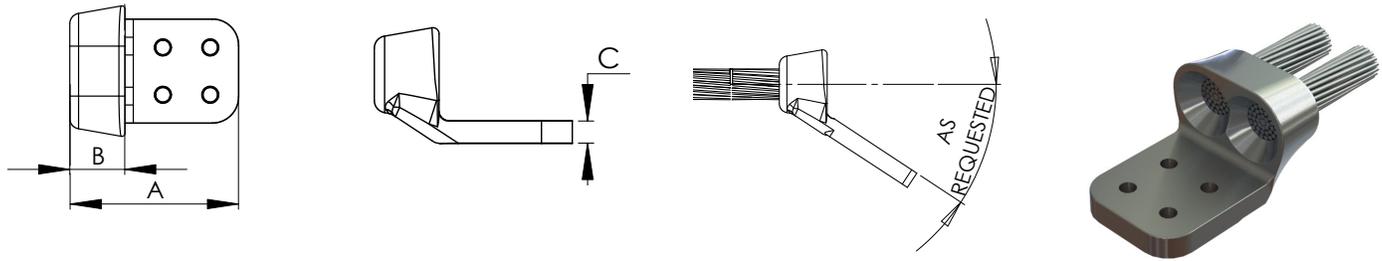
CATALOG NUMBER	PAD STYLE	CABLE SIZE		CONDUCTOR DIAMETER IN INCHES	HOLE DIAMETER	DIMENSIONS IN INCHES		
		AAC	ACSR			A	B	C
18-725	B	1/0	1/0	.355-.398	7/16	4 3/4	1 5/8	1/2
18-726	C	1/0	1/0	.355-.398	7/16	4 3/4	1 5/8	1/2
18-727	D	1/0	1/0	.355-.398	7/16	5 3/4	1 5/8	1/2
18-728	B	2/0	2/0	.399-.447	1/2	4 3/4	1 5/8	1/2
18-729	C	2/0	2/0	.399-.447	1/2	4 3/4	1 5/8	1/2
18-730	D	2/0	2/0	.399-.447	1/2	5 3/4	1 5/8	1/2
18-731	B	3/0	3/0	.448-.502	9/16	4 3/4	1 5/8	1/2
18-732	C	3/0	3/0	.448-.502	9/16	4 3/4	1 5/8	1/2
18-733	D	3/0	3/0	.448-.502	9/16	5 3/4	1 5/8	1/2
18-734	B	4/0	4/0	.503-.563	5/8	4 3/4	1 5/8	1/2
18-735	C	4/0	4/0	.503-.563	5/8	4 3/4	1 5/8	1/2
18-736	D	4/0	4/0	.503-.563	5/8	5 3/4	1 5/8	1/2
18-737	B	250-300	266.8(26/7)	.564-.642	11/16	4 3/4	1 5/8	1/2
18-738	C	250-300	266.8(26/7)	.564-.642	11/16	4 3/4	1 5/8	1/2
18-739	D	250-300	266.8(26/7)	.564-.642	11/16	5 3/4	1 5/8	1/2
18-743	B	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	4 3/4	1 5/8	1/2
18-744	C	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	4 3/4	1 5/8	1/2
18-745	D	336.4(19)-397.5(37)	336.4(36/1)-336.4(26/7)	.643-.721	3/4	5 3/4	1 5/8	1/2
18-746	B	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	4 3/4	1 5/8	1/2
18-747	C	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	4 3/4	1 5/8	1/2
18-748	D	400(37)-477(37)	397.5(18/1)-397.5(24/7)	.722-.795	7/8	5 3/4	1 5/8	1/2
18-749	B	500(61)-556.5(37)	477(24/7)-477(30/7)	.796-.883	15/16	5	1 5/8	1/2
18-750	C	500(61)-556.5(37)	477(24/7)-477(30/7)	.796-.883	15/16	5	1 5/8	1/2
18-751	D	500(61)-556.5(37)	477(24/7)-477(30/7)	.796-.883	15/16	6	1 5/8	3/4

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# ALUMINUM WELDMENT CONNECTORS DOUBLE CABLE TO FLAT PAD

SECTION

18-10

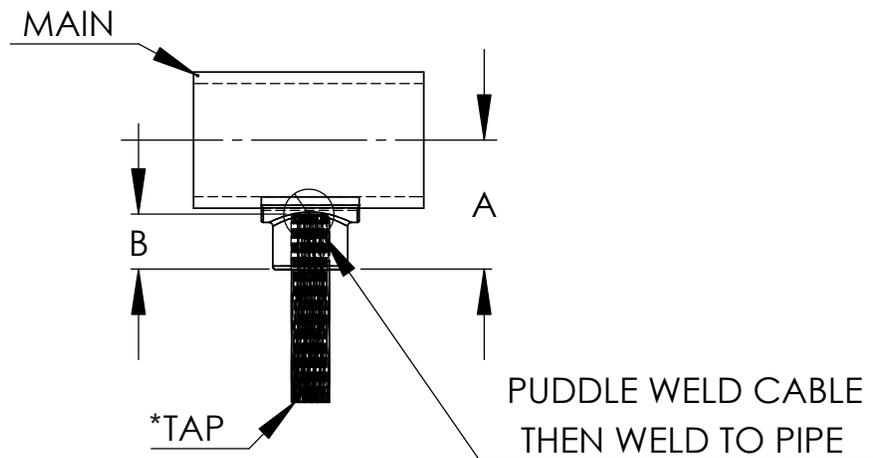
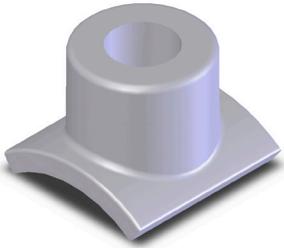


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CATALOG NUMBER	PAD STYLE	CABLE SIZE		CONDUCTOR DIAMETER IN INCHES	HOLE DIAMETER	DIMENSIONS IN INCHES		
		AAC	ACSR			A	B	C
18-752	B	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	5	1 5/8	1/2
18-753	C	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	5	1 5/8	1/2
18-754	D	600(37)-650(91)	556.5(24/7)-556.5(30/7)	.884-.953	1	6	1 3/4	3/4
18-758	B	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	5	1 1/2	1/2
18-759	C	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	5	1 1/2	1/2
18-760	D	700(61)-800(61)	605(26/7)-636(30/19)	.954-1.039	1 1/8	6	1 3/4	3/4
18-761	B	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	5 3/8	2	1/2
18-762	C	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	5 3/8	2	5/8
18-763	D	817.5(61)-954(61)	653.9(18/3)-795(24/7)	1.040-1.140	1 3/16	6 3/8	2	1
18-767	B	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	5 1/2	2	1/2
18-768	C	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	5 1/2	2	5/8
18-769	D	1000(61)-1113(61)	954(45/7)-954(54/7)	1.141-1.216	1 1/4	6 1/2	2	1
18-773	B	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	5 1/2	2	1/2
18-774	C	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	5 1/2	2	5/8
18-775	D	1200(91)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	1 3/8	6 3/8	2	1
18-785	B	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	6 3/4	2 3/8	1
18-786	C	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	6 3/4	2 3/8	1
18-787	D	1351.5(61)-1590(61)	1272(45/7)-1431(45/7)	1.301-1.454	1 1/2	6 3/8	2	1
18-787-SP(1700AAC)	D	1600(127)-1700(127)	1431(54/19)-1510.5(54/19)	1.455-1.506	1 9/16	6 3/8	2	1
18-787-SP(1590ACSR)	D	1750(127)	1590(54/19)	1.507-1.545	1 5/8	7 1/8	3	1 1/8
18-787-SP(2000AAC)	D	2000(91)(127)	1780(84/19)	1.546-1.680	1 3/4	7 1/8	3	1 1/8
18-787-SP(2156ACSR)	D	2250(91)	2034(72/7)-2167(72/7)	1.681-1.801	1 7/8	7 1/8	3	1 1/8
18-787-SP(2500AAC)	D	2500(127)	2312(76/19)-2515(76/19)	1.802-1.880	2	7 1/8	3	1 1/8
18-787-SP(3000AAC)	D	3000(127)		1.890-1.998	2 1/8	7 1/8	3	1 1/8
18-787-SP(3500AAC)	D	3500(127)		1.999-2.159	2 1/4	7 1/8	3	1 1/8

## SECTION

## 18-11

ALUMINUM WELDMENT CONNECTORS  
PIPE TO CABLE, TEE

An economical and dependable method of connecting a tee tap to a pipe main, the type WTC is cast of a lightweight aluminum alloy for high conductivity and natural resistance to corrosion and stress.

\*Specify cable size as a suffix.

**Example:** 2" IPS main to a 477AAC tap, 18-828-477AAC

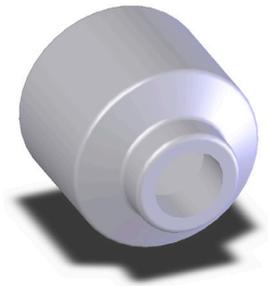
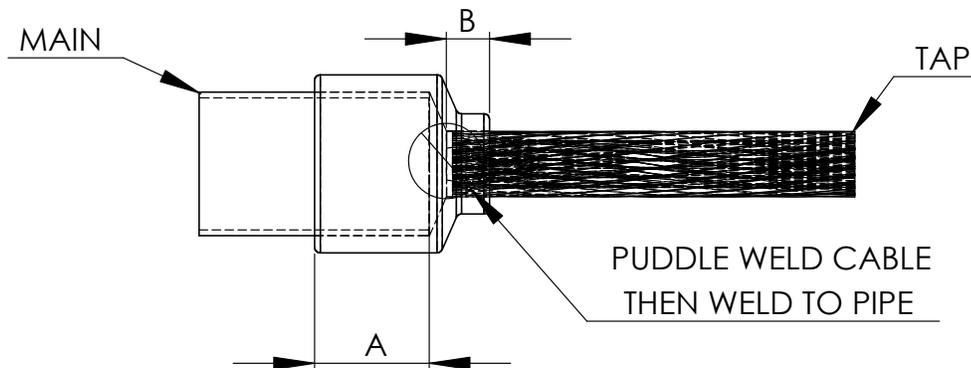
CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES	
		A	B
18-788-*	1/2	2 3/8	1 5/8
18-796-*	3/4	2 3/8	1 5/8
18-804-*	1	2 3/8	1 5/8
18-812-*	1 1/4	2 1/2	1 5/8
18-820-*	1 1/2	2 3/8	1 5/8
18-828-*	2	2 3/8	1 5/8
18-845-*	2 1/2	3	1 1/2
18-862-*	3	3	1 1/2
18-871-*	3 1/2	3 7/8	1 7/8
18-884-*	4	3 7/8	1 7/8
18-897-*	4 1/2	4	1 7/8
18-910-*	5	4 3/8	1 7/8
18-922-*	6	4 7/8	1 7/8



# ALUMINUM WELDMENT CONNECTORS PIPE TO CABLE COUPLER REDUCER

SECTION

18-12



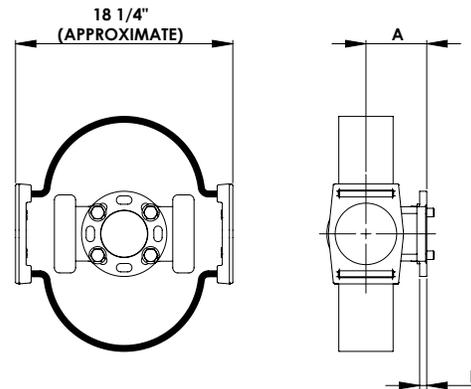
CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES	
		A	B
18-933*	1/2	1	3/4
18-941*	3/4	1	3/4
18-949*	1	1 1/4	3/4
18-957*	1 1/4	1 1/4	3/4
18-965*	1 1/2	1 1/2	3/4
18-973*	2	1 3/4	3/4
18-990*	2 1/2	2	3/4
18-1007*	3	2 1/4	1 1/2
18-1016*	3 1/2	2 1/2	1 1/2
18-1029*	4	2 1/2	1 1/2
18-1042*	4 1/2	2 3/4	1 1/2
18-1055*	5	2 3/4	1 1/2
18-1067*	6	3	1 1/2

Made of a lightweight aluminum alloy for high conductivity and natural resistance to corrosion and stress, the economical type WRTC secures a cable to a tubular bus permanently.

\*Specify cable size as a suffix.

**Example:** 2" IPS main to a 477AAC tap, 18-973-477AAC.





In addition to featuring a lightweight and corrosion-resistant aluminum alloy as well as economy and permanence in joining bus supports, the type WES also compensates for temperature variations and thereby protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

The flexible shunts of laminated soft aluminum are designed to withstand the maximum current of the bus it connects.

The aluminum shunts are factory welded into the castings.

(2) Drive fit end plugs included for bus pipe.

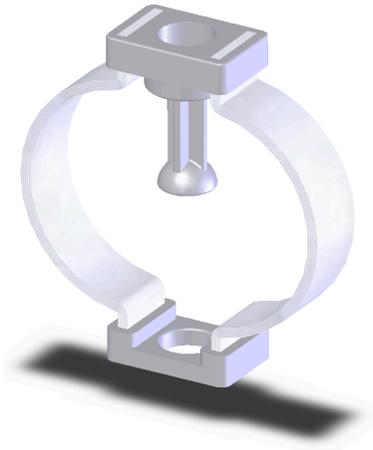
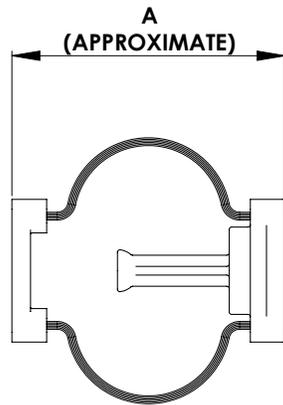
CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES	
			A	B
18-1078	3	1/2	1 3/4	3/8
18-1079	5	1/2	2 1/8	1/2
18-1080	3	3/4	2	3/8
18-1081	5	3/4	2 1/4	1/2
18-1082	3	1	2	3/8
18-1083	5	1	2 1/4	1/2
18-1084	3	1 1/4	2 1/4	3/8
18-1085	5	1 1/4	2 3/8	1/2
18-1086	3	1 1/2	2 1/2	3/8
18-1087	5	1 1/2	2 1/2	1/2
18-1088	3	2	2 3/4	1/2
18-1089	5	2	2 3/4	1/2
18-1090	3	2 1/2	3 1/8	1/2
18-1091	5	2 1/2	3 1/8	1/2
18-1092	3	3	3 5/8	1/2
18-1093	5	3	3 5/8	1/2
18-1094	3	3 1/2	4	1/2
18-1095	5	3 1/2	4	1/2
18-1096	3	4	4 1/2	1/2
18-1097	5	4	4 1/2	1/2
18-1098	3	4 1/2	4 3/4	1/2
18-1099	5	4 1/2	4 3/4	1/2
18-1100	3	5	5	1/2
18-1101	5	5	5	1/2
18-1102	3	6	5 1/2	1/2
18-1103	5	6	5 1/2	1/2

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS  
USE SUFFIX (H). EX.18-1103H

# ALUMINUM WELDMENT CONNECTORS EXPANSION COUPLER PIPE TO PIPE

SECTION

18-14



CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES
		A
18-1104	1/2	-
18-1105	3/4	-
18-1106	1	12
18-1107	1 1/4	12
18-1108	1 1/2	12
18-1109	2	12
18-1110	2 1/2	12
18-1111	3	12
18-1112	3 1/2	12
18-1113	4	12
18-1114	4 1/2	12
18-1115	5	16
18-1116	6	16

Cast of a lightweight and corrosion-resistant aluminum alloy, the economical type WEC makes a permanent and reliable connection between pipe and offers protection for equipment bushings, switch gear, and insulators by compensating for expansion and contraction due to temperature variations.

The flexible shunts of laminated soft aluminum are designed to carry the maximum current of the bus the connector joins.

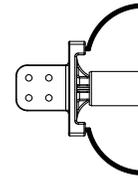
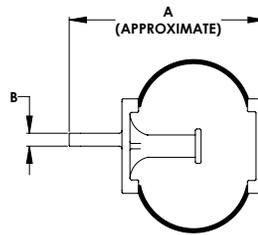
The aluminum shunts are factory welded into the castings.

FOR EHPS (SCH80) INTERNAL PIPE FITTINGS  
USE SUFFIX (H). EX.18-1116H



## SECTION

18-15

ALUMINUM WELDMENT CONNECTORS  
EXPANSION TERMINAL TO PIPE

FOR PAD ROTATED  
90 DEGREES USE SUFFIX (V)  
EXAMPLE 18-1139V

An economical connector for making a permanent union between a terminal and a tubular bus, the type AETF cast of a lightweight and corrosion-resistant aluminum compensates for temperature variations and thus protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

Flexible shunts of laminated soft aluminum are designed for carrying the maximum current of the bus it connects.

The aluminum shunts are factory welded into the castings.

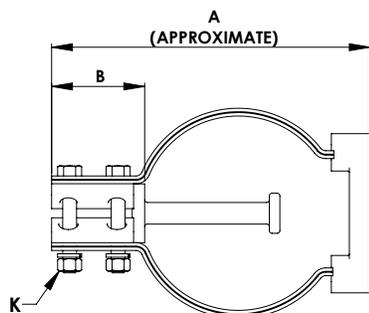
FOR EHPS (SCH80) INTERNAL PIPE  
FITTINGS USE SUFFIX (H). EX.18-1155H

CATALOG NUMBER	PIPE SIZE IPS	PAD STYLE	DIMENSIONS IN INCHES	
			A	B
18-1117	1/2	B	16.5	7/16
18-1118	1/2	C	16.5	7/16
18-1119	1/2	D	17.5	7/16
18-1120	3/4	B	16.5	7/16
18-1121	3/4	C	16.5	7/16
18-1122	3/4	D	17.5	7/16
18-1123	1	B	16.5	1/2
18-1124	1	C	16.5	1/2
18-1125	1	D	17.5	1/2
18-1126	1 1/4	B	16.5	9/16
18-1127	1 1/4	C	16.5	9/16
18-1128	1 1/4	D	17.5	9/16
18-1129	1 1/2	B	16.5	5/8
18-1130	1 1/2	C	16.5	5/8
18-1131	1 1/2	D	17.5	5/8
18-1132	2	B	16.5	5/8
18-1133	2	C	16.5	5/8
18-1134	2	D	17.5	5/8
18-1135	2 1/2	B	16.5	11/16
18-1136	2 1/2	C	16.5	11/16
18-1137	2 1/2	D	17.5	11/16
18-1138	3	B	16.5	7/8
18-1139	3	C	16.5	7/8
18-1140	3	D	17.5	7/8
18-1141	3 1/2	B	16.5	1
18-1142	3 1/2	C	16.5	1
18-1143	3 1/2	D	17.5	1
18-1144	4	B	16.5	1
18-1145	4	C	16.5	1
18-1146	4	D	17.5	1
18-1147	4 1/2	B	16.5	1
18-1148	4 1/2	C	16.5	1
18-1149	4 1/2	D	16.5	1
18-1150	5	B	18.5	1
18-1151	5	C	18.5	1
18-1152	5	D	19.5	1
18-1153	6	B	21.5	1 1/8
18-1154	6	C	21.5	1 1/8
18-1155	6	D	22.5	1 1/8

# ALUMINUM WELDMENT CONNECTORS EXPANSION STUD TO PIPE

SECTION

18-16



CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES		
			A	B	K
18-1156	1/2-13	1/2	12	2 1/2	1/2
18-1157	1/2-13	3/4	12	2 1/2	1/2
18-1158	1/2-13	1	12	2 1/2	1/2
18-1159	3/4-16	1/2	12	2 1/2	1/2
18-1160	3/4-16	3/4	12	2 1/2	1/2
18-1161	3/4-16	1	12	2 1/2	1/2
18-1162	1-14	1/2	12	2 1/2	1/2
18-1163	1-14	3/4	12	2 1/2	1/2
18-1164	1-14	1	12	2 1/2	1/2
18-1165	1-14	1 1/4	12	2 1/2	1/2
18-1166	1 1/8-12	1/2	12	3	1/2
18-1167	1 1/8-12	3/4	12	3	1/2
18-1168	1 1/8-12	1	12	3	1/2
18-1169	1 1/8-12	1 1/4	12	3	1/2
18-1170	1 1/4-12	1/2	12	3	1/2
18-1171	1 1/4-12	3/4	12	3	1/2
18-1172	1 1/4-12	1	12	3	1/2
18-1173	1 1/4-12	1 1/4	12	3	1/2
18-1174	1 1/4-12	1 1/2	12	3	1/2
18-1175	1 1/2-12	1/2	12	3	1/2
18-1176	1 1/2-12	3/4	12	3	1/2
18-1177	1 1/2-12	1	12	3	1/2
18-1178	1 1/2-12	1 1/4	12	3	1/2
18-1179	1 1/2-12	1 1/2	12	3	1/2
18-1180	1 1/2-12	2	12	3	1/2
18-1181	1 3/4-12	3/4	12	3	1/2
18-1182	1 3/4-12	1	12	3	1/2
18-1183	1 3/4-12	1 1/4	12	3	1/2
18-1184	1 3/4-12	1 1/2	12	3	1/2
18-1185	1 3/4-12	2	12	3	1/2
18-1186	2-12	1	12	3	1/2
18-1187	2-12	1 1/4	12	3	1/2
18-1188	2-12	1 1/2	12	3	1/2
18-1189	2-12	2	12	3	1/2
18-1190	2-12	2 1/2	12	3	5/8
18-1191	2 1/4-12	1 1/4	12	3	1/2

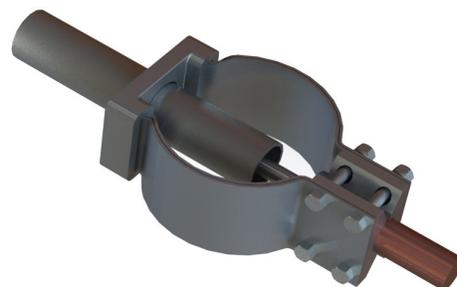
The type WEST is an economical means of joining a threaded bronze stud to a pipe bus and offers the added feature of being able to compensate for temperature variations. It protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

A lightweight and corrosion resistant aluminum alloy casting makes this connector durable and dependable in the field.

Flexible shunts of laminated soft aluminum are designed to withstand the maximum current of the bus.

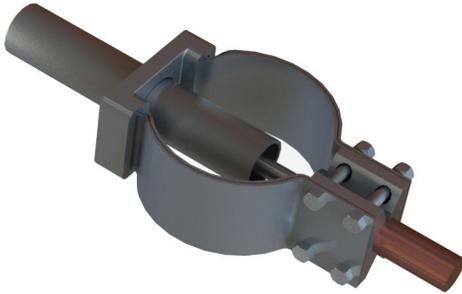
The aluminum shunts are factory welded into the castings.

Unthreaded studs or stud sizes not listed must be specified with the order.



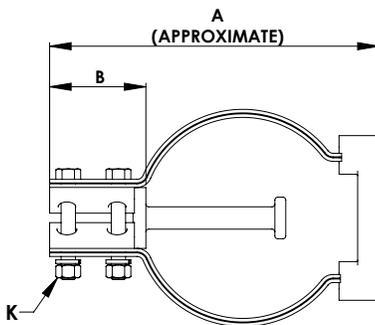
FOR EHPS (SCH80) INTERNAL PIPE FITTINGS USE SUFFIX (H). EX.18-1191H

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CATALOG NUMBER	STUD SIZE	PIPE SIZE IPS	DIMENSIONS IN INCHES		
			A	B	K
18-1192	2 1/4-12	1 1/2	12	3	1/2
18-1193	2 1/4-12	2	12	3	1/2
18-1194	2 1/4-12	2 1/2	14	3	5/8
18-1195	2 1/2-12	1 1/2	12	3	1/2
18-1196	2 1/2-12	2	12	3	1/2
18-1197	2 1/2-12	2 1/2	14	3	5/8
18-1198	2 1/2-12	3	14	3	5/8
18-1199	2 3/4-12	1 1/2	12	3 1/2	1/2
18-1200	2 3/4-12	2	12	3 1/2	1/2
18-1201	2 3/4-12	2 1/2	14	3 1/2	5/8
18-1202	2 3/4-12	3	14	3 1/2	5/8
18-1203	2 3/4-12	3 1/2	14	3 1/2	5/8
18-1204	3-12	2	12	3 1/2	1/2
18-1205	3-12	2 1/2	14	3 1/2	5/8
18-1206	3-12	3	14	3 1/2	5/8
18-1207	3-12	3 1/2	14	3 1/2	5/8
18-1208	3-12	4	14	3 1/2	5/8
18-1209	3 1/4-12	2 1/2	14	3 1/2	5/8
18-1210	3 1/4-12	3	14	3 1/2	5/8
18-1211	3 1/4-12	3 1/2	14	3 1/2	5/8
18-1212	3 1/4-12	4	14	3 1/2	5/8
18-1213	3 1/2-12	2 1/2	14	3 1/2	5/8
18-1214	3 1/2-12	3	14	3 1/2	5/8
18-1215	3 1/2-12	3 1/2	14	3 1/2	5/8
18-1216	3 1/2-12	4	14	3 1/2	5/8
18-1217	4-12	2 1/2	14	3 1/2	5/8
18-1218	4-12	3	14	3 1/2	5/8
18-1219	4-12	3 1/2	14	3 1/2	5/8
18-1220	4-12	4	14	3 1/2	5/8

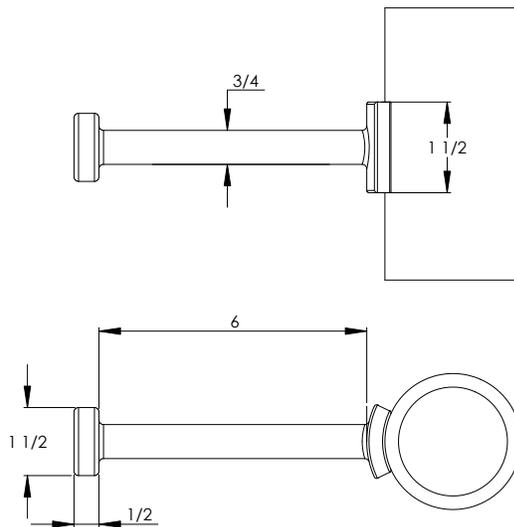


FOR EHPS (SCH80) INTERNAL PIPE  
FITTINGS USE SUFFIX (H). EX. 18-1220H

# ALUMINUM WELDMENT CONNECTORS GROUNDING STUD

SECTION

18-17



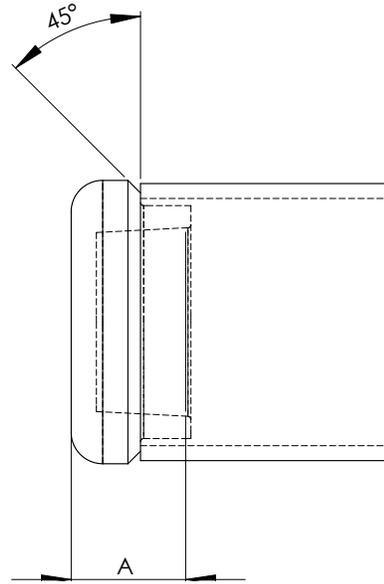
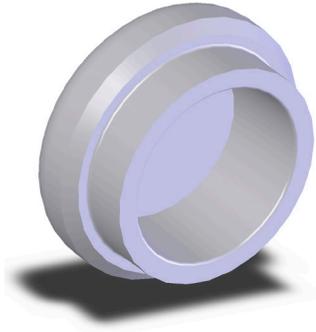
CATALOG NUMBER	PIPE SIZE IPS
18-1280-WR	1-6

Lightweight and durable, the type GS stud temporarily grounds out dead bus for purposes of safety during maintenance operations on substation equipment.



## SECTION

## 18-18

ALUMINUM WELDMENT CONNECTORS  
INTERNAL END PLUG

CATALOG NUMBER		PIPE SIZE IPS	DIMENSIONS IN INCHES
SCH 40	SCH 80		A
18-1286	18-1286H	1/2	1
18-1287	18-1287H	3/4	1
18-1288	18-1288H	1	1
18-1289	18-1289H	1 1/4	7/8
18-1290	18-1290H	1 1/2	7/8
18-1291	18-1291H	2	7/8
18-1292	18-1292H	2 1/2	1 3/8
18-1293	18-1293H	3	1 1/4
18-1294	18-1294H	3 1/2	1 1/4
18-1295	18-1295H	4	1 1/8
18-1296	18-1296H	4 1/2	1 1/8
18-1297	18-1297H	5	1 1/4
18-1298	18-1298H	6	1 1/8



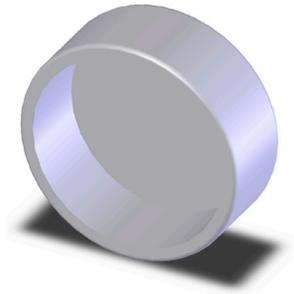
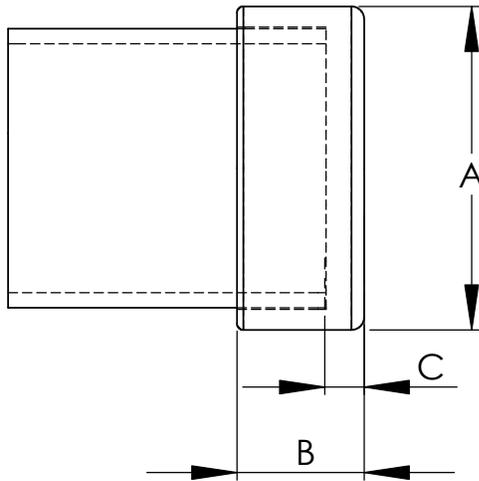
\*Add suffix "-EXP" for low profile expansion end plugs.

**Ex:** 18-1293-EXP

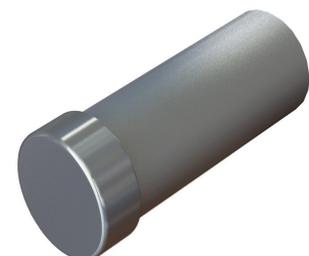
# ALUMINUM WELDMENT CONNECTORS EXTERNAL END BELL

SECTION

18-19



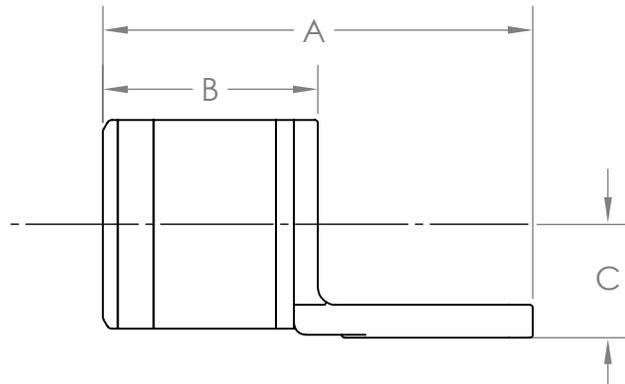
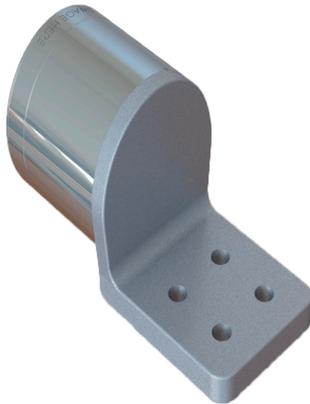
CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES		
		A	B	C
SCH 40				
18-1299	1/2	1 3/4	1 1/4	3/8
18-1300	3/4	1 3/4	1 1/4	3/8
18-1301	1	2	1 3/8	3/8
18-1302	1 1/4	2 1/4	1 5/8	3/8
18-1303	1 1/2	2 5/8	2	1/4
18-1304	2	3	7/8	3/8
18-1305	2 1/2	3 3/4	1	3/8
18-1306	3	4 1/2	1 1/4	3/8
18-1307	3 1/2	4 7/8	2 3/8	5/8
18-1308	4	5 1/2	2 3/4	5/8
18-1309	4 1/2	5 1/2	2 3/4	5/8
18-1310	5	7	4	3/4
18-1311	6	8 1/2	4	3/4



# ALUMINUM SWAGE CONNECTORS PIPE TO FLAT PAD

SECTION

18-SW-1

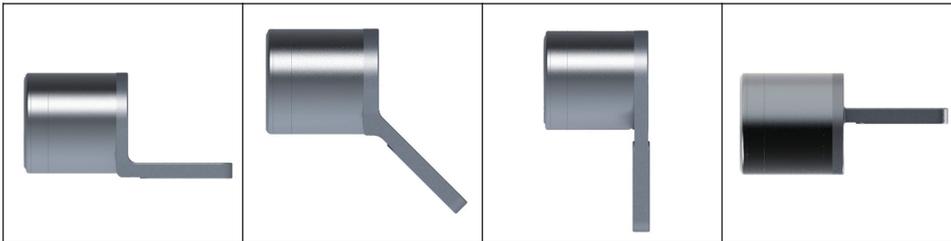


SIDE FORMED  
(STANDARD)

ANGLED  
(AS REQUIRED)

90 DEGREE  
(USE SUFFIX -90)

CENTER FORMED  
(USE SUFFIX -CF)



Made of a light weight and corrosion-resistant aluminum alloy, the swage pipe to flat pad connectors makes a permanent connection between connector and pipe.

Any special tongue features will be readily provided if designated by the addition of a suffix to the catalog number.

**Example:** If a center-formed tongue were requested for catalog number SW-107, that number should appear on the order as SW-107-CF.

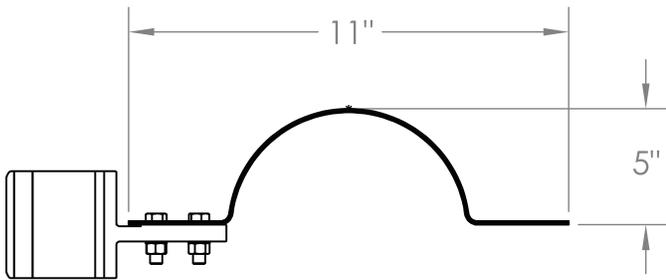
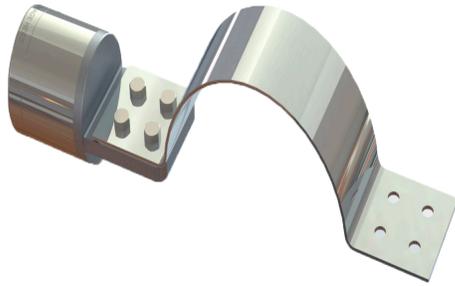
**Example:** If a side-form tongue were requested for a 1" IPS B Pad fitting, the corresponding catalog number would be SW-107.

**Example:** If a 90-degree tongue were requested for catalog number SW-107, that number should appear on the order as SW-107-90.

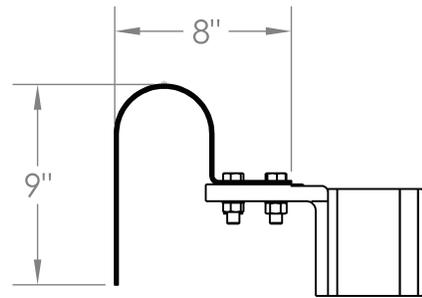
CATALOG NUMBER	PIPE MAIN IPS	PAD STYLE	DIMENSIONS IN INCHES			PAD THICKNESS	SWAGE DIE
			A	B	C		
SW-107	1	B	7	3 1/2	1 1/8	1/2	B100
SW-108	1	C	7	3 1/2	1 1/8	1/2	B100
SW-109	1	D	8	3 1/2	1 1/8	1/2	B100
SW-113	1 1/2	B	7	3 1/2	1 1/2	1/2	B150
SW-114	1 1/2	C	7	3 1/2	1 1/2	1/2	B150
SW-115	1 1/2	D	8	3 1/2	1 1/2	1/2	B150
SW-116	2	B	7 1/2	4	1 3/4	1/2	B200
SW-117	2	C	7 1/2	4	1 3/4	1/2	B200
SW-118	2	D	8 1/2	4	1 3/4	1/2	B200
SW-119	2 1/2	B	7 1/2	4	2 3/8	1/2	B250
SW-120	2 1/2	C	7 1/2	4	2 3/8	1/2	B250
SW-121	2 1/2	D	8 1/2	4	2 3/8	1/2	B250
SW-122	3	B	8 1/8	4 5/8	2 3/8	5/8	B300
SW-123	3	C	8 1/8	4 5/8	2 3/8	5/8	B300
SW-124	3	D	9 1/8	4 5/8	2 3/8	5/8	B300
SW-125	3 1/2	B	8 1/8	4 3/4	2 5/8	3/4	B350
SW-126	3 1/2	C	8 1/8	4 3/4	2 5/8	3/4	B350
SW-127	3 1/2	D	9 1/8	4 3/4	2 5/8	3/4	B350
SW-128	4	B	8 1/8	4 3/4	2 7/8	3/4	B400
SW-129	4	C	8 1/8	4 3/4	2 7/8	3/4	B400
SW-130	4	D	9 1/8	4 3/4	2 7/8	3/4	B400

**SECTION**  
**18-SW-1-EX**

**ALUMINUM SWAGE EXPANSION CONNECTORS PIPE TO FLAT PAD**



STANDARD  
(USE SUFFIX EX)



90 DEGREE  
(USE SUFFIX EX90)

With a high conductivity aluminum alloy, the swage pipe to flat pad expansion connectors secures a tube to flat bar bus with a flexible connection.

Center formed NEMA pads are standard.

Aluminum pad surface is coated with contact sealant and bolted to laminated shunt at factory. Preformed copper laminated shunt has tin plated contacts

Use suffix EX90 for 90-degree expansion terminal as illustrated.

Use suffix EX for standard expansion terminal as illustrated.

**Example:** For a 3" IPS expansion terminal to a D pad, the corresponding catalog number would be SW-124-EX.

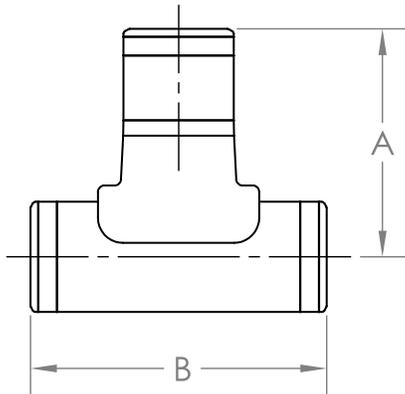
**Example:** For a 3" IPS 90-degree expansion terminal to a D pad, the corresponding catalog number would be SW-124-EX90.

CATALOG NUMBER	PIPE MAIN IPS	PAD STYLE	SWAGE DIE
SW-107-EX	1	B	B100
SW-108-EX	1	C	B100
SW-109-EX	1	D	B100
SW-113-EX	1 1/2	B	B150
SW-114-EX	1 1/2	C	B150
SW-115-EX	1 1/2	D	B150
SW-116-EX	2	B	B200
SW-117-EX	2	C	B200
SW-118-EX	2	D	B200
SW-119-EX	2 1/2	B	B250
SW-120-EX	2 1/2	C	B250
SW-121-EX	2 1/2	D	B250
SW-123-EX	3	C	B300
SW-124-EX	3	D	B300
SW-126-EX	3 1/2	C	B350
SW-127-EX	3 1/2	D	B350
SW-130-EX	4	D	B400

# ALUMINUM SWAGE CONNECTORS PIPE TO PIPE, TEE

SECTION

18-SW-2



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		SWAGE DIES	
			A	B	MAIN	TAP
SW-145	1	1	5	10	B100	B100
SW-152	1 1/2	1	5 1/4	10	B150	B100
SW-154	1 1/2	1 1/2	5 1/4	10	B150	B150
SW-157	2	1	5 1/2	10	B200	B100
SW-159	2	1 1/2	5 1/2	10	B200	B150
SW-160	2	2	6	10	B200	B200
SW-163	2 1/2	1	5 7/8	10	B250	B100
SW-165	2 1/2	1 1/2	5 7/8	10	B250	B150
SW-166	2 1/2	2	6 3/8	10	B250	B200
SW-167	2 1/2	2 1/2	6 3/8	10	B250	B250
SW-170	3	1	6 1/8	11 3/4	B300	B100
SW-172	3	1 1/2	6 1/8	11 3/4	B300	B150
SW-173	3	2	6 11/16	11 3/4	B300	B200
SW-174	3	2 1/2	6 11/16	11 3/4	B300	B250
SW-175	3	3	7 3/16	11 3/4	B300	B300
SW-178	3 1/2	1	6 1/2	11 3/4	B350	B100
SW-180	3 1/2	1 1/2	6 1/2	11 3/4	B350	B150
SW-181	3 1/2	2	7	11 3/4	B350	B200
SW-182	3 1/2	2 1/2	7	11 3/4	B350	B250
SW-183	3 1/2	3	7 1/2	11 3/4	B350	B300
SW-184	3 1/2	3 1/2	7 1/2	11 3/4	B350	B350
SW-187	4	1	6 3/4	11 3/4	B400	B100
SW-189	4	1 1/2	6 3/4	11 3/4	B400	B150
SW-190	4	2	7 1/4	11 3/4	B400	B200
SW-191	4	2 1/2	7 1/4	11 3/4	B400	B250
SW-192	4	3	7 3/4	11 3/4	B400	B300
SW-193	4	3 1/2	7 3/4	11 3/4	B400	B350
SW-194	4	4	7 3/4	11 3/4	B400	B400

For a secure and reliable connection between a pipe main and a tubular tap at a 90-degree angle, the swage pipe to pipe tee makes a particularly effective and economical choice.

It is made of lightweight and corrosion-resistance aluminum alloy.

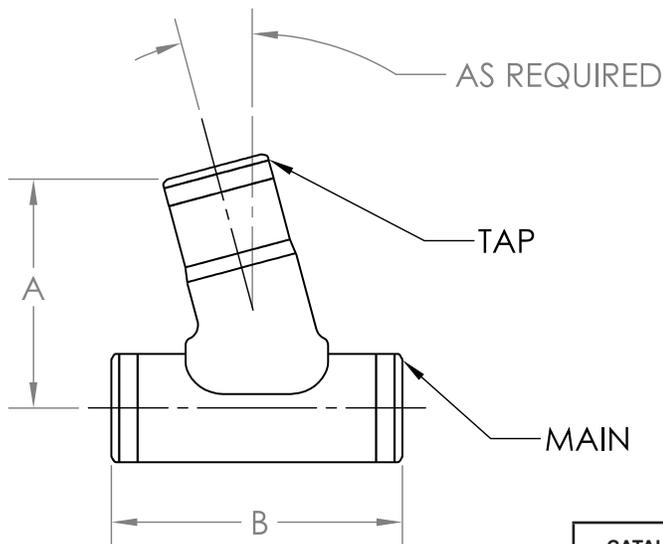
**Example:** For a 3" IPS run to a 3" IPS tap, the corresponding catalog number would be SW-175.

Split Sleeve Connectors  
(Use Prefix "SWS")

EX: SWS-175

## SECTION

## 18-SW-3

ALUMINUM SWAGE CONNECTORS  
PIPE TO ANGLE PIPE, TEE

The swage angled pipe connectors for joining pipe main to a tap whose angle varies is a reliable and easy to install connector. This connector is made of lightweight and corrosion-resistant aluminum alloy makes a permanent connection. It can be used in self-supporting A-frame structures.

In ordering the swage angled pipe connector, the varying angle must be designated in a suffix added to the catalog number to insure maximum efficiency in filling the order.

**Example:** A 15-degree angle tap for catalog number SW-236, should be written as SW-236-15.

Split Sleeve Connectors  
(Use Prefix "SWS")

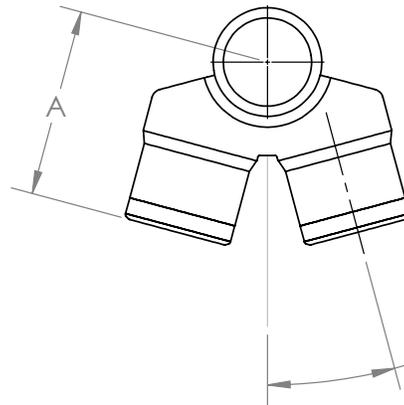
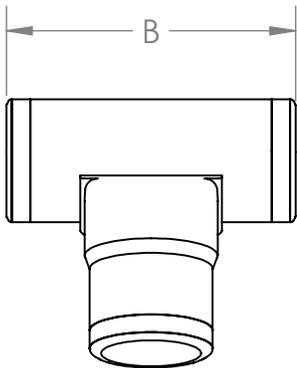
EX: SWS-236-15

CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		SWAGE DIES	
			A	B	MAIN	TAP
SW-236	1	1	5 1/4	10	B100	B100
SW-243	1 1/2	1	5 1/2	10	B150	B100
SW-245	1 1/2	1 1/2	5 1/2	10	B150	B150
SW-248	2	1	6	10	B200	B100
SW-250	2	1 1/2	6	10	B200	B150
SW-251	2	2	6 1/2	10	B200	B200
SW-254	2 1/2	1	6 5/8	10	B250	B100
SW-256	2 1/2	1 1/2	6 5/8	10	B250	B150
SW-257	2 1/2	2	7 1/8	10	B250	B200
SW-258	2 1/2	2 1/2	7 1/8	10	B250	B250
SW-261	3	1	7 1/8	11 3/4	B300	B100
SW-263	3	1 1/2	7 1/8	11 3/4	B300	B150
SW-264	3	2	7 5/8	11 3/4	B300	B200
SW-265	3	2 1/2	7 5/8	11 3/4	B300	B250
SW-266	3	3	8 1/8	11 3/4	B300	B300
SW-269	3 1/2	1	7 1/2	11 3/4	B350	B100
SW-271	3 1/2	1 1/2	7 1/2	11 3/4	B350	B150
SW-272	3 1/2	2	8	11 3/4	B350	B200
SW-273	3 1/2	2 1/2	8	11 3/4	B350	B250
SW-274	3 1/2	3	8 1/2	11 3/4	B350	B300
SW-275	3 1/2	3 1/2	8 1/2	11 3/4	B350	B350
SW-278	4	1	7 3/4	11 3/4	B400	B100
SW-280	4	1 1/2	7 3/4	11 3/4	B400	B150
SW-281	4	2	8 1/4	11 3/4	B400	B200
SW-282	4	2 1/2	8 1/4	11 3/4	B400	B250
SW-283	4	3	8 3/4	11 3/4	B400	B300
SW-284	4	3 1/2	8 3/4	11 3/4	B400	B350
SW-285	4	4	8 3/4	11 3/4	B400	B400

# ALUMINUM SWAGE CONNECTORS PIPE TO ANGLE PIPE, VEE

SECTION

18-SW-4



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		SWAGE DIES	
			A	B	MAIN	TAP
SW-327	1	1	5 1/8	10	B100	B100
SW-334	1 1/2	1	5 1/8	10	B150	B100
SW-336	1 1/2	1 1/2	6	10	B150	B150
SW-339	2	1	5 1/8	10	B200	B100
SW-341	2	1 1/2	6	10	B200	B150
SW-342	2	2	6 3/4	10	B200	B200
SW-345	2 1/2	1	5 1/8	10	B250	B100
SW-347	2 1/2	1 1/2	6	10	B250	B150
SW-348	2 1/2	2	6 3/4	10	B250	B200
SW-349	2 1/2	2 1/2	7 1/4	10	B250	B250
SW-352	3	1	5 1/8	11 3/4	B300	B100
SW-354	3	1 1/2	6	11 3/4	B300	B150
SW-355	3	2	6 3/4	11 3/4	B300	B200
SW-356	3	2 1/2	7 1/4	11 3/4	B300	B250
SW-357	3	3	8 1/4	11 3/4	B300	B300
SW-360	3 1/2	1	5 1/8	11 3/4	B350	B100
SW-362	3 1/2	1 1/2	6	11 3/4	B350	B150
SW-363	3 1/2	2	6 3/4	11 3/4	B350	B200
SW-364	3 1/2	2 1/2	7 1/4	11 3/4	B350	B250
SW-365	3 1/2	3	8 1/4	11 3/4	B350	B300
SW-366	3 1/2	3 1/2	8 1/2	11 3/4	B350	B350
SW-369	4	1	5 1/8	11 3/4	B400	B100
SW-371	4	1 1/2	6	11 3/4	B400	B150
SW-372	4	2	6 3/4	11 3/4	B400	B200
SW-373	4	2 1/2	7 1/4	11 3/4	B400	B250
SW-374	4	3	8 1/4	11 3/4	B400	B300
SW-375	4	3 1/2	8 1/2	11 3/4	B400	B350
SW-376	4	4	9 3/4	11 3/4	B400	B400

For joining a pipe main to taps whose angles vary from the perpendicular, the swage vee offers excellent performance and easy installation. Cast of high conductivity lightweight and corrosion-resistant aluminum alloy, it can be used in self-supporting A-frame structures.

To insure maximum efficiency in filling the order, the varying angles should be designated by means of a suffix added to the catalog number.

**Example:** A 15-degree angle tap for catalog number SW-327, should be ordered as SW-327-15.

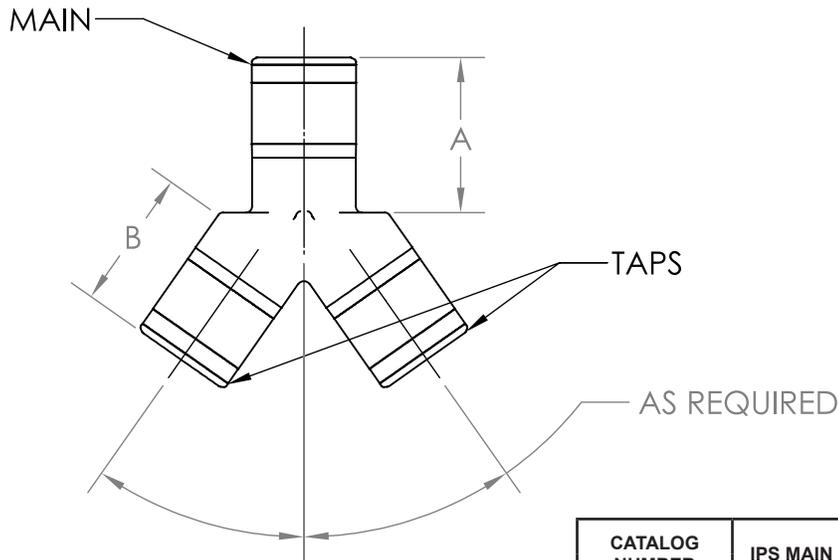
Split Sleeve Connectors  
(Use Prefix "SWS")

EX: SWS-327-15

SECTION

18-SW-5

ALUMINUM SWAGE CONNECTORS  
PIPE TO PIPE, Y, PERPENDICULAR MAIN



If an economical and permanent union is required between a pipe main and taps whose angles vary from the perpendicular, the swage Y connector proves an efficient connector.

Durable and lightweight because of its high conductivity aluminum alloy it can be especially useful in self-supported A-frames structures.

Varying angles should be noted by means of a suffix added to the catalog number.

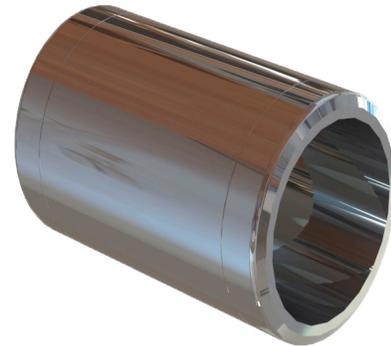
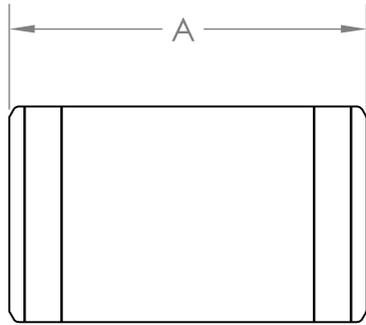
**Example:** A 15 degree angle tap for catalog number SW-418, should be written on the order as SW-418-15.

CATALOG NUMBER	IPS MAIN	IPS TAPS	DIMENSIONS IN INCHES		SWAGE DIES	
			A	B	MAIN	TAP
SW-418	1	1	4 1/8	4	B100	B100
SW-425	1 1/2	1	4 1/2	4	B150	B100
SW-427	1 1/2	1 1/2	4 1/2	4 1/2	B150	B150
SW-430	2	1	5 5/8	4	B200	B100
SW-432	2	1 1/2	5 5/8	4	B200	B150
SW-433	2	2	5 5/8	5 5/8	B200	B200
SW-436	2 1/2	1	5 5/8	4	B250	B100
SW-438	2 1/2	1 1/2	5 5/8	4	B250	B150
SW-439	2 1/2	2	5 5/8	5 5/8	B250	B200
SW-440	2 1/2	2 1/2	5 5/8	5 5/8	B250	B250
SW-443	3	1	6	4	B300	B100
SW-445	3	1 1/2	6	4	B300	B150
SW-446	3	2	6	5 5/8	B300	B200
SW-447	3	2 1/2	6	5 5/8	B300	B250
SW-448	3	3	6	6	B300	B300
SW-451	3 1/2	1	6 1/8	4	B350	B100
SW-453	3 1/2	1 1/2	6 1/8	4	B350	B150
SW-454	3 1/2	2	6 1/8	5 5/8	B350	B200
SW-455	3 1/2	2 1/2	6 1/8	5 5/8	B350	B250
SW-456	3 1/2	3	6 1/8	6	B350	B300
SW-457	3 1/2	3 1/2	6 1/8	6 1/8	B350	B350
SW-460	4	1	6 1/4	4	B400	B100
SW-462	4	1 1/2	6 1/4	4	B400	B150
SW-463	4	2	6 1/4	5 5/8	B400	B200
SW-464	4	2 1/2	6 1/4	5 5/8	B400	B250
SW-465	4	3	6 1/4	6	B400	B300
SW-466	4	3 1/2	6 1/4	6 1/8	B400	B350
SW-467	4	4	6 1/4	6 1/4	B400	B400

# ALUMINUM SWAGE CONNECTORS PIPE TO PIPE COUPLER-REDUCER

SECTION

18-SW-6



CATALOG NUMBER	IPS MAIN	IPS TAP	DIMENSIONS IN INCHES		SWAGE DIES	
			A	MAIN	TAP	
SW-514	1	1	6	B100	B100	
SW-526	1 1/2	1	6 1/2	B150	B100	
SW-530	1 1/2	1 1/2	6	B150	B150	
SW-532	2	1	7	B200	B100	
SW-536	2	1 1/2	7	B200	B150	
SW-538	2	2	6	B200	B200	
SW-542	2 1/2	1 1/2	7	B250	B150	
SW-544	2 1/2	2	7 1/2	B250	B200	
SW-546	2 1/2	2 1/2	6	B250	B250	
SW-548	3	1 1/2	7 5/8	B300	B150	
SW-550	3	2	8 1/8	B300	B200	
SW-552	3	2 1/2	8 1/8	B300	B250	
SW-554	3	3	7 1/4	B300	B300	
SW-556	3 1/2	2	8 1/4	B350	B200	
SW-558	3 1/2	2 1/2	8 1/4	B350	B250	
SW-560	3 1/2	3	8 3/4	B350	B300	
SW-562	3 1/2	3 1/2	8 1/4	B350	B350	
SW-564	4	2	8 1/4	B400	B200	
SW-566	4	2 1/2	8 1/4	B400	B250	
SW-568	4	3	8 3/4	B400	B300	
SW-570	4	3 1/2	8 3/4	B400	B350	
SW-572	4	4	9 1/4	B400	B400	

For a coupler connection that requires two swages to provide a stronger joint, use the suffix "L".

**Example:** For a 3" IPS to 3" IPS long coupler requiring two swages, the corresponding catalog number would be SW-554-L.

For installation instructions on long swage couplers, call the factory.

Split Sleeve Connectors  
(Use Prefix "SWS")

EX: SWS-554

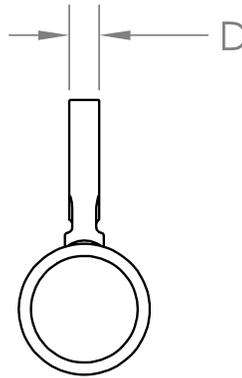
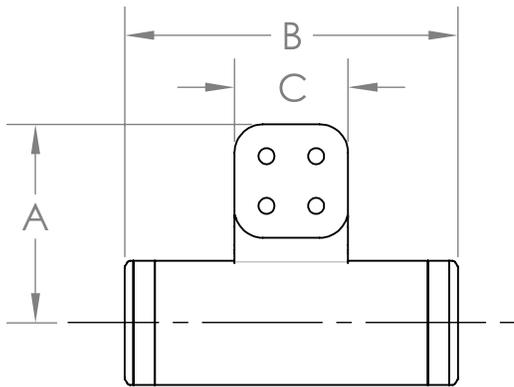


LONG COUPLER  
(SUFFIX "L")

SECTION

18-SW-7

ALUMINUM SWAGE CONNECTORS  
PIPE TO FLAT PAD



(STANDARD)

For a secure and reliable connection between a pipe bus and a flat pad to which a choice fittings may be bolted, the swage pipe to a flat pad tee connector is a particularly adaptable, efficient and economical choice. It is made of a lightweight and corrosion-resistant aluminum alloy for dependability and durability in the field.

**Example:** A 4" IPS pipe to a standard D pad would appear as SW-639.

**Example:** A 4" IPS pipe to a 90-degree pad D pad would appear as SW-639-90.

CATALOG NUMBER	PIPE SIZE IPS	PAD STYLE	DIMENSIONS IN INCHES				SWAGE DIE
			A	B	C	D	
SW-616	1	B	3	10	2	1/2	B100
SW-617	1	C	4	10	3	1/2	B100
SW-618	1	D	5	10	4	1/2	B100
SW-622	1 1/2	B	3 1/4	10	2	1/2	B150
SW-623	1 1/2	C	4 1/4	10	3	1/2	B150
SW-624	1 1/2	D	5 1/4	10	4	1/2	B150
SW-625	2	B	3 1/2	10	2	1/2	B200
SW-626	2	C	4 1/2	10	3	1/2	B200
SW-627	2	D	5 1/2	10	4	1/2	B200
SW-628	2 1/2	B	3 7/8	10	2	1/2	B250
SW-629	2 1/2	C	4 7/8	10	3	1/2	B250
SW-630	2 1/2	D	5 7/8	10	4	1/2	B250
SW-631	3	B	4 1/4	11 3/4	2	5/8	B300
SW-632	3	C	5 1/4	11 3/4	3	5/8	B300
SW-633	3	D	6 1/4	11 3/4	4	5/8	B300
SW-634	3 1/2	B	4 1/2	11 3/4	2	3/4	B350
SW-635	3 1/2	C	5 1/2	11 3/4	3	3/4	B350
SW-636	3 1/2	D	6 1/2	11 3/4	4	3/4	B350
SW-637	4	B	4 3/4	11 3/4	2	3/4	B400
SW-638	4	C	5 3/4	11 3/4	3	3/4	B400
SW-639	4	D	6 3/4	11 3/4	4	3/4	B400



(90 DEGREE PAD)

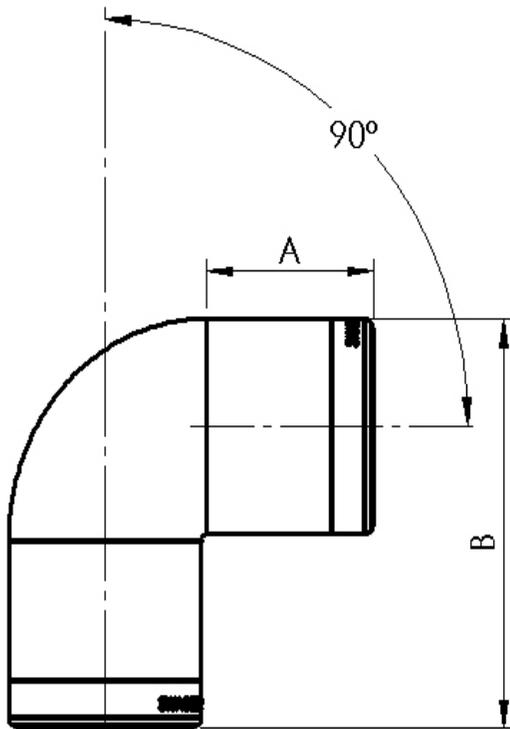


SPLIT CONNECTORS  
(USE PREFIX "SWS")

# ALUMINUM SWAGE CONNECTORS PIPE TO PIPE, ELBOW

SECTION

18-SW-8



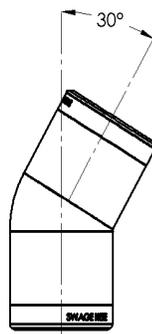
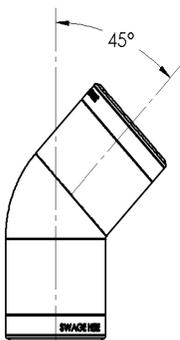
CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES		SWAGE DIE
		A	B	
SW-651	1	3	7 3/4	B100
SW-653	1 1/2	3	7 3/4	B150
SW-654	2	3 1/2	8 1/4	B200
SW-655	2 1/2	3 1/2	8 1/4	B250
SW-656	3	4	8 3/4	B300
SW-657	3 1/2	4	8 3/4	B350
SW-658	4	4	8 3/4	B400

A rugged connector for linking pipes of the same size at an angle with permanence and reliability, the economical swage elbow depends on its high conductivity, lightweight aluminum alloy for resistance to corrosion and stress in the field.

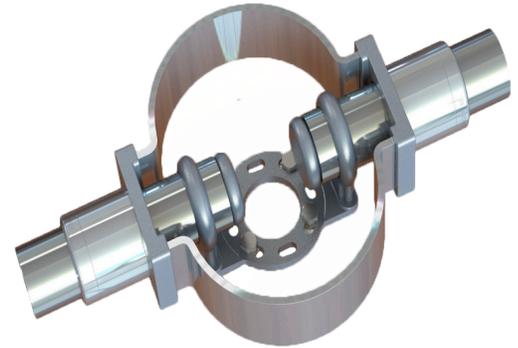
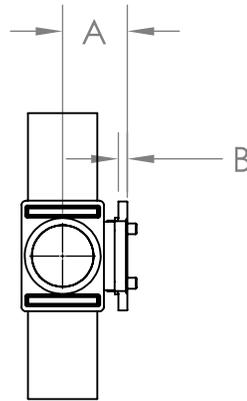
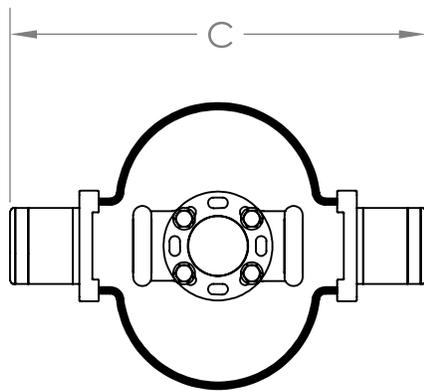
Varying angles should be properly designated as a suffix to the catalog number.

**Example:** If a 45-degree angle were requested for catalog number SW-651, the catalog number should appear as SW-651-45.

**Example:** If a 90-degree angle were requested for catalog number SW-651, the catalog number should appear as SW-651-90.



# ALUMINUM SWAGE CONNECTORS EXPANSION COUPLER SUPPORT



INTERNAL DRIVE END PLUGS INCLUDED

In addition to featuring a lightweight and corrosion-resistant aluminum alloy as well as economy and permanence in joining bus supports. The swage expansion support compensates for temperature variations and thereby protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

The flexible shunts of laminated soft aluminum are designed to withstand the maximum current of the bus it connects.

When ordering expansion coupler supports for schedule 80 bus, use the suffix "H" in the part number.

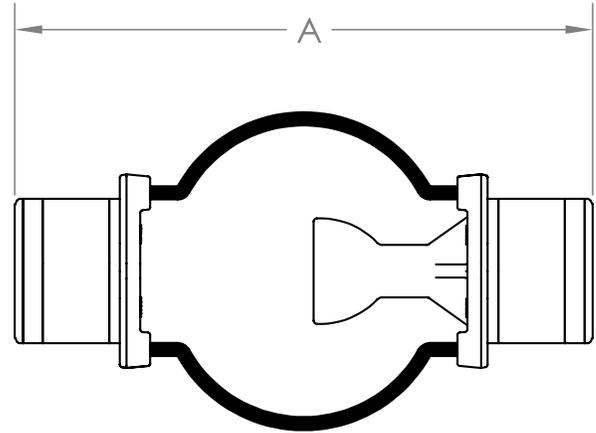
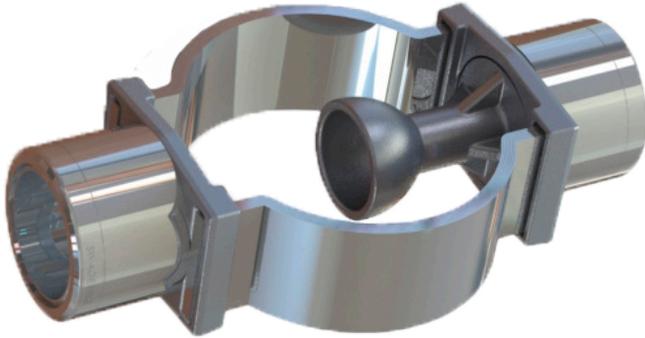
**Example:** If a swage expansion coupler support were required for 4" IPS Sch. 80 bus with a 5" bolt circle, the corresponding part number would be SW-1097H.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES			SWAGE DIE
			A	B	C	
SW-1082	3	1	2	3/8	17	B100
SW-1083	5	1	2 1/4	1/2	19	B100
SW-1086	3	1 1/2	2 1/2	3/8	17	B150
SW-1087	5	1 1/2	2 1/2	1/2	19	B150
SW-1088	3	2	2 3/4	1/2	17 1/2	B200
SW-1089	5	2	2 3/4	1/2	19 1/2	B200
SW-1090	3	2 1/2	3 1/8	1/2	17 1/2	B250
SW-1091	5	2 1/2	3 1/8	1/2	19 1/2	B250
SW-1092	3	3	3 5/8	1/2	18	B300
SW-1093	5	3	3 5/8	1/2	20	B300
SW-1094	3	3 1/2	4	1/2	18	B350
SW-1095	5	3 1/2	4	1/2	20	B350
SW-1096	3	4	4 1/2	1/2	18	B400
SW-1097	5	4	4 1/2	1/2	20	B400

# ALUMINUM SWAGE CONNECTORS EXPANSION COUPLER PIPE TO PIPE

SECTION

18-SW-14



CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES	SWAGE DIE
		A	
SW-1106	1	20	B100
SW-1108	1 1/2	20	B150
SW-1109	2	20 1/2	B200
SW-1110	2 1/2	20 1/2	B250
SW-1111	3	21	B300
SW-1112	3 1/2	21	B350
SW-1113	4	21	B400

Made of a lightweight and corrosion-resistant aluminum alloy, the swage expansion pipe to pipe coupler makes a permanent and reliable connection between pipes and offers protection for equipment bushings, switch gear, and insulators by compensating for expansion and contraction due to temperature variations.

The flexible shunts of laminated soft aluminum are designed to carry the maximum current of the bus the connectors joins.

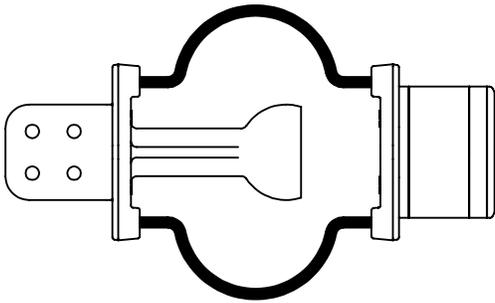
When ordering expansion coupler supports for schedule 80 bus, use the suffix "H" in the part number.

**Example:** If a swage expansion coupler support were required for 4" IPS Sch. 80 bus, the corresponding part number would be SW-1113H.

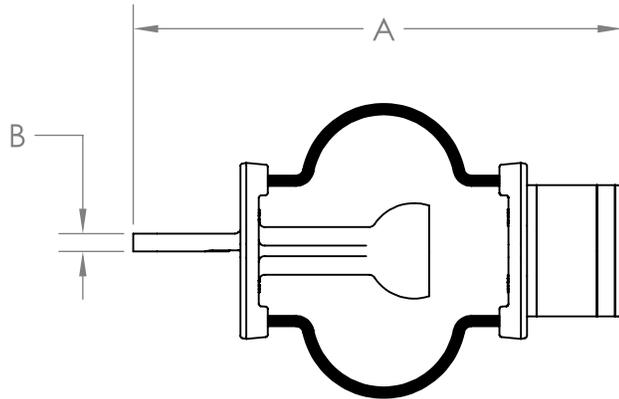
SECTION

18-SW-15

ALUMINUM SWAGE CONNECTORS  
EXPANSION TERMINAL TO PIPE



FOR PAD ROTATED 90 DEGREES USE SUFFIX (V)  
EXAMPLE SW-1136V



STANDARD PAD ORIENTATION



An economical connector making a permanent union between a terminal and a tubular bus, the swage expansion terminal is made of a lightweight and corrosion-resistant aluminum that compensates for temperature variations and thus protects equipment bushings, switch gear, and insulators from expanding or contracting bus pressures.

Flexible shunts of laminated soft aluminum are designed for carrying the maximum current of the bus it connects.

When ordering expansion coupler supports for schedule 80 bus, use the suffix "H" in the part number.

**Example:** If a swage expansion terminal were required for 4" IPS Sch. 80 bus, the corresponding part number would be SW-1146H.

CATALOG NUMBER	PIPE SIZE IPS	PAD SIZE	DIMENSIONS IN INCHES		SWAGE DIE
			A	B	
SW-1123	1	B	19	1/2	B100
SW-1124	1	C	19	1/2	B100
SW-1125	1	D	20	1/2	B100
SW-1129	1 1/2	B	19	5/8	B150
SW-1130	1 1/2	C	19	5/8	B150
SW-1131	1 1/2	D	20	5/8	B150
SW-1132	2	B	19 1/2	5/8	B200
SW-1133	2	C	19 1/2	5/8	B200
SW-1134	2	D	20 1/2	5/8	B200
SW-1135	2 1/2	B	19 1/2	11/16	B250
SW-1136	2 1/2	C	19 1/2	11/16	B250
SW-1137	2 1/2	D	20 1/2	11/16	B250
SW-1138	3	B	20	7/8	B300
SW-1139	3	C	20	7/8	B300
SW-1140	3	D	21	7/8	B300
SW-1141	3 1/2	B	20	1	B350
SW-1142	3 1/2	C	20	1	B350
SW-1143	3 1/2	D	21	1	B350
SW-1144	4	B	20	1	B400
SW-1145	4	C	20	1	B400
SW-1146	4	D	21	1	B400

# ALUMINUM SWAGE CONNECTORS GROUNDING STUD

SECTION

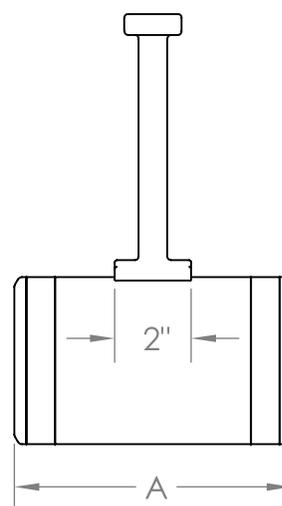
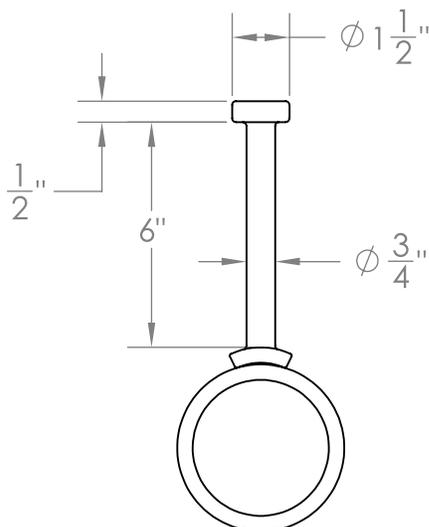
18-SW-17



(SOLID SLEEVE USE PREFIX SW)



(SPLIT SLEEVE USE PREFIX SWS)



CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES	
		A	SWAGE DIE
SW-1275	1	6	B100
SW-1277	1 1/2	6	B150
SW-1278	2	6	B200
SW-1279	2 1/2	6	B250
SW-1280	3	7 1/4	B300
SW-1281	3 1/2	8 1/4	B350
SW-1282	4	9 1/4	B400

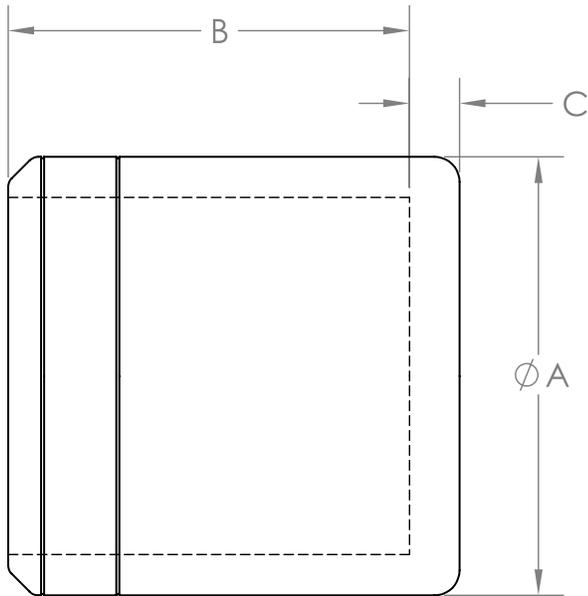
Lightweight and durable, the swage grounding stud connector temporarily grounds out dead bus for purposes of safety during maintenance operations on substation equipment.

For split swage sleeve, use prefix SWS.

**Example:** If a request for a 3" IPS swage split sleeve grounding stud were requested, the corresponding catalog number would be SWS-1280.

## SECTION

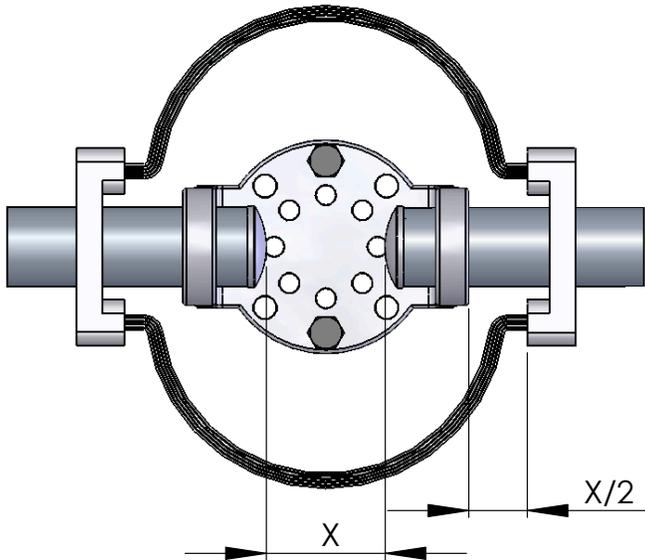
## 18-SW-19

ALUMINUM SWAGE CONNECTORS  
END BELL

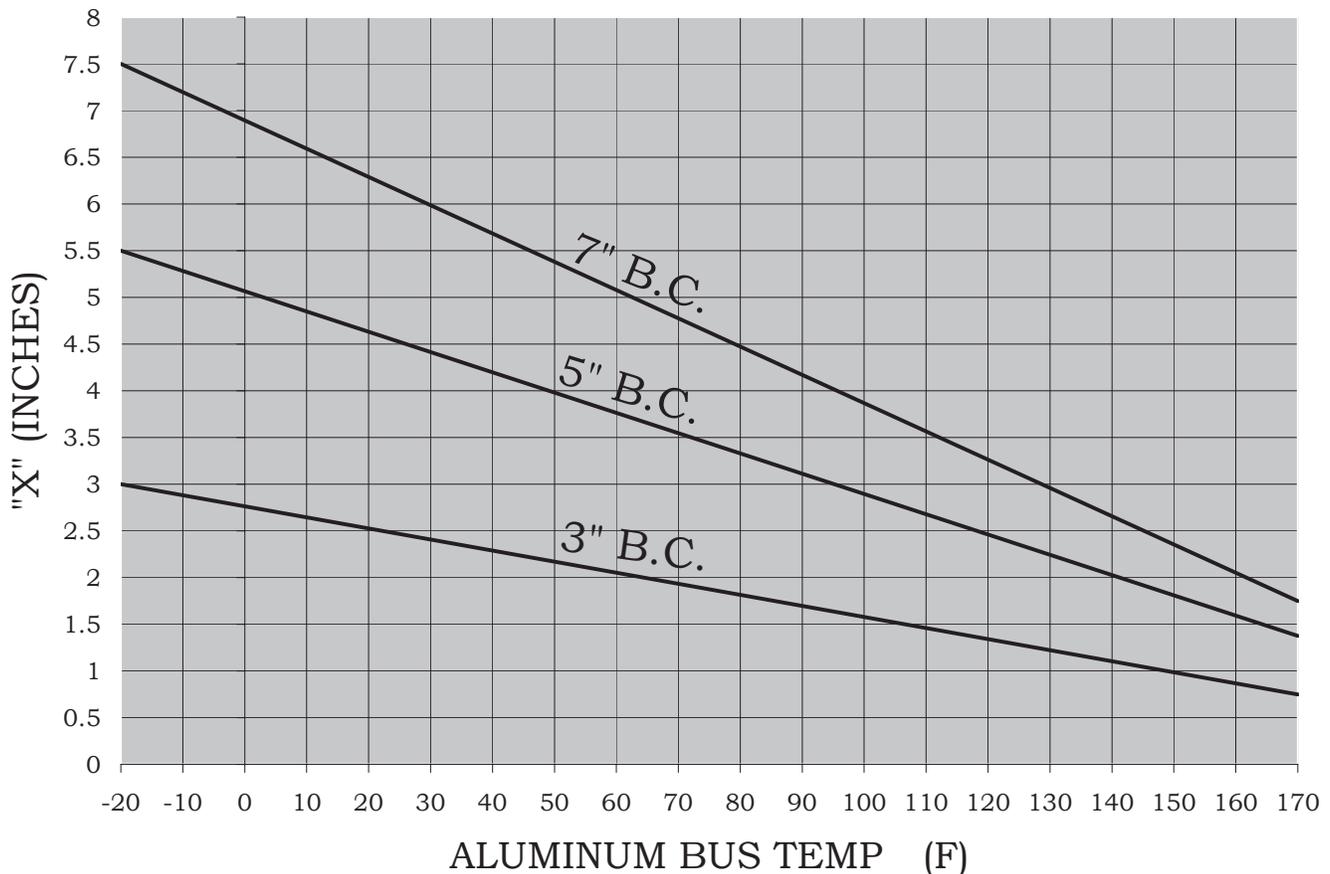
CATALOG NUMBER	PIPE SIZE IPS	DIMENSIONS IN INCHES			SWAGE DIE
		A	B	C	
SW-1301	1	2	3	1/2	B100
SW-1303	1 1/2	2 1/2	3	1/2	B150
SW-1304	2	3	3 1/2	1/2	B200
SW-1305	2 1/2	3 3/4	3 1/2	1/2	B250
SW-1306	3	4 3/8	4	1/2	B300
SW-1307	3 1/2	5	4	1/2	B350
SW-1308	4	5 1/2	4	1/2	B400

# EXPANSION SUPPORT INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS



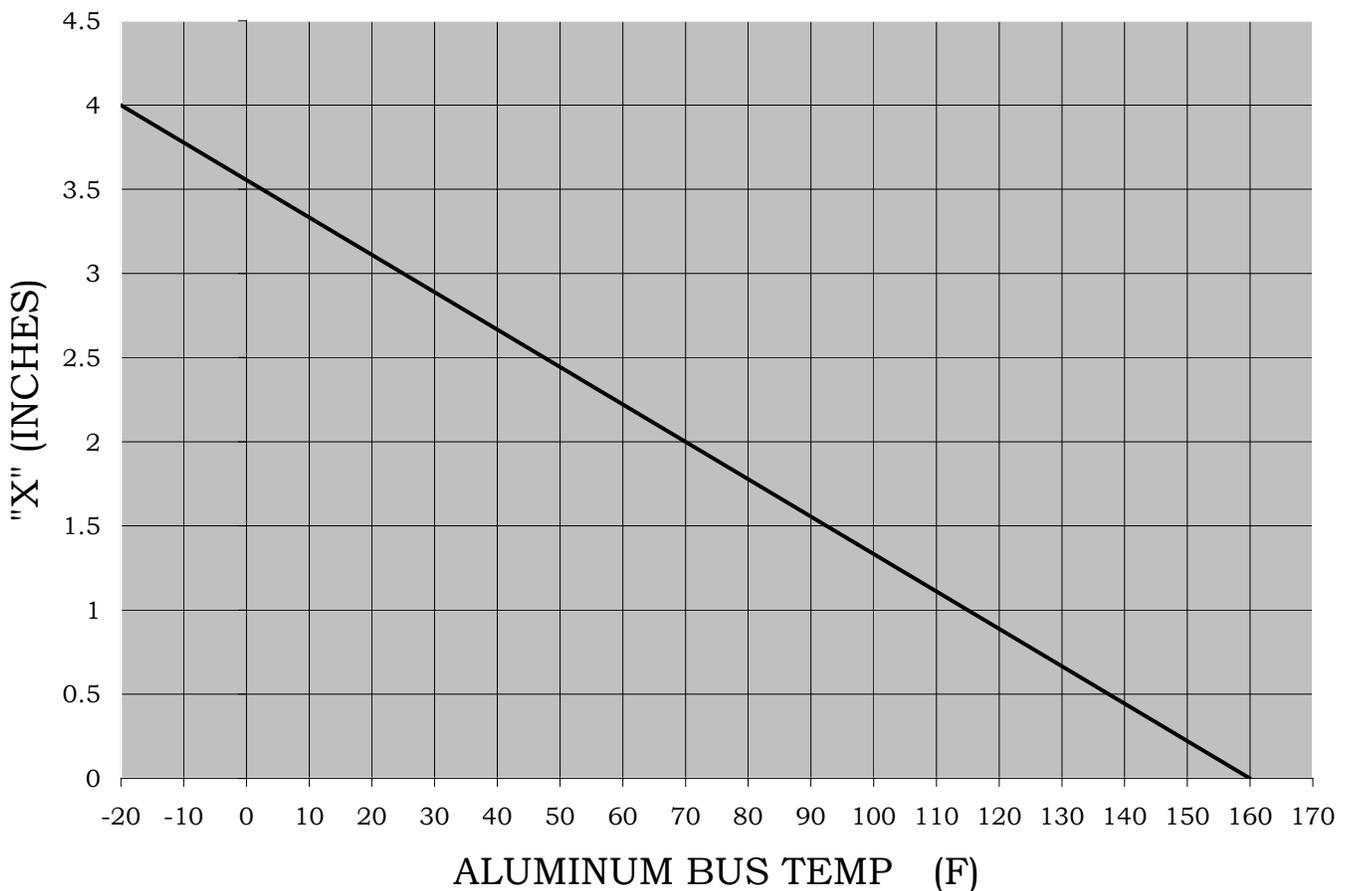
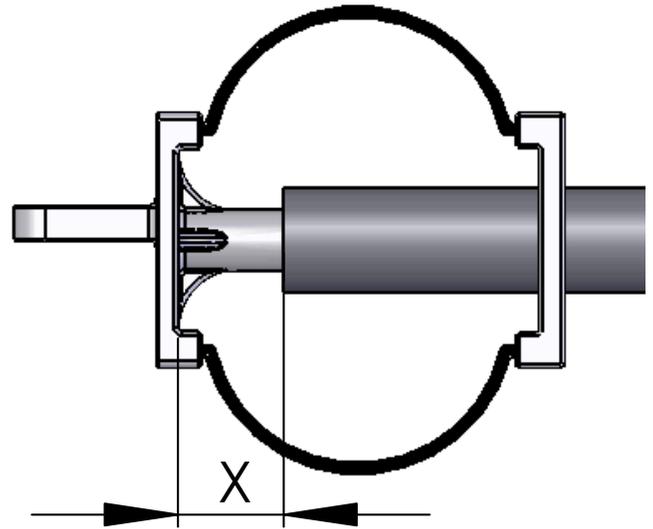
1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of  
 240ft. (120ft per side)-----7" B.C.  
 160ft. (80ft. per side)-----5" B.C.  
 80ft. (40ft per side)-----3" B.C.  
 Find the appropriate dimension "X".
3. "X" measurement to be taken with the end plugs installed.  
 (Extended to conserve phase spacing.)



# EXPANSION TERMINAL INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS

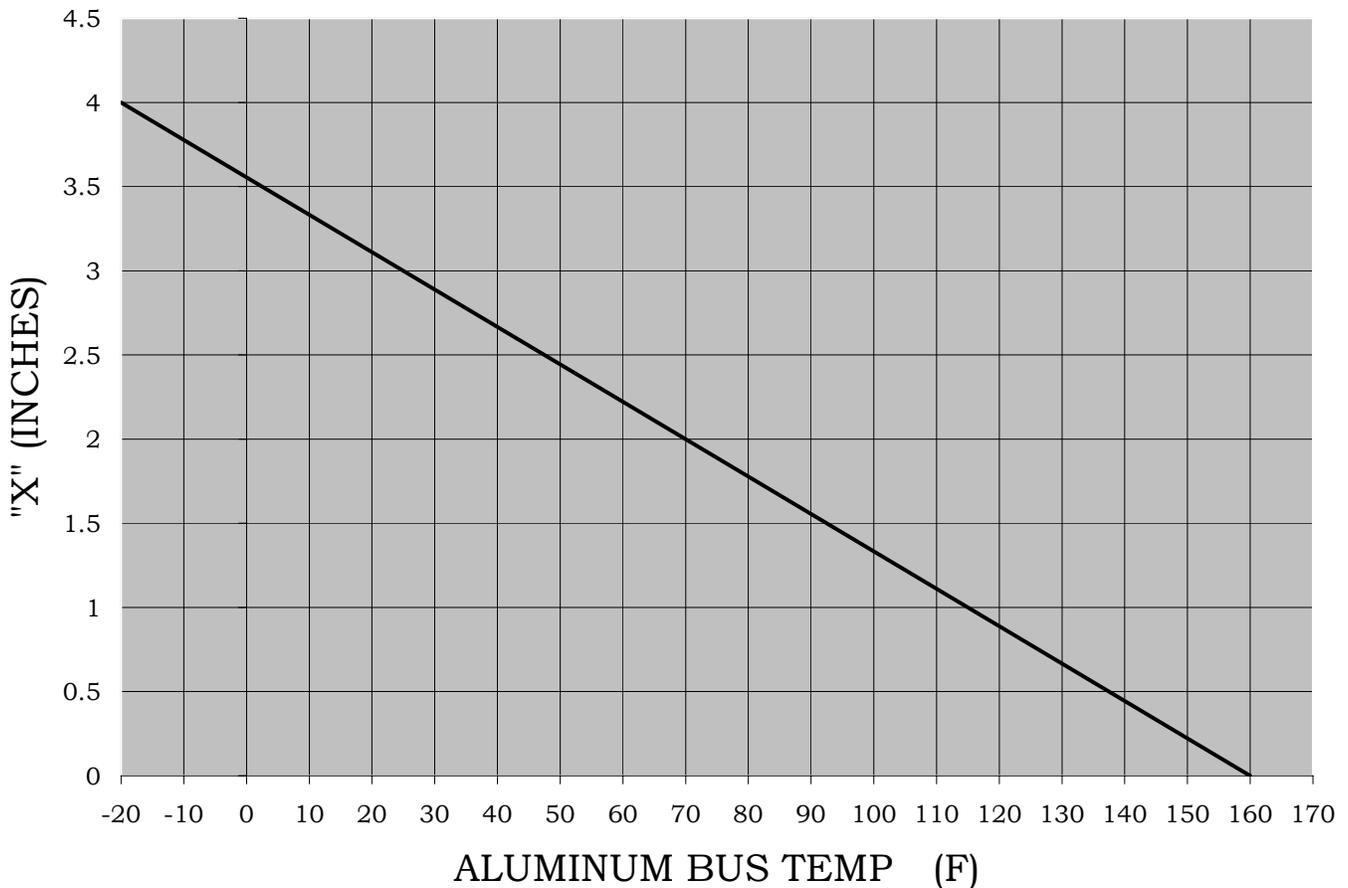
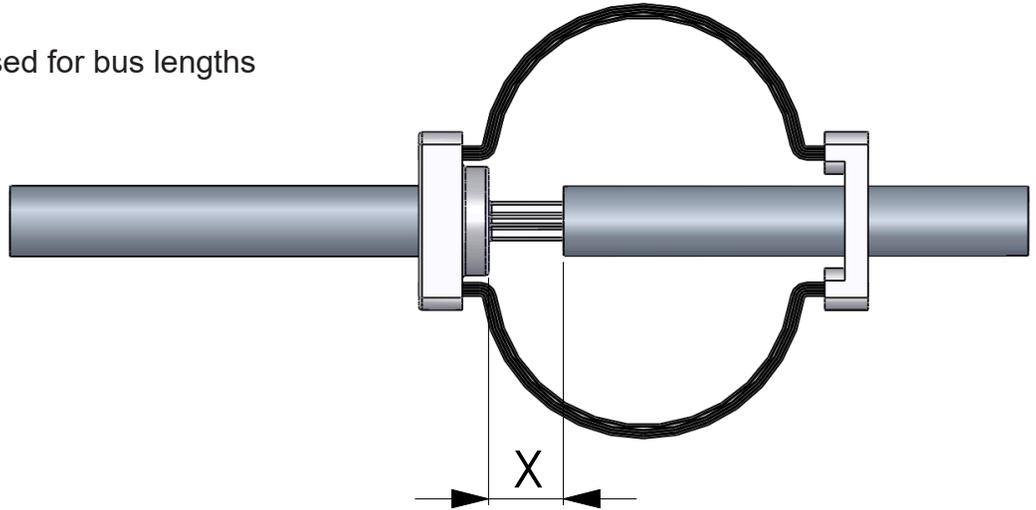
1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of 140ft. find the appropriate dimension "X".
3. The chart may only be used for bus lengths less than 140ft.



# EXPANSION COUPLER INSTALLATION INSTRUCTIONS

## CHART INSTRUCTIONS

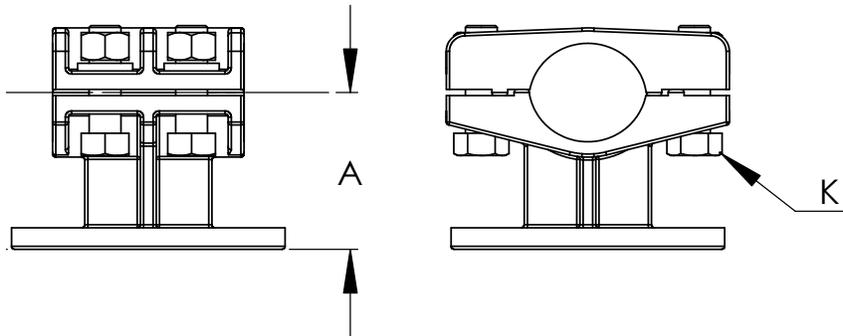
1. Locate bus temperature at bottom of chart.
2. Using the diagonal line for maximum bus length of 140ft. find the appropriate dimension "X".
3. The chart may only be used for bus lengths less than 140ft.



# BRONZE BUS SUPPORTS PEDESTAL TYPE

SECTION

19-1



CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES	
			A	K
19-101	3	1/2	1 3/4	3/8
19-102	5	1/2	2 1/8	3/8
19-103	3	3/4	2	1/2
19-104	5	3/4	2 1/4	1/2
19-105	3	1	2	1/2
19-106	5	1	2 1/4	1/2
19-107	3	1 1/4	2 1/4	1/2
19-108	5	1 1/4	2 3/8	1/2
19-109	3	1 1/2	2 1/2	1/2
19-110	5	1 1/2	2 1/2	1/2
19-111	3	2	2 3/4	1/2
19-112	5	2	2 3/4	1/2
19-113	3	2 1/2	3 1/8	5/8
19-114	5	2 1/2	3 1/8	5/8
19-115	3	3	3 5/8	5/8
19-116	5	3	3 5/8	5/8
19-117	3	3 1/2	4	5/8
19-118	5	3 1/2	4	5/8
19-119	3	4	4 1/2	5/8
19-120	5	4	4 1/2	5/8
19-121	3	4 1/2	4 7/8	5/8
19-122	5	4 1/2	4 7/8	5/8
19-123	3	5	5	5/8
19-124	5	5	5	5/8
19-125	3	6	5 1/2	5/8
19-126	5	6	5 1/2	5/8

A heavy duty connector for joining a pipe bus to an insulator cap, the type RFSS combines the rugged durability of its copper alloy casting with the strength and resistance to corrosion of its silicon bronze clamping hardware.

Steel galvanized bolts and lockwashers are included for mounting to the insulator cap. All bolt heads are recessed for single wrench installation.

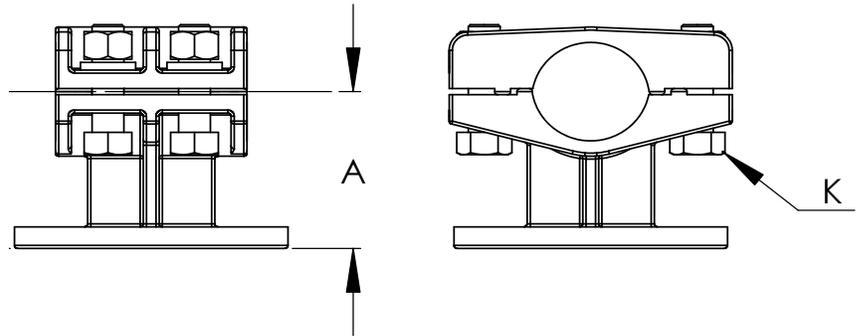
For rotation and angular adjustment, the base of the bus support features eight holes. An added feature of this connector is the reversible bus support cap to allow for either slip or tight-fit applications.

Static springs standard.

SECTION

19-1A

ALUMINUM BUS SUPPORTS  
PEDESTAL TYPE



Cast of a lightweight aluminum alloy, the type ARFSS connects a bus to an insulator cap and includes bolts, nuts, and lockwashers of high tensile aluminum for clamping efficiency and resistance to corrosion.

All bolt heads are captivated for single wrench installation. Steel galvanized bolts and lockwashers are included for mounting to the insulator cap.

The base of the bus support features eight holes for rotation and angular adjustment. A special feature of this connector is the reversible bus support cap which permits either slip or tight fit applications.

Static spring is standard.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES	
			A	K
19-127	3	1/2	1 3/4	1/2
19-128	5	1/2	2 1/8	1/2
19-129	3	3/4	2	1/2
19-130	5	3/4	2 1/4	1/2
19-131	3	1	2	1/2
19-132	5	1	2 1/4	1/2
19-133	3	1 1/4	2 1/4	1/2
19-134	5	1 1/4	2 3/8	1/2
19-135	3	1 1/2	2 1/2	1/2
19-136	5	1 1/2	2 1/2	1/2
19-137	3	2	2 3/4	1/2
19-138	5	2	2 3/4	1/2
19-139	3	2 1/2	3 1/8	5/8
19-140	5	2 1/2	3 1/8	5/8
19-141	3	3	3 5/8	5/8
19-142	5	3	3 5/8	5/8
19-143	3	3 1/2	4	5/8
19-144	5	3 1/2	4	5/8
19-145	3	4	4 1/2	5/8
19-146	5	4	4 1/2	5/8
19-147	3	4 1/2	4 7/8	5/8
19-148	5	4 1/2	4 7/8	5/8
19-149	3	5	5	5/8
19-150	5	5	5	5/8
19-151	3	6	5 1/2	5/8
19-152	5	6	5 1/2	5/8

**Example:**

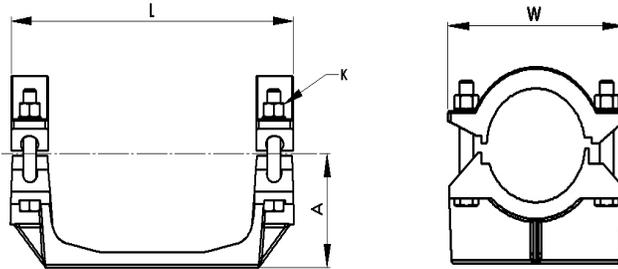
For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-152-7BC

# BRONZE BUS SUPPORTS OPEN BASES

SECTION

19-2



CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	K	L	W
19-155	3	3/4	2	1/2	7	3 1/4
19-156	5	3/4	2 1/4	1/2	9 1/2	3 1/2
19-157	3	1	2	1/2	7 1/4	3
19-158	5	1	2 1/4	1/2	9 3/4	3 1/4
19-159	3	1 1/4	2 1/4	1/2	7 1/2	3 1/2
19-160	5	1 1/4	2 3/8	1/2	9 1/4	3 1/2
19-161	3	1 1/2	2 1/2	1/2	8	4 1/2
19-162	5	1 1/2	2 1/2	1/2	9 1/4	4
19-163	3	2	2 3/4	1/2	9 1/4	4 3/4
19-164	5	2	2 3/4	1/2	9 1/4	4 3/4
19-165	3	2 1/2	3 1/8	5/8	7 1/2	6
19-166	5	2 1/2	3 1/8	5/8	9 1/4	5
19-167	3	3	3 5/8	5/8	9 1/4	5
19-168	5	3	3 5/8	5/8	11	6 1/4
19-169	3	3 1/2	4	5/8	9 1/2	8 1/2
19-170	5	3 1/2	4	5/8	11 1/2	8 1/2
19-171	3	4	4 1/2	5/8	11	8 1/2
19-172	5	4	4 1/2	5/8	11	8 1/2
19-175	3	5	5	5/8	11	9 1/4
19-176	5	5	5	5/8	11	9 1/4
19-177	3	6	5 1/2	5/8	11 1/2	10 3/4
19-178	5	6	5 1/2	5/8	11 1/2	10 3/4

For joining a bus to an insulator cap, the type BFSS proves a durable connector because of its high strength copper alloy casting.

Clamping hardware of silicon bronze enhances its strength and resistance to wear in the field.

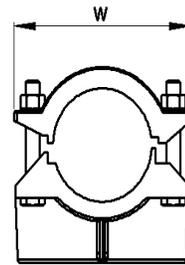
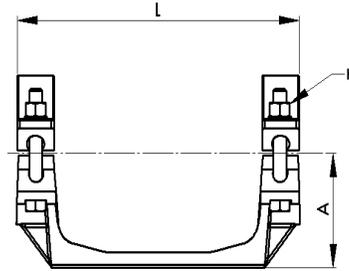
To facilitate installation, all bolt heads are recessed. Also included are steel galvanized bolts and lockwashers for mounting to the insulator cap.

For rotation and angular adjustment, the base of the bus support features eight holes. Another feature of this connector is the reversible bus support cap which allows for either slip or tight-fit applications.

Static spring is standard.

## SECTION

## 19-2A

ALUMINUM BUS SUPPORTS  
OPEN BASES

Connecting a bus to an insulator cap can be accomplished with ease and efficiency using the type AFSS. A connector made of a lightweight aluminum alloy, it includes high strength aluminum clamping hardware for dependability and steel galvanized bolts and lockwashers for proper mounting to the insulator cap. Recessed bolt heads allow single wrench installation.

The base of the bus support has eight holes for rotation and angular adjustment. Another feature of this connector is the reversible bus support cap which permits either slip or tight-fit applications.

Static spring is standard.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES			
			A	K	L	W
19-181	3	3/4	2	1/2	7	3 1/4
19-182	5	3/4	2 1/4	1/2	9 1/2	3 1/2
19-183	3	1	2	1/2	7 1/4	3
19-184	5	1	2 1/4	1/2	9 3/4	3 1/4
19-185	3	1 1/4	2 1/4	1/2	7 1/2	3 1/2
19-186	5	1 1/4	2 3/8	1/2	9 1/4	3 1/2
19-187	3	1 1/2	2 1/2	1/2	8	4 1/2
19-188	5	1 1/2	2 1/2	1/2	9 1/4	4
19-189	3	2	2 3/4	1/2	9 1/4	4 3/4
19-190	5	2	2 3/4	1/2	9 1/4	4 3/4
19-191	3	2 1/2	3 1/8	5/8	9 1/4	5
19-192	5	2 1/2	3 1/8	5/8	9 1/4	5
19-193	3	3	3 5/8	1/2	7 1/2	6
19-194	5	3	3 5/8	1/2	11	6 1/4
19-195	3	3 1/2	4	5/8	9 1/2	8 1/2
19-196	5	3 1/2	4	5/8	11 1/2	8 1/2
19-197	3	4	4 1/2	5/8	11	8 1/2
19-198	5	4	4 1/2	5/8	11	8 1/2
19-201	3	5	5	5/8	11	9 1/4
19-202	5	5	5	5/8	11	9 1/4
19-203	3	6	5 1/2	5/8	11 1/2	10 3/4
19-204	5	6	5 1/2	5/8	11 1/2	10 3/4

**Example:**

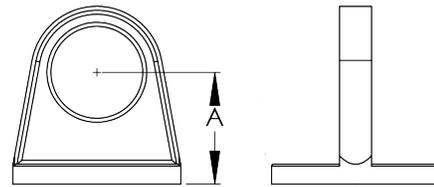
For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-204-7BC

# BRONZE/ALUMINUM BUS SUPPORTS SINGLE RING

SECTION

19-3

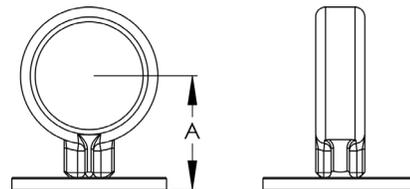


BRONZE BUS SUPPORTS SINGLE RING			
CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES
			A
19-205	3	1/2	1 3/4
19-206	5	1/2	2 1/8
19-207	3	3/4	2
19-208	5	3/4	2 1/4
19-209	3	1	2
19-210	5	1	2 1/4
19-211	3	1 1/4	2 1/4
19-212	5	1 1/4	2 3/8
19-213	3	1 1/2	2 1/2
19-214	5	1 1/2	2 1/2
19-215	3	2	2 3/4
19-216	5	2	2 3/4
19-217	3	2 1/2	3 1/8
19-218	5	2 1/2	3 1/8
19-219	3	3	3 5/8
19-220	5	3	3 5/8
19-221	3	3 1/2	4
19-222	5	3 1/2	4
19-223	3	4	4 1/2
19-224	5	4	4 1/2
19-225	3	4 1/2	4 7/8
19-226	5	4 1/2	4 7/8
19-227	3	5	5
19-228	5	5	5
19-229	3	6	5 1/2
19-230	5	6	5 1/2

A reliable connector for joining a bus to an insulator cap, the type BSB is cast of a high strength copper alloy and is used in slip fit applications.

This connector includes steel galvanized bolts and lockwashers for proper mounting to the insulator cap.

To allow rotation and angular adjustment, the base of the bus support has eight holes.



ALUMINUM BUS SUPPORTS SINGLE RING			
CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES
			A
19-231	3	1/2	1 3/4
19-232	5	1/2	2 1/8
19-233	3	3/4	2
19-234	5	3/4	2 1/4
19-235	3	1	2
19-236	5	1	2 1/4
19-237	3	1 1/4	2 1/4
19-238	5	1 1/4	2 3/8
19-239	3	1 1/2	2 1/2
19-240	5	1 1/2	2 1/2
19-241	3	2	2 3/4
19-242	5	2	2 3/4
19-243	3	2 1/2	3 1/8
19-244	5	2 1/2	3 1/8
19-245	3	3	3 5/8
19-246	5	3	3 5/8
19-247	3	3 1/2	4
19-248	5	3 1/2	4
19-249	3	4	4 1/2
19-250	5	4	4 1/2
19-251	3	4 1/2	4 7/8
19-252	5	4 1/2	4 7/8
19-253	3	5	5
19-254	5	5	5
19-255	3	6	5 1/2
19-256	5	6	5 1/2

The rugged aluminum type ASB joins a bus to an insulator cap for slip fit applications.

Included are steel galvanized bolts and lockwashers for proper mounting to the insulator cap.

The base of the bus support has eight holes to permit rotation and angular adjustment.

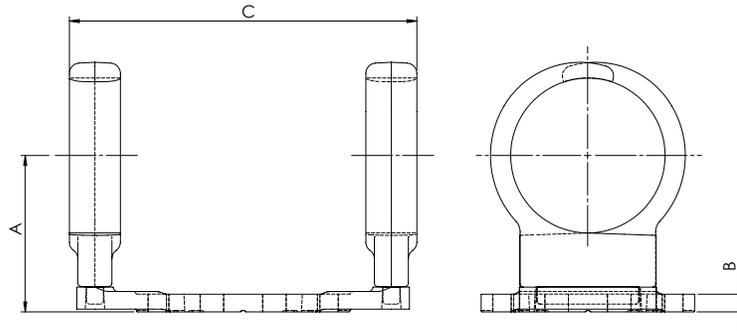
Static spring is standard.



**Example:**

For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-256-7BC



Connecting a bus to an insulator cap can be accomplished with ease and efficiency using the type AFSS.

A connector made of a lightweight aluminum alloy, it includes high strength aluminum clamping hardware for dependability and steel galvanized bolts and lockwashers for proper mounting to the insulator cap.

Recessed bolt heads allow single wrench installation.

The base of the bus support has eight holes for rotation and angular adjustment.

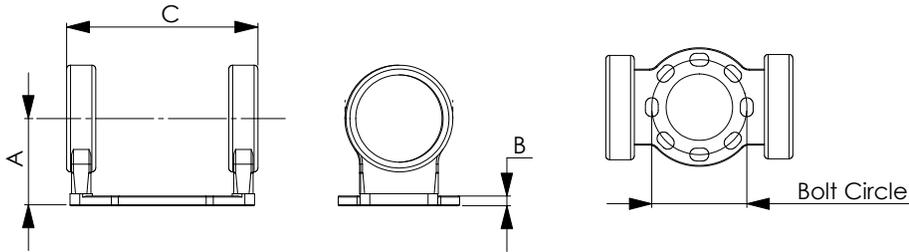
Static spring is standard.

CATALOG NUMBER	MOUNTING BOLT CIRICLE	PIPE SIZE IPS	DIMENSIONS IN INCHES		
			A	C	B
19-339	3	1	2	6 1/2	3/8
19-340	5	1	2 1/4	8	3/8
19-341	3	1 1/4	2 1/2	7 1/4	9/16
19-342	5	1 1/4	2 3/8	9 3/4	5/8
19-343	3	1 1/2	2 1/2	7 1/4	9/16
19-344	5	1 1/2	2 1/2	9 3/4	5/8
19-345	3	2	2 3/4	7 1/4	9/16
19-346	5	2	2 3/4	9 3/4	5/8
19-347	3	2 1/2	3 1/8	7 1/4	9/16
19-348	5	2 1/2	3 1/8	9 3/4	5/8
19-349	3	3	3 5/8	7 1/4	9/16
19-350	5	3	3 5/8	9 3/4	5/8
19-351	3	3 1/2	4	7 1/4	9/16
19-352	5	3 1/2	4	9 3/4	5/8
19-353	3	4	4 1/2	7 1/4	9/16
19-354	5	4	4 1/2	9 3/4	5/8
19-354-7BC	7	4	4 1/2	12 1/4	9/16
19-357	3	5	5	10	1/2
19-358	5	5	5	9 3/4	5/8
19-358-7BC	7	5	5	12 1/4	9/16
19-359	3	6	5 1/2	10	1/2
19-360	5	6	5 1/2	9 3/4	5/8
19-360-7BC	7	6	5 1/2	12 1/4	9/16

# ALUMINUM WELDMENT CONNECTORS OPEN BASE BUS SUPPORT

SECTION

19-5

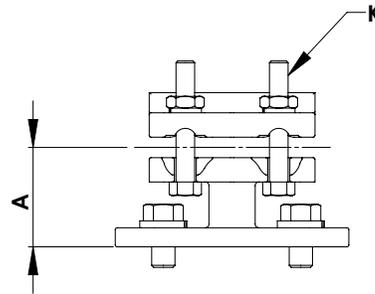


CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES		
			A	C	B
19-1225	3	1	2	6 1/2	3/8
19-1226	5	1	2 1/4	8	3/8
19-1227	3	1 1/4	2 1/4	7 1/4	9/16
19-1228	5	1 1/4	2 3/8	9 3/4	5/8
19-1229	3	1 1/2	2 1/2	7 1/4	9/16
19-1230	5	1 1/2	2 1/2	9 3/4	5/8
19-1231	3	2	2 3/4	7 1/4	9/16
19-1232	5	2	2 3/4	9 3/4	5/8
19-1233	3	2 1/2	3 1/8	7 1/4	9/16
19-1234	5	2 1/2	3 1/8	9 3/4	5/8
19-1235	3	3	3 5/8	7 1/4	9/16
19-1236	5	3	3 5/8	9 3/4	5/8
19-1237	3	3 1/2	4	7 1/4	9/16
19-1238	5	3 1/2	4	9 3/4	5/8
19-1239	3	4	4 1/2	7 1/4	9/16
19-1240	5	4	4 1/2	9 3/4	5/8
19-1240-7BC	7	4	4 1/2	12 1/4	9/16
19-1243	3	5	5	10	1/2
19-1244	5	5	5	9 3/4	5/8
19-1244-7BC	7	5	5	12 1/4	9/16
19-1245	3	6	5 1/2	10	1/2
19-1246	5	6	5 1/2	9 3/4	5/8
19-1246-7BC	7	6	5 1/2	12 1/4	9/16

Cast of a lightweight and corrosion resistant aluminum alloy, the type WBS features eight holes for rotation and angular adjustment.

Steel galvanized bolts and lockwashers are included for mounting to the insulator cap.

Static spring is standard.



### Bronze Cable Bus Supports:

The type CSB also features high-strength silicon bronze clamping hardware for strength and resistance to corrosion.

All bolt heads are captivated to permit single-wrench installation.

For purposes of rotation and angular adjustment, the base of the bus support has eight holes. Steel galvanized bolts and lock-washers are included for mounting to insulator.

BRONZE CABLE BUS SUPPORTS					
CATALOG NUMBER	MOUNTING BOLT CIRCLE	CABLE SIZE		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	A	K
19-387*	3	8	600	1 7/8	3/8
19-388*	5	8	600	1 7/8	3/8
19-389*	3	4/0	1000	2 1/4	1/2
19-390*	5	4/0	1000	2 5/8	1/2
19-391	3	1000	1500	2 3/8	1/2
19-392	5	1000	1500	2 3/8	1/2
19-393	3	1000	2000	2 5/8	1/2
19-394	5	1000	2000	2 5/8	1/2

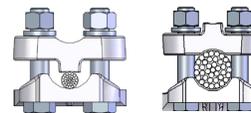


### Aluminum Cable Bus Supports:

The type ASB features clamping hardware made of high tensile aluminum for resistance to corrosion and recessed bolt heads for single wrench installation.

Steel galvanized bolts and lock-washers are included for mounting the connector to the insulator cap. The eight holes in the base of the bus support permit rotation and angular adjustment.

Wide range reversible caps are denoted by: \*



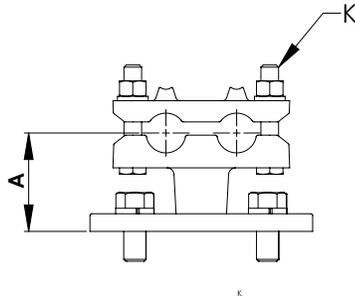
ALUMINUM CABLE BUS SUPPORTS							
CATALOG NUMBER	MOUNTING BOLT CIRCLE	AAC CABLE SIZE		ACSR CABLE SIZE		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K
19-399*	3	4	954	4	795	2 1/2	1/2
19-400*	5	4	954	4	795	2 3/4	1/2
19-403*	3	4/0	2000	4/0	1590	3	1/2
19-404*	5	4/0	2000	4/0	1590	3 1/4	5/8
19-404-SP (2500AAC)	5	2000	2500	1780	2312	3 1/4	5/8

#### Example:

For a 7" bolt circle, add the descriptor "7BC" into the product number.  
EX: 19-404-7BC

# BRONZE / ALUMINUM DOUBLE CABLE BUS SUPPORTS

## SECTION 19-6-2CND



BRONZE BUS SUPPORTS DOUBLE CABLE					
CATALOG NUMBER	MOUNTING BOLT CIRCLE	CABLE SIZE		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	A	K
19-387-2COND	3	8	600	2 3/8	3/8
19-388-2COND	5	8	600	2 1/4	3/8
19-389-2COND	3	4	1000	2 3/4	1/2
19-390-2COND	5	4	1000	3	1/2
19-391-2COND	3	1000	1500	2 1/2	1/2
19-392-2COND	5	1000	1500	2 3/8	1/2
19-393-2COND	3	1000	2000	3 1/2	1/2
19-394-2COND	5	1000	2000	3 1/2	1/2

The type CSB features high-strength silicon bronze clamping hardware for strength and resistance to corrosion.

All bolt heads are captivated to permit single-wrench installation.

For purposes of rotation and angular adjustment, the base of the bus support has eight holes.

Steel galvanized bolts and lock-washers are included for mounting to insulator.

ALUMINUM BUS SUPPORTS DOUBLE CABLE							
CATALOG NUMBER	MOUNTING BOLT CIRCLE	AAC CABLE SIZE		ACSR CABLE SIZE		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K
19-399-2COND	3	4	954	4	795	3	1/2
19-400-2COND	5	4	954	4	795	3 1/4	1/2
19-403-2COND	3	4/0	2000	795	1590	3 1/4	5/8
19-404-2COND	5	4/0	2000	795	1590	3 1/2	5/8



For a 7" bolt circle, add the descriptor "7BC" into the product number.

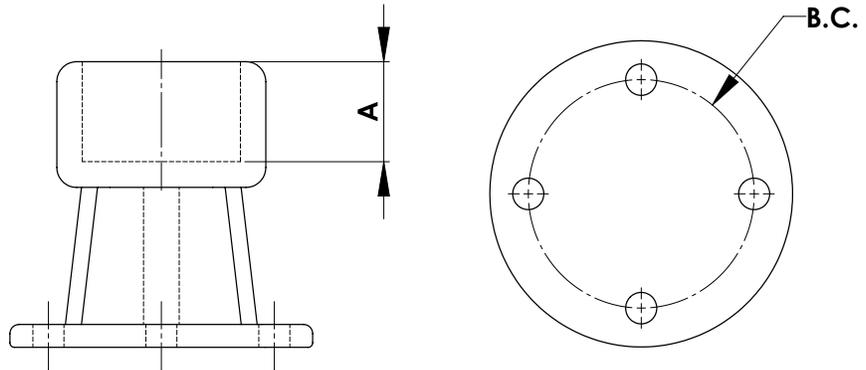
EX: 19-404-2COND-7BC

The type ASB features clamping hardware made of high tensile aluminum for resistance to corrosion and recessed bolt heads for single wrench installation.

Steel galvanized bolts and lockwashers are included for mounting the connector to the insulator cap. The eight holes in the base of the bus support permit rotation and angular adjustment.

## SECTION

## 19-7

ALUMINUM WELDMENT CONNECTORS  
VERTICAL BUS SUPPORT

Dependable because of its corrosion resistant aluminum casting, the type WESP is supplied with steel galvanized bolts and lockwashers for mounting to the insulator cap.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES
			A
19-1247	3	1/2	1
19-1248	5	1/2	1
19-1249	3	3/4	1
19-1250	5	3/4	1
19-1251	3	1	1
19-1252	5	1	1
19-1253	3	1 1/4	1 1/8
19-1254	5	1 1/4	1 1/8
19-1255	3	1 1/2	1 1/8
19-1256	5	1 1/2	1 1/8
19-1257	3	2	1 3/4
19-1258	5	2	1 3/4
19-1259	3	2 1/2	1 3/4
19-1260	5	2 1/2	2
19-1261	3	3	2
19-1262	5	3	2
19-1263	3	3 1/2	2
19-1264	5	3 1/2	2
19-1265	3	4	2 1/2
19-1266	5	4	2 1/2
19-1267	3	4 1/2	2 1/2
19-1268	5	4 1/2	2 1/2
19-1269	3	5	2 5/8
19-1270	5	5	2 5/8
19-1271	3	6	3
19-1272	5	6	3

**Example:**

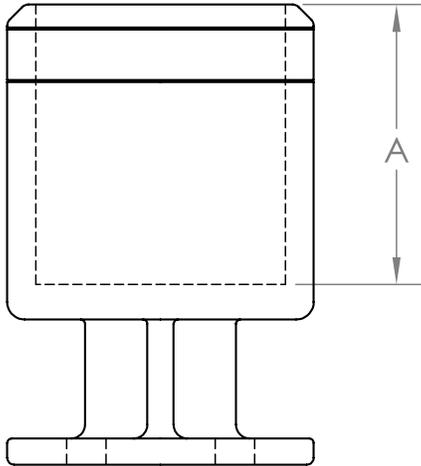
For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-1272-7BC

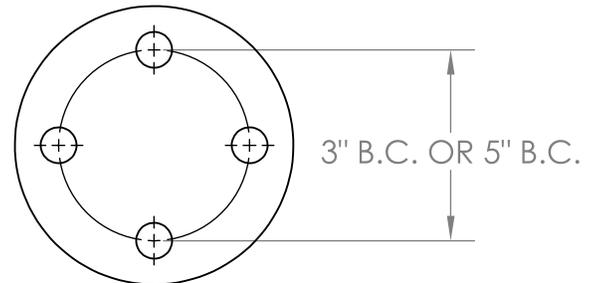
# ALUMINUM SWAGE CONNECTORS VERTICAL BUS SUPPORT

SECTION

19-SW-7



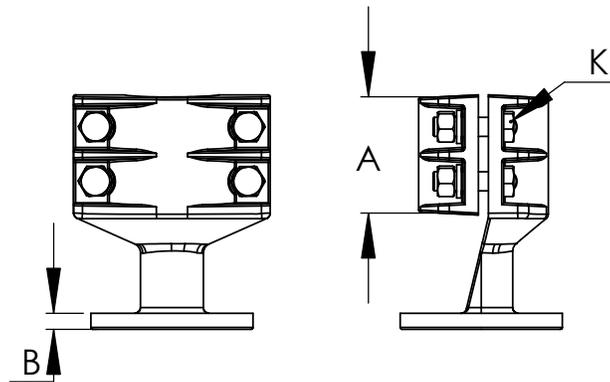
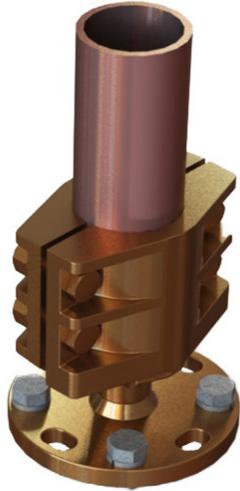
CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES	SWAGE DIE
			A	
SW-1251	3	1	2 1/2	B100
SW-1252	5	1	2 1/2	B100
SW-1255	3	1 1/2	2 1/2	B150
SW-1256	5	1 1/2	2 1/2	B150
SW-1257	3	2	3	B200
SW-1258	5	2	3	B200
SW-1259	3	2 1/2	3	B250
SW-1260	5	2 1/2	3	B250
SW-1261	3	3	3 1/2	B300
SW-1262	5	3	3 1/2	B300
SW-1263	3	3 1/2	3 1/2	B350
SW-1264	5	3 1/2	3 1/2	B350
SW-1265	3	4	3 1/2	B400
SW-1266	5	4	3 1/2	B400



The dependable swage vertical bus support is made from corrosion-resistant aluminum, and comes equipped with steel galvanized bolts and lock washers for mounting the bus to the insulator cap.

**Example:** For a 7" bolt circle, add the suffix 7BC to the 5BC catalog number. If a 7" bolt circle were requested for 4" IPS, the corresponding catalog number would be SW-1266-7BC.

# BRONZE BUS SUPPORTS VERTICAL PIPE



Cast of high strength bronze, the type BBSP joins a vertical pipe to an insulator cap. It includes bolts, nuts, and lockwashers of silicon bronze for clamping efficiency and resistance to corrosion.

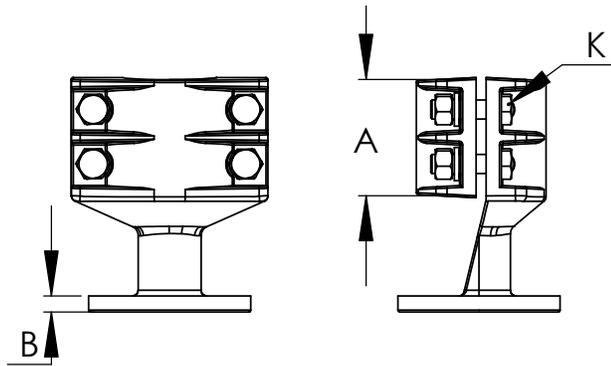
Steel galvanized bolts and lockwashers are provided for mounting the bus support to the cap.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES		
			A	B	K
19-409	3	1/2	2 7/8	1/2	3/8
19-410	5	1/2	2 7/8	1/2	3/8
19-411	3	3/4	2 7/8	1/2	1/2
19-412	5	3/4	2 7/8	1/2	1/2
19-413	3	1	3 1/8	1/2	1/2
19-414	5	1	3 1/8	1/2	1/2
19-415	3	1 1/4	3 1/8	1/2	1/2
19-416	5	1 1/4	3 1/8	1/2	1/2
19-417	3	1 1/2	3 1/8	1/2	1/2
19-418	5	1 1/2	3 1/8	1/2	1/2
19-419	3	2	3 1/8	1/2	1/2
19-420	5	2	3 1/8	1/2	1/2
19-421	3	2 1/2	4	1/2	5/8
19-422	5	2 1/2	4	1/2	5/8
19-423	3	3	4	1/2	5/8
19-424	5	3	4	1/2	5/8
19-425	3	3 1/2	3 3/4	1/2	5/8
19-426	5	3 1/2	3 3/4	1/2	5/8
19-427	3	4	4 5/8	1/2	5/8
19-428	5	4	4 5/8	1/2	5/8
19-429	3	4 1/2	4 3/4	1/2	5/8
19-430	5	4 1/2	4 3/4	1/2	5/8
19-431	3	5	5	1/2	5/8
19-432	5	5	5	1/2	5/8
19-433	3	6	6	1/2	5/8
19-434	5	6	6	1/2	5/8

# ALUMINUM BUS SUPPORTS VERTICAL PIPE

SECTION

19-8A



CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES		
			A	B	K
19-435	3	1/2	2 7/8	1/2	1/2
19-436	5	1/2	2 7/8	1/2	1/2
19-437	3	3/4	2 7/8	1/2	1/2
19-438	5	3/4	2 7/8	1/2	1/2
19-439	3	1	3 1/8	1/2	1/2
19-440	5	1	3 1/8	1/2	1/2
19-441	3	1 1/4	3 1/8	1/2	1/2
19-442	5	1 1/4	3 1/8	1/2	1/2
19-443	3	1 1/2	3 1/8	1/2	1/2
19-444	5	1 1/2	3 1/8	1/2	1/2
19-445	3	2	3 1/8	1/2	1/2
19-446	5	2	3 1/8	1/2	1/2
19-447	3	2 1/2	3 7/8	1/2	5/8
19-448	5	2 1/2	3 7/8	1/2	5/8
19-449	3	3	4	1/2	5/8
19-450	5	3	4	1/2	5/8
19-451	3	3 1/2	3 3/4	1/2	5/8
19-452	5	3 1/2	3 3/4	1/2	5/8
19-453	3	4	4 1/2	1/2	5/8
19-454	5	4	4 5/8	1/2	5/8
19-455	3	4 1/2	4 3/4	1/2	5/8
19-456	5	4 1/2	4 3/4	1/2	5/8
19-457	3	5	5	1/2	5/8
19-458	5	5	5	1/2	5/8
19-459	3	6	6	1/2	5/8
19-460	5	6	6	1/2	5/8

An efficient means of joining a vertical pipe to an insulator cap, the type ABSP made of a lightweight aluminum alloy features high-tensile aluminum clamping hardware for resistance to corrosion.

Steel galvanized bolts and lockwashers are provided for mounting the connector to the insulator cap.

Recessed bolt heads on the bus support itself help facilitate installation.

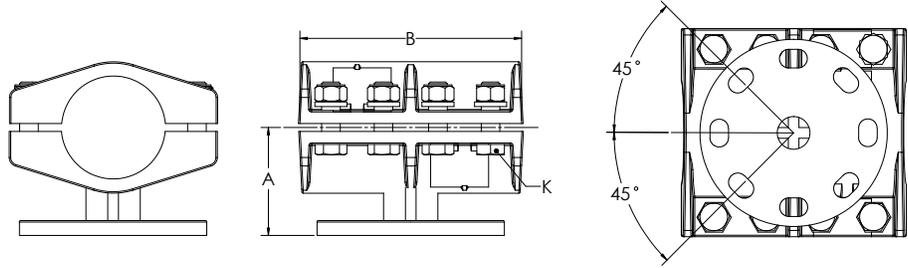
**Example:**

For a 7" bolt circle, add the descriptor "7BC" into the product number.  
EX: 19-460-7BC

SECTION

19-9

BRONZE BUS SUPPORTS  
COUPLER SUPPORT



Featuring a copper alloy for high conductivity and natural resistance to corrosion and stress, the type BCS acts as a combination bus support and coupler for tubing of the same size. Bolts, nuts, and lockwashers of silicon bronze insure maximum clamping efficiency.

Steel galvanized bolts and lockwashers are provided for mounting the bus support to the insulator cap. To facilitate installation, all bolt heads are captivated.

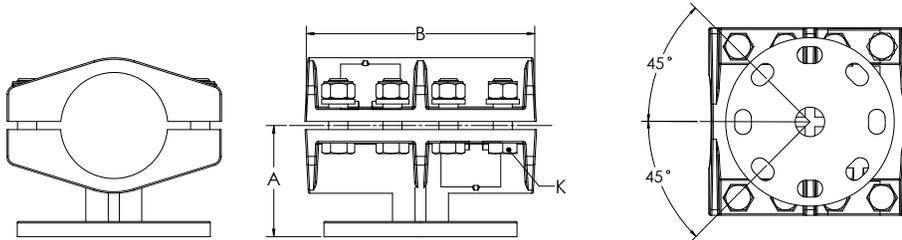
The eight holes at the base of the bus support permit rotation and angular adjustment whenever necessary.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES		
			A	B	K
19-513	3	1/2	1 3/4	5 5/8	3/8
19-514	5	1/2	2 1/8	5 5/8	3/8
19-515	3	3/4	2	5 5/8	3/8
19-516	5	3/4	2 1/4	5 5/8	3/8
19-517	3	1	2	6	3/8
19-518	5	1	2 1/4	6	3/8
19-519	3	1 1/4	2 1/4	6 1/4	1/2
19-520	5	1 1/4	2 3/8	6 1/4	1/2
19-521	3	1 1/2	2 1/2	6 1/4	1/2
19-522	5	1 1/2	2 1/2	6 1/4	1/2
19-523	3	2	2 3/4	6 1/2	1/2
19-524	5	2	2 3/4	6 1/2	1/2
19-525	3	2 1/2	3 1/8	7 5/8	1/2
19-526	5	2 1/2	3 1/8	7 5/8	1/2
19-527	3	3	3 5/8	7 3/4	5/8
19-528	5	3	3 5/8	7 3/4	5/8
19-530	5	3 1/2	4	8	5/8
19-532	5	4	4 1/2	9 1/4	5/8
19-536	5	5	5	10 1/2	5/8
19-538	5	6	5 1/2	12	5/8

# ALUMINUM BUS SUPPORTS COUPLER SUPPORT

SECTION

19-9A



CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES		
			A	B	K
19-539	3	1/2	1 3/4	5 5/8	1/2
19-540	5	1/2	2 1/8	5 5/8	1/2
19-541	3	3/4	2	5 5/8	1/2
19-542	5	3/4	2 1/4	5 5/8	1/2
19-543	3	1	2	6	1/2
19-544	5	1	2 1/4	6	1/2
19-545	3	1 1/4	2 1/4	5 5/8	1/2
19-546	5	1 1/4	2 3/8	5 5/8	1/2
19-547	3	1 1/2	2 1/2	6 1/4	1/2
19-548	5	1 1/2	2 1/2	6 1/4	1/2
19-549	3	2	2 3/4	6 1/2	1/2
19-550	5	2	2 3/4	6 1/2	1/2
19-551	3	2 1/2	3 1/8	7 5/8	5/8
19-552	5	2 1/2	3 1/8	7 5/8	5/8
19-553	3	3	3 5/8	7	5/8
19-554	5	3	3 5/8	7	5/8
19-556	5	3 1/2	4	7 1/2	5/8
19-558	5	4	4 1/2	9 1/8	5/8
19-562	5	5	5	10 1/2	5/8
19-564	5	6	5 1/2	11 7/8	5/8

Made of a high conductivity lightweight aluminum alloy, the type AC S acts as a combination bus support and coupler for pipe of the same size. Bolts, nuts, and lockwashers of high-tensile aluminum insure clamping efficiency and resistance to wear in the field.

Steel galvanized bolts and lockwashers are provided to guarantee strong mounting to the insulator cap.

To permit single wrench installation, all bolt heads on the bus support itself are captivated.

For purposes of rotation and angular adjustment, the base of the bus support features eight holes.

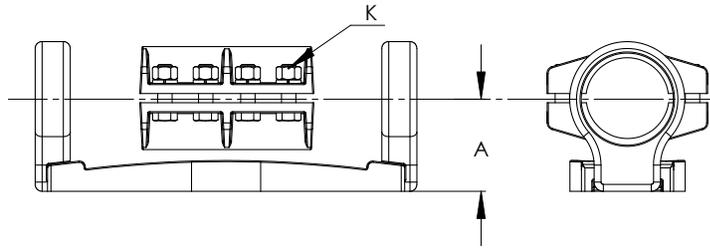
## Example:

For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-564-7BC

## SECTION

## 19-10

BRONZE BUS SUPPORTS  
SLIDING COUPLER SUPPORT

Useful in long runs of tubing bus, the type BSCS effectively protects the insulator it is mounted on from the expansion and contraction pressures due to temperature variations.

In addition, the connector cast of high strength copper alloy couples tubing of the same size. It features corrosion-resistant silicon bronze clamping hardware and captivated bolt heads for installation.

Steel galvanized bolts and lock-washers are included for mounting the bus support to its insulator cap.

For purposes of rotation and angular adjustment, the base of the bus support has eight holes.

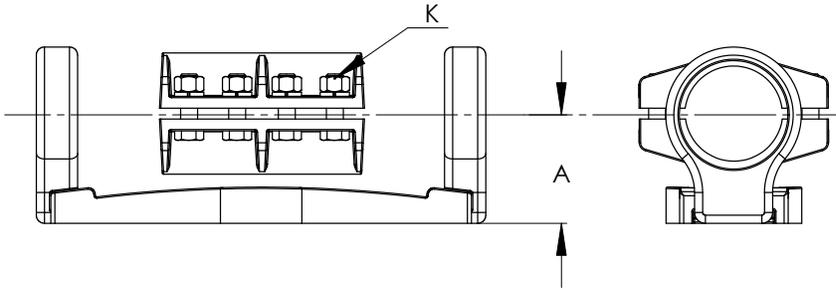
Static spring is standard.

CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE IPS SIZE	DIMENSIONS IN INCHES	
			A	K
19-1293	3	1/2	1 3/4	3/8
19-1294	5	1/2	2 1/8	3/8
19-1295	3	3/4	2	1/2
19-1296	5	3/4	2 1/4	1/2
19-1297	3	1	2	1/2
19-1298	5	1	2 1/4	1/2
19-1299	3	1 1/4	2 1/4	1/2
19-1300	5	1 1/4	2 3/8	1/2
19-1301	3	1 1/2	2 1/2	1/2
19-1302	5	1 1/2	2 1/2	1/2
19-1303	3	2	2 3/4	1/2
19-1304	5	2	2 3/4	1/2
19-1305	3	2 1/2	3 1/8	5/8
19-1306	5	2 1/2	3 1/8	5/8
19-1307	3	3	3 5/8	5/8
19-1308	5	3	3 5/8	5/8
19-1309	3	3 1/2	4	5/8
19-1310	5	3 1/2	4	5/8
19-1311	3	4	4 1/2	5/8
19-1312	5	4	4 1/2	5/8
19-1315	3	5	5	5/8
19-1316	5	5	5	5/8

# ALUMINUM BUS SUPPORTS SLIDING COUPLER SUPPORT

SECTION

19-10A



CATALOG NUMBER	MOUNTING BOLT CIRCLE	PIPE SIZE IPS	DIMENSIONS IN INCHES	
			A	B
19-1319	3	1/2	1 3/4	1/2
19-1320	5	1/2	2 1/8	1/2
19-1321	3	3/4	2	1/2
19-1322	5	3/4	2 1/4	1/2
19-1323	3	1	2	1/2
19-1324	5	1	2 1/4	1/2
19-1325	3	1 1/4	2 1/4	1/2
19-1326	5	1 1/4	2 3/8	1/2
19-1327	3	1 1/2	2 1/2	1/2
19-1328	5	1 1/2	2 1/2	1/2
19-1329	3	2	2 3/4	1/2
19-1330	5	2	2 3/4	1/2
19-1331	3	2 1/2	3 1/8	5/8
19-1332	5	2 1/2	3 1/8	5/8
19-1333	3	3	3 5/8	5/8
19-1334	5	3	3 5/8	5/8
19-1335	3	3 1/2	4	5/8
19-1336	5	3 1/2	4	5/8
19-1337	3	4	4 1/2	5/8
19-1338	5	4	4 1/2	5/8
19-1341	3	5	5	5/8
19-1342	5	5	5	5/8
19-1344	5	6	5 1/2	5/8

Particularly useful in long runs of pipe bus, the type ASCS couples tubing of the same size and effectively protects the insulator it is mounted on from the expansion and contraction pressures due to temperature variations.

Made of a durable, lightweight aluminum alloy, it includes bolts, nuts, and lockwashers of high-tensile aluminum to insure clamping efficiency and resistance to corrosion in the field.

For mounting to the insulator cap, steel galvanized bolts and lockwashers are provided. All bolt heads are captivated to allow for single wrench installation.

To facilitate any necessary rotation or angular adjustment, the base of the bus support features eight holes.

Static spring is standard.

**Example:**

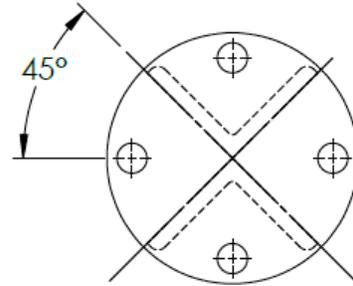
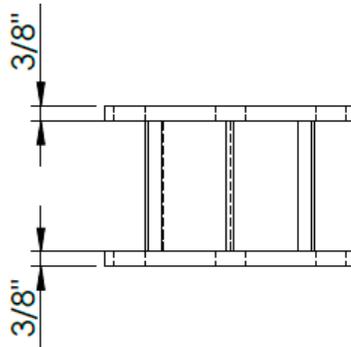
For a 7" bolt circle, add the descriptor "7BC" into the product number.

EX: 19-1342-7BC

SECTION

19-11

GALVANIZED STEEL BUS SUPPORTS HEIGHT ADAPTER

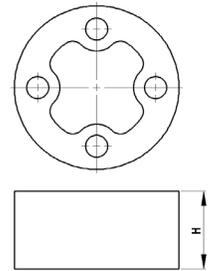


Made of galvanized steel, the type S is used where increased clearance is required or where adjustments are necessary to compensate for height variations in existing structures.

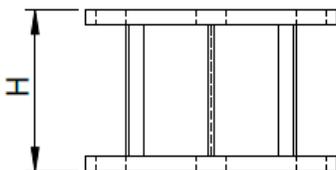
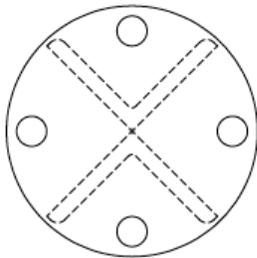
For a height adapter using the same size bolt circle, use the suffix "SP(H)".

For example: A 5" bolt circle with a height of 8" the part number would be:19-1724-SP(8")

CATALOG NUMBER	MOUNTING BOLT CIRCLE	INCHES
		H
19-1709*	3	2
19-1710*	5	2
19-1711	3	2 1/2
19-1712	5	2 1/2
19-1713	3	3
19-1714	5	3
19-1715	3	3 1/2
19-1716	5	3 1/2
19-1717	3	4
19-1718	5	4
19-1719	3	4 1/2
19-1720	5	4 1/2
19-1721	3	5
19-1722	5	5
19-1723	3	6
19-1724	5	6



\*Height adaptors 2" high and below are made out of a solid puck to ensure easy installation.



Where it is desirable to transition from one bolt circle diameter to another the following syntax may be used: BCA-(H)-(BC1)-(BC2)

The three variables are the height (H), bolt circle 1 (BC1), and bolt circle 2 (BC2). The height is expressed as a multiple of 10.

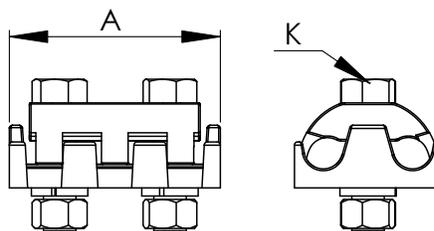
For example if the desired height is 3" H=30, similarly if the desired height is 4.5" H=45.

The part number for a bolt circle adapter that is 4" high and connects a 5" bolt circle to a 3" bolt circle would read BCA-40-5-3.

# BRONZE / ALUMINUM PARALLEL CONNECTORS CABLE TO CABLE

SECTION

110-1

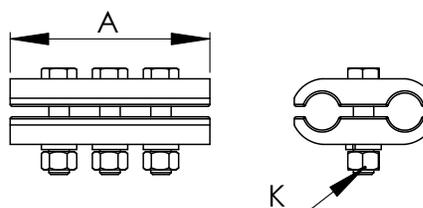
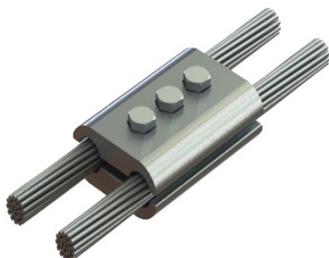


## Bronze Parallel Connectors Cable to Cable:

The type PC which connects a cable main parallel to a cable tap features clamping members made of high strength, high conductivity copper alloy.

The bolts, nuts and lock-washers are silicon bronze to enhance clamping efficiency and resistance to corrosion.

BRONZE PARALLEL CONNECTORS CABLE TO CABLE							
CATALOG NUMBER	CABLE MAIN		CABLE TAP		DIMENSIONS IN INCHES		No. of Bolts
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K	
110-101	4	250	4	250	3	3/8	2
110-103	250	500	250	500	3 1/4	1/2	2
110-105	500	1000	500	1000	4 1/2	1/2	3
110-107	1000	1500	1000	1500	6	5/8	3
110-110	1500	2000	1500	2000	6 1/2	5/8	3



## Aluminum Parallel Connectors Cable to Cable:

A high strength, high conductivity aluminum connector for joining a cable main parallel to a cable tap, the type PCA includes clamping hardware made of high tensile aluminum for dependability and durability in the field.

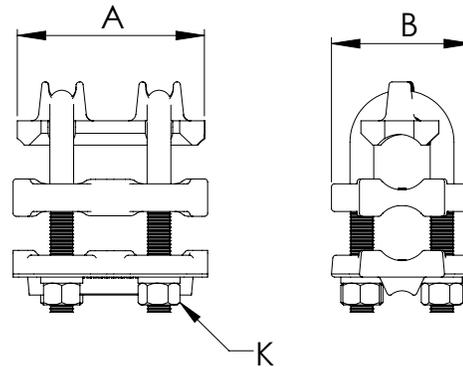
To facilitate installation, all bolt heads are captivated.

ALUMINUM PARALLEL CONNECTORS CABLE TO CABLE							
CATALOG NUMBER	CABLE MAIN		CABLE TAP		DIMENSIONS IN INCHES		No. of Bolts
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K	
110-111	4	250	4	250	3 1/2	1/2	2
110-113	250	400	250	400	3 1/2	1/2	2
110-115	350	600	350	600	4 3/4	1/2	3
110-117	600	900	600	900	4 1/2	1/2	3
110-119	900	1272	900	1272	6	5/8	3
110-121	1272	1590	1272	1590	6	5/8	3
110-123	1590	2000	1590	2000	6 1/2	5/8	3

**SECTION**

**110-1U**

**BRONZE / ALUMINUM  
U-BOLT CABLE CLAMPS**



**Bronze Parallel Connectors  
Cable to Cable:**

The type PC which connects a cable main parallel to a cable tap features clamping members made of high strength, high conductivity copper. U-bolts are stainless steel for durability in the field.

BRONZE PARALLEL CABLE CONNECTORS							
CATALOG NUMBER	CABLE RUN		CABLE TAP		DIMENSIONS IN INCHES		
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	K
110-150-BPU	4/0	1000	4/0	350	4	3	1/2
110-151-BPU	350	1000	350	1000	4	3	1/2

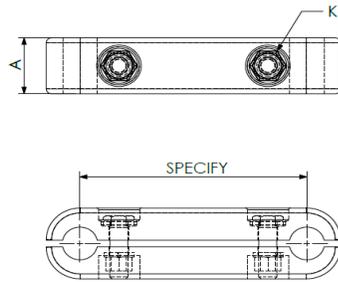
**Aluminum Parallel Connectors Cable to Cable:**

Manufactured of a lightweight and corrosion-resistant aluminum alloy for connection two of equal or unequal parallel cables. U-bolts are stainless steel for durability in the field.

ALUMINUM PARALLEL CABLE CONNECTORS											
CATALOG NUMBER	ALUMINUM CABLE				ACSR CABLE				DIMENSIONS IN INCHES		
	RUN		TAP		RUN		TAP				
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	B	K
110-150-APU	4	954	4	400	4	795	4	336.4	4	3	1/2
110-151-APU	450	954	450	954	397.5	795	397.5	795	4	3	1/2

# BRONZE / ALUMINUM PARALLEL CABLE SPACERS

SECTION  
110-1CS



## BRONZE CABLE SPACERS

CATALOG NUMBER	CABLE MAIN		CABLE TAP		DIMENSIONS IN INCHES	
	AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K
110-101-CS*	4	250	4	250	1 1/4	3/8
110-103-CS*	250	500	250	500	1 7/8	1/2
110-105-CS*	500	1000	500	1000	2 1/8	1/2
110-107-CS*	1000	1500	1000	1500	2 1/8	5/8
110-110-CS*	1500	2000	1500	2000	2 3/8	5/8

### Bronze Parallel Cable Spacers:

The type CS cable spacer connects a cable main parallel to a cable tap. It features a clamping member made of high strength, high conductivity copper alloy. The bolts, nuts, and lockwashers are silicon bronze to enhance clamping efficiency and resistance to corrosion.

**Note:** To obtain a cable spacer for (2) 300 MCM copper conductors spaced at 8" add suffix "-8"

**Example:** 110-103-CS-8.

\*Please specify cable spacing (in.)

### Aluminum Parallel Cable Spacers:

A high strength, high conductivity aluminum cable spacer, the type CSA includes clamping hardware made of high-tensile aluminum for dependability and durability in the field. To facilitate installation, all bolt heads are captivated. Width (A) will vary with length.

## ALUMINUM CABLE SPACERS

CATALOG NUMBER	AAC AWG OR MCM	ACSR AWG OR MCM	DIMENSIONS IN INCHES	
	MIN-MAX	MIN-MAX	A	K
110-111-CS*	4-250(37)	4(6/1)-4/0(6/1)	1 3/4	1/2
110-113-CS*	250(7)-400(37)	4/0(6/1)-336.4(26/7)	1 3/4	1/2
110-115-CS*	350(19)-600(61)	336.4(18/1)-477(30/7)	1 3/4	1/2
110-117-CS*	600(61)-900(61)	556.5(18/1)-795(54/7)	1 3/4	1/2
110-119-CS*	900(61)-1272(91)	715.5-1113	2 1/8	5/8
110-121-CS*	1272(61)-1590(61)	1113-1272	2 1/8	5/8
110-123-CS*	1590(61)-2000(127)	1272-1590	2 1/8	5/8

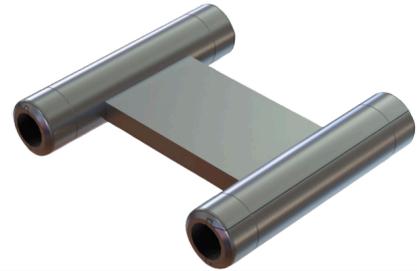
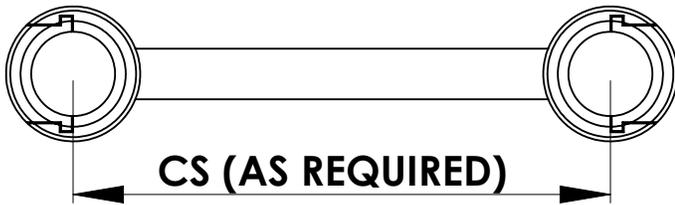


\*Please specify cable spacing (in.)

SECTION

110-SWC

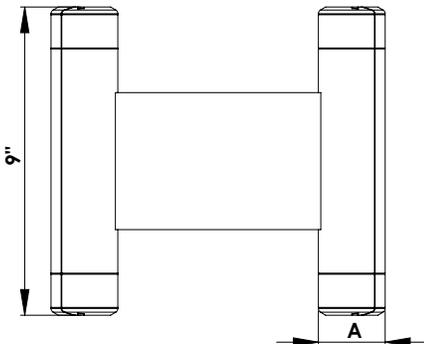
ALUMINUM SWAGE PARALLEL CABLE SPACERS



ALUMINUM SWAGECABLE SPACER

CATALOG NUMBER	AAC AWG OR MCM MIN,MAX	ACSR AWG OR MCM MIN,MAX	CONDUCTOR DIAMETER	A(DIA)	SWAGE DIE	FLAT BAR THICKNESS
SWC100-124-CS*	1/0	1/0	.326-.398	1.00	C100	3/8
SWC100-125-CS*	2/0	2/0	.399-.447	1.00	C100	3/8
SWC100-128-CS*	3/0	3/0	.448-.502	1.00	C100	3/8
SWC100-129-CS*	4/0	4/0	.503-.563	1.00	C100	3/8
SWC125-130-CS*	266.8-300	266.8(26/7)	.564-.642	1.25	C125	3/8
SWC125-134-CS*	336.4(19)-350(37)	336.4(36/1)-336.4(18/1)	.643-.684	1.25	C125	3/8
SWC125-139-CS*	397.5(19)-400(37)	336.4(26/7)-397.5(18/1)	.685-.743	1.25	C125	3/8
SWC150-144-CS*	450(37)-500(37)	397.5(24/7)-477(18/1)	.744-.814	1.50	C150	1/2
SWC150-146-CS*	550(61)-556.5(37)	477(24/7)-477(30/7)	.815-.883	1.50	C150	1/2
SWC175-148-CS*	600(37)-715.5(61)	556.5(24/7)-605(26.7)	.884-.953	1.75	C175	1/2
SWC188-152-CS*	750(37)-817(61)	605(26/7)-715.5(30/19)	.954-1.081	1.875	C188	1/2
SWC200-161-CS*	900(37)-1000(61)	795(24/7)-874.5(54/7)	1.082-1.152	2.00	C200	1/2
SWC200-164-CS*	1033.5(37)-1113(61)	900(54/7)-954(54/7)	1.153-1.216	2.00	C200	1/2
SWC225-165-CS*	1192.5(61)-1272(61)	1033.5(54/7)-1113(54/19)	1.217-1.300	2.25	C225	3/4
SWC225-167-CS*	1400(91)-1510.5(61)	1272(45/7)-1351.5(54/19)	1.301-1.424	2.25	C225	3/4
SWC225-168-CS*	1590(61)-1700(127)	1351.5(54/19)-1510.5(45/7)	1.425-1.503	2.25	C225	3/4
SWC225-169-CS*	1750(127)	1510.5(54/19)-1590(54/19)	1.504-1.545	2.25	C225	3/4
SWC275-170-CS*	2000(91)(127)	1780(84/19)	1.546-1.659	2.75	C275	3/4
SWC275-171-CS*	2250(91)(127)	2156(84/19)	1.660-1.762	2.75	C275	3/4
SWC275-172-CS*	2500(127)		1.763-1.824	2.75	C275	3/4

\*Please specify cable spacing (in.)



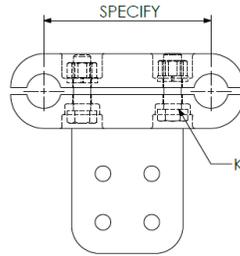
For connectors requiring different cable spacing add the dimension suffix in inches stating what center to center of the barrels is required.

A high strength, high conductivity aluminum cable spacer using a Swage Split compression terminals have the crimping die sizes clearly marked for ease of installation.

**Example:** To obtain a cable spacer for (2) 1033.5(37) AAC cables with 8 inch spacing. The corresponding catalog number would be SWC200-164-CS-8.

# BRONZE / ALUMINUM PARALLEL CABLE SPACERS

## SECTION 110-1CST



90 DEGREE  
ROTATED PAD

### Bronze Parallel Cable Spacer Tee:

The type CST cable spacer tee features clamping members made of high strength, high conductivity copper alloy.

The bolts, nuts, and lockwashers are silicon bronze for clamping efficiency and resistance to corrosion. Width (A) will vary with length.

**Note:** To obtain a cable spacer terminal for (2) 300 MCM copper conductors spaced at 8 inches with a 4 hole NEMA pad rotated 90 degree add suffix "-8 -90".

**Example:** 110-103-CSTC -8-90

BRONZE CABLE SPACER TEE							
CATALOG NUMBER	PAD STYLE	CABLE MAIN		CABLE TAP		DIMENSIONS IN INCHES	
		AWG MIN	MCM MAX	AWG MIN	MCM MAX	A	K
110-101-CSTB*	B	4	250	4	250	1 1/4	3/8
110-101-CSTC*	C	4	250	4	250	1 1/4	3/8
110-101-CSTD*	D	4	250	4	250	1 1/4	3/8
110-103-		250	500	250	500	1 7/8	1/2
110-105-		500	1000	500	1000	2	1/2
110-107-		1000	1500	1000	1500	2	5/8

\*Please specify cable spacing (in.)

### Aluminum Parallel Cable Spacer Tee:

A high strength, high conductivity aluminum cable spacer terminal, the type CSTA includes clamping hardware made of high-tensile aluminum for dependability and durability in the field. To facilitate installation, all bolt heads are captivated.

ALUMINUM CABLE SPACER TEE						
CATALOG NUMBER	AAC AWG OR MCM		ACSR AWG OR MCM		DIMENSIONS IN INCHES	
	MIN-MAX	MIN-MAX	MIN-MAX	MIN-MAX	A	K
110-111-CSTB*	4-250(37)	4-250(37)	4(6/1)-4/0(6/1)	4(6/1)-4/0(6/1)	1 3/4	1/2
110-111-CSTC*	4-250(37)	4-250(37)	4(6/1)-4/0(6/1)	4(6/1)-4/0(6/1)	1 3/4	1/2
110-111-CSTD*	4-250(37)	4-250(37)	4(6/1)-4/0(6/1)	4(6/1)-4/0(6/1)	1 3/4	1/2
110-113-	250(7)-400(37)	250(7)-400(37)	4/0(6/1)-336.4(26/7)	4/0(6/1)-336.4(26/7)	1 3/4	1/2
110-115-	350(19)-600(61)	350(19)-600(61)	336.4(18/1)-477(30/7)	336.4(18/1)-477(30/7)	1 3/4	1/2
110-117-	600(61)-900(61)	600(61)-900(61)	556.5(18/1)-795(54/7)	556.5(18/1)-795(54/7)	1 3/4	1/2
110-119-	900(61)-1272(91)	900(61)-1272(91)	715.5-1113	715.5-1113	2 1/8	5/8
110-121-	1272(61)-1590(61)	1272(61)-1590(61)	1113-1272	1113-1272	2 1/8	5/8
110-123-	1590(61)-2000(127)	1590(61)-2000(127)	1272-1590	1272-1590	2 1/8	5/8

\*Please specify cable spacing (in.)

Not designed for continuous full current load.

# BRONZE / ALUMINUM INTERNAL CORONA BELLS

SECTION

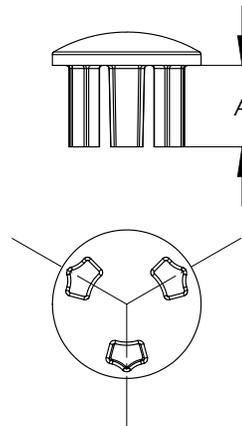
111-1



BRONZE INTERNAL CORONA BELLS			
IPS CATALOG NUMBER	SCH 80 CATALOG NUMBER	PIPE SIZE	DIMENSIONS IN INCHES
			A
111-101	111-102	1/2	3/4
111-103	111-104	3/4	3/4
111-105	111-106	1	3/4
111-107	111-108	1 1/4	1
111-109	111-110	1 1/2	1 1/4
111-111	111-112	2	1 1/4
111-113	111-114	2 1/2	1
111-115	111-116	3	1 1/2
111-117	111-118	3 1/2	1 1/2
111-119	111-120	4	1 1/2
111-121	111-122	4 1/2	2
111-123	111-124	5	2
111-125	111-126	6	2

## Bronze Internal Corona Bells:

Designed for a drive fit as the only means of connecting them to the pipe, the types BCBI and BCBIH are primarily used for sealing off tubes and for corona reduction if it is found necessary. They are made of high strength copper alloy.



ALUMINUM INTERNAL CORONA BELLS			
IPS CATALOG NUMBER	SCH 80 CATALOG NUMBER	PIPE SIZE	DIMENSIONS IN INCHES
			A
111-127	111-128	1/2	3/4
111-129	111-130	3/4	3/4
111-131	111-132	1	3/4
111-133	111-134	1 1/4	1
111-135	111-136	1 1/2	1 1/4
111-137	111-138	2	1 1/4
111-139	111-140	2 1/2	1
111-141	111-142	3	1 1/2
111-143	111-144	3 1/2	1 1/2
111-145	111-146	4	1 1/2
111-147	111-148	4 1/2	2
111-149	111-150	5	2
111-151	111-152	6	2

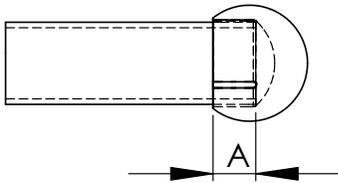
## Aluminum Internal Corona Bells:

Made of a lightweight, high strength aluminum alloy, the types ACBI and ACBIH are designed for a drive fit as the only means of connecting them to the pipe. They are effective in sealing off tubes and in reducing corona when necessary.



### Bronze External Corona Bells:

Designed for a drive fit as the only means of connecting it to the pipe, the type BCBE made of high strength bronze is primarily used for sealing off tubes and corona reduction.



### Aluminum External Corona Bells:

A lightweight, high strength aluminum connector, the type ACBE is designed for a drive fit as the only means of connecting it to the pipe and is effective in sealing off tubes or in corona reduction.

BRONZE EXTERNAL CORONA BELLS		
CATALOG NUMBER	PIPE SIZE	DIMENSIONS IN INCHES
		A
111-153	1/2	1
111-154	3/4	1
111-155	1	1
111-156	1 1/4	1 1/8
111-160	1 1/2	1 1/4
111-161	2	1 1/2
111-162	2 1/2	2
111-163	3	2
111-164	3 1/2	2 1/8
111-165	4	2 1/4
111-166	4 1/2	2 1/2
111-167	5	2 5/8
111-168	6	2 5/8

ALUMINUM EXTERNAL CORONA BELLS		
CATALOG NUMBER	PIPE SIZE	DIMENSIONS IN INCHES
		A
111-169	1/2	1
111-170	3/4	1
111-171	1	1
111-172	1 1/4	1 1/8
111-173	1 1/2	1 1/4
111-174	2	1 1/2
111-175	2 1/2	2
111-176	3	2
111-177	3 1/2	2 1/8
111-178	4	2 1/4
111-179	4 1/2	2 1/2
111-180	5	2 5/8
111-181	6	2 5/8

# FLEXIBLE TINNED COPPER BRAID

## SECTION

## 111-3

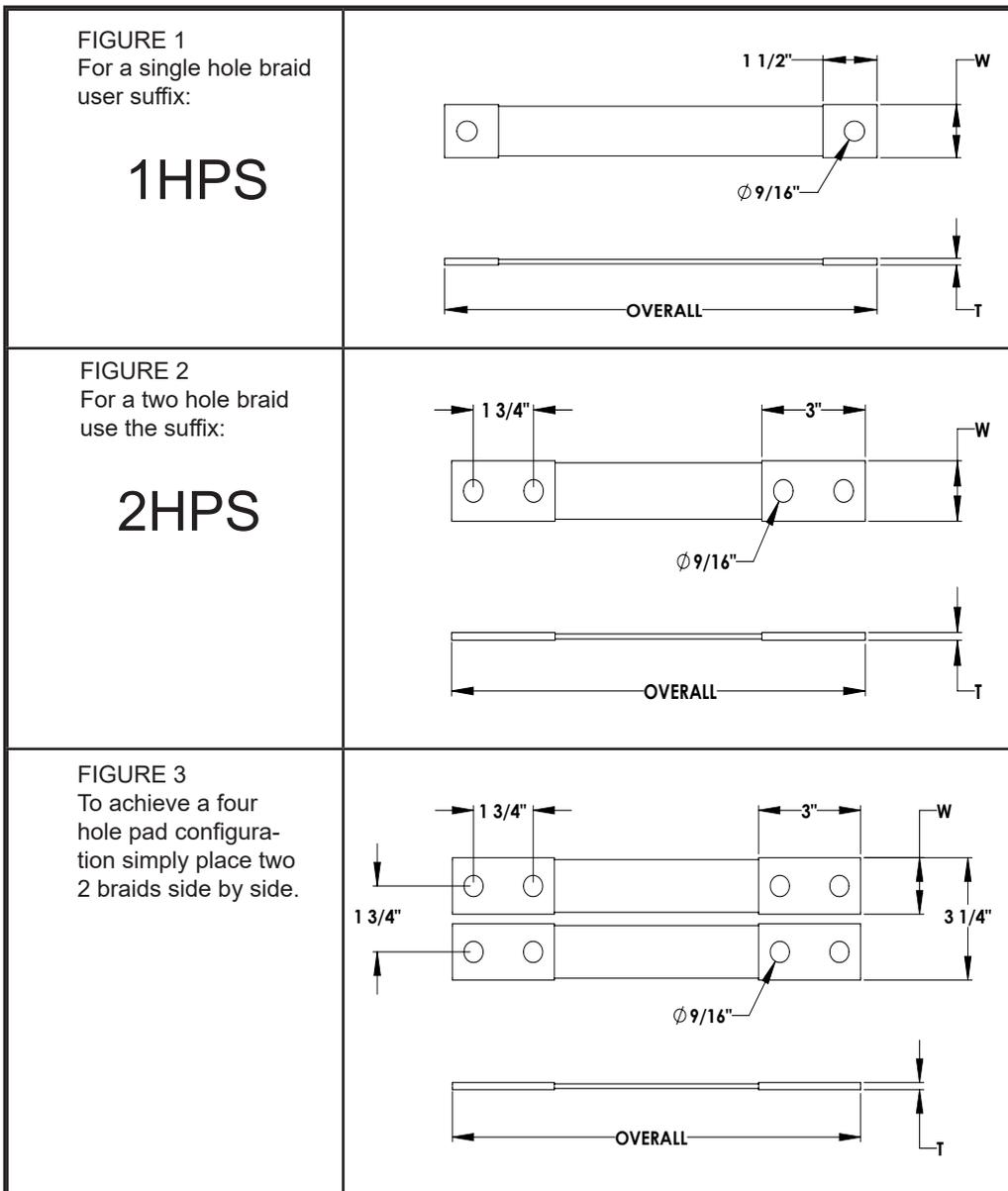
FLEXIBLE TINNED COPPER BRAID				
CATALOG NUMBER	NO. OF HOLES	CURRENT RATING	PADWIDTH (W)	PAD THICKNESS (T)
111-182	Please Specify	200	7/8	3/16
111-183	Please Specify	400	1 1/2	1/4
111-184	Please Specify	600	1 1/2	1/2



The type FCB consists of seamless copper ferrules pressed onto flexible tinned copper braided wires.

Normal lengths are 12" end to end but lengths over that will be readily supplied so long as the desired length appears as a suffix to the catalog number.

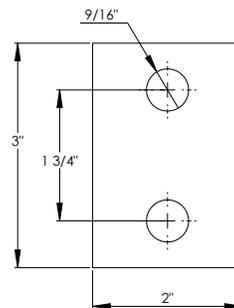
If the length for catalog number 111-182 must be 18" and 2 hole Nema pads are required, the number should be written on the order as 111-182-18-2HPS. For higher current ratings please consult the factory.



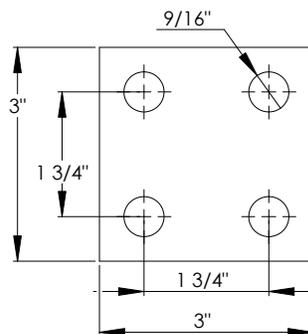
ALUMINUM COPPER CLAD  
TRANSITION PLATES

CATALOG NUMBER	PAD EQUIVALENT	THICKNESS IN INCHES
TP2	B	1/16
TP3	C	1/16
TP4	D	1/16

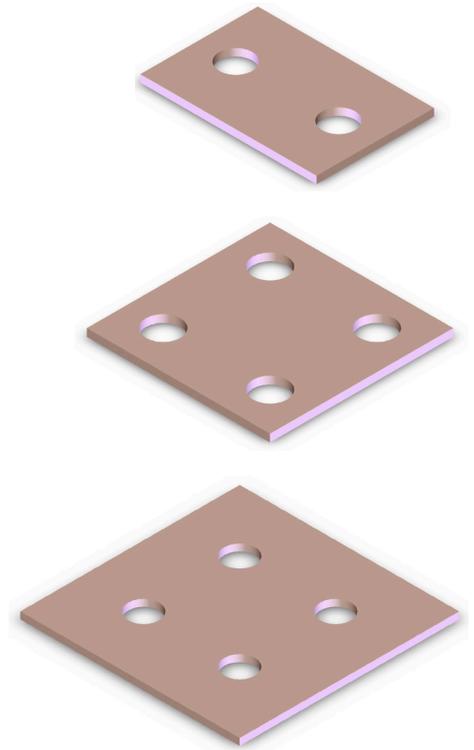
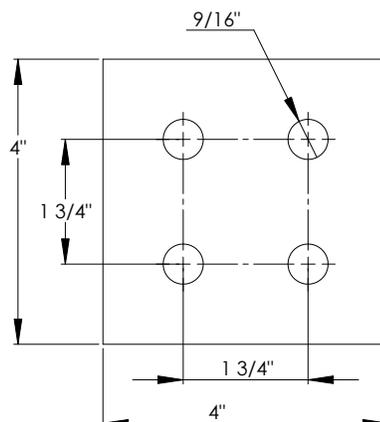
**TP2**  
(TWO HOLE PAD)



**TP3**  
(FOUR HOLE PAD)



**TP4**  
(FOUR BY FOUR PAD)

**Transition Plates:**

These 80% aluminum 20% copper clad plates provide ideal transitions when making aluminum to copper connections with flat pads and bars.

The spacing of the holes adhere to NEMA standards and have a thickness of 1/16". Contact sealant is recommended.