

The BNT Nonmetallic Cable Support For Power Manholes and Vaults

PRODUCT FEATURES

- High Load Capacity
- Can be Used With Existing Steel Stanchions or New Nonmetallic Stanchions
 - Will Not Rust or Corrode
 - Insulators Not Required
- Excellent Dielectric Properties
 - Multiple Arm and Stanchion Lengths Available
- Molded from UL Listed Glass Reinforced Polymer



BNT Series Nonmetallic Cable Support
Arms Installed in A Nonmetallic Stanchion

Additional information and details
are available at

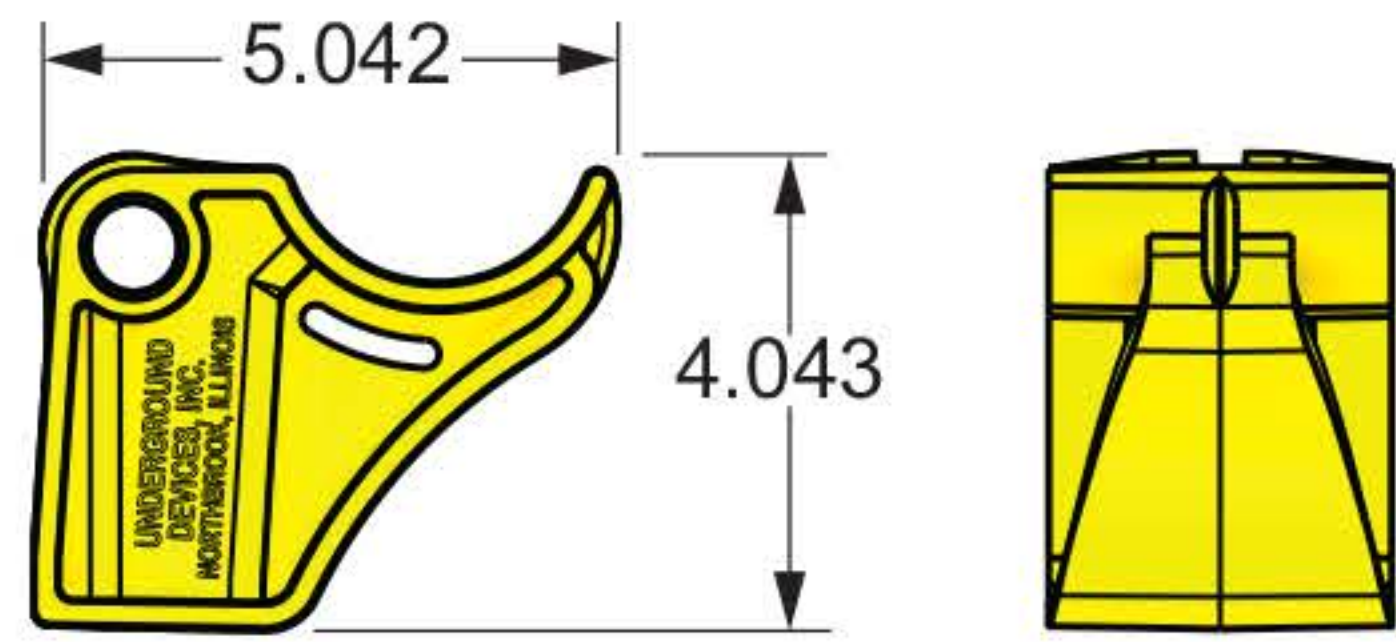
WWW.LINESTAR.CA



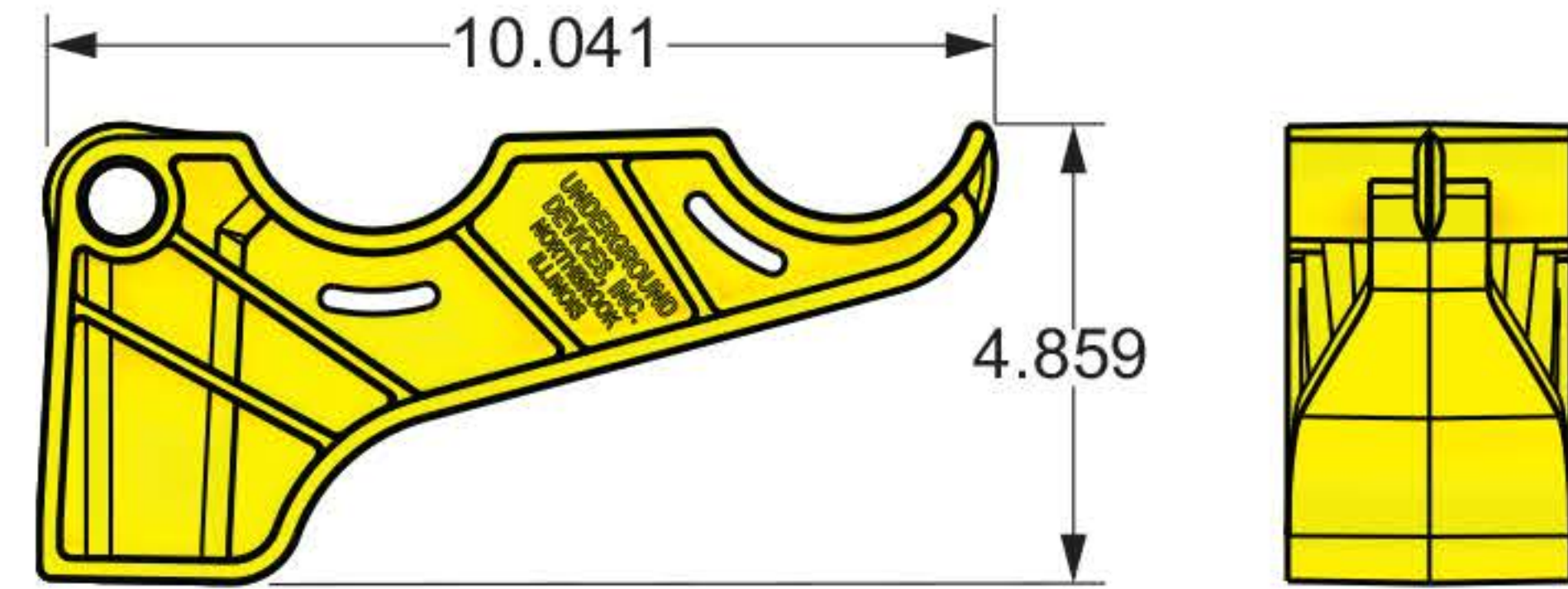
UNDERGROUND DEVICES
INCORPORATED

US PATENTS - 8,567,734 - 8,596,590 - 8,960,612

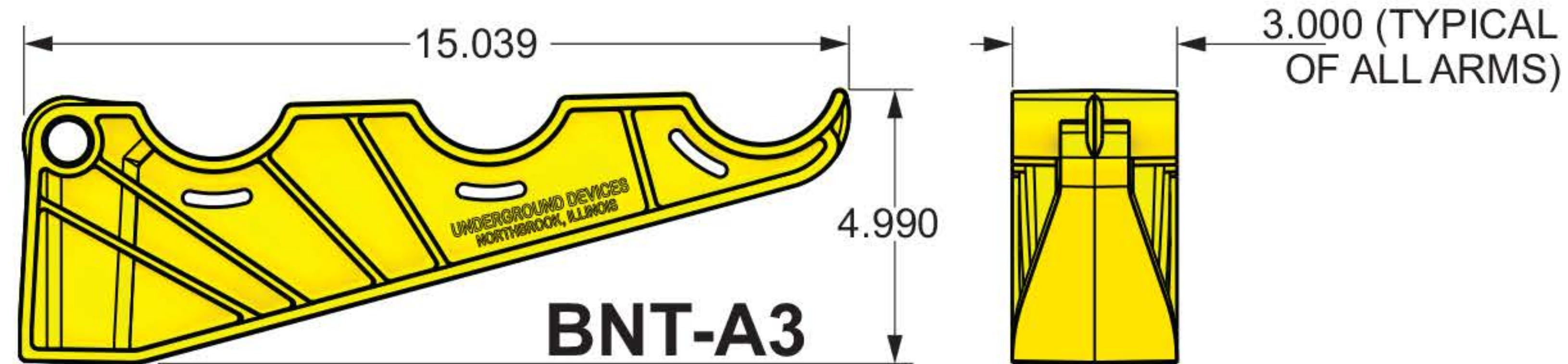
BNT ARMS & PINS



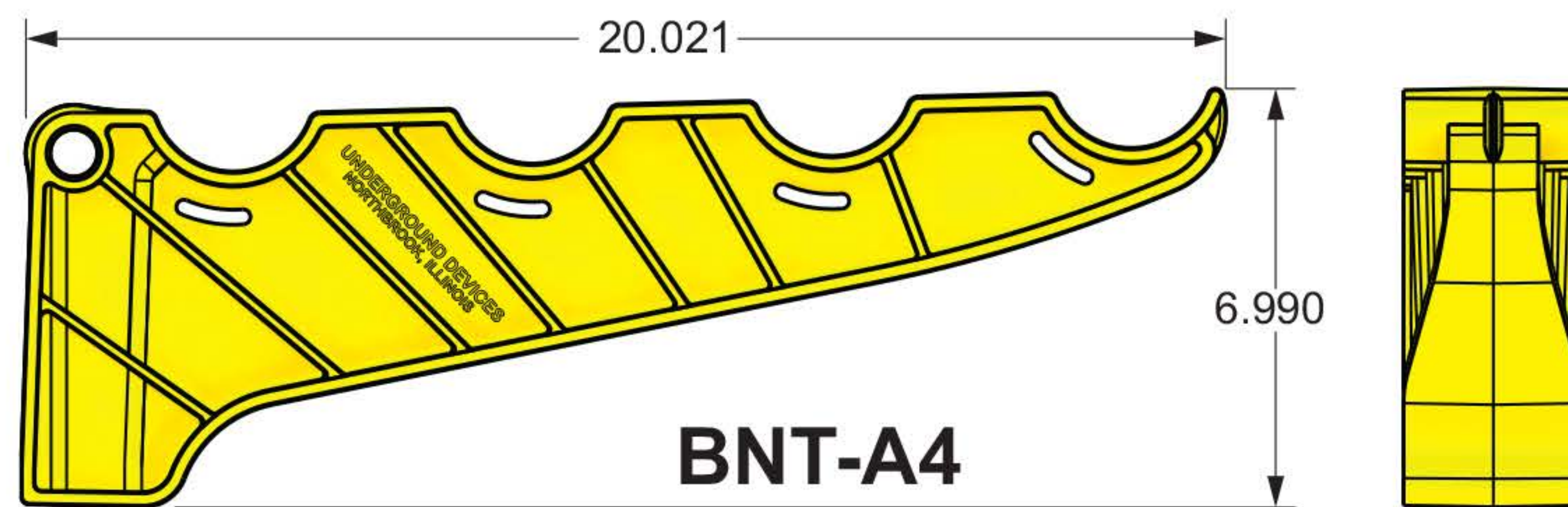
BNT-A1



BNT-A2



BNT-A3



BNT-A4



NOTES:

- 1) 1 each BNT-H1 humped cotter pin is included with each BNT-P pin.
- 2) Use the BNT-P4 cross pin with existing steel stanchions.
- 3) Use the BNT-P5 cross pin with BNT-S nonmetallic stanchions.

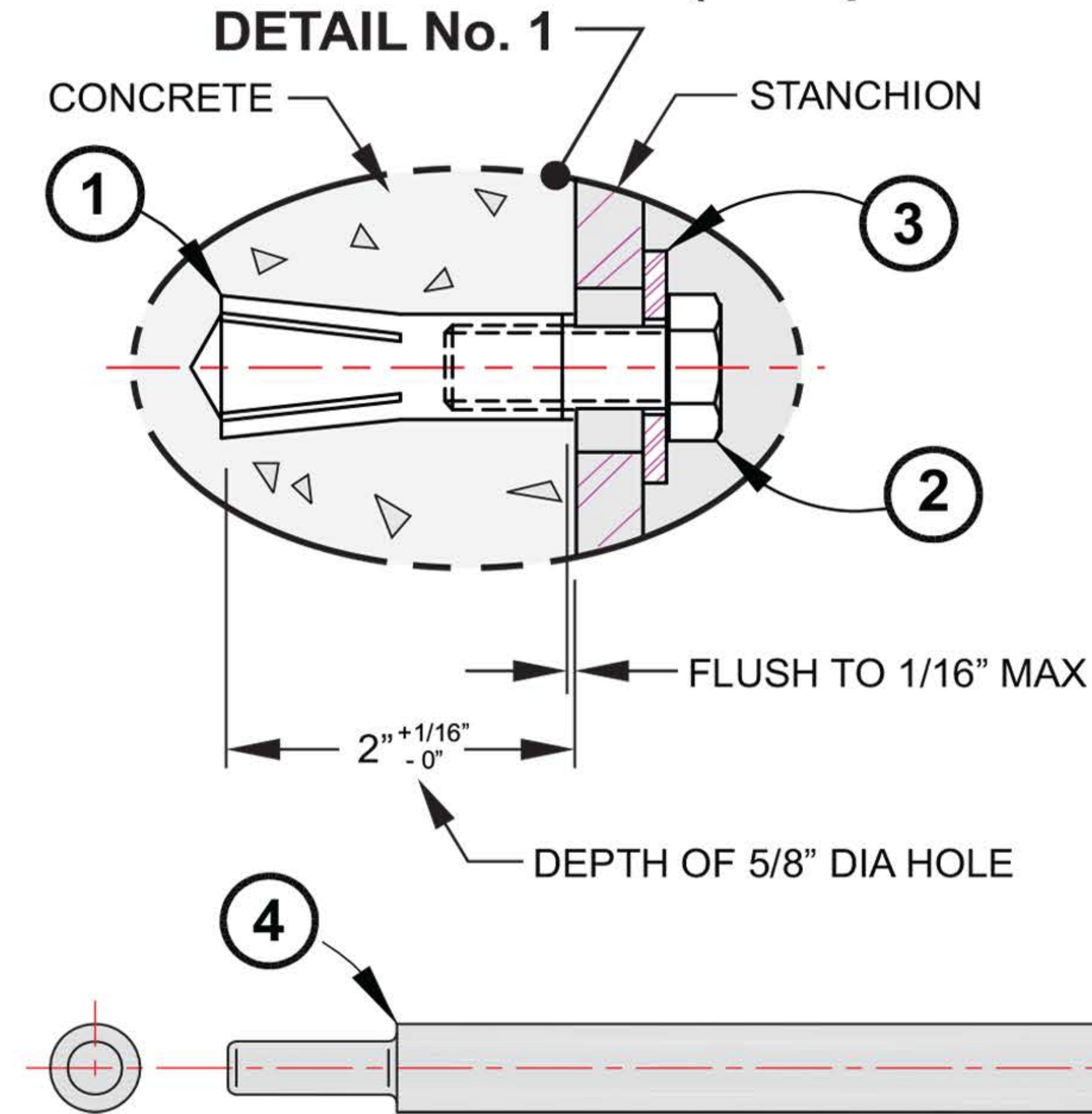


RATED ARM CAPACITY		
CATALOG NUMBER	ARM LENGTH (Inches)	RATED LOAD (LBS)*
BNT - A1	5.042"	450
BNT - A2	10.041"	400
BNT - A3	15.039"	350
BNT - A4	20.021"	300

* Concentrated load centered in outermost saddle

BNT MOUNTING HARDWARE

(Drop-in Anchor Installation)



GENERAL INSTALLATION INSTRUCTIONS

- The surface of the concrete wall should be smooth, flat, and plumb.
- Install one fastener set in each of the elongated stanchion mounting holes.
- Install each drop-in anchor as shown in "Detail No. 1" and as described below:
 - Drill a 5/8" diameter hole 2" deep.
 - Blow out hole.
 - Drive anchor flush to 1/16" below surface of concrete
 - Expand anchor with FRT-112 setting tool. Anchor is properly seated when shoulder of setting tool is flush with the top of anchor.
- Install the flat washer and tighten the cap screw
- Assemble arms to stanchion with cross pins and cotter pins.
- Installation drawings that show additional details are included in the UDI general catalog and at <http://www.udevices.com>.

STANCHION MOUNTING HARDWARE

MATERIAL	ITEM No.	CATALOG NUMBER	DESCRIPTION
316 STAINLESS STEEL	①	FSSRM-12-316	1/2-13 DROP-IN ANCHOR
	②	FHC316-16-040	1/2-13 X 1-1/4" Long HEXHEAD CAP SCREW
	③	FFW316-17-038	FLAT WASHER .531 ID, 1.188 OD, .125 Thick
STEEL	④	FRT-112	SETTING TOOL Use to install FSSRM-12-316 Drop-In Anchors

ANCHOR LOAD CAPACITY

Ultimate Shear and Tension Values In Solid Concrete*

TENSION Lbs. (kN)			SHEAR Lbs. (kN)
f _c =2000 PSI (13.8 MPa)	f _c =4000 PSI (27.6 MPa)	f _c =6000 PSI (41.4 MPa)	f _c @2000 PSI (13.8 MPa)
3,300 (14.7)	5,840 (26.0)	8,300 (36.9)	4,500 (20.4)
*Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values. f _c = Concrete compressive strength The values in this table are applicable to 1/2 -13 drop-in anchors			
Combined Shear and Tension Loading for UDI Drop-In Anchors Allowable loads for anchors subjected to combined shear and tension forces are determined by the following equation: $(P_s/P_t) + (V_s/V_t) = 1$ P _s =Applied tension load V _s =Applied shear load P _t =Allowable tension load V _t =Allowable shear load			

GENERAL ANCHOR NOTES:

- Caution: UDI drop-in anchors are designed to operate properly only when installed with UDI brand FRT setting tools.
- The use of a 24 to 40 ounce hammer is recommended for expanding UDI drop-in anchors.
- Anchors should be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994 specifications.
- UDI drop in anchors are tested to ASTM E488 and are approved and listed by agencies as required by local building codes.
- UDI drop-in anchors are not recommended for use in new concrete which has not had sufficient time to cure.

- UDI drop-in anchors are not recommended for use in light weight masonry such as block or brick.

HEX HEAD CAP SCREW NOTES:

- UDI Type 316 stainless steel cap screws conform to ASTM 316F593G and ASME B18.2.1.
- "316F593G" and the manufactures identification number is stamped on the head of each Type 316 stainless steel screw.
- The manufacturing lot number is marked on each carton of fasteners and has full traceability.
- Upon request UDI will supply written certification that a given lot of fasteners conforms to the applicable specification.



ORDERING INFORMATION

ARM & PIN ORDERING INFORMATION

CATALOG NUMBER	DESCRIPTION	STANDARD CARTON					
		QUANTITY	LBS	LENGTH (Inches)	WIDTH (Inches)	HEIGHT (Inches)	CUBIC FEET
BNT-A1	ONE SADDLE ARM	10	8	15.250	8.250	4.750	.346
BNT-A2	TWO SADDLE ARM	10	16	15.250	13.250	5.500	.643
BNT-A3	THREE SADDLE ARM	10	23	15.250	15.250	7.500	1.009
BNT-A4	FOUR SADDLE ARM	6	21	20.500	9.500	9.500	1.071
BNT-P4	4" CROSS PIN WITH COTTER PIN	10	2	5.750	4.250	4.250	.060
BNT-P5	5" CROSS PIN WITH COTTER PIN	10	2	5.750	4.250	4.250	.060
BNT-H1	HUMPED COTTER PIN	40	.6	3.750	3.125	2.125	.014

NOTES:

- 1) 1 each BNT-H1 humped cotter pin is included with each BNT-P pin.
- 2) Use the BNT-P4 cross pin with existing steel stanchions.
- 3) Use the BNT-P5 cross pin with BNT-S nonmetallic stanchions.

STANDARD STANCHION ORDERING INFORMATION

CATALOG NUMBER	STANDARD CARTON					
	QUANTITY	LBS	LENGTH (Inches)	WIDTH (Inches)	HEIGHT (Inches)	CUBIC FEET
BNT-S952A	4	43	51	9.375	3.625	1.003
BNT-S942A	4	35	42	9.375	3.625	.826
BNT-S932A	4	28	33	9.375	3.625	.649
BNT-S922A	8	40	47	9.375	3.625	.924
BNT-S912A	12	36	43	9.375	3.625	.845
FSSRM-12-316	40	4.75	4.562	4.250	2.188	.025
FHC316-16-040	40	4.20	4.562	4.250	2.188	.025
FFW316-17-038	40	2.12	4.562	4.250	2.188	.025
FRT-112	1	.40	6.000	.750	.750	.002

NOTE: Stanchions that accommodate more arms and that have other distances between arms are available. Consult Underground Devices Sales Engineering.

BNT - S9 STANCHIONS

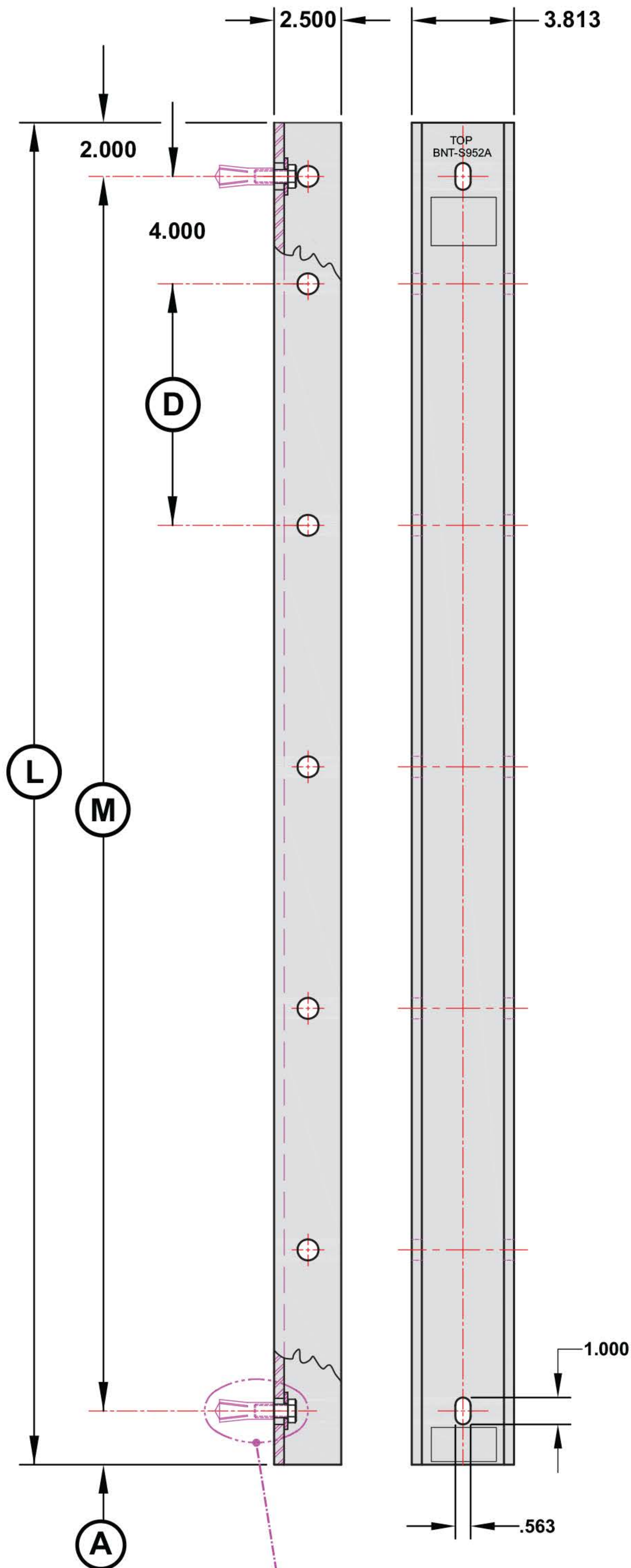


TABLE 1: STANCHION FEATURES & DIMENSIONS

CATALOG NUMBER	DISTANCE BETWEEN ARM MOUNTING HOLES (Inches)	MAX QUANTITY OF ARMS ACCOMMODATED	QUANTITY OF WALL MOUNTING HOLES	DIMENSIONS (Inches)	
				L	M
BNT-S952A	9	5	2	50.00	46.00
BNT-S942A	9	4	2	41.00	37.00
BNT-S932A	9	3	2	32.00	28.00
BNT-S922A	9	2	2	23.00	19.00
BNT-S912A	---	1	2	14.00	10.00

- ↑ STANCHION CONFIGURATION
- ↑ QUANTITY OF WALL MOUNTING HOLES
- ↑ QUANTITY OF ARM MOUNTING HOLES
- ↑ DISTANCE BETWEEN ARMS
- ↑ S=STANCHION
- ↑ CABLE SUPPORT FAMILY

NOTE: Stanchions that accommodate more arms and that have other distances between arms are available. Consult Underground Devices Sales Engineering and see "BNT Custom Stanchion Installation Drawings" at <http://www.udevices.com>.

SEE DETAIL No. 1
ON PAGE 3



BNT Nonmetallic Cable Support Arms
Installed In An existing Steel Stanchion

The BNT family of cable supports meets power utility needs for a manhole cable support system that is nonmetallic and nonconductive. The non-metallic property is the solution to steel cable rack rust and corrosion problems while the nonconductive properties eliminate cable support grounding and insulator requirements.

A complete nonmetallic solution, consisting of BNT nonmetallic stanchions, arms and cross pins should be selected for new and replacement installations. Since BNT arms mate with many existing steel stanchions, retrofitting of existing manholes can be accomplished by initially changing out the steel arms with BNT arms. The existing steel stanchions may be replaced, as necessary, at a later date.

Arm installation is safe and simple - the arms are secured in place with nonmetallic pins, allowing for installation and removal of the arms without disturbing any cable.

Due to the extreme strength and rigidity of the BNT stanchions, most installations require only two bolts to secure a stanchion to the manhole wall.

BNT arms and stanchions have loading capacities comparable to similar heavy duty steel cable racks.

- TERMS:** Net 30 days - \$100.00 minimum net billing. All prices FOB our factory or warehouse location with freight to be charged directly by the carrier.
- CLAIMS:** Claims for damages or shortages shall first be processed with carrier by consignee.
- RETURN GOODS POLICY:** A 25% re-stocking charge will be made on orders returned, transportation prepaid, to the original shipping point following authorization from UNDERGROUND DEVICES, INC. Authorization will be granted only under the conditions that the quantity to be returned does not exceed 10% of the quantity ordered, the goods are in saleable condition in the original cartons and the request for return is made within 30 days of the shipping date.
- LIMITED WARRANTY:** UNDERGROUND DEVICES, INC. Warrants to the original purchaser that the goods manufactured by it are free from defects in materials and workmanship for a period of one year from the date of purchase. Consequences of improper selection or installation of UNDERGROUND DEVICES products on any application over any period of time is the sole responsibility of the Purchaser or User. UNDERGROUND DEVICES liability is limited to replacement of, or credit for, defective products. UNDERGROUND DEVICES, INC. WILL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.



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