

	MATERIAL LIS	Т
PART NO.	DESCRIPTION	MATERIAL SPECIFICATION
B32E CUT	1-1/4" THREADBAR	ASTM A722 TYPE II STEEL
B32E22700 OR B32E22800	6"x7"x1.5" SQ. OR 5"x8"x1.75" RECT. BEAR. PLATE W/EXIT PIPE 2" SCH 40 STEEL PIPE 5-1/2" LONG & BOLT HOLES, GALV.	STEEL PLATE, ASTM A36, PIPE, ASTM A53 GALVANIZED
B32E24210	1-1/4" GROUTABLE ANCHOR NUT	FORGING, NORMALIZED C1045
B36E50700A	NYLON BAR CAP WITH O-RING FOR FLEXIBLE FILLER	CAP: NYLON 6, 20% GLASS FIBER FILLED O-RING: HNBR
00 00 783 00 00 774	3/8"-16UNC HEX BOLT, 3 1/4" LONG NARROW WASHER	316L STAINLESS STEEL
U00055107	2 1/2" IPS DR 17 HDPE PIPE	HDPE
U00039063	HEAT SHRINK KLNN WRAP, TYPE L, 18" WIDE CUT TO ~4.5" WIDE IN FIELD	ACCORD. TO FDOT SPEC. P.T. SEC. 960-2.2.1.8

	MATERIAL LIST								
	PART NO.	DESCRIPTION	MATERIAL SPECIFICATION						
	00 00 878	3/4" NPT PIPE NIPPLE, LENGTH AS REQ'D (TEMP.)	SCH 40, BLACK WELDED STEEL						
	00 00 838	3/4" NPT VALVE (TEMPORARY)	BRASS						
	00 00 849	3/4" NPT PLUG	NYLON 6, WHITE						
	00 00 678	1/2" NPT PIPE NIPPLE, LENGTH AS REQ'D (TEMP.)	SCH 40, BLACK WELDED STEEL						
$\dashv$	00 00 638	1/2" NPT VALVE (TEMPORARY)	BRASS						
$\forall$	00 00 649	1/2" NPT PLUG	NYLON 6, WHITE						
´	ANS	FLEXIBLE FILLER MICROCRYSTALLINE WAX	ACCORD. TO FDOT SPECS. 938-5						
	ANS	TEFLON TAPE OR PASTE FOR THREADS							
	68 07 233	ELECTROFUSION COUPLER (OPTIONAL)	COMPOSITE						
$\dashv$			-						

- 7. THREADBAR TENDONS ARE STRESSED FROM ONE END ONLY.

USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION

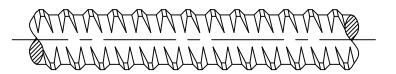
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PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY **DSI's** SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.

	DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY					REV.	DATE	NAME	
MINI OF THE ENERGE ONE!				MEIOUT	1 1				
INTERNAL FLEXIBLE FILLER 1-1/4" (32mm) THREADBAR ASSEMBLY DRAWING				WEIGHT					
				SCALE					
							DRAWING		
					1:5				NUMBER:
DATE: 06/29/20	DWG: I. Tira/G. Malecki	CHK: SI	APP: SI						
-711-11-0-07-207-20	z r z r r r r r r r r r r r r r r r r r	<u></u>	, <b></b>						DT 20E 400
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AND THEIR CON	HENTS ARE THE PROPERT	T OF DIWIDAG SISIE	VIS INTERNATIONAL. I						



## RIGHT HAND THREAD





PART NUMBERS

SPECIFICATIONS

FOR BARE BAR:

B32E CUT

ASTM A722 TYPE II

# PHYSICAL PROPERTIES

EFFECTIVE AREA: 1.25 SQ.IN.

ULTIMATE STRENGTH: 150 KSI

ULTIMATE LOAD: 187.5 KIPS

YIELD LOAD: 151.2 KIPS

WEIGHT: 4.39 LBS./FT.

MAX. BAR Ø INCL. RIBS: 1.44 IN.

AVERAGE CORE Ø: 1.26 IN.

PITCH: 0.630 IN.

DIMENSIONS: INCH [mm] QUALITY PLAN NUMBER: mm FOR REFERENCE ONLY QB00000010B QB00000050B

### 1-1/4"Ø THREADBAR GRADE 150 KSI

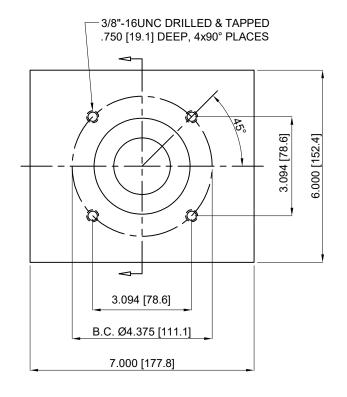
DATE: 12-23-91 DWG: G. MALECKI CHK: APP: K.L.

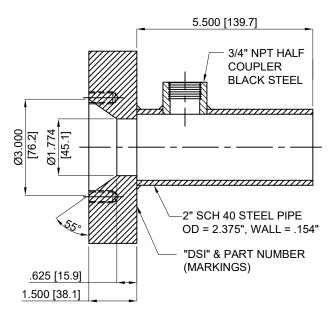
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	REV.	DATE	NAME	ECRN	PART NUMBER: B32E CUT
SCALE NTS					
					DRAWING NUMBER: B32E CUT
		SCALE	SCALE	SCALE	SCALE

DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405

**DYWIDAG** 





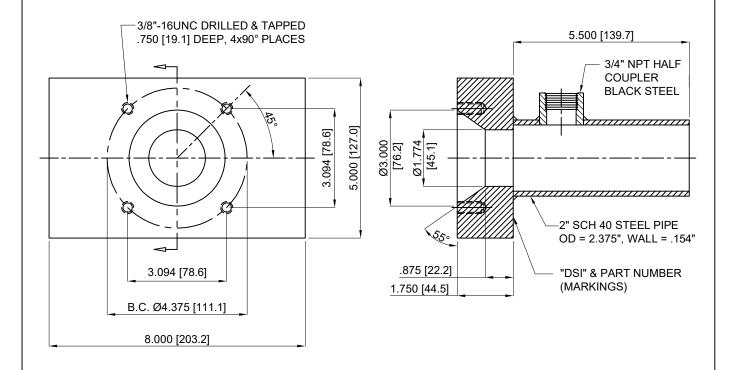
#### NOTES:

- 1. PLATE & PIPE GALVANIZED ACCORDING TO ASTM A123 AFTER WELDING.
- 2. DIMENSIONS AND TOLERANCES APPLY TO UNCOATED PLATES.
- 3. ENSURE THREADABILITY OF TAPPED HOLES IN COATED PLATES.
- 4. 2 1/2" IPS DR 17 HDPE PIPE U00055107 FITS OVER STEEL PIPE.

	DIMENSIONS: INCH [mm]	QUALITY	PLAN NUMBER:	TOLERANCES:	WEIGHT	REV.	DATE	DWG.	CHK.	PART NUMBER
	mm FOR REFERENCE ONLY		±.020	~18.1						
	SQUARE BEARING PLATE WITH EXIT PIPE FOR			UNLESS NOTED	LBS.					B32E22700
				PLATE MATERIAL:	SCALE					]
	1-1/4" THREADBAR TO BE USED WITH HDPE PIPE		SEE MAT'L SPEC.						DRAWING	
	DATE: 40/40/40   DMO: 1 TIDA (O.4	OLUC: OV	ADD: OF	PME0021100P	1:3					NUMBER:
	<b>DATE:</b> 12/13/18 <b>DWG:</b> I. TIRA / G.M.	CHK: SY	APP: SE	PIPE MATERIAL:						Daaraazaa
	THIS DRAWING THE PERTINENT ENCLOSURES DESCRIPTIONS CALCULATIONS ETC.			ACTM AE2						B32E22700

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#### NOTES:

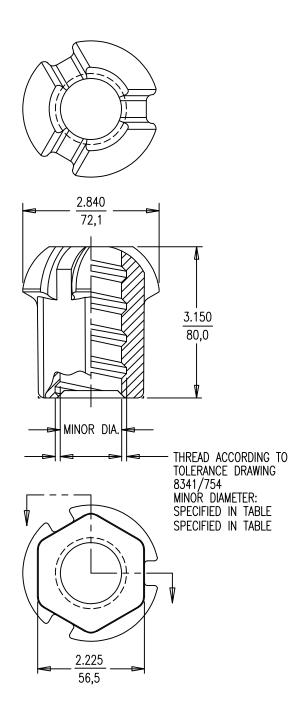
- 1. PLATE & PIPE GALVANIZED ACCORDING TO ASTM A123 AFTER WELDING.
- 2. DIMENSIONS AND TOLERANCES APPLY TO UNCOATED PLATES.
- 3. ENSURE THREADABILITY OF TAPPED HOLES IN COATED PLATES.
- 4. 2 1/2" IPS DR 17 HDPE PIPE U00055107 FITS OVER STEEL PIPE.

DIMENSIONS: INCH [mm]	QUALITY PLAN NUMBER:	TOLERANCES:	WEIGHT	REV.	DATE	DWG.	CHK.	PART NUMBER
mm FOR REFERENCE ONLY		±.020	~19.9					
DECT DEADING DLAT	E WITH EXIT PIPE FOR	UNLESS NOTED	LBS.					B32E22800
RECT. BEARING PLAT	PLATE MATERIAL:							
1-1/4" THREADBAR TO B	SEE MAT'L SPEC.	SCALE						
1-1/4 ITHINEADDAIN TO D	SEE MAT L SPEC.	1:3					DRAWING	
DATE: 40/40/40 DIMO: 1 TIDA / O.M.	CHK: SY APP: SE	PME0021100P	1.3					NUMBER:
<b>DATE:</b> 12/13/18 <b>DWG:</b> I. TIRA / G.M.	CHK: SY APP: SE	PIPE MATERIAL:						B32F22800
						1	1	R 4/F//XIIII

ASTM A53

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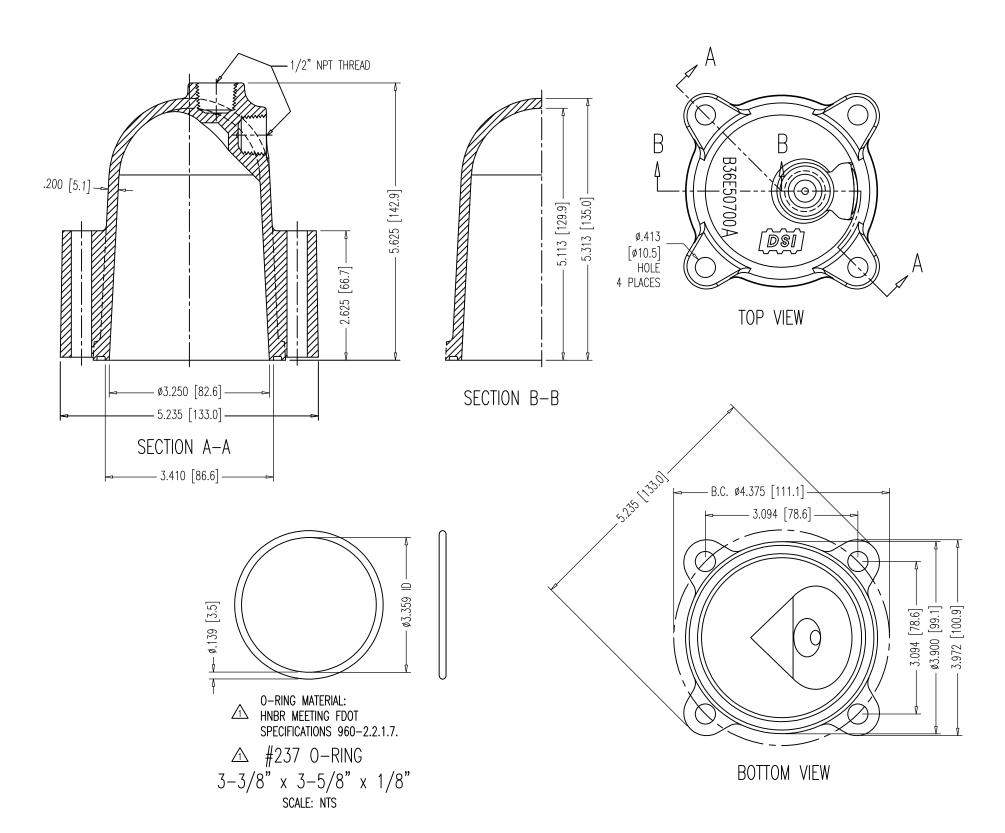


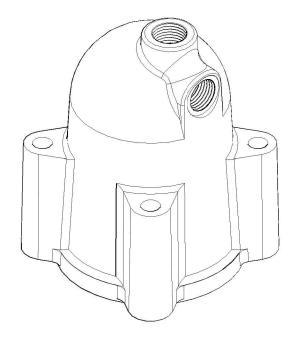
DIMENSIONS: INCH/mm QUALITY PLAN NUMBER: mm FOR REFERENCE ONLY			TOLERANCES: ±.020	WEIGHT 2.50	REV.	DATE	NAME	PART NUMBER:	
GROUTABLE ANCHOR NUTS			UNLESS NOTED	LBS.				B32E24210	
			MATERIAL:	SCALE					
FUR	FOR 1-1/4" Ø BAR,150 KSI			C1045 FORGING	1.2				
DATE: 03-23-06 DWG: 0	3. MALECKI	CHK: C.S.	APP: K.S.	ASTM A521-CF MOD.					DRAWING NUMBER:
THIS DRAWING THE PERTINENT ENCLOSURES DESCRIPTIONS CALCULATIONS ETC.			NORMALIZED		_			B32E24200	

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DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405







#### NOTES:

- 1. USE 3/8"-16UNC 316L S.S. HEX BOLTS, 3-1/4" LONG 00 00 783 W/SMALL DIA. WASHER 00 00 774.
- 2. INSTALL O-RING IN GROOVE USING DROPS OF LIQUID ADHESIVE BEFORE SHIPPING.

  3. THE NYLON CONFORMS TO ASTM D5989 WITH CELL CLASSIFICATION S-PA0401
- (ULTIMATE STRENGTH 10,000 PSI MIN., WITH UV STABILIZER ADDED).
- 4. DRILL 1/2" [12.7] HOLE IN PORT BEING USED-CAUTION-RECOMMEND USING HOLE SAW BIT OR SPADE BIT (BY OTHERS), BE CAREFULL TO PREVENT DAMAGE TO THREADS OR CAP.
- 5. WHEN PRESSURIZING GROUT CAPS, DO NOT STAND BEHIND CAPS!

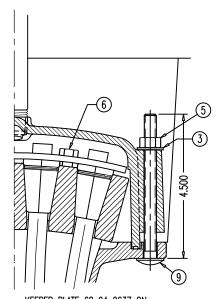
DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY  QS60072300P  NVI ON RAP CPOLIT CAP W/ O-DING FOR ALL 1" & 1-1/4"			TOLERANCES: SEE TOLERANCE NOTE	WEIGHT 0.817 LBS.	REV.	DATE 03/29/19	NAME S.I.	PART NUMBER: B36E50700A
NYLON BAR GROUT CAP W/ O-RING FOR ALL 1" & 1-1/4" NUTS & 1-3/8" ANCHOR NUT FOR FLEXIBLE FILLER			MATERIAL: NYLON 6	SCALE 1:2				Â
DATE: 10-02-06 DWG: G. MALECKI THIS DRAWING, THE PERTINENT ENCLOSU	20% GLASS FIBER FILLED COLOR: BLACK	UNLESS NOTED				B36E50700A		

PHONE: 630-739-1100

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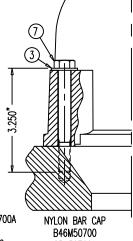
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IGBROOK, IL 60440
FAX: 630-739-1405



BY OTHERS -

(3) NYLON BAR CAP B36E50700 OR 50700A

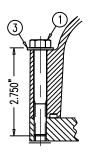


KEEPER PLATE 68 04 2637 ON WEDGE PLATE 68 04 2534A & NYLON CAP 68 04 2539 ON FLAT ANCHOR 68 04 2548

POCKET FORMER 68 04 2640 ON FLAT ANCHOR 68 04 2548

ON GALV. BEARING PLATE B26E22510, 22610, 22700, 22800, B32E22510, 22610, 22700, 22800, <u>∕</u> B36E22410, 22420, 22910, 22510, 22610, 22700, 22800 & NYLON BAR CAP B66E50700 OR 50700A ON GALV. BEARING PLATE B66E22700

OR 50700A ON GALV. BEARING PLATE B46E22700 & ⚠ B46E22800



NYLON CAP 68 07 7230 OR 7230A ON MPA 68 07 248

9

(11)

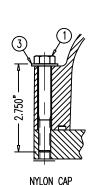
DIMENSIONS: INCH

PART NUMBER

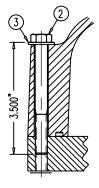
00 00 771

00 00 789

00 00 790



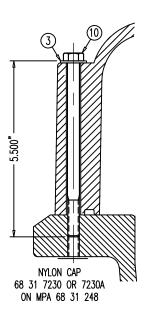
68 12 7230 OR 7230A ON MPA 68 12 248



NYLON CAP 68 19 7230 OR 7230A ON MPA 68 19 248

4.250"		8	
<u> </u>			
	NN/I ON	040	

NYLON CAP 68 27 7230 OR 7230A ON MPA 68 27 248





TYPE A NARROW WASHER FOR 3/8"-UNC BOLT

$\sim$		, , , , , , , , , , , , , , , , , , , ,
2	00 00 772	3/8"-16UNC HEX BOLT, 3-1/2" LONG (1" LONG THREAD)
3	00 00 774	TYPE A NARROW WASHER FOR 3/8"-UNC BOLT
4	00 00 776	3/8"-16UNC COUPLER, ZINC COATED
(5)	00 00 777	3/8"-16UNC HEX NUT
(6)	00 00 778	5/16"-18UNC HEX BOLT, 7/8" LONG, ZINC PLATED
7	00 00 783	3/8"-16UNC HEX BOLT, 3-1/4" LONG (1" LONG THREAD)
8	00 00 784	3/8"-16UNC HEX BOLT, 4-1/4" LONG (FULL THREAD)

3/8"-16UNC CARRIAGE BOLT, 4-1/2" LONG

3/8"-16UNC CARRIAGE BOLT, 5-1/2" LONG

QUALITY PLAN NUMBER:

DISCRIPTION (ALL PARTS 316L STAINLESS STEEL UNLESS NOTED)

3/8"-16UNC HEX BOLT, 2-3/4" LONG (1" LONG THREAD)

THE 316L S.S. BOLTS ARE SPECIAL ORDER. ALL WASHERS, HEX NUTS & COUPLERS HAVE NO MARKINGS.

CTAINI FOC CTEFL 2	ACL BOLTS AND
STAINLESS STEEL 3	JIOL BOLIS AND
WASHER FOR N	VI ON CADS
WASHERIORIN	ILUN CAFS

DATE	00.10.04	DWG: G MALECKI	CHK: E V	ADD: KG	

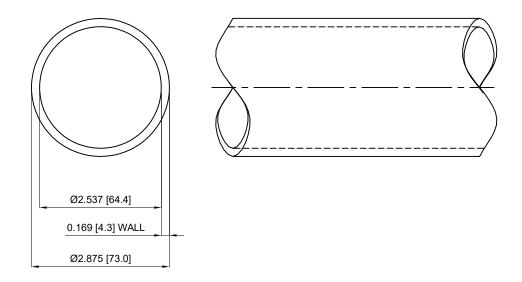
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	REV.	DATE	NAME	NAME	PART NUMBERS:
	1	05/01/19	S.I.		SEE TABLE
	<b>2</b>	05/28/20	S.I.		
SCALE					
1:3					
1.3					
					DRAWING NUMBER:
					00 00 770

## DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.

POST TENSIONING / REINFORCING UNIT PHONE: 630-739-1100 DYWIDAG FAX: 630-739-1405 320 MARMON DRIVE - BOLINGBROOK, IL





MATERIAL: 21/2" IPS DR 17 HDPE PIPE.

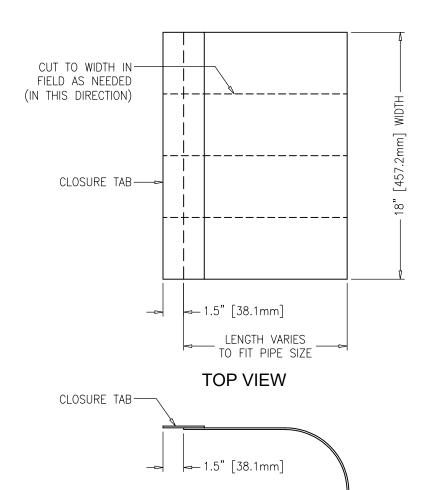
#### **SPECIFICATIONS:**

- 1. PIPE SHALL BE OF HIGH-DENSITY POLYETHYLENE AND SHALL HAVE A MAXIMUM DIMENSION RATIO (DR) OF 17 AS ESTABLISHED BY EITHER ASTM D3035 OR ASTM F714, AS APPROPRIATE FOR MANUFACTURING PROCESS USED..
- 2. PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF 125 PSI.
- 3. MEETS REQUIREMENTS OF ASTM D3350 WITH A MINIMUM CELL CLASS OF 445574C.
- 4. CONTAINS ANTIOXIDANTS WITH A MINIMUM OXIDATIVE-INDUCTION TIME (OIT) ACCORDING TO ASTM D3895 OF 40 MINUTES.
- 5. REMOLDED FINISHED MATERIAL HAS A MINIMUM FAILURE TIME OF THREE HOURS WHEN TESTED FOR STRESS CRACK RESISTANCE USING ASTM F2136 AT AN APPLIED STRESS OF 348 PSI.

DIMENSIONS: INCH [mm] QUALITY PLAN NUMBER: mm FOR REFERENCE ONLY		TOLERANCES:	WEIGHT 0.63	REV.	DATE	DWG.	CHK.	PART NUMBER	
2 1/2" SMOO	UNLESS NOTED	LBS./FT.					U00055107		
		SCALE							
FOR FLEXIBLE FILLER TENDON		MATERIAL	1:2					DRAWING	
DATE: 02/27/19   DWG: I. TIRA	CHK: SI APP: SI	SEE ABOVE	'					NUMBER:	
THIS DRAWING, THE PERTINENT ENCLOSE	C.						U00055107		

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END VIEW
(NOT TO SCALE)

NOTE: FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

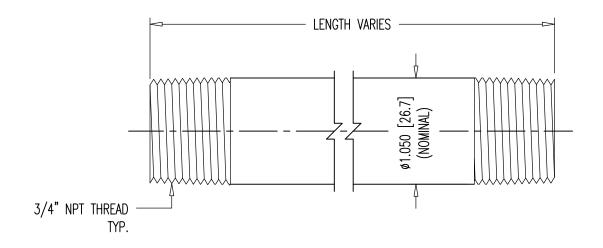
	PIPE SIZE STRAND SYSTEM		BAR SYSTEM	HEAT SHRINK SLEEVE SIZE	PART NUMBER	
	2 1/2" IPS DR 17	7-0.6"	1", 1 1/4", 1 3/8"	KLNN/L 63-450 BK	U00039063	
$\triangle$	3" SDR 17	12-0.6"	1 3/4", 1 3/8"	KLNN/L 90-450 BK	U00039090	
	4" SDR 17	19-0.6"	2 1/2", 3"	KLNN/L 115-450 BK	U00039115	
	5" SDR 17	27-0.6" & 31-0.6"		KLNN/L 125-450 BK	U00039125	

	DIMENSIONS: INCH [mm] QUALITY PLAN NUMBER: mm FOR REFERENCE ONLY					REV.	DATE 05-28-20	NAME SI	PART NUMBERS: <b>U00039063</b>	
	KLNN HEAT SHRINK SLEEVE				MATERIAL:					U00039090 U00039115
				POLYOLEFIN MEETS FDOT SPECS	SCALE XX				U00039125	
DATE:	02-21-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I.	960-2.2.1.8 FOR		<u> </u>			DRAWING NUMBER:
	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.			FLEXIBLE FILLER					U00039000	

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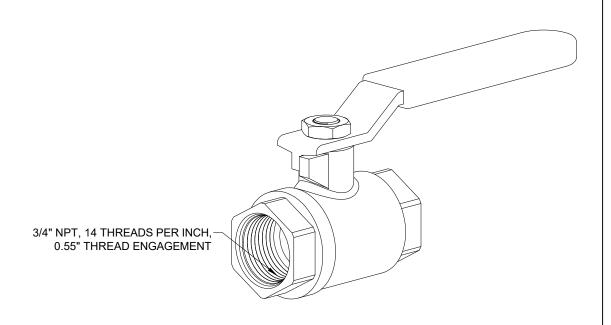


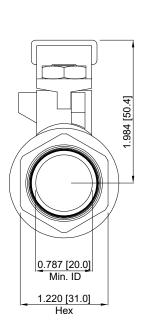
DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY QUALITY PLAN NUMBER: Q000000020P REV. DATE NAME ECRN PART NUMBER: 00 00 878 3/4" NPT PIPE NIPPLES MATERIAL: SCALE SCH 40 1:1 **BLACK WELDED** DRAWING NUMBER: DATE: 01-29-19 DWG: G. MALECKI CHK: S.I. APP: S.I. STEEL 00 00 878

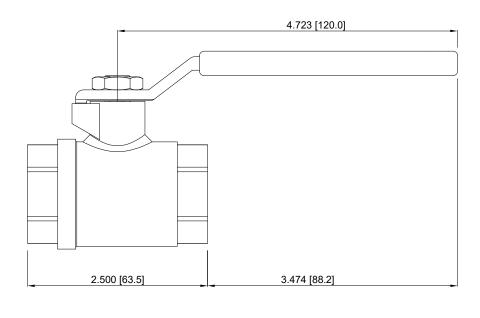
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mm FOR REFERENCE ONLY			WEIGHT	REV.	DATE	NAME	PART NUMBER			
IIIII FOR REFERENCE C	INL I			4	0.77   DC				00 00 838	
					0.77 LBS.				00 00 030	
3/4" BALL VALVE			SCAL	SCALE						
				MATERIAL: BRASS	3/4" = 1"				DRAWING	
DATE: 02/08/19   DWG: I. TIRA									NUMBER:	
DATE: 02/08/19         DWG: I. TIRA         CHK: SY         APP: SE				4					00 00 838	
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.								00 00 636		

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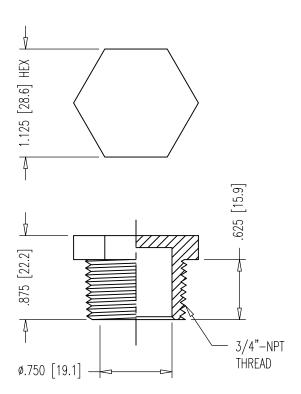
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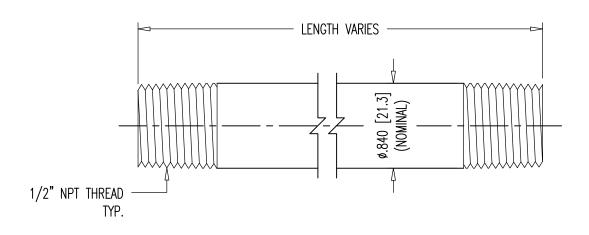


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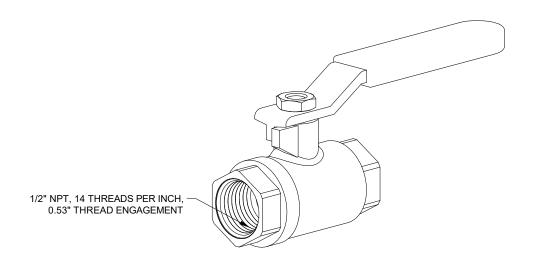


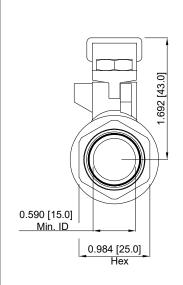
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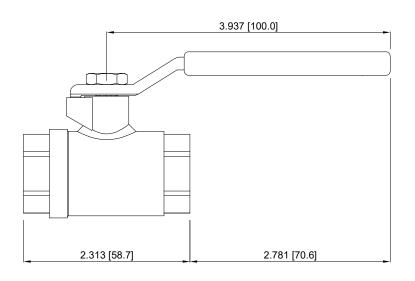
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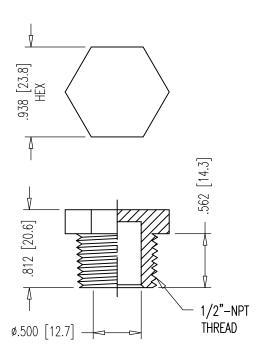
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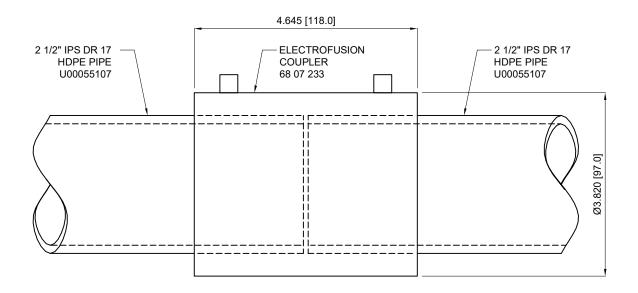


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#### INSTALLATION PROCEDURE:

(SEE MANUFACTURER INSTRUCTION MANUAL FOR DETAILED INSTRUCTIONS)

- 1. CUT PIPE ENDS PRECISELY AT RIGHT ANGLES TO THE PIPE AXIS.
- 2. CLEAN BOTH PIPE ENDS CAREFULLY.
- SCRAP BOTH PIPES ENDS AS REQUIRED TO REMOVE THE OXIDE LAYER COMPLETELY
- 4. CLEAN BOTH PIPE ENDS WITH CONCENTRATED ISOPROPYL ALCOHOL.
- 5. USE REROUNDING TOOLS TO CORRECT OVAL PIPE IF NEEDED.
- USE ALIGNMENT CLAMPS TO SECURE THE ALIGNMENT OF CONNECTED PIPES
- 7. PROVIDE SUPPORT TO THE PIPE AND COUPLER TO PREVENT ANY MOVEMENT.
- 8. ENSURE THERE IS NO EXISTING GAPS BETWEEN COUPLE AND PIPE FACE.
- ATTACH LEADS OF THE FUSION PROCESSOR TO THE COUPLER.
- 10. SCAN THE BARCODE ON THE COUPLER AND CONFIRM THE COUPLER'S SIZE ON THE PROCESSOR SCREEN.
- 11. INITIATE FUSION PROCESS.
- 12. UNPLUG THE LEADS AS SOON AS THE FUSION PROCESS ENDS.
- 13. CHECK COOLING TIME OF THE PROVIDED COUPLER BASED ON COUPLER'S SIZE.
- 14. DO NOT ALLOW MOVEMENT OR APPLIED PRESSURE ON THE JOINTS BEFORE COOLING TIME ENDS.

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