

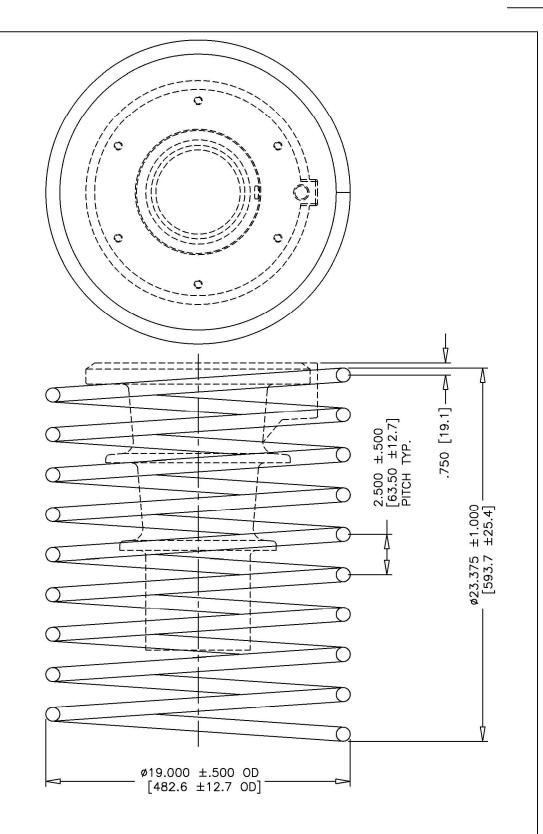
- NOTES FOR GALVANIZING PARTS:
 1. GALVANIZE ACCORDING TO ASTM A123 AND TAKE CARE HOW (ASTINGS ARE STORED TO PREVENT RUST.
- 2. DRILL & TAP BOLT HOLES AND GROUT PORTS AND SPRAY THEM WITH ZINC RICH PAINT ACCORDING TO ASTM A780, ENSURE THREADABILITY.

DIMENSIONS: INCH [mm]	QUALITY PLAN	NUMBER:
DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY	QS600212	200C
31-0.6" MULTI-P		HUB.
31-0.0 MIGETI-F	LAIL AIL	
WITH TWO GROU	IT DODTE	CALV
WITH TWO GROU	JI PUR 13-	GALV.
DATE: 10-06-16 DWG: G. MALECKI	CHK: S.Y.	APP: E.Z.

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PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DOS ISSUBINITAL TO
THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.

	TOLERANCES:	WEIGHT	REV.	DATE	NAME	ECRN	PART NUMBER:
4	±.030 ±2°	~93					68 31 248
- 1	UNLESS NOTED	LBS.					1
- 1	MATERIAL:	SCALE]
- 1	DUCTILE IRON	3:10					
-	65-45-12						1
-	ASTM A536	UNLESS					DRAWING NUMBER
- 1		NOTED					00 04 040





NOTES:

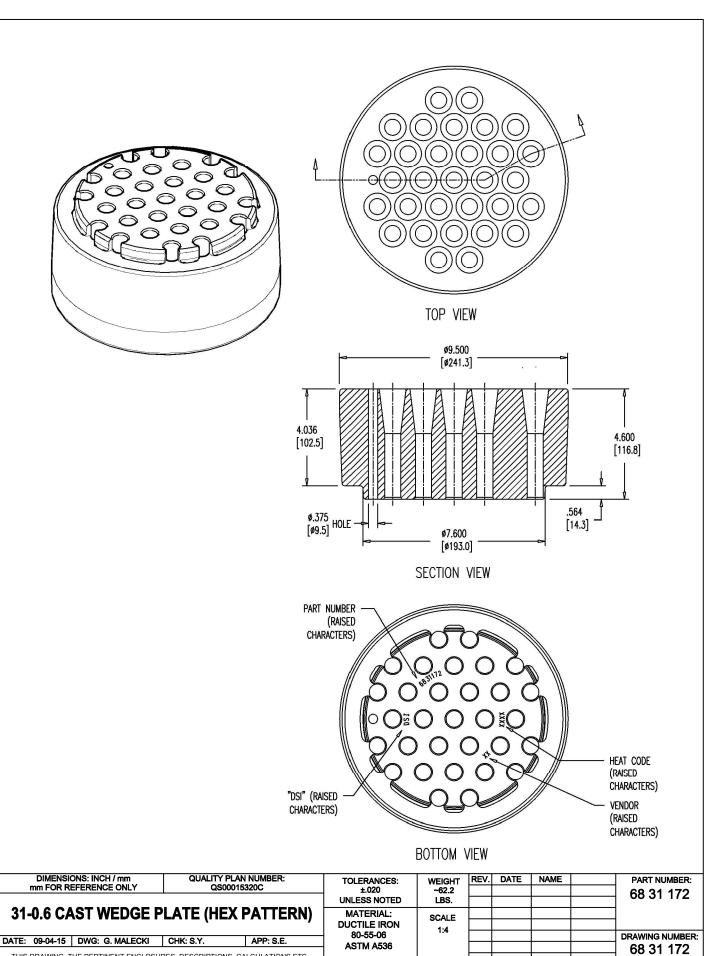
- 1. SPIRAL IS MADE FROM STANDARD #6 REBAR, NO PART NUMBER MARKING IS SHOWN.
- 2. KEEP SPIRAL AND MPA AXIS ALIGNED, IF USING SIDE PORT, ROTATE SPIRAL TO CLEAR.

NUMBER OF FULL TURNS: 9 DEVELOPED LENGTH: 43'-0-1/2" WEIGHT: ~64.5 LBS.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		AN NUMBER: 121400A	TOLERANCES: ±.020	WEIGHT ~64.5	REV.	DATE	NAME	ECRN	PART NUMBER:
STANDARD SE	PIRAL FO	R	UNLESS NOTED	LBS.					68 31 254
	_	. •	MATERIAL:	SCALE					
31-0.6" N	MPA		ASTM A615	1:6					
DATE: 10-25-16 DWG: G. MALECKI	CHK: S.Y.	APP: S.E.	SIZE #6, GR 60	•					DRAWING NUMBER:
			=						68 31 254
THIS DRAWING, THE PERTINENT ENCLOSURE									00 01 204

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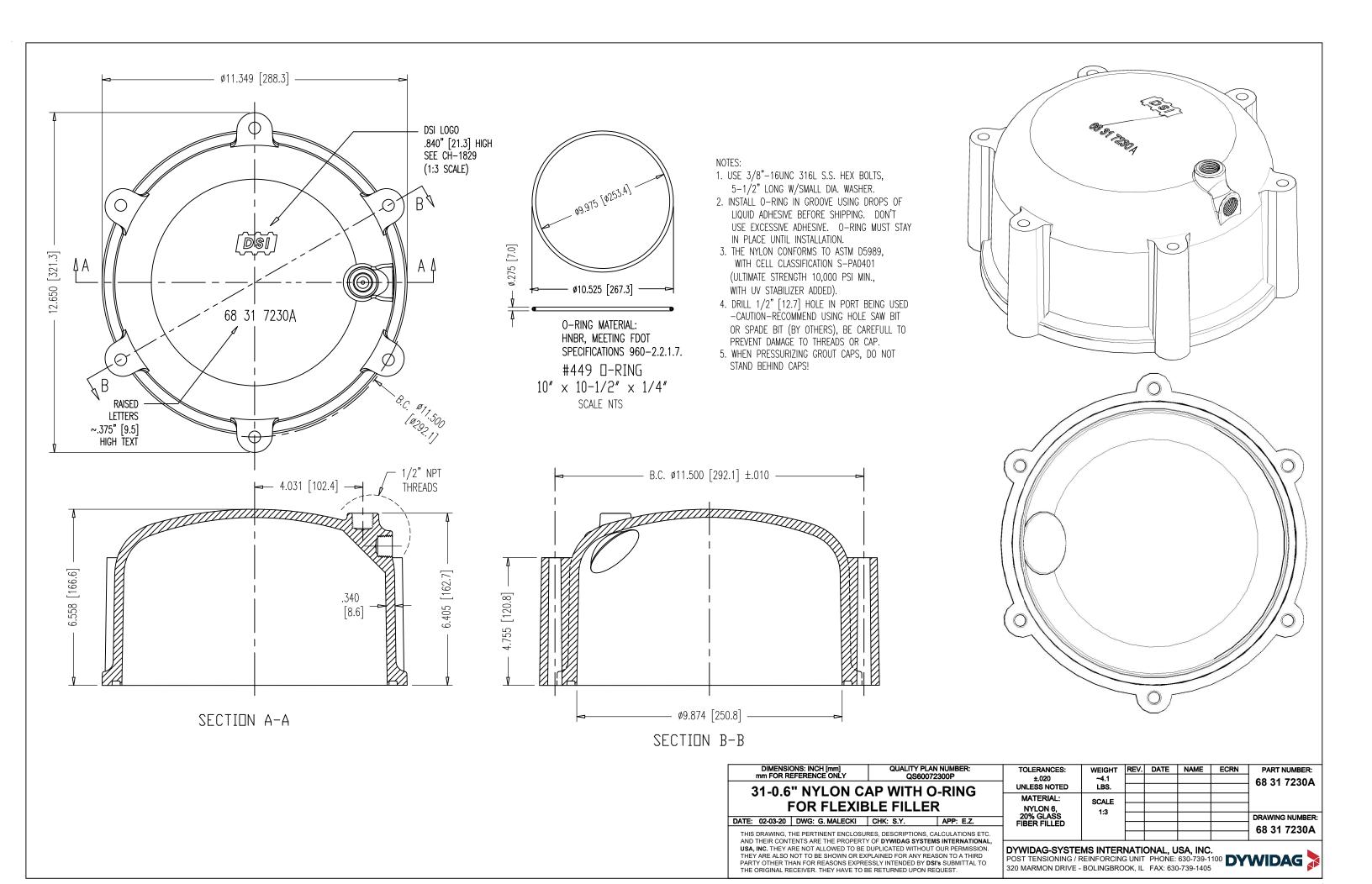


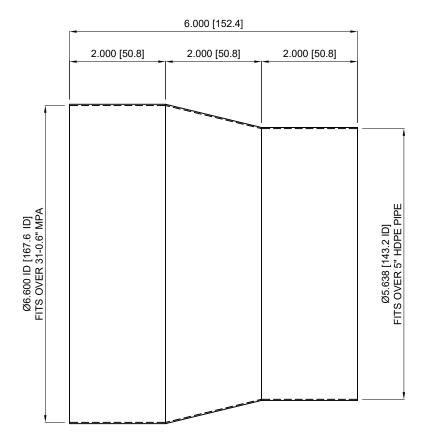


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DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405

DYWIDAG 🗦





MATERIAL:

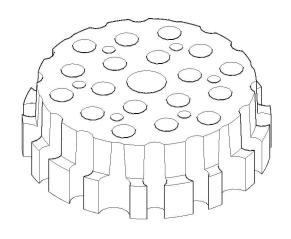
24 GAUGE GALVANIZED SHEET METAL PER ASTM A653 WALL THICKNESS = 0.0276"

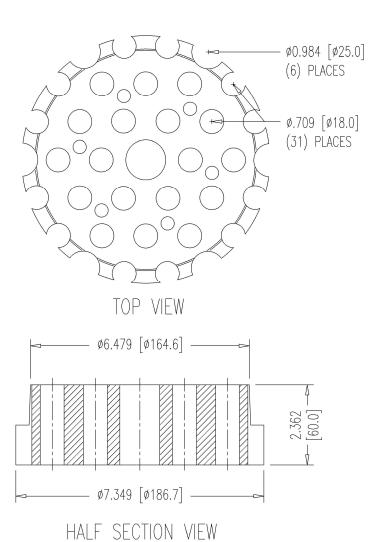
DIMENSIONS: INCH mm FOR REFERENCE		QUALITY	PLAN NUMBER:	TOLERANCES:	WEIGHT	REV.	DATE	NAME	PART NUMBER
TRANSIT		FCE FOE	2 31 ₋ 0 6"	UNLESS NOTED					68 31 501
FLEXIBLE FILLE	_				SCALE				
LEVIPE LIFE	K IEN		NG NDPE PIPE		1:2				DRAWING NUMBER:
DATE: 10/15/18 DWG: I. TIF	A	CHK: SI	APP: SI	SEE ABOVE					
THIS DRAWING, THE PERTIN	ENT ENCLOS	URES, DESCRIPTIO	ONS, CALCULATIONS ETC.						68 31 501

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TOLERANCES: ±.020 WEIGHT DIMENSIONS: INCH / mm 31-0.6 PE SPACER (HEX PATTERN)

QUALITY PLAN NUMBER:

DATE: 03-27-18 DWG: G. MALECKI CHK: S.N.

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	UNLESS NOTED	LBS.			68 31 6084
I	MATERIAL: EN ISO 18 72 - PE-HD	SCALE			
	(HDPE)	1:3			DRAWING NUMBER:
					68 31 6084
ı					

REV.

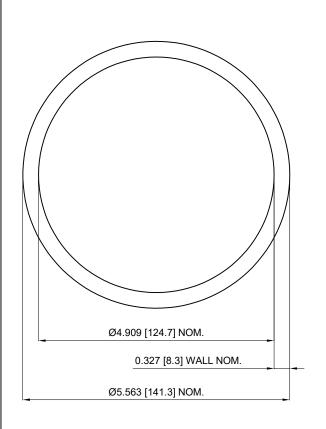
DATE NAME

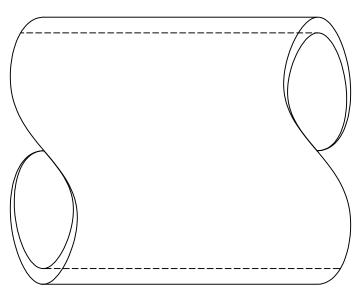
DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.

320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405



PART NUMBER:





MATERIAL: 5" SDR 17 HDPE PIPE.

SPECIFICATIONS:

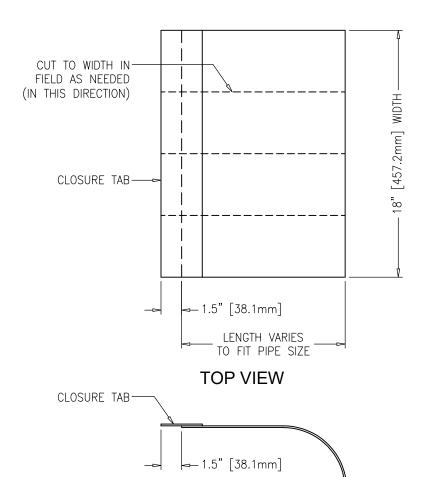
- 1. PIPE SHALL BE OF HIGH-DENSITY POLYETHYLENE AND SHALL HAVE A MAXIMUM DIMENSION RATIO (DR) OF 17 AS ESTABLISHED BY EITHER ASTM D3035 OR ASTM F714, AS APPROPRIATE FOR MANUFACTURING PROCESS USED.
- 2. PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF 125 PSI.
- 3. MEETS REQUIREMENTS OF ASTM D3350 WITH A 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.
- 6. MINIMUM BEND RADIUS = 30 FT.

	ONS: INCH [mm] EFERENCE ONLY	QUALITY PLAN	NUMBER:	TOLERANCES:	WEIGHT 2.37	REV.	DATE	DWG.	CHK.	PART NUMBER
	5" SMOOTH	HDPF PIP	F	UNLESS NOTED	LBS./FT.					U00055131
FOE	RFLEXIBLE				SCALE					
FOR	CLEVIDEE	FILLER IE	NDON	MATERIAL	1:2					DRAWING
DATE: 09/19/18	DWG: I. TIRA	CHK: SI	APP: SI	SEE ABOVE						NUMBER:
THIS DRAWING,	THE PERTINENT ENCLOSE	JRES, DESCRIPTIONS, O	CALCULATIONS ETC.							U00055131

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END VIEW (NOT TO SCALE)

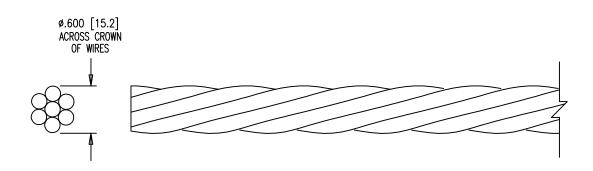
NOTE: FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

	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

		ONS: INCH [mm] EFERENCE ONLY	QUALITY PL	AN NUMBER:			REV.	DATE 05-28-20	NAME SI	PART NUMBERS: U00039063
	K	LNN HEAT S	HBINK SI I	FEVE	MATERIAL:					U00039090 U00039115
	- 1	LINITILATO			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					DRAWING NUMBER:
		HE PERTINENT ENCLOSU			FLEXIBLE FILLER					U00039000

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NOTES:
1. NO PART NUMBER OR IDENTIFICATION MARKS ON STRAND.

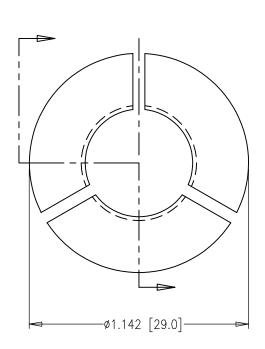
2. RUST PRODUCING VISIBLE PITTING TO THE UN-AIDED EYE IS NOT ALLOWED.

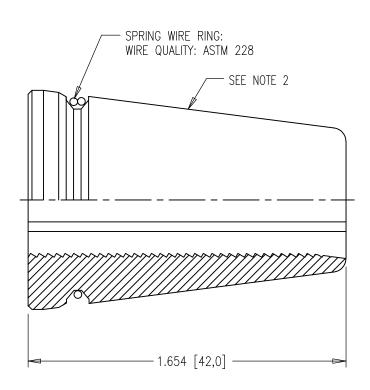
MATERIAL: 0.6" 270 KSI LOW RELAX STRAND ASTM A416

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		AN NUMBER: 301000	TOLERANCES: ±.020	WEIGHT	REV.	DATE	NAME	PART NUMBER: 301060
	•		UNLESS NOTED	PER/FT				301060
0.6" BARE 270 k	SI STRAN	D	MATERIAL:	SCALE				
		_	SEE ABOVE	1:1				
DATE: 02-18-19 DWG: G. MALECKI	CHK: C.S.	APP: K.S.	SEE ABOVE	""				DRAWING NUMBER:
		-	+					301060
THIS DRAWING, THE PERTINENT ENCLOSUR								001000

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NOTES:

- 1. SHARP EDGES MUST BE BROKEN.
- 2. VIBRATE TO SURFACE FINISH OF 63 JUN. MAX.
 3. DIP IN SQ70 OIL OR EQUIV. FOR CORROSION PROTECTION.
- 4. MAKE SURE THAT THE BUTTRESS THREAD IS ORIENTED IN THE DIRECTION SHOWN ON THIS DRAWING.
- 5. NO STAMPED PART NUMBER

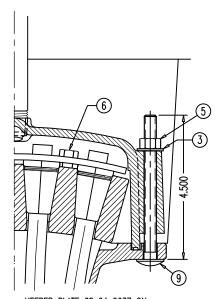
MATERIAL: 12L14 ALL HARDENED

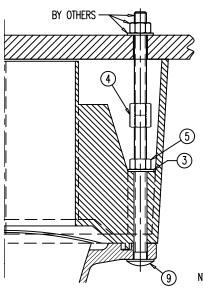
DIMENSIONS: INCH/mm mm FOR REFERENCE ONLY		AN NUMBER: 000500D	TOLERANCES: ±.010: ±2°	WEIGHT 0.19	REV.	DATE	NAME	PART NUMBER: 68 00 0536
			UNLESS NOTED	LBS.				00 00 0330
3-PART WEDGE FO	R 0.6" ST	RAND	MATERIAL:	SCALE				
			SEE ABOVE	2:1				
DATE: 06-01-18 DWG: G. MALECKI	CHK: C.S.	APP: S.I.	SEE ABOVE					DRAWING NUMBER:
								68 00 0536

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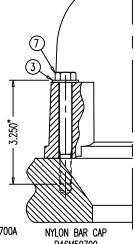
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(3) NYLON BAR CAP B36E50700 OR 50700A

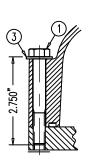


KEEPER PLATE 68 04 2637 ON WEDGE PLATE 68 04 2534A & NYLON CAP 68 04 2539 ON FLAT ANCHOR 68 04 2548

POCKET FORMER 68 04 2640 ON FLAT ANCHOR 68 04 2548

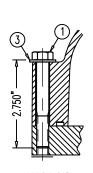
ON GALV. BEARING PLATE B26E22510, 22610, 22700, 22800, B32E22510, 22610, 22700, 22800, B36E22410, 22420, 22910, 22510, 22610, 22700, 22800 & NYLON BAR CAP B66E50700 OR 50700A ON GALV. BEARING PLATE B66E22700

B46M50700 OR 50700A ON GALV. BEARING PLATE <u>∕</u>\$\frac{\omega_{46E22700 & \text{ & }}{\text{B46E22800}}

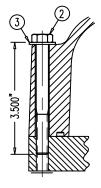




DIMENSIONS: INCH



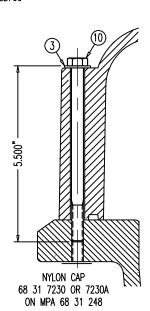
NYLON CAP 68 12 7230 OR 7230A ON MPA 68 12 248



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

4.250"	8	
V		

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





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

POS.	PART NUMBER	DISCRIPTION (ALL PARTS 316L STAINLESS STEEL UNLESS NOTED)
1	00 00 771	3/8"-16UNC HEX BOLT, 2-3/4" LONG (1" LONG THREAD)
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)
9	00 00 789	3/8"-16UNC CARRIAGE BOLT, 4-1/2" LONG
100	00 00 790	3/8"-16UNC CARRIAGE BOLT, 5-1/2" LONG

QUALITY PLAN NUMBER:

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

OTAINU EQQ OTEEL A	AND DOLTO AND
STAINLESS STEEL 3	16L BOLIS AND
WASHER FOR N	YLON CAPS

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

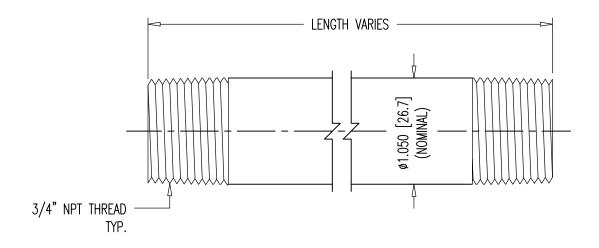
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	REV.	DATE	NAME	NAME	PART NUMBERS:
	1	05/01/19	S.I.		SEE TABLE
	2	05/28/20	S.I.		
SCALE					
1:3					
1.3					
					DRAWING NUMBER:
					00 00 770

DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.

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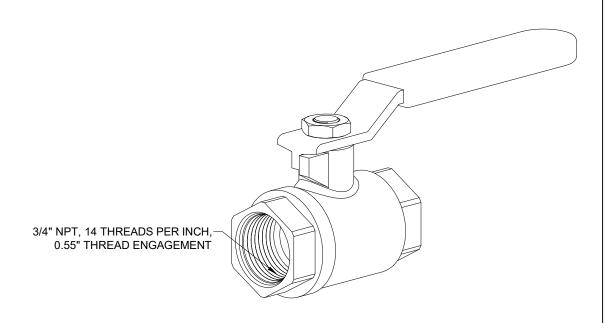


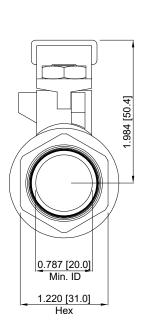


DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY QUALITY PLAN NUMBER: Q000000020P REV. DATE NAME ECRN PART NUMBER: 00 00 878 3/4" NPT PIPE NIPPLES MATERIAL: SCALE SCH 40 1:1 **BLACK WELDED** DRAWING NUMBER: DATE: 01-29-19 DWG: G. MALECKI CHK: S.I. APP: S.I. STEEL 00 00 878 THIS DRAWING, THE PERTINENT ENCLOSURES,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

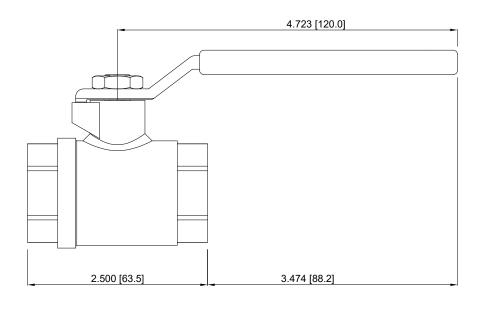
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DIMENSIONS, INCH [mm]



PRESSURE RATED: 150 PSI

OLIALITY DI ANIMILIMPEDI

	mm FOR REFERENCE ONLY				WEIGHT	REV.	DATE	NAME	PARI NUMBER	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				1	0.77 LBS.				00 00 838	
	3/4" BALL VALVE				SCALE					
				MATERIAL: BRASS	3/4" = 1"				DRAWING NUMBER:	
DATE: 02/08/19	DWG: I. TIRA									
	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.								00 00 838	

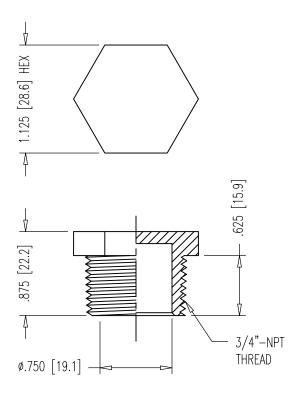
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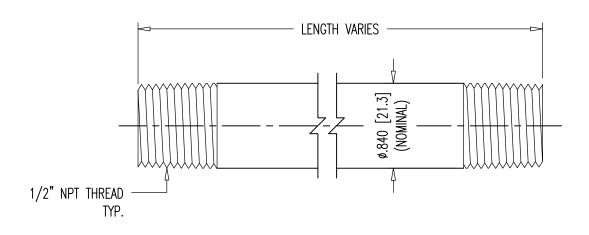
DEV DATE NAME



	DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY	WEIGH .009		REV.	DATE	NAME	PART NUMBER:		
				LBS.				00 00 849	
	3/4" NPT N	MATERIAL:	SCALE						
		NYLON 6 COLOR: WHITE	1:1						
[DATE: 03-12-19 DWG: G. MALECKI	CHK: S.I.	APP: S.I	COLOR: WHITE					DRAWING NUMBER:
	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.								00 00 849

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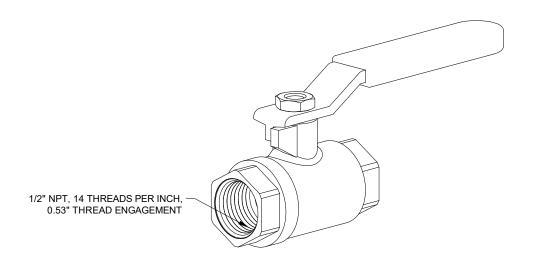


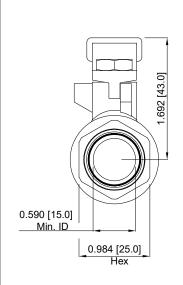
QUALITY PLAN NUMBER: Q00000020P DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY DATE NAME PART NUMBER: REV. 00 00 678 1/2" NPT PIPE NIPPLES MATERIAL: **SCALE** SCH 40 1:1 **BLACK WELDED** DRAWING NUMBER: DATE: 01-29-19 DWG: G. MALECKI CHK: S.I. APP: S.I. STEEL 00 00 678 THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.

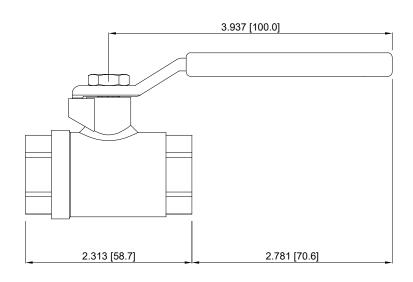
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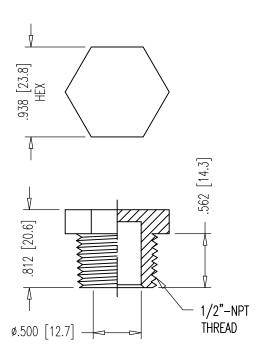




	DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		WEIGHT R		DATE	NAME		PART NUMBER			
t	HIIIT ON NEI ENEROE ONE!	1	LBS.					00 00 638			
	1/2" BALL VALVE			MATERIAL:	SCALE					DRAWING NUMBER:	
١					3/4" = 1"						
[DATE: 02/08/19 DWG: I. TIRA	CHK: SI	APP: SI	BRASS							
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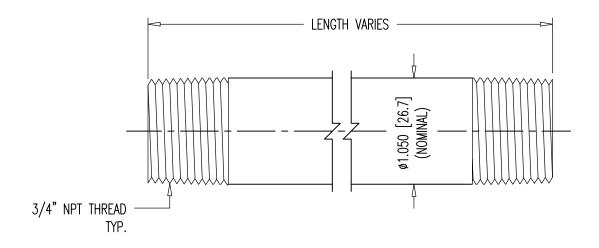
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	DIMENSIONS: INCH [mm] QUALITY PLAN NUMBER: mm FOR REFERENCE ONLY				WEIGHT .006	WEIGHT .006	REV.	DATE	NAME	ECRN	PART NUMBER:
					LBS.					00 00 649	
	1/2" NPT NYLON PLUG				MATERIAL: NYLON 6	SCALE 1:1					
DA	ΓE: 03-12-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I.	COLOR: WHITE		_				DRAWING NUMBER:
	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.									00 00 649	

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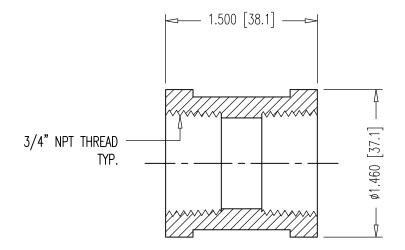




DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY QUALITY PLAN NUMBER: Q000000020P REV. DATE NAME ECRN PART NUMBER: 00 00 878 3/4" NPT PIPE NIPPLES MATERIAL: SCALE SCH 40 1:1 **BLACK WELDED** DRAWING NUMBER: DATE: 01-29-19 DWG: G. MALECKI CHK: S.I. APP: S.I. STEEL 00 00 878 THIS DRAWING, THE PERTINENT ENCLOSURES,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

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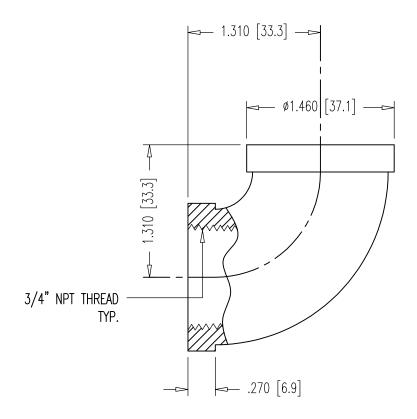




DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY			REV.	DATE	NAME	ECRN	PART NUMBER:		
3/4" NPT FEM	MATERIAL: SCH 40 BLACK	SCALE					00 00 881		
DATE: 02-05-19 DWG: G. MALECKI THIS DRAWING, THE PERTINENT ENCLOSE		1:1					DRAWING NUMBER: 00 00 881		
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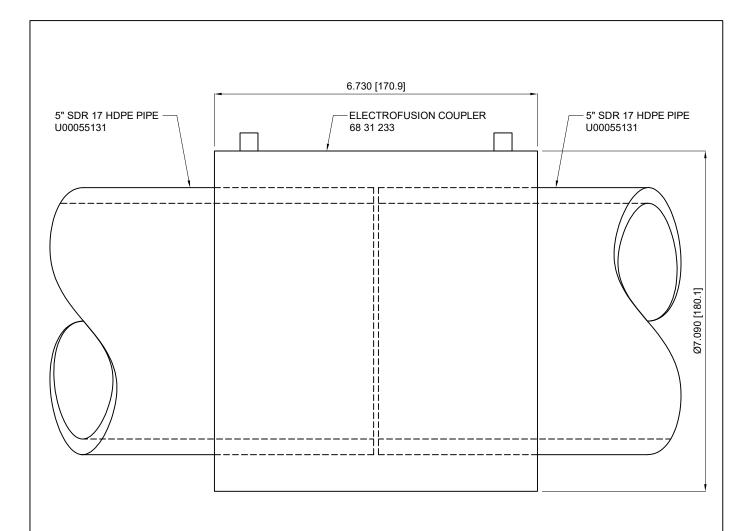




DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY QUALITY PLAN NUMBER: Q000000020P REV. DATE NAME ECRN PART NUMBER: 00 00 880 3/4" NPT 90° ELBOW, FEMALE-FEMALE MATERIAL: SCALE SCH 40 1:1 **BLACK STEEL** DRAWING NUMBER: DATE: 05-01-19 DWG: G. MALECKI CHK: S.I. 00 00 880 THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC.

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INSTALLATION PROCEDURE:

(SEE MANUFACTURER INSTRUCTION MANUAL FOR DETAILED INSTRUCTIONS)

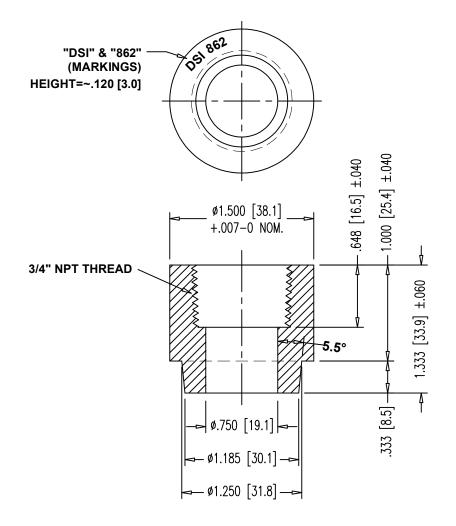
- 1. CUT PIPE ENDS PRECISELY AT RIGHT ANGLES TO THE PIPE AXIS.
- 2. CLEAN BOTH PIPE ENDS CAREFULLY.
- SCRAP BOTH PIPES ENDS AS REQUIRED TO REMOVE THE OXIDE LAYER COMPLETELY
- CLEAN BOTH PIPE ENDS WITH CONCENTRATED ISOPROPYL ALCOHOL.
- USE REROUNDING TOOLS TO CORRECT OVAL PIPE IF NEEDED.
- 6. USE ALIGNMENT 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.
- 9. 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.

DIMENSION MM FOR RI	ONS: INCH [mm] EFERENCE ONLY		WEIGHT	REV.	DATE	DWG.	CHK.	PART NUMBER		
ELECTROFUSION COUPLER CONNECTION					3.530 LBS					68 31 233
	FOR 5" SDR 17 HDPE PIPE				SCALE					
	OK 9 SDK	וו חטרו	FIFE	MATERIAL	1:2					DRAWING NUMBER:
DATE: 09/19/18	DWG: I. TIRA	CHK: SI	APP: SI	COMPOSITE						
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WELDING OPERATIONS:

DRILL A HOLE USING SPECIFIED CONE DRILL TOOL WHEREVER NEEDED IN HDPE PIPE. HEAT UP HDPE GROUT PORT AND THE HOLE IN DUCT FOR ABOUT 10 SECONDS USING PES-TEC WELDING EQUIPMENT. RELEASE THE GROUT PORT AND PRESS INTO THE HOLE IN DUCT BY HAND FOR 15 SECONDS.

MATERIAL: POLYETHYLENE COLOR: BLACK (UV PROTECTED) USAGE: FOR SMOOTH HDPE PIPE PRESSURE RATED: 150 PSI

FAX: 630-739-1405

	DIMENSIONS: INCH [mm] QUALITY PLAN NUMBER:				WEIGHT	REV.	DATE	NAME	PART NUMBER:
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				UNLESS NOTED	LBS.				00 00 002
3/4	MATERIAL:	SCALE							
J					1:1				
DATE: 01-11-19 DWG: G.	MALEON	CHK: S.I.	APP: S.I.	4	1.1				DRAWING NUMBER:
DATE: 01-11-19 DWG. G.	MALECKI	CHR. S.I.	AFF. 5.I.	4					00 00 000
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