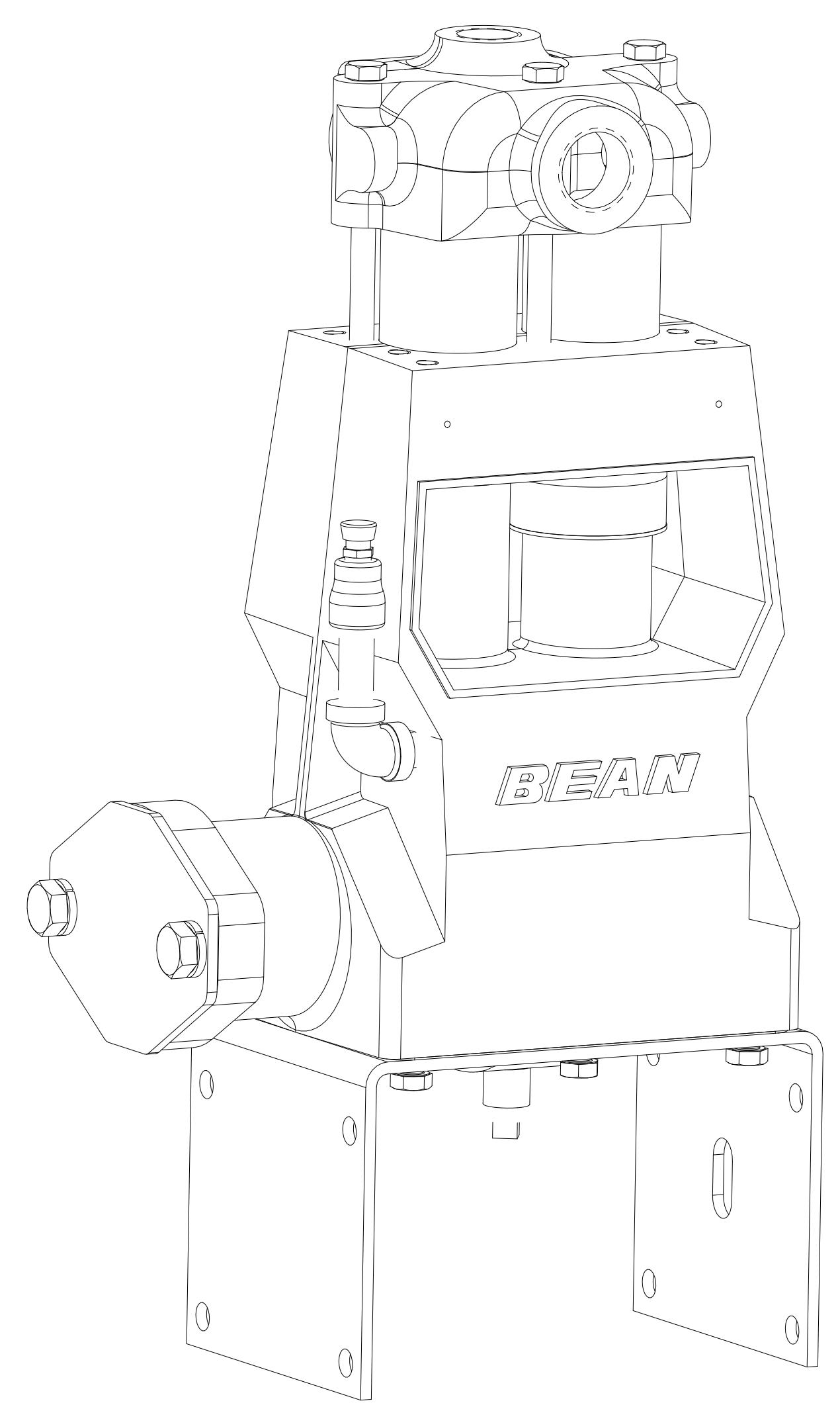


ITEM	DESCRIPTION	QTY
1	POWER END ASSEMBLY:	1
2	FLUID CYLINDER:	1
3	SPRING AND DISC ASSEMBLY:	4
4	SEAT:	4
5	CYLINDER:	2
6	PISTON CUP:	2
7	PISTON HOLDER:	2
8	VALVE COVER:	2
9	VALVE COVER CLAMP:	1
10	VALVE CAGE:	4
11	GASKET: VALVE COVER	4
12	UMBRELLA: F/E04	2
13	WASHER: UMBRELLA	2
14	O-RING: #112	2
15	O-RING: #213	6
16	CUP WASHER: A04	2
17	HHCS: .31 X 1.50LG	2
18	HHCS: .38 X 5.00LG	3
19	HHCS: 1/2 X 1.50LG	1
20	THREAD PROTECTOR: CAPPLUGS #T-12 (N.S.)	1
21	CAPPLUG INT 14 (N.S.)	1
22	NAMEPLATE:	1
23	SELF TAPPING SCREW:	2



SECTION A-A

PRIVATE AND CONFIDENTIAL <small>UNLESS OTHERWISE AGREED TO IN WRITING, THIS DOCUMENT AND ALL THE INFORMATION CONTAINED HEREIN ARE THE CONFIDENTIAL AND EXCLUSIVE PROPERTY OF FMC TECHNOLOGIES AND MAY NOT BE REPRODUCED, USED, DISCLOSED, OR MADE PUBLIC IN ANY MANNER PRIOR TO EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES. THIS DOCUMENT IS ACCEPTED PURSUANT TO AGREEMENT TO THE FOREGOING, AND MUST BE RETURNED UPON DEMAND.</small>	UNLESS OTHERWISE SPECIFIED DO NOT SCALE THIS DRAWING ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) BREAK SHARP EDGES .015 (0.381) MAXIMUM INSIDE CORNER RADII .030 (0.762) MAXIMUM ALL SURFACE TEXTURES Ra 250 MICROINCHES (6.3 MICROMETERS) ALL COAXIAL DIA'S .010 TIR TO SINGLE AXIS DIM AND TOL PER ASME Y14.5-2009	TOLERANCE .X - + .030 (0.762) .XX - + .015 (0.381) .XXX - + .005 (0.127) ANGLE - + 0° 30'	DESCRIPTION PUMP ASSEMBLY: A0413 RH, W/1 NPT X 3/4 NPT FLUID END, PISTON CUP DISC VALVE ASSEMBLIES, SPLINED SHAFT, W/ HYD ADAPTER	DRAWN BY: STILES, MICHAEL	DATE: 31-JAN-2013	
				DRAFTING CHECK: WOLVERTON, JARROD	DATE: 04-APR-2013	
MANUFACTURER AGREES THAT ARTICLES MADE IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CONSIDERED FMC TECHNOLOGIES' DESIGN, AND THAT IDENTICAL ARTICLES OR PARTS THEREOF SHALL NOT BE MANUFACTURED FOR THE USE OR SALE BY MANUFACTURER OR ANY OTHER PERSON OR ENTITY WITHOUT PRIOR EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES.		APPROVED BY: SINGLETERRY, RONALD		DATE: 24-SEP-2013	LATEST ECN NUMBER 5031362	REV. C
				DRAWING NUMBER DUS00011438	SHEET 1/2	COPYRIGHT © FMC TECHNOLOGIES

1 2 3 4 5 6 7 8 9 10 11 12

A

B

C

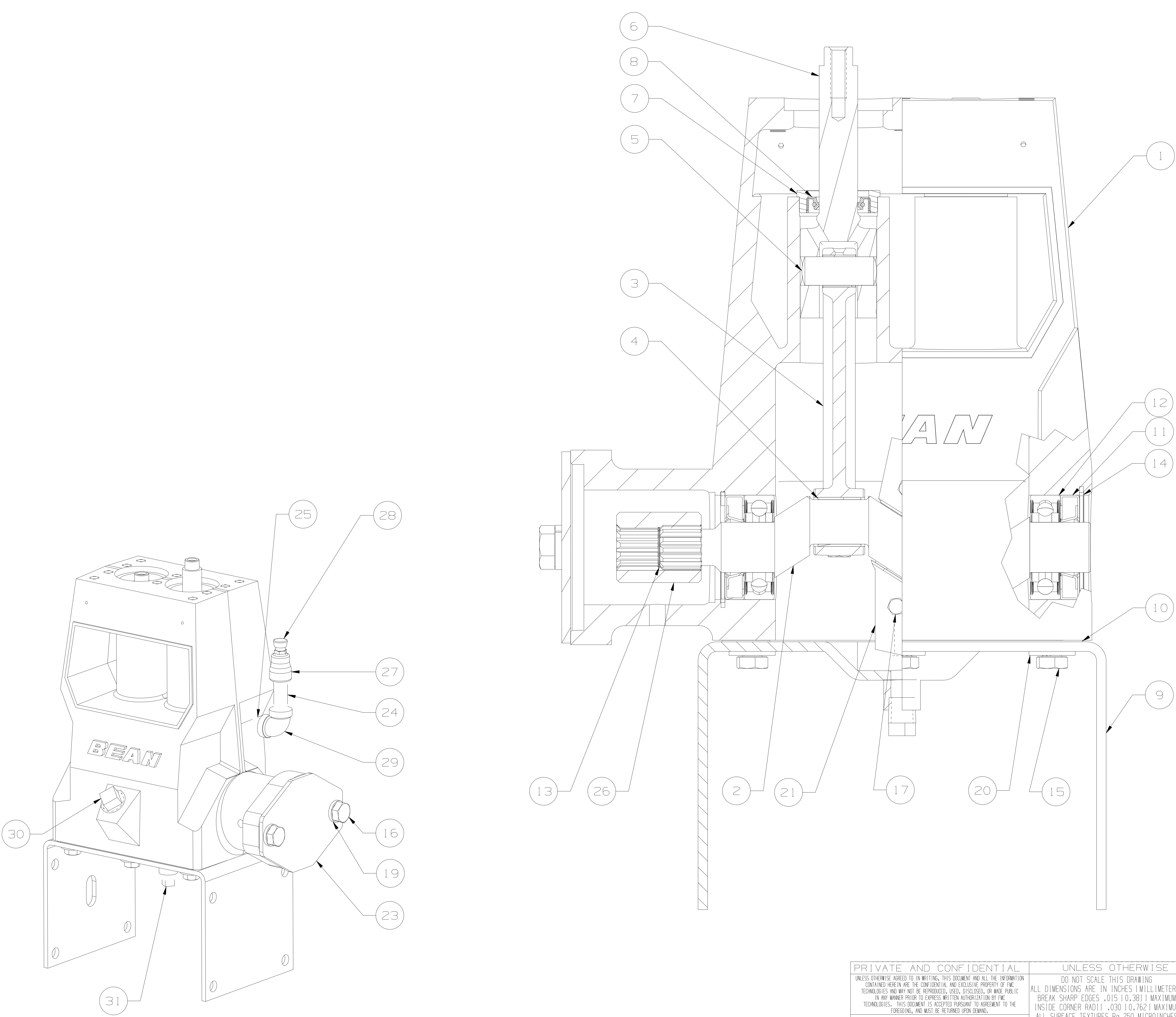
D

E

F

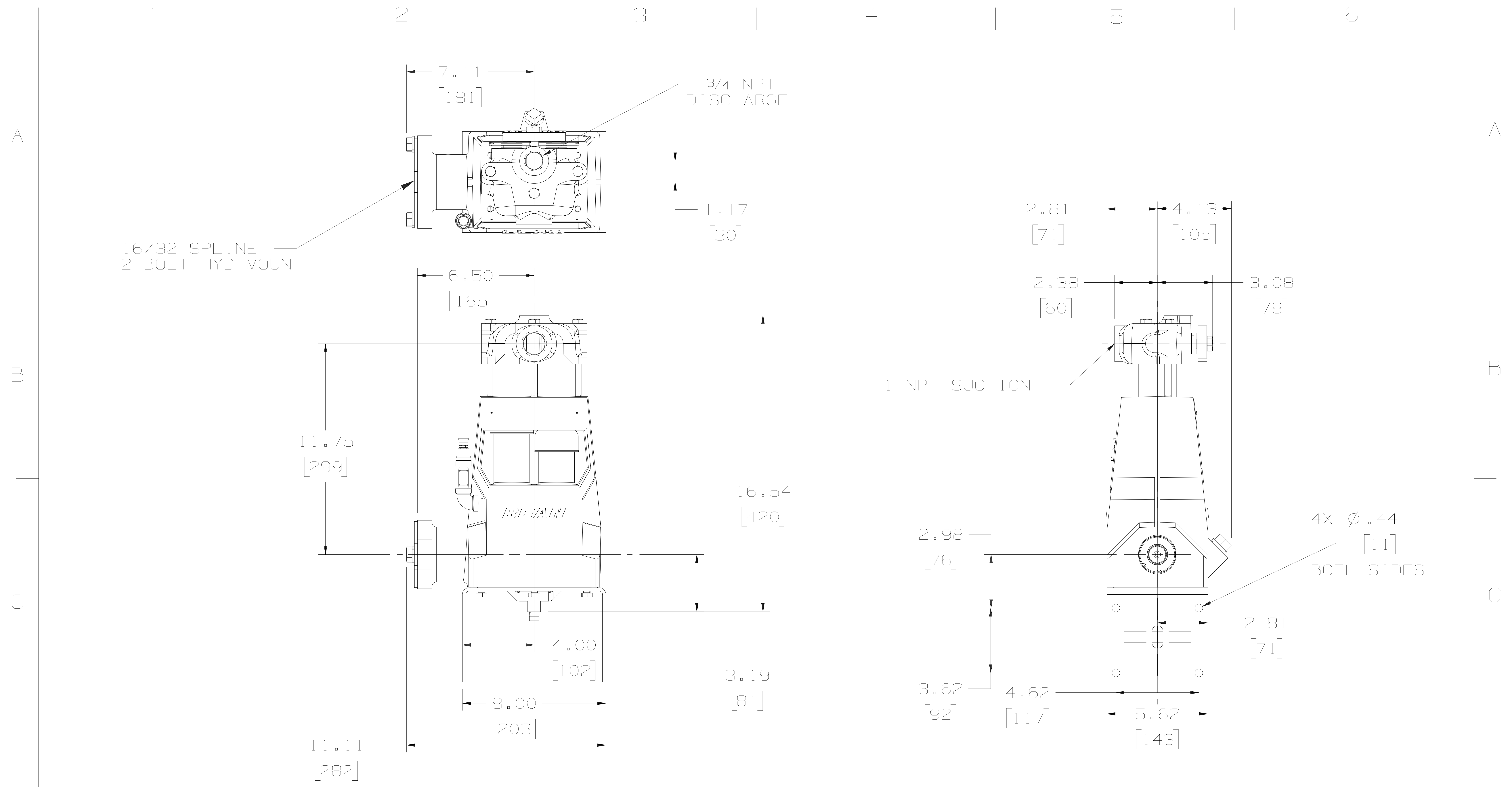
G

H



ITEM	DESCRIPTION	QTY
1	POWER FRAME:	1
2	CRANK:	1
3	CONNECTING ROD:	2
4	ROD BEARING: HALF SHELL	4
5	WRIST PIN:	2
6	CROSSHEAD:	2
7	SEAL HOLDER:	2
8	SEAL: PONY ROD	2
9	BACK COVER:	1
10	GASKET: BACK COVER	1
11	SHAFT SEAL:	2
12	BALL BEARING:	2
13	RETAINER RING: WH-75	1
14	RETAINING RING:	2
15	CAP SCREW: HEX HEAD, 3/8 X .75 LG	6
16	CAP SCREW: HEX HEAD, 1/2 X 1.00 LG	2
17	CAP SCREW: HEX HD #10 X .75 LG	2
18	HEX NUT: #10 (NOT SHOWN)	2
19	LOCK WASHER: REGULAR, 1/2	2
20	WASHER: BELLEVILLE, 3/8	6
21	OIL SLINGER: RH	1
22	BOLTING STRIP: (NOT SHOWN)	1
23	PROTECTIVE COVER:	1
24	NIPPLE: 1/4 S40, 1/4 NPT X 2.00LG	1
25	NIPPLE: 1/4 S40, 1/4 NPT X 1.25LG	1
26	COUPLING:	1
27	REDUCER: 1/4 NPT X 1/8 NPT	1
28	LUBE VENT: 1/8 PTF	1
29	ELBOW: 1/4 FEMALE NPT	1
30	PIPE PLUG: SQ HEAD, 3/4 NPT	1
31	PIPE PLUG: 1/4 NPT	1
32	PIPE PLUG: SQ HEAD, 1/8 NPT (NOT SHOWN)	1

<b>PRIVATE AND CONFIDENTIAL</b> <small>UNLESS OTHERWISE AGREED TO IN WRITING, THIS DOCUMENT AND ALL THE INFORMATION CONTAINED HEREIN ARE THE CONFIDENTIAL AND EXCLUSIVE PROPERTY OF FMC TECHNOLOGIES AND MAY NOT BE REPRODUCED, USED, DISCLOSED, OR MADE PUBLIC IN ANY MANNER PRIOR TO EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES. THIS DOCUMENT IS ACCEPTED PURSUANT TO AGREEMENT TO THE FOREGOING, AND MUST BE RETURNED UPON DEMAND.</small>	<b>UNLESS OTHERWISE SPECIFIED</b> DO NOT SCALE THIS DRAWING ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) BREAK SHARP EDGES .015 (0.381) MAXIMUM INSIDE CORNER RADII .030 (0.762) MAXIMUM ALL SURFACE TEXTURES Ra 250 MICROMETERS (6.3 MICROMETERS) ALL COAXIAL DIA'S .010 TIR TO SINGLE AXIS DIM AND TOL PER ASME Y14.5-2009	<b>TOLERANCE</b> .X ... ± .030 (0.762) .XX ... ± .015 (0.381) .XXX ... ± .005 (0.127) ANGLE ... ± 0° 30'	DESCRIPTION POWER END ASSEMBLY; A04 LH OR RH, SAE A HYDRAULIC DRIVE, 13 TOOTH SPLINE	DRAWN BY: WOLVERTON, JARROD	DATE: 09-SEP-2016		
				DRAFTING CHECK: WOLVERTON, JARROD	DATE: 04-OCT-2016		SHEET SIZE D
MANUFACTURER AGREES THAT ARTICLES MADE IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CONSIDERED FMC TECHNOLOGIES' DESIGN, AND THAT IDENTICAL ARTICLES OR PARTS THEREOF SHALL NOT BE MANUFACTURED FOR THE USE OR SALE BY MANUFACTURER OR ANY OTHER PERSON OR ENTITY WITHOUT PRIOR EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES.			APPROVED BY: MCCLAIN, MATHEW	DESIGN REVIEW: GILL, CODY	DATE: 20-OCT-2016	SHEET NUMBER 5040913	REV. C
				MANUFACTURING APPROVAL:	DATE: 01-NOV-2016	DRAWING NUMBER DUS00004728	SHEET 1/1



PRIVATE AND CONFIDENTIAL

UNLESS OTHERWISE AGREED TO IN WRITING, THIS DOCUMENT AND ALL THE INFORMATION CONTAINED HEREIN ARE THE CONFIDENTIAL AND EXCLUSIVE PROPERTY OF FMC TECHNOLOGIES AND MAY NOT BE REPRODUCED, USED, DISCLOSED, OR MADE PUBLIC IN ANY MANNER PRIOR TO EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES. THIS DOCUMENT IS ACCEPTED PURSUANT TO AGREEMENT TO THE FOREGOING, AND MUST BE RETURNED UPON DEMAND.

MANUFACTURER AGREES THAT ARTICLES MADE IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CONSIDERED FMC TECHNOLOGIES' DESIGN, AND THAT IDENTICAL ARTICLES OR PARTS THEREOF SHALL NOT BE MANUFACTURED FOR THE USE OR SALE BY MANUFACTURER OR ANY OTHER PERSON OR ENTITY WITHOUT PRIOR EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES.

ENGINEERING  
DIMENSIONAL  
OUTLINE

DESCRIPTION

PUMP ASSEMBLY; A0413 RH, W/1 NPT X 3/4 NPT FLUID END, PISTON CUP DISC VALVE ASSEMBLIES, SPLINED SHAFT, W/ HYD ADAPTER

DRAWN BY:

STILES, MICHAEL

DATE:

31-JAN-2013

DRAFTING CHECK:

WOLVERTON, JARROD

DATE:

04-APR-2013

DESIGN REVIEW:

RUVALCABA, MARIO

DATE:

28-AUG-2013

MANUFACTURING APPROVAL:

VELCHOFF, BILL

DATE:

08-APR-2013

APPROVED BY:

SINGLETERRY, RONALD

DATE:

24-SEP-2013

**FMC**Technologies

SHEET SIZE

B

ECN NUMBER

5031362

REV.

C

DRAWING NUMBER

DU500011438

SHEET

2/2

COPYRIGHT FMC TECHNOLOGIES