



## Product Information Bulletin (PIB)

# 1" GEN2 Pressure Regulator, Manual Spring

REV	DATE	DESCRIPTION	ORIGIN (issued by)	APPROVED
Rev 001	09/01/20	Document No: 135-090120-001	AP	BR

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Houston, TX 77043

## 1" GEN2 Pressure Regulator, Manual Spring

Gilmore announces the new 1" GEN 2 Pressure Regulator with Manual Spring product line for critical offshore and subsea applications. The GEN 2 Pressure Regulator has been designed with the same footprint as the legacy Gilmore Manual Spring Regulators. This thoroughly redesigned product offering provides an improvement in cycle life and performance.

### Features and Benefits:

- Qualification exceeds API 16D requirements – 10,000 cycles at full flow rates and pressures
- Guided hydraulic dampening technology
- Improved deadband performance
- Refined Tungsten Carbide seal trim
- Enhanced bolted plunger guide
- Upgraded dynamic plunger T-Seal
- CRA Material Construction
- Threaded seal carrier alignment
- SAE Gauge and Auxiliary ports
- Vented spring housing for multi-directional drainage
- Performance Data available
- US Patent #10,739,796.

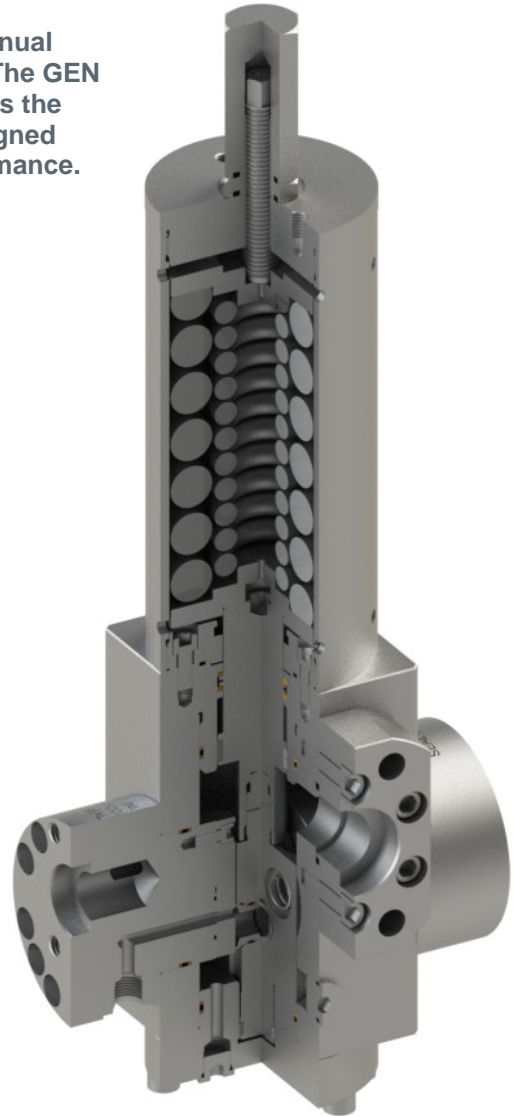


Figure 1. PN 29090: 1" Code 62 GEN 2 Pressure Regulator, Manual Spring,  
1-1/2" Outlet, Dual 1" Inlets, 3500 – 1500 psi range

The new Gilmore 1" GEN 2 Manual Spring Regulators are now available for purchase. Gilmore will be creating other drop-in 1" GEN 2 Manual Spring Pressure Regulator configurations as required. The new Gilmore 1" GEN 2 Manual Spring Regulators have identical footprints to their equivalent legacy regulators.

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### 1" GEN2 Pressure Regulator, Manual Spring

Gilmore has exceeded API 16D requirements by qualifying the new 1" GEN 2 Manual Spring Regulator designs to 10,000 cycles, at a starting flow rate of 125 gpm per inlet, at 5000 psi, with 1% - 4% water glycol test fluid. Their qualification report is available by request.

Note that Gilmore will continue to sell and support the legacy 1" Manual Spring Regulators with valve sales, repair kits, seal kits and Aftermarket support.

Please contact Gilmore Customer Service to request a quotation for the 1" GEN 2 Pressure Regulators listed below, or any other configurations required that are not listed.

**Table 1. New 1" GEN 2 Pressure Regulators and Legacy Cross-References:**

Item	New Valve Description	Legacy PN Reference	New Valve PN	New Repair Kit PN	New Seal Kit PN
1	Valve, Pressure Regulator, GEN 2, Manual Spring, 3500-1500 psi range, Code 62 Ports, Dual Inlets,	28656-1	29090	29090 RK	29090 SK
2	Valve, Pressure Regulator, GEN 2, Manual Spring, 3500-1500 psi range, SAE Ports, Single Inlet	45200-1*	29091	29091 RK	29091 SK
3	Valve, Pressure Regulator, GEN 2, Manual Spring, 3500-1500 psi range, Seal Sub Mounted, Dual Inlets	60174-8* 170953	29093	29093 RK	29093 SK
4	Valve, Pressure Regulator, GEN 2, Manual Spring, 1500-500 psi range, NPT Ports, Single Inlet	44577* ** 44577-16*	29095	29095 RK	29095 SK
5	Valve, Pressure Regulator, GEN 2, Manual Spring, 3500-1500 psi range, NPT Ports, Single Inlet	44577-1* 45200*	29130	29130 RK	29130 SK
6	Valve, Pressure Regulator, GEN 2, Manual Spring, 3500-1500 psi range, Seal Sub Mounted, RH Single Inlet	60175* 164848	29131	29131 RK	29131 SK
7	Valve, Pressure Regulator, GEN 2, Manual Spring, 5500-2500 psi range, NPT Ports, Single Inlet	45100* ** 45101*	29132	29132 RK	29132 SK
8	Valve, Pressure Regulator, GEN 2, Manual Spring, 5500-2500 psi range, SAE Ports, Single Inlet	45101-1*	29133	29133 RK	29133 SK
9	Valve, Pressure Regulator, GEN 2, Manual Spring, 4500-2000 psi range, Code 62 Ports, Dual Inlets	-	29134	29134 RK	29134 SK

\*Gage port improvement from NPT to SAE.

\*\*Handle modified to Lock cap. Exact like for like handle can be created as needed

Note that GEN 2 regulator kits **are not** interchangeable with legacy repair kits and cannot be used in the legacy regulators.

## 1" GEN2 Pressure Regulator, Manual Spring

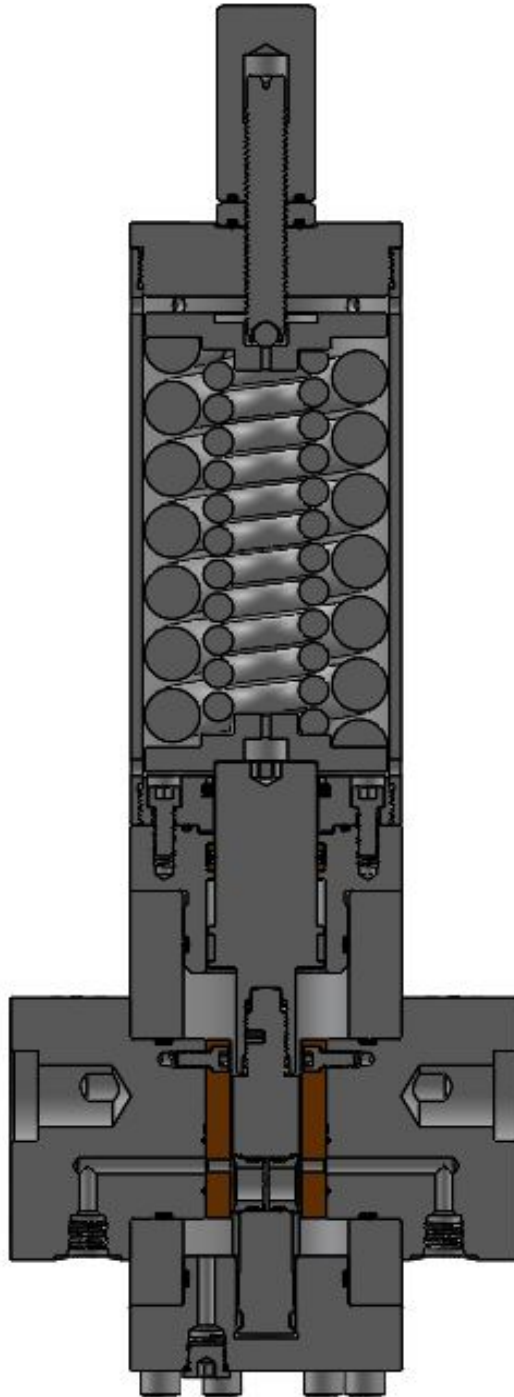


Figure 2. PN 29090: 1" Code 62 GEN 2 Pressure Regulator, Manual Spring, 1-1/2" Outlet, Dual 1" Inlets, 3500 – 1500 psi range

Please contact Gilmore Customer Service to request any drawings, manuals and quotations for these new GEN 2 regulators at [info@gilmore.com](mailto:info@gilmore.com).

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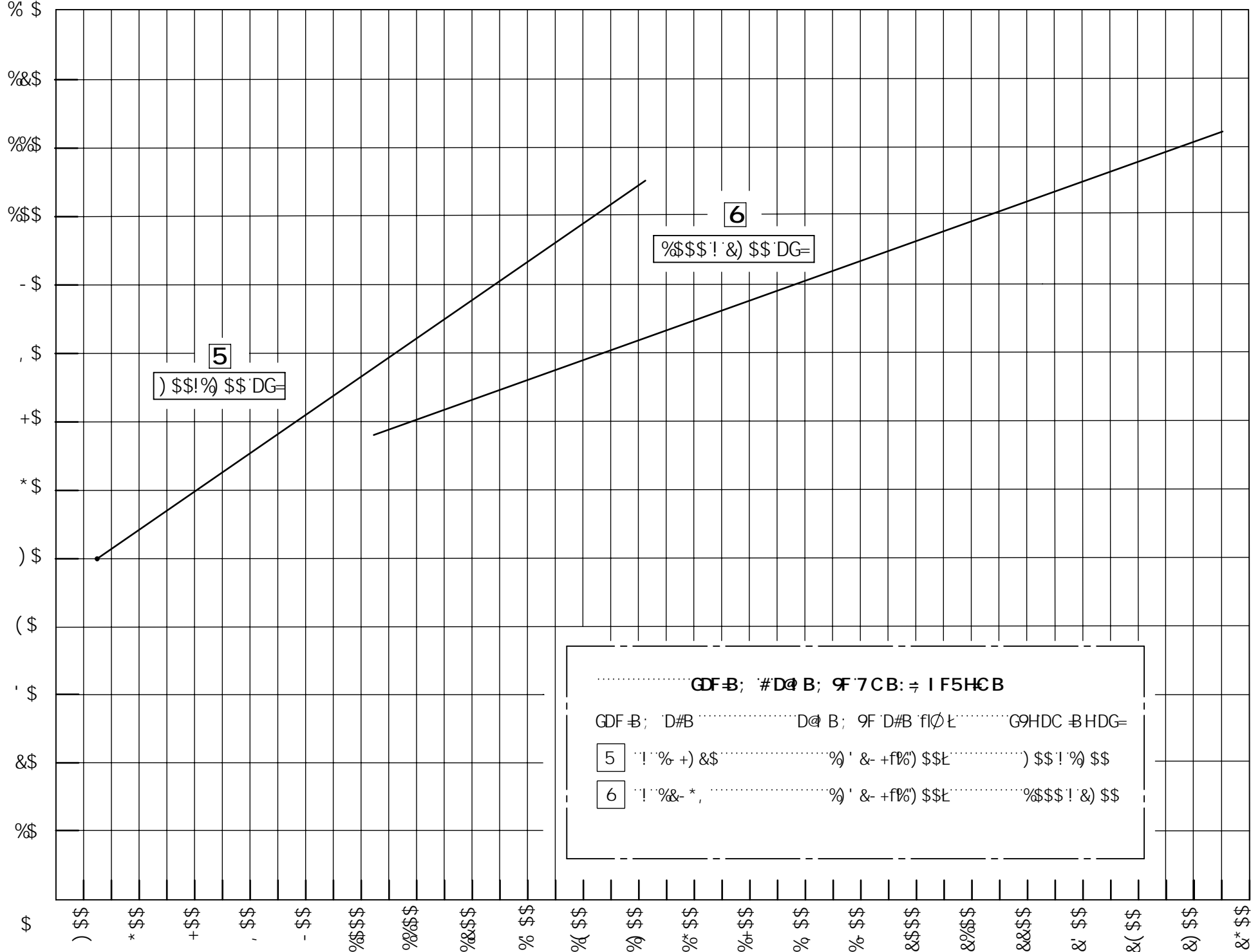
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; 9B '&DF9GGI F9'F9; I @5HC F': @C K 'F5H9G: C F 'G9HDC BHF5B; 9!'GB; @9'B@9H!' '\$\$\$'DG=G DD@M

HMD75@F9, I @5HCF'89A 5B8'7M @9: @C K '75D57#ME 'f[ da t  
K #K'CI H@HDF9GG F9'5DDFCL A 5H9M) \$i 'C: 'G9HDC BHF



GDF-B; #D@ B; 9F'7CB: ÷ I F5HCB

GDF-B; 'D#B ..... D@ B; 9F'D#B'fI@L.....G9HDC BHDG=

5 '!'%' +) &\$ ..... %' &- +f%) '\$\$L.....) '\$\$!%' '\$\$

6 '!'%'&- \*, ..... %' &- +f%) '\$\$L.....%\$\$\$!%' & '\$\$

BC H9G

%": @C K '75D57 #H9G'5F9'±%\$! '5B8'65G98'CB: @-B'GD97 ÷7; F5J #MC: '%\$

&": @C K '75D57 #H9G'5F9'5DDFCL A 5H9M8CI 6@98'K <9B'HK C 'B@9H'G'5F9'DFCJ '898"


' "'65G98'CB'B@9H5B8'F9; I @5H98'@B9'GA9'C: '%B7<'L<'D@9'4'('\$: 99H@CB; "

("'57H5@GMCHA': @C K 'F5H9GA 5MJ5FM'

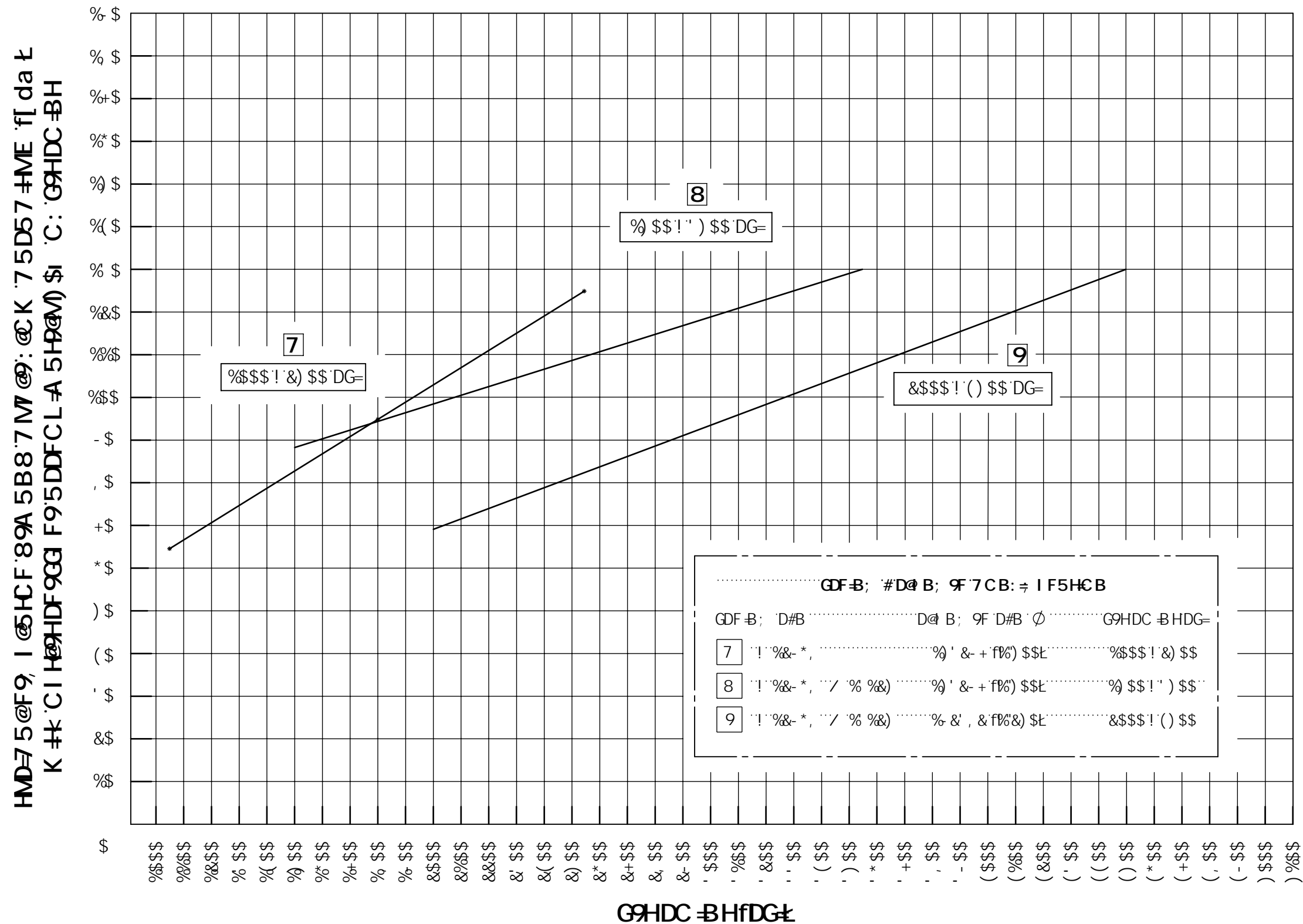
)"'7CBGI @HK #k; @A CF9'9B; B99F B; ÷'C D9F5HB; 'CI HG89'HK9'@GH98'G9HDC BHF

.....F5B; 9"

F9J G@CBG				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02366	JOP 6/09/20	CMJ 6-9-20	AJP 6/9/20

A 5H9F-5@	8A 9BG@BG5B8'HC@F5B79G5F9 B'B7<9GD9F'5GA 9M4(')A1%-('" I B@GGC'K:9FK @9GD97 ÷98. %&HC@F5B79G "L:±%" "LL:±\$%" 5B: @G±")* &LGF:579H9LHF9. ✓	5DDFCJ5@	8F5K B'6M JOP 7<97?98'6M CMJ 9B: B99F AJP 9FB'BI A 69F 02366	85H9 6/09/20 85H9 6-9-20 85H9 6/9/20 85H9 6/09/20	 9B; B99F-B;
7CB8#HB.					; 9B'&F9, I @5HCF'J5@9' DI 6@G<98: @C K '75D57 #H9G
HF95HA 9BH					
DFC798I F9'BI A 69F.					GAN 8K; 'BC F9J 6 (\$\$* 5 G75@9 '%' G@XK cf_g G<99H % C: '

; 9B `&`DF 9GGI F 9`F 9; I @5HC F : @C K `F5H9G: C F`G9HDC BHF5B; 9!`G=B; @9`B @9H!`) \$\$\$\$`DG=G DD@M



BC H9G  
%": @ K '7 5D57 #H9G5F9'±%\$! '5B8'65G98'CB': @ -8'D97 ÷÷÷'; F5J #MC: %"\$  
&": @ K '7 5D57 #H9G5F9'5DDFC L A 5H9M8C I 6@98'K <9B'K C' B @9H5F9'DFC J -8 98"  
' "'65G98'CB' B @9H5B8'F9; I @5H98'@B9'GA9'C: %B7 <'L <'D'D9'4'('\$: 99H@CB; "  
( "'57H 5@GMG9A': @ K 'F5H9GA 5MJ 5FM'  
) "'7CBGI @HK'K'; @A C F9'9B; -B 99F-B; ÷÷÷ C'D9F5HB; 'C I H89'H'9'@GH8'G9HDC -BHF5B; 9"

 <b>Gilmore</b> <small>a pottery company</small>				9B; B99F B;	
G49	8K ; BC			F9J	
6				, (\$\$*	
G7 5@ %'		Gc`JK cf_g		G< 99H & C: '	



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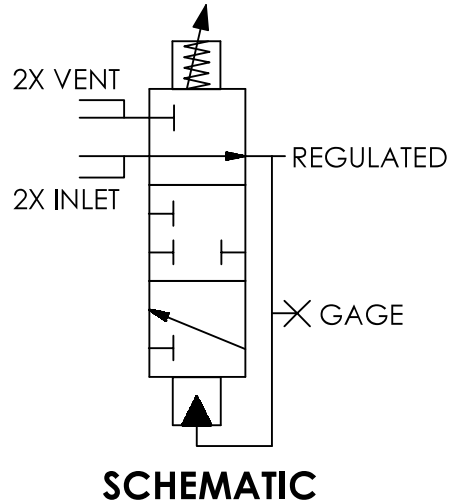
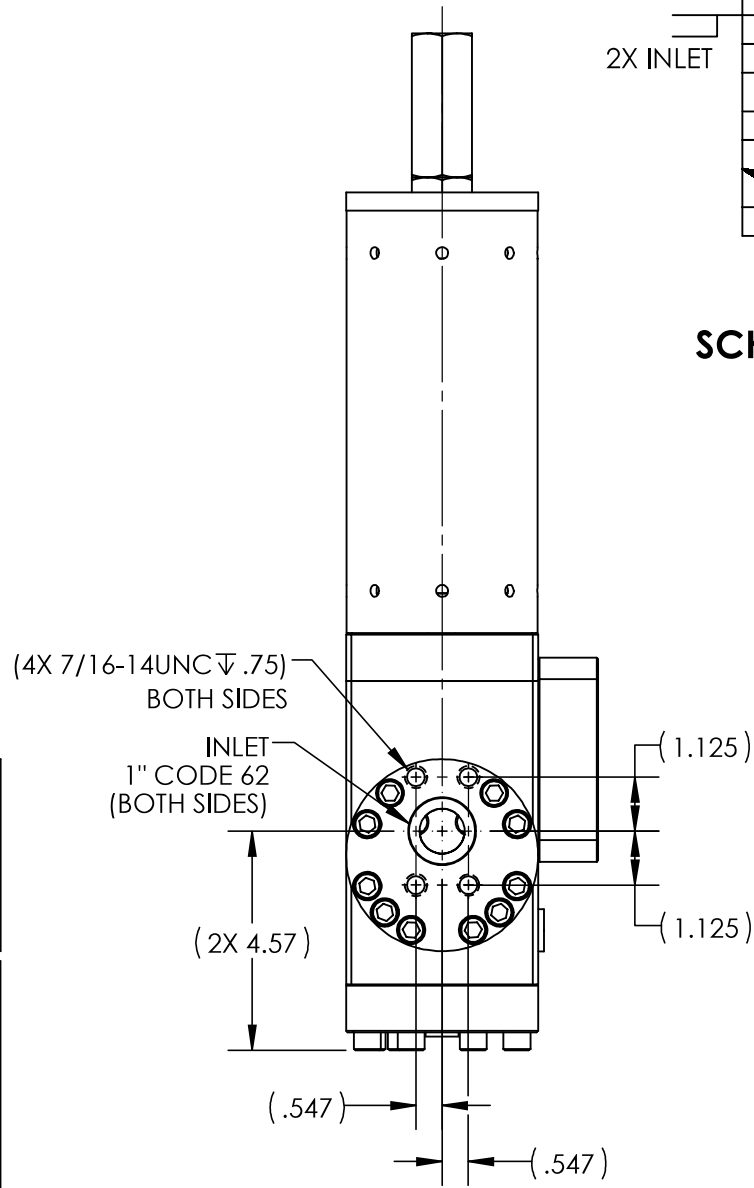
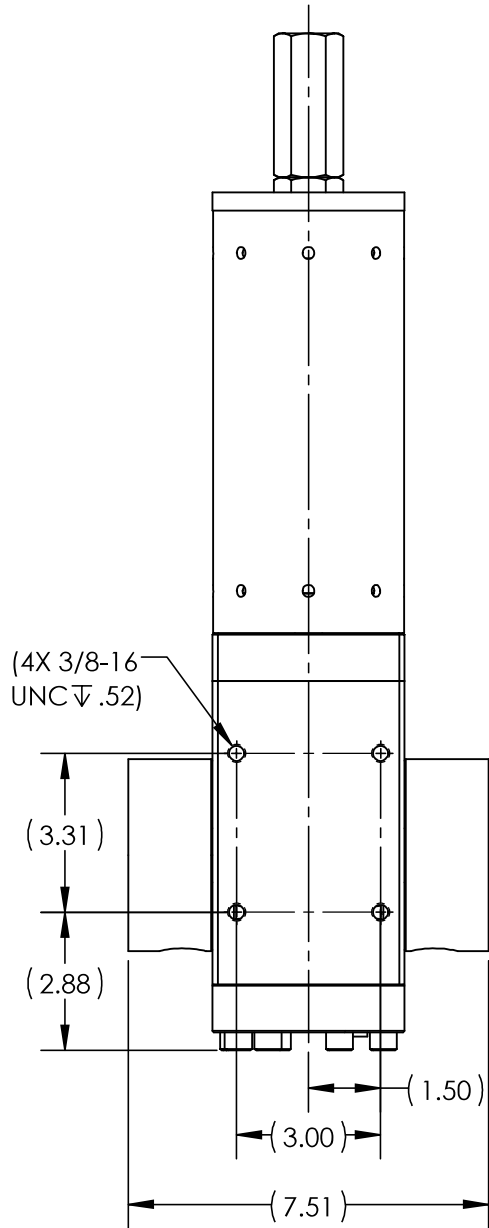
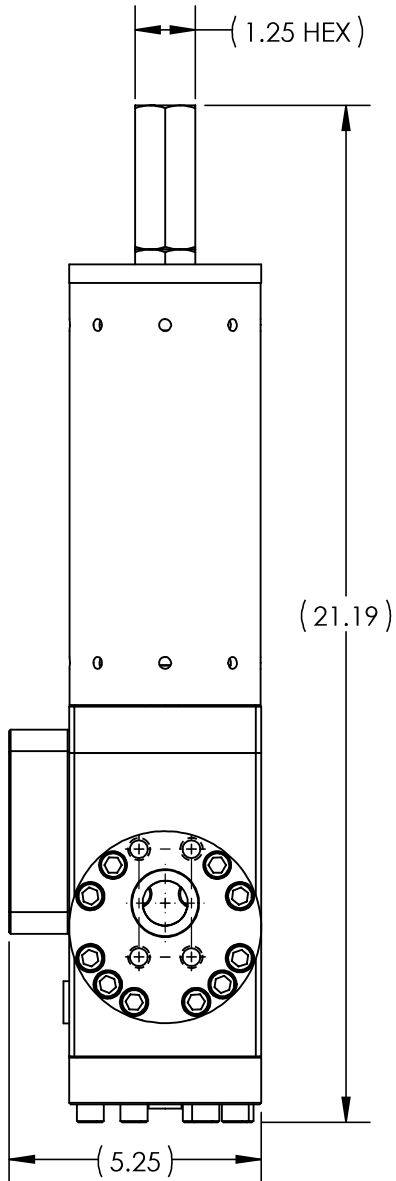
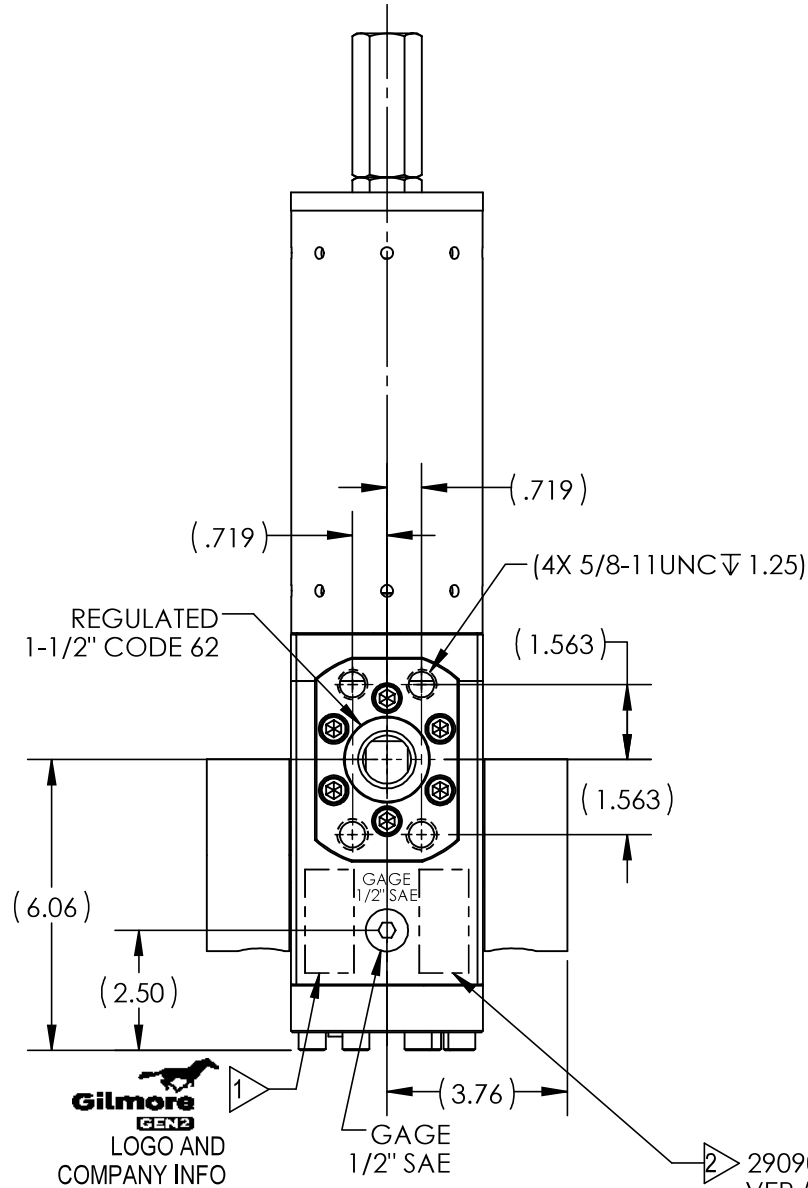
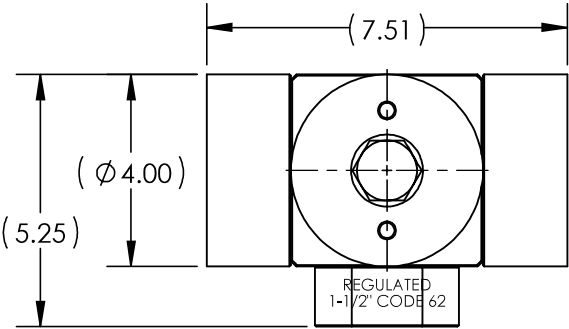
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REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
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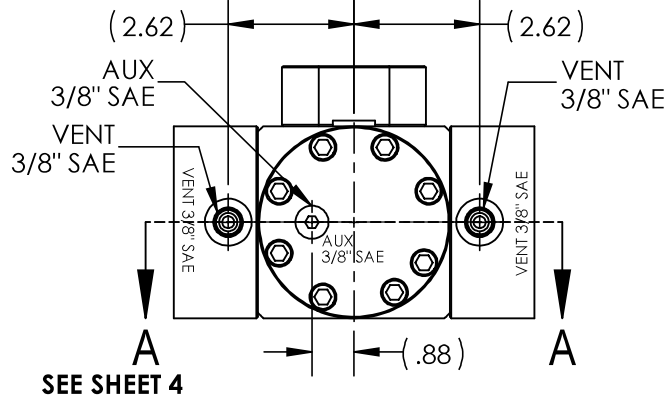
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B






A

A



29090  
VER (AX VERSION #)  
(SERIAL NUMBER)  
6,000 PSI  
PATENT PENDING  
(DATE OF MFG)  
  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

MATERIAL: SEE INDIV BOM ITEMS		DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED: 1) TOLERANCES: .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5° 2) SURFACE TEXTURE: 63/ 3) CORADIAL FEATURES SHALL BE  WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED, ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		APPROVAL DRAWN BY JZ DATE 6/15/20 CHECKED BY CY DATE 6/15/20 ENGINEER AP DATE 6/15/20 ERN NUMBER 02418 DATE 6/11/20 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF GILMORE VALVE CO UNLESS OTHERWISE STATED. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF GILMORE VALVE CO IS PROHIBITED.		Gilmore ENGINEERING a pro company	
CONDITION:		PATENT PENDING		VALVE, PRESSURE REGULATOR, GEN 2, MANUAL SPRING, 1-1/2" C62, DOUBLE INLET, 3500/6000 PSI		SIZE B DWG NO 29090 REV B	
TREATMENT: 		PROCEDURE NUMBER: 		SCALE 1:4 SolidWorks		SHEET 1 OF 6	



OPERATING DATA

1. FOR TYPICAL FLOW CAPACITY REFER TO DRAWING 84006 FOR DOUBLE INLET.
2. ADJUSTMENT SCREW TURNS NEEDED FOR 3,500 PSI SET POINT: 3 +/- 1 TURN OF SPRING COMPRESSION.  
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4.)
3. ADJUSTMENT SCREW TORQUE FOR 3,500 PSI SET POINT: 25 +/-5 FT-LB.
4. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 375 +/-25 PSI.
5. SET POINT ADJUSTED TO LESS THAN 1,500 PSI MAY RESULT IN NON-LINEAR DROP IN FLOW CAPACITY.
6. FOR MORE DETAILED OPERATION INFORMATION REFER TO SERVICE MANUAL 51030.

PRESSURE DATA

MAXIMUM INLET PRESSURE RATING: 6,000 PSI

REGULATED RANGE: 3,500 - 1,500 PSI

TYPICAL DEADBAND AT 5000 PSI SUPPLY: 300 ±100 PSI

TYPICAL DEADBAND AT 3000 PSI SUPPLY: 200 ±50 PSI

MAXIMUM REGULATED AND VENT PRESSURE RATING: 3500 PSI

FLOW DATA

FULLY OPEN Cv REGULATED: 14 (CALC)

FULLY OPEN Cv VENT: 2 (CALC)

FULLY OPEN MAX REGULATED FLOW RATE: 250 GPM

FLUIDS: WATER BASED DRILLING CONTROL FLUID

MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

INLET 1: 1" CODE 62 SEAL SUB

INLET 2: 1" CODE 62 SEAL SUB

REGULATED: 1-1/2" CODE 62 SEAL SUB

VENT 1: 3/8" SAE

VENT 2: 3/8" SAE

GAGE: 1/2" SAE

AUX: 3/8" SAE

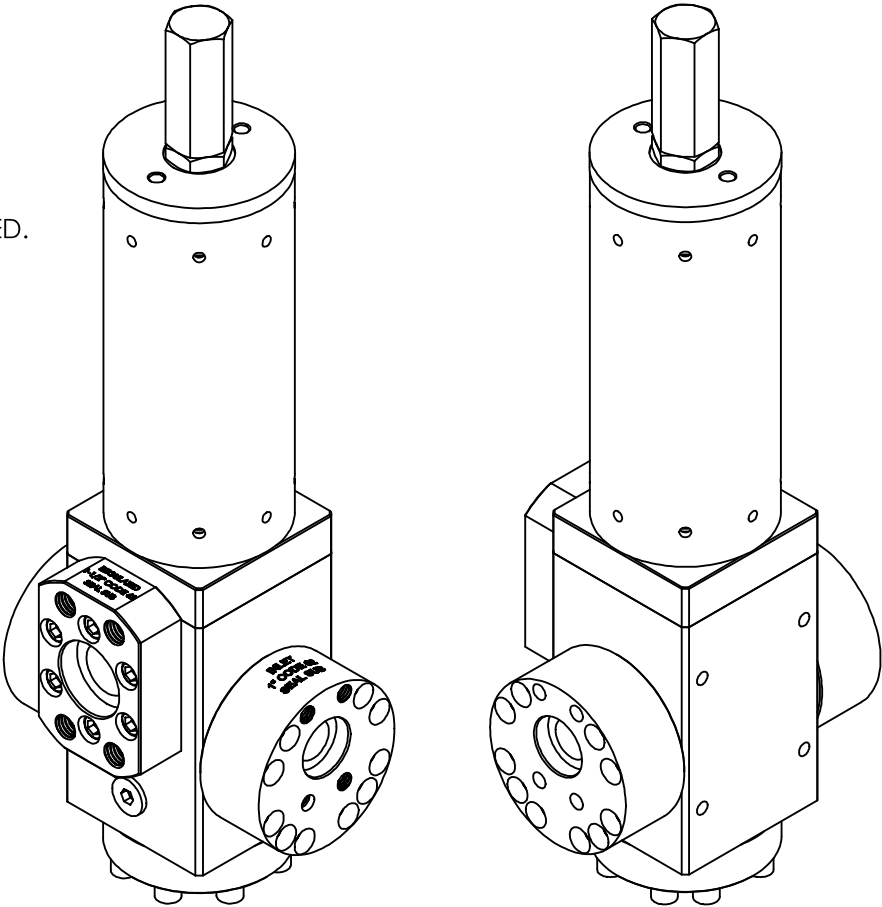
GENERAL DATA:

TEMP RANGE: 32°F TO 150°F

APPROX WEIGHT: 73 LBS

NOTES:

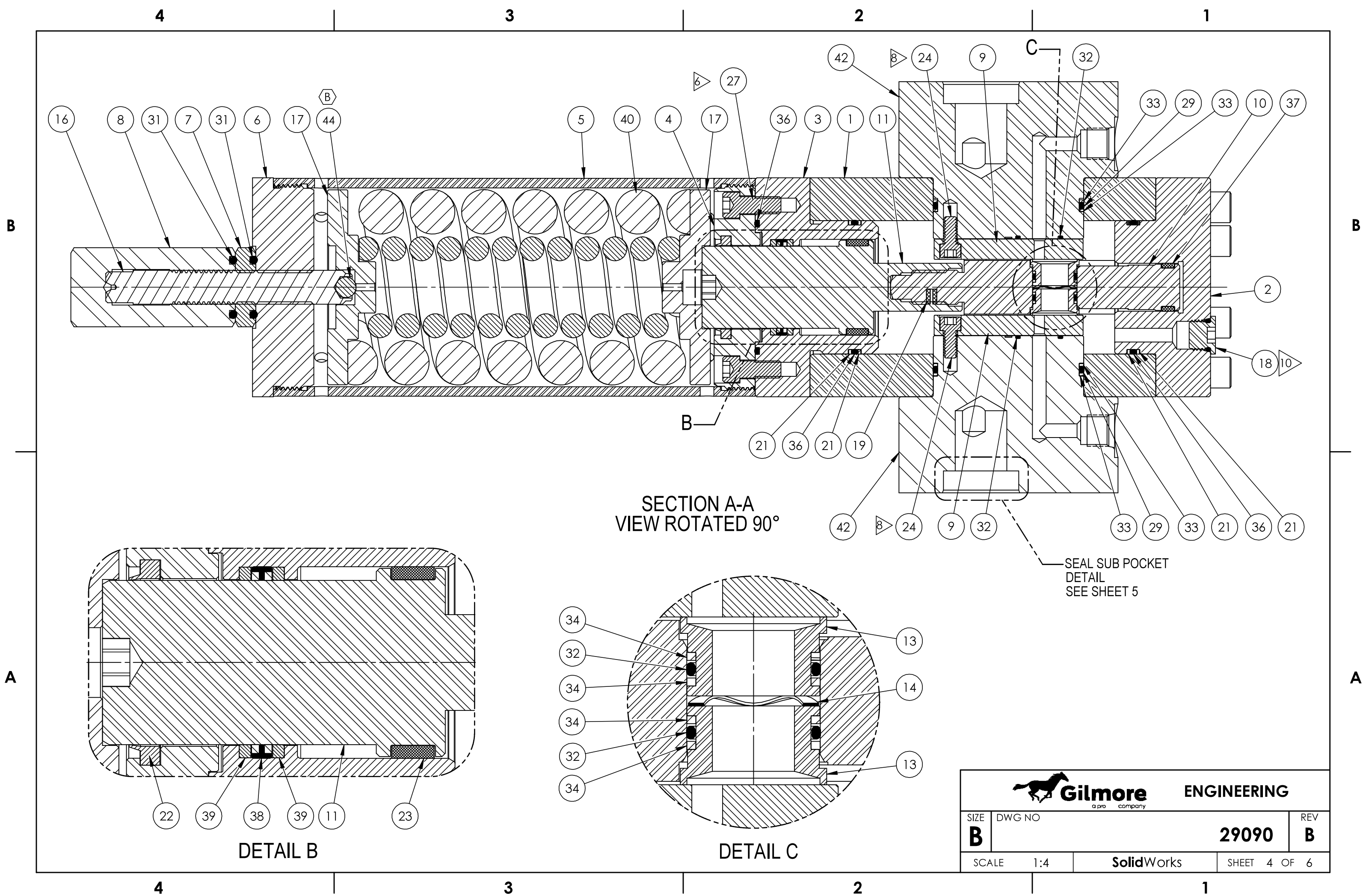
- 1 MARK "ASSEMBLY W.O." AT VALVE ASSEMBLY IN ACCORDANCE WITH MA-W-9-10, BY GILMORE.
- 2 MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 REGULATED RANGE SPECIFIED ENSURES ADEQUATE AMOUNT OF SPRING PRELOAD IS PRESENT FOR RELIABLE AND REPEATABLE SET POINT ADJUSTMENT.
- 4 X IN THE BOM INDICATES PARTS IN REPAIR KIT 29090 RK AND SEAL KIT 29090 SK.
- 5 ASSEMBLY PROCEDURE: 50309  
STANDARD FAT PROCEDURE: 50310  
EXTENDED FAT PROCEDURE: 50311  
SERVICE MANUAL: 51030
- 6 TORQUE TO 10 FT-LB
- 7 TORQUE TO 20 FT-LB
- 8 TORQUE TO 5 FT-LB
- 9 TORQUE TO 40 FT-LB
- 10 TORQUE TO 20 FT-LB
- 11 ALL MANUFACTURED ITEMS ARE PASSIVATED.



ENGINEERING

SIZE	DWG NO	REV
B	29090	B
SCALE	1:4	SHEET 2 OF 6
SolidWorks		

4				3				2				1					
B	11	BILL OF MATERIALS							11	BILL OF MATERIALS							B
		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK	
		1	153287	BODY	A564 TP 630 (17-4 PH)	1				29	18100-051K1	O-RING	HNBR	2	X	X	
		2	153290	FLANGE BOTTOM	A276 TP 316	1				30	18100-026K1	O-RING	HNBR	4	X	X	
		3	153298	GUIDE, PLUNGER, 1-1/2"	A276 TP 316	1				31	18100-113K1	O-RING	HNBR	2	X	X	
		4	156614	ADAPTER, SPRING HOUSING	A276 TP S21800 (NITRONIC 60)	1				32	18100-009K1	O-RING	HNBR	8	X	X	
		5	177586	HOUSING, SPRING	A276 TP 316	1				33	195435	RING, BACKUP	PEEK	4	X	X	
		6	196804	CAP, SPRING HOUSING	A276 UNS S21800 (NITRONIC 60)	1				34	195436	RING, BACKUP	PEEK	4	X	X	
		7	154595	NUT, O-LOCK	A276 TP 316	1				35	195437	RING, BACKUP	PEEK	8	X	X	
		8	154594	CAP, LOCK	A276 TP 316	1				36	18100-082K1	O-RING	HNBR	3	X	X	
		9	153292	INSERT, FLOW PORT, SUPPLY & VENT	TUNGSTEN CARBIDE / NICKEL	2	X			37	161776	WEAR BAND, SEAL CARRIER	DELRIN AF	1	X	X	
		10	153294	CARRIER, SEAL	A276 TP S21800 (NITRONIC 60)	1				38	18108-522	T-SEAL, ROD	CARBOXYLATED NITRILE / NYLATRON	1	X	X	
		11	153297	PLUNGER, 1-1/2"	A276 TP S21800 (NITRONIC 60)	1				39	158317	WEAR BAND	DELRIN AF	2	X	X	
		12	154597	RING, SEAL, SUPPLY	TUNGSTEN CARBIDE / NICKEL	4	X			40	12968	SPRING, COMPRESSION	A313 TP 316	1			
		13	154599	RING, SEAL, VENT	TUNGSTEN CARBIDE / NICKEL	2	X			41	171360	FLANGE, 1-1/2" C62	A276 TP 316	1			
		14	18701-002	WAVE SPRING	AMS5699 (X-750)	1	X			42	199713	FLANGE, INLET, 1" C62	A276 TP 316	2			
		15	154598	SPRING, COMPRESSION	AMS5699 (X-750)	2	X			43	13125	SPING, COMPRESSION	INCONEL X750	1			
		16	154596	SCREW, ADJUSTING	F593 GR2 (T316)	1				44	18800-007	BALL	A276 TP 316	1			
		17	154526	PLATE, SPRING	A276 TP 316	2				<div><div><div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div>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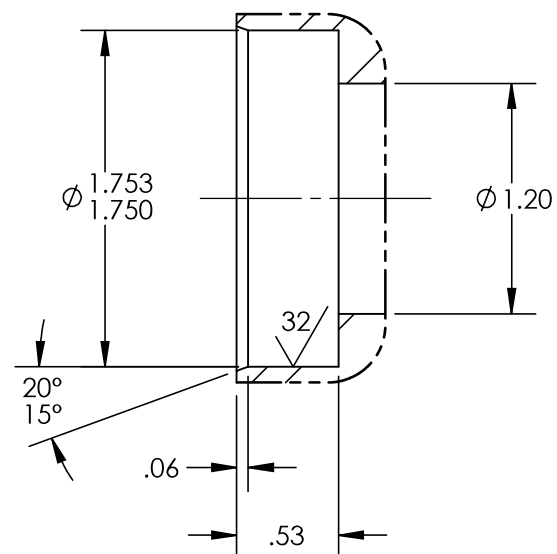
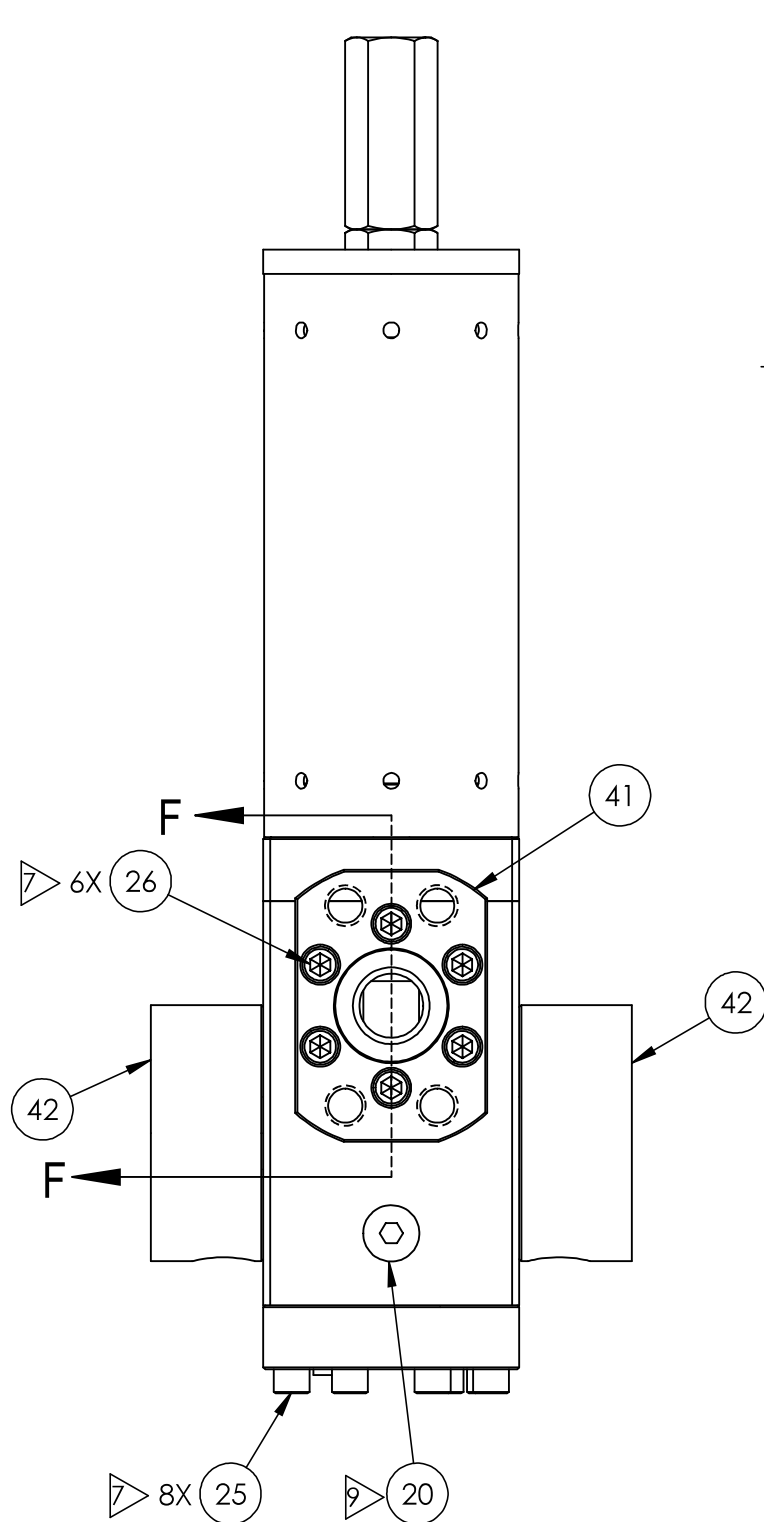
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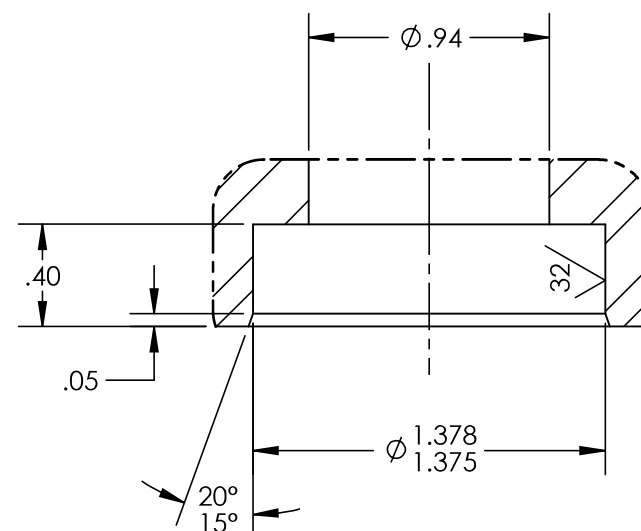
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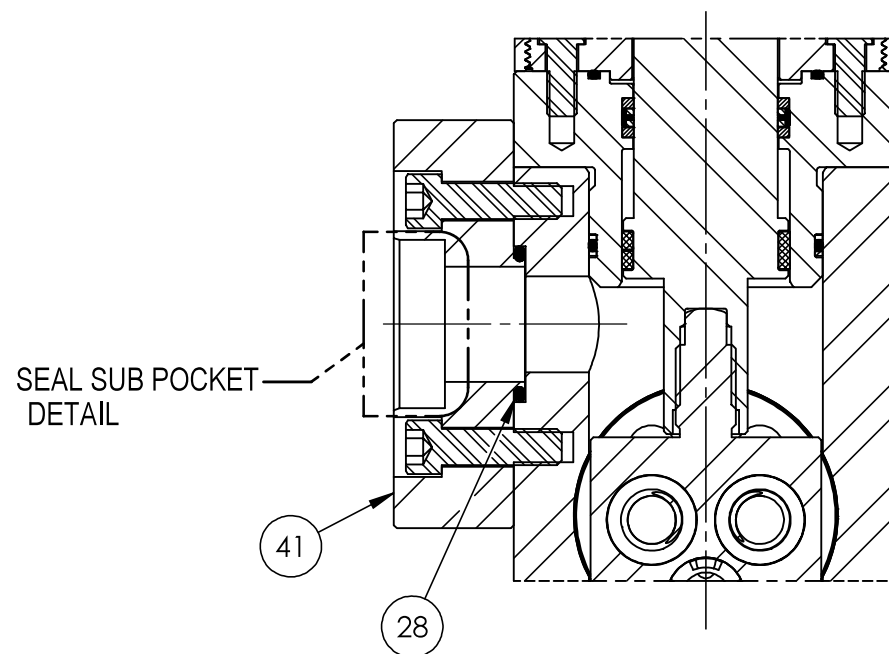
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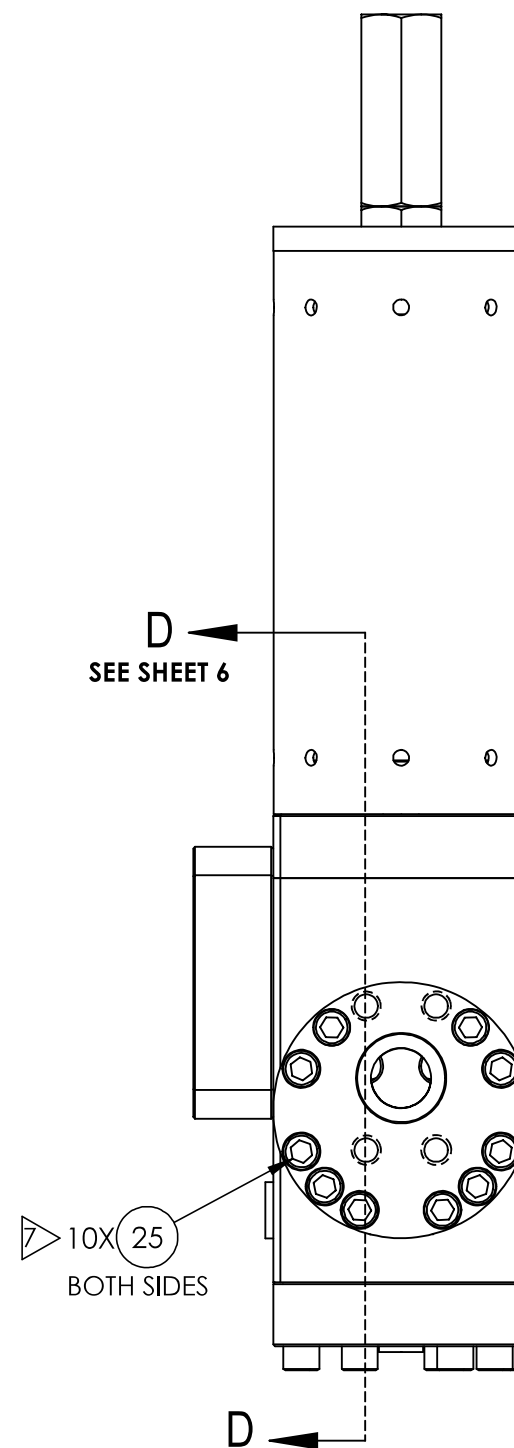
SEAL SUB POCKET DETAIL  
(REFER TO SECTION F-F)



SEAL SUB POCKET DETAIL  
(REFER TO SECTION A-A)



SECTION F-F



D  
SEE SHEET 6

D



ENGINEERING

SIZE	DWG NO	REV
<b>B</b>	<b>29090</b>	<b>B</b>
SCALE	1:3	SHEET 5 OF 6
SolidWorks		

4

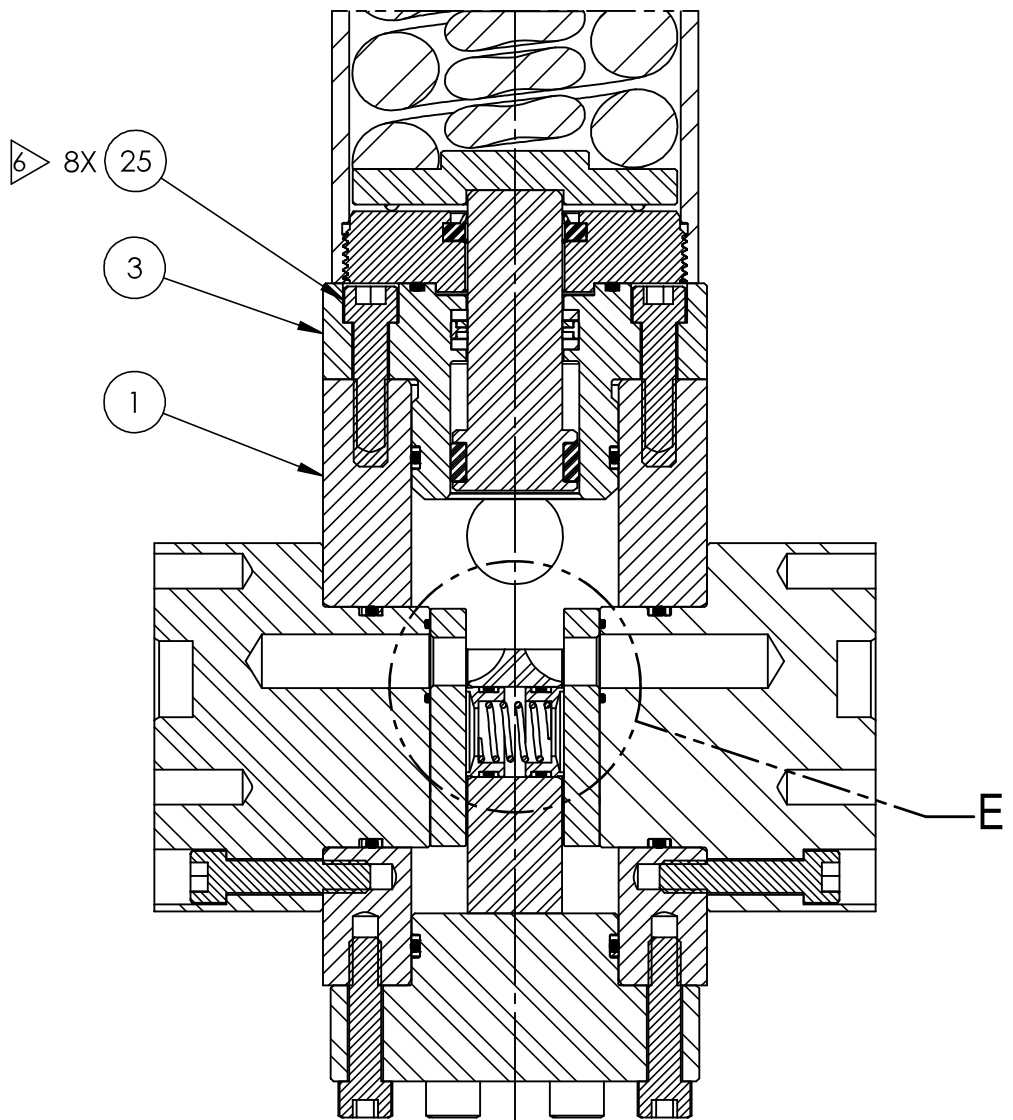
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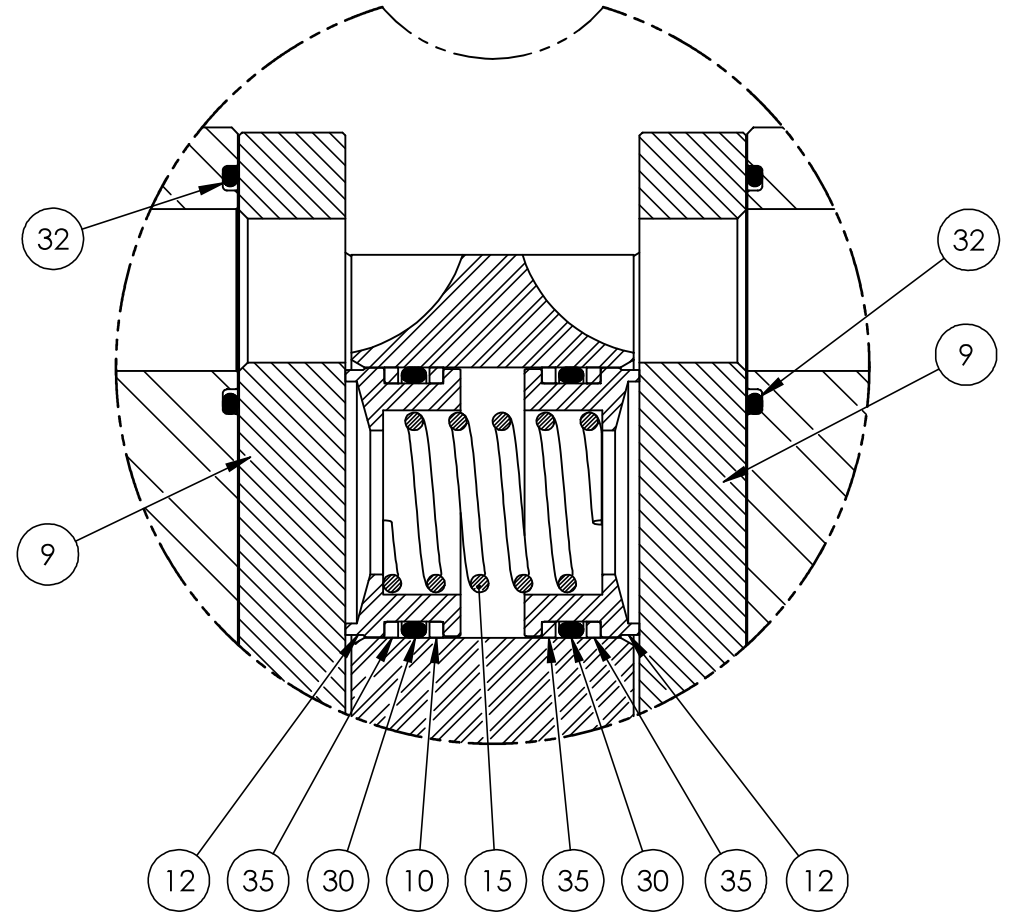
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B

B



SECTION D-D



DETAIL E  
2 PLACES

A

A

4

3

2

1



ENGINEERING

SIZE <b>B</b>	DWG NO <b>29090</b>	REV <b>B</b>
SCALE 1:3	SolidWorks	SHEET 6 OF 6

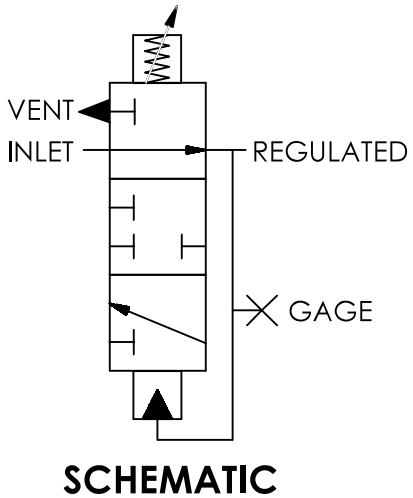
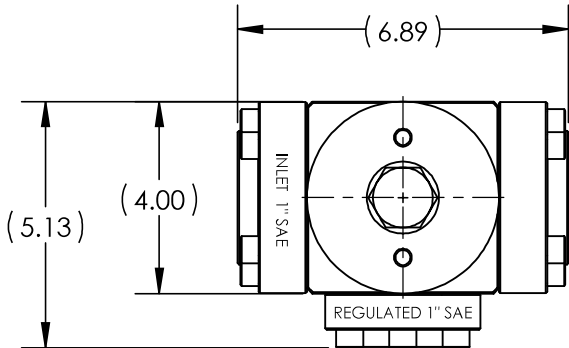
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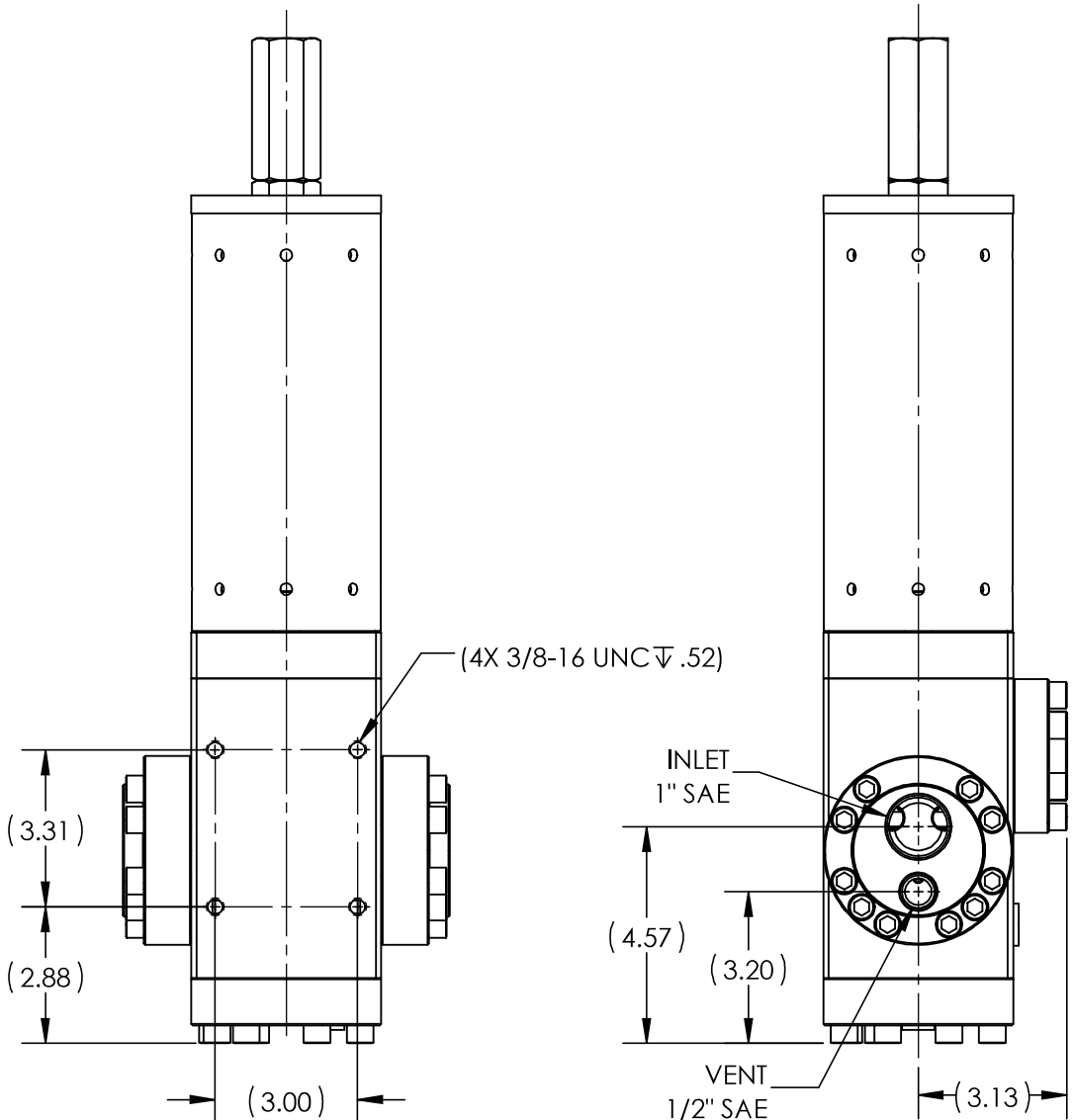
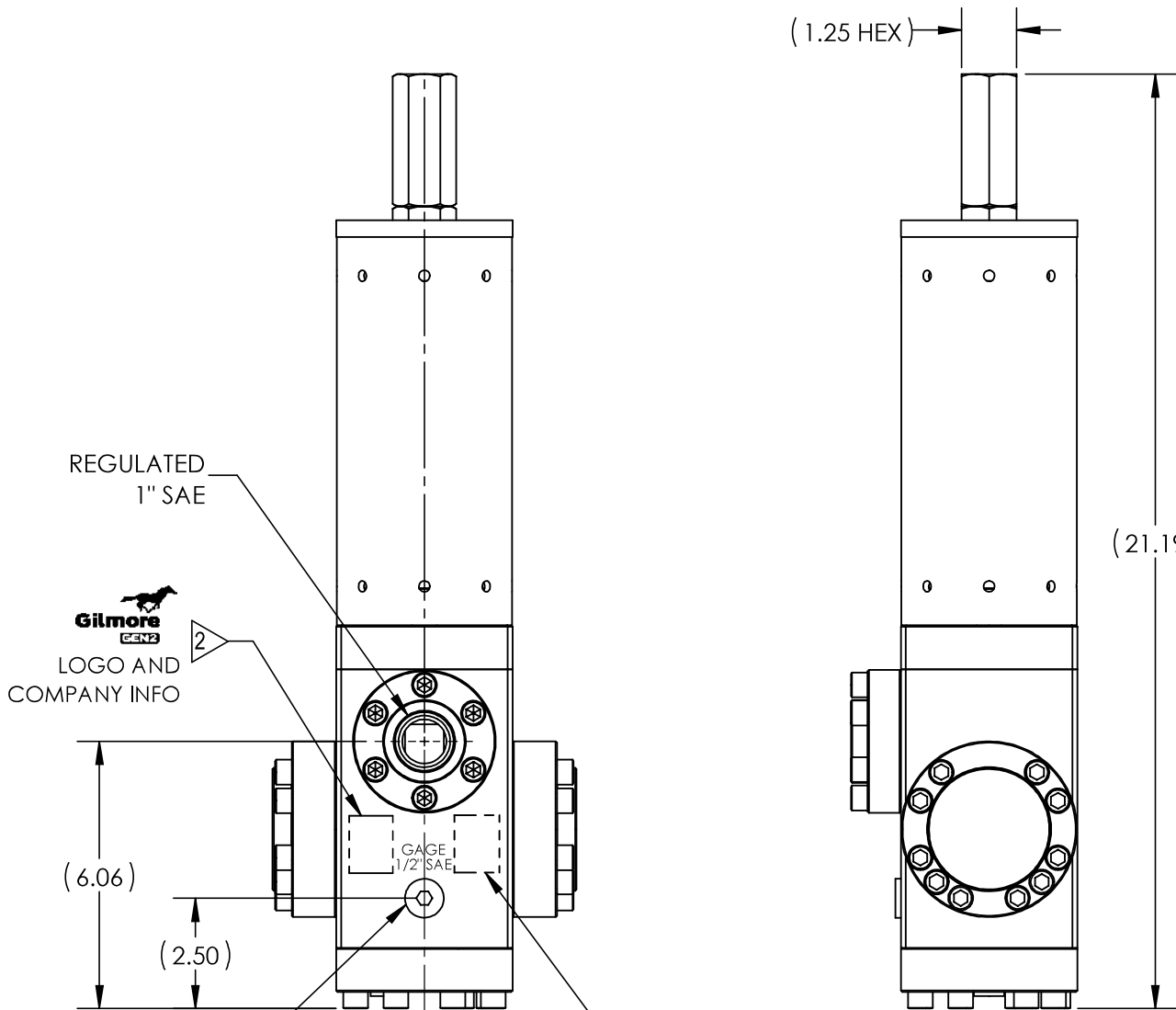
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REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02423	JZ 7/21/20	CMJ 7-21-20	AJP 7/21/20



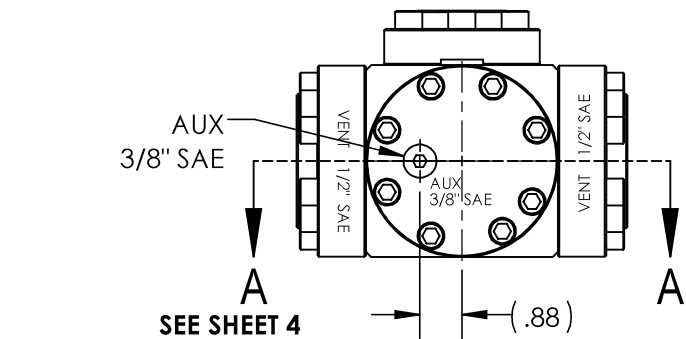
B

B



A

A



29091  
VER (AX VERSION #)  
(SERIAL NUMBER)  
6,000 PSI  
PATENT PENDING  
(DATE OF MFG)  
  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

MATERIAL: SEE INDIV BOM ITEMS		DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED: 1) TOLERANCES: .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5° 2) SURFACE TEXTURE: 63/ 3) CORADIAL FEATURES SHALL BE © WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED. ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		APPROVAL DRAWN BY JZ DATE 7/21/20 CHECKED BY CMJ DATE 7-21-20 ENGINEER AJP DATE 7/21/20 ERN NUMBER 02423 DATE 6/29/20 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF GILMORE VALVE CO UNLESS OTHERWISE STATED. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF GILMORE VALVE CO IS PROHIBITED.		Gilmore ENGINEERING a pro company <b>VALVE, PRESSURE REGULATOR, GEN 2, MANUAL SPRING, 1" SAE, SINGLE INLET, 3500 / 6000 PSI</b>		
CONDITION:						SIZE <b>B</b>	DWG NO	REV <b>A</b>
TREATMENT: 11						SCALE 1:4	SolidWorks	SHEET 1 OF 5
PROCEDURE NUMBER: 5								

4

3

2

1

**OPERATING DATA:**

- FOR TYPICAL FLOW CAPACITY REFER TO DRAWING 84006 FOR SINGLE INLET.
- ADJUSTMENT SCREW TURNS NEEDED FOR 3,500 PSI SET POINT: 3 +/- 1 TURN OF SPRING COMPRESSION.  
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4)
- ADJUSTMENT SCREW TORQUE FOR 3,500 PSI SET POINT: 25 +/-5 FT-LB.
- CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 375 +/-25 PSI.
- SET POINT ADJUSTED TO LESS THAN 1,500 PSI MAY RESULT IN NON-LINEAR DROP IN FLOW CAPACITY.
- FOR MORE DETAILED OPERATIONS INFORMATION REFER TO SERVICE MANUAL 51030.

**PRESSURE DATA:**

MAXIMUM INLET PRESSURE RATING: 6,000 PSI

REGULATED RANGE: 3,500 - 1,500 PSI  
TYPICAL DEADBAND AT 5000 PSI SUPPLY: 300±100 PSI  
TYPICAL DEADBAND AT 3000 PSI SUPPLY: 200±50 PSI  
MAXIMUM REGULATED AND VENT PRESSURE RATING: 3500 PSI

**FLOW DATA:**

FULLY OPEN Cv REGULATED: 7 (CALC)  
FULLY OPEN Cv VENT: 1 (CALC)  
FULLY OPEN MAXIMUM REGULATED FLOW RATE: 125 GPM  
FLUIDS: WATER BASED DRILLING CONTROL FLUID  
MINERAL OIL BASED DRILLING CONTROL FLUID

**PORTS:**

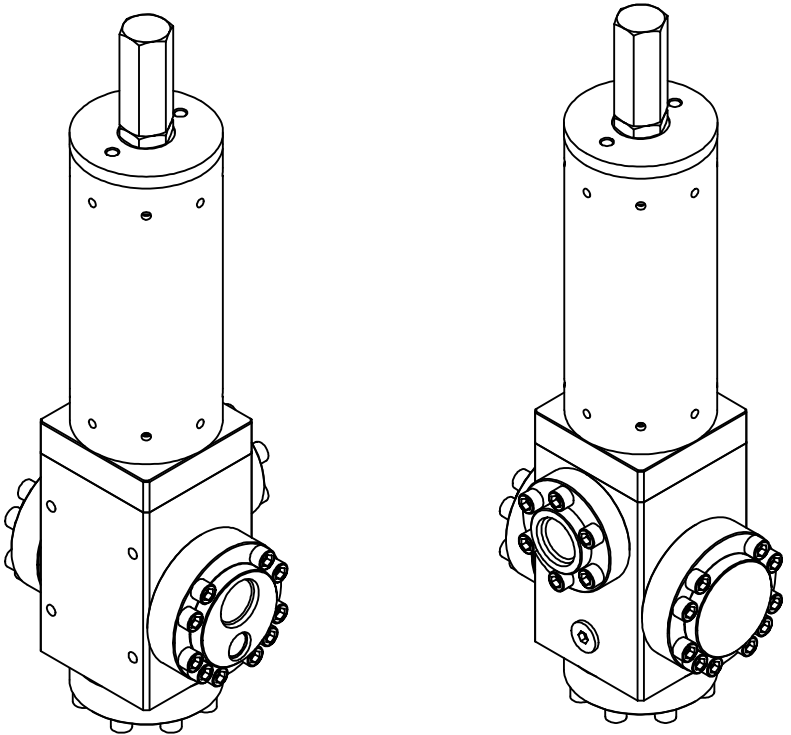
INLET: 1" SAE  
REGULATED: 1" SAE  
VENT: 1/2" SAE  
GAGE: 1/2" SAE  
AUX: 3/8" SAE

**GENERAL DATA:**

TEMP RANGE: 32°F TO 150°F  
APPROX WEIGHT: 70 LBS

**NOTES:**

- MARK "ASSEMBLY W.O." AT VALVE ASSEMBLY IN ACCORDANCE WITH MA-W-9-10, BY GILMORE.
- MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- REGULATED RANGE SPECIFIED ENSURES ADEQUATE AMOUNT OF SPRING PRELOAD IS PRESENT FOR RELIABLE AND REPEATABLE SET POINT ADJUSTMENT.
- X IN THE BOM INDICATES PARTS IN REPAIR KIT 29091 RK AND SEAL KIT 29091 SK.
- ASSEMBLY PROCEDURE: 50309  
STANDARD FAT PROCEDURE: 50310  
EXTENDED FAT PROCEDURE: 50311  
SERVICE MANUAL: 51030
- TORQUE TO 10 FT-LB
- TORQUE TO 20 FT-LB
- TORQUE TO 5 FT-LB
- TORQUE TO 40 FT-LB
- TORQUE TO 20 FT-LB
- ALL MANUFACTURED ITEMS ARE PASSIVATED.



**ENGINEERING**

SIZE	DWG NO	REV
<b>B</b>	<b>29091</b>	<b>A</b>
SCALE	1:4	SHEET 2 OF 5
SolidWorks		

4				3				2				1					
B	11	BILL OF MATERIALS						11	BILL OF MATERIALS						B		
		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK		SK	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY		RK	SK
		1	153287	BODY	A564 TP 630 (17-4 PH)	1				28	154799	SHCS, THREAD-LOCKING, 1/4-20 UNC X 1/2" LONG	F593 GR2 & NYLON	6		X	
		2	197568	FLANGE, 1" SAE INLET, 1/2" SAE VENT	A276 TP 316	1				29	18224-003	S.H.C.S., 3/8-16 UNC X 1-1/4	A286 GR 660	36			
		3	197569	FLANGE, 1" SAE REGULATED	A276 TP 316	1				30	18224-002	SHCS, 3/8-16 UNC X 1.25 LG	A286 GR 660	6			
		4	153290	FLANGE BOTTOM	A276 TP 316	1				31	18224-045	SHCS, 5/16-18 UNC X 3/4" LG	A286 GR 660	4			
		5	153298	GUIDE, PLUNGER, 1-1/2"	A276 TP 316	1				32	18100-103K1	O-RING	HNBR	1		X	X
		6	156614	ADAPTER, SPRING HOUSING	A276 TP S21800 (NITRONIC 60)	1				33	18100-051K1	O-RING	HNBR	2		X	X
		7	177586	HOUSING, SPRING	A276 TP 316	1				34	18100-026K1	O-RING	HNBR	4		X	X
		8	196804	CAP, SPRING HOUSING	A276 UNS S21800 (NITRONIC 60)	1				35	18100-113K1	O-RING	HNBR	2		X	X
		9	154595	NUT, O-LOCK	A276 TP 316	1				36	18100-009K1	O-RING	HNBR	5		X	X
		10	154594	CAP, LOCK	A276 TP 316	1				37	195435	RING, BACKUP	PEEK	4		X	X
	12	11	153293	INSERT, FLOW PORT, BLANK	TUNGSTEN CARBIDE / NICKEL	1	X		38	195436	RING, BACKUP	PEEK	4	X		X	
		12	153292	INSERT, FLOW PORT, SUPPLY & VENT	TUNGSTEN CARBIDE / NICKEL	1	X		39	195437	RING, BACKUP	PEEK	8	X		X	
		13	153294	CARRIER, SEAL, VALVE, REGULATOR, GEN 2	A276 TP S21800 (NITRONIC 60)	1			40	18100-082K1	O-RING	HNBR	3	X		X	
		14	153297	PLUNGER, 1-1/2"	A276 TP S21800 (NITRONIC 60)	1			41	161776	WEAR BAND, SEAL CARRIER	DELFIN AF	1	X		X	
		15	154597	RING, SEAL, SUPPLY	TUNGSTEN CARBIDE / NICKEL	4	X		42	18108-522	T-SEAL, ROD	CARBOXYLATED NITRILE / NYLATRON	1	X		X	
		16	154599	RING, SEAL, VENT	TUNGSTEN CARBIDE / NICKEL	2	X		43	158317	RING, BACKUP	DELFIN AF	2	X		X	
		17	18701-002	WAVE SPRING	AMS5699 (X-750)	1	X		44	12968	SPRING, COMPRESSION	A313 TP 316	1				
		18	154598	SPRING, COMPRESSION	AMS5699 (X-750)	2	X		45	13125	SPING, COMPRESSION	AMS5699 (X-750)	1				
		19	154596	SCREW, ADJUSTING	F593 GR2 (T316)	1			46	18800-007	BALL	A276 TP 316	1				
		20	154526	PLATE, SPRING	A276 TP 316	2											
		21	18603-006	PLUG, HEX, 3/8" SAE	A240 TP 316	1											
		22	154797	PELLET, NYLOK	NYLON	1	X										
		23	18603-008	HOLLOW HEX PLUG, 1/2" SAE	A240 TP 316	1											
		24	154659	RING, BACKUP	PEEK	4	X	X									
		25	161775	WIPER, D-STYLE, 1-1/2" PLUNGER	POLYURETHANE	1	X	X									
26	153288	FLANGE, BLANK	A276 TP 316	1													
27	184195	WEAR BAND, PLUNGER, 1-1/2"	DELFIN AF	1	X	X											
4				3				2				1					



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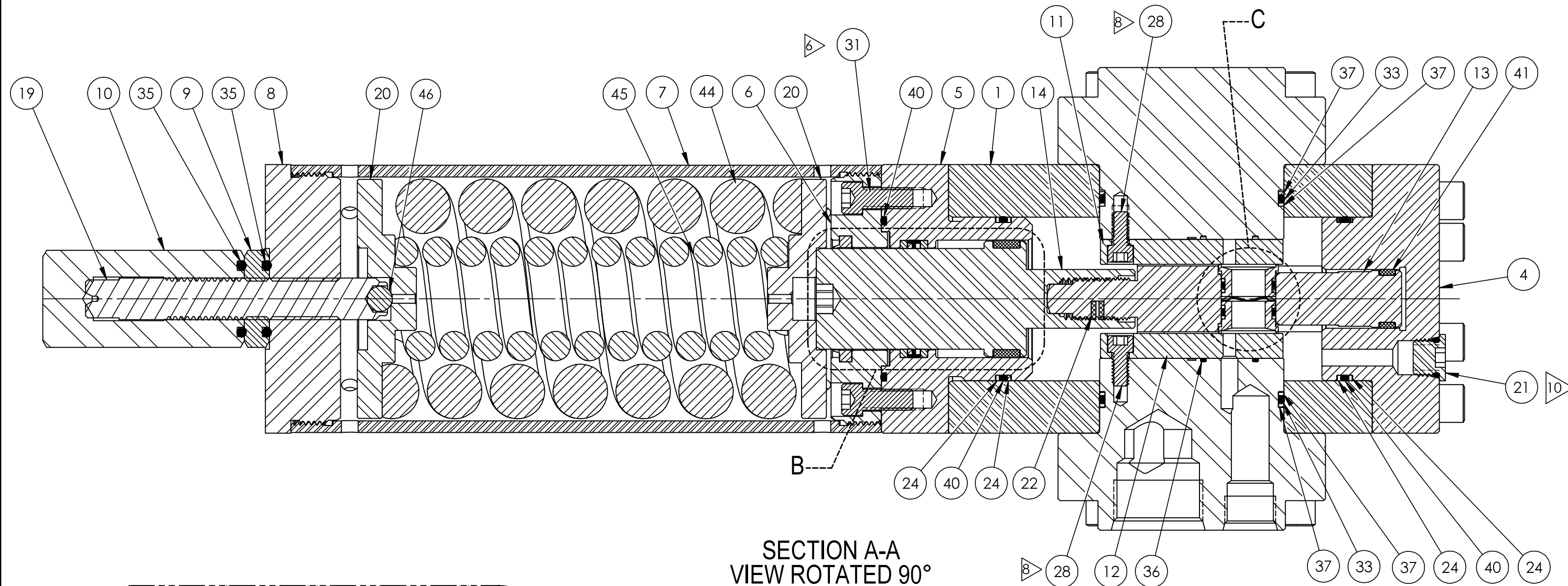
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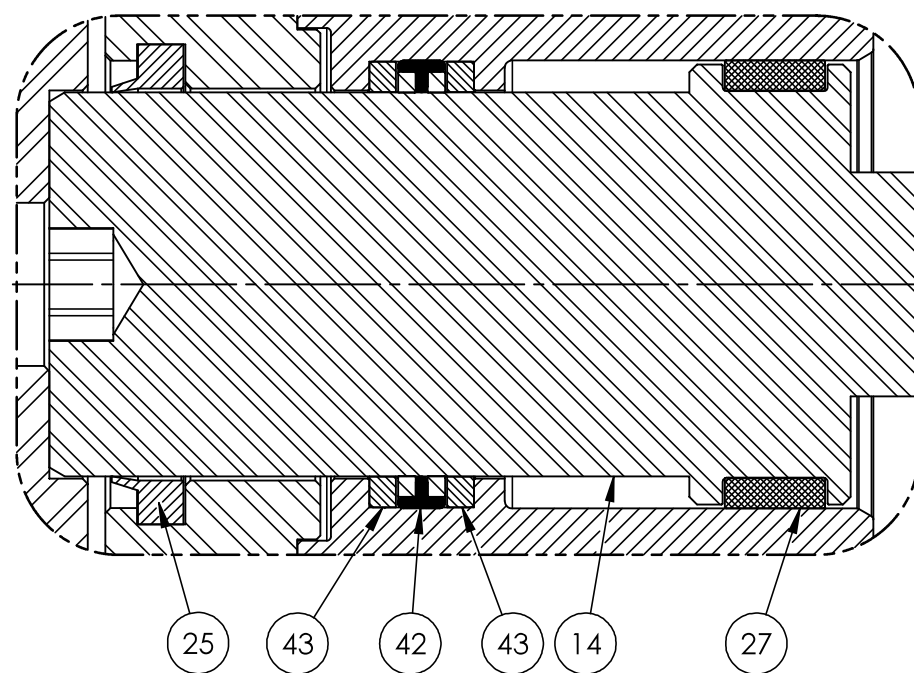
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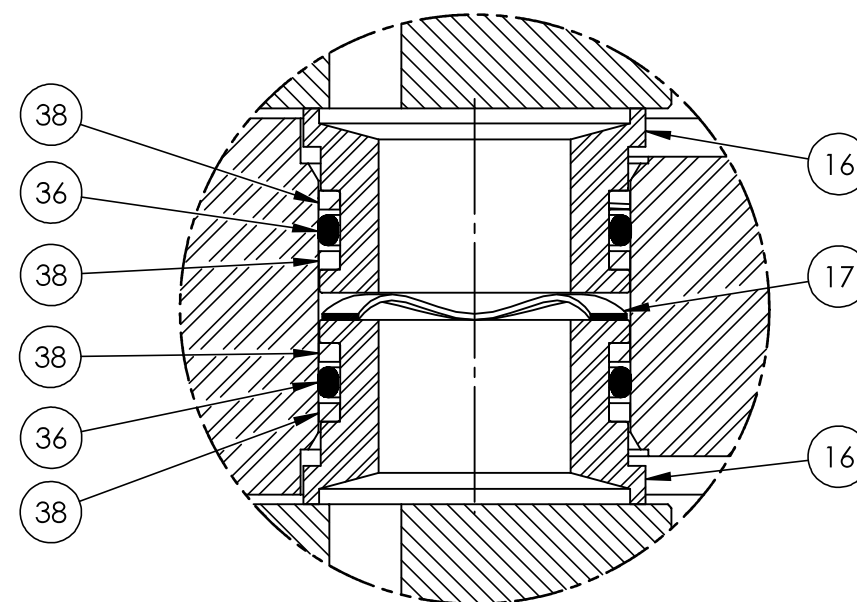
SECTION A-A  
VIEW ROTATED 90°

A

A



DETAIL B



DETAIL C



**Gilmore**  
a pro company

**ENGINEERING**

SIZE

**B**

DWG NO

**29091**

REV

**A**

SCALE

1:4

**SolidWorks**

SHEET 4 OF 5

4

3

2

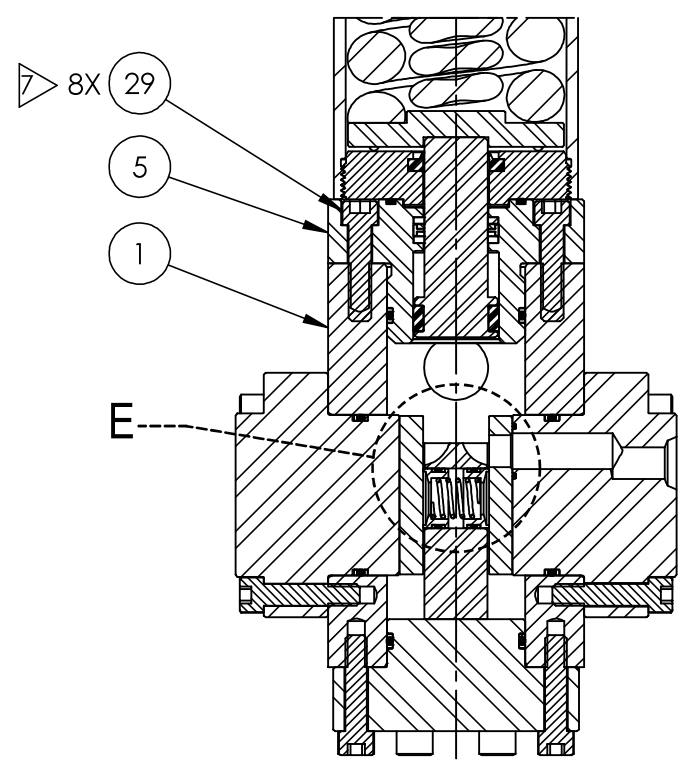
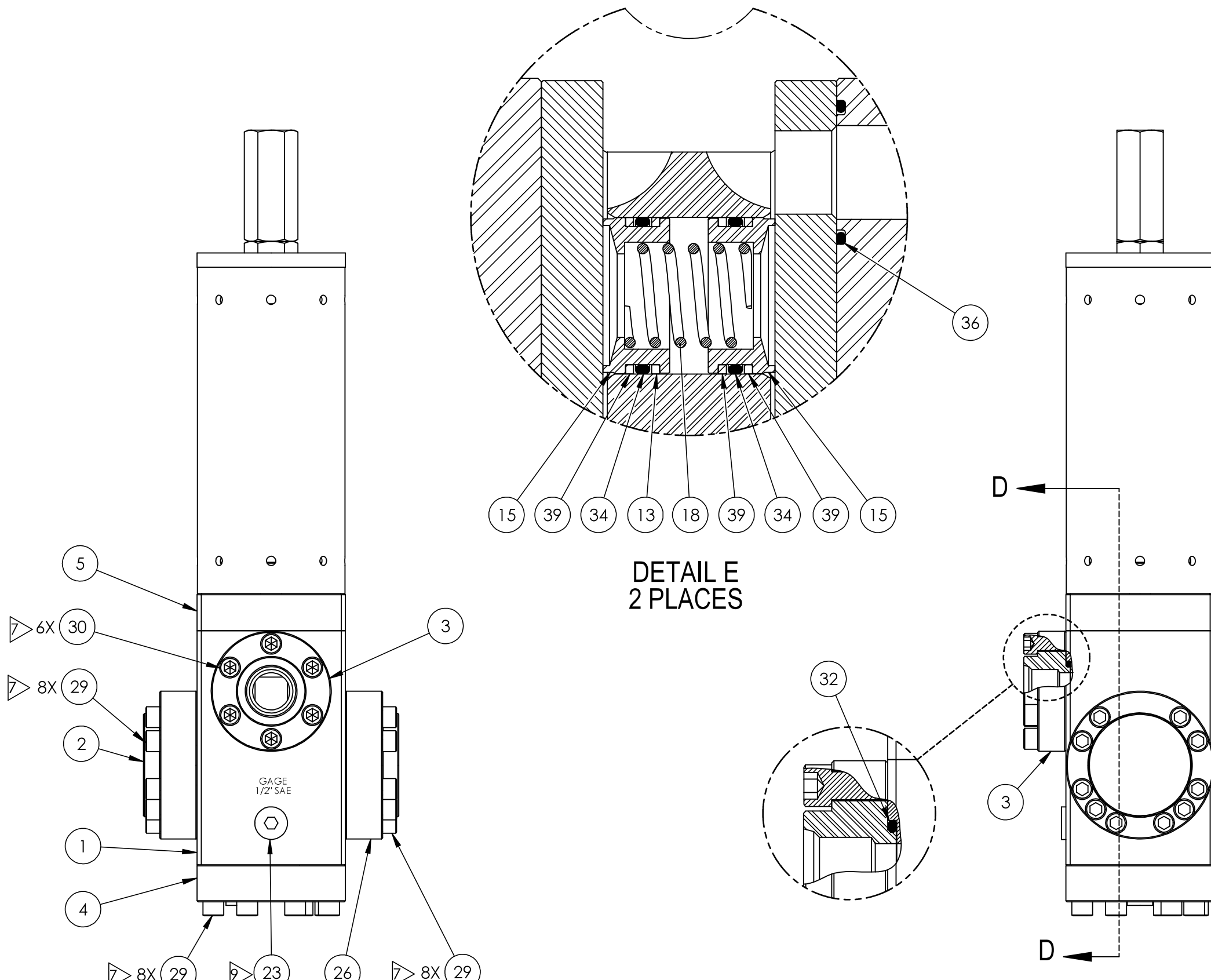
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B


B

A

A



SECTION D-D

 <b>Gilmore</b> <small>a pro company</small> <b>ENGINEERING</b>			
SIZE <b>B</b>	DWG NO <b>29091</b>	REV <b>A</b>	
SCALE 1:3	SolidWorks	SHEET 5 OF 5	

4

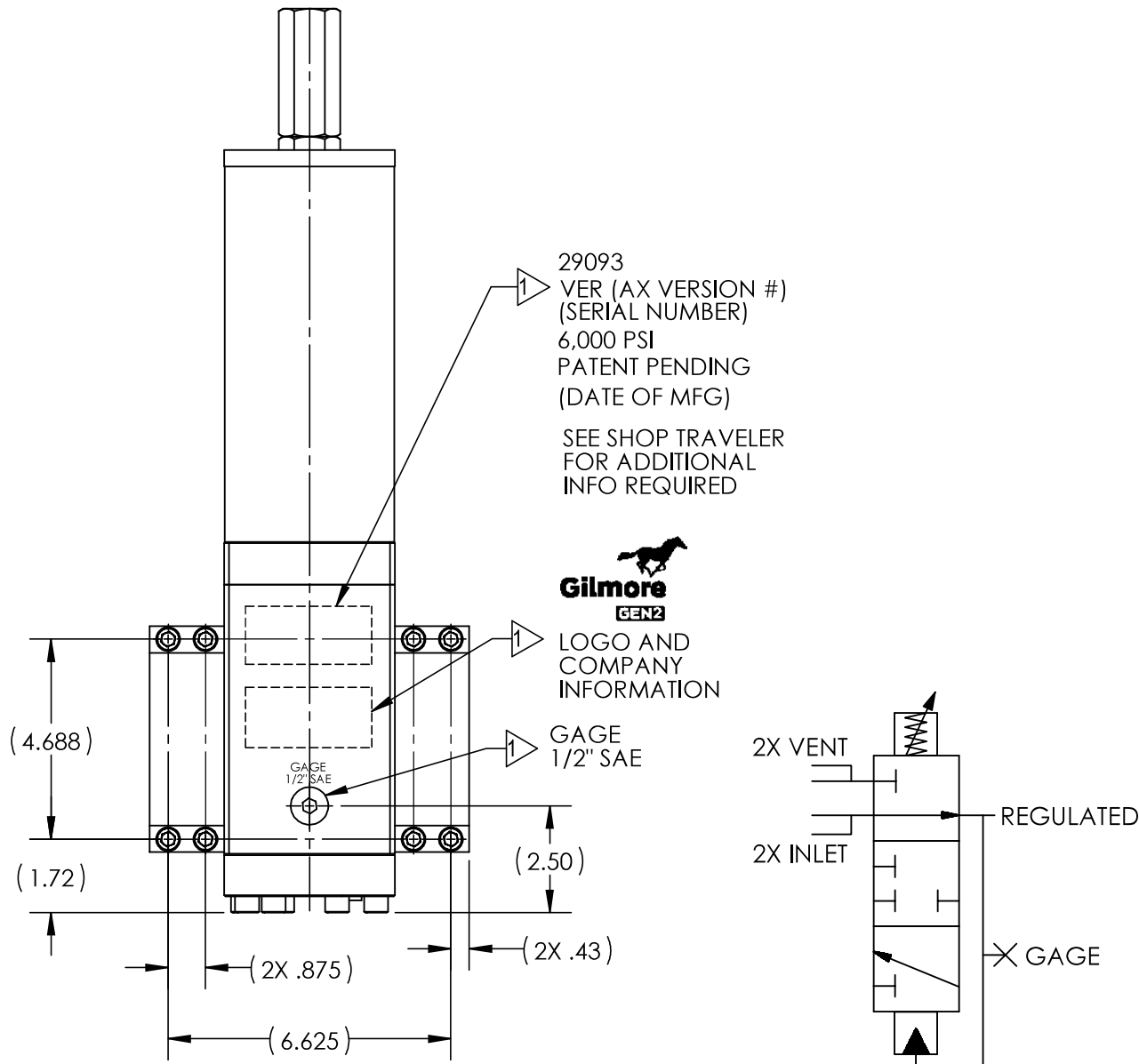
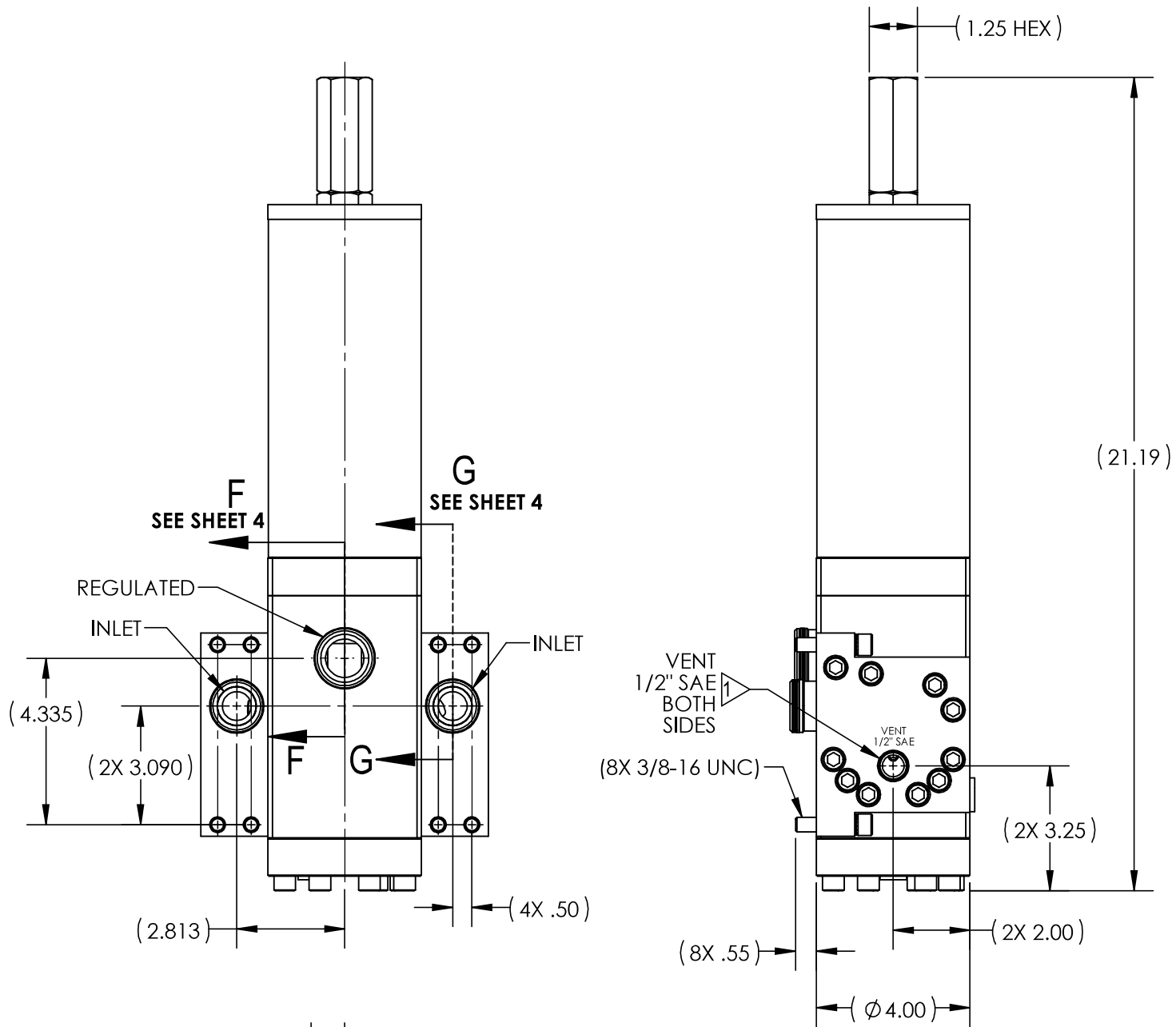
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REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02423	JZ 7/21/20	CML 7-21-20	AQP 7/21/20

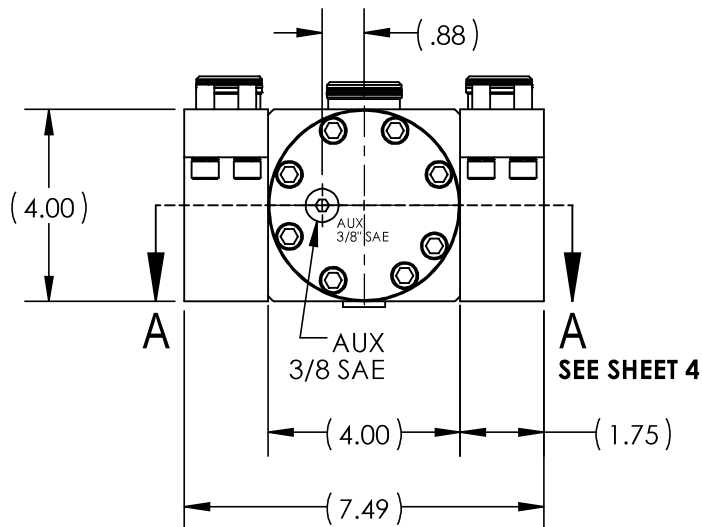
B






SCHEMATIC

PATENT PENDING

A



MATERIAL: SEE INDIV BOM ITEMS		DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED:  1) TOLERANCES:   .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5°  2) SURFACE TEXTURE: 63/✓  3) CORADIAL FEATURES SHALL BE ◎ WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED. ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		APPROVAL		 <b>ENGINEERING</b>			
CONDITION:				DRAWN BY <i>JZ</i>	DATE 7/21/20	<b>VALVE, PRESSURE REGULATOR, GEN 2, MANUAL SPRING, SEAL SUB, DOUBLE INLET, 3500/6000 PSI</b>			
TREATMENT: 				CHECKED BY <i>CML</i>	DATE 7-21-20				
PROCEDURE NUMBER: 				ENGINEER <i>AQP</i>	DATE 7/21/20				
				ERN NUMBER <i>02299</i>	DATE 04/16/19				
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF GILMORE VALVE CO UNLESS OTHERWISE STATED. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF GILMORE VALVE CO IS PROHIBITED.						SIZE <b>B</b>	DWG NO	<b>29093</b>	REV <b>A</b>
						SCALE 1:4	SolidWorks	SHEET 1 OF 5	

4

3

2

1

OPERATING DATA:

- 1. FOR TYPICAL FLOW CAPACITY REFER TO DRAWING 84006 FOR DOUBLE INLET.
- 2. ADJUSTMENT SCREW TURNS NEEDED FOR 3,500 PSI SET POINT: 3 +/- 1 TURN.  
(BASED ON FULLY OPEN POSITION SOWN ON SHEET 4)
- 3. ADJUSTMENT SCREW TORQUE FOR 3,500 PSI SET POINT: 25 +/-5 FT-LB.
- 4. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 375 +/-25 PSI.
- 5. SET POINT ADJUSTED TO LESS THAN 1,500 PSI MAY RESULT IN NON-LINEAR  
DROP IN FLOW CAPACITY.
- 6. FOR MORE DETAILED DESCRIPTIONS REFER TO SERVICE MANUAL 51030.

PRESSURE DATA:

MAXIMUM INLET PRESSURE RATING: 6,000 PSI  
REGULATED RANGE: 3,500 - 1,500 PSI  
TYPICAL DEADBAND AT 5000 PSI SUPPLY: 300±100 PSI  
TYPICAL DEADBAND AT 3000 PSI SUPPLY: 200±50 PSI  
MAXIMUM REGULATED AND VENT PRESSURE RATING: 3500 PSI

FLOW DATA:

FULLY OPEN Cv REGULATED: 14 (CALC)  
FULLY OPEN Cv VENT: 2 (CALC)  
FULLY OPEN MAXIMUM REGULATED FLOW RATE: 250 GPM

FLUIDS: WATER BASED DRILLING CONTROL FLUID  
MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

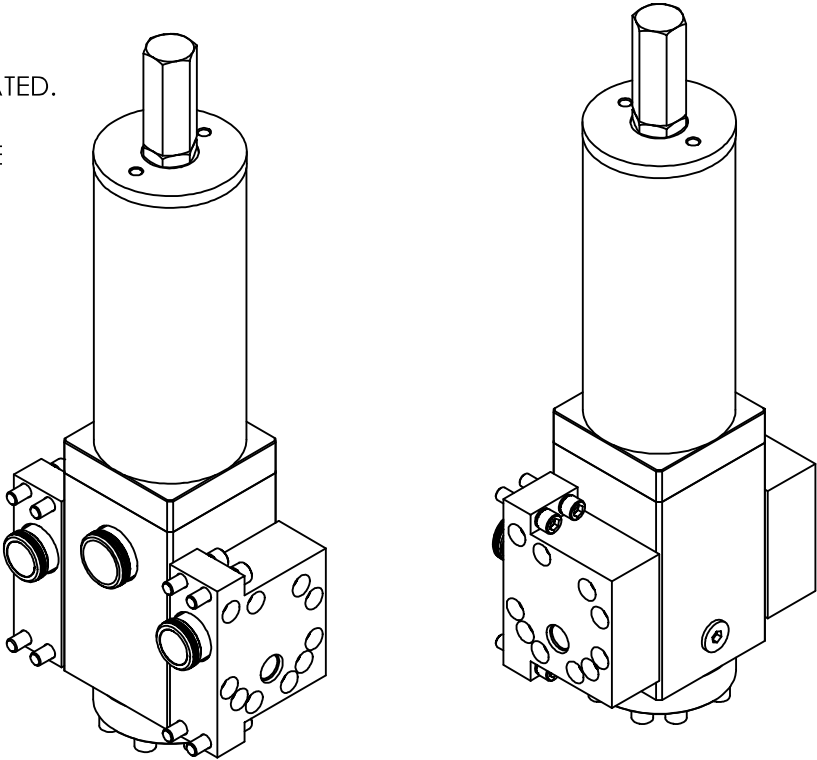
INLET (2X): 1" SEAL SUB  
REGULATED: 1-1/2" SEAL SUB  
VENT (2X): 1/2" SAE  
GAGE: 1/2" SAE  
AUX: 3/8" SAE

GENERAL DATA:

TEMP RANGE: 32°F TO 150°F  
APPROX WEIGHT: 70 LBS

NOTES:

- 1 MARK "ASSEMBLY W.O." AT VALVE ASSEMBLY  
IN ACCORDANCE WITH MA-W-9-10, BY GILMORE.
- 2 MARK AS SHOWN USING LASER ETCH OR COMPUTER  
CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH  
MIN CHARACTERS.
- 3. REGULATED RANGE SPECIFIED ENSURES ADEQUATE AMOUNT  
OF SPRING PRELOAD IS PRESENT FOR RELIABLE AND  
REPEATABLE SET POINT ADJUSTMENT.
- 4. X IN THE BOM INDICATES PARTS IN REPAIR KIT 29093 RK AND  
SEAL KIT 29093 SK.
- 5 ASSEMBLY PROCEDURE: 50309  
STANDARD FAT PROCEDURE: 50310  
EXTENDED FAT PROCEDURE: 50311  
SERVICE MANUAL: 51030
- 6 TORQUE TO 10 FT/LB
- 7 TORQUE TO 20 FT/LB
- 8 TORQUE TO 5 FT/LB
- 9 TORQUE TO 40 FT/LB
- 10 TORQUE TO 20 FT/LB
- 11 ALL MANUFACTURED ITEMS ARE PASSIVATED.
- 12. DOUBLE INLET MOUNTING KIT AVAILABLE  
PART NUMBER 29128



ENGINEERING

SIZE	DWG NO	REV
B	29093	A
SCALE	1:3	SHEET 2 OF 5
SolidWorks		

4				3				2				1					
B	BILL OF MATERIALS								B	BILL OF MATERIALS							
	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK	MK		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK	MK
	1	196803	BODY	A564 TP 630 (17-4 PH)	1					30	18224-045	SHCS, 5/16-18 UNC X 3/4" LG	A286 GR 660	4			
	2	153290	FLANGE, BOTTOM, 3/8" SAE	A276 TP 316	1					31	18100-051K1	O-RING	HNBR	2	X	X	
	3	153298	GUIDE, PLUNGER, 1-1/2"	A276 TP 316	1					32	18100-026K1	O-RING	HNBR	4	X	X	
	4	156614	ADAPTER, SPRING HOUSING	A276 TP S21800 (NITRONIC 60)	1					33	18100-113K1	O-RING	HNBR	2	X	X	
	5	154528	SPRING HOUSING	A276 TP 316	1					34	18100-004K1	O-RING	HNBR	2	X	X	
	6	196804	CAP, SPRING HOUSING	A276 UNS S21800 (NITRONIC 60)	1					35	18100-009K1	O-RING	HNBR	6	X	X	
	7	154595	NUT, O-LOCK	A276 TP 316	1					36	195435	RING, BACKUP	PEEK	4	X	X	
	8	154594	CAP, LOCK	A276 TP 316	1					37	195436	RING, BACKUP	PEEK	4	X	X	
	9	153292	INSERT, FLOW PORT, SUPPLY & VENT	TUNGSTEN CARBIDE 8-10% NICKEL BINDER (RA90)	2	X				38	195437	RING, BACKUP	PEEK	8	X	X	
	10	153294	CARRIER, SEAL	A276 TP S21800 (NITRONIC 60)	1					39	18100-082K1	O-RING	HNBR	3	X	X	
	11	153297	PLUNGER, 1-1/2"	A276 TP S21800 (NITRONIC 60)	1					40	161776	WEAR BAND, SEAL CARRIER	DELFIN AF	1	X	X	
	12	154597	RING, SEAL, SUPPLY	TUNGSTEN CARBIDE 8-10% NICKEL	4	X				41	196801	FLANGE, INLET, RIGHT, 1/2" SAE	A276 TP 316	1			
	13	154599	RING, SEAL, VENT	TUNGSTEN CARBIDE / NICKEL	2	X				42	196802	FLANGE, INLET, LEFT, 1/2" SAE	A276 TP 316	1			
	14	18701-002	WAVE SPRING	AMS5699 (X-750)	1	X				43	18225-001	SHCS, 3/8 -16 UNC X 1-5/8" LG	A286	8			X
	15	154598	SPRING, COMPRESSION	AMS5699 (X-750)	2	X				44	10794442-001	WASHER, NORD-LOCK, 3/8	254 SMO	8	X		X
	16	154596	SCREW, ADJUSTING	F593 GR2 (T316)	1					45	18100-002K1	O-RING	HNBR	4	X	X	X
	17	154526	PLATE, SPRING	A276 TP 316	2					46	18110-026T	BACKUP RING	TEFLON	4	X	X	X
	18	12968	SPRING, COMPRESSION	A313 TP 316	1					47	12528	SEAL SUB, 1"	A564 TP 630 (17-4PH)	2			X
	19	13125	SPING, COMPRESSION	INCONEL X750	1					48	12966	SEAL SUB, 1-1/4"	A564 TP 630 (17-4PH)	1			X
	20	18603-006	PLUG, HEX, 3/8" SAE	A240 TP 316	1					49	18100-038K1	O-RING	HNBR	2	X	X	X
	21	154797	PELLET, NYLOK	NYLON	1	X				50	18114-003T	BACKUP RING	TEFLON	2	X	X	X
	22	18603-008	HOLLOW HEX PLUG, 1/2" SAE	A240 TP 316	1					51	18800-007	BALL	A276 TP 316	1			
	23	154659	RING, BACKUP	PEEK	4	X	X			<div><div><div><div><div></div><div>Gilmore</div><div>ENGINEERING</div></div><div><div>SIZE</div><div>B</div><div>DWG NO</div><div>29093</div><div>REV</div><div>A</div></div><div><div>SCALE</div><div>1:8</div><div>SolidWorks</div><div>SHEET 3 OF 5</div></div></div></div></div>							
	24	161775	WIPER, D-STYLE, 1.500 PLUNGER	POLYURETHANE	1	X	X										
	25	184195	WEAR BAND, PLUNGER	DELFIN AF	1	X	X										
	26	18108-522	T-SEAL, ROD	CARBOXYLATED NITRILE / NYLATRON	1	X	X										
	27	158317	WEAR BAND, 1-1/2"	DELFIN AF	2	X	X										
	28	154799	SHCS, THREAD-LOCKING, 1/4-20 UNC X 1/2" LONG	A593 T316 (& NYLON)	6	X											
	29	18224-003	S.H.C.S., 3/8-16 UNC X 1-1/4	A286 GR 660	36												
4				3				2				1					

4

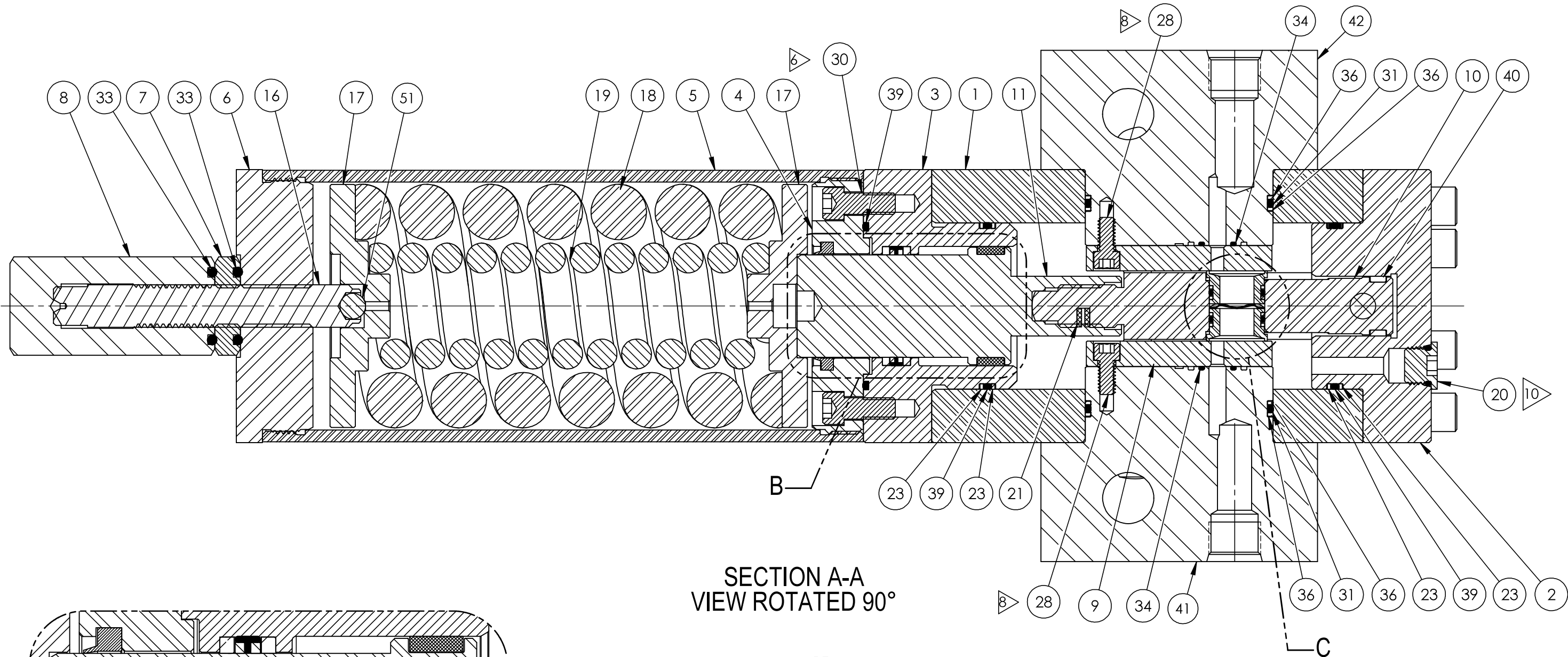
3

2

1

B

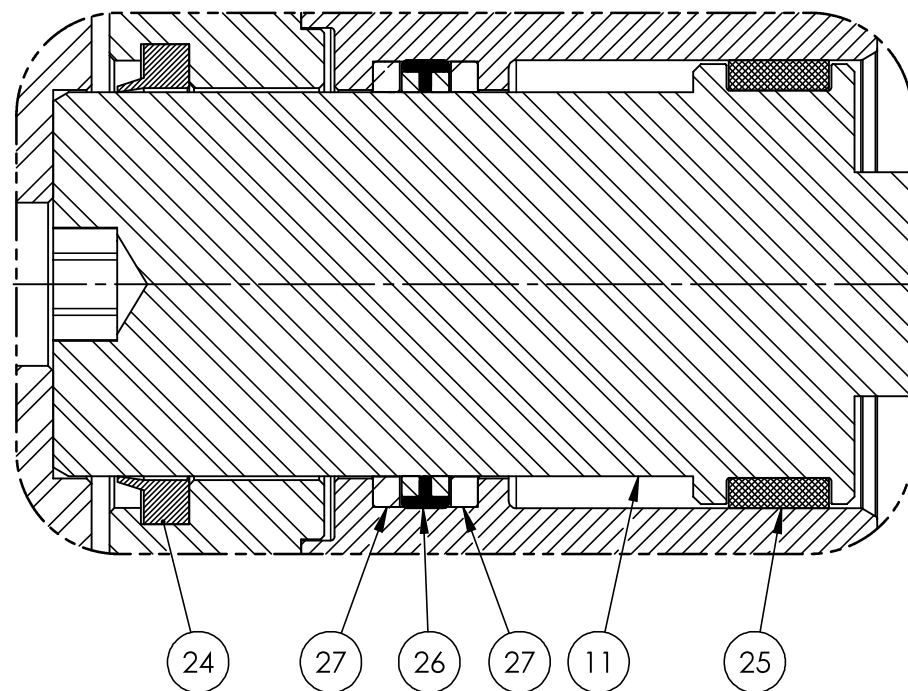
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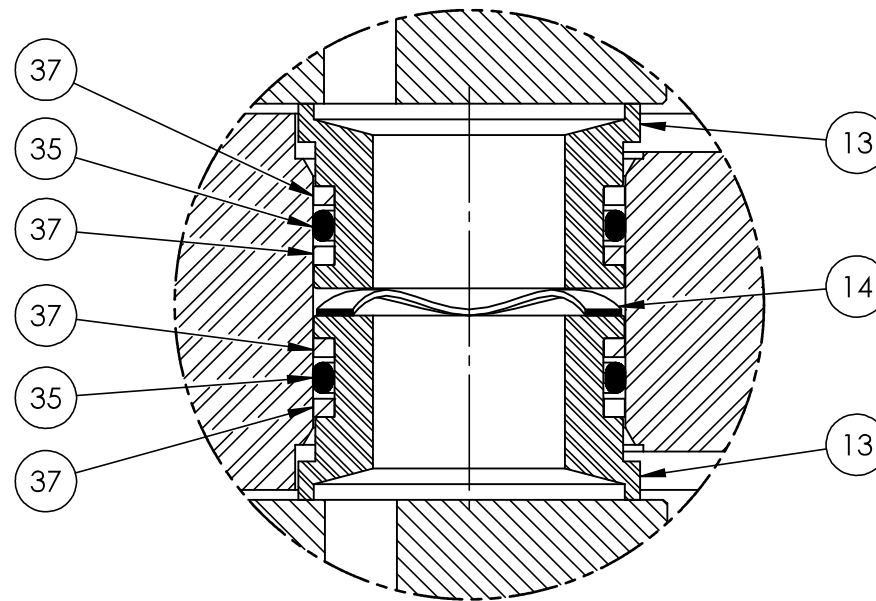
SECTION A-A  
VIEW ROTATED 90°

A

A



DETAIL B



DETAIL C



ENGINEERING

SIZE <b>B</b>	DWG NO <b>29093</b>	REV <b>A</b>
SCALE 1:4	SolidWorks	SHEET 4 OF 5

4

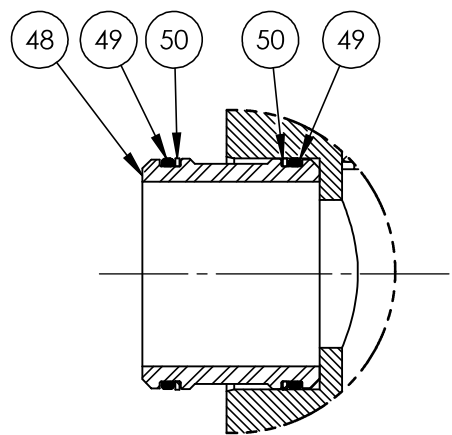
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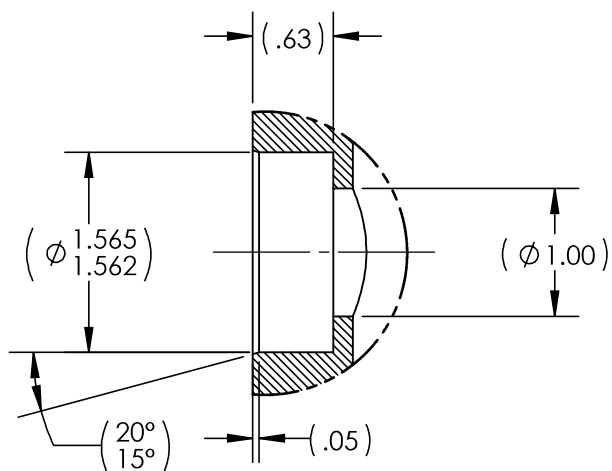
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B

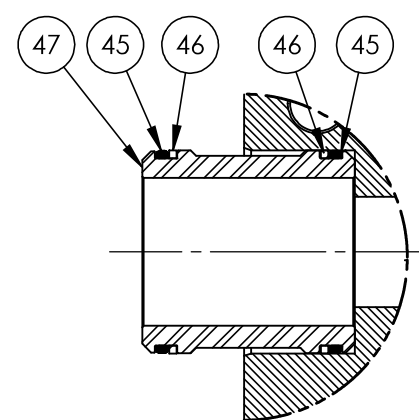
B



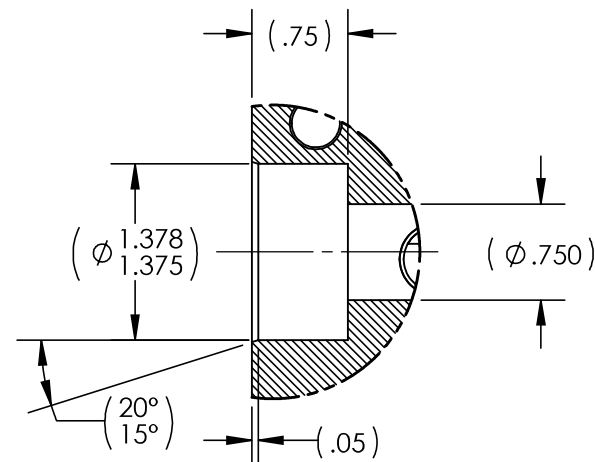
SECTION F-F



SEAL SUB POCKET DETAIL  
(REFER TO SECTION F-F)



SECTION G-G  
2 PLACES

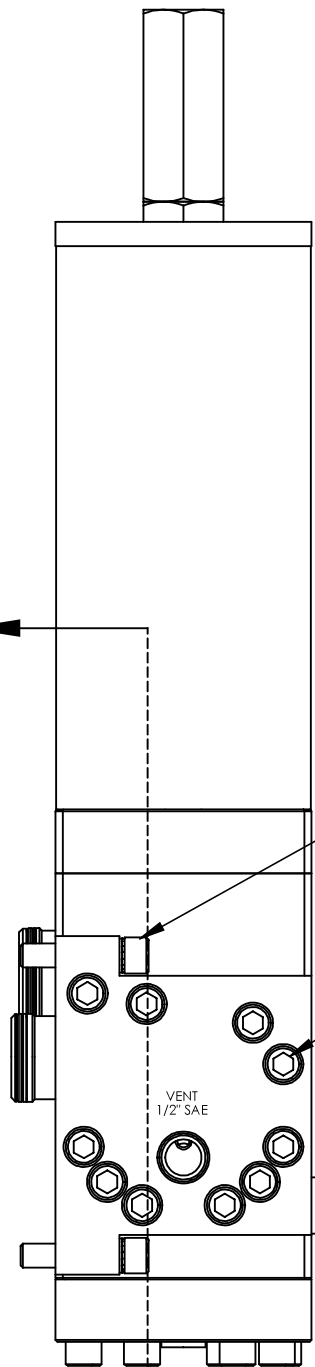


SEAL SUB POCKET DETAIL  
(REFER TO SECTION G-G)

D

A

A



8X (43) (44)

7 20X (29)

9 (22)

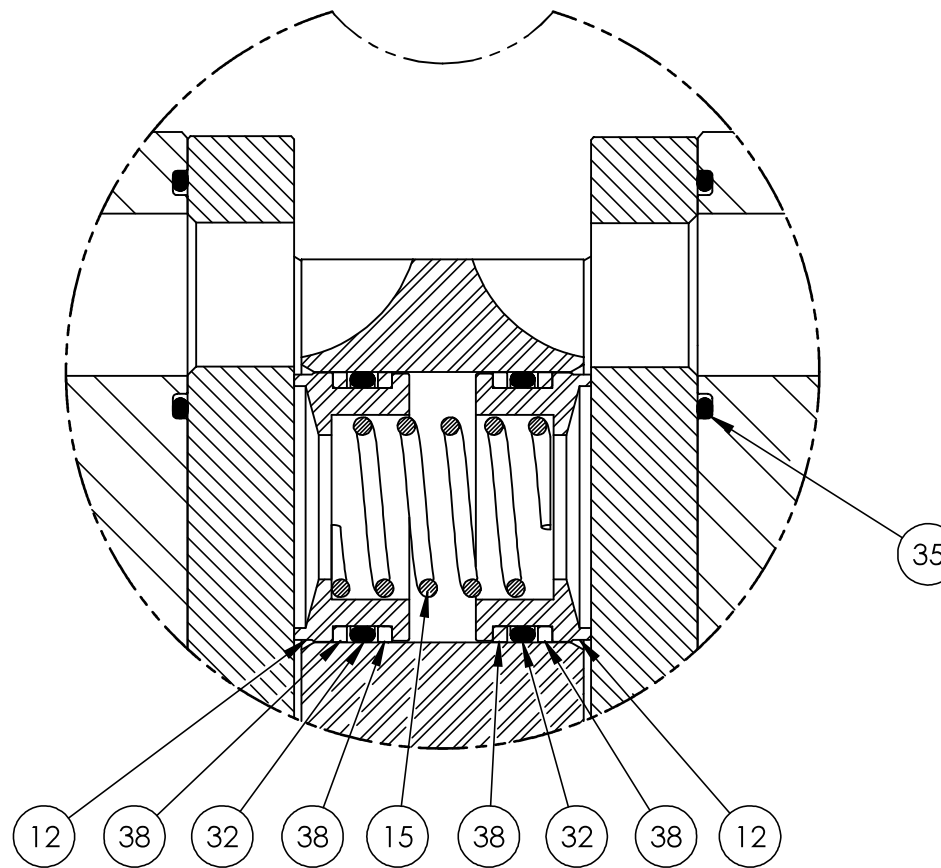
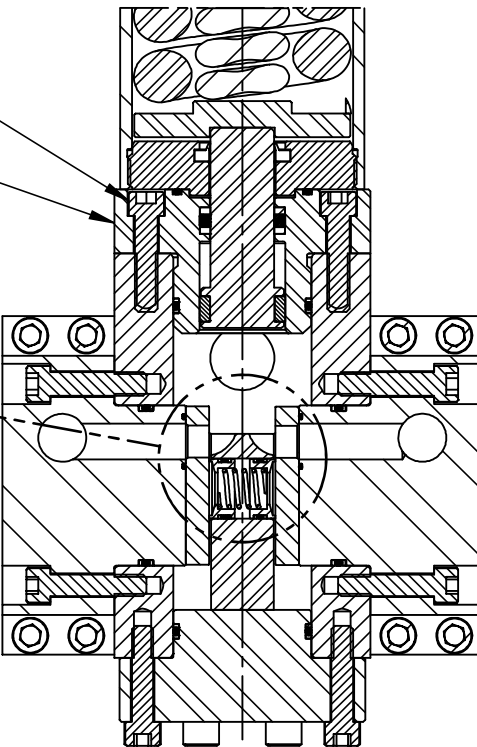
7 8X (29)

(3)

E

7 8X (29)

SECTION D-D



DETAIL E  
2 PLACES



ENGINEERING

SIZE	DWG NO	REV
<b>B</b>	<b>29093</b>	<b>A</b>
SCALE	1:3	SHEET 5 OF 5
SolidWorks		

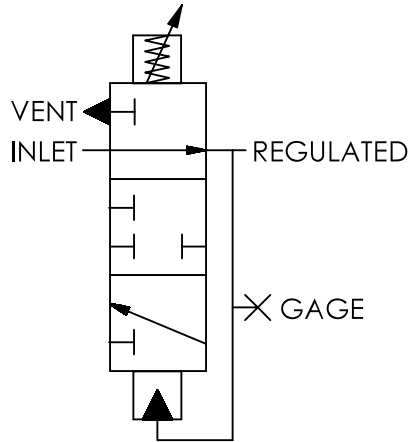
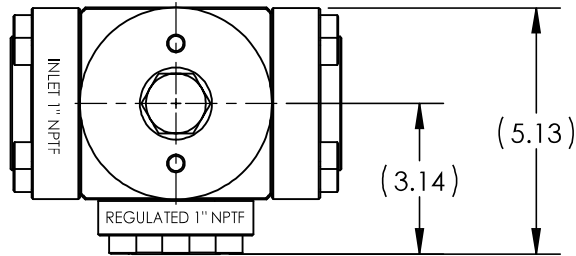
4

3

2

1

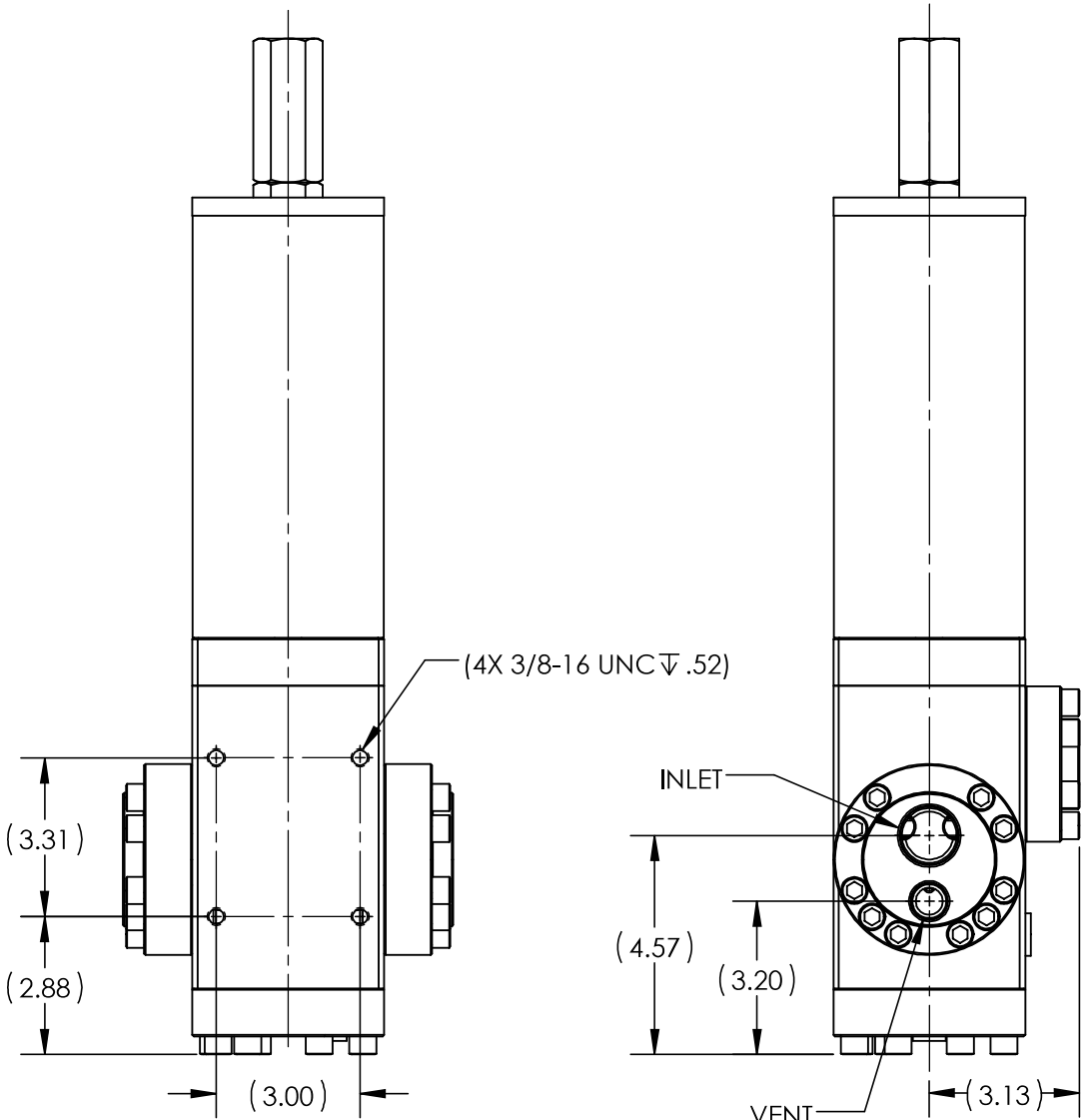
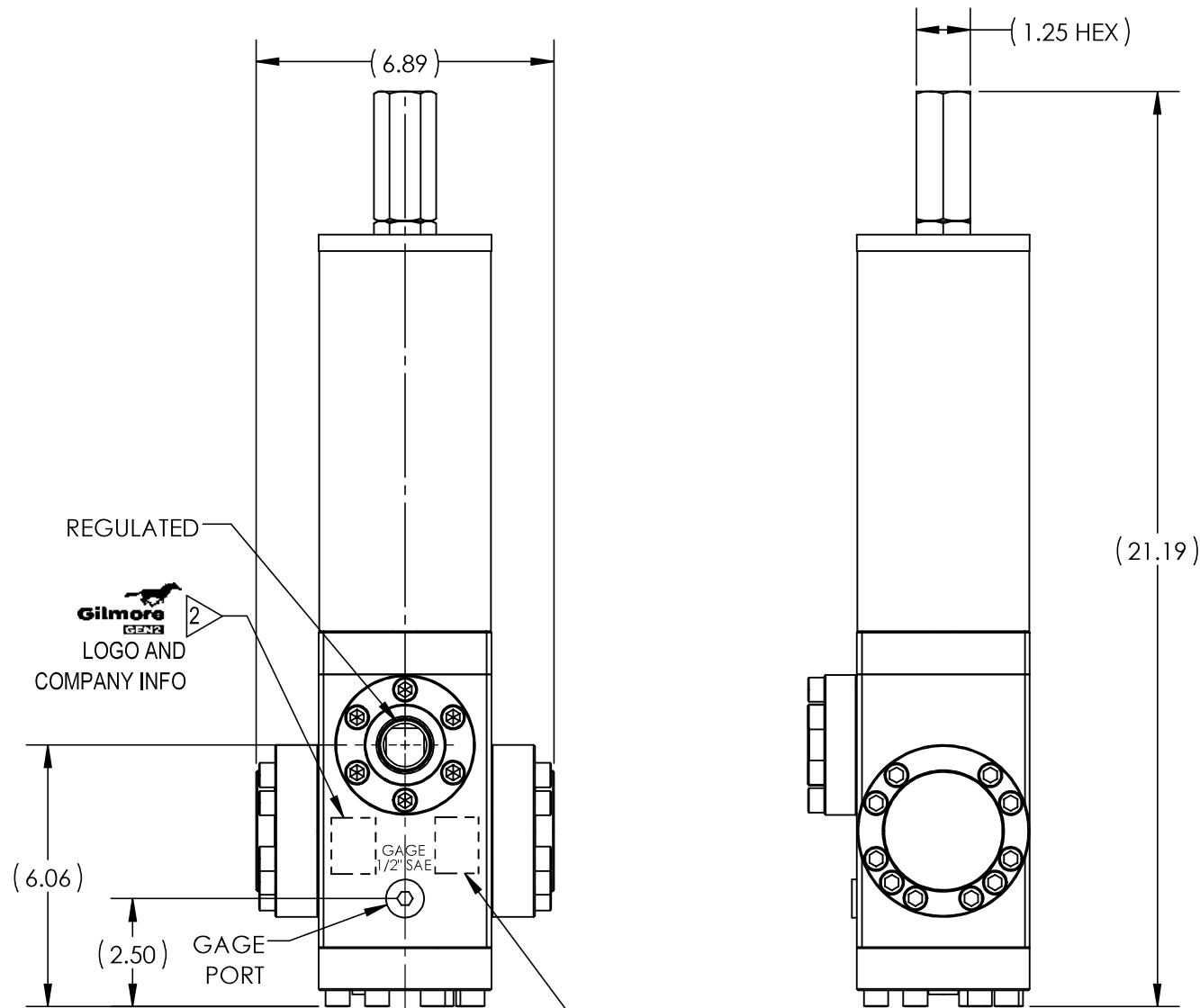
REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02423	JZ 7/21/20	<i>Cmj</i> 7-21-20	<i>AQP</i> 7/21/20



SCHEMATIC

B

B



REGULATED

**Gilmore**  
GEN 2  
LOGO AND  
COMPANY INFO

2

GAGE  
1/2" SAE

GAGE  
PORT

(4X 3/8-16 UNC  $\nabla$  .52)

AUX


VENT 1/2" NPTF

AUX 3/8" SAE

(.88)

SEE SHEET 3

29095  
VER (AX VERSION #)  
(SERIAL NUMBER)  
6,000 PSI  
PATENT PENDING  
(DATE OF MFG)  
  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

MATERIAL: SEE INDIV BOM ITEMS		<div>DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED: 1) TOLERANCES: .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5° 2) SURFACE TEXTURE: 63/<div>✓</div> 3) CORADIAL FEATURES SHALL BE <div>⊙</div> WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED. ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°</div>	APPROVAL		<div><div></div><div><b>Gilmore</b> <small>a pro company</small></div></div> ENGINEERING		
CONDITION:			DRAWN BY JZ	DATE 7/21/20	<div>VALVE, PRESSURE REGULATOR, GEN 2, MANUAL SPRING, 1" NPTF, SINGLE INLET, 1500 / 6000 PSI</div>		
			CHECKED BY Cmj	DATE 7-21-20			
			ENGINEER AQP	DATE 7/21/20			
TREATMENT:	<div><div>11</div></div>		ERN NUMBER 02423	DATE 6/29/20			
PROCEDURE NUMBER:	<div><div>5</div></div>	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF GILMORE VALVE CO UNLESS OTHERWISE STATED. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF GILMORE VALVE CO IS PROHIBITED.			<div><div>SIZE</div><div>B</div></div>	<div><div>DWG NO</div><div>29095</div></div>	<div><div>REV</div><div>A</div></div>
		SCALE 1:4		SolidWorks		SHEET 1 OF 5	

4

3

2

1

A



B

A

B

A

**OPERATING DATA:**

- 1. FOR TYPICAL FLOW CAPACITY REFER TO DRAWING 84006 FOR SINGLE INLET.
- 2. ADJUSTMENT SCREW TURNS NEEDED FOR 1,500 PSI SET POINT: 3 +/- 1 TURN OF SPRING COMPRESSION.  
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4)
- 3. ADJUSTMENT SCREW TORQUE FOR 1500 PSI SET POINT: 15 +/-5 FT-LB.
- 4. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 125 +/-25 PSI.
- 5. SET POINT ADJUSTED TO LESS THAN 500 PSI MAY RESULT IN NON-LINEAR DROP IN FLOW CAPACITY.
- 6. FOR MORE DETAILED OPERATIONS INFORMATION REFER TO SERVICE MANUAL 51030.

**PRESSURE DATA:**

MAXIMUM INLET PRESSURE RATING: 6,000 PSI

PRESSURE RANGE: 1500 - 500 PSI  
TYPICAL DEADBAND AT 5,000 PSI SUPPLY: 300 ±100PSI  
TYPICAL DEADBAND AT 3,000 PSI SUPPLY: 200 ±50 PSI  
MAXIMUM REGULATED AND VENT PRESSURE RATING: 1500 PSI

**FLOW DATA:**

FULLY OPEN Cv SUPPLY: 7 (CALC)  
FULLY OPEN Cv VENT: 1 (CALC)  
FULLY OPEN MAXIMUM REGULATED FLOW RATE: 100 GPM

FLUIDS: WATER BASED DRILLING CONTROL FLUID  
MINERAL OIL BASED DRILLING CONTROL FLUID

**PORTS:**

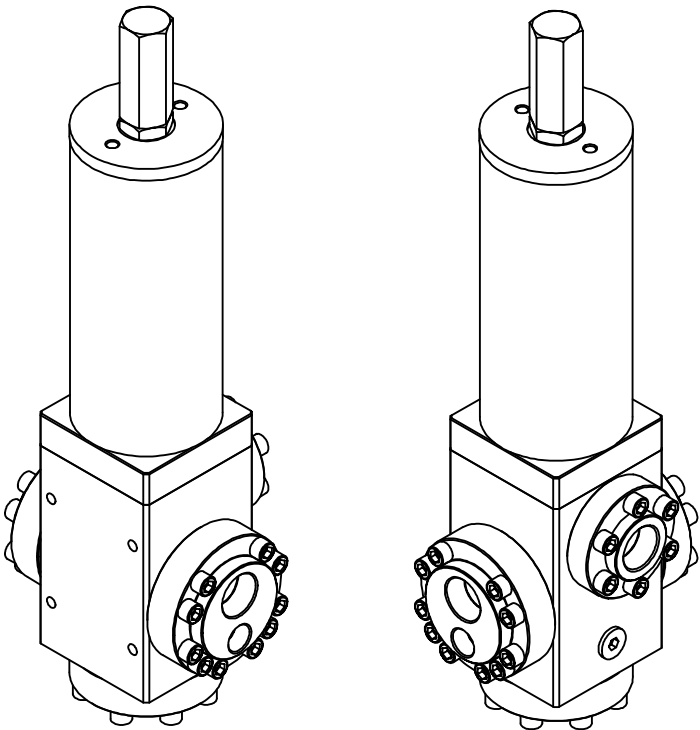
INLET: 1" NPTF  
REGULATED: 1" NPTF  
VENT: 1/2" NPTF  
GAGE: 1/2" SAE  
AUX: 3/8" SAE

**GENERAL DATA:**

TEMP RANGE: 32°F TO 150°F  
APPROX WEIGHT: 70 LBS

**NOTES:**

- 1 MARK "ASSEMBLY W.O." AT VALVE ASSEMBLY IN ACCORDANCE WITH MA-W-9-10, BY GILMORE.
- 2 MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3. REGULATED RANGE SPECIFIED ENSURES ADEQUATE AMOUNT OF SPRING PRELOAD IS PRESENT FOR RELIABLE AND REPEATABLE SET POINT ADJUSTMENT WITH SUPPLY PRESENT
- 4. X IN THE BOM INDICATES PARTS IN REPAIR KIT 29095 RK AND SEAL KIT 29095 SK.
- 5 ASSEMBLY PROCEDURE: 50309  
STANDARD FAT PROCEDURE: 50310  
EXTENDED FAT PROCEDURE: 50311  
SERVICE MANUAL: 51030
- 6 TORQUE TO 10 FT-LB
- 7 TORQUE TO 15 FT-LB
- 8 TORQUE TO 5 FT-LB
- 9 TORQUE TO 40 FT-LB
- 10 TORQUE TO 20 FT-LB
- 11 ALL MANUFACTURED ITEMS ARE PASSIVATED.



**ENGINEERING**

SIZE	DWG NO	REV
<b>B</b>	<b>29095</b>	<b>A</b>
SCALE	1:8	SHEET 2 OF 5
SolidWorks		

4				3				2				1						
B	11	BILL OF MATERIALS						11	BILL OF MATERIALS						B			
		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK		SK	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY		RK	SK	
		1	153287	BODY	A564 TP 630 (17-4 PH)	1				29	18224-003	SHCS, 3/8-16 UNC X 1-1/2 LG	A286 GR 660	28				
		2	153289	FLANGE, 1" NPTF INLET, 1/2" NPTF VENT	A276 TP 316	1				30	18224-002	SHCS, 3/8-16 UNC X 1.25 LG	A286 GR 660	14				
		3	153291	FLANGE, 1" NPTF	A276 TP 316	1				31	18224-045	SHCS, 5/16-18 UNC X 3/4" LG	A286 GR 660	4				
		4	153290	FLANGE, BOTTOM, 3/8" SAE	A276 TP 316	1				32	18100-103K1	O-RING	HNBR	1		X	X	
		5	153298	GUIDE, PLUNGER, 1-1/2"	A276 TP 316	1				33	18100-051K1	O-RING	HNBR	2		X	X	
		6	156614	ADAPTER, SPRING HOUSING	A276 TP S21800 (NITRONIC 60)	1				34	18100-026K1	O-RING	HNBR	4		X	X	
		7	154528	SPRING HOUSING	A276 TP 316	1				35	18100-113K1	O-RING	HNBR	2		X	X	
		8	196804	CAP, SPRING HOUSING	A276 UNS S21800 (NITRONIC 60)	1				36	18100-004K1	O-RING	HNBR	1		X	X	
		9	154595	NUT, O-LOCK	A276 TP 316	1				37	18100-009K1	O-RING	HNBR	4		X	X	
		10	154594	CAP, LOCK	A276 TP 316	1				38	195435	RING, BACKUP	PEEK	4		X	X	
		11	153293	INSERT, FLOW PORT, BLANK	TUNGSTEN CARBIDE / NICKEL	1	X			39	195436	RING, BACKUP	PEEK	4		X	X	
		12	153292	INSERT, FLOW PORT, SUPPLY & VENT	TUNGSTEN CARBIDE / NICKEL	1	X			40	195437	RING, BACKUP	PEEK	8		X	X	
		13	153294	CARRIER, SEAL	A276 TP S21800 (NITRONIC 60)	1				41	18100-082K1	O-RING	HNBR	3		X	X	
		14	153297	PLUNGER, 1-1/2"	A276 TP S21800 (NITRONIC 60)	1				42	161776	WEAR BAND, SEAL CARRIER	DELTRIN AF	1		X	X	
		15	154597	RING, SEAL, SUPPLY	TUNGSTEN CARBIDE / NICKEL	4	X			43	18108-522	T-SEAL, ROD	CARBOXYLATED NITRILE / NYLATRON	1		X	X	
		16	154599	RING, SEAL, VENT	TUNGSTEN CARBIDE 8-10% NICKEL	2	X			44	158317	RING, BACKUP	PEEK	2		X	X	
		17	18701-002	WAVE SPRING	AMS5699 (X-750)	1	X			45	197520	SPRING, COMPRESSION	AMS5670 (X-750)	1				
		18	154598	SPRING, COMPRESSION	AMS5699 (X-750)	2	X			46	18800-007	BALL	A276 TP 316	1				
		19	154596	SCREW, ADJUSTING	F593 GR2 (T316)	1											A	
		20	154526	PLATE, SPRING	A276 TP 316	2												
		22	18603-006	PLUG, HEX, 3/8" SAE	A240 TP 316	1												
		22	154797	PELLET, NYLOK	NYLON	1	X											
		23	18603-008	HOLLOW HEX PLUG, 1/2" SAE	A240 TP 316	1												
		24	154659	RING, BACKUP	PEEK	4	X		X									
		25	161775	WIPER, D-STYLE, 1.500 PLUNGER	POLYURETHANE	1	X		X									
		26	153288	FLANGE, BLANK	A276 TP 316	1												
		27	184195	WEAR BAND, PLUNGER, 1-1/2"	DELTRIN AF	1	X		X									
		28	154799	SHCS, THREAD-LOCKING, 1/4-20 UNC X 1/2" LONG	A593 T316 (& NYLON)	6	X											
4				3				2				1						

4

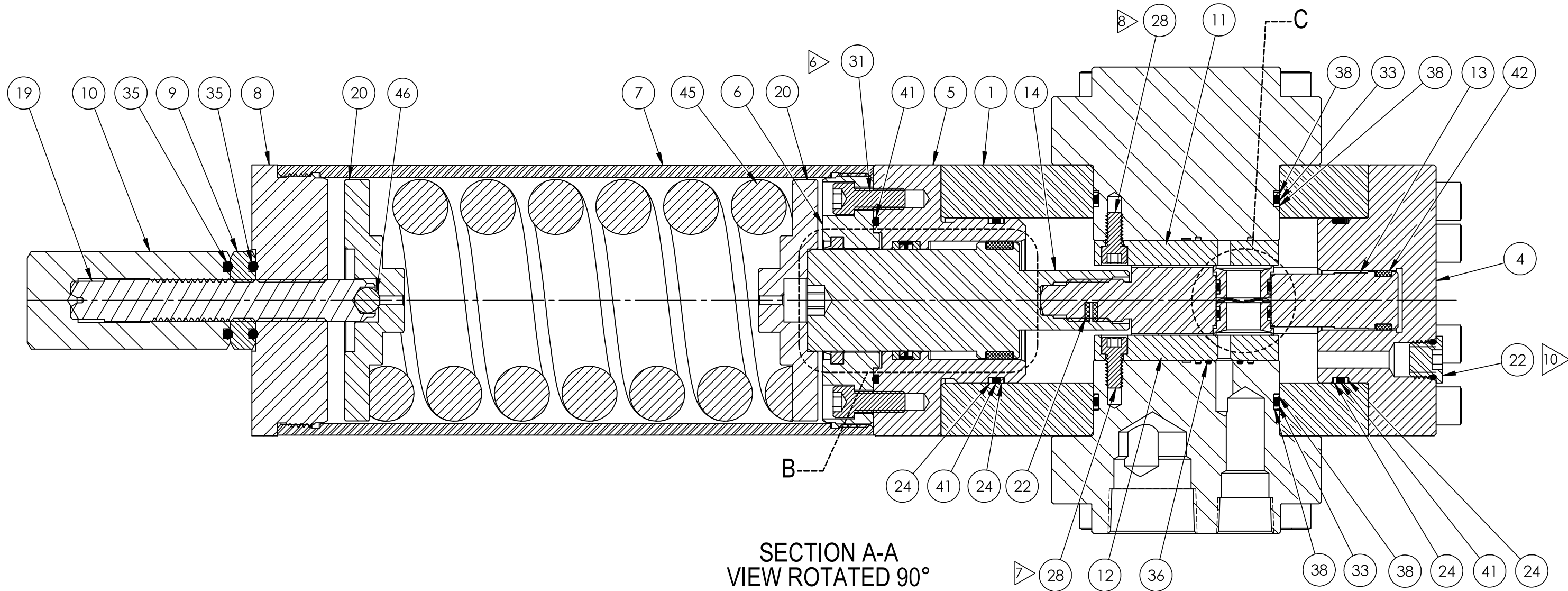
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2

1

B

B



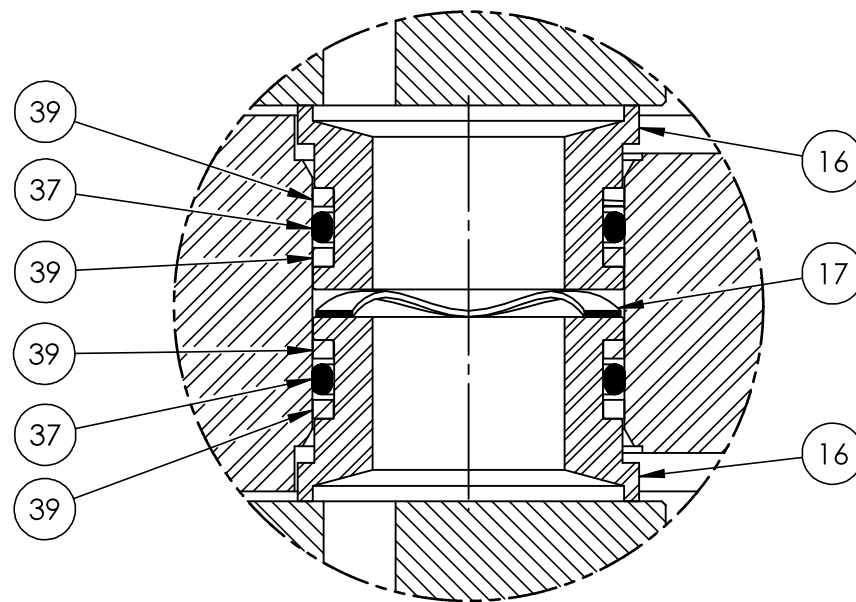
SECTION A-A  
VIEW ROTATED 90°

A

A



DETAIL B



DETAIL C



ENGINEERING

SIZE <b>B</b>	DWG NO <b>29095</b>	REV <b>A</b>
SCALE 1:4	SolidWorks	SHEET 4 OF 5

4

3

2

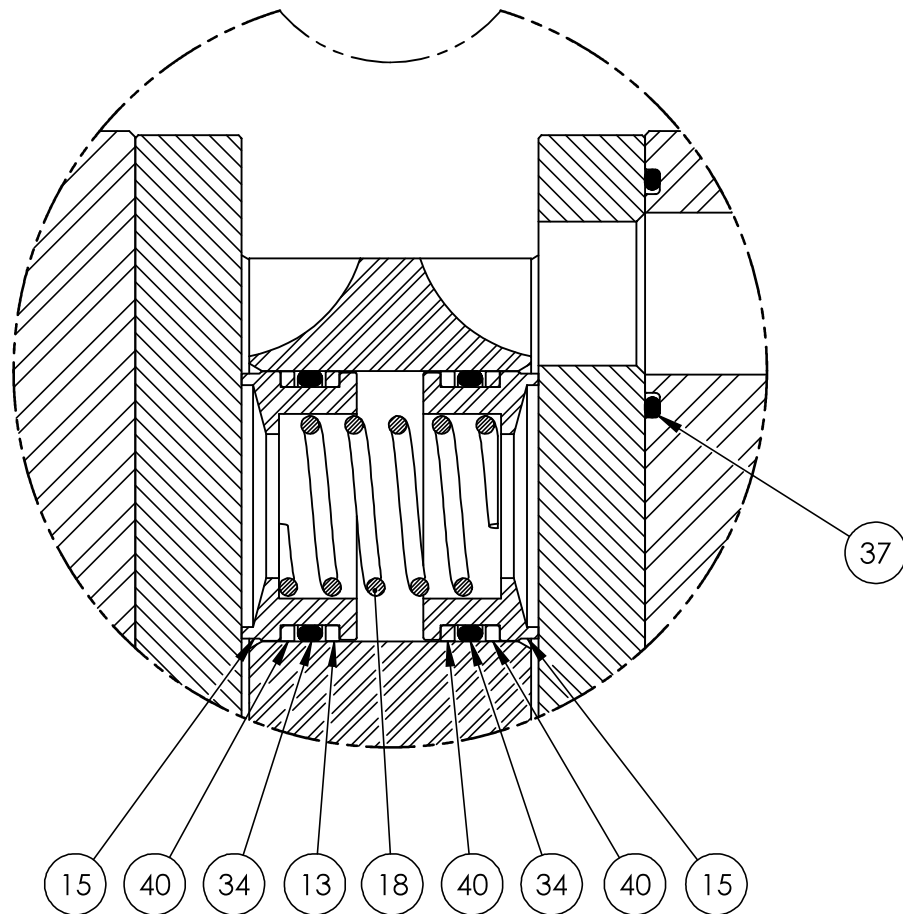
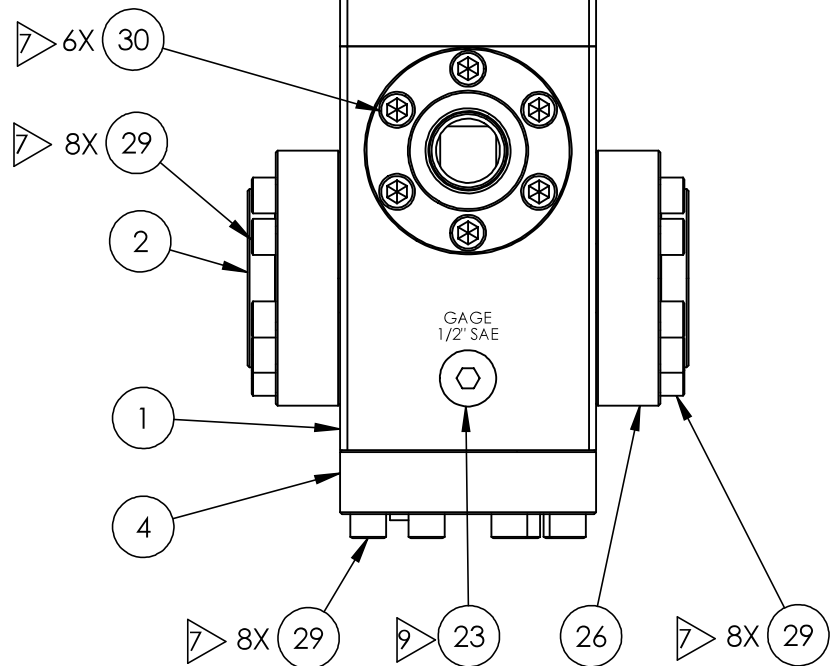
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B

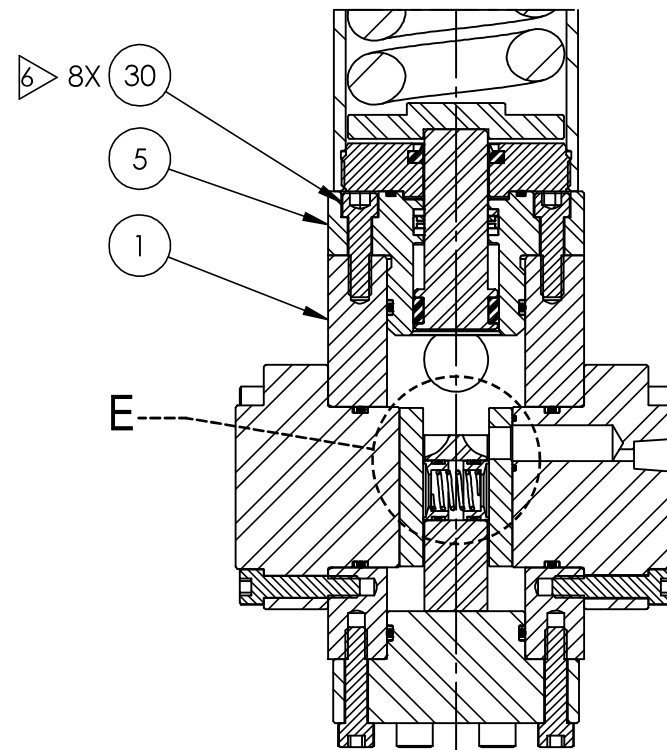
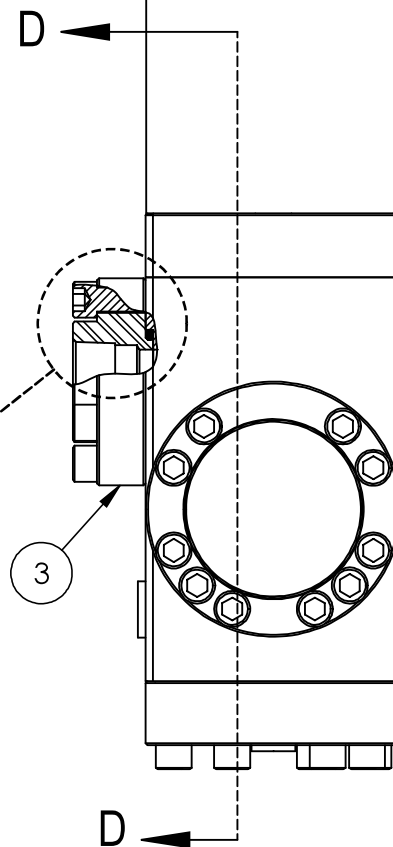
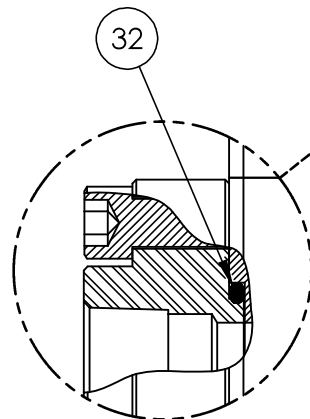
B

A

A



DETAIL E  
2 PLACES



SECTION D-D

 <b>Gilmore</b> <small>a pro company</small>			<b>ENGINEERING</b>	
SIZE <b>B</b>	DWG NO <b>29095</b>		REV <b>A</b>	
SCALE 1:3	SolidWorks		SHEET 5 OF 5	

4

3

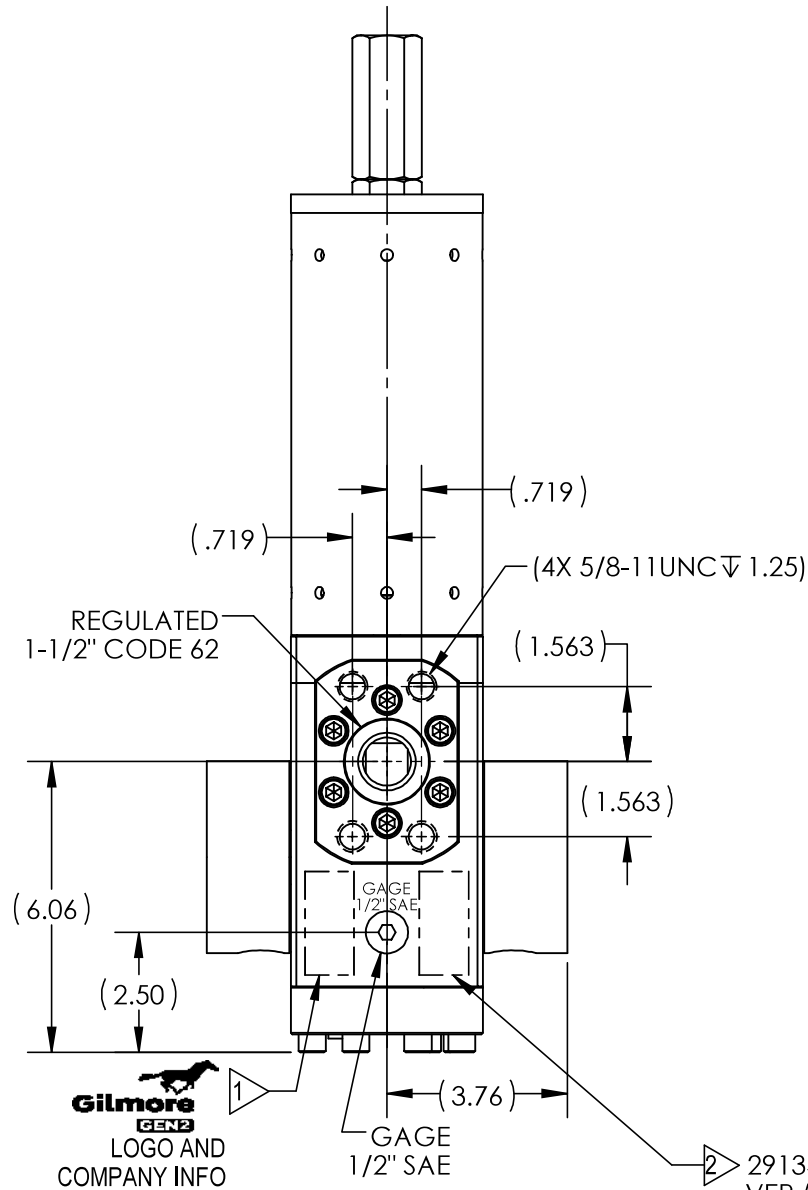
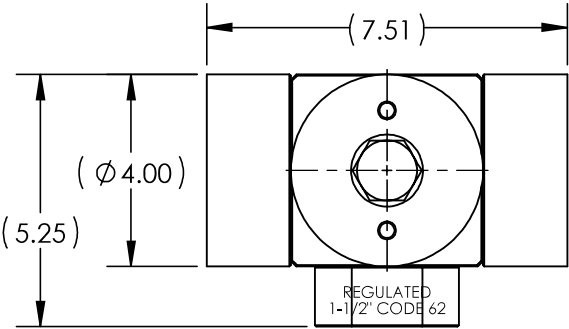
2

1

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02430	JZ 8/5/20	<i>DM</i> 8/5/20	<i>AJP</i> 8/5/20

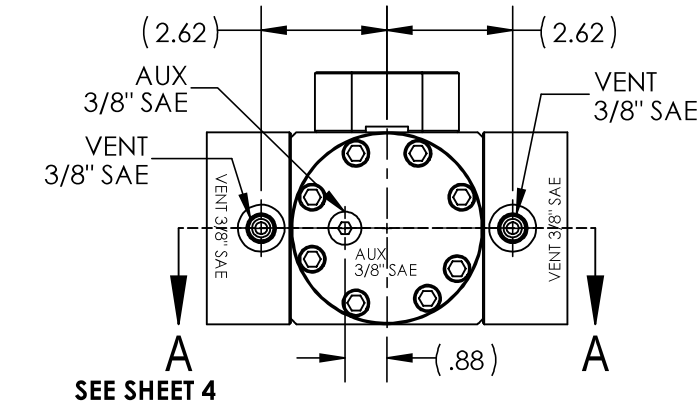
B

B



A

A

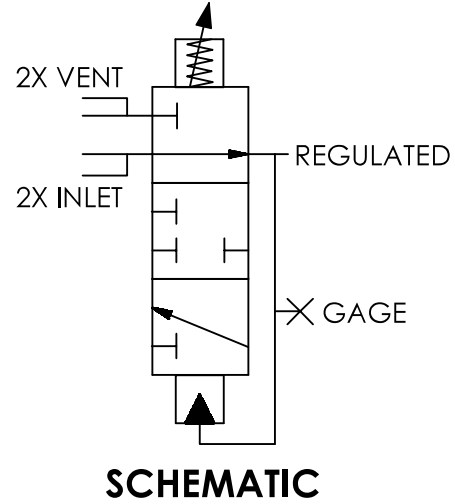
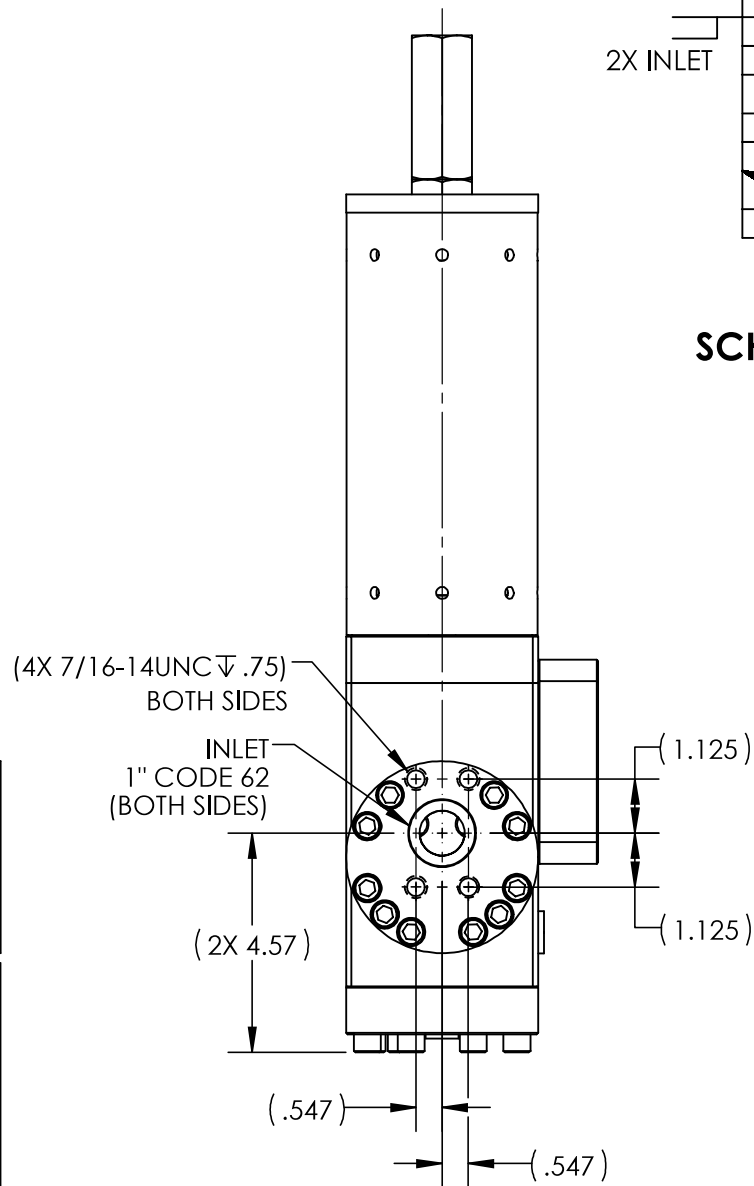
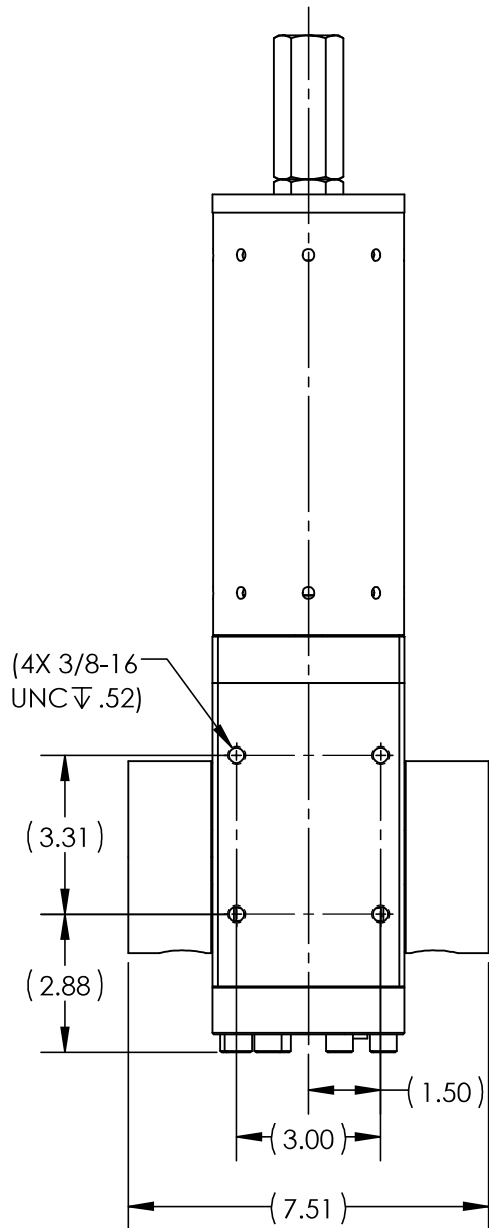
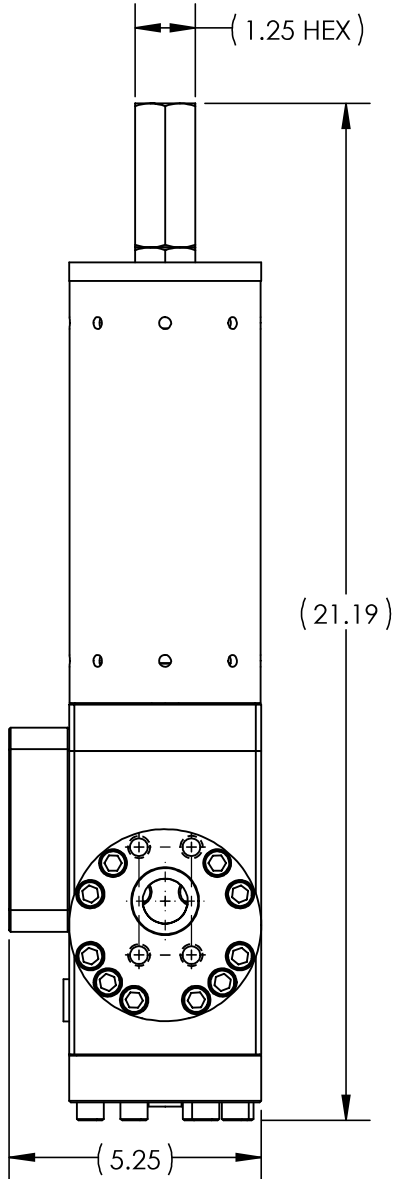


4

3

2

1



US PATENT 10,739,796

MATERIAL: SEE INDIV BOM ITEMS		DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED: 1) TOLERANCES: .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5° 2) SURFACE TEXTURE: 63 3) CORADIAL FEATURES SHALL BE WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED, ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		APPROVAL DRAWN BY JZ CHECKED BY <i>DM</i> ENGINEER <i>AJP</i> ERN NUMBER 02430 DATE 8/5/20 DATE 8/5/20 DATE 8/3/20		Gilmore ENGINEERING a pro company VALVE, PRESSURE REGULATOR, GEN 2, MANUAL SPRING, 1-1/2" C62, DOUBLE INLET, 4500/6000 PSI		
CONDITION:		TREATMENT: 11		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF GILMORE VALVE CO UNLESS OTHERWISE STATED. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF GILMORE VALVE CO IS PROHIBITED.		SIZE B	DWG NO	REV A
PROCEDURE NUMBER: 5						SCALE 1:4	SolidWorks	SHEET 1 OF 6

OPERATING DATA

- 1. FOR TYPICAL FLOW CAPACITY REFER TO DRAWING 84006 FOR DOUBLE INLET.
- 2. ADJUSTMENT SCREW TURNS NEEDED FOR 4,500 PSI SET POINT: 2 +/- 1 TURN OF SPRING COMPRESSION.  
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4.)
- 3. ADJUSTMENT SCREW TORQUE FOR 4,500 PSI SET POINT: 25 +/-5 FT-LB.
- 4. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 550 +/-50 PSI.
- 5. SET POINT ADJUSTED TO LESS THAN 2,000 PSI MAY RESULT IN NON-LINEAR DROP IN FLOW CAPACITY.
- 6. FOR MORE DETAILED OPERATION INFORMATION REFER TO SERVICE MANUAL 51030.

PRESSURE DATA

MAXIMUM INLET PRESSURE RATING: 6,000 PSI  
REGULATED RANGE: 4,500 - 2,000 PSI  
TYPICAL DEADBAND AT 5000 PSI SUPPLY: 400 ±100 PSI  
TYPICAL DEADBAND AT 3000 PSI SUPPLY: 200 ±50 PSI  
MAXIMUM REGULATED AND VENT PRESSURE RATING: 4500 PSI

FLOW DATA

FULLY OPEN Cv REGULATED: 14 (CALC)  
FULLY OPEN Cv VENT: 2 (CALC)  
FULLY OPEN MAX REGULATED FLOW RATE: 250 GPM  
FLUIDS: WATER BASED DRILLING CONTROL FLUID  
MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

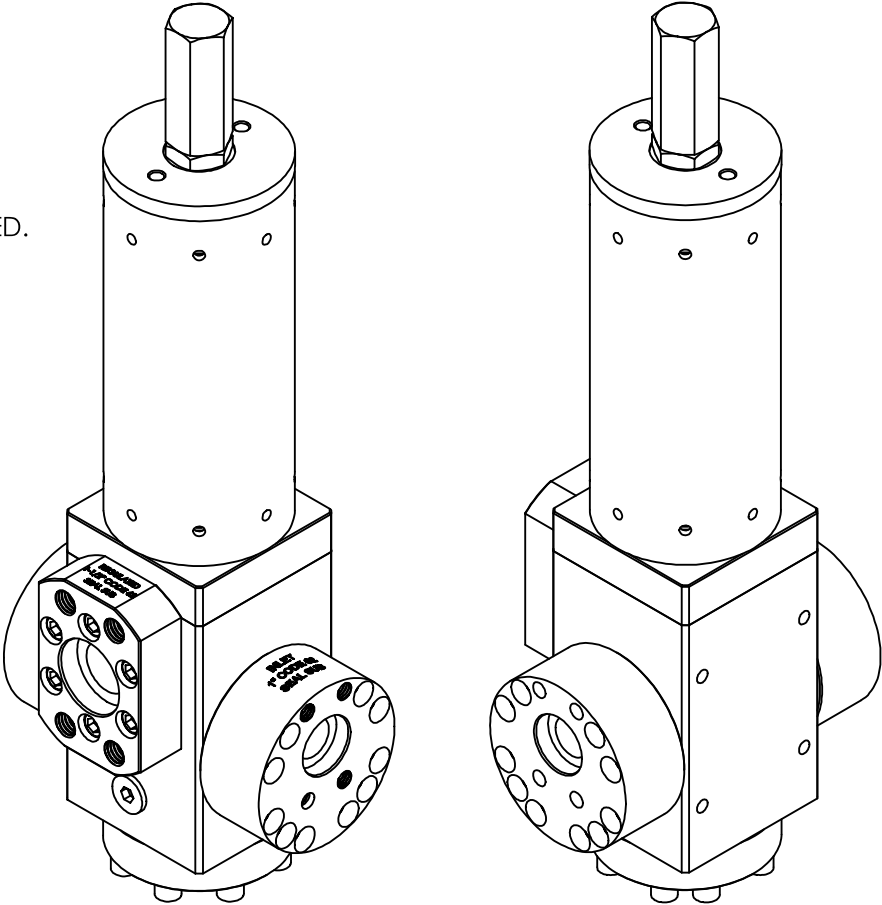
INLET 1: 1" CODE 62 SEAL SUB  
INLET 2: 1" CODE 62 SEAL SUB  
REGULATED: 1-1/2" CODE 62 SEAL SUB  
VENT 1: 3/8" SAE  
VENT 2: 3/8" SAE  
GAGE: 1/2" SAE  
AUX: 3/8" SAE

GENERAL DATA:

TEMP RANGE: 32°F TO 150°F  
APPROX WEIGHT: 73 LBS

NOTES:

- 1 MARK "ASSEMBLY W.O." AT VALVE ASSEMBLY IN ACCORDANCE WITH MA-W-9-10, BY GILMORE.
- 2 MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3. REGULATED RANGE SPECIFIED ENSURES ADEQUATE AMOUNT OF SPRING PRELOAD IS PRESENT FOR RELIABLE AND REPEATABLE SET POINT ADJUSTMENT.
- 4. X IN THE BOM INDICATES PARTS IN REPAIR KIT 29134 RK AND SEAL KIT 29134 SK.
- 5 ASSEMBLY PROCEDURE: 50309  
STANDARD FAT PROCEDURE: 50310  
EXTENDED FAT PROCEDURE: 50311  
SERVICE MANUAL: 51030
- 6 TORQUE TO 10 FT-LB
- 7 TORQUE TO 20 FT-LB
- 8 TORQUE TO 5 FT-LB
- 9 TORQUE TO 40 FT-LB
- 10 TORQUE TO 20 FT-LB
- 11 ALL MANUFACTURED ITEMS ARE PASSIVATED.



ENGINEERING

SIZE DWG NO

B

29134

REV

A

SCALE 1:4

SolidWorks

SHEET 2 OF 6

4				3				2				1				
B	11	BILL OF MATERIALS						11	BILL OF MATERIALS							
		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK		SK	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
		1	153287	BODY	A564 TP 630 (17-4 PH)	1				29	18100-051K1	O-RING	HNBR	2	X	X
	2	153290	FLANGE BOTTOM	A276 TP 316	1			30	18100-026K1	O-RING	HNBR	4	X	X		
	3	192383	GUIDE, PLUNGER, 1-1/4"	A276 TP 316	1			31	18100-113K1	O-RING	HNBR	2	X	X		
	4	192384	ADAPTER, SPRING HOUSING	A276 TP S21800 (NITRONIC 60)	1			32	18100-009K1	O-RING	HNBR	8	X	X		
	5	177586	HOUSING, SPRING	A276 TP 316	1			33	195435	RING, BACKUP	PEEK	4	X	X		
	6	196804	CAP, SPRING HOUSING	A276 UNS S21800 (NITRONIC 60)	1			34	195436	RING, BACKUP	PEEK	4	X	X		
	7	154595	NUT, O-LOCK	A276 TP 316	1			35	195437	RING, BACKUP	PEEK	8	X	X		
	8	154594	CAP, LOCK	A276 TP 316	1			36	18100-082K1	O-RING	HNBR	3	X	X		
	9	153292	INSERT, FLOW PORT, SUPPLY & VENT	TUNGSTEN CARBIDE / NICKEL	2	X		37	161776	WEAR BAND, SEAL CARRIER	DELTRIN AF	1	X	X		
	1	10	153294	CARRIER, SEAL	A276 TP S21800 (NITRONIC 60)	1			38	18108-518	T-SEAL, ROD	BUNA-N / NYLATRON	1	X	X	
	1	11	192382	PLUNGER, 1-1/4"	A276 TP S21800 (NITRONIC 60)	1			39	193354	WEAR BAND	DELTRIN AF	2	X	X	
	12	154597	RING, SEAL, SUPPLY	TUNGSTEN CARBIDE / NICKEL	4	X		40	12968	SPRING, COMPRESSION	A313 TP 316	1				
	13	154599	RING, SEAL, VENT	TUNGSTEN CARBIDE / NICKEL	2	X		41	171360	FLANGE, 1-1/2" C62	A276 TP 316	1				
	14	18701-002	WAVE SPRING	AMS5699 (X-750)	1	X		42	199713	FLANGE, INLET, 1" C62	A276 TP 316	2				
	15	154598	SPRING, COMPRESSION	AMS5699 (X-750)	2	X		43	13125	SPING, COMPRESSION	INCONEL X750	1				
	16	154596	SCREW, ADJUSTING	F593 GR2 (T316)	1			44	18800-007	BALL	A276 TP 316	1				
	17	193757	PLATE, SPRING	A276 TP 316	2			<div><div><div><div><div></div><div>ENGINEERING</div></div><div><div>SIZE</div><div>DWG NO</div><div>29134</div><div>REV</div><div>A</div></div></div><div><div>SCALE</div><div>1:8</div><div>SolidWorks</div><div>SHEET 3 OF 6</div></div></div></div>								
	18	18603-006	PLUG, HEX, 3/8" SAE	A240 TP 316	1	X										
	19	154797	PELLET, NYLOK	NYLON	1	X	X									
	20	18603-008	HOLLOW HEX PLUG, 1/2" SAE	A240 TP 316	1											
	21	154659	RING, BACKUP	PEEK	4	X	X									
	22	192385	WIPER, D-STYLE, 1-1/4" OD PLUNGER	POLYURETHANE	1	X	X									
	23	192473	WEAR BAND, PLUNGER, 1-1/4"	DELTRIN AF	1	X	X									
	24	154799	SHCS, THREAD-LOCKING, 1/4-20 UNC X 1/2" LONG	F593 GR2 & NYLON	6	X	X									
	25	18224-003	SHCS, 3/8-16 UNC X 1-1/2 LG	A286 GR 660	36											
	26	18224-002	SHCS, 3/8-16 UNC X 1.25 LG	A286 GR 660	6											
	27	18224-045	SHCS, 5/16-18 UNC X 3/4" LG	A286 GR 660	4											
	28	18100-103K1	O-RING	HNBR	1	X	X									
4				3				2				1				

4

3

2

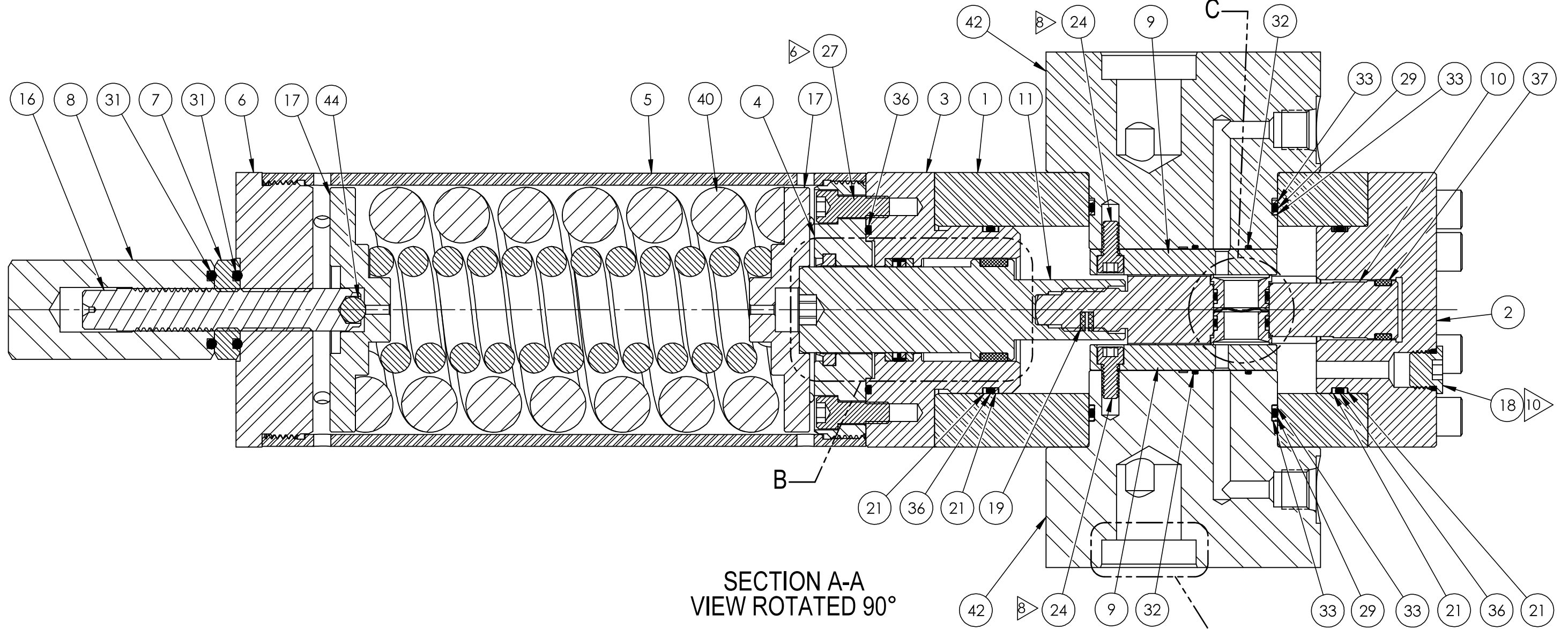
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B

B

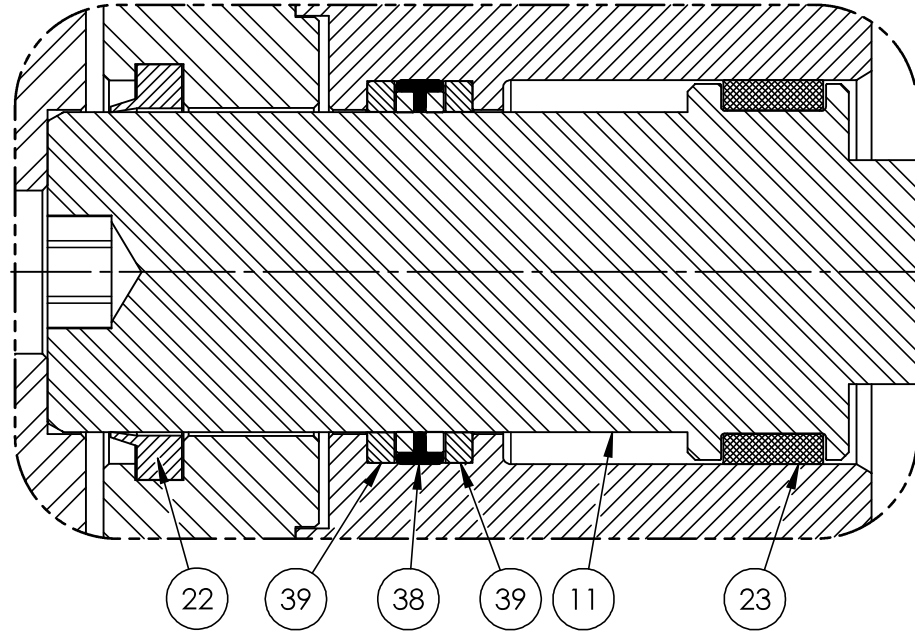
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A

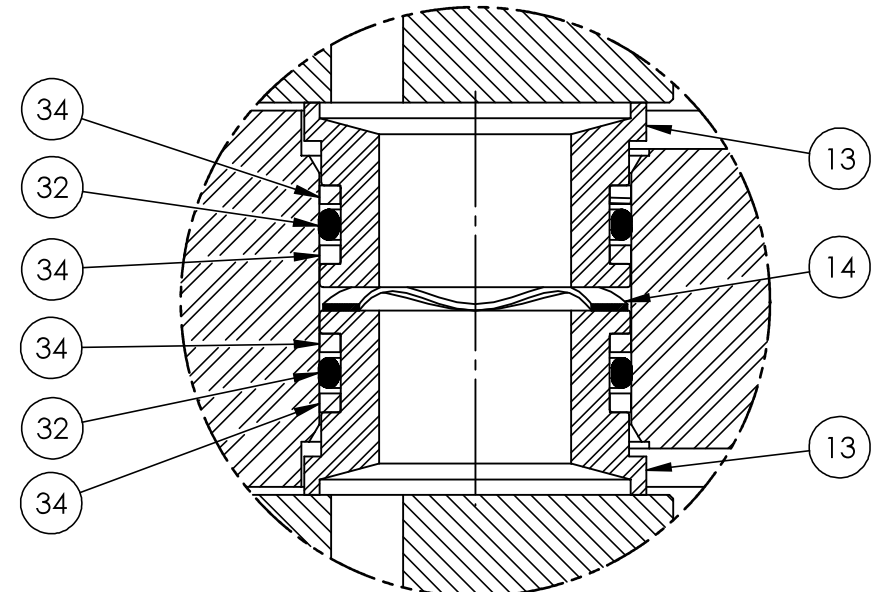


SECTION A-A  
VIEW ROTATED 90°


SEAL SUB POCKET  
DETAIL  
SEE SHEET 5



DETAIL B



DETAIL C

 <b>Gilmore</b> ENGINEERING <small>a pro company</small>			
SIZE <b>B</b>	DWG NO <b>29134</b>	REV <b>A</b>	
SCALE 1:4	SolidWorks	SHEET 4 OF 6	



4

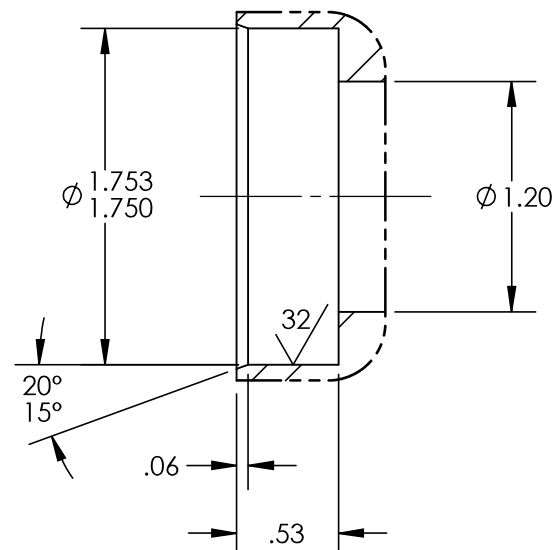
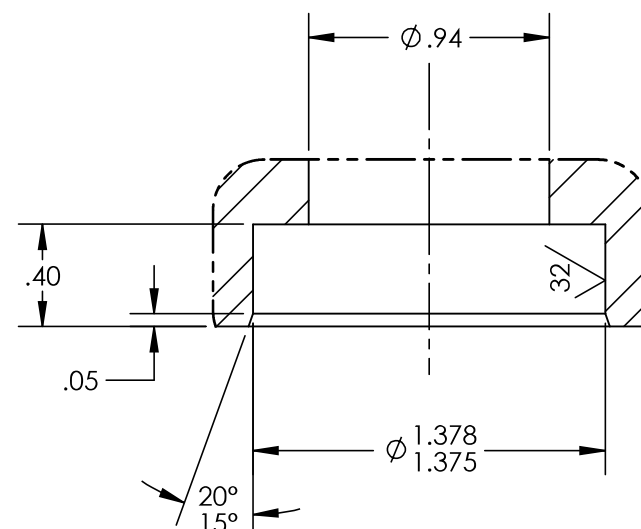
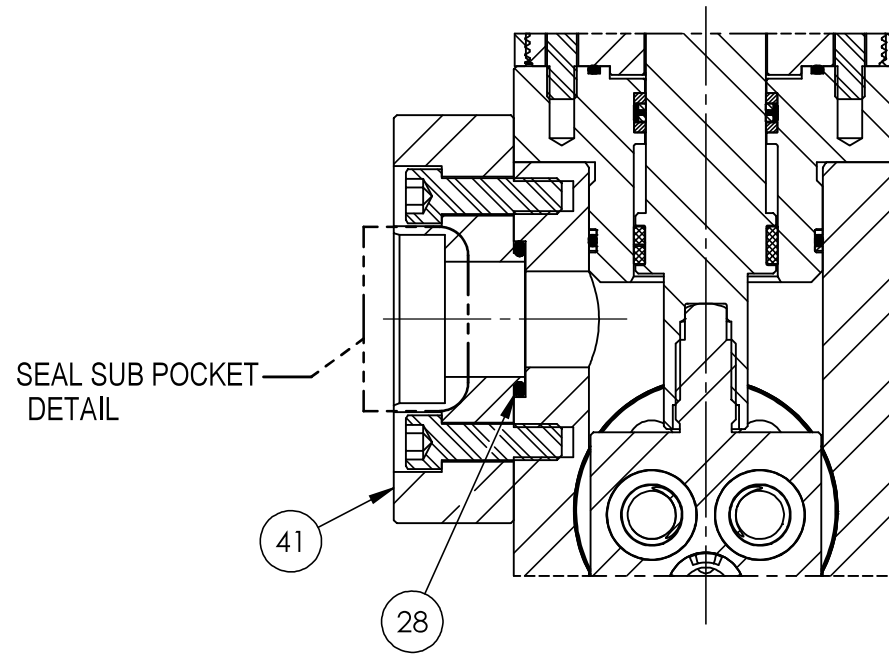
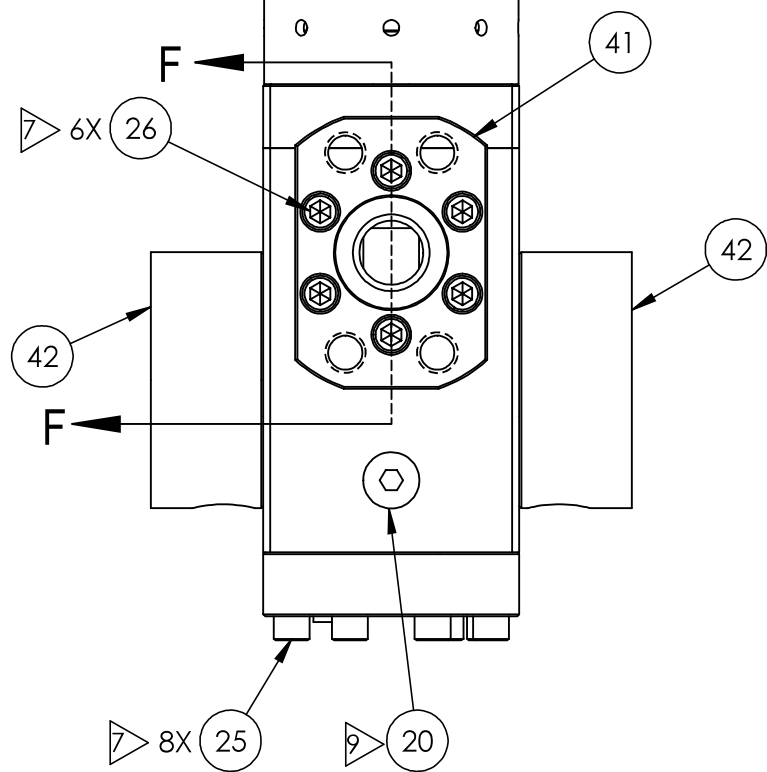
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2

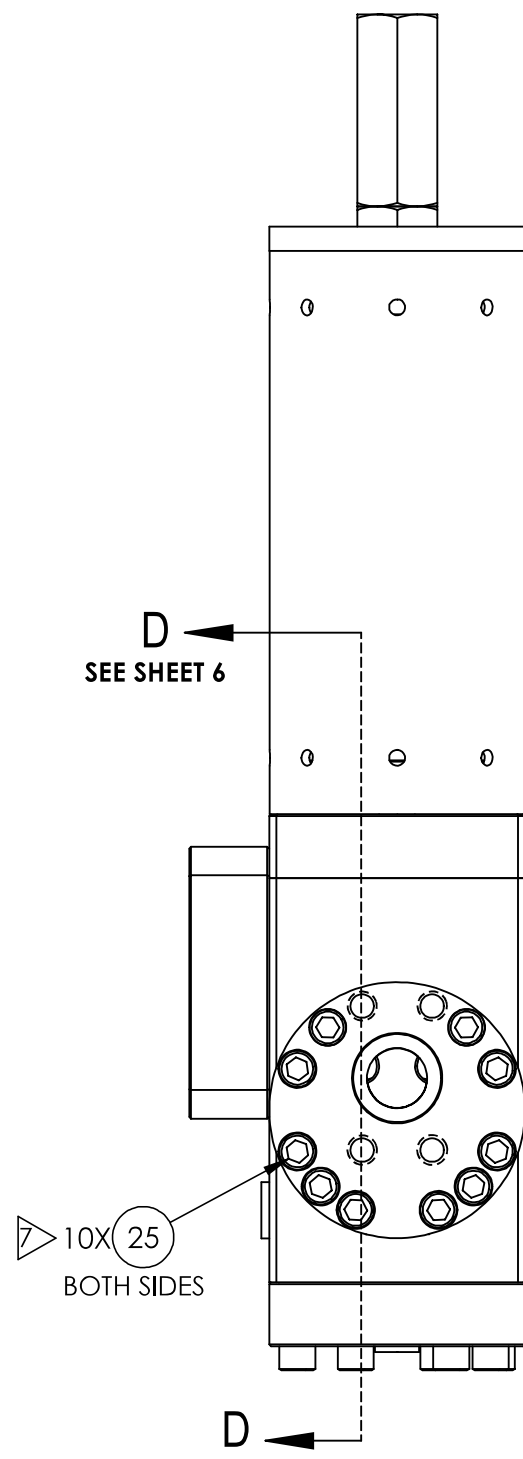
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B

B

SEAL SUB POCKET DETAIL  
(REFER TO SECTION F-F)SEAL SUB POCKET DETAIL  
(REFER TO SECTION A-A)

SECTION F-F



A

A



ENGINEERING

SIZE <b>B</b>	DWG NO <b>29134</b>	REV <b>A</b>
SCALE 1:3	SolidWorks	SHEET 5 OF 6

4

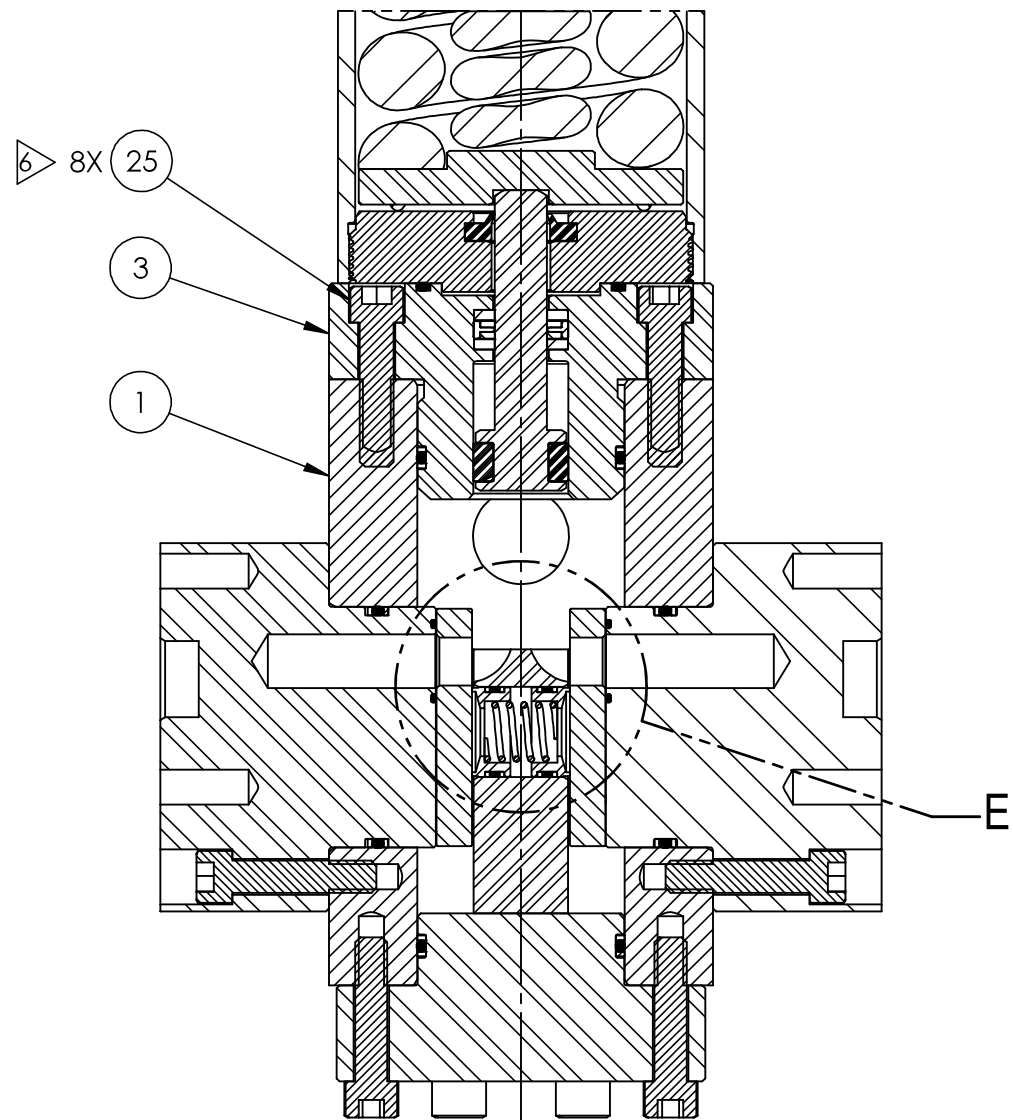
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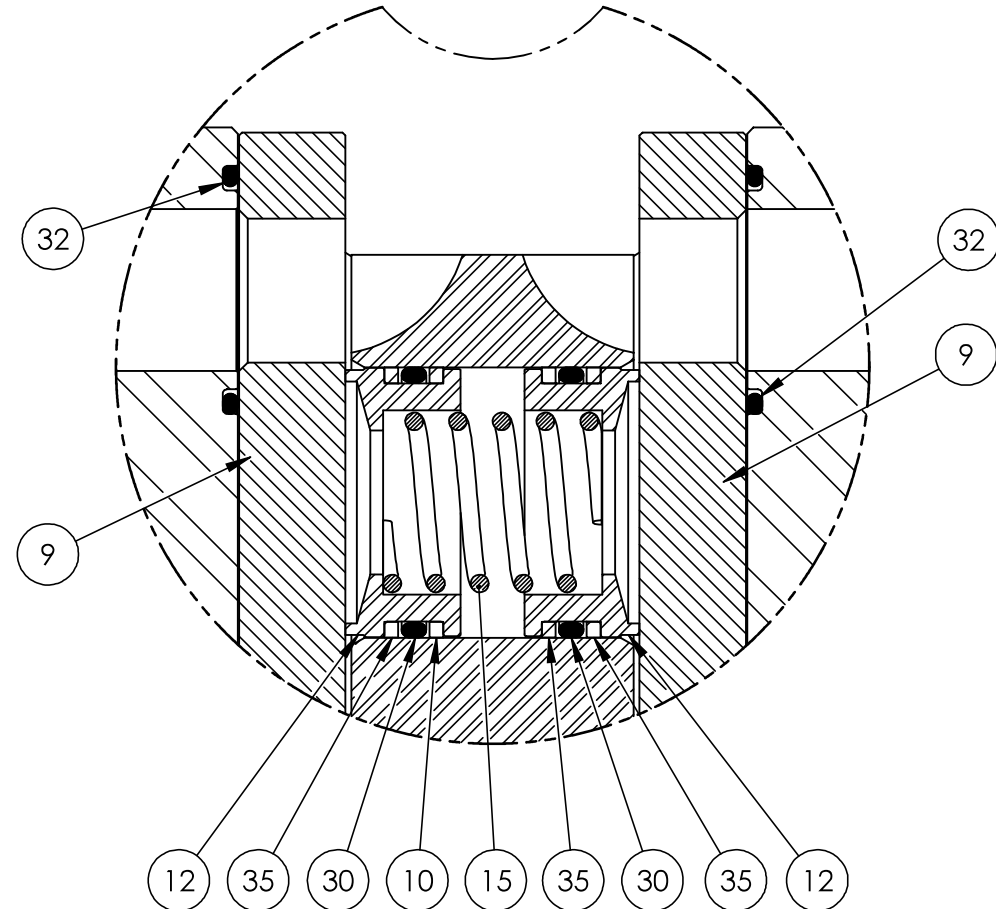
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B

B



SECTION D-D



DETAIL E  
2 PLACES

A

A

4

3

2

1

 <b>ENGINEERING</b>			
SIZE <b>B</b>	DWG NO <b>29134</b>		REV <b>A</b>
SCALE 1:3	SolidWorks		SHEET 6 OF 6