

Product Information Bulletin (PIB)

1/2" GEN2 Pressure Regulator, 10 ksi

REV	DATE	DESCRIPTION	ORIGIN (issued by)	APPROVED
Rev 001	05/25/22	Document No: 135-052522-001	AP	BR

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For more information:

Call (800) 469-8786
info@gilmore.com

Gilmore
1231 Lumpkin Road
Houston, TX 77043

1/2" GEN2 Pressure Regulator, 10 ksi

Gilmore announces the new 1/2" GEN2 10 ksi Pressure Regulator, with Manual Spring and Hydraulic Pilot options.

With Tungsten Carbide shear seal trim and internal damping, this new 10,000 psi supply regulator product line provides the utmost reliability for critical pressure regulating applications.

Features and Benefits:

- Qualification exceeds API 16D requirements –
 - 7,500 endurance cycles
 - Hyperbaric Chamber Testing to 15,000 ft water depth
- Proprietary guided hydraulic dampening technology
- Low deadband performance
- Tungsten Carbide seal trim
- Inconel X-750 Compression Springs
- Dynamic Plunger T-Seal
- 17-4 H1150D & T316 Body & Flanges
- Nitronic 60 Seal Container & Plunger Guide



Figure 1 PN 29197: 1/2" GEN2 Pressure Regulator, 10 ksi, Manual Spring, 9/16" MP ports, 8000 – 4000 psi range

1/2" GEN2 Pressure Regulator, 10 ksi

Figure 2 PN 29193: 1/2" GEN2 Pressure Regulator, 10 ksi, Hyd Pilot, 9/16" MP ports, 8000 – 1000 psi range

1/2" GEN2 Pressure Regulator, 10 ksi

Gilmore has exceeded API 16D requirements by qualifying the new Gilmore 1/2" GEN2 Pressure Regulator 10 ksi designs to 7,500 cycles, at a starting flow rate of 20 gpm, at 10 ksi inlet pressure, with 1% - 4% water glycol test fluid. Hyperbaric testing at an equivalent depth of 15,000 feet has been completed.

The new Gilmore 1/2" GEN2 10 ksi Pressure Regulators are now available for purchase. A few examples of typical assembly configurations are listed below for reference. Gilmore will create other customized 1/2" GEN2 10 ksi Pressure Regulator configurations that are required.

Please contact Gilmore Customer Service to request a quotation for the 1/2" GEN2 10 ksi Pressure Regulator listed below, or other custom configurations as required.

Table 1. New 1/2" GEN2 10ksi Pressure Regulators:

Item	New Valve Description	New Valve PN	New Repair Kit PN	New Seal Kit PN
1	Valve, Pressure Regulator, GEN2, 10 ksi, Manual Spring, 6000-3000 psi range, 9/16" MP Ports	29192	29192 RK	29192 SK
2	Valve, Pressure Regulator, GEN2, 10 ksi, Hyd Pilot, 8000-1000 psi range, 9/16" MP Ports	29193	29193 RK	29193 SK
3	Valve, Pressure Regulator, GEN2, 10 ksi, Manual Spring, 8000-4000 psi range, 9/16" MP Ports	29197	29197 RK	29197 SK

Please contact Gilmore Customer Service to request any drawings and quotations for these new GEN2 Regulators at Info@gilmore.com.

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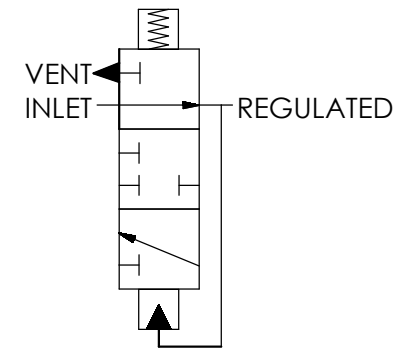
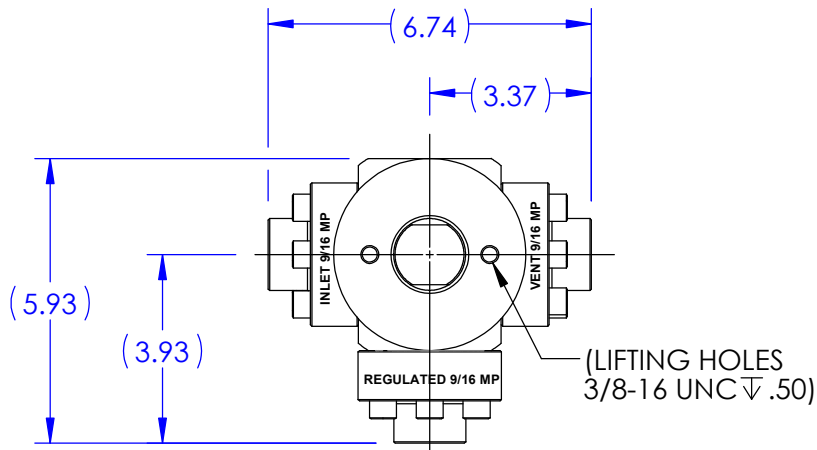
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REVISIONS						
REV	ERN /ECO NUMBER	DRAWN	DRAFT CHECK	ENGR. REVIEW	ENGR. APPROVED	MFG. APPROVED
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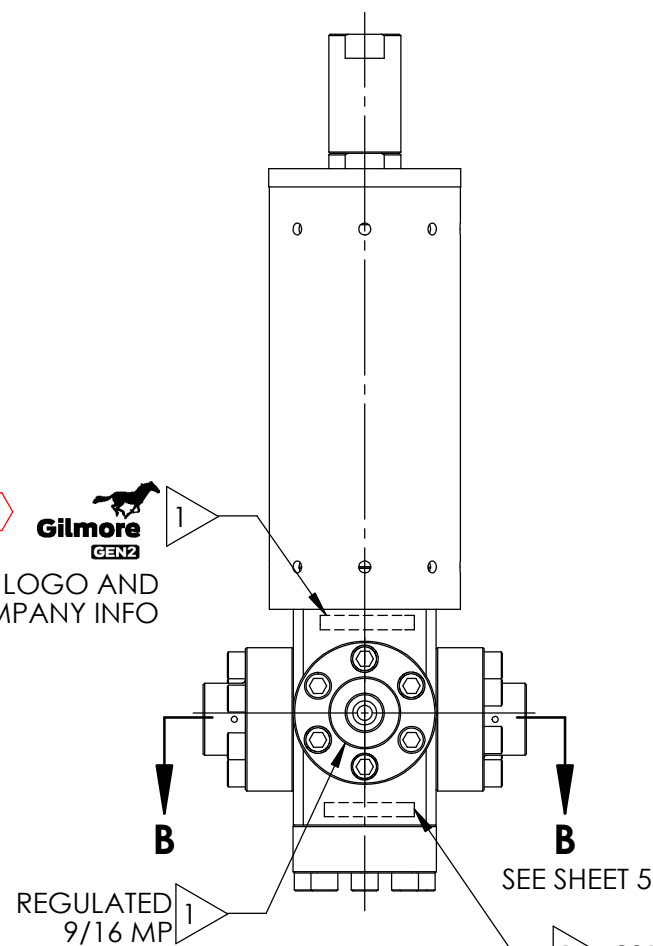


SCHEMATIC

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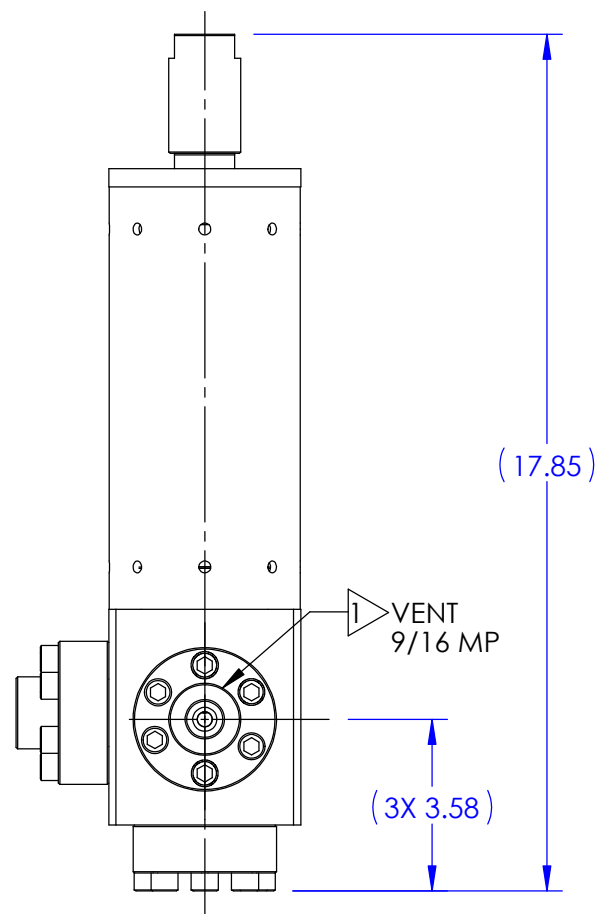
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B Gilmore
GEN2
LOGO AND
COMPANY INFO

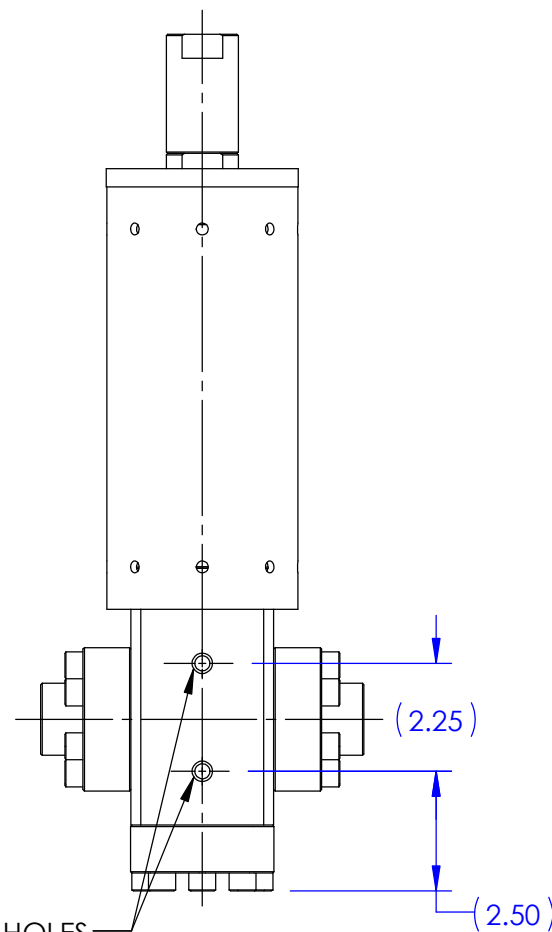


29192
VER (AX VERSION #)
(SERIAL NUMBER)
10,000 PSI
US PATENT 10,739,796
(DATE OF MFG)

SEE SHOP TRAVELER
FOR ADDITIONAL
INFO REQUIRED



(MOUNTING HOLES
3/8-16UNC .50)



US PATENT 10,739,796

MATERIAL: SEE BOM	APPROVAL	
	DRAWN BY	DATE
CONDITION:	JZ	11/11/2021
	CY	11/11/2021
TREATMENT:	AP	11/11/2021
	MS	11/22/2021
PROCEDURE NUMBER:	ENGR. APPROVE BY	DATE
	MFG. APPROVE BY	DATE
	ERN NUMBER	DATE
	02529	10/11/2021

Gilmore ENGINEERING

**PRESSURE REGULATOR,
1/2" GEN 2, MANUAL SPRING,
6KSI / 10KSI, 9/16 MP**

SIZE	DWG NO	REV
B	29192	B
SCALE 1:4	SolidWorks	SHEET 1 OF 5

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OPERATING DATA:

1. ADJUSTMENT SCREW TURNS NEEDED FOR 3,000 PSI SET POINT: 2±1/2 TURN
FOR SPRING COMPRESSION.
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4)
2. ADJUSTMENT SCREW TORQUE FOR 6,000 PSI SET POINT: 50±10 FT-LB.
3. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 750±100 PSI.
4. SET POINT ADJUSTED TO LESS THAN 3,000 PSI MAY RESULT IN NON-LINEAR
DROP IN FLOW CAPACITY.
5. FOR MORE DETAILED OPERATIONS INFORMATION REFER TO SERVICE MANUAL TBA.

PRESSURE DATA:

MAXIMUM INLET PRESSURE RATING: 10,000 PSI

REGULATED RANGE:3,000 - 6,000 PSI

TYPICAL DEADBAND AT 10,000 PSI SUPPLY:600±100 PSI

TYPICAL DEADBAND AT 7,500 PSI SUPPLY:450±100 PSI

MAXIMUM REGULATED AND VENT PRESSURE RATING: 6,000 PSI

FLOW DATA:

FULLY OPEN Cv REGULATED:0.5 (CALC)

FULLY OPEN Cv VENT:0.2 (CALC)

FULLY OPEN MAXIMUM REGULATED FLOW RATE: 25 GPM

FLUIDS: WATER BASED DRILLING CONTROL FLUID

MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

INLET:9/16" MP

REGULATED:9/16" MP

VENT:9/16" MP

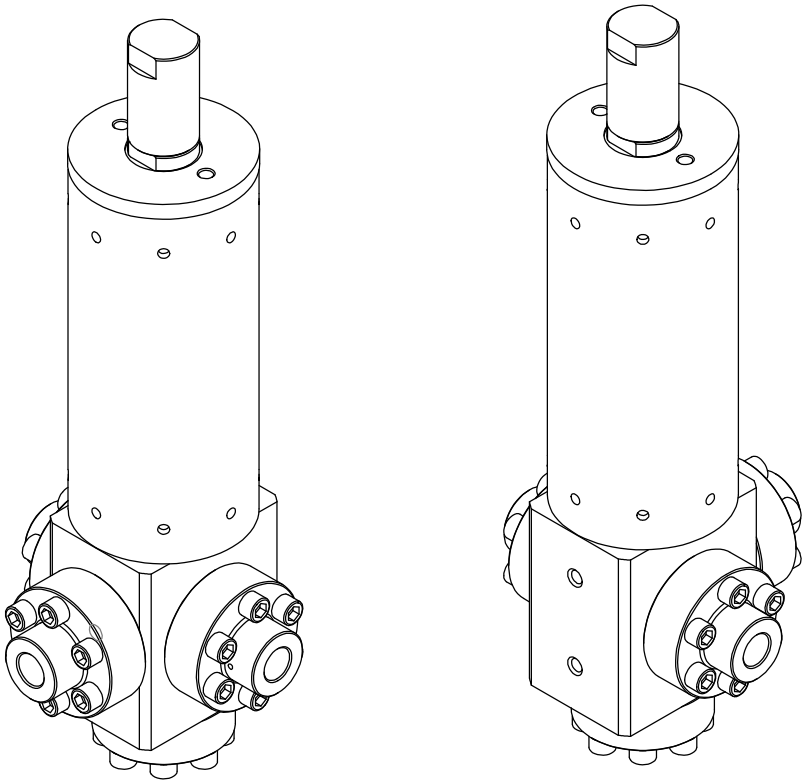
GENERAL DATA:

TEMP RANGE: 32 °F TO 150 °F

APPROX WEIGHT: 47 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 29192 RK AND
SEAL KIT 29192 SK.
- 5 ASSEMBLY PROCEDURE: 50368
STANDARD FAT PROCEDURE: 50369
EXTENDED FAT PROCEDURE: 50370
SERVICE MANUAL: 51039
- 6 TORQUE TO 20 FT-LB
- 7 TORQUE TO 5 FT-LB
- 8 ALL MANUFACTURED ITEMS ARE PASSIVATED.



ENGINEERING

SIZE

B

DWG NO

29192

REV


B

SCALE

1:8

SolidWorks

SHEET 2 OF 5

4				3				2				1				
B	BILL OF MATERIALS							B	BILL OF MATERIALS							A
	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK	
	1	201865	BODY	A564 TP 630 (H1150D)	1				24	18110-029P	BACKUP RING	PEEK	4	X	X	
	2	201869	SEAL CONTAINER	A276 UNS S21800 (NITRONIC 60)	1				25	18108-005	T-SEAL	CARBOXYLATED NITRILE/ NYLATRON	1	X	X	
	3	18100-004K1	O-RING	HNBR	2	X	X		26	204976	BACKUP RING, .625 O.D.	PEEK	2	X	X	
	4	18100-052K1	O-RING	HNBR	2	X	X		27	205004	BACKUP RING, 1.500 O.D.	PEEK	4	X	X	
	5	18100-008K1	O-RING	HNBR	2	X	X		28	202124	BACKUP RING, .473 O.D.	PEEK	4	X	X	
	6	18100-055K1	O-RING	HNBR	2	X	X		29	11600	SPRING, COMPRESSION	INCONEL X-750	2	X		
	7	18100-074K1	O-RING	HNBR	1	X	X		30	204973	BACKUP RING, 1.490 O.D.	PEEK	2	X	X	
	8	18108-518	T-SEAL, ROD	CARBOXYLATED NITRILE/ NYLATRON	1	X	X		31	204403	FLANGE, REGULATED, 9/16MP	A276 TP 316 (316 SS)	1			
	9	18100-113K1	O-RING	HNBR	2	X	X		32	205008	FLOW PLATE	TUNGSTEN CARBIDE/ NICKEL	2	X		
	10	205038	HYDRO SEAL, VENT	TUNGSTEN CARBIDE/ NICKEL	2	X			33	18224-001	SHCS, 3/8 - 16 UNC-2A X 1.00 LG	A453 GR660	8			
	11	205018	HYDRO SEAL, SUPPLY	TUNGSTEN CARBIDE/ NICKEL	2	X			34	154799	SHCS, THREAD-LOCKING	A593 T316 / NYLON	4	X	X	
	12	202123	BACKUP RING, .375 O.D.	PEEK	4	X	X		35	192385	WIPER, D-STYLE	POLYURETHANE	1	X	X	
	13	201867	PLUNGER GUIDE	A276 UNS S21800 (NITRONIC 60)	1				36	18800-001	BALL, 1/2" DIA.	A276 TP 316	1			
	14	193757	PLATE, SPRING	A276 TP 316	2				37	18100-013K1	O-RING	HNBR	2	X	X	
	15	219620	SCREW, ADJUSTING, .75 NC	F593 GR1	1				38	18800-043	BALL, 9/16" DIA	A276 TP 316	1			
	16	201866	FLANGE, INLET / VENT 9/16 MP	A276 TP 316 (316 SS)	2											
	17	192847	SPRING, COMPRESSION	AMS5670 (X-750) AMS 5667 (X-750)	1											
	18	177586	HOUSING, SPRING	A276 TP 316	1											
	19	219621	CAP, SPRING HOUSING, .75 NC	A276 UNS S21800 (NITRONIC 60)	1											
	20	219618	NUT, O-LOCK, .75 NC	A276 TP 316 (316SS)	1											
	21	219619	CAP, LOCK, .75 NC	A276 TP 316 (316 SS)	1											
	22	201868	FLANGE, BOTTOM	A276 UNS S21800 (NITRONIC 60)	1											
	23	18224-003	SHCS, 3/8-16 UNC X 1-1/2 LG	A286 GR 660	26											
4				3				2				1				
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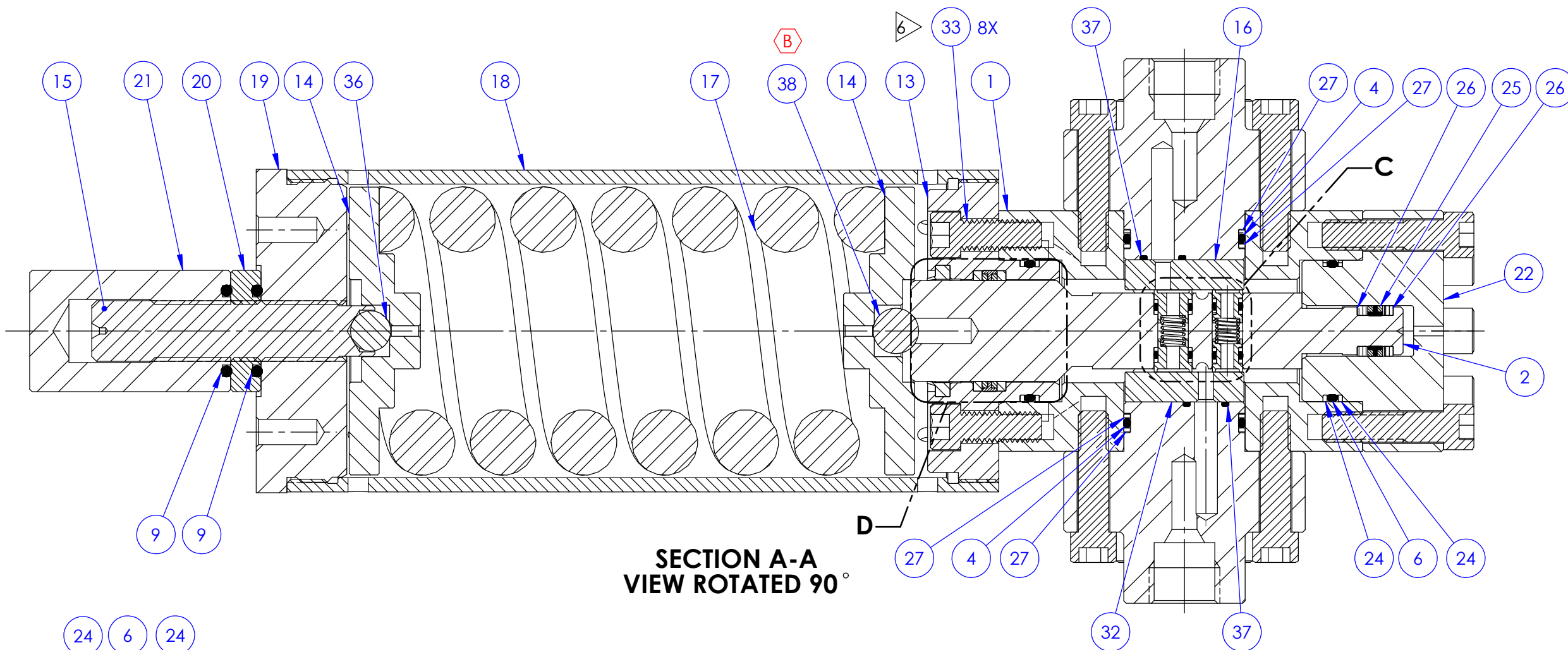
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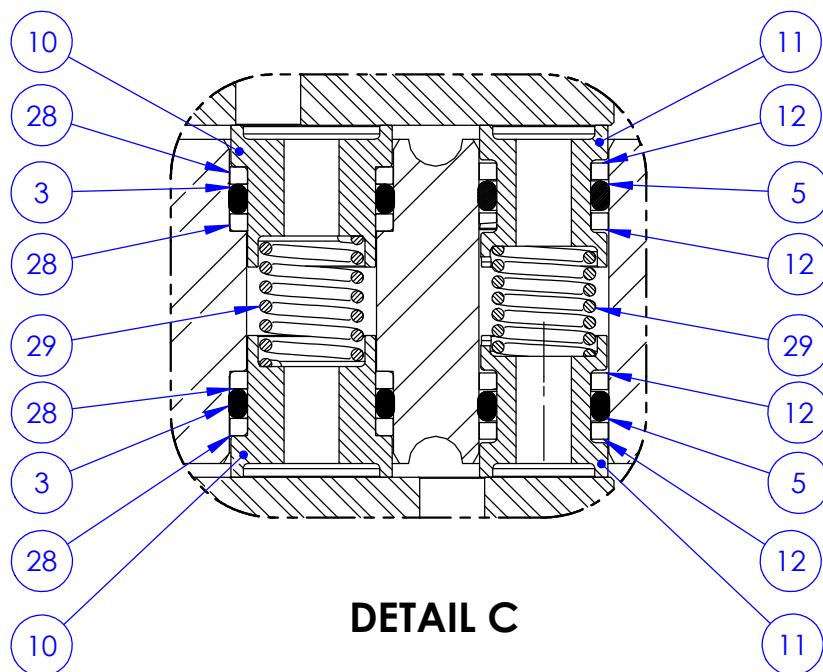
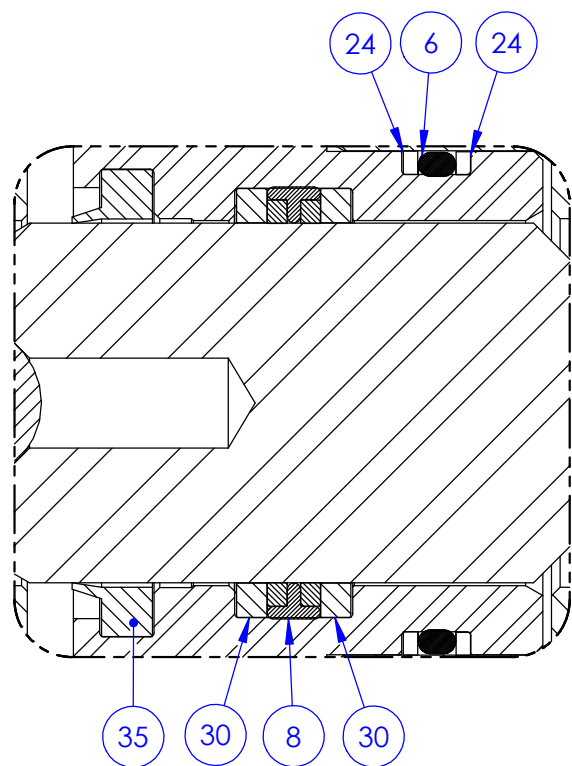
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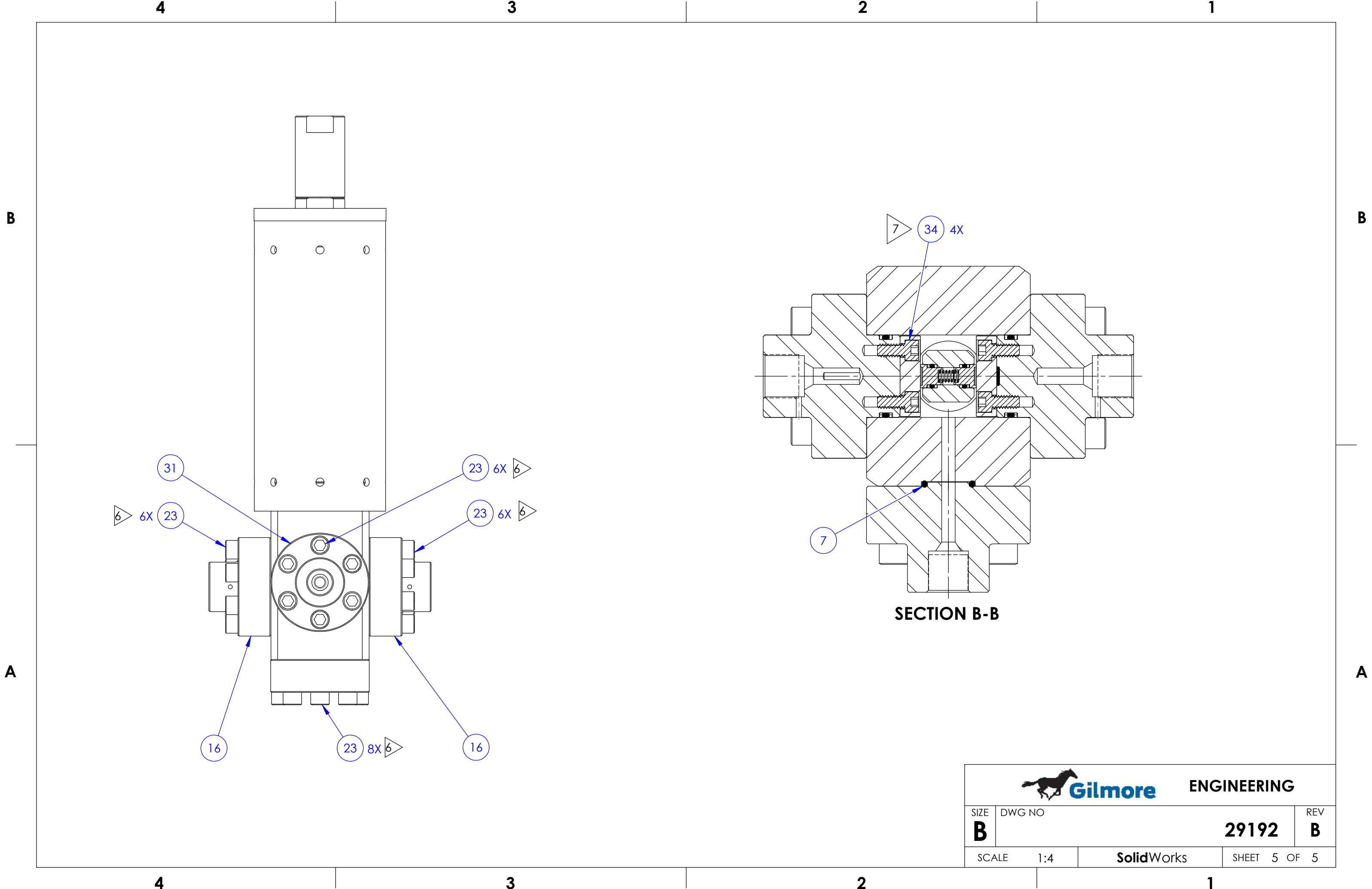
		
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SCALE 1:4	SolidWorks	SHEET 4 OF 5

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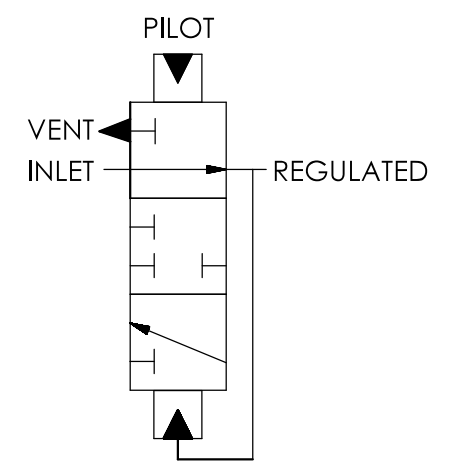
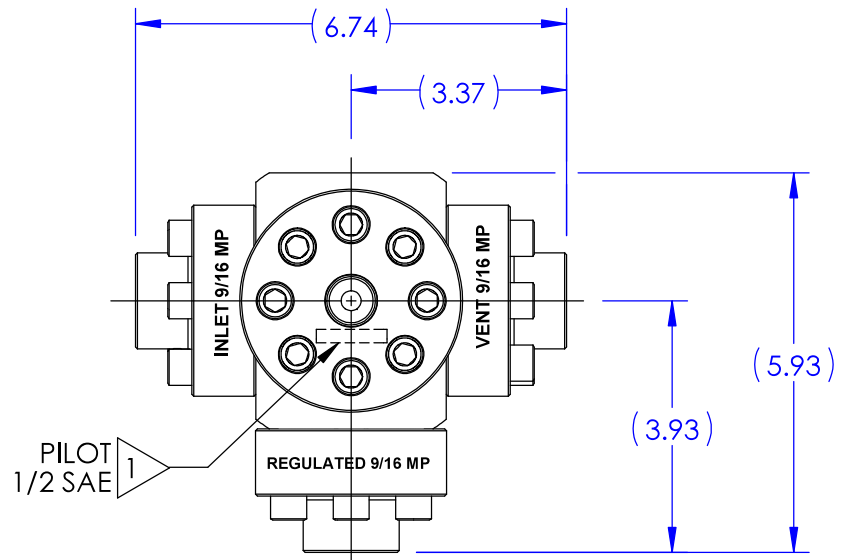
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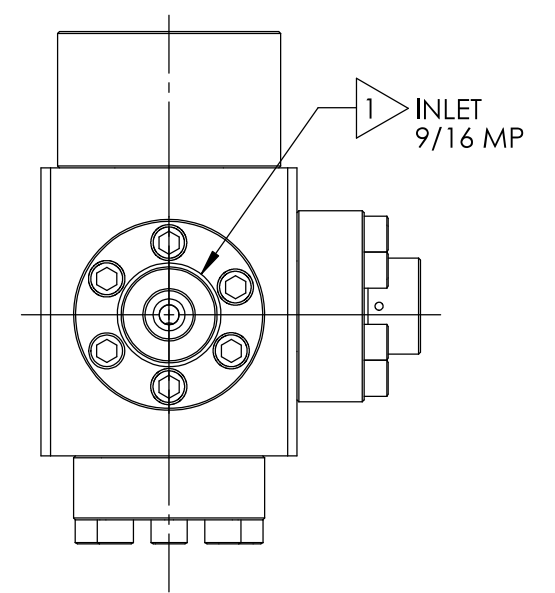
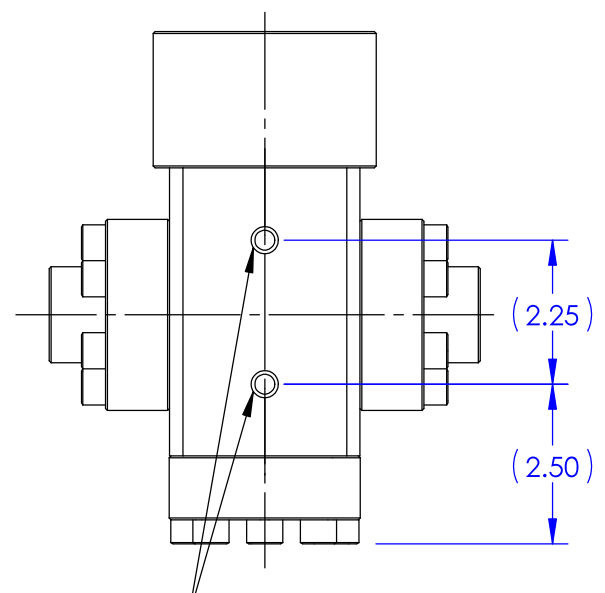
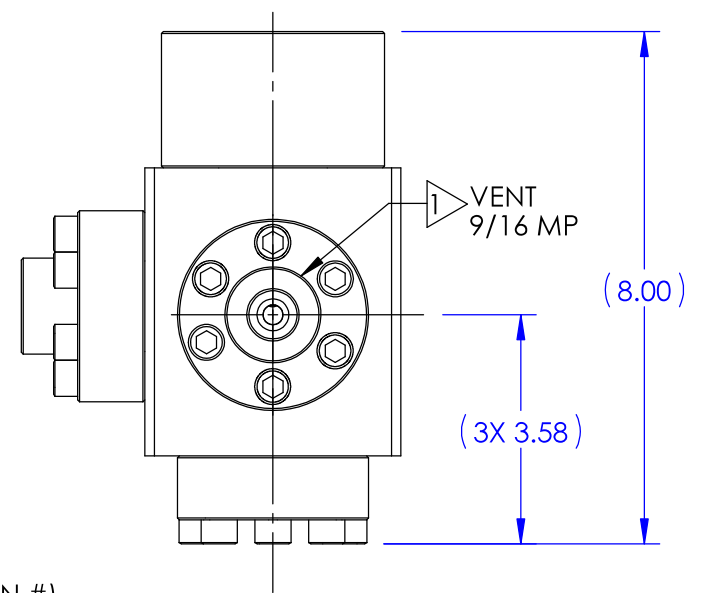
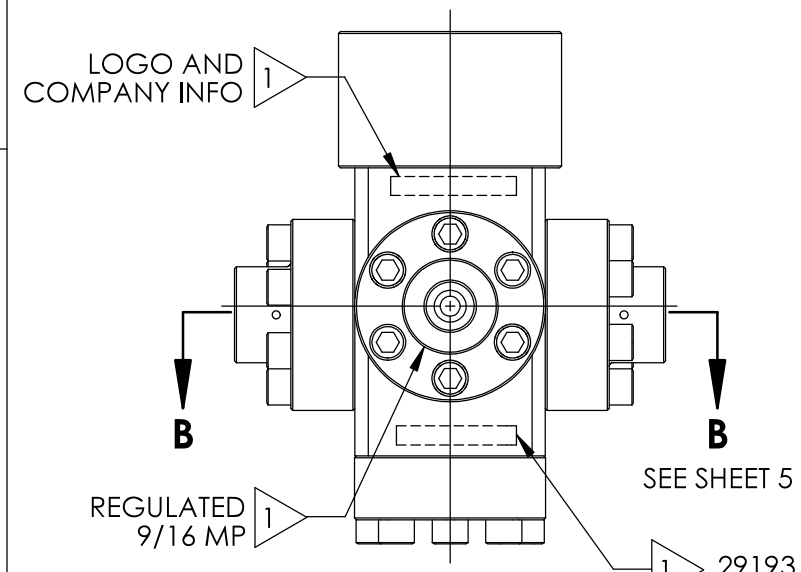
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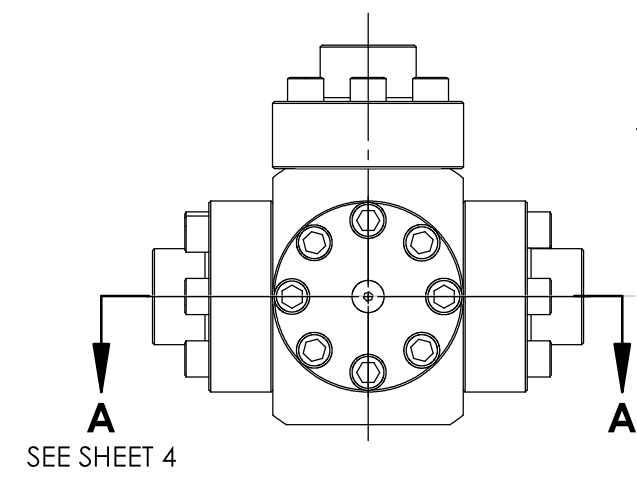


SCHEMATIC



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29193
VER (AX VERSION #)
(SERIAL NUMBER)
10,000 PSI
US PATENT 10,739,796
(DATE OF MFG)

SEE SHOP TRAVELER
FOR ADDITIONAL
INFO REQUIRED

US PATENT 10,739,796

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MATERIAL: SEE BOM	APPROVAL		<div></div>		
	DRAWN BY JZ	DATE 11/8/21			
CONDITION:	DRAFT CHECKED BY CMC	DATE 11-10-21	PRESSURE REGULATOR, 1/2" GEN 2, HYDRAULIC PILOT, 8KSI/10KSI, 9/16 MP		
	ENGR. REVIEW BY AJP	DATE 11/8/21			
TREATMENT: <div>8</div>	ENGR. APPROVE BY [Signature]	DATE 11/22/21	SIZE B		
	MFG. APPROVE BY	DATE			
PROCEDURE NUMBER: <div>5</div>	ERN NUMBER 02529	DATE 10/11/2021	DWG NO 29193		REV A
			SCALE 1:4	SolidWorks	SHEET 1 OF 5

OPERATING DATA:

1. FOR MORE DETAILED OPERATIONS INFORMATION REFER TO SERVICE MANUAL 51040.
2. CONSTANT PILOT PRESSURE REQUIRED TO MAINTAIN CONSTANT REGULATED PRESSURE. DUE TO LOW DEADBAND, UNSTABLE PILOT PRESSURE MAY RESULT IN UNSTABLE REGULATED PRESSURE.

PRESSURE DATA:

MAXIMUM INLET PRESSURE RATING: 10,000 PSI

REGULATED RANGE: 8,000 - 1,000 PSI

TYPICAL DEADBAND AT 10,000 PSI SUPPLY: 600±100 PSI

TYPICAL DEADBAND AT 7,500 PSI SUPPLY: 450±100 PSI

MAXIMUM REGULATED AND VENT PRESSURE RATING: 8,000 PSI

FLOW DATA:

FULLY OPEN Cv REGULATED: 0.5 (CALC)

FULLY OPEN Cv VENT: 0.2 (CALC)

FULLY OPEN MAXIMUM REGULATED FLOW RATE: 25 GPM

FLUIDS: WATER BASED DRILLING CONTROL FLUID

MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

INLET: 9/16" MP

REGULATED: 9/16" MP

VENT: 9/16" MP

PILOT: 1/2" SAE

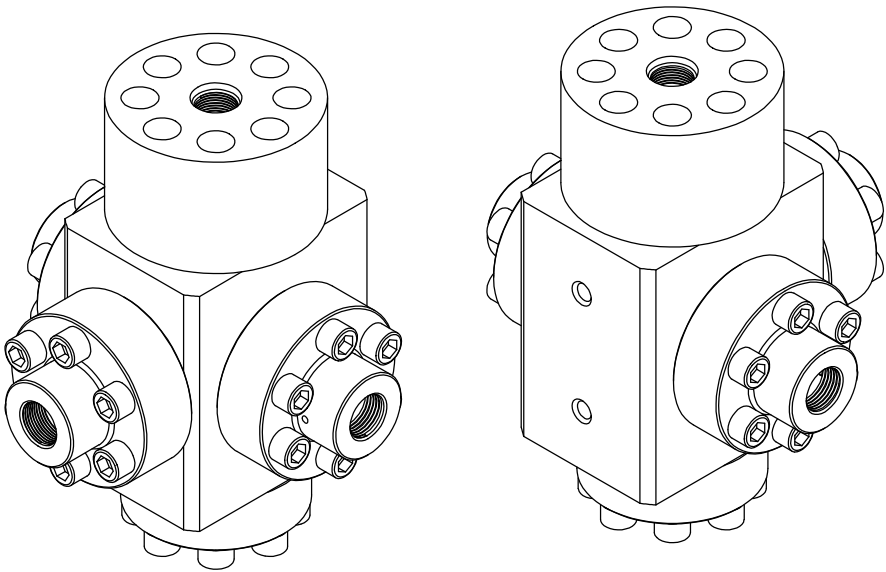
GENERAL DATA:

TEMP RANGE: 32 °F TO 150 °F

APPROX WEIGHT: 29 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. X IN THE BOM INDICATES PARTS IN REPAIR KIT 29193 RK AND SEAL KIT 29193 SK.
- 4> ASSEMBLY PROCEDURE: 50371
- STANDARD FAT PROCEDURE: 50372
- EXTENDED FAT PROCEDURE: 50373
- SERVICE MANUAL: 51040
- 5> TORQUE TO 20 FT-LB
- 6> TORQUE TO 5 FT-LB
- 7> TORQUE TO 10 FT-LB
- 8> ALL MANUFACTURED ITEMS ARE PASSIVATED.



ENGINEERING

SIZE

B

DWG NO

29193

REV


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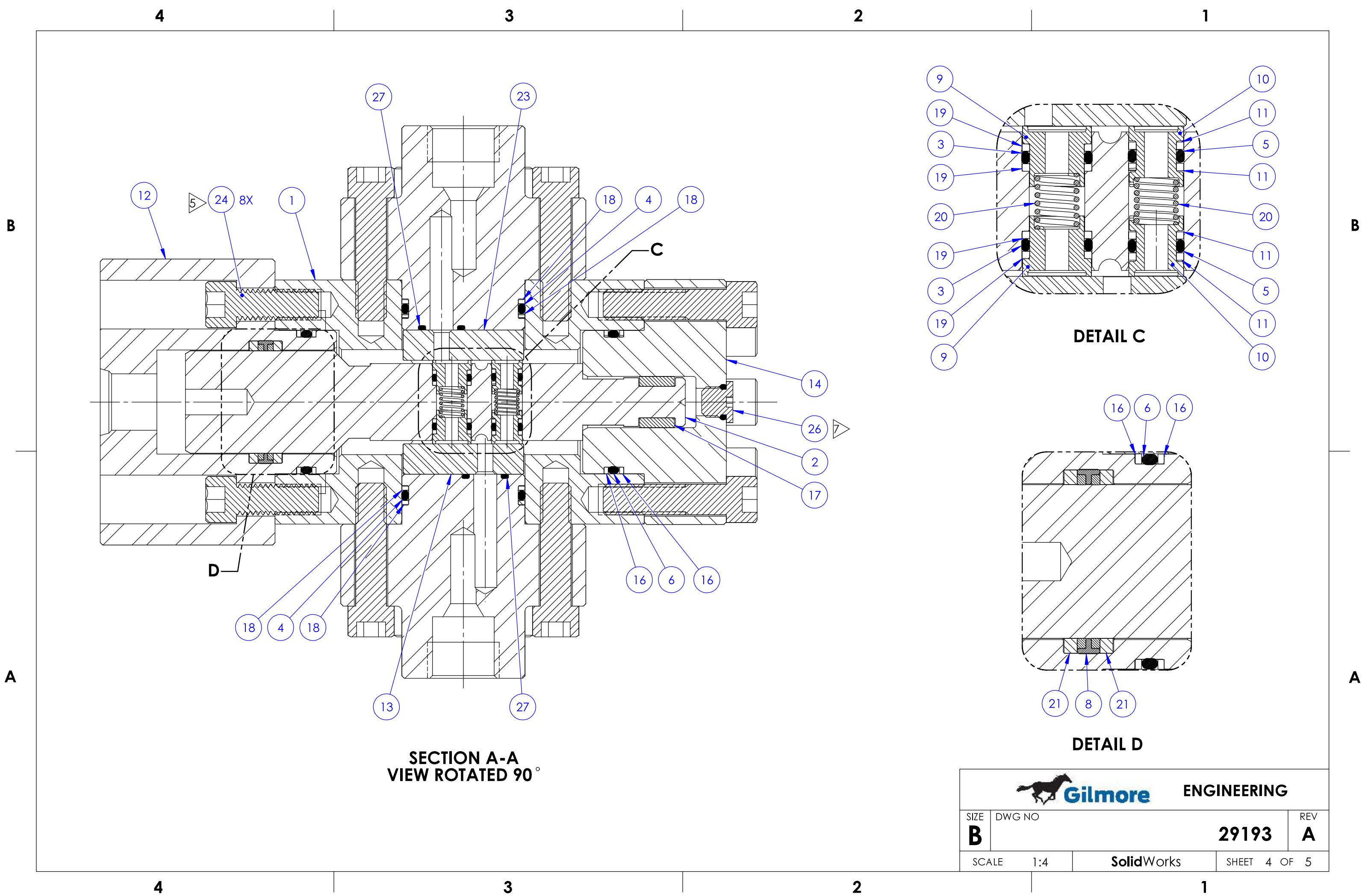
SCALE

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SolidWorks

SHEET 2 OF 5

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B	BILL OF MATERIALS							B	BILL OF MATERIALS																						
	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK		ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK																
	1	201865	BODY	A564 TP 630 (H1150D)	1				19	202124	BACKUP RING, .473 O.D.	PEEK	4	X	X																
	2	201869	SEAL CONTAINER	A276 UNS S21800 (NITRONIC 60)	1				20	11600	SPRING, COMPRESSION	INCONEL X-750	2	X																	
	3	18100-004K1	O-RING	HNBR	2	X	X		21	204973	BACKUP RING, 1,490 O.D.	PEEK	2	X	X																
	4	18100-052K1	O-RING	HNBR	2	X	X		22	204403	FLANGE, REGULATED, 9/16MP	A276 TP 316 (316 SS)	1																		
	5	18100-008K1	O-RING	HNBR	2	X	X		23	205008	FLOW PLATE	TUNGSTEN CARBIDE/ NICKEL	2	X																	
	6	18100-055K1	O-RING	HNBR	2	X	X		24	18224-001	SHCS, 3/8 - 16 UNC-2A X 1.00 LG	A453 GR660	8																		
	7	18100-074K1	O-RING	HNBR	1	X	X		25	154799	SHCS, THREAD-LOCKING	A593 T316 / NYLON	4	X	X																
	8	18108-518	T-SEAL, ROD	CARBOXYLATED NITRILE/ NYLATRON	1	X	X		26	18603-003	HEX PLUG, 3/16" SAE	T316 / BUNA	1	X																	
	9	205038	HYDRO SEAL, VENT	TUNGSTEN CARBIDE/ NICKEL	2	X			27	18100-013K1	O-RING	HNBR	2	X	X																
	10	205018	HYDRO SEAL, SUPPLY	TUNGSTEN CARBIDE/ NICKEL	2	X																									
	11	202123	BACKUP RING, .375 O.D.	PEEK	4	X	X																								
	12	220609	CYLINDER, HYDRAULIC PILOT, 1/2" SAE	A276 TP 316 (316 SS)	1																										
	13	201866	FLANGE, INLET / VENT 9/16 MP	A276 TP 316 (316 SS)	2																										
	14	224994	FLANGE, BOTTOM	A276 UNS S21800 (NITRONIC 60)	1																										
	15	18224-003	SHCS, 3/8-16 UNC X 1-1/2 LG	A286 GR 660	26																										
	16	18110-029P	BACKUP RING	PEEK	4	X	X																								
	17	220608	WEARBAND, HYDRAULIC PILOT	DELFIN AF	1	X	X																								
	18	205004	BACKUP RING, 1,500 O.D.	PEEK	4	X	X																								
4				3				2				1																			
A																A															
<div><div><div>ENGINEERING</div><div><div>SIZE</div><div>DWG NO</div><div>REV</div></div><div><div>SCALE</div><div>1:4</div><div>SHEET 3 OF 5</div></div><div><div>B</div><div>29193</div><div>A</div></div></div></div>																															



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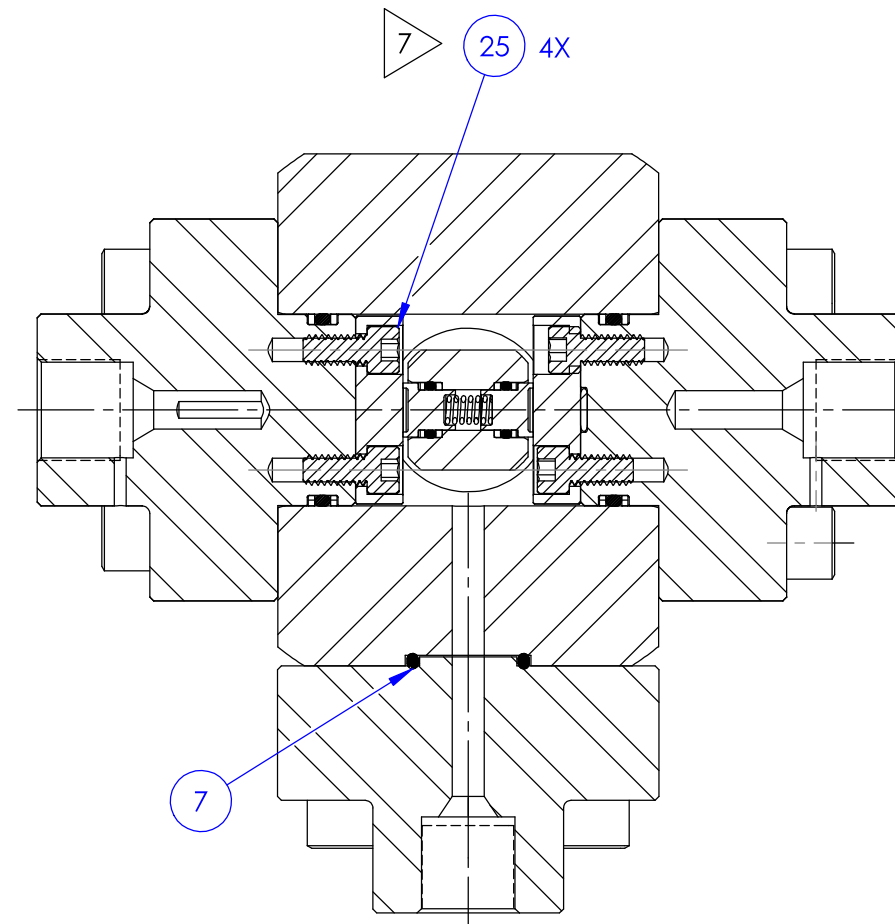
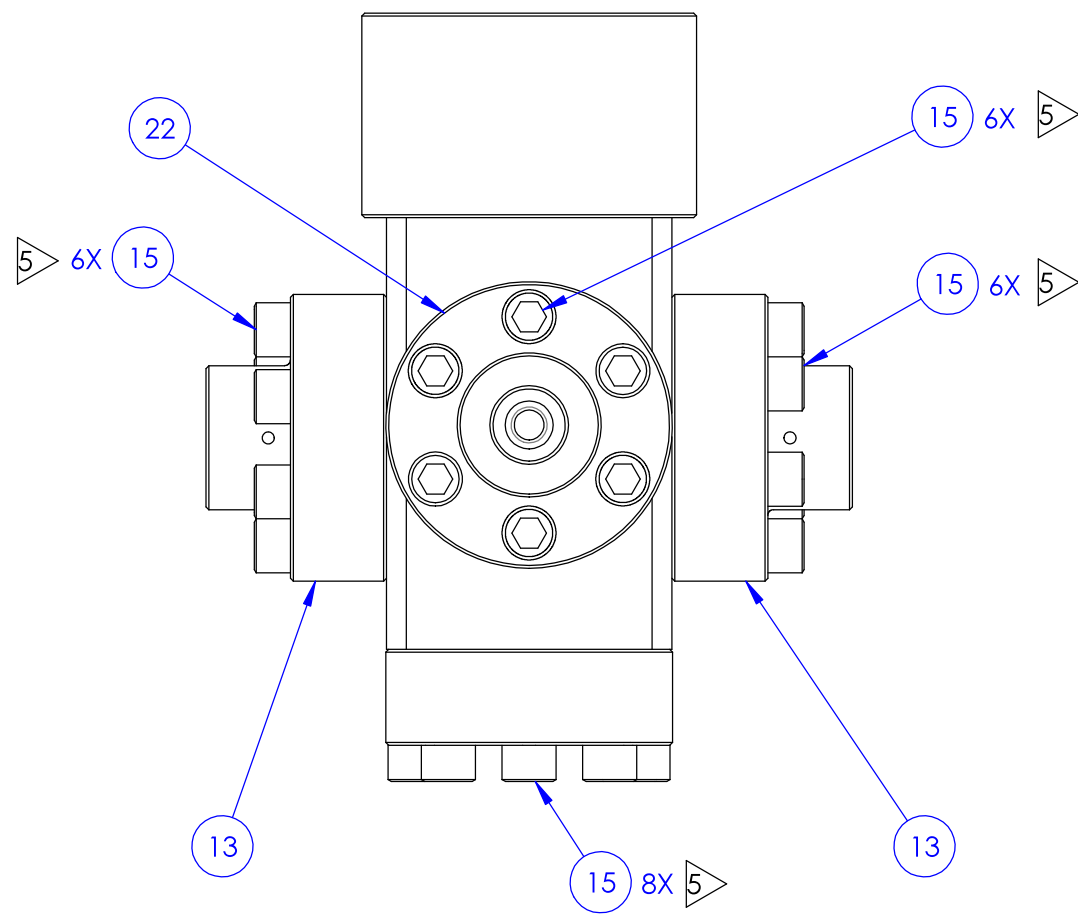
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SECTION B-B

A

A



ENGINEERING

SIZE	DWG NO	REV
B	29193	A
SCALE	1:4	SHEET 5 OF 5
SolidWorks		

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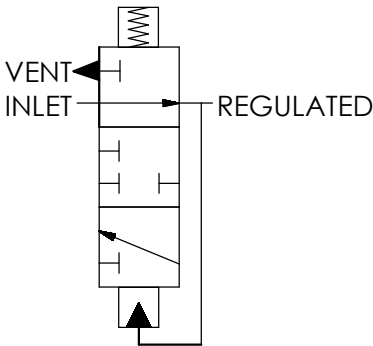
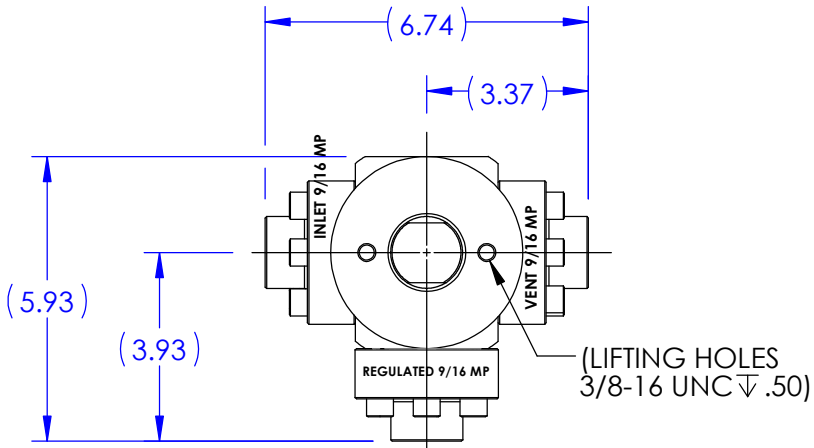
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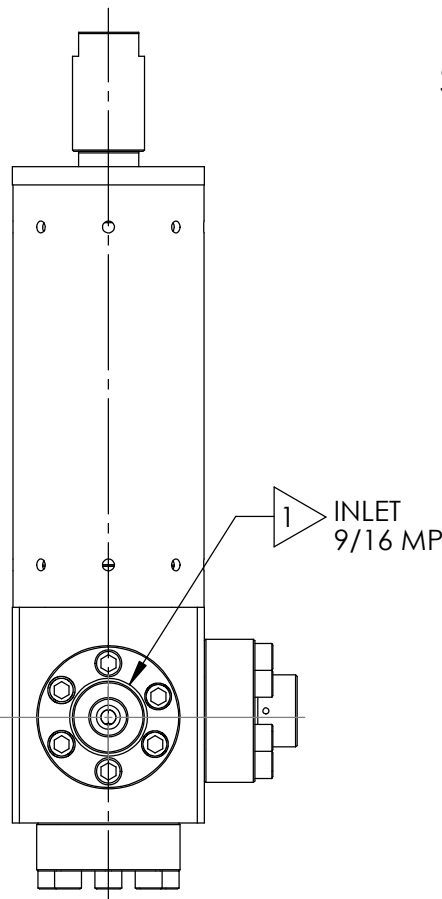
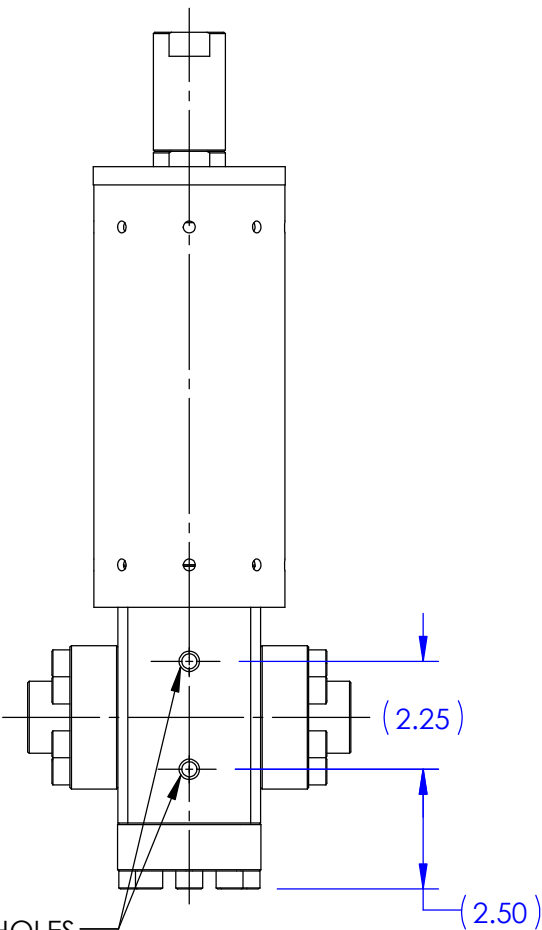
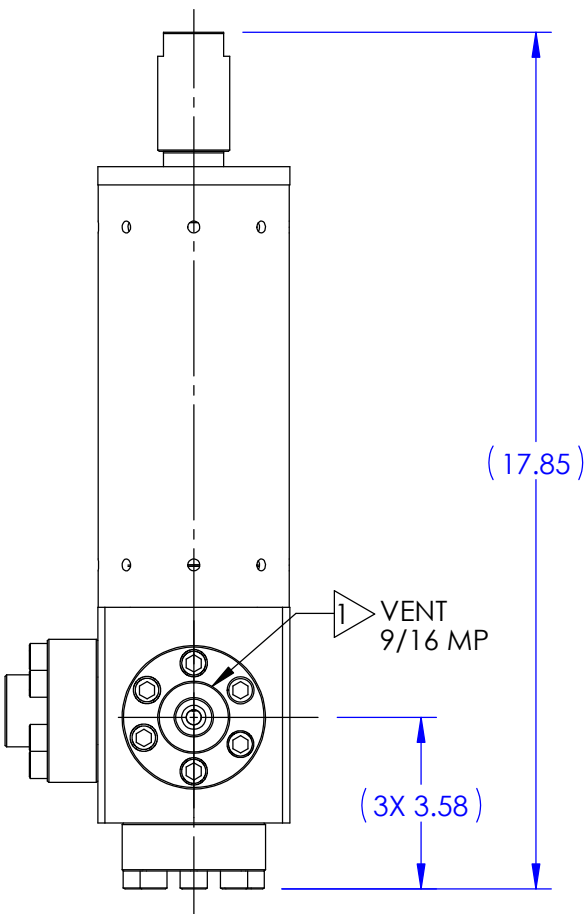
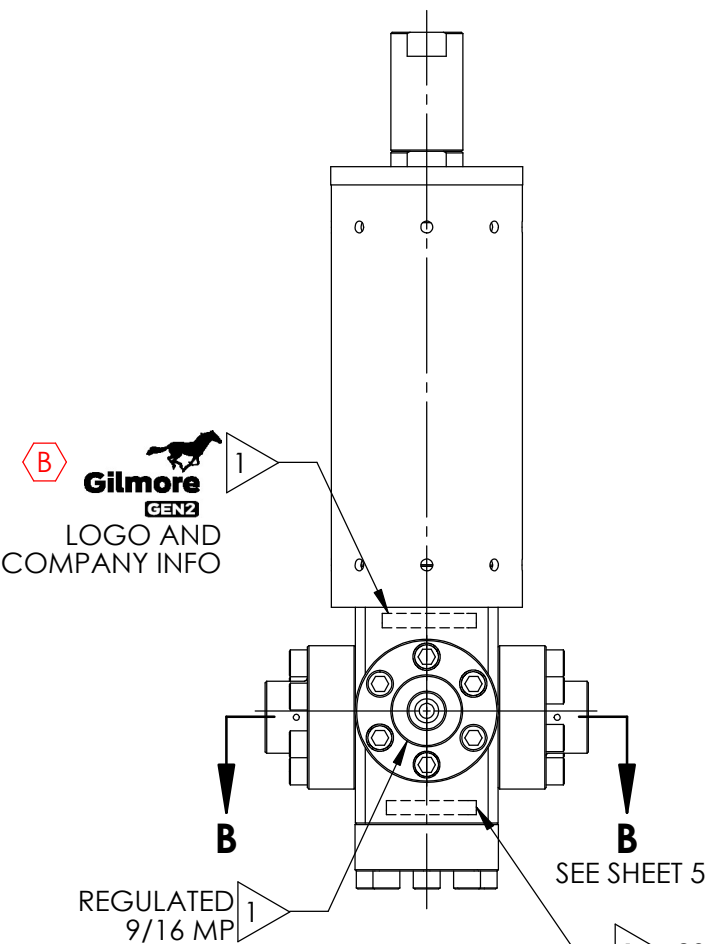
REVISIONS						
REV	ERN /ECO NUMBER	DRAWN		DRAFT CHECK		ENGR. REVIEW
B	ECO 022631	JZ	4/6/22	JB	4/6/22	AGP 4/6/22
						ENGR. APPROVED
						MFG. APPROVED

B



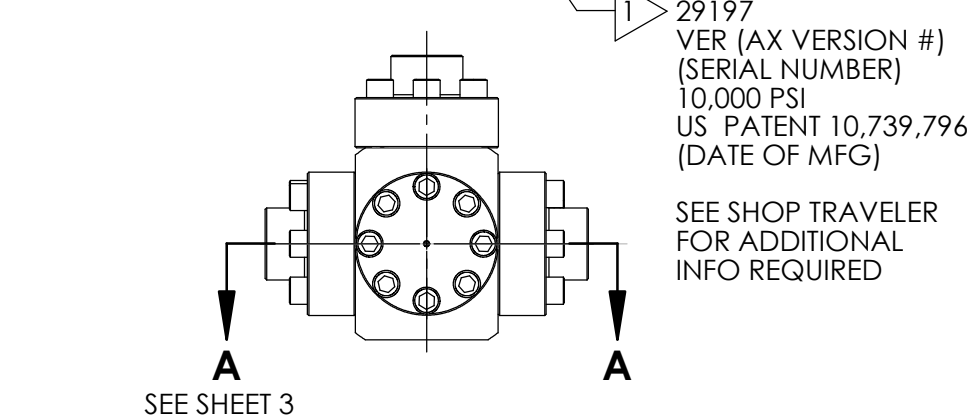
SCHEMATIC

B



A

A




29197
VER (AX VERSION #)
(SERIAL NUMBER)
10,000 PSI
US PATENT 10,739,796
(DATE OF MFG)

SEE SHOP TRAVELER
FOR ADDITIONAL
INFO REQUIRED

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.

US PATENT 10,739,796

MATERIAL: SEE BOM	APPROVAL		 Gilmore ENGINEERING			
	DRAWN BY JZ	DATE 11/11/2021				
CONDITION:	DRAFT CHECKED BY CY	DATE 11/11/2021	PRESSURE REGULATOR, 1/2" GEN2, MANUAL SPRING, 8KSI/10KSI, 9/16 MP			
	ENGR. REVIEW BY AP	DATE 11/11/2021				
TREATMENT: <div><div>8</div></div>	ENGR. APPROVE BY MS	DATE 11/22/2021				
	MFG. APPROVE BY	DATE				
PROCEDURE NUMBER: <div><div>5</div></div>	ERN NUMBER 02529	DATE 10/11/2021	SIZE B	DWG NO 29197	REV B	
			SCALE 1:4	SolidWorks	SHEET 1 OF 5	

4

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OPERATING DATA:

1. ADJUSTMENT SCREW TURNS NEEDED FOR 4,000 PSI SET POINT: 2±1/2 TURN ⬢
FOR SPRING COMPRESSION.
(BASED ON FULLY OPEN POSITION SHOWN ON SHEET 4)
2. ADJUSTMENT SCREW TORQUE FOR 8,000 PSI SET POINT: 70±10 FT-LB.
3. CHANGE IN SET POINT PER ADJUSTMENT SCREW TURN: 1000±100 PSI.
4. SET POINT ADJUSTED TO LESS THAN 4,000 PSI MAY RESULT IN NON-LINEAR
DROP IN FLOW CAPACITY.
5. FOR MORE DETAILED OPERATIONS INFORMATION REFER TO SERVICE MANUAL TBA.

PRESSURE DATA:

MAXIMUM INLET PRESSURE RATING: 10,000 PSI

REGULATED RANGE: 4,000 - 8,000 PSI
TYPICAL DEADBAND AT 10,000 PSI SUPPLY: 600±100 PSI
TYPICAL DEADBAND AT 7,500 PSI SUPPLY: 450±100 PSI
MAXIMUM REGULATED AND VENT PRESSURE RATING: 8,000 PSI

FLOW DATA:

FULLY OPEN Cv REGULATED: 0.5 (CALC)
FULLY OPEN Cv VENT: 0.2 (CALC)
FULLY OPEN MAXIMUM REGULATED FLOW RATE: 25 GPM
FLUIDS: WATER BASED DRILLING CONTROL FLUID
MINERAL OIL BASED DRILLING CONTROL FLUID

PORTS:

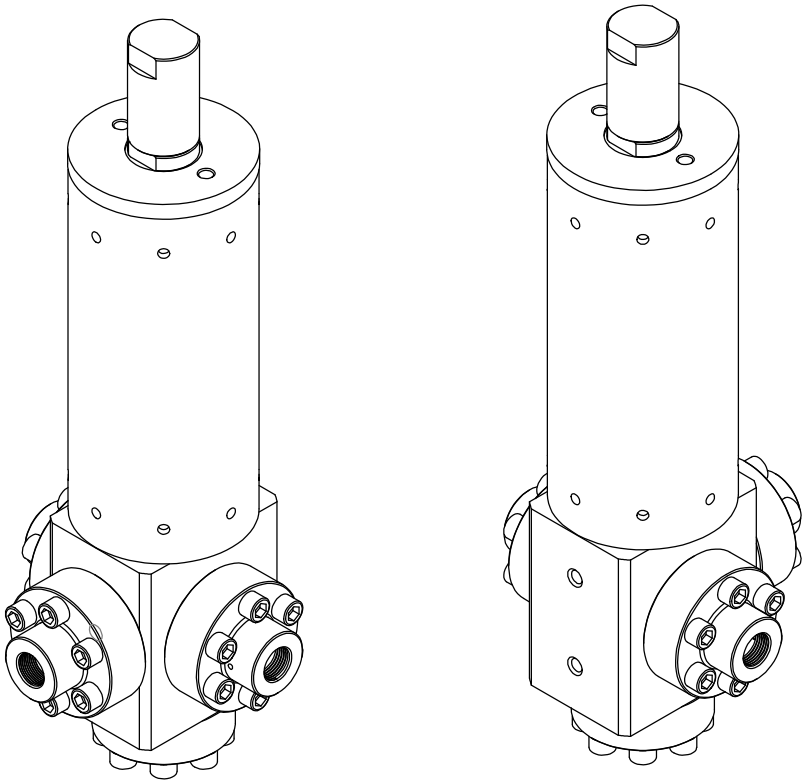
INLET: 9/16" MP
REGULATED: 9/16" MP
VENT: 9/16" MP

GENERAL DATA:

TEMP RANGE: 32 °F TO 150 °F
APPROX WEIGHT: 47 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 29197 RK AND
SEAL KIT 29197 SK.
5. ASSEMBLY PROCEDURE: 50368
STANDARD FAT PROCEDURE: 50369
EXTENDED FAT PROCEDURE: 50370
SERVICE MANUAL: 51039
6. TORQUE TO 20 FT-LB
7. TORQUE TO 5 FT-LB
8. ALL MANUFACTURED ITEMS ARE PASSIVATED.



ENGINEERING

SIZE	DWG NO	REV
B	29197	B
SCALE	1:8	SHEET 2 OF 5
SolidWorks		

4

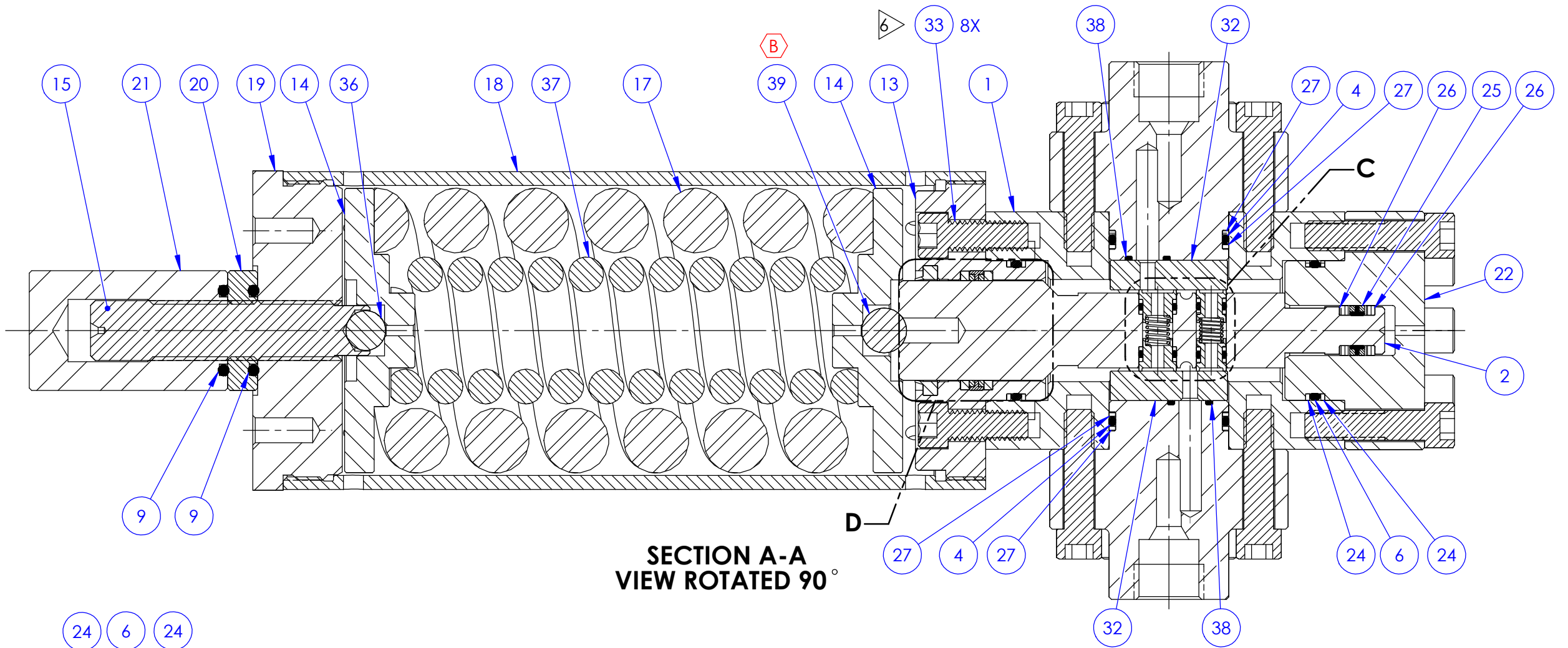
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B

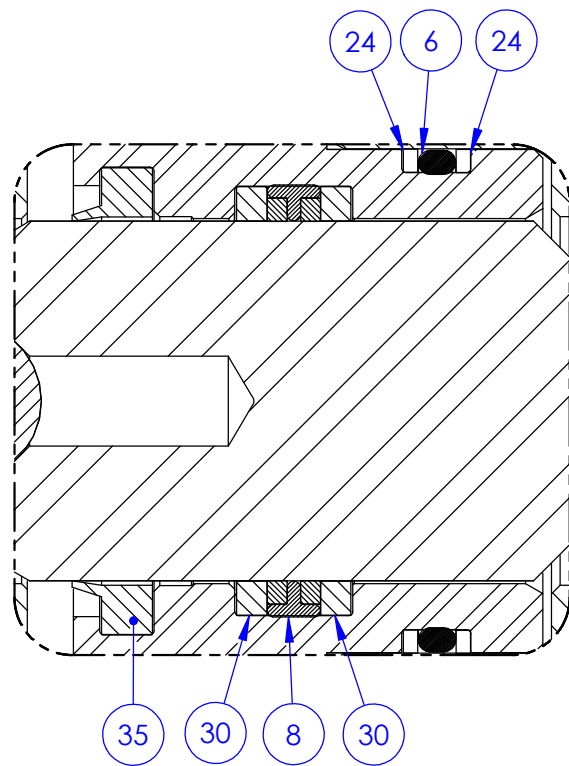
B



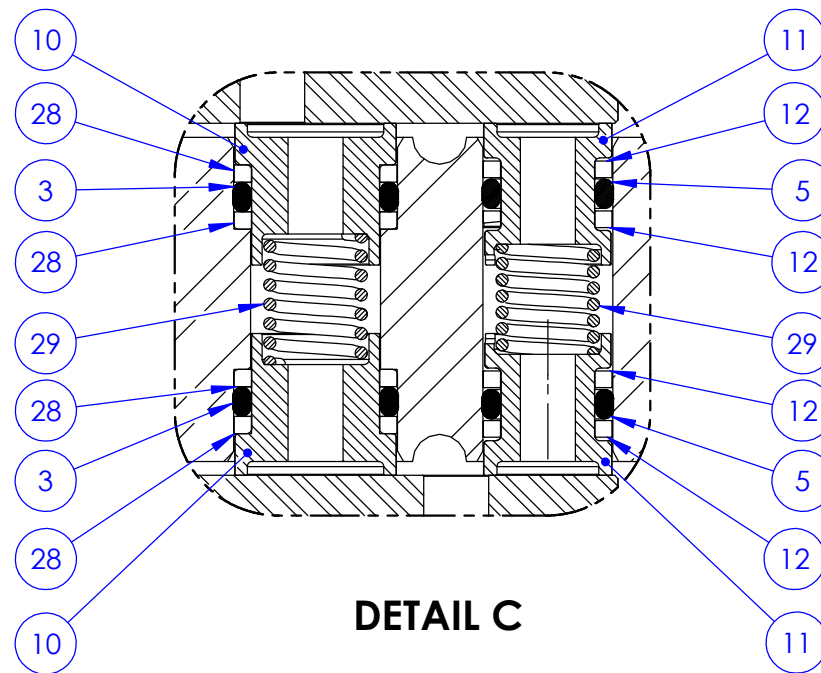
SECTION A-A
VIEW ROTATED 90°

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DETAIL D



DETAIL C

		
SIZE B	DWG NO 29197	REV B
SCALE 1:4	SolidWorks	SHEET 4 OF 5

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