

## Product Information Bulletin

**½" GEN 2 Check Valve Product Line**

REV	DATE	DESCRIPTION	ORIGIN (issued by)	APPROVED
Rev 002	02-25-2020	Added Table for ½" POC Throttling Check Valves. Updated parts assembly	SD	
Rev 001	09-26-2016	100-092616-001	CY	

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**For more information:**

Call (800) 469-8786

[Gilmore@proserv.com](mailto:Gilmore@proserv.com)

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1231 Lumpkin Road  
Houston, TX 77043

## Product Information Bulletin

### ½" GEN 2 Check Valve Product Line

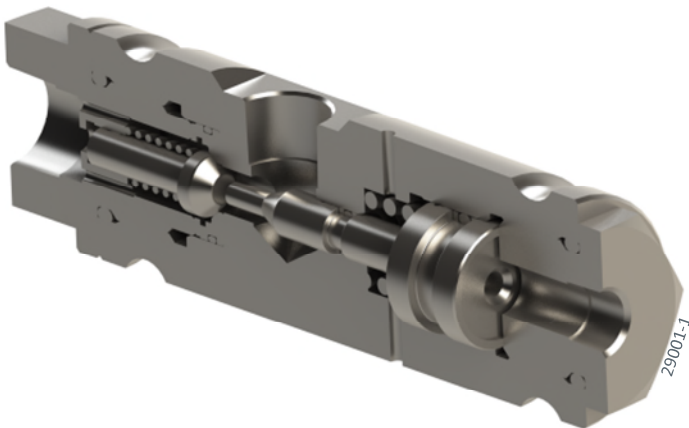
Gilmore announces the new ½ inch GEN 2 Pilot Operated Check Valve (POCV) product line for critical offshore and subsea applications. The ½ inch GEN 2 POCV has been redesigned with significant improvements.

#### Features and Benefits:

- Qualification exceeds API 16D requirements
  - Two separate endurance tests at 2500 cycles each
  - Hyperbaric Chamber test to 100 cycles at 15000 ft depth
- Nitronic 60 Poppet style check mechanism for improved guidance
- One-piece Nitronic 60 piston with Elgiloy springs
- 316 SS body
- Nitronic 60 End Caps
- Delrin 511P check valve seat
- HNBR O-rings with PEEK double back-up rings
- Ability to be field serviced without need for special tools
- Non-piloted Check Valve versions also available



Figure 1 and 2. PN 29001-1: ½" NPT Pilot Operated Check Valve, External Vent and Cross-section



Gilmore has exceeded API 16D requirements by qualifying the new 1/2" GEN 2 Check Valve design to multiple endurance qualification cycle tests to 2500 cycles, at a starting flow rate of 15 gpm at 5000 psi, with a 1% - 4% water glycol test fluid.

As a result of the new Gilmore 1/2" Check Valve product line, please note that sales of all legacy 1/2" Check Valve part numbers listed below were discontinued on September 29th, 2017. The new Gilmore 1/2" Check Valves are now available for purchase as replacements for the legacy Check Valves.

Gilmore will continue to support discontinued legacy 1/2" Check Valves:

- Gilmore will continue providing repair kits, seal kits and conversion kits in support of discontinued 1/2" Check Valves for a minimum of 3 years. The Gilmore 1/2" Check Valves listed below are field repairable.
- Gilmore Aftermarket will continue to support discontinued legacy products with factory failure analysis and repair services for a minimum of 3 years.

**Table 1. Legacy and New 1/2" GEN 2 Check Valve Part Numbers:**

Item	Legacy Description	Legacy Valve PN	Legacy Repair Kit PN	New Valve Description	New Valve PN	New Repair Kit PN
1	Conversion Kit, Adapter Retainer, Valve, Check, Pilot Operated, External Vent, 1/2" NPT	100710	NA	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK
2	Conversion Kit, Adapter Retainer, Valve, Check, Pilot Operated, External Vent, 1/2" SAE	131257	131283 RK	Valve, Check, Pilot Operated, External Vent, 1/2" SAE	29001-3	29001-3 RK
3	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	22720-1	22720-1 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK
4	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	22720-3	22720-3 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK
5	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	22720-5	22720-5 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK
6	Valve, Check, Pilot Operated, External Vent, 1/2" SAE	22720-6	22720-6 RK	Valve, Check, Pilot Operated, External Vent, 1/2" SAE	29001-3	29001-3 RK
7	Valve, Check, Pilot Operated, External Vent, 1/2" SAE	22724	22724 RK	Valve, Check, Pilot Operated, External Vent, 1/2" SAE	29001-3	29001-3 RK
8	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	22724-1	22724-1 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK
9	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	22440-1	22440-1 RK	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	29001-2	29001-2 RK
10	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	22440-2	22440-2 RK	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	29001-2	29001-2 RK
11	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	22440-3	22440-3 RK	Valve, Check, Pilot Operated, Internal Vent, 1/2" NPT	29001-2	29001-2 RK
12	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	25108	25108 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT 2	29001-1	29001-1 RK
13	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	25108-1	25108-1 RK	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	29001-1	29001-1 RK

Item	Legacy Description	Legacy Valve PN	Legacy Repair Kit PN	New Valve Description	New Valve PN	New Repair Kit PN
14	Valve, Check, Non-Piloted, 1/2" SAE	New PN	New PN	Valve, Check, Non-Piloted, 1/2" SAE	29000-2	29000-2 RK
15	Valve, Check, Non-Piloted, 3/8" NPT	25105	25105 RK	Valve, Check, Non-Piloted, 1/2" NPT	29000-1	29000-1 RK
16	Valve, Check, Non-Piloted, 1/2" NPT	25125	25125 RK	Valve, Check, Non-Piloted, 1/2" NPT	29000-1	29000-1 RK

Gilmore has additionally released a throttling 1/2" GEN 2 POCV designed to handle 5000 psi full differential pressure.

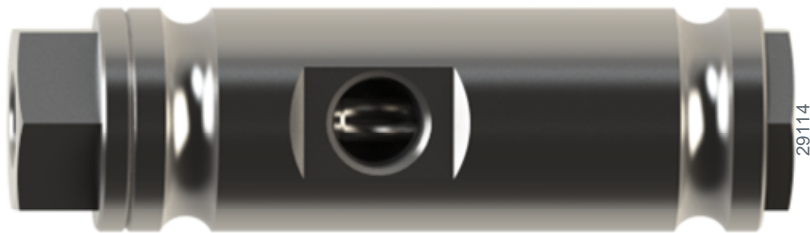


Figure 3 and 4.\* PN 29114: 1/2" NPT GEN 2 Piloted Throttling Check Valve and Cross-section



\*The throttled seat cap within PN 29114 ensures POCV integrity while managing full 5000 psi pressure differential.

Table 2. Legacy GEN 2 Piloted Throttling Check Valve Part Numbers

Item	Legacy Description	Legacy Valve PN	Legacy Repair Kit PN	New Valve Description	New Valve PN	New Repair Kit PN
1	N/A	N/A	N/A	Valve, Check, Throttling, Piloted, 1/2" NPTF 5000 PSI, Internal Vent	29114	29114 RK
2	N/A	N/A	N/A	Valve, Check Throttling, Piloted 1/2" SAE, 5000 PSI, Internal Vent	29064	29064 RK

**Table 3. Legacy Check Valve Part Numbers**

Item	Legacy Description	Legacy Valve PN	Legacy Repair Kit PN	New Valve Description	New Valve PN	New Repair Kit PN
1	Valve, Check, Pilot Operated, Internal Vent, 1/2" BSPP	22440-4	22440-4 RK	N/A	N/A	N/A
2	Valve, Check, Pilot Operated, Captured Vent, 1/2" NPT	22720-4	22720-4 RK	N/A	N/A	N/A
3	Valve, Check, Pilot Operated, External Vent, 1/2" NPT	25109	25109 RK	N/A	N/A	N/A
4	Valve, Check, Non-Piloted, 1/2" BSPP	25125-1	25125-1 RK	N/A	N/A	N/A
5	Valve, Check, Air Dome, External Vent, 1/2" NPT	25132	25132 RK	N/A	N/A	N/A
6	Valve, Check, Well Bore Assisted, 1/2" NPT	25158	25158 RK	N/A	N/A	N/A
7	Valve, Check, 3/8" NPT Pilot, External Vent, 1/2" NPT	28350	28350 RK	N/A	N/A	N/A

Gilmore will continue supporting these legacy valves through repair kits, seal kits and aftermarket support for a minimum of 3 years.

NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
- 4 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29000-1 RK AND SEAL KIT 29000-1 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 016900	9/4/19	ay 9-4-19	9/4/19

PRESSURE DATA

VALVE MWP: 5,000 PSI  
CRACKING PRESSURE: 60 PSI ±15 PSI

FLOW DATA

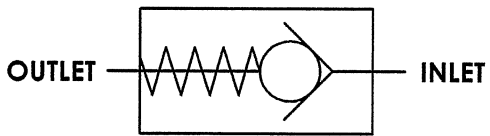
MAXIMUM FLOW CAPACITY: 25 GPM  
TYPICAL FLOW CAPACITY: 15 GPM  
Cv = 1.0 (CALC)  
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
2) MINERAL OIL BASED DRILLING CONTROL FLUID.

PORTS

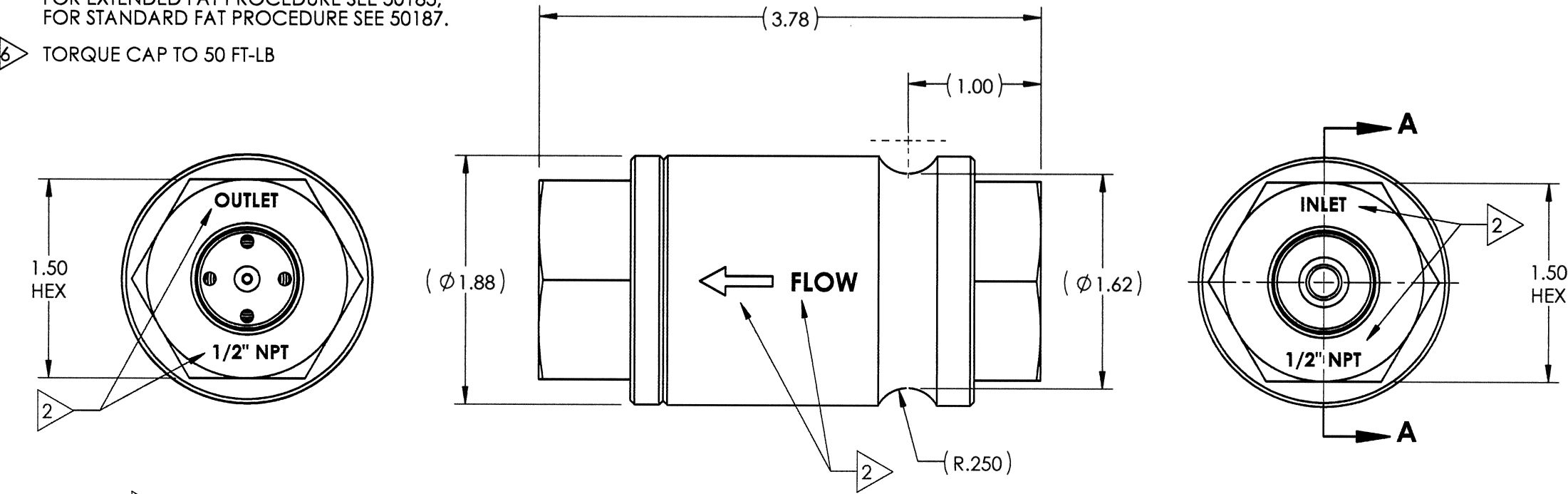
INLET: 1/2" NPT  
OUTLET: 1/2" NPT

GENERAL

APPROX. WEIGHT: 2.5 LBS.  
TEMPERATURE: 32°F TO 150°F  
FIELD SERVICEABLE




SCHEMATIC



2 MARK WITH LOGO AND COMPANY INFORMATION OPPOSITE SIDE FROM P/N

2 29000-1  
VER (AX VERSION NUMBER)  
(SERIAL NUMBER)  
PATENT 10,385,982  
5,000 PSI  
(DATE OF MFG)  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

US PATENT NO. 10,385,982

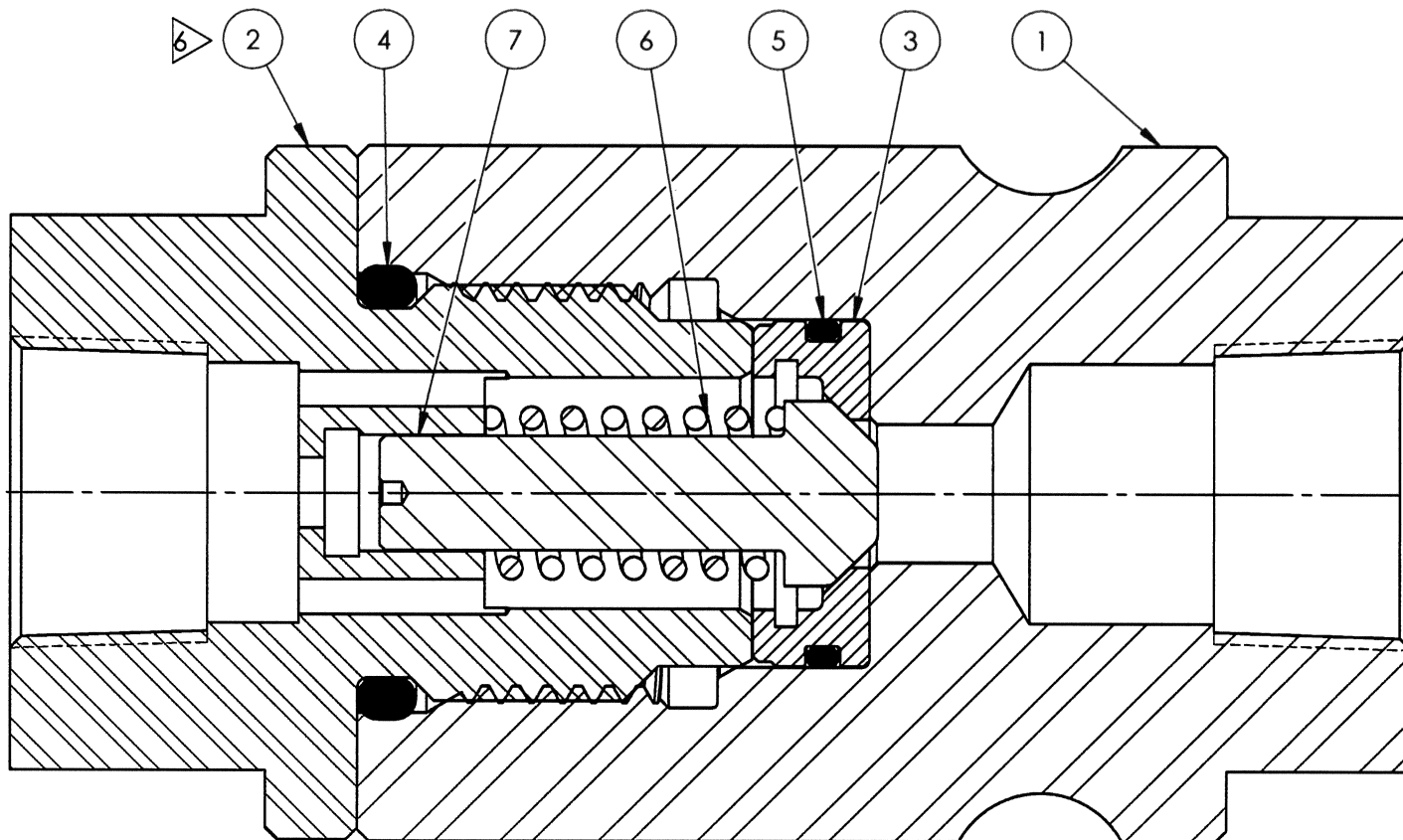
MATERIAL: REFER TO INDIV BOM ITEMS	DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED: 1) TOLERANCES:   .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5° 2) SURFACE TEXTURE: 63/✓ 3) CORADIAL FEATURES SHALL BE ☉ WITHIN .010 4) BREAK SHARP EDGES .010 5) INTERNAL RADII SHALL BE .016 MAX 6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED, ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°	APPROVAL		<div>proserv</div> <div>Gilmore</div>			
CONDITION:		DRAWN BY JSB	DATE 9/13/16	<div>VALVE, CHECK, SOFT SEAT, 1/2" NPT IN, 1/2" NPT OUT, 5000 PSI</div>			
		CHECKED BY GM	DATE 9/14/16				
		ENGINEER AP	DATE 9/13/16				
TREATMENT:		ERN NUMBER 02061	DATE 9/13/16				
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.			SIZE <b>B</b>	DWG NO <b>29000-1</b>	REV <b>E</b>	
				SCALE 1:1	SolidWorks	SHEET 1 OF 2	

4

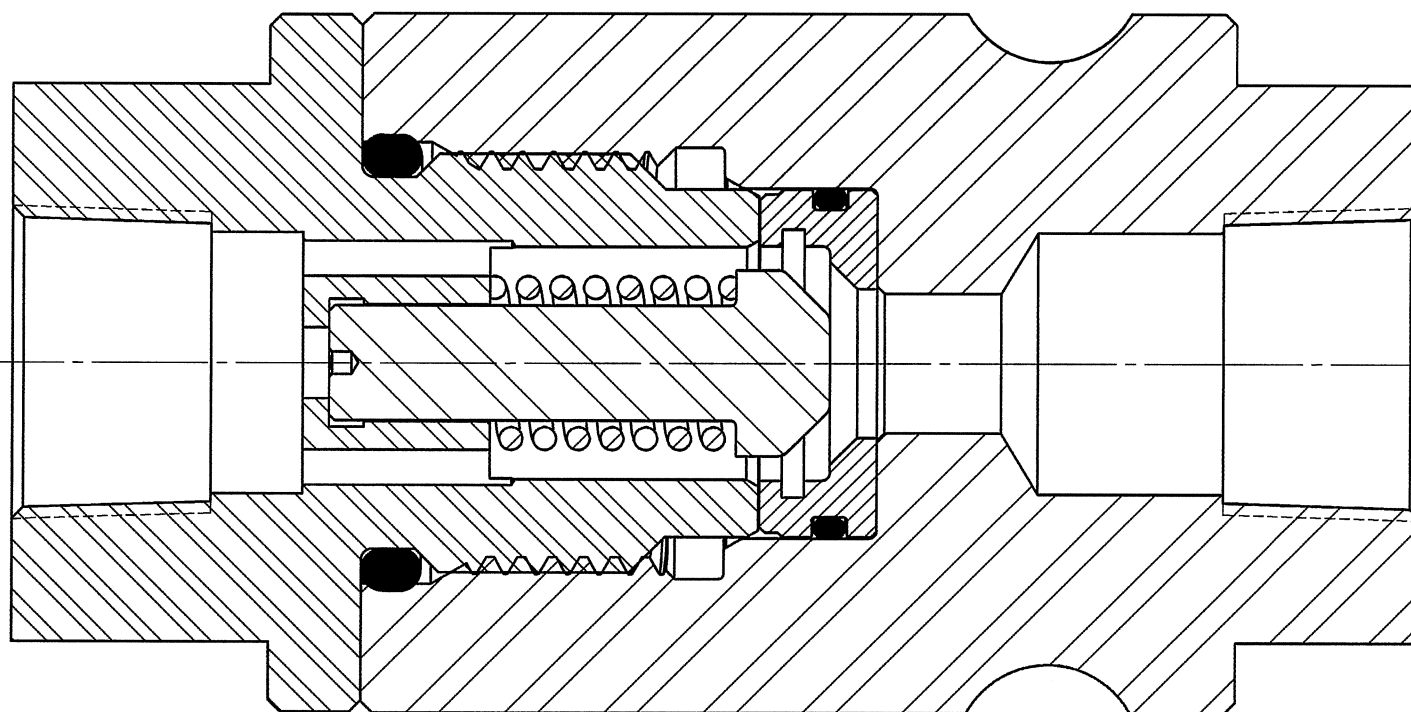
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2

1



SECTION A-A  
CLOSED



SECTION A-A  
OPEN

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	134705	BODY, 1/2" NPT, VALVE, CHECK, 1/2"	A276 TP 316	1		
2	113480	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	113486	SEAT	DELIN 511P	1	X	X
4	18100-121K1	O-RING	HNBR	1	X	X
5	18100-026K1	O-RING	HNBR	1	X	X
6	113484	SPRING, POPPET	ELGILOY	1	X	
7	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	

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SIZE <b>B</b>	DWG NO <b>29000-1</b>	REV <b>E</b>
SCALE 2:1	SolidWorks	SHEET 2 OF 2



NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
- 4 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29000-2 RK AND SEAL KIT 29000-2 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 016900	JSB 9/4/19	GM 9-4-19	AP 9/4/19

**PRESSURE DATA**

VALVE MWP: 5,000 PSI  
CRACKING PRESSURE: 60 PSI ±15 PSI

**FLOW DATA**

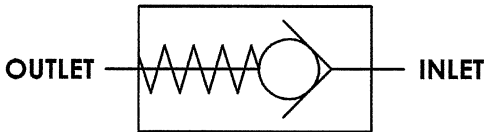
MAXIMUM FLOW CAPACITY: 25 GPM  
TYPICAL FLOW CAPACITY: 15 GPM  
Cv = 1.0 (CALC)  
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
2) MINERAL OIL BASED DRILLING CONTROL FLUID.

**PORTS**

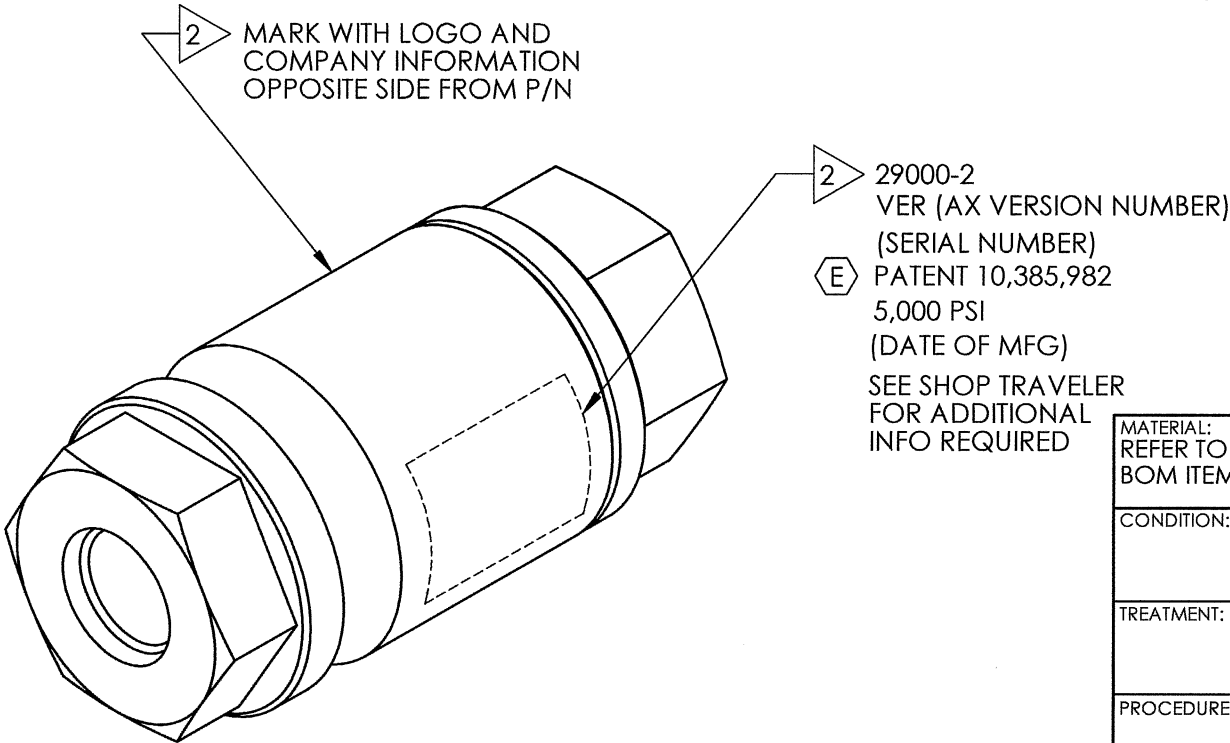
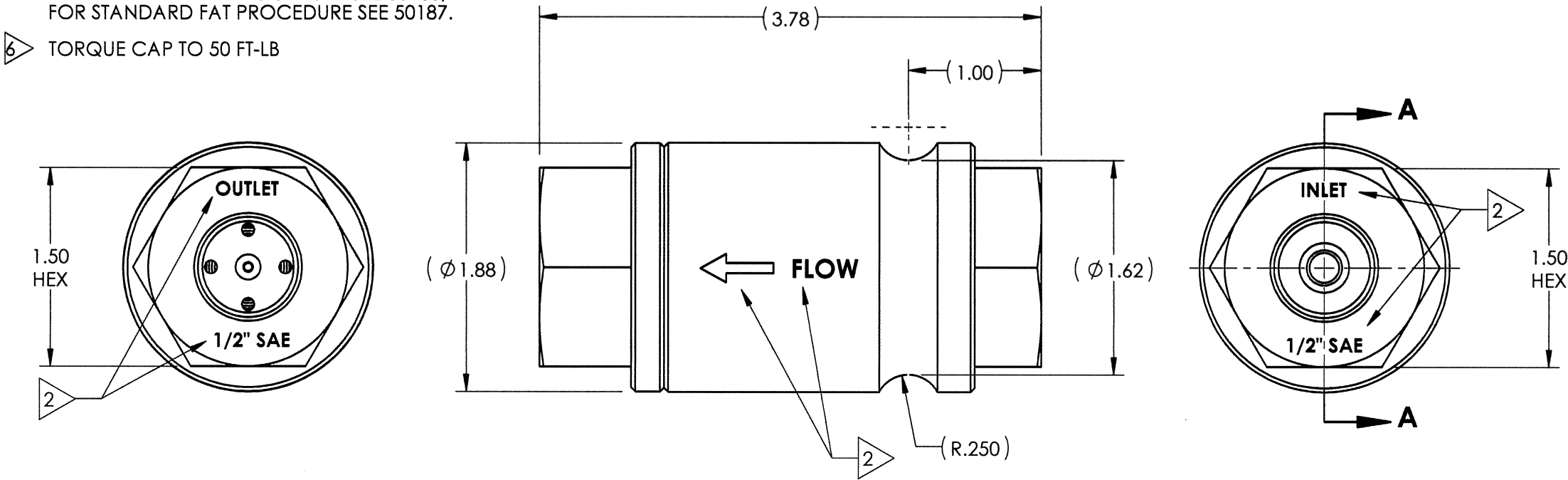
INLET: 1/2" SAE  
OUTLET: 1/2" SAE

**GENERAL**


APPROX. WEIGHT: 2.5 LBS.  
TEMPERATURE: 32°F TO 150°F  
FIELD SERVICEABLE



**SCHEMATIC**



- 2 29000-2  
VER (AX VERSION NUMBER)  
(SERIAL NUMBER)  
E PATENT 10,385,982  
5,000 PSI  
(DATE OF MFG)  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

MATERIAL: REFER TO INDIV BOM ITEMS	CONDITION:	TREATMENT:	PROCEDURE NUMBER: <div><div>5</div></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/✓  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		proserv    Gilmore				
					DRAWN BY JSB	DATE 9/13/16	VALVE, CHECK, SOFT SEAT, 1/2" SAE IN, 1/2" SAE OUT, 5000 PSI				
					CHECKED BY GM	DATE 9/14/16					
					ENGINEER AP	DATE 9/13/16					
					ERN NUMBER 02061	DATE 9/13/16					
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 29000-2		REV E		
						SCALE 1:1		SolidWorks		SHEET 1 OF 2	

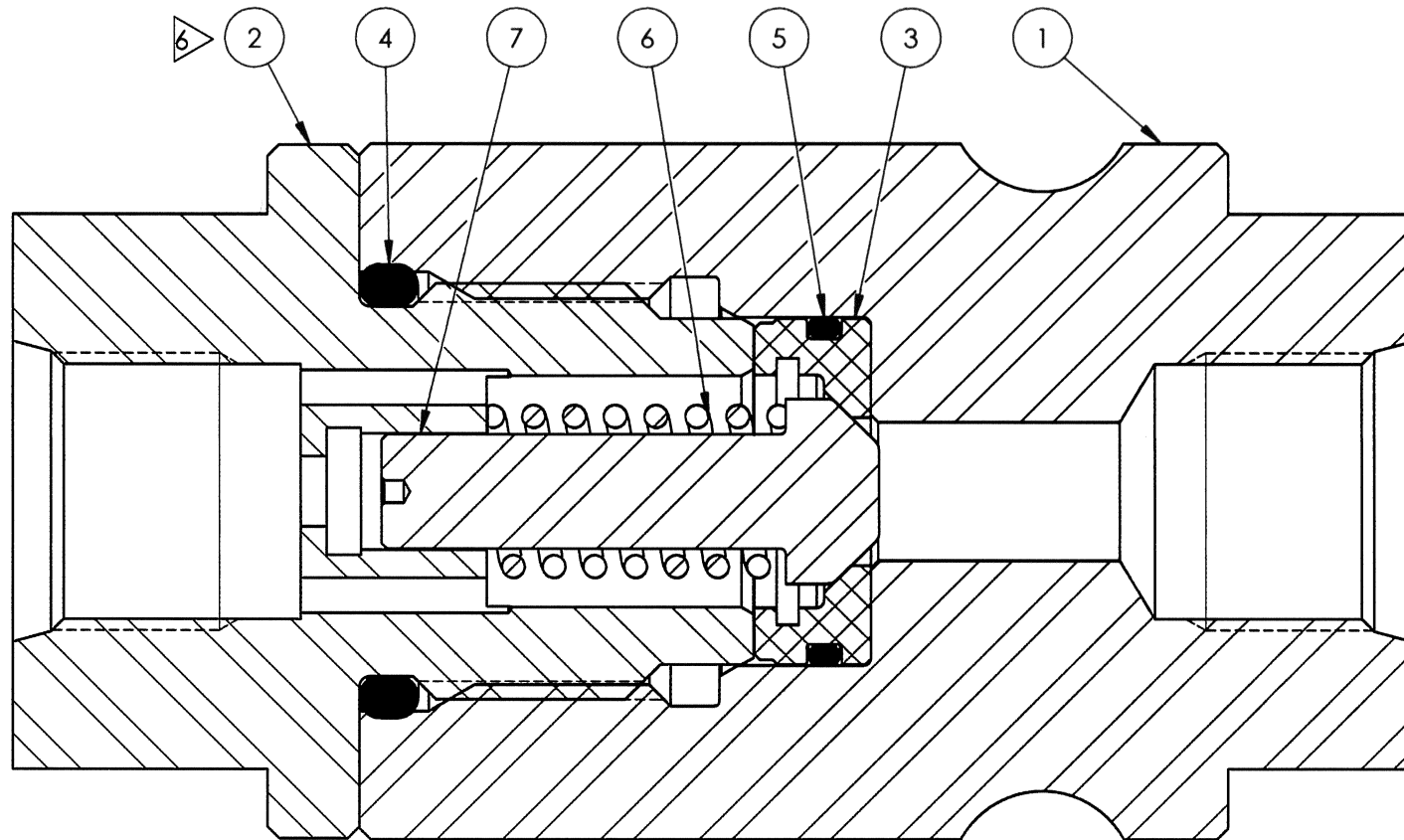


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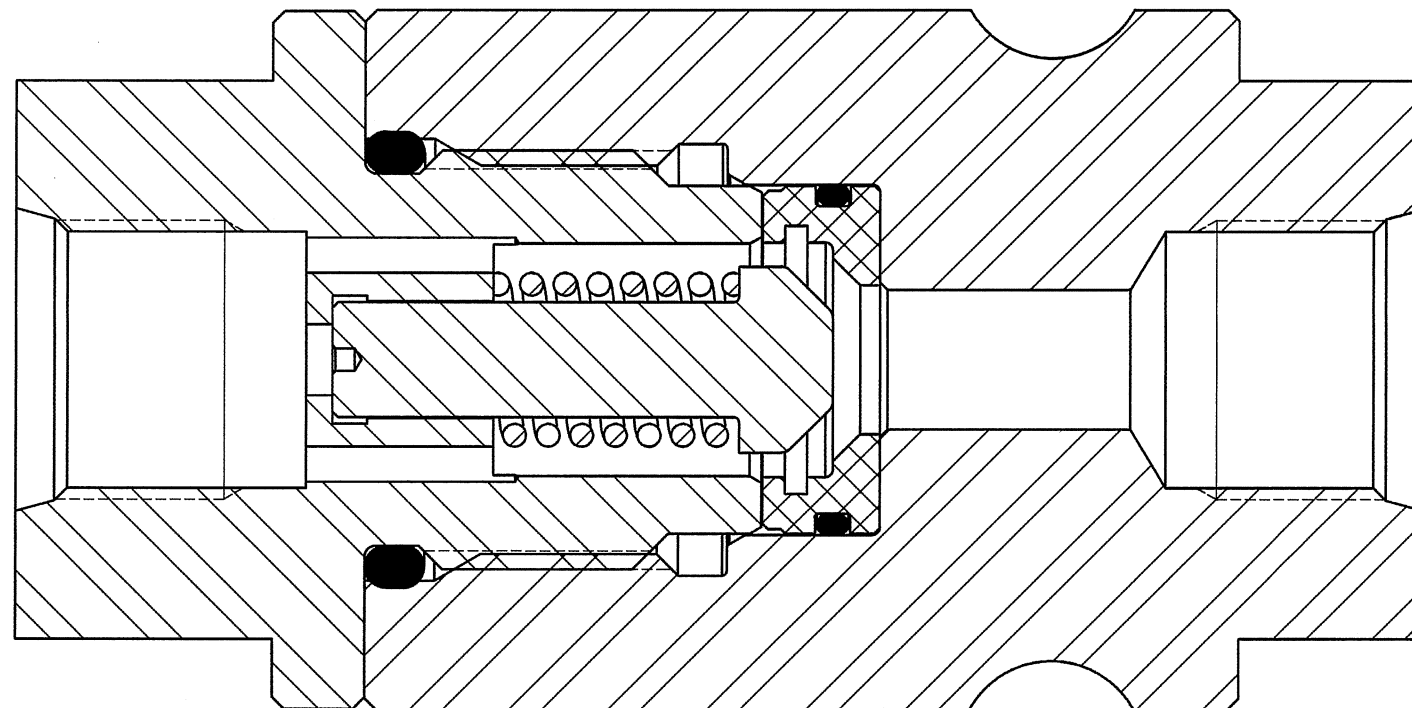
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2

1



SECTION A-A  
CLOSED



SECTION A-A  
OPEN

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	135635	BODY, 1/2" SAE, VALVE, CHECK, 1/2"	A276 TP 316	1		
2	135588	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	113486	SEAT	DELFIN 511P	1	X	X
4	18100-121K1	O-RING	HNBR	1	X	X
5	18100-026K1	O-RING	HNBR	1	X	X
6	113484	SPRING, POPPET	ELGILOY	1	X	
7	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	

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SIZE <b>B</b>	DWG NO <b>29000-2</b>	REV <b>E</b>
SCALE 2:1	SolidWorks	SHEET 2 OF 2

NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
4. 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29001-1 RK AND SEAL KIT 29001-1 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB

REVISIONS

REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 016900	9/4/19	9-4-19	9/4/19

PRESSURE DATA

VALVE MWP: 5,000 PSI  
 PILOT MAWP: 5,000 PSI  
 CRACKING PRESSURE: 60 PSI ±15 PSI  
 PILOT SPRING CAVITY VENT: EXTERNAL

1) MINIMUM RECOMMENDED PILOT PRESSURE: 1,500 PSI

2) NOMINAL OUTLET: PILOT RATIO 4:1

PILOT PRESSURE (WITH ZERO SUPPLY PRESSURE):

A) 500±150 PSI AT 1500 PSI OUTLET

B) 800±150 PSI AT 3000 PSI OUTLET

C) 1200±200 AT 5000 PSI OUTLET

FLOW DATA

MAXIMUM FLOW CAPACITY: 25 GPM  
 TYPICAL FLOW CAPACITY: 15 GPM  
 Cv = 1.0 (CALC)

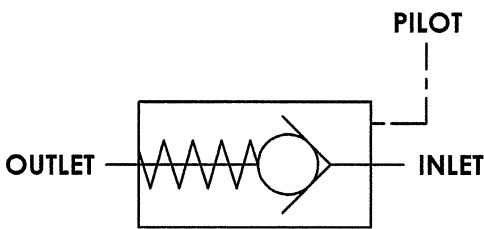
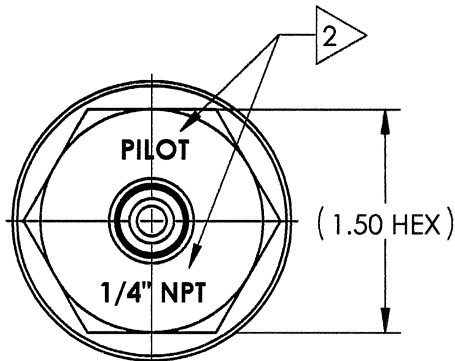
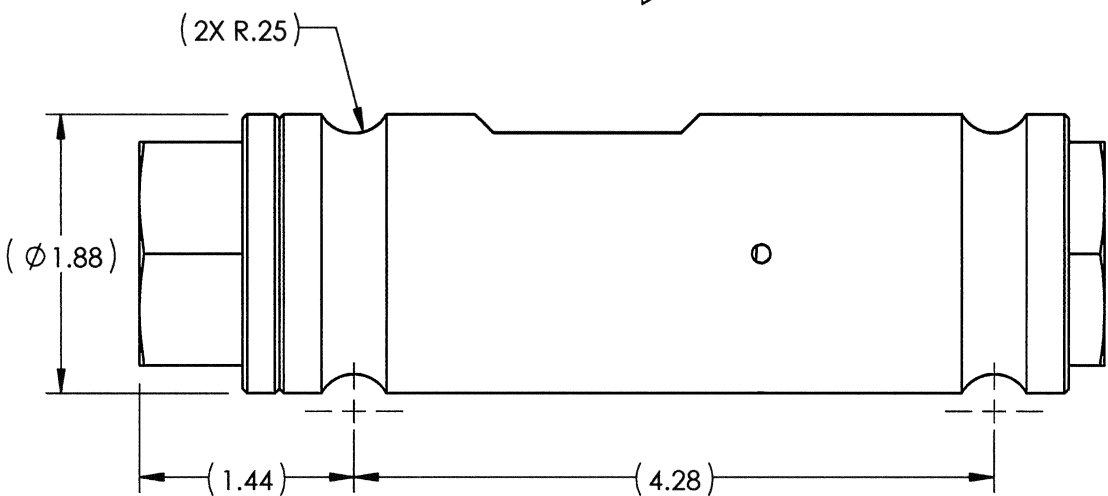
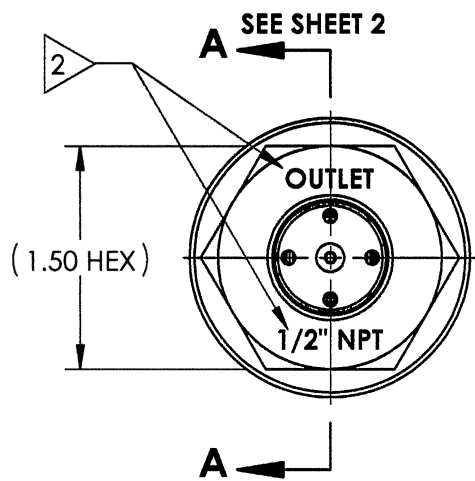
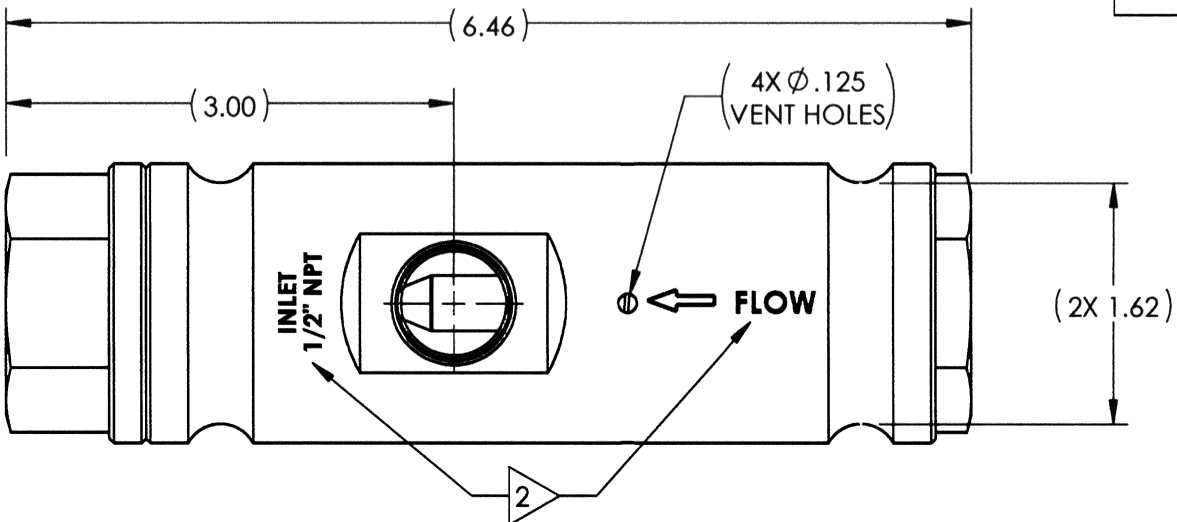
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
 2) MINERAL OIL BASED DRILLING CONTROL FLUID.

PORTS

INLET: 1/2" NPT  
 OUTLET: 1/2" NPT  
 PILOT: 1/4" NPT

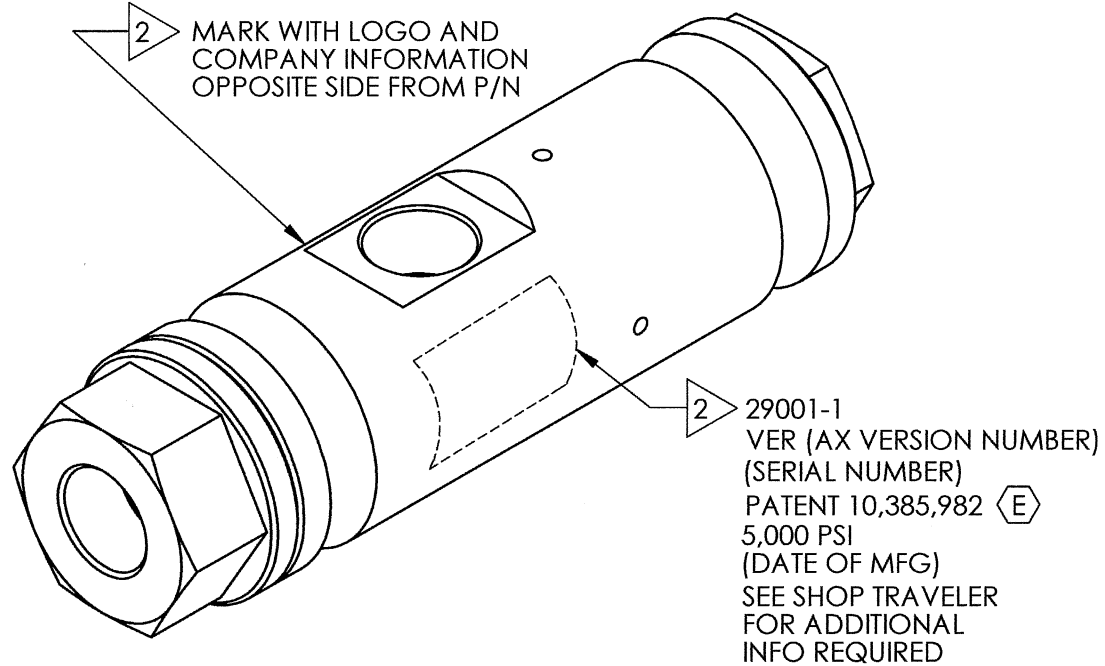
GENERAL


APPROX. WEIGHT: 4.5 LBS.  
 TEMPERATURE: 32°F TO 150°F  
 FIELD SERVICEABLE

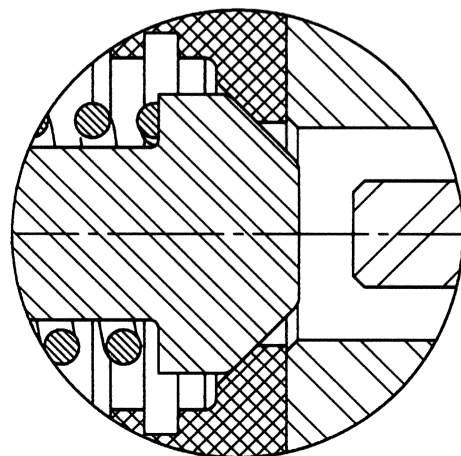


SCHEMATIC

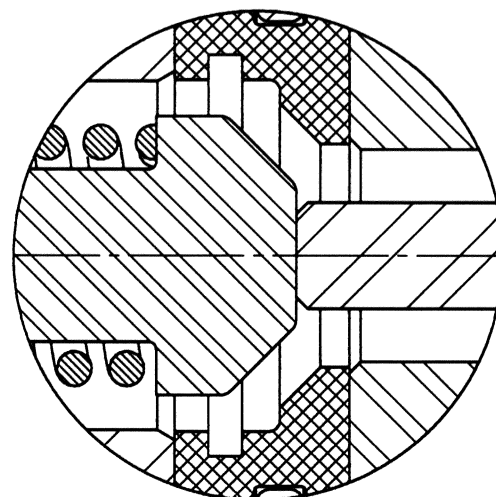
US PATENT NO. 10,385,982



MATERIAL: REFER TO 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		<div>proserv   Gilmore</div>		
CONDITION:		DRAWN BY JSB	DATE 9/13/16			
TREATMENT:		CHECKED BY GM	DATE 9/14/16			
		ENGINEER AP	DATE 9/13/16			
PROCEDURE NUMBER: <div>5</div>		ERN NUMBER 02061	DATE 9/13/16	<div>VALVE, CHECK, PILOTED, SOFT SEAT, 1/2" NPT IN, 1/2" NPT OUT, 1/4" NPT PILOT, 5000 PSI, EXTERNAL VENT</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.						
		SIZE B	DWG NO 29001-1		REV E	
		SCALE 1:1		SolidWorks		
		SHEET 1		OF 2		

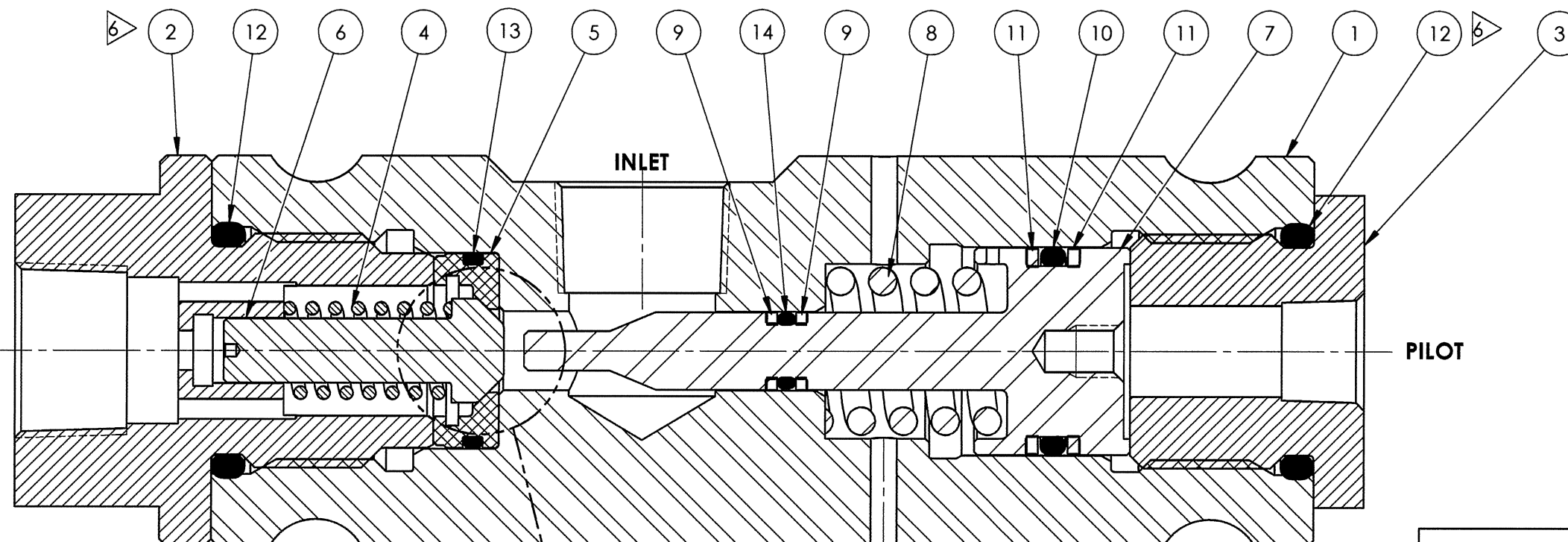


**DETAIL B  
CLOSED  
SCALE 3 : 1**





**DETAIL B  
OPEN  
SCALE 3 : 1**

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	113488	BODY, VALVE, CHECK	A276 TP 316	1		
2	113480	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	113477	PILOT CAP	A276 UNS 21800 (NITRONIC 60)	1		
4	113484	SPRING, POPPET	ELGILOY	1	X	
5	113486	SEAT	DELIN 511P	1	X	X
6	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	
7	113634	PISTON	A276 UNS S21800 (NITRONIC 60)	1		
8	113489	SPRING, COMPRESSION	ELGILOY	1	X	
9	18110-140P	BACKUP RING	PEEK	2	X	X
10	18100-074K1	O-RING	HNBR	1	X	X
11	18110-115P	BACKUP RING	PEEK	2	X	X
12	18100-121K1	O-RING	HNBR	2	X	X
13	18100-026K1	O-RING	HNBR	1	X	X
14	18100-008K1	O-RING	HNBR	1	X	X



**SECTION A-A  
SCALE 3 : 2**

 			
SIZE <b>B</b>	DWG NO <b>29001-1</b>	REV <b>E</b>	
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
4. 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29001-2 RK AND SEAL KIT 29001-2 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB

REVISIONS

REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 016900	SP 9/4/19	ay 9-4-19	AF 9/4/19

PRESSURE DATA

VALVE MWP: 5,000 PSI  
PILOT MAWP: 5,000 PSI  
CRACKING PRESSURE: 60 PSI ±15 PSI  
PILOT SPRING CAVITY VENT: INTERNAL

1) MINIMUM RECOMMENDED PILOT PRESSURE: 1,500 PSI

2) NOMINAL OUTLET: PILOT RATIO 4:1

PILOT PRESSURE (WITH ZERO SUPPLY PRESSURE):

A) 500±150 PSI AT 1500 PSI OUTLET

B) 800±150 PSI AT 3000 PSI OUTLET

C) 1200±200 AT 5000 PSI OUTLET

FLOW DATA

MAXIMUM FLOW CAPACITY: 25 GPM  
TYPICAL FLOW CAPACITY: 15 GPM  
Cv = 1.0 (CALC)

FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.

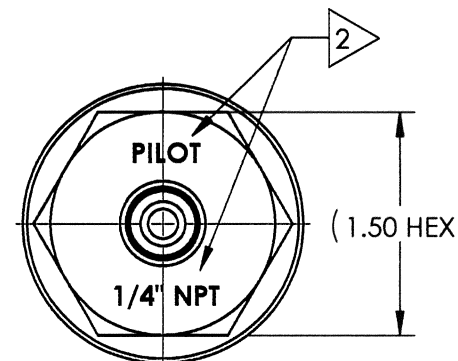
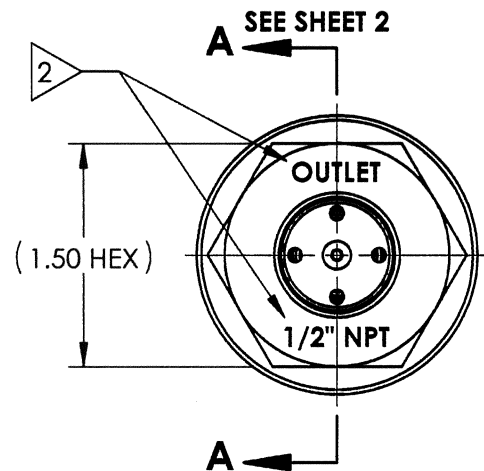
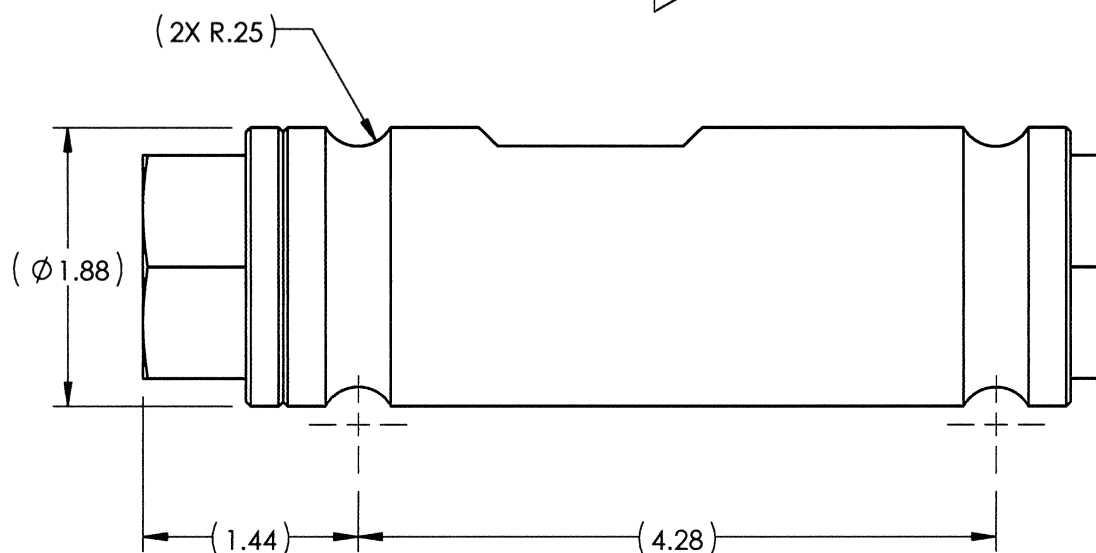
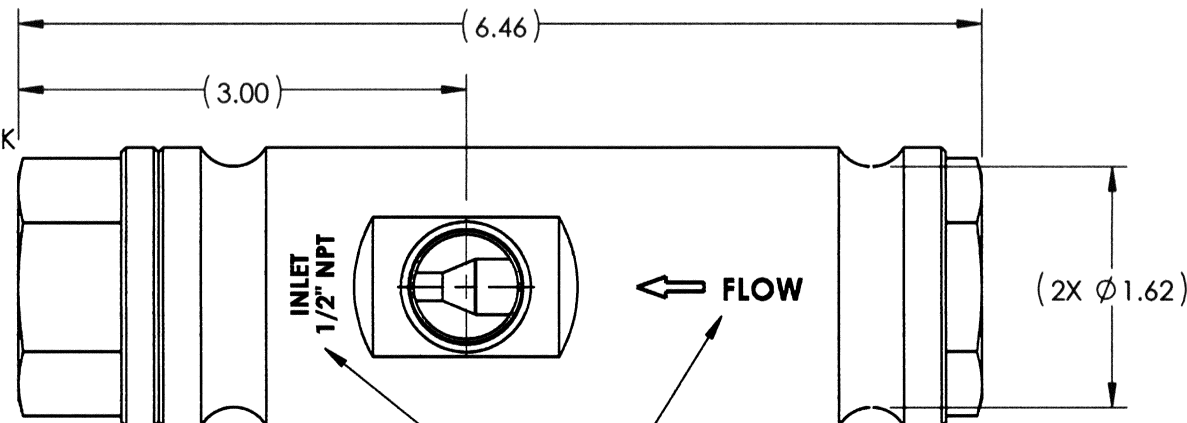
2) MINERAL OIL BASED DRILLING CONTROL FLUID.

PORTS

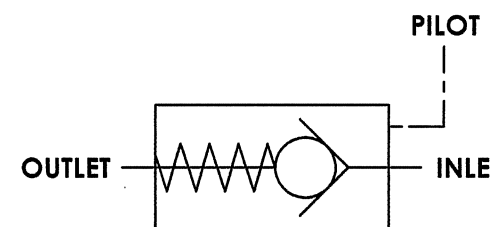
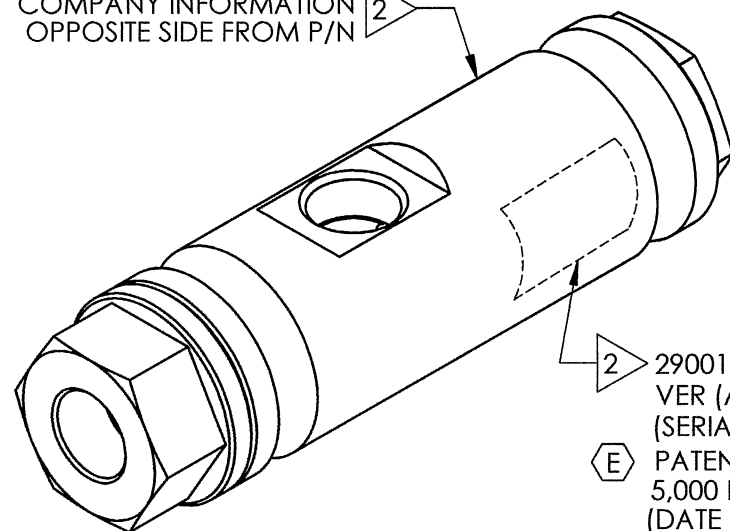
INLET: 1/2" NPT  
OUTLET: 1/2" NPT  
PILOT: 1/4" NPT

GENERAL

APPROX. WEIGHT: 4.5 LBS.  
TEMPERATURE: 32°F TO 150°F  
FIELD SERVICEABLE




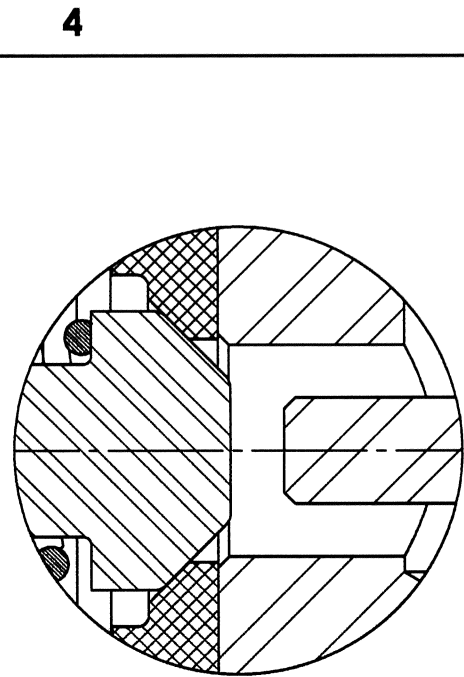
MARK WITH LOGO AND COMPANY INFORMATION OPPOSITE SIDE FROM P/N



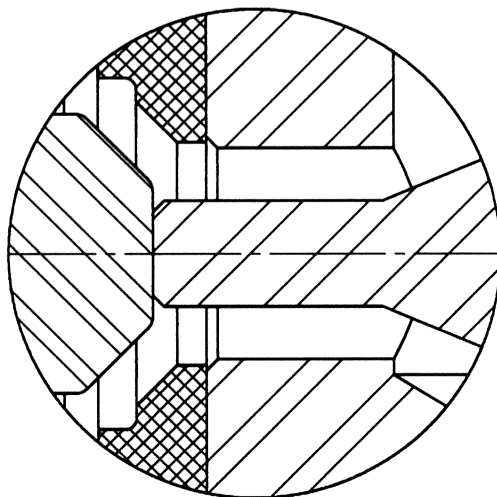
SCHEMATIC

US PATENT NO. 10,385,982

MATERIAL: REFER TO 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		<div>proserv</div>	
CONDITION:		DRAWN BY JSB	DATE 9/13/16	<div>VALVE, CHECK, PILOTED, SOFT SEAT, 1/2" NPT IN, 1/2" NPT OUT, 1/4" NPT PILOT, 5000 PSI, INTERNAL VENT</div>	
TREATMENT:		CHECKED BY GM	DATE 9/14/16		
		ENGINEER AP	DATE 9/13/16		
		ERN NUMBER 02061	DATE 9/13/16		
PROCEDURE NUMBER: <div>5</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.				
SIZE B		DWG NO 29001-2		REV E	
SCALE 1:		SolidWorks		SHEET 1 OF 2	



DETAIL B  
CLOSED  
SCALE 3 : 1

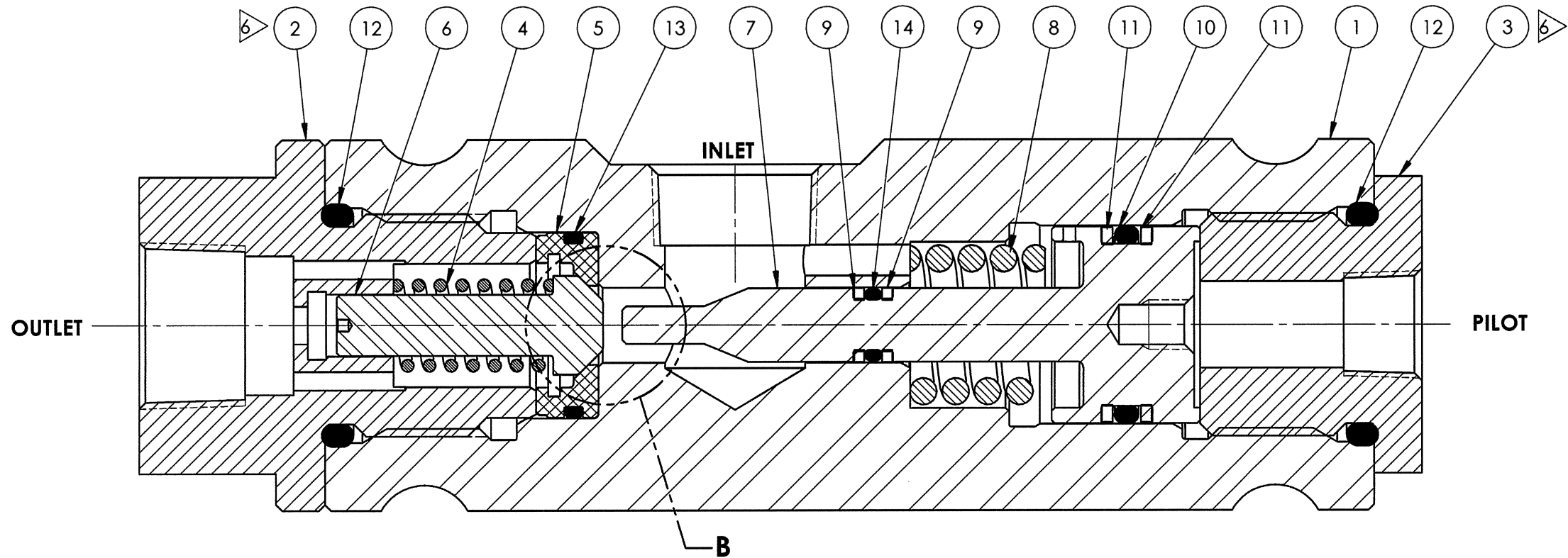


DETAIL B  
OPEN  
SCALE 3 : 1

3

1  
1

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	113475	BODY	A276 TP 316	1		
2	113480	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	11762	CAP, PILOT, 1/4" NPT, VALVE, CHECK, 1/2"	A276 UNS 21800 (NITRONIC 60)	1		
4	113484	SPRING, POPPET	ELGILOY	1	X	
5	113486	SEAT	DELIN 511P	1	X	X
6	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	
7	113634	PISTON	A276 UNS S21800 (NITRONIC 60)	1		
8	113489	SPRING, COMPRESSION	ELGILOY	1	X	
9	18110-140P	BACKUP RING	PEEK	2	X	X
10	18100-074K1	O-RING	HNBR	1	X	X
11	18110-115P	BACKUP RING	PEEK	2	X	X
12	18100-121K1	O-RING	HNBR	2	X	X
13	18100-026K1	O-RING	HNBR	1	X	X
14	18100-008K1	O-RING	HNBR	1	X	X



SECTION A-A  
SCALE 3 : 2

proserv   Gilmore			
SIZE <b>B</b>	DWG NO <b>29001-2</b>	REV <b>E</b>	
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
- 4 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29001-3 RK AND SEAL KIT 29001-3 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 016900	9/4/19	cy 9-4-19	AP 9/4/19

PRESSURE DATA

VALVE MWP: 5,000 PSI  
PILOT MAWP: 5,000 PSI  
CRACKING PRESSURE: 60 PSI ±15 PSI  
PILOT SPRING CAVITY VENT: EXTERNAL

1) MINIMUM RECOMMENDED PILOT PRESSURE: 1,500 PSI

2) NOMINAL OUTLET: PILOT RATIO 4:1

PILOT PRESSURE (WITH ZERO SUPPLY PRESSURE):

A) 500±150 PSI AT 1500 PSI OUTLET

B) 800±150 PSI AT 3000 PSI OUTLET

C) 1200±200 AT 5000 PSI OUTLET

FLOW DATA

MAXIMUM FLOW CAPACITY: 25 GPM  
TYPICAL FLOW CAPACITY: 15 GPM  
Cv = 1.0 (CALC)

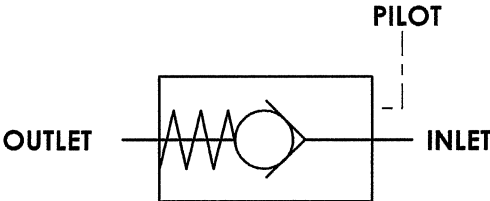
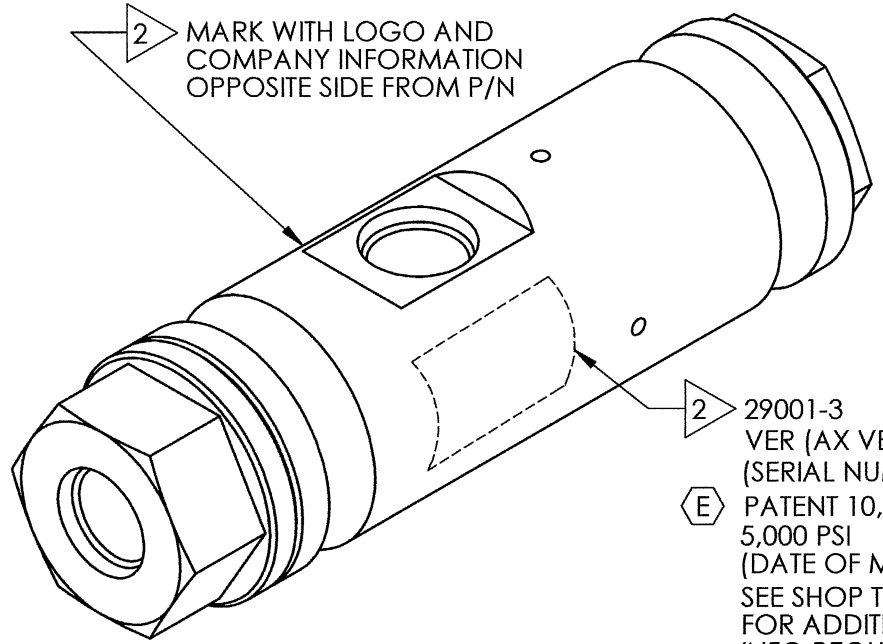
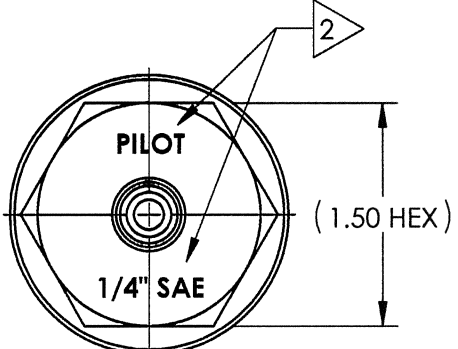
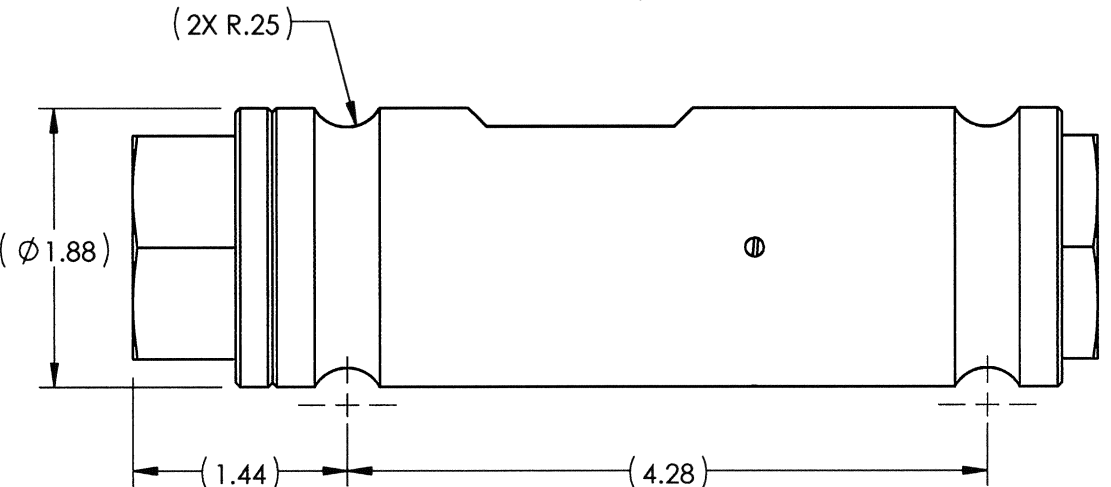
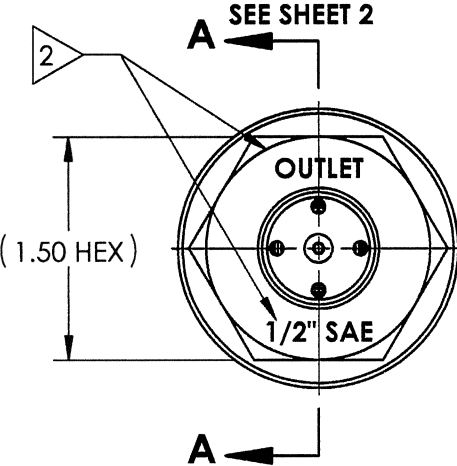
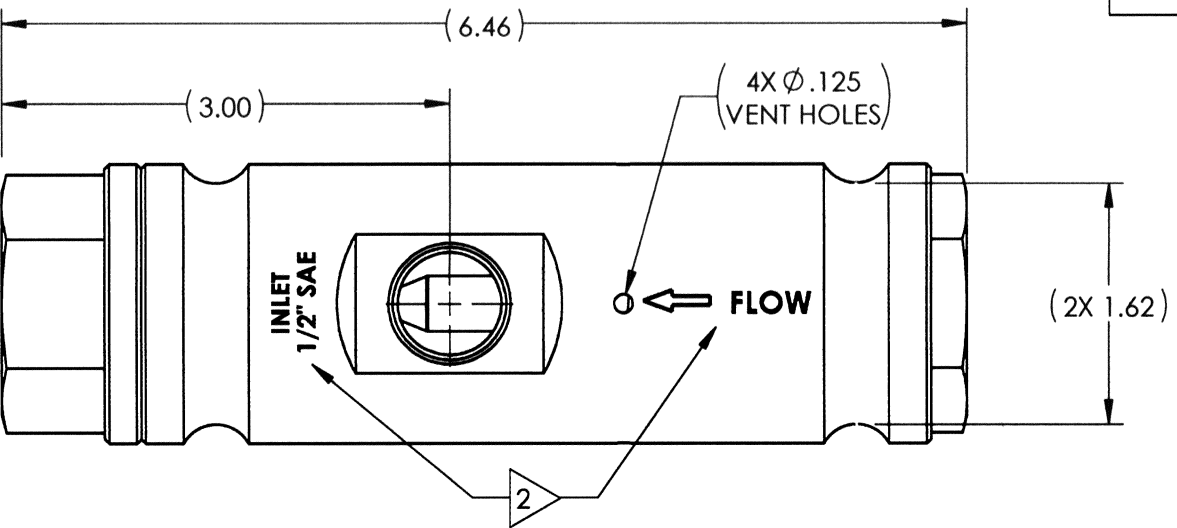
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
2) MINERAL OIL BASED DRILLING CONTROL FLUID.

PORTS

INLET: 1/2" SAE  
OUTLET: 1/2" SAE  
PILOT: 1/4" SAE

GENERAL

APPROX. WEIGHT: 4.5 LBS.  
TEMPERATURE: 32°F TO 150°F  
FIELD SERVICEABLE



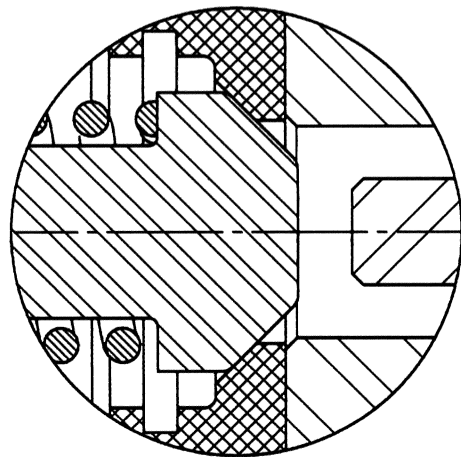
SCHEMATIC

US PATENT NO. 10,385,982

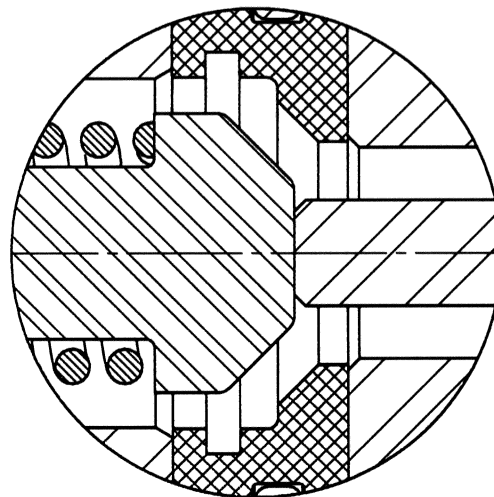
29001-3  
VER (AX VERSION NUMBER)  
(SERIAL NUMBER)  
PATENT 10,385,982  
5,000 PSI  
(DATE OF MFG)  
SEE SHOP TRAVELER  
FOR ADDITIONAL  
INFO REQUIRED

MATERIAL: REFER TO INDIV BOM ITEMS		DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED:		APPROVAL		proserv   Gilmore	
CONDITION:		1) TOLERANCES: .X: ±.1 .XX: ±.01 .XXX: ±.005 ANGLES: ±.5°		DRAWN BY	DATE	VALVE, CHECK, PILOTED, SOFT SEAT, 1/2" SAE IN, 1/2" SAE OUT, 1/4" SAE PILOT, 5000 PSI, EXTERNAL VENT	
TREATMENT:		2) SURFACE TEXTURE: 63		CHECKED BY	DATE		
PROCEDURE NUMBER:		3) CORADIAL FEATURES SHALL BE © WITHIN .010		ENGINEER	DATE		
		4) BREAK SHARP EDGES .010		ERN NUMBER	DATE		
		5) INTERNAL RADII SHALL BE .016 MAX		02061 9/13/16		SIZE	DWG NO
		6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED, ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		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.		B	29001-3
						SCALE 1:1	REV E
						SolidWorks	SHEET 1 OF 2



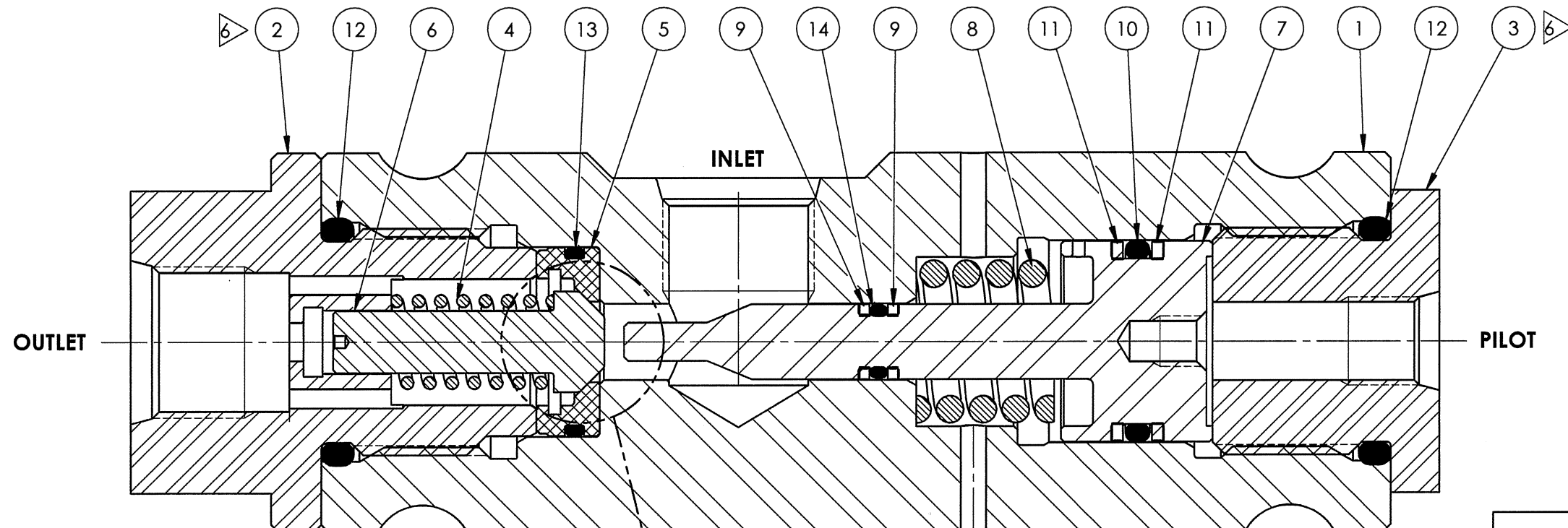


DETAIL B  
CLOSED  
SCALE 3 : 1



DETAIL B  
OPEN  
SCALE 3 : 1

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	135656	BODY, VALVE, CHECK	A276 TP 316	1		
2	135588	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	135655	PILOT CAP	A276 UNS 21800 (NITRONIC 60)	1		
4	113484	SPRING, POPPET	ELGILOY	1	X	
5	113486	SEAT	DELIN 511P	1	X	X
6	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	
7	113634	PISTON	A276 UNS S21800 (NITRONIC 60)	1		
8	113489	SPRING, COMPRESSION	ELGILOY	1	X	
9	18110-140P	BACKUP RING	PEEK	2	X	X
10	18100-074K1	O-RING	HNBR	1	X	X
11	18110-115P	BACKUP RING	PEEK	2	X	X
12	18100-121K1	O-RING	HNBR	2	X	X
13	18100-026K1	O-RING	HNBR	1	X	X
14	18100-008K1	O-RING	HNBR	1	X	X



SECTION A-A  
SCALE 3 : 2

proserv   Gilmore			
SIZE <b>B</b>	DWG NO <b>29001-3</b>	REV <b>E</b>	
SCALE 1:1	SolidWorks	SHEET 2 OF 2	



NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
- 4 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29114 RK AND SEAL KIT 29114 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB
- 7 TORQUE ORIFICE TO 5 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
A	ERN 02390	ay 2-18-20	2/18/20	ATP 2/18/20

**PRESSURE DATA**

VALVE MWP: 5,000 PSI  
 PILOT MWP: 5,000 PSI  
 CRACKING PRESSURE: 60 PSI ±15 PSI  
 PILOT SPRING CAVITY VENT: INTERNAL

1) MINIMUM RECOMMENDED PILOT PRESSURE: 1,500 PSI

2) NOMINAL OUTLET: PILOT RATIO 4:1

PILOT PRESSURE (WITH ZERO SUPPLY PRESSURE):

A) 500±150 PSI AT 1500 PSI OUTLET

B) 800±150 PSI AT 3000 PSI OUTLET

C) 1200±200 AT 5000 PSI OUTLET

**FLOW DATA**

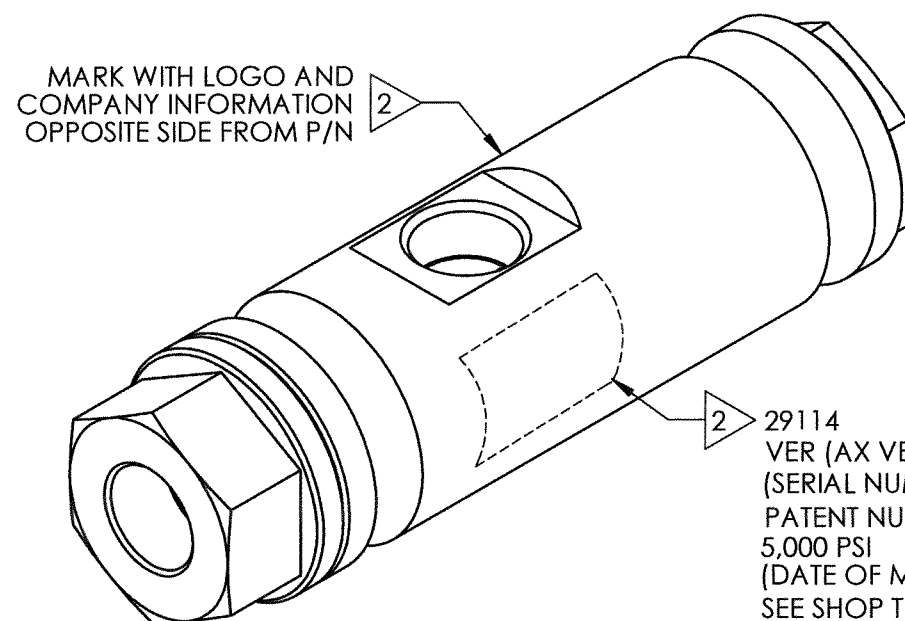
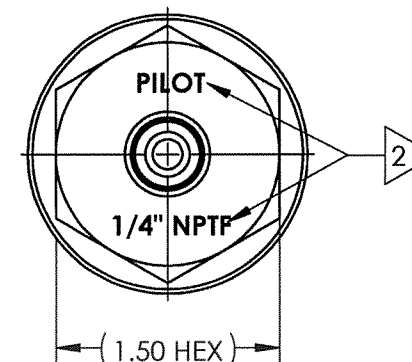
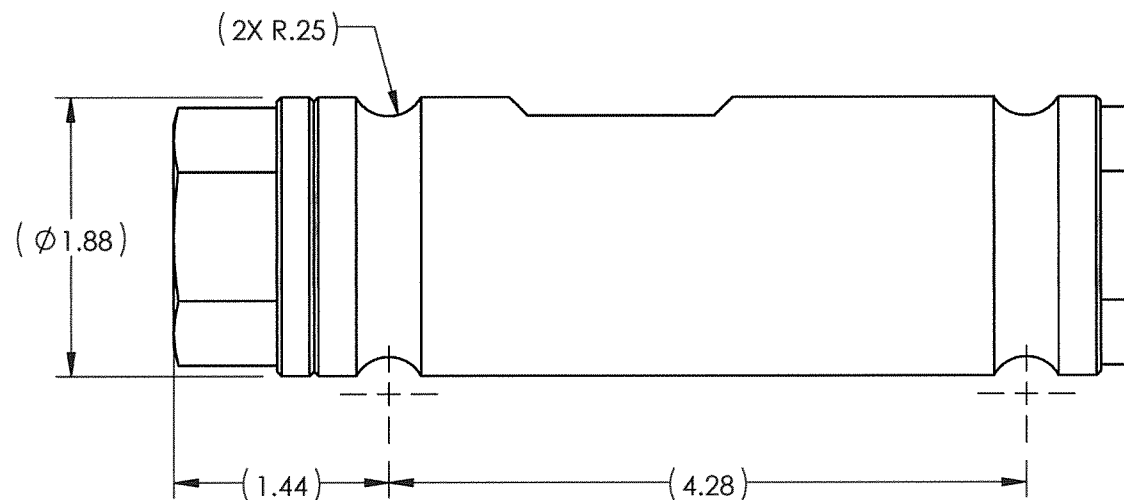
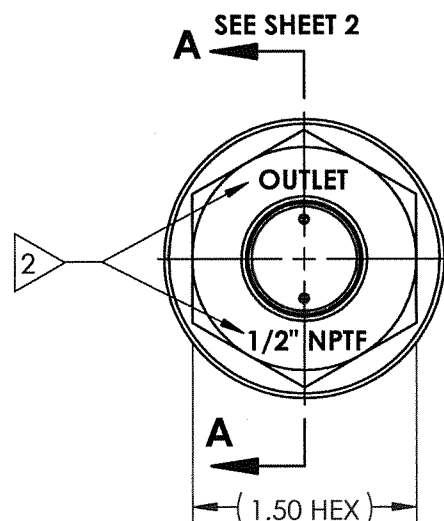
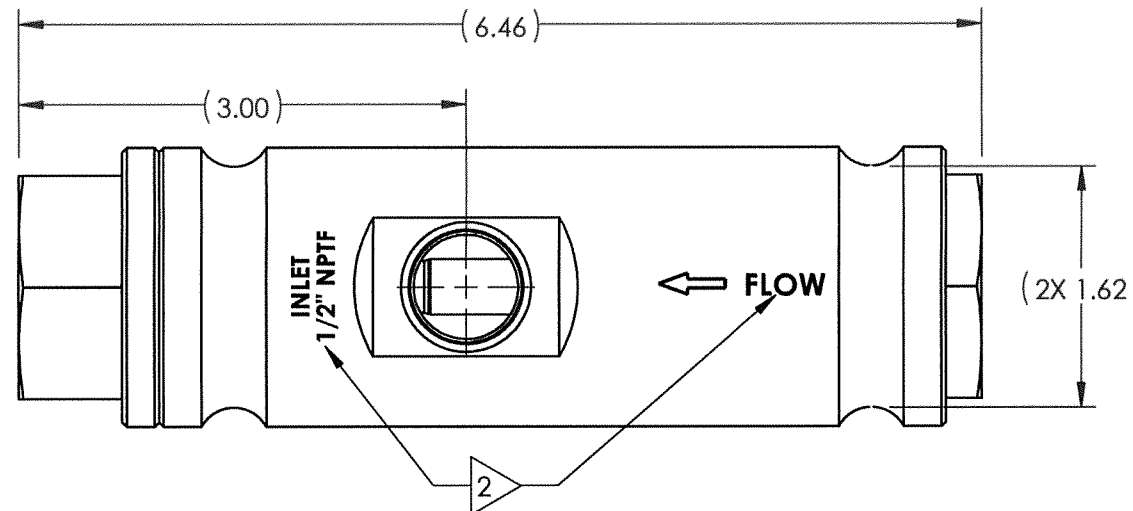
Cv = 0.15 FORWARD FLOW  
 Cv = 0.20 REVERSE FLOW  
 FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
 2) MINERAL OIL BASED DRILLING CONTROL FLUID.

**PORTS**

INLET: 1/2" NPTF  
 OUTLET: 1/2" NPTF  
 PILOT: 1/4" NPTF

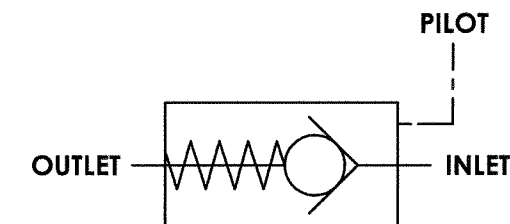
**GENERAL**

APPROX. WEIGHT: 4.5 LBS.  
 TEMPERATURE: 32°F TO 150°F  
 FIELD SERVICEABLE




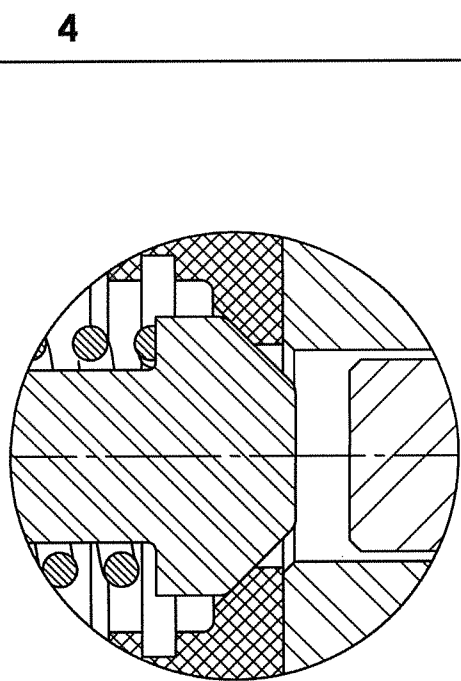
29114  
 VER (AX VERSION NUMBER)  
 (SERIAL NUMBER)  
 PATENT NUMBER  
 5,000 PSI  
 (DATE OF MFG)  
 SEE SHOP TRAVELER  
 FOR ADDITIONAL  
 INFO REQUIRED

US PATENT NO. 10,385,982

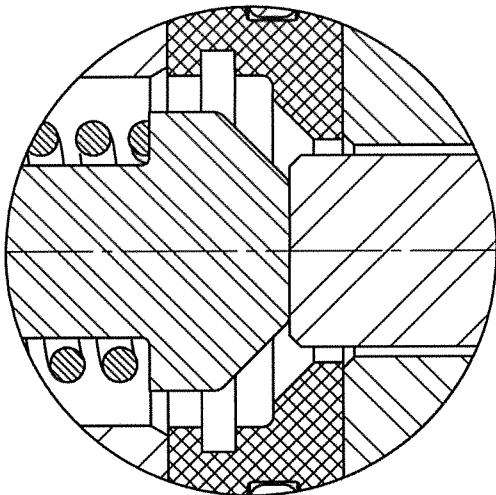


**SCHEMATIC**

MATERIAL: REFER TO 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>Cey</i>	DATE 2-18-20		
TREATMENT:		CHECKED BY <i>JF</i>	DATE 2/18/20	<b>VALVE, CHECK, THROTTLING, PILOTED 1/2" NPTF, 5,000 PSI, INTERNAL VENT</b>	
		ENGINEER <i>ATP</i>	DATE 2/18/20		
PROCEDURE NUMBER: <div>5</div>		ERN NUMBER 02390	DATE 2-18-20	SIZE <b>B</b>	DWG NO <b>29114</b>
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.			SCALE 1:	<b>SolidWorks</b>	SHEET 1 OF 2



**DETAIL B  
CLOSED  
SCALE 3 : 1**



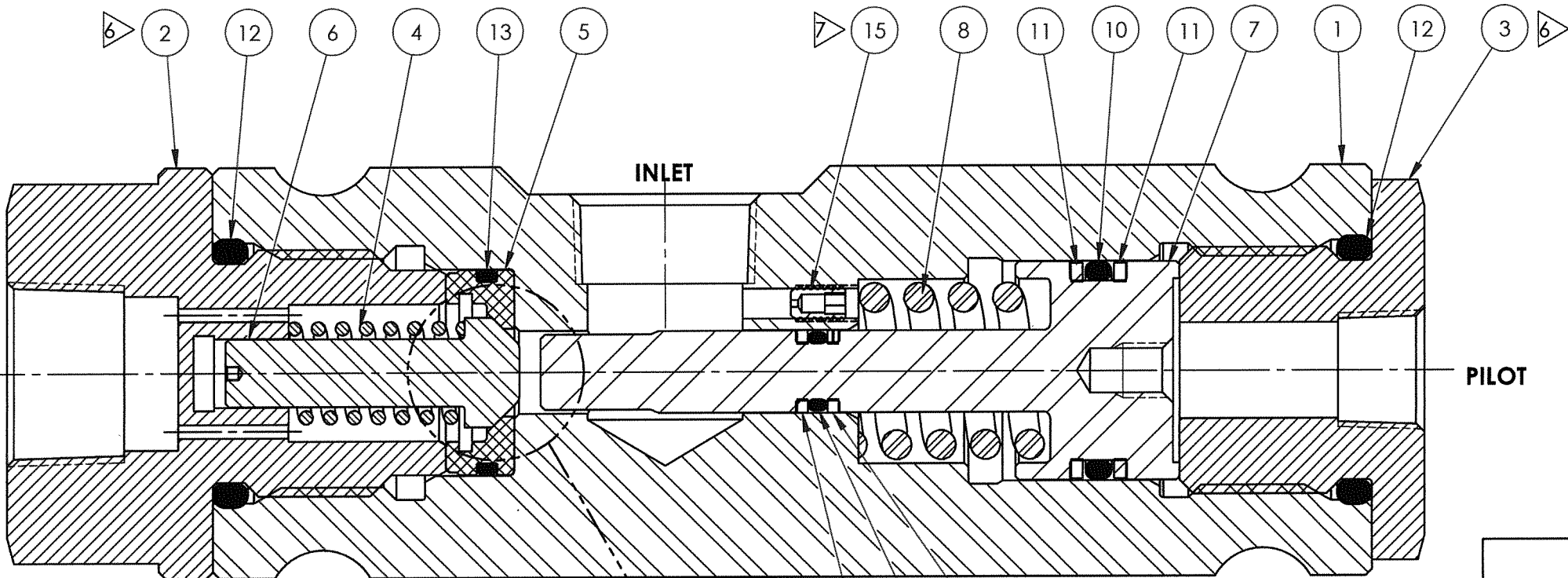
**DETAIL B  
OPEN  
SCALE 3 : 1**

3


1

1

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	187966	BODY	A276 TP 316	1		
2	183816	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	113477	PILOT CAP	A276 UNS 21800 (NITRONIC 60)	1		
4	113484	SPRING, POPPET	ELGILOY	1	X	
5	113486	SEAT	DELIN 511P	1	X	X
6	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	
7	183818	PISTON	A276 UNS S21800 (NITRONIC 60)	1		
8	113489	SPRING, COMPRESSION	ELGILOY	1	X	
9	18110-140P	BACKUP RING	PEEK	2	X	X
10	18100-074K1	O-RING	HNBR	1	X	X
11	18110-115P	BACKUP RING	PEEK	2	X	X
12	18100-121K1	O-RING	HNBR	2	X	X
13	18100-026K1	O-RING	HNBR	1	X	X
14	18100-008K1	O-RING	HNBR	1	X	X
15	188049	INSERT, #8-32 UNC X .25" LONG	Z-31-8/32-4-SS	1		



**SECTION A-A  
SCALE 3 : 2**


**ENGINEERING**

SIZE <b>B</b>	DWG NO <b>29114</b>	REV <b>A</b>
SCALE 1:1	SolidWorks	SHEET 2 OF 2

NOTES:

- 1 MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
- 2 MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
- 3 ALL METAL ITEMS ARE PASSIVATED
- 4 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29064 RK AND SEAL KIT 29064 SK.
- 5 FOR ASSEMBLY PROCEDURE SEE 50184, FOR MAINTENANCE MANUAL SEE 51013, FOR EXTENDED FAT PROCEDURE SEE 50183, FOR STANDARD FAT PROCEDURE SEE 50187.
- 6 TORQUE CAP TO 50 FT-LB
- 7 TORQUE ORIFICE TO 5 FT-LB

REVISIONS

REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
B	ECO 016900	9/4/19	ay 9-4-19	AP 9/4/19

PRESSURE DATA

VALVE MWP: 5,000 PSI  
PILOT MWP: 5,000 PSI  
CRACKING PRESSURE: 60 PSI ±15 PSI  
PILOT SPRING CAVITY VENT: INTERNAL

1) MINIMUM RECOMMENDED PILOT PRESSURE: 1,500 PSI

2) NOMINAL OUTLET: PILOT RATIO 4:1

PILOT PRESSURE (WITH ZERO SUPPLY PRESSURE):

A) 500±150 PSI AT 1500 PSI OUTLET

B) 800±150 PSI AT 3000 PSI OUTLET

C) 1200±200 AT 5000 PSI OUTLET

FLOW DATA

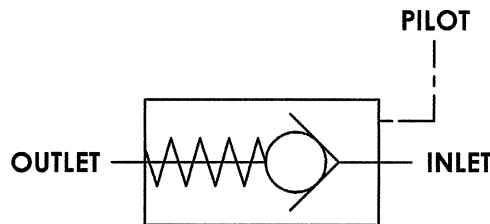
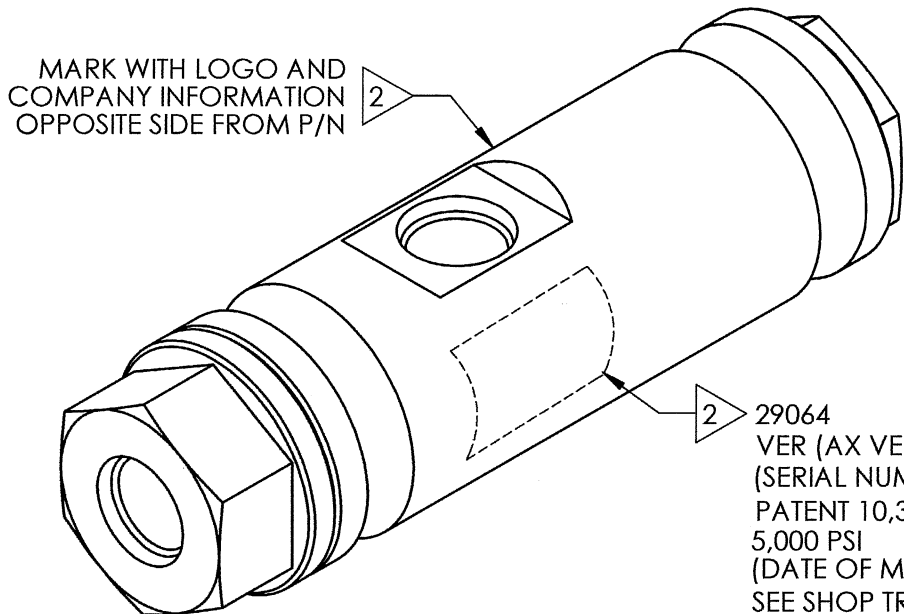
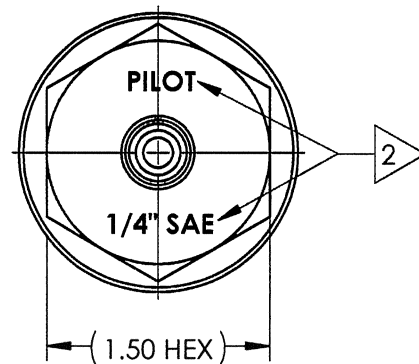
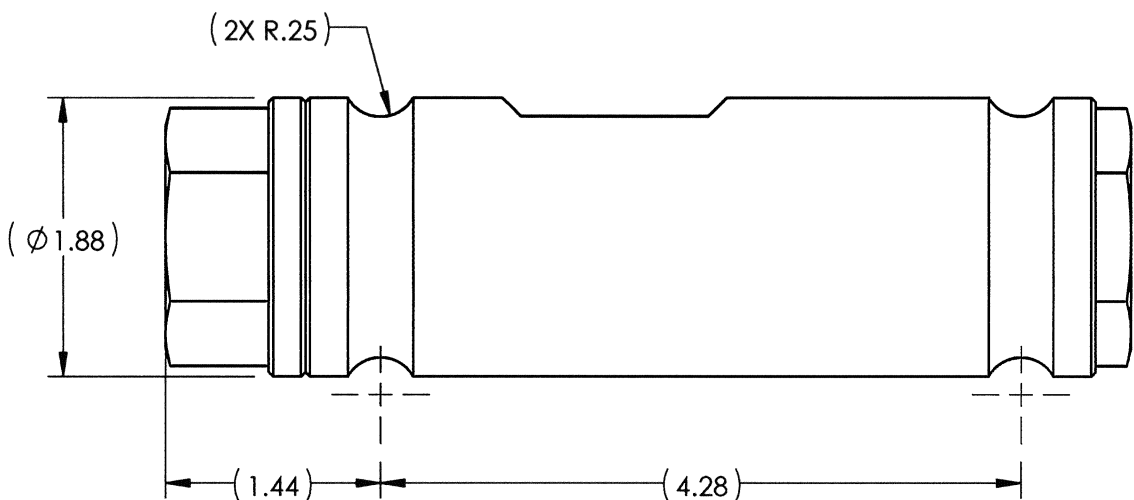
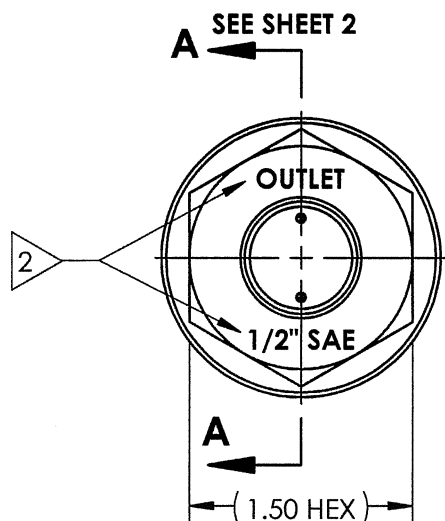
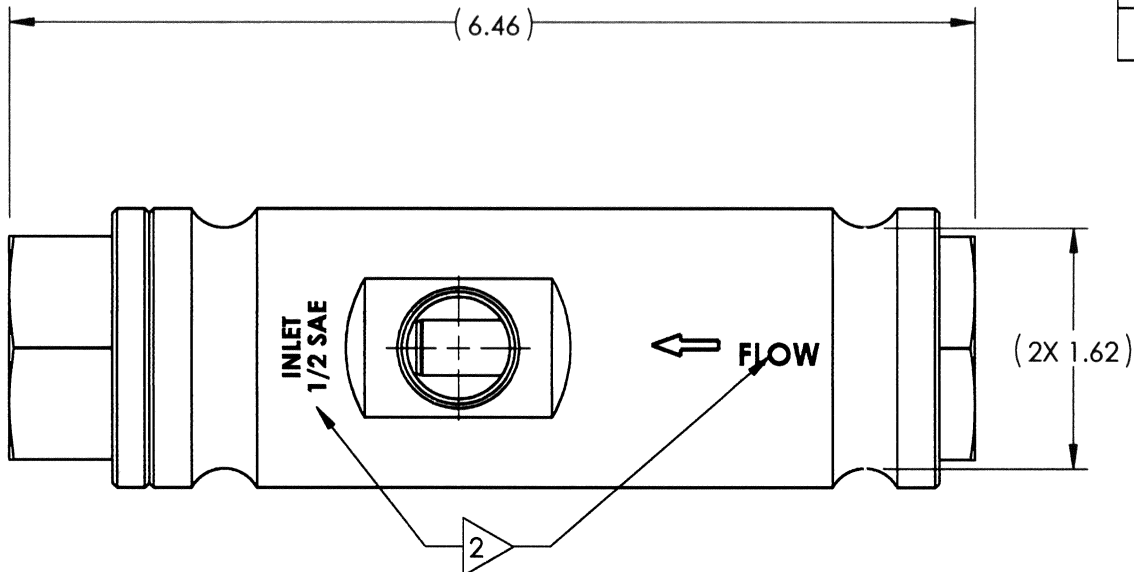
Cv = 0.15 FORWARD FLOW  
Cv = 0.20 REVERSE FLOW  
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.  
2) MINERAL OIL BASED DRILLING CONTROL FLUID.

PORTS



INLET: 1/2" SAE  
OUTLET: 1/2" SAE  
PILOT: 1/4" SAE

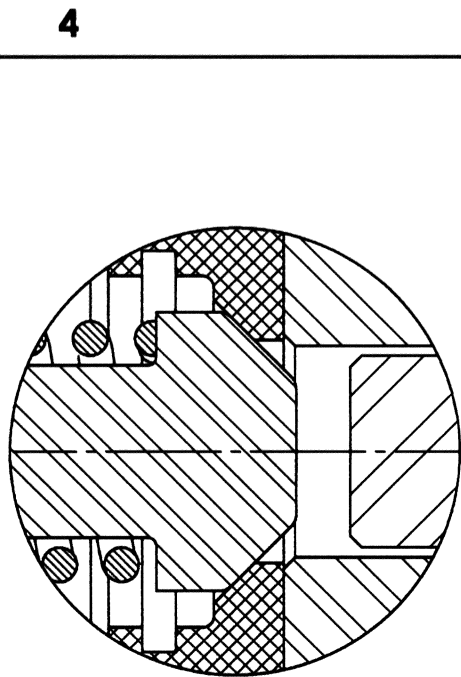
GENERAL

APPROX. WEIGHT: 4.5 LBS.  
TEMPERATURE: 32°F TO 150°F  
FIELD SERVICEABLE

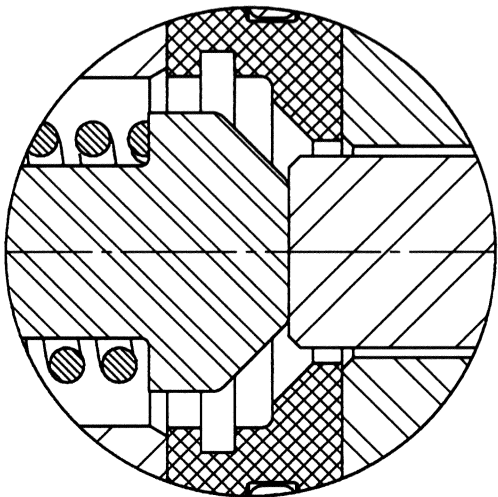


US PATENT NO. 10,385,982

MATERIAL: REFER TO 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		proserv    Gilmore		
CONDITION:		DRAWN BY JOP	DATE 03/08/19	VALVE, CHECK, THROTTLING, PILOTED, 1/2" SAE, 5,000 PSI, INTERNAL VENT		
TREATMENT:		CHECKED BY CY	DATE 03/08/19			
		ENGINEER AJP	DATE 03/08/19			
		ERN NUMBER 02290	DATE 03/08/19			
PROCEDURE NUMBER:		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>29064</b>	REV <b>B</b>
		SCALE 1:1			SolidWorks	
		SHEET 1 OF 2				

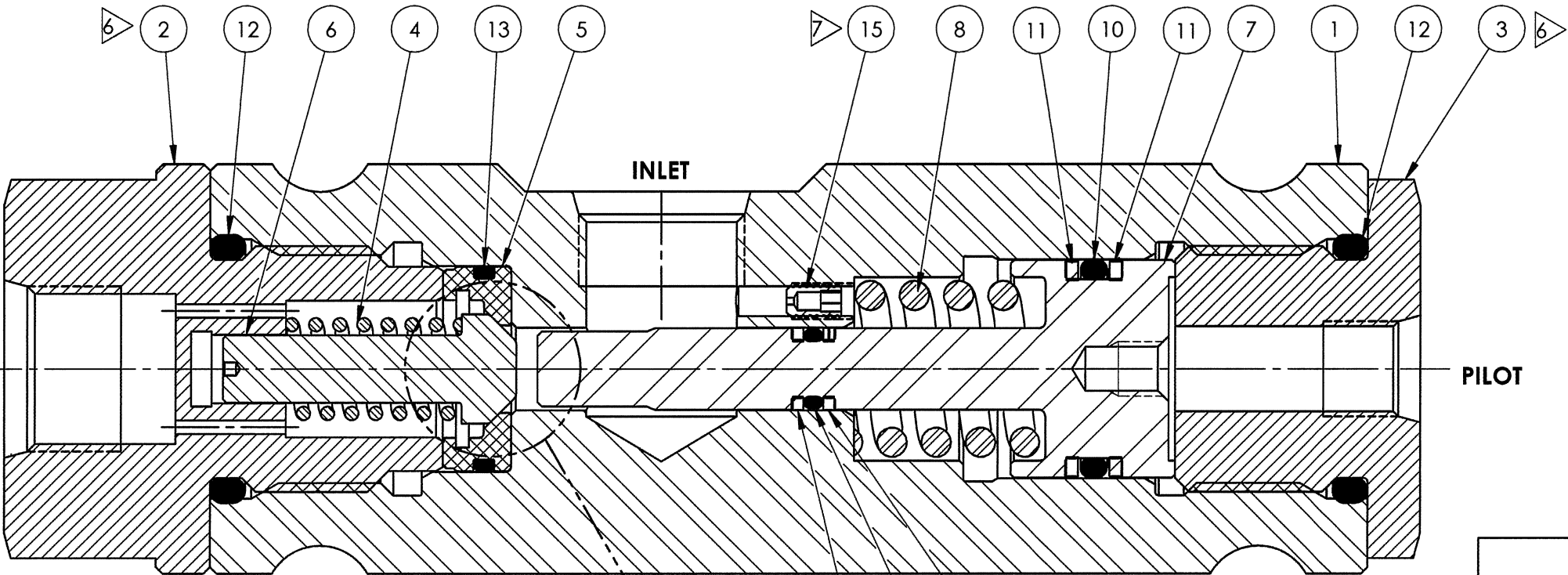


DETAIL B  
CLOSED  
SCALE 3 : 1




DETAIL B  
OPEN  
SCALE 3 : 1

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	194652	BODY	A276 TP 316	1		
2	194653	SEAT CAP	A276 UNS S21800 (NITRONIC 60)	1		
3	135655	PILOT CAP	A276 UNS 21800 (NITRONIC 60)	1		
4	113484	SPRING, POPPET	ELGILOY	1	X	
5	113486	SEAT	DELIN 511P	1	X	X
6	107521	POPPET	A276 UNS S21800 (NITRONIC 60)	1	X	
7	183818	PISTON	A276 UNS S21800 (NITRONIC 60)	1		
8	113489	SPRING, COMPRESSION	ELGILOY	1	X	
9	18110-140P	BACKUP RING	PEEK	2	X	X
10	18100-074K1	O-RING	HNBR	1	X	X
11	18110-115P	BACKUP RING	PEEK	2	X	X
12	18100-121K1	O-RING	HNBR	2	X	X
13	18100-026K1	O-RING	HNBR	1	X	X
14	18100-008K1	O-RING	HNBR	1	X	X
15	188049	INSERT, #8-32 UNC X .25" LONG	Z-31-8/32-4-SS	1		



SECTION A-A  
SCALE 3 : 2

proserv   			
SIZE <b>B</b>	DWG NO <b>29064</b>	REV <b>B</b>	
SCALE 1:1	SolidWorks	SHEET 2 OF 2	