Product Information Bulletin

¼” GEN 2 Disc Shuttle Valve Product Line

REV	DATE	DESCRIPTION	ORIGIN (issued by)	APPROVED
001	11-29-2016	Document No: 120-112916-001	AP	SS
002	12-17-2020	Document No: 120-112916-002	SD	BR

For more information:
Call (800) 469-8786
Gilmore@proserv.com

Gilmore, A Proserv Company
1231 Lumpkin Road
Houston, TX 77043

Product Information Bulletin

¼” GEN 2 Disc Shuttle Valve Product Line

Gilmore’s GEN 2 line of ¼” Shuttle Valves act as flow logic components that allow the automatic selection of flow from two supply (inlet) ports to be directed through a common function (outlet) port.
The Gilmore ¼” GEN 2 disc shuttle valve has been designed with the same footprint as the legacy Gilmore ¼” shuttle valves. This thoroughly redesigned product line provides an improvement in cycle life and performance.

Features and Benefits:

- Peek Disc Seal
- Elgiloy Spring
- T316 Body Material
- Nitronic 60 End Caps, Cage and Shuttle
- Spring biased, unbiased, low interflow and high interflow options.

Figure 1. PN 29005: ¼” NPT GEN 2 Disc Shuttle Valve, Low interflow

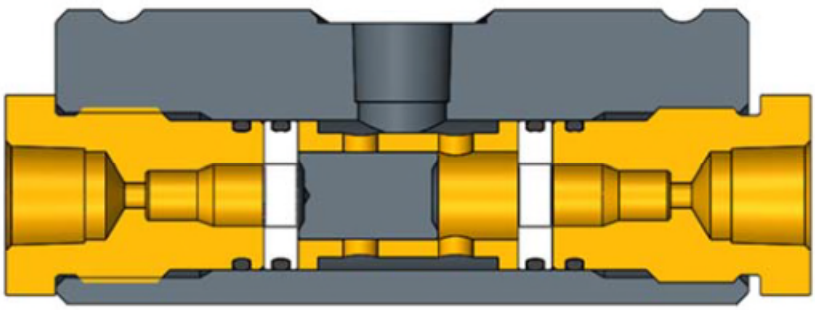
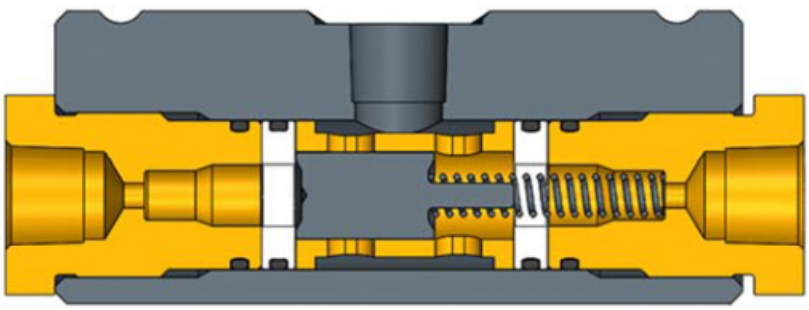


Figure 2. PN 29005-3: Spring Biased ¼” NPT GEN 2 Disc Shuttle Valve, High Interflow



Gilmore has exceeded API 16D requirements by qualifying the new ¼" GEN 2 Shuttle Valve designs to multiple endurance qualification tests to 2500 cycles, at a starting flow rate of 8 gpm (4 gpm for spring-biased version) at 5000 psi, with 1% - 4% water glycol test fluid.

The new Gilmore ¼" GEN 2 Disc Shuttle Valves have an identical footprint to the legacy valves. Note that Gilmore will continue to sell and support the legacy ¼" shuttle valve repair kits, seal kits and Aftermarket support after new valve sales of the legacy design are discontinued.

Note that GEN 2 shuttle valve kits **are not** interchangeable with legacy repair kits and cannot be used in the legacy shuttle valves.

As a result of the new Gilmore ¼" GEN 2 Disc Shuttle Valve product line, please note that sales of the legacy ¼" Traditional Shuttle Valve part numbers listed below in Table 1 were discontinued on November 30, 2017.

Table 1. New and Legacy 1/4" Shuttle 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, Shuttle, 1/4 NPT, Spring Biased, Low Interflow	25416	25416 RK	Valve, Shuttle, 1/4 NPT, Spring Biased, Low Interflow, Disc Seat	29005-1	29005-1 RK
2	Valve, Shuttle, 1/4 NPT, Spring Biased, Low Interflow, T316	28443	28443 RK	Valve, Shuttle, 1/4 NPT, Spring Biased, Low Interflow, Disc Seat	29005-1	29005-1 RK
3	Valve, Shuttle, 1/4 NPT, Spring Biased, High Interflow	25416-1	25416-1 RK	Valve, Shuttle, 1/4 NPT, Spring Biased, Hi Interflow, Disc Seat	29005-3	29005-3 RK
4	Valve, Shuttle, 1/4 NPT, Spring Biased, High Interflow, T316	116518	116519	Valve, Shuttle, 1/4 NPT, Spring Biased, Hi Interflow, Disc Seat	29005-3	29005-3 RK
5	Valve, Shuttle, 1/4 NPT, Low Interflow	22519	22519 RK	Valve, Shuttle, 1/4 NPT, Non Biased, Low Interflow, Disc Seat	29005	29005 RK
6	Valve, Shuttle, 1/4 NPT, Low Interflow, N60	28195	28198 RK	Valve, Shuttle, 1/4 NPT, Low Interflow, Disc Seat	29005	29005 RK
7	Valve, Shuttle, 1/4 NPT, Low Interflow, T316	28440	28440 RK	Valve, Shuttle, 1/4 NPT, Low Interflow, Disc Seat	29005	29005 RK
8	Valve, Shuttle, 1/4 NPT, High Interflow	22760	22760 RK	Valve, Shuttle, 1/4 NPT, Hi Interflow, Disc Seat	29005-2	29005-2 RK
9	Valve, Shuttle, 1/4 NPT, High Interflow, T316	28438	28438 RK	Valve, Shuttle, 1/4 NPT, Hi Interflow, Disc Seat	29005-2	29005-2 RK
10	Valve, Shuttle, 3/8 NPT, Low Interflow	25409	25409 RK	Valve, Shuttle, 3/8 NPT, Low Interflow, Disc Seat	29007	29007 RK
11	Valve, Shuttle, 1/4 SAE, Spring Biased, Low Interflow, T316	109202	109209	Valve, Shuttle, 1/4 SAE, Spring Biased, Low Interflow, Disc Seat	29006-1	29006-1 RK
12	Valve, Shuttle, 1/4 SAE, Low Interflow	25418	25418 RK	Valve, Shuttle, 1/4 SAE, Low Interflow, Disc Seat	29006	29006 RK
13	Valve, Shuttle, 1/4 SAE, Low Interflow	22627	22627 RK	Valve, Shuttle, 1/4 SAE, Low Interflow, Disc Seat	29006	29006 RK

14	Valve, Shuttle, 1/4 SAE, High Interflow	25811	25811 RK	Valve, Shuttle, 1/4 SAE, Hi Interflow, Disc Seat	29006-2	29006-2 RK
15	Valve, Shuttle, 1/4 SAE, High Interflow, T316	097953	097958	Valve, Shuttle, 1/4 SAE, Hi Interflow, Disc Seat	29006-2	29006-2 RK
16	Valve, Shuttle, 1/4 SAE, High Interflow, N60	28196	28196 RK	Valve, Shuttle, 1/4 SAE, Hi Interflow, Disc Seat	29006-2	29006-2 RK
17	Valve, Shuttle, 3/8 SAE, Spring Biased, Low Interflow, T316	28292	28292 RK	Valve, Shuttle, 3/8 SAE, Spring Biased, Low Interflow, Disc Seat	29008-1	29008-1 RK
18	Valve, Shuttle, 3/8 SAE, Low Interflow	25417	25417 RK	Valve, Shuttle, 3/8 SAE, Low Interflow, Disc Seat	29008	29008 RK

The following legacy ¼" Shuttle Valves were discontinued November 30, 2017. If a new ¼" Shuttle Valve part number is not listed for a specific legacy part number, please contact Gilmore Customer Service to request a quotation for a new part number.

Table 2. Legacy Shuttle Valve Part Numbers:

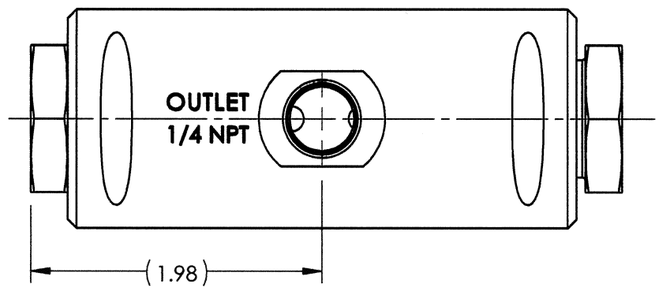
Item	Legacy Description	Legacy Valve PN	Legacy Repair Kit PN	New Valve Description	New Valve PN	New Repair Kit PN
1	Valve, Shuttle, 1/4 BSPP, Spring Biased, Low Interflow	25416-2	25416-2 RK	N/A	N/A	N/A
2	Valve, Shuttle, Stack, 1/4 NPT, Spring Biased, Low Interflow	109207	109208	N/A	N/A	N/A
3	Valve, Shuttle, Stack, 3/8 SAE, Low Interflow, N60	28196-1	28196-1 RK	N/A	N/A	N/A
4	Valve, Shuttle, 1/4 BSPP, Spring Biased, Low Interflow, N60	097954	097959	N/A	N/A	N/A

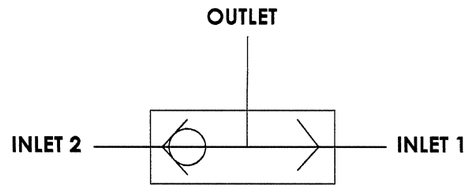
Please contact Gilmore Customer Service to request any drawings, manuals and quotations for these new 1/4" GEN 2 Disc Shuttle Valves at Gilmore@proserv.com.

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 29005 RK AND SEAL KIT 29005 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	AP 4/23/19





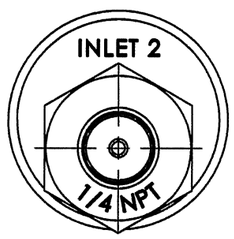
SCHEMATIC

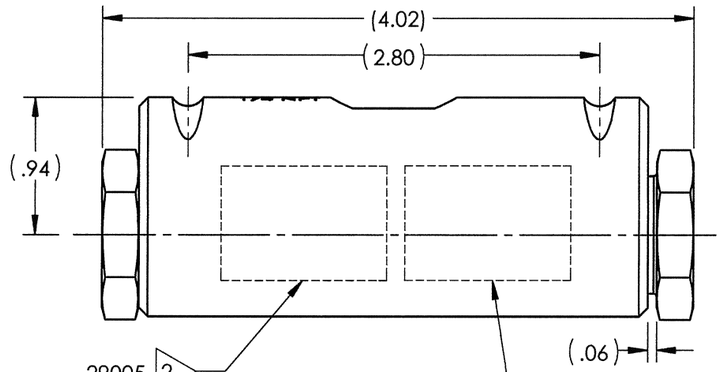
PRESSURE DATA
MAWP: 5,000 PSI

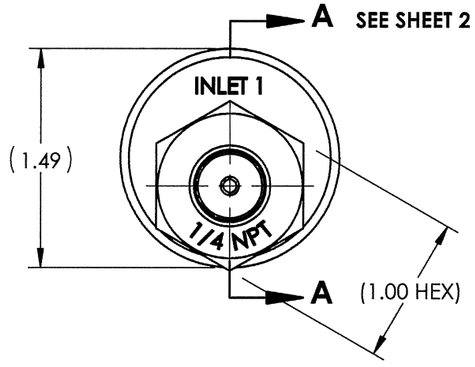
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

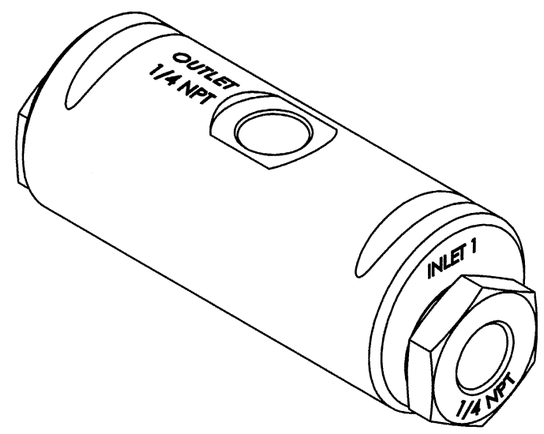
PORTS
INLETS: 1/4" NPT
OUTLET: 1/4" NPT

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE









29005 2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION 2

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM
CONDITION:
TREATMENT:
PROCEDURE NUMBER: 5

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		DATE
DRAWN BY	CMY	11/11/16
CHECKED BY	AP	11/11/16
ENGINEER	GM	11/11/16
ERN NUMBER	02089	10-13-16

proserv Gilmore

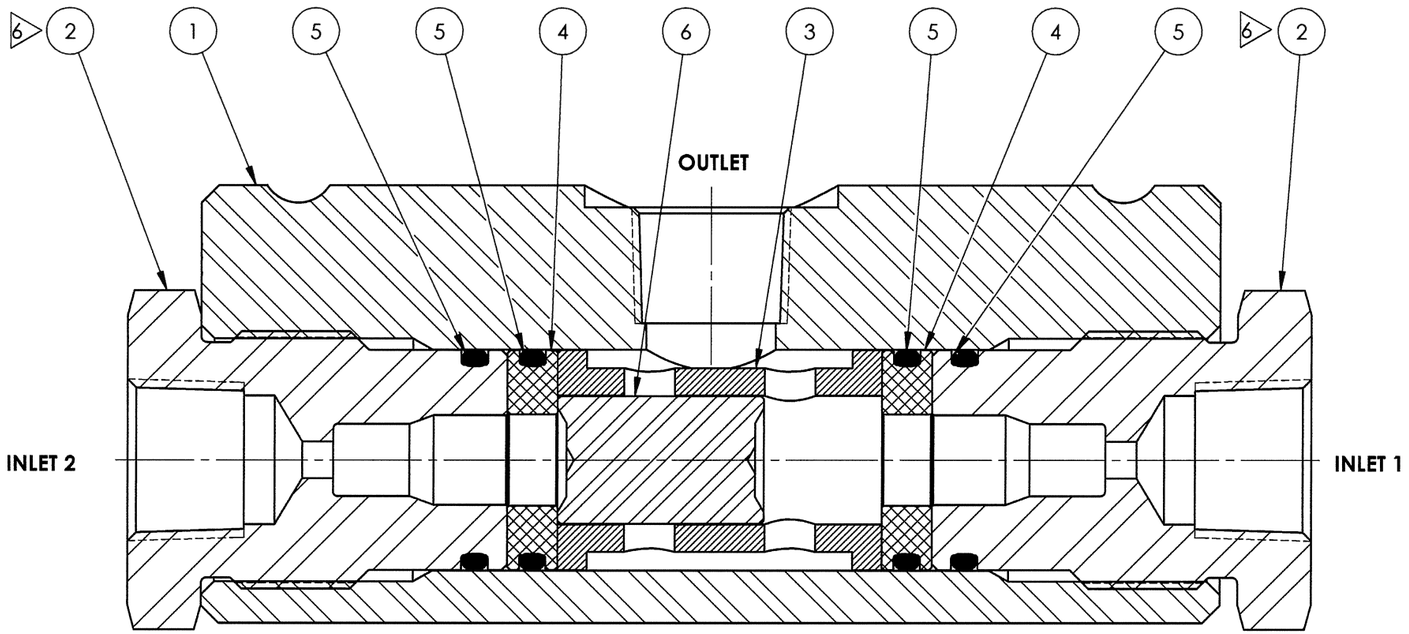
VALVE, SHUTTLE, GEN 2, 1/4" NPT, LOW INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29005	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	108174	BODY- 1/4" NPT	A276 TP 316	1		
	2	108178	END CAP- 1/4" NPT	A276 UNS S21800 (NITRONIC 60)	2		
1	3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
E	4	108175	SEAL, DISC	PEEK	2	X	X
	5	18100-001K1	O-RING	HNBR	4	X	X
1	6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



SECTION A-A
SCALE 2 : 1

proserv | Gilmore			
SIZE B	DWG NO 29005		REV E
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 29005-1 RK AND SEAL KIT 29005-1 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AP 9/28/20

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

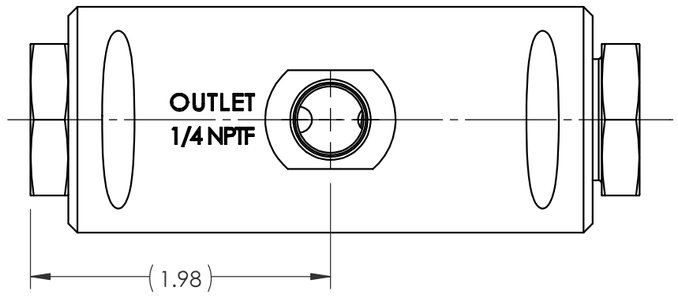
CRACKING PRESSURE <20 PSI

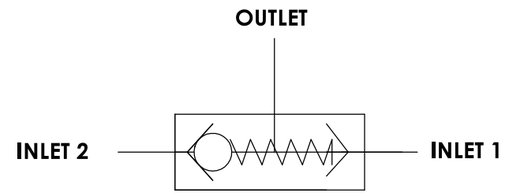
PORTS

INLETS: 1/4" NPTF
OUTLET: 1/4" NPTF

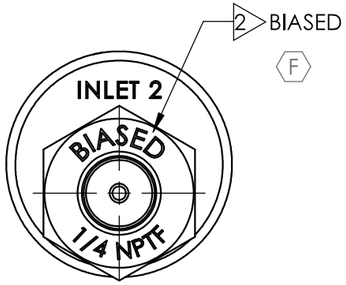
GENERAL

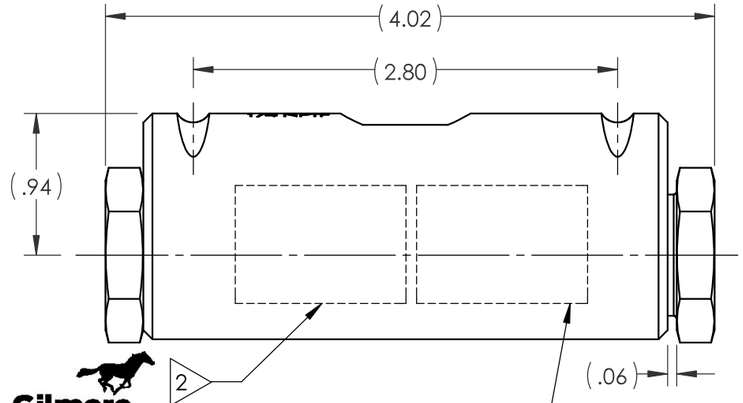
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE

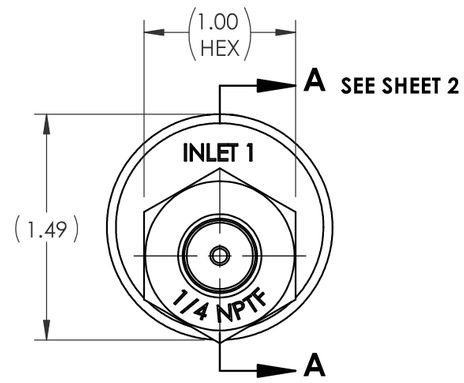


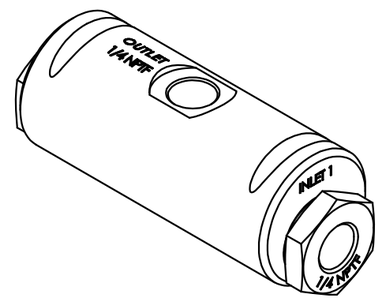


SCHEMATIC









29005-1
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG)
F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282

F

MATERIAL: SEE PARTS IN BOM	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
CONDITION:		DRAWN BY CMY DATE 11/11/16
TREATMENT:		CHECKED BY AP DATE 11/11/16
PROCEDURE NUMBER: 5		ENGINEER GM DATE 11/11/16
		ERN NUMBER 02089 DATE 10-14-16

Gilmore a pro/serv company **ENGINEERING**

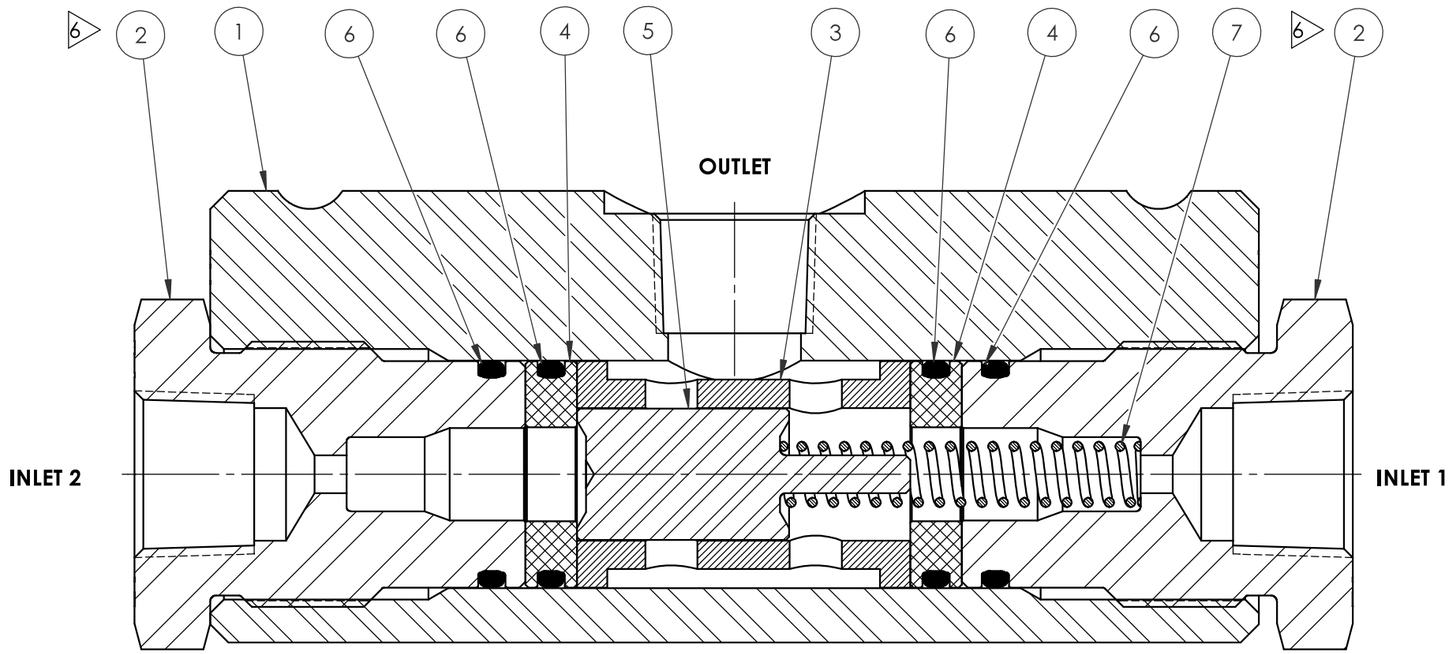
VALVE, SHUTTLE, GEN 2, 1/4" NPTF, LOW INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29005-1	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	108174	BODY- 1/4" NPT	A276 TP 316	1		
	2	108178	END CAP- 1/4" NPT	A276 UNS S21800 (NITRONIC 60)	2		
1	3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
	4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
1	5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
	6	18100-001K1	O-RING	HNBR	4	X	X
	7	28441	SPRING	ELGILOY	1	X	



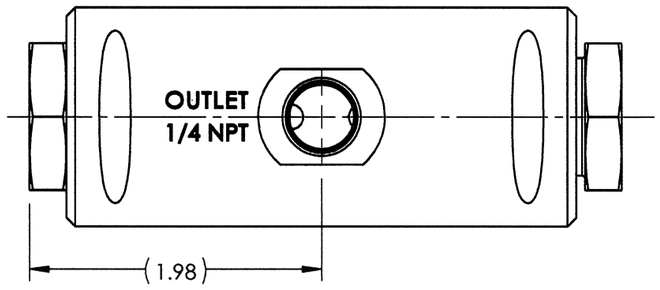
SECTION A-A
SCALE 2 : 1

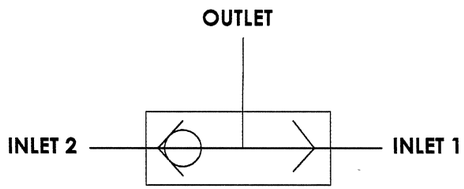
Gilmore a pro/serv company	ENGINEERING		
SIZE B	DWG NO 29005-1		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29005-2 RK AND SEAL KIT 29005-2 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	4/23/19





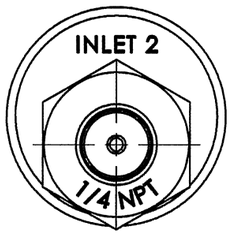
SCHEMATIC

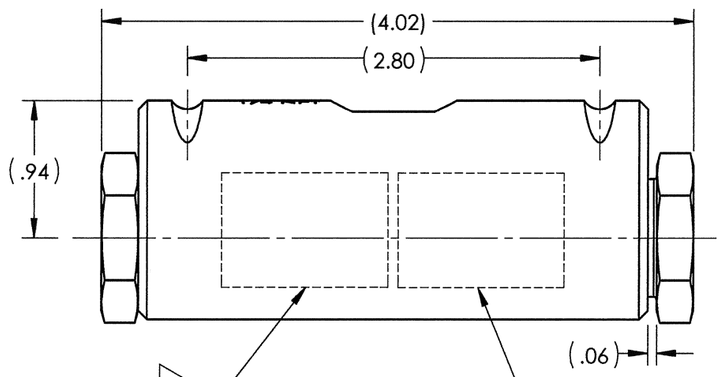
PRESSURE DATA
MAWP: 5,000 PSI

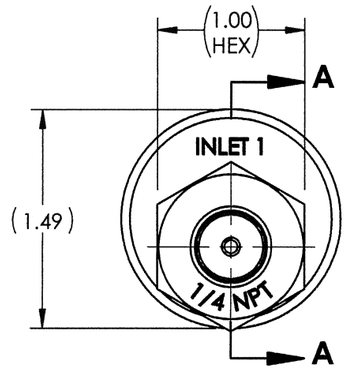
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

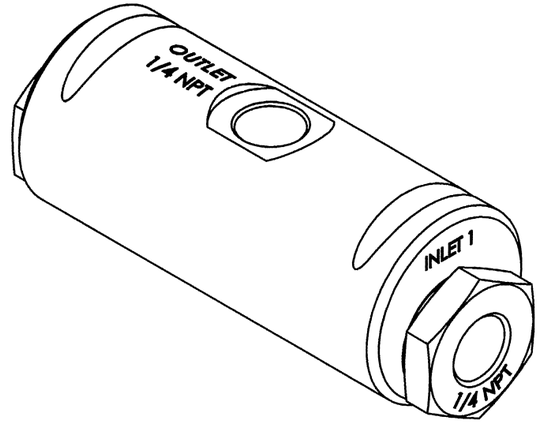
PORTS
INLETS: 1/4" NPT
OUTLET: 1/4" NPT

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE









29005-2 2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION 2

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM
CONDITION:
TREATMENT:
PROCEDURE NUMBER: 5

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-13-16

proserv Gilmore

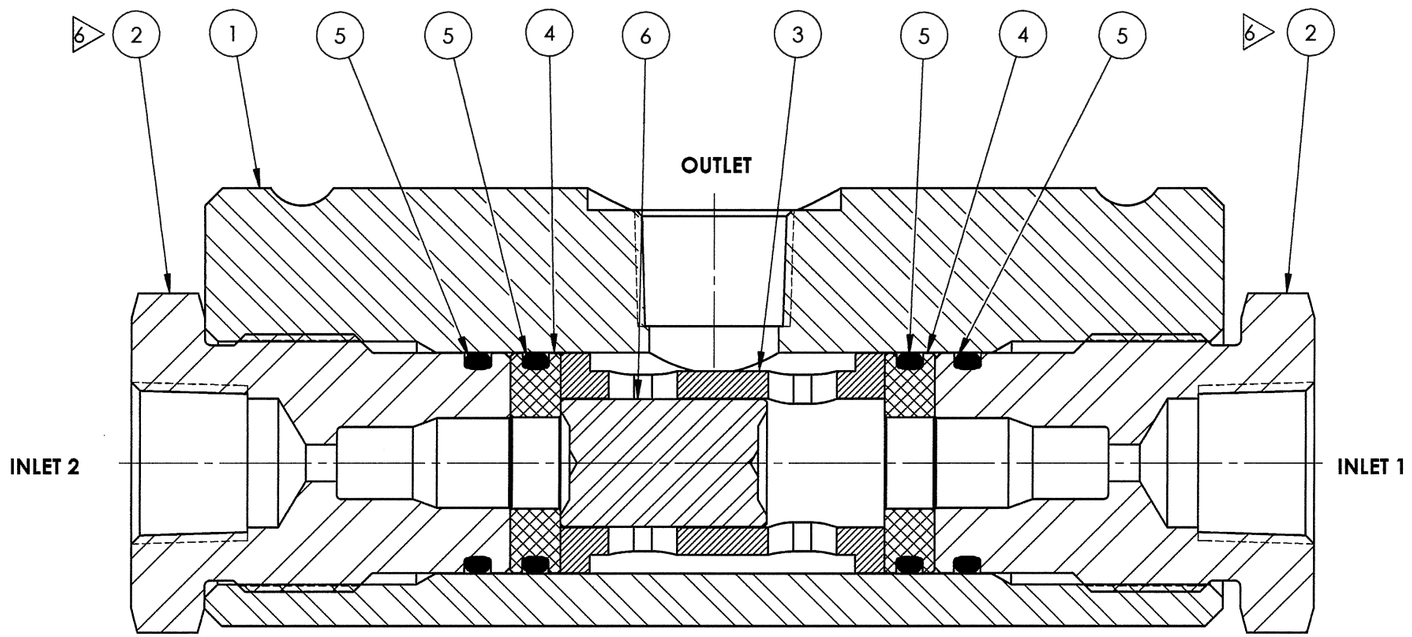
VALVE, SHUTTLE, GEN 2, 1/4" NPT, HIGH INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29005-2	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	108174	BODY- 1/4" NPT	A276 TP 316	1		
2	108178	END CAP- 1/4" NPT	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	PEEK	2	X	X
5	18100-001K1	O-RING	HNBR	4	X	X
6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



SECTION A-A
SCALE 2 : 1

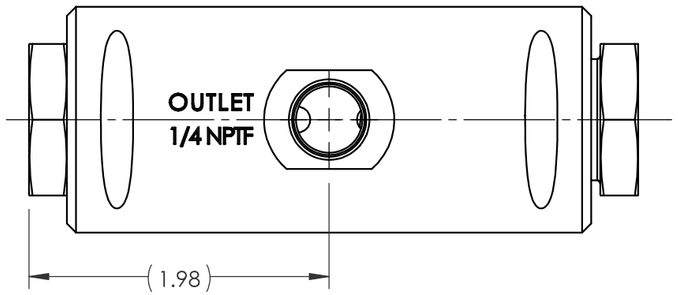
proserv | Gilmore

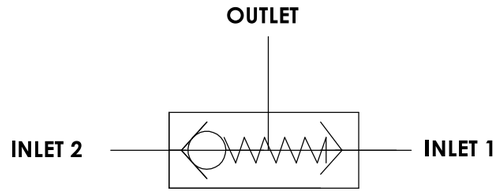
SIZE	DWG NO	REV
B	29005-2	E
SCALE 1:1	SolidWorks	SHEET 2 OF 2

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 29005-3 RK AND SEAL KIT 29005-3 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20





SCHEMATIC

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

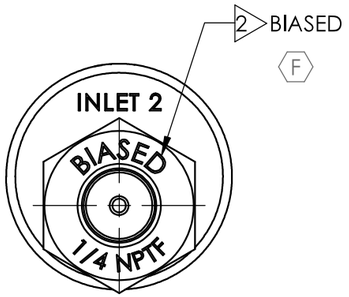
CRACKING PRESSURE <20 PSI

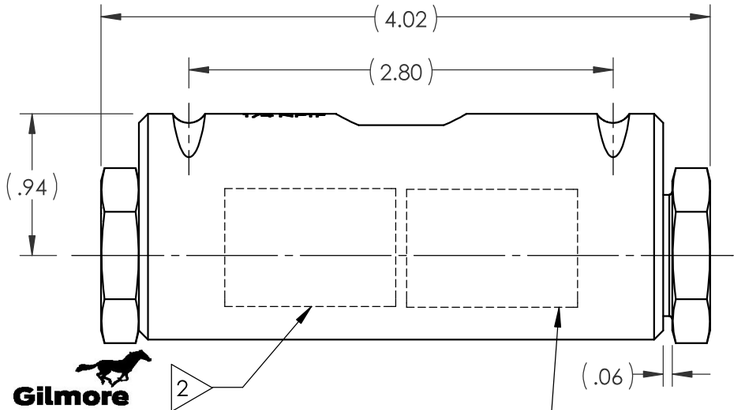
PORTS

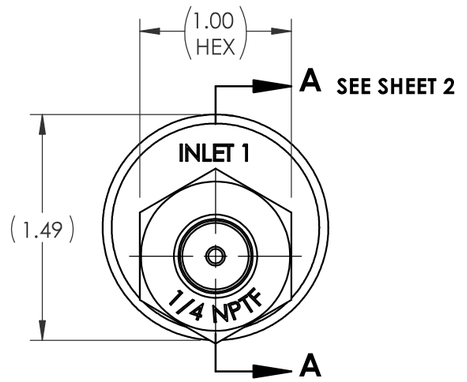
INLETS: 1/4" NPTF
OUTLET: 1/4" NPTF

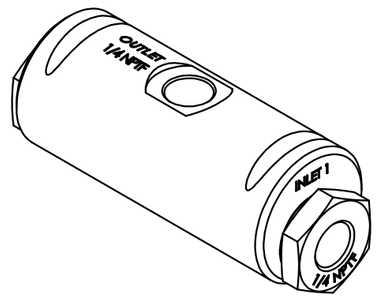
GENERAL

APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE









Gilmore GEN2
29005-3
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG)
F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282 F

MATERIAL: SEE PARTS IN BOM	
CONDITION:	
TREATMENT:	
PROCEDURE NUMBER: 5	

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-14-16

Gilmore a pro/serv company — ENGINEERING

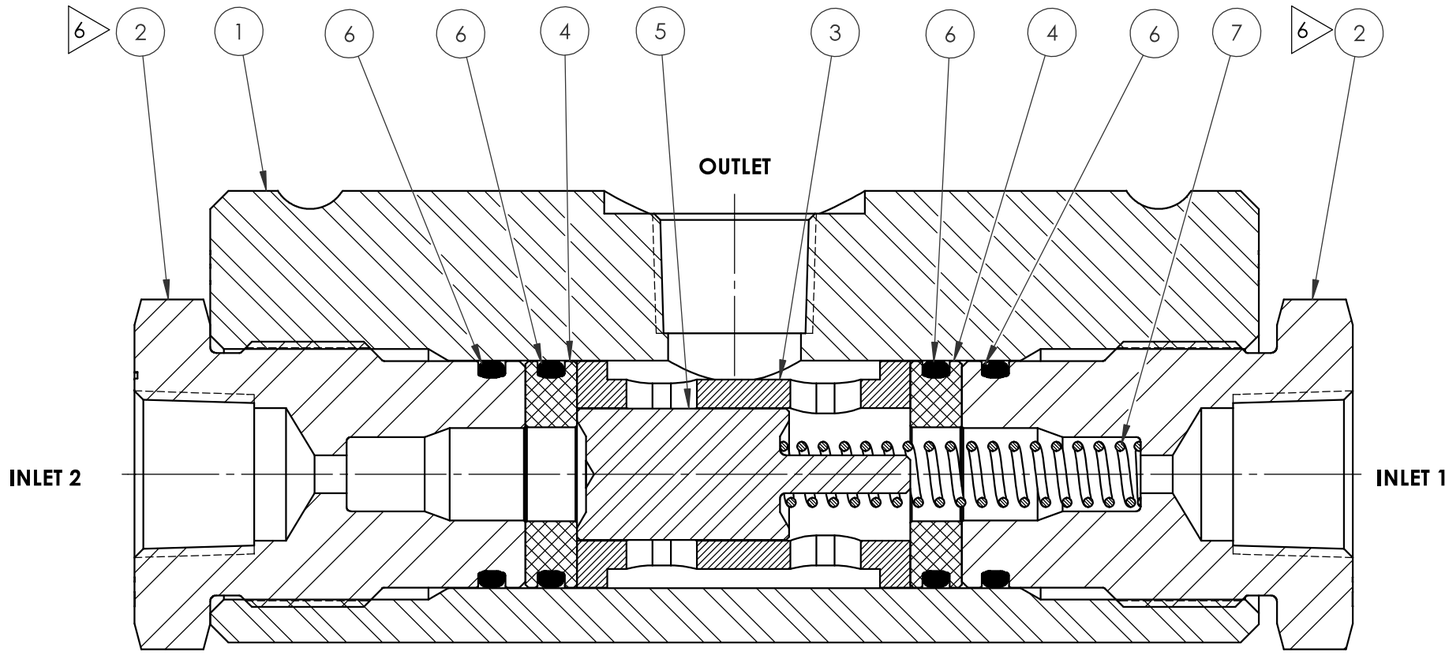
VALVE, SHUTTLE, GEN 2, 1/4" NPTF, HIGH INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29005-3	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	108174	BODY- 1/4" NPT	A276 TP 316	1		
2	108178	END CAP- 1/4" NPT	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



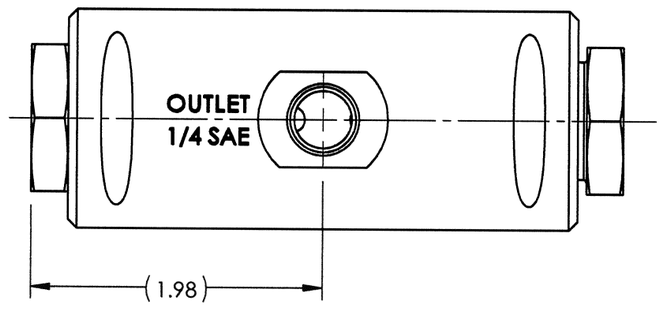
SECTION A-A
SCALE 2 : 1

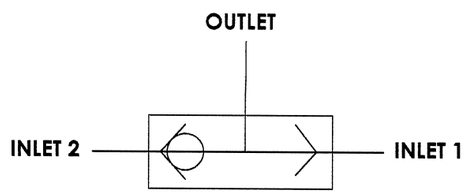
Gilmore a pro/serv company	ENGINEERING		
SIZE B	DWG NO 29005-3		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29006 RK AND SEAL KIT 29006 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	APP 4/23/19





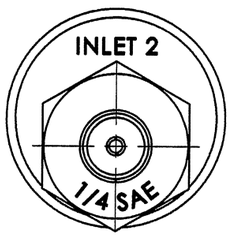
SCHEMATIC

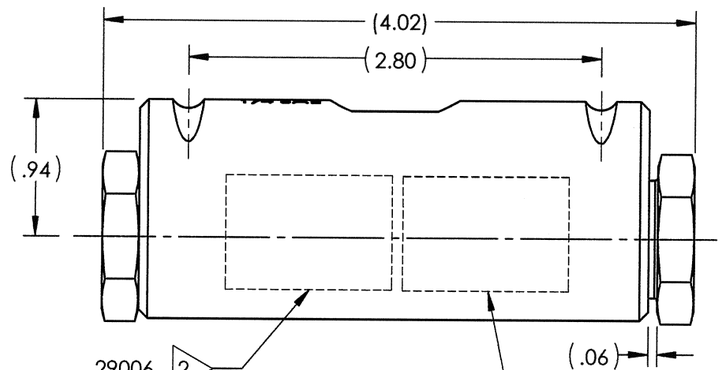
PRESSURE DATA
MAWP: 5,000 PSI

FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

PORTS
INLETS: 1/4" SAE
OUTLET: 1/4" SAE

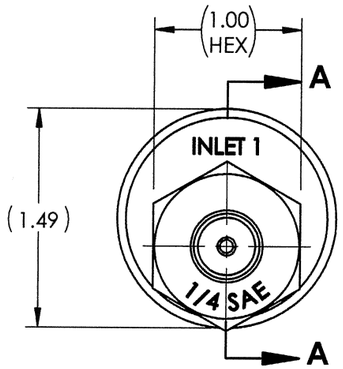
GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE

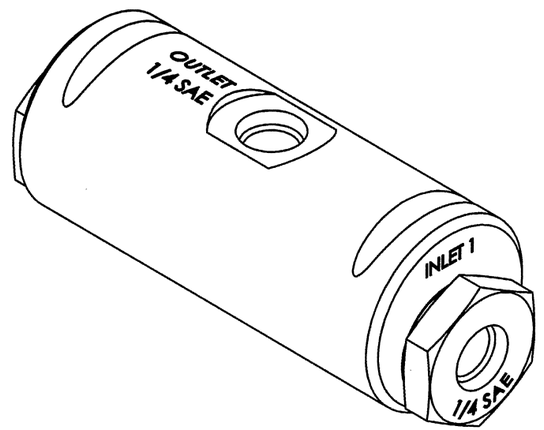




29006
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION





U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	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
CONDITION:		DRAWN BY CMY DATE 11/11/16
TREATMENT:		CHECKED BY AP DATE 11/11/16
PROCEDURE NUMBER: 5		ENGINEER GM DATE 11/11/16
		ERN NUMBER 02089 DATE 10-13-16

proserv Gilmore

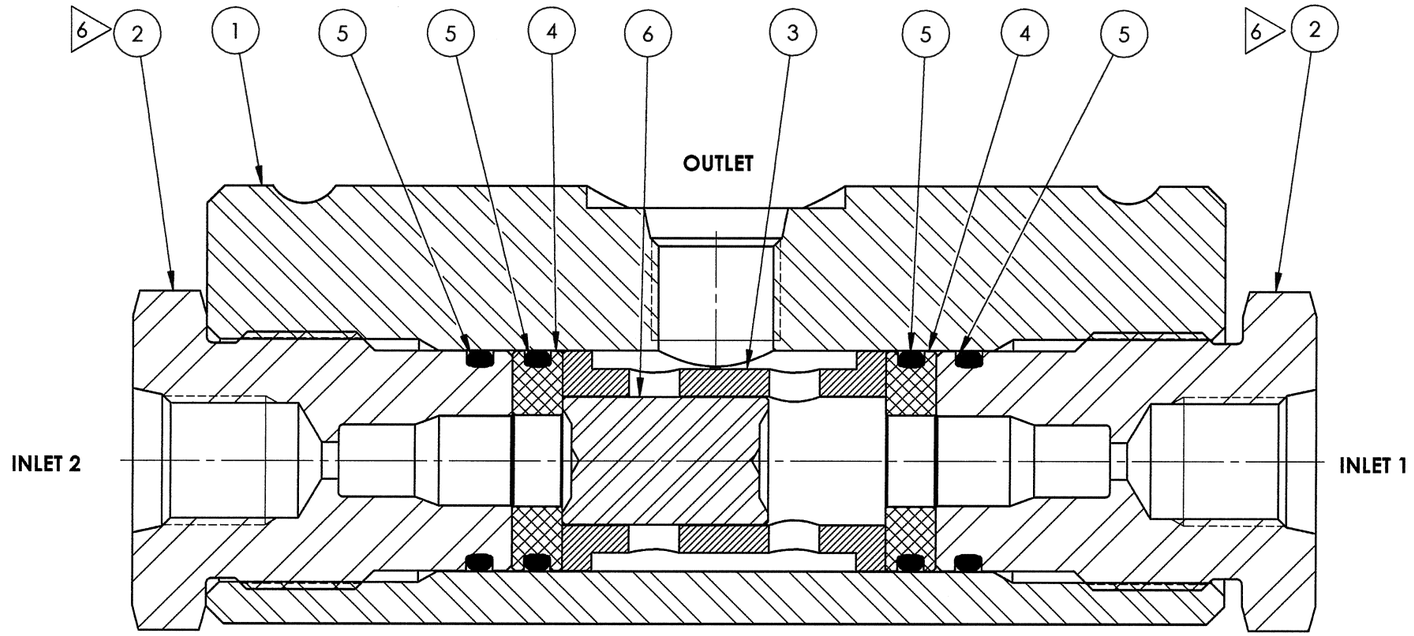
VALVE, SHUTTLE, GEN 2, 1/4" SAE, LOW INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29006	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	145192	BODY- 1/4" SAE	A276 TP 316	1		
	2	144713	END CAP- 1/4" SAE	A276 UNS S21800 (NITRONIC 60)	2		
1	3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
E	4	108175	SEAL, DISC	PEEK	2	X	X
	5	18100-001K1	O-RING	HNBR	4	X	X
1	6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



SECTION A-A
SCALE 2 : 1

proserv | Gilmore			
SIZE B	DWG NO 29006		REV E
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 29006-1 RK AND SEAL KIT 29006-1 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

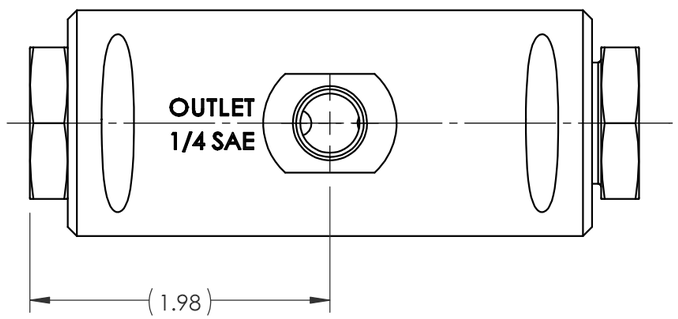
CRACKING PRESSURE <20 PSI

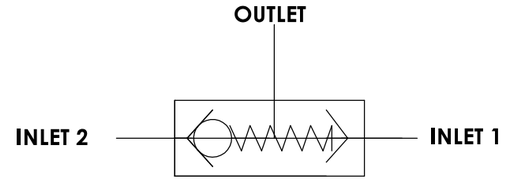
PORTS

INLETS: 1/4" SAE
OUTLET: 1/4" SAE

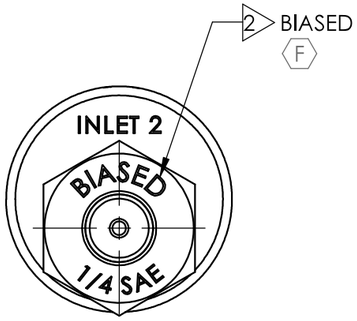
GENERAL

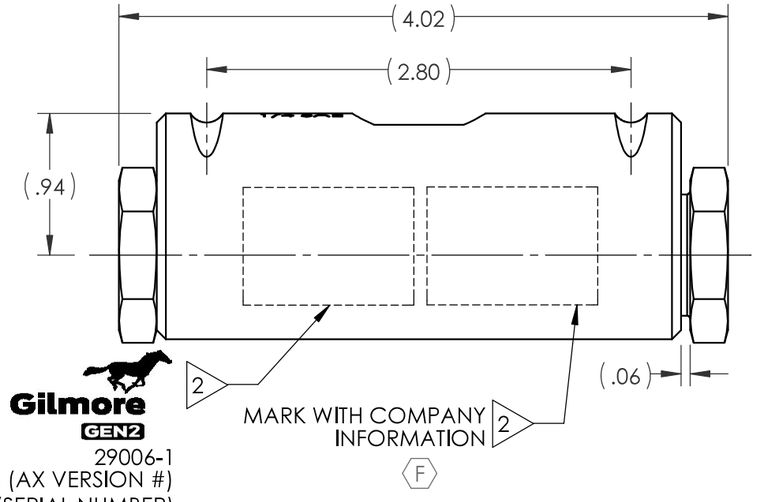
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE

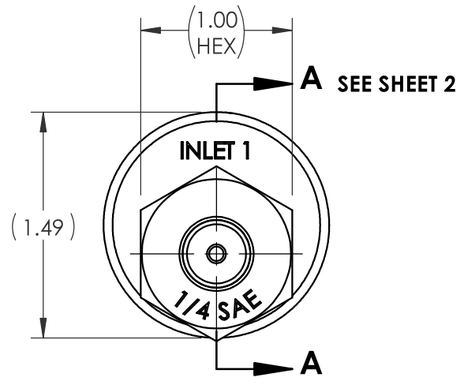


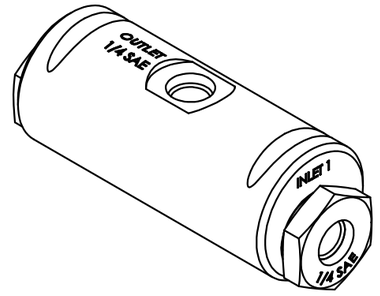


SCHEMATIC









Gilmore GEN2

29006-1
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG) F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	
CONDITION:	
TREATMENT:	
PROCEDURE NUMBER: 5	

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-14-16

Gilmore a pro/env company — ENGINEERING

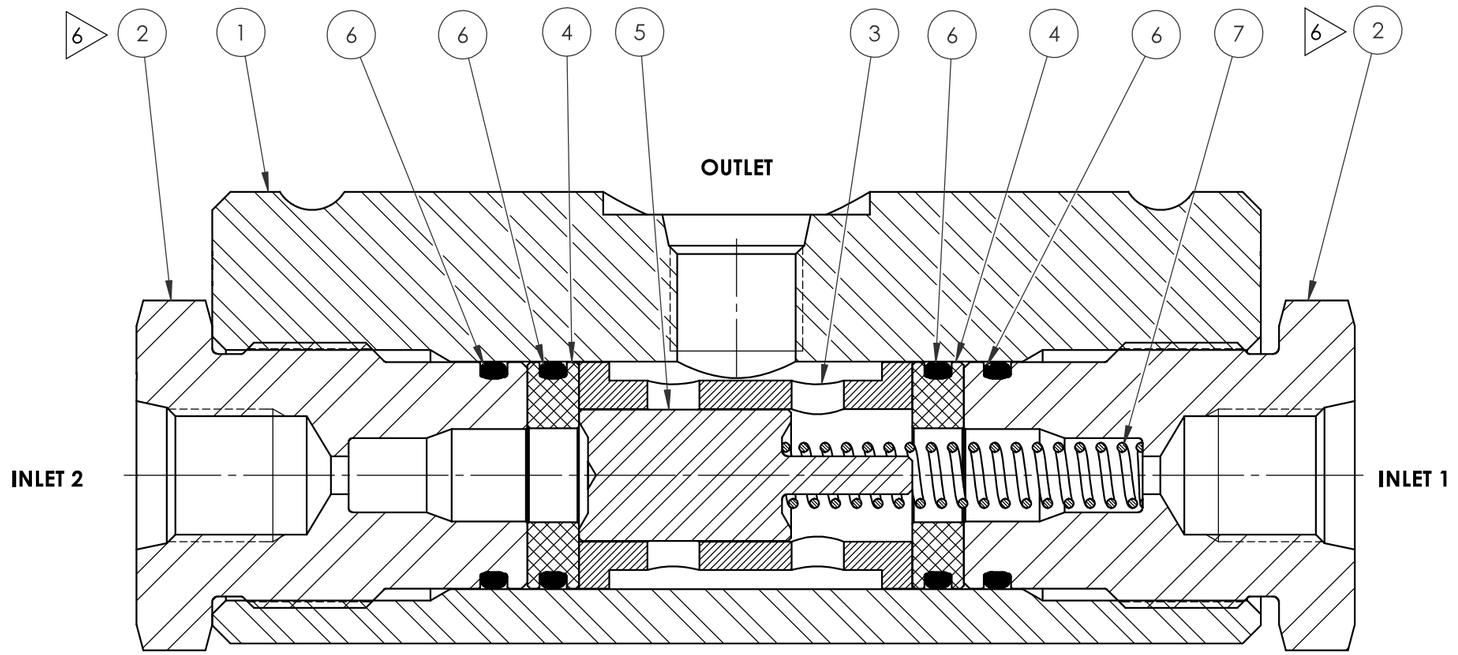
VALVE, SHUTTLE, GEN 2, 1/4" SAE, LOW INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29006-1	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145192	BODY- 1/4" SAE	A276 TP 316	1		
2	144713	END CAP- 1/4" SAE	A276 UNS S21800 (NITRONIC 60)	2		
3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



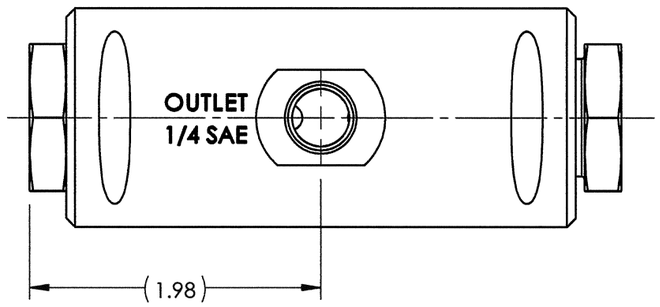
SECTION A-A
SCALE 2 : 1

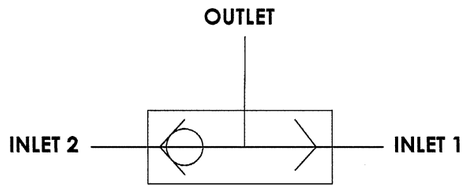
Gilmore a pro/env company	ENGINEERING		
SIZE B	DWG NO 29006-1		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29006-2 RK AND SEAL KIT 29006-2 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	4/23/19





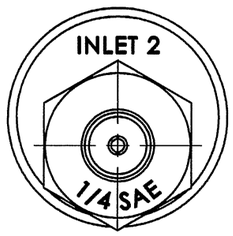
SCHEMATIC

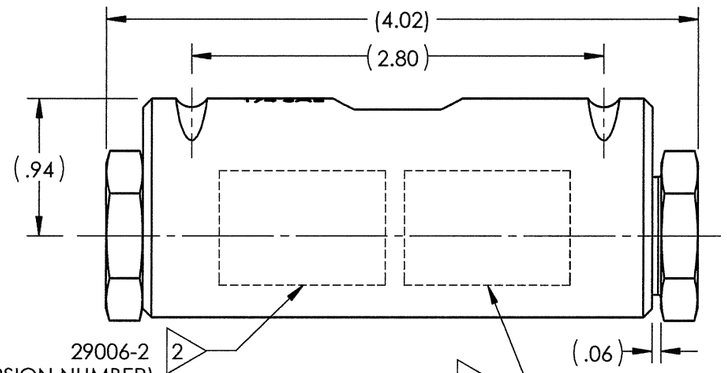
PRESSURE DATA
MAWP: 5,000 PSI

FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

PORTS
INLETS: 1/4" SAE
OUTLET: 1/4" SAE

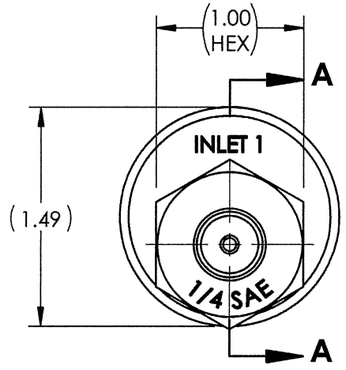
GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE



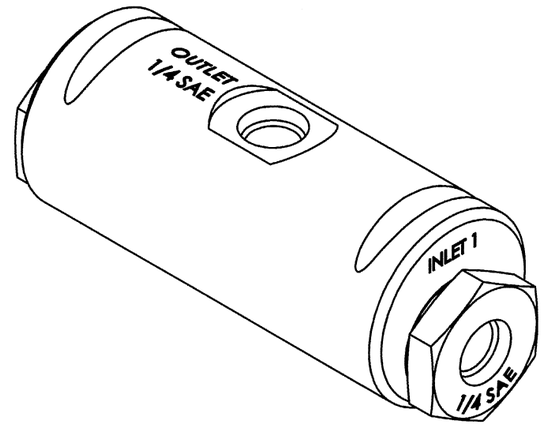


29006-2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION



SEE SHEET 2



U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	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 CMY DATE 11/11/16; CHECKED BY AP DATE 11/11/16; ENGINEER GM DATE 11/11/16; ERN NUMBER 02089 DATE 10-13-16
CONDITION:		
TREATMENT:		
PROCEDURE NUMBER: 5		

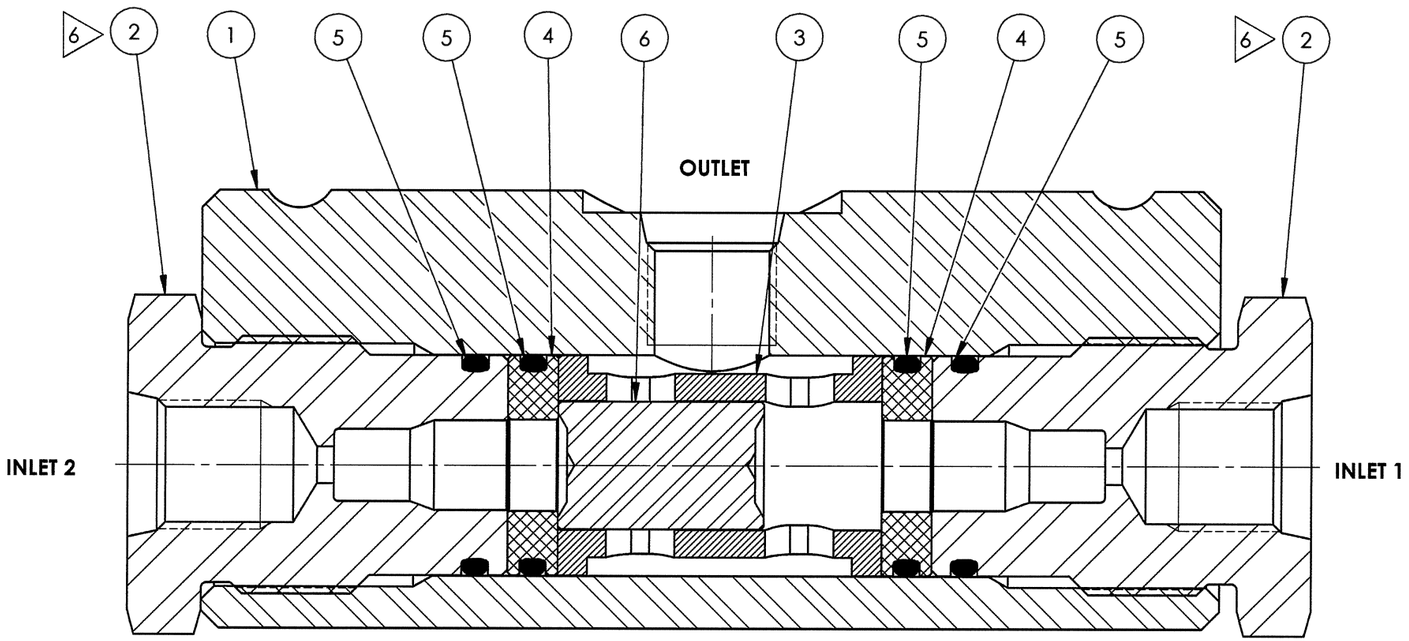
proserv Gilmore

VALVE, SHUTTLE, GEN 2, 1/4" SAE HIGH INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29006-2	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145192	BODY- 1/4" SAE	A276 TP 316	1		
2	144713	END CAP- 1/4" SAE	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	PEEK	2	X	X
5	18100-001K1	O-RING	HNBR	4	X	X
6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



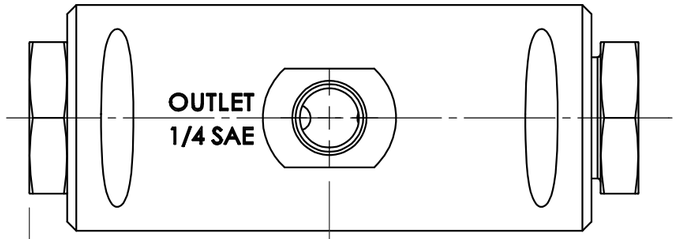
SECTION A-A
SCALE 2 : 1

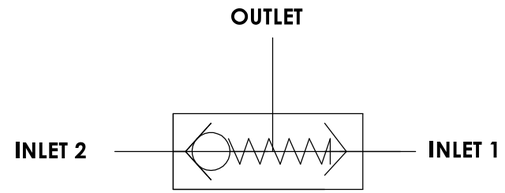
proserv | Gilmore			
SIZE B	DWG NO 29006-2		REV E
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

NOTES:

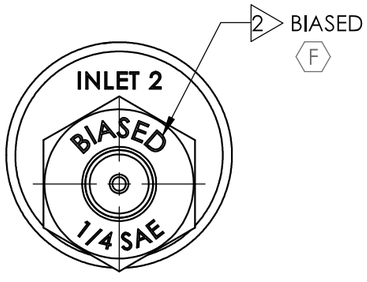
1. MARKING: MARK COMPONENT WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING
2. MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEEN MARKING MACHINE, .06 HIGH MIN CHARACTERS.
3. ALL METAL ITEMS ARE PASSIVATED
4. 'X' IN THE BOM DEPICTS PARTS IN REPAIR KIT 29006-3 RK AND SEAL KIT 29006-3 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

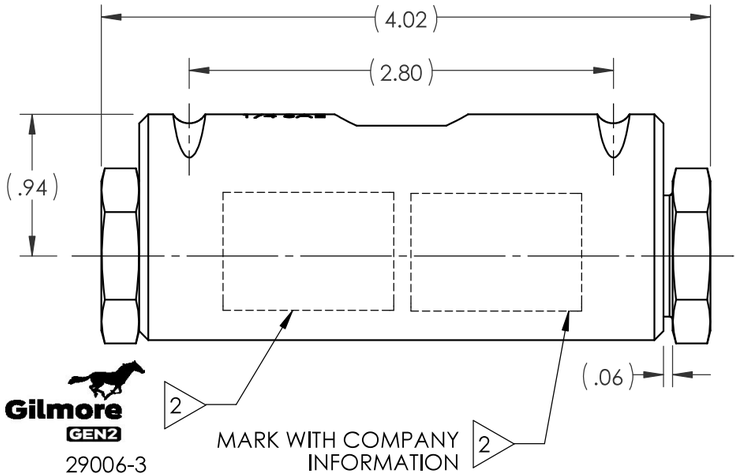
REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20

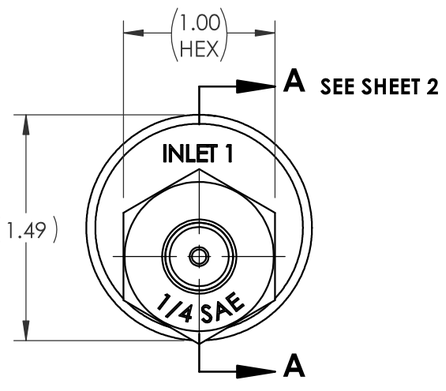


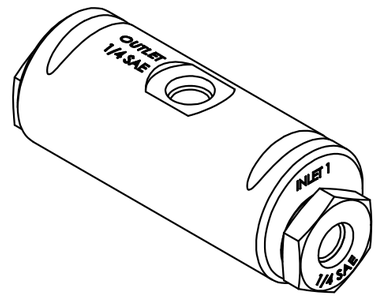


SCHEMATIC









PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

CRACKING PRESSURE <20 PSI

PORTS

INLETS: 1/4" SAE
OUTLET: 1/4" SAE

GENERAL

APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE

29006-3
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG) F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	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	
CONDITION:		DRAWN BY CMY	DATE 11/11/16
TREATMENT:		CHECKED BY AP	DATE 11/11/16
PROCEDURE NUMBER: 5		ENGINEER GM	DATE 11/11/16
		ERN NUMBER 02089	DATE 10-14-16

Gilmore a pro/serv company — ENGINEERING

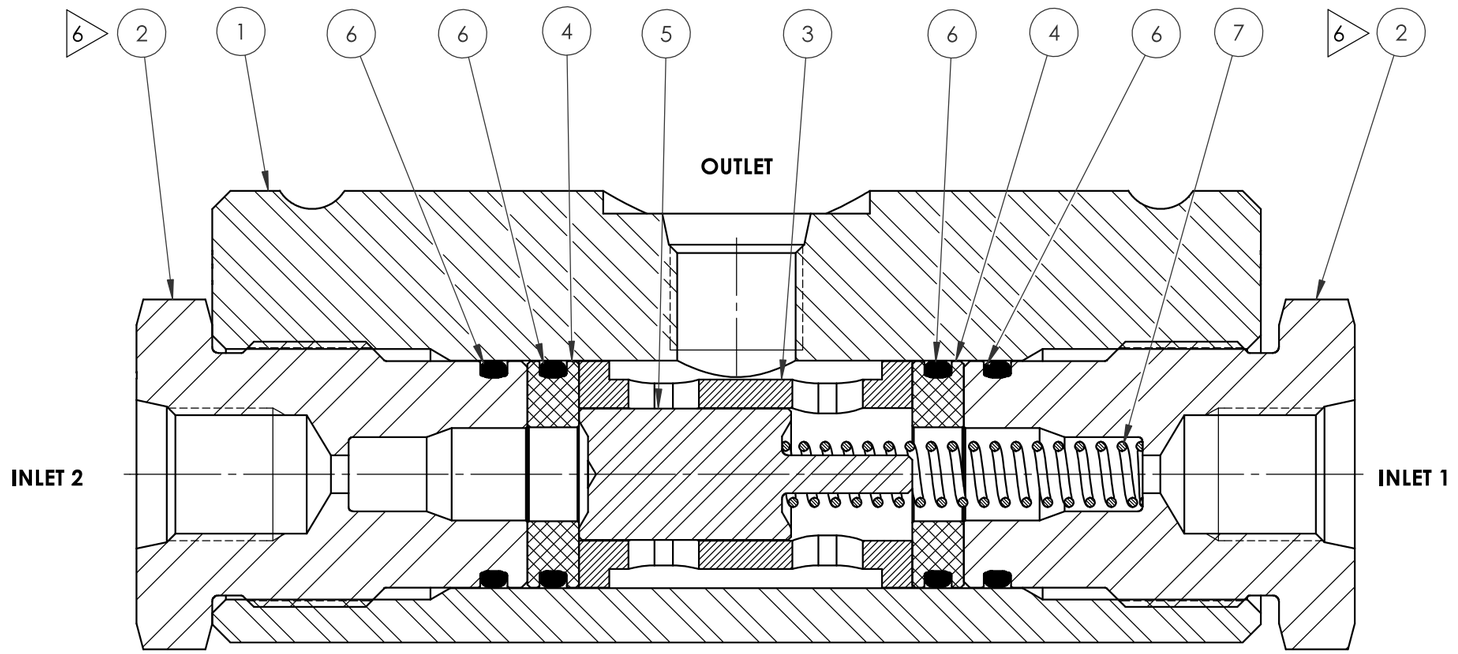
VALVE, SHUTTLE, GEN 2, 1/4" SAE, HIGH INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29006-3	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145192	BODY- 1/4" SAE	A276 TP 316	1		
2	144713	END CAP- 1/4" SAE	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



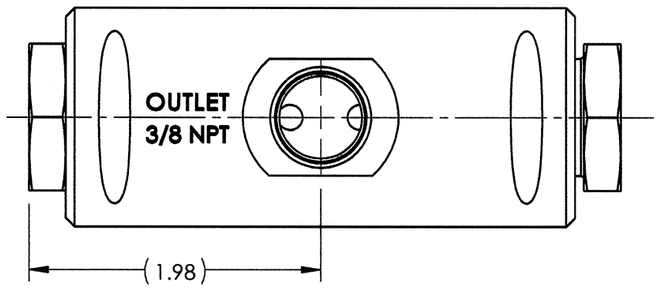
SECTION A-A
SCALE 2 : 1

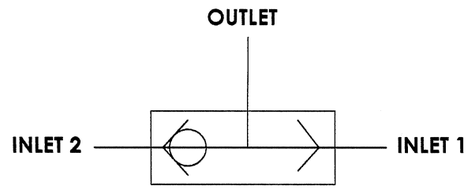
Gilmore a pro/serv company	ENGINEERING		
SIZE B	DWG NO 29006-3		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29007 RK AND SEAL KIT 29007 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	4/23/19





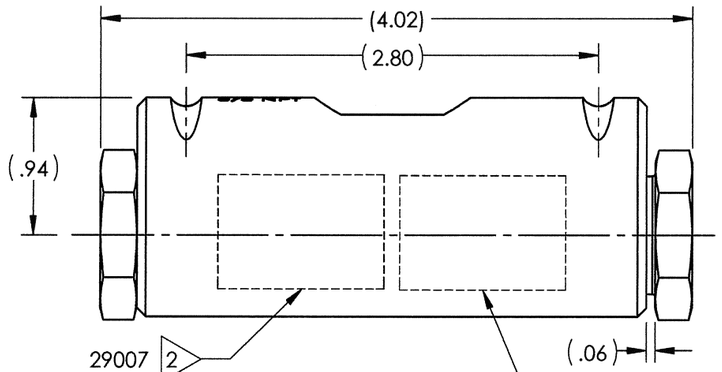
SCHEMATIC

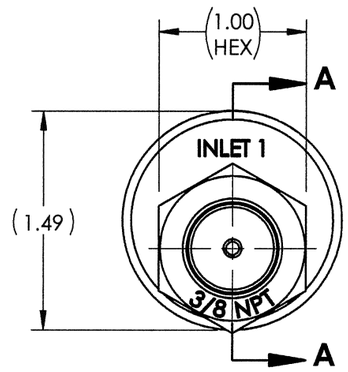
PRESSURE DATA
MAWP: 5,000 PSI

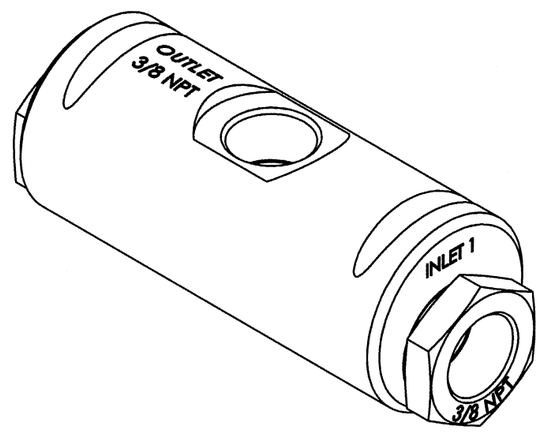
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

PORTS
INLETS: 3/8" NPT
OUTLET: 3/8" NPT

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE







29007 2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION 2

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	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
CONDITION:		DRAWN BY CMY DATE 11/11/16
TREATMENT:		CHECKED BY AP DATE 11/11/16
PROCEDURE NUMBER: 5		ENGINEER GM DATE 11/11/16
		ERN NUMBER 02089 DATE 10-13-16

proserv Gilmore

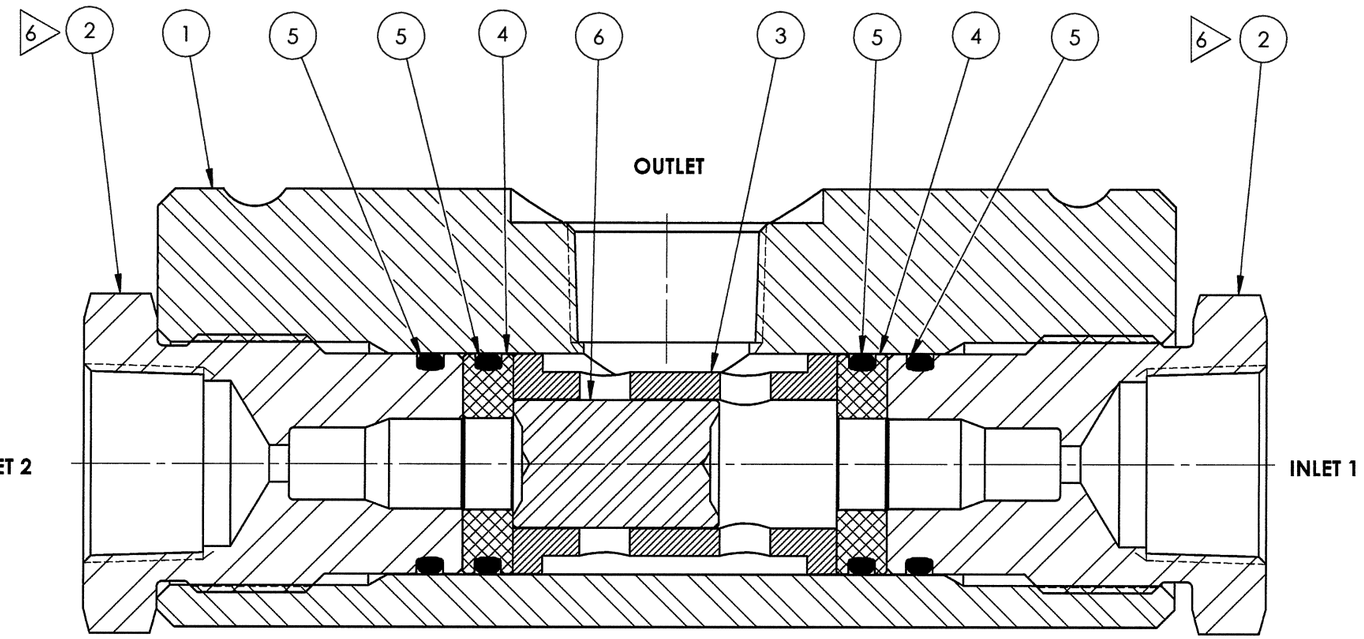
VALVE, SHUTTLE, GEN 2, 3/8" NPT, LOW INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29007	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	145193	BODY- 3/8" NPT	A276 TP 316	1		
	2	144711	END CAP- 3/8" NPT	A276 UNS S21800 (NITRONIC 60)	2		
1	3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
E	4	108175	SEAL, DISC	PEEK	2	X	X
	5	18100-001K1	O-RING	HNBR	4	X	X
1	6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



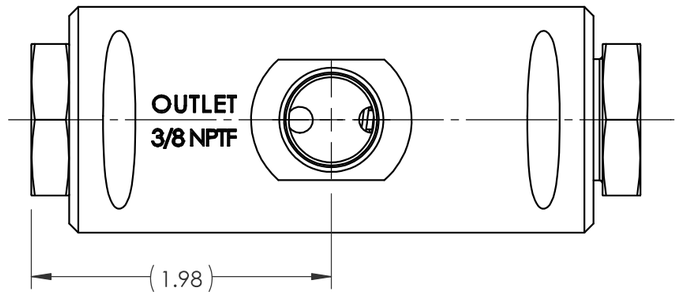
SECTION A-A
SCALE 2 : 1

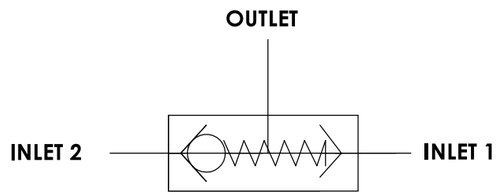
proserv | Gilmore			
SIZE B	DWG NO 29007		REV E
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29007-1 RK AND SEAL KIT 29007-1 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20





SCHEMATIC

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

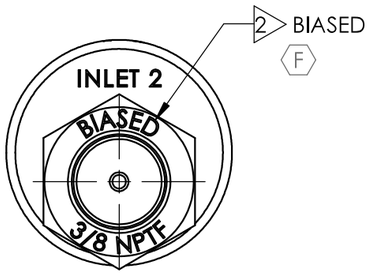
CRACKING PRESSURE <20 PSI

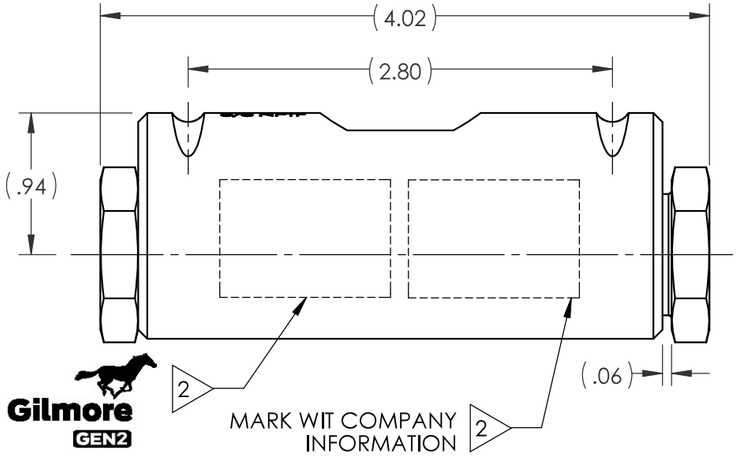
PORTS

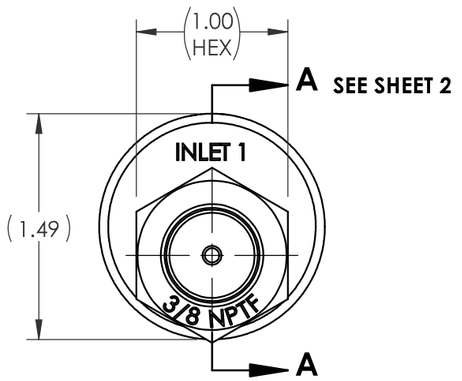
INLETS: 3/8" NPTF
OUTLET: 3/8" NPTF

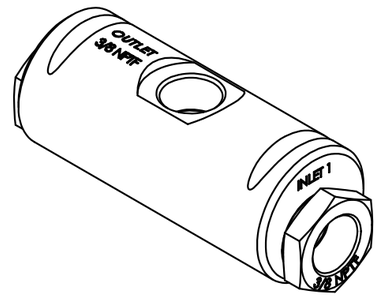
GENERAL

APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE









29007-1
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG) F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282 F

MATERIAL: SEE PARTS IN BOM	DIMENSIONS AND TOLERANCES ARE IN INCHES PER ASME Y14.5M-1994. UNLESS OTHERWISE SPECIFIED:	APPROVAL	DATE
CONDITION:	1) TOLERANCES: .X: ±.1, .XX: ±.01, .XXX: ±.005, ANGLES: ±.5°	DRAWN CMY	11/11/16
TREATMENT:	2) SURFACE TEXTURE: 63	CHECKED AP	11/11/16
PROCEDURE NUMBER: 5	3) CORADIAL FEATURES SHALL BE ◎ WITHIN .010	ENGINEER GM	11/11/16
	4) BREAK SHARP EDGES .010	ERN NUMBER 02089	10-14-16
	5) INTERNAL RADII SHALL BE .016 MAX		
	6) DRILL POINTS OPTIONAL WHEN SHOWN UNSPECIFIED. ALL DRILL POINT ANGLES SHALL BE BETWEEN 90°-140°		

Gilmore a proserv company — ENGINEERING

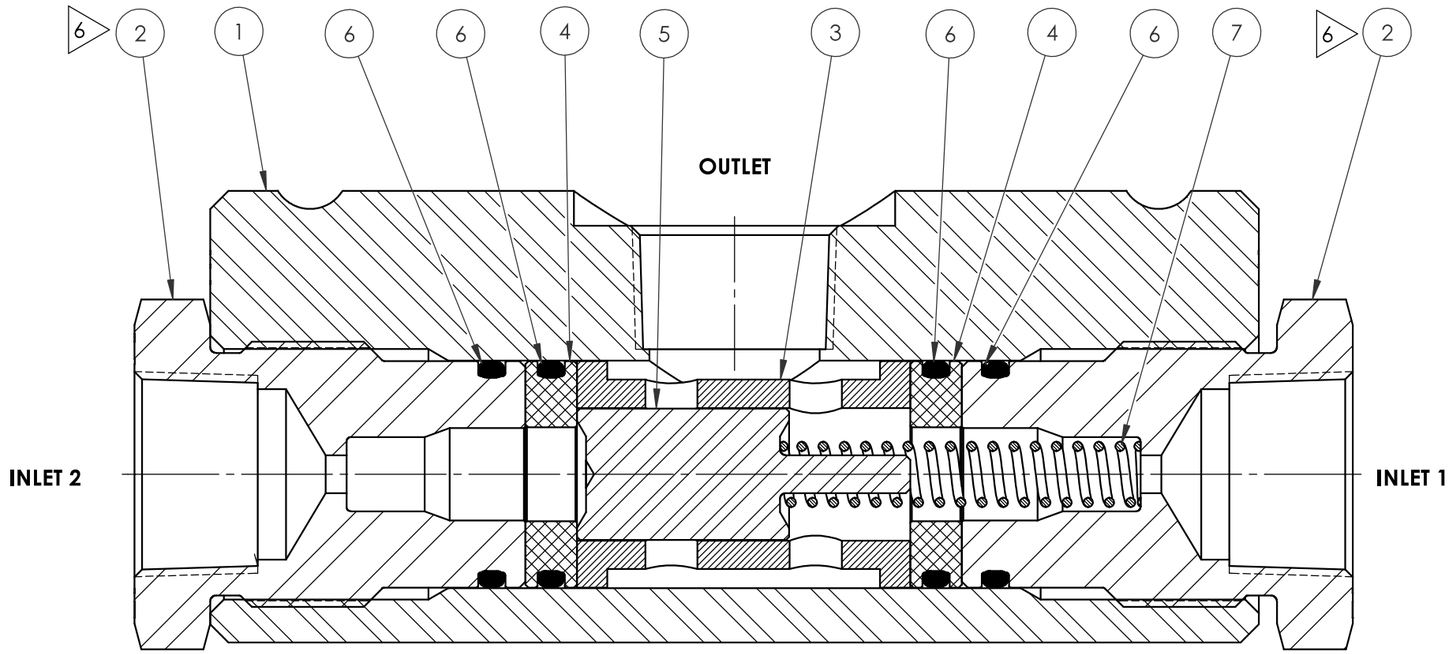
VALVE, SHUTTLE, GEN 2, 3/8" NPTF, LOW INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29007-1	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145193	BODY- 3/8" NPT	A276 TP 316	1		
2	144711	END CAP- 3/8" NPT	A276 UNS S21800 (NITRONIC 60)	2		
3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



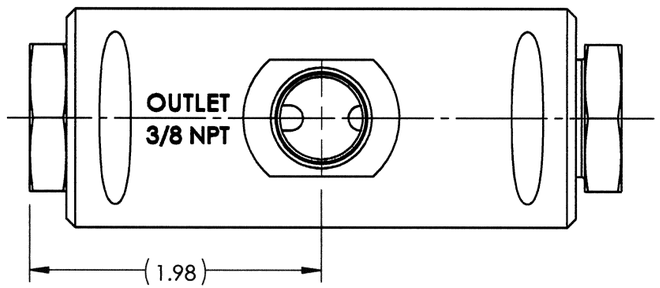
SECTION A-A
SCALE 2 : 1

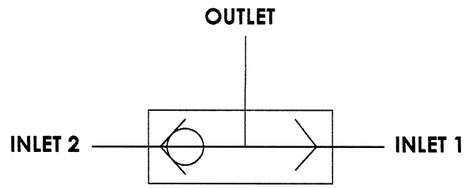
Gilmore a pro/serv company		ENGINEERING	
SIZE B	DWG NO 29007-1		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29007-2 RK AND SEAL KIT 29007-2 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	AP 4/23/19





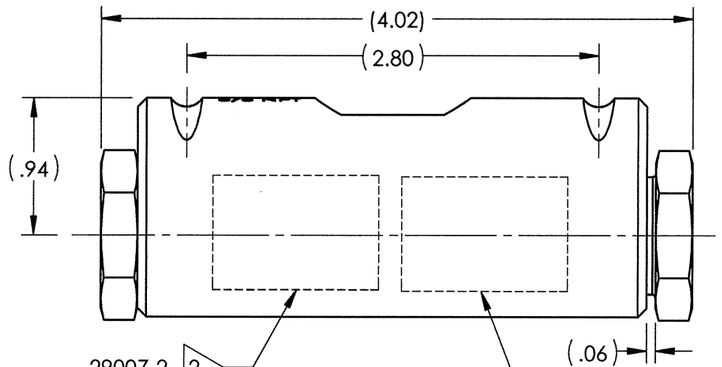
SCHEMATIC

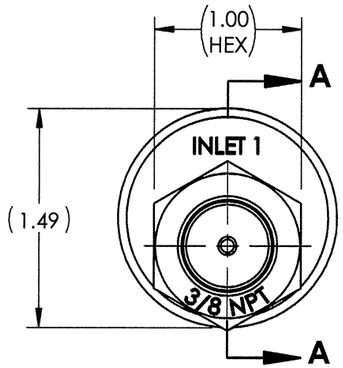
PRESSURE DATA
MAWP: 5,000 PSI

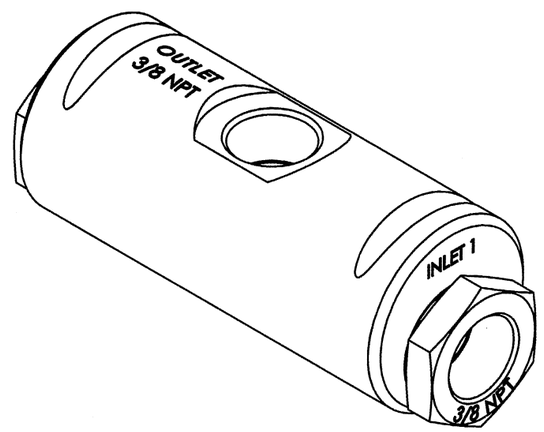
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

PORTS
INLETS: 3/8" NPT
OUTLET: 3/8" NPT

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE







29007-2 VER (AX VERSION NUMBER) (SERIAL NUMBER) PATENT PENDING 5,000 PSI (DATE OF MFG) SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM

CONDITION:

TREATMENT:

PROCEDURE NUMBER: 5

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		DATE
DRAWN BY	CMY	11/11/16
CHECKED BY	AP	11/11/16
ENGINEER	GM	11/11/16
ERN NUMBER	02089	10-13-16

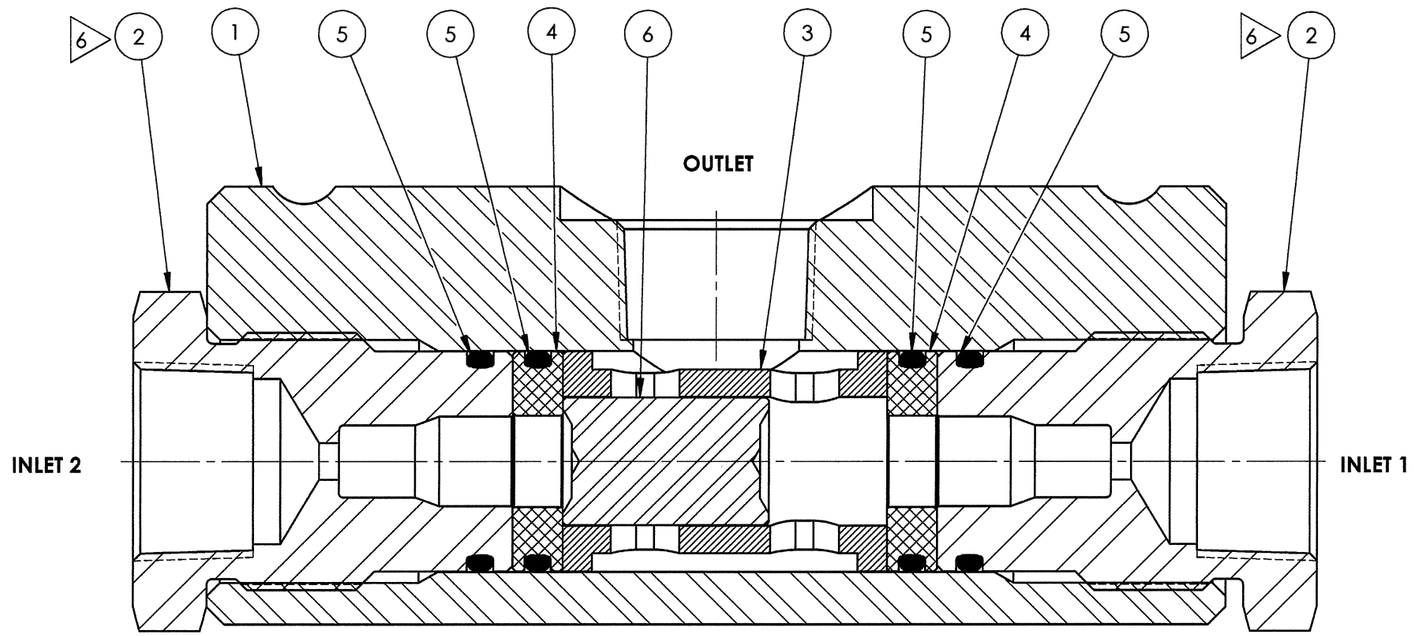
proserv Gilmore

VALVE, SHUTTLE, GEN 2, 3/8" NPT, HIGH INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29007-2	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS						
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145193	BODY- 3/8" NPT	A276 TP 316	1		
2	144711	END CAP- 3/8" NPT	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
E	108175	SEAL, DISC	PEEK	2	X	X
5	18100-001K1	O-RING	HNBR	4	X	X
6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



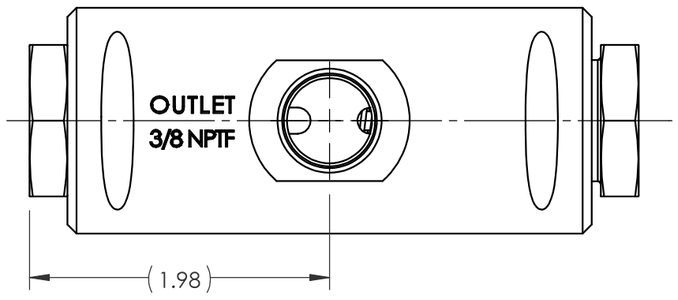
SECTION A-A
SCALE 2 : 1

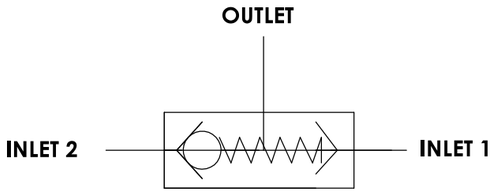
proserv | Gilmore			
SIZE B	DWG NO 29007-2		REV E
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29007-3 RK AND SEAL KIT 29007-3 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20





SCHEMATIC

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

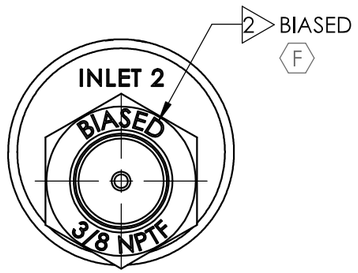
CRACKING PRESSURE <20 PSI

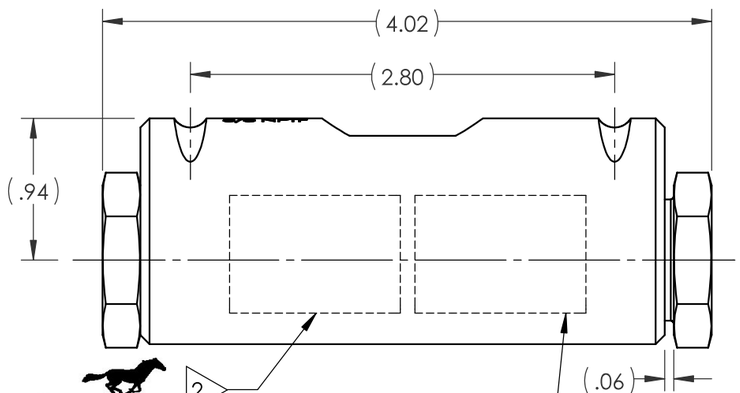
PORTS

INLETS: 3/8" NPTF
OUTLET: 3/8" NPTF

GENERAL

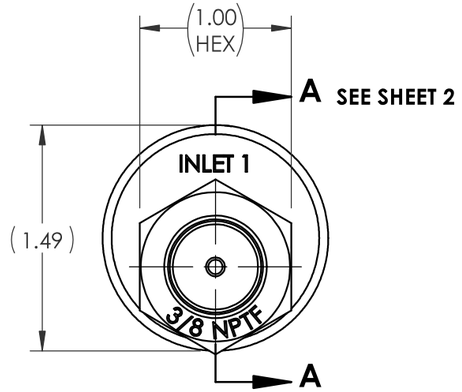
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE

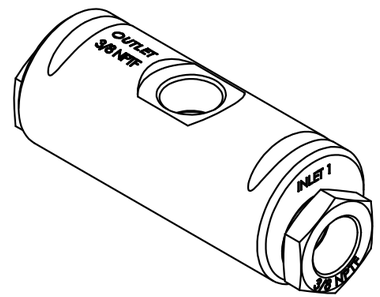




Gilmore GEN2
29007-3
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG) F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED





U.S. PATENT 10,133,282 F

MATERIAL: SEE PARTS IN BOM	
CONDITION:	
TREATMENT:	
PROCEDURE NUMBER: 5	

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-14-16

Gilmore a pro/serv company — ENGINEERING

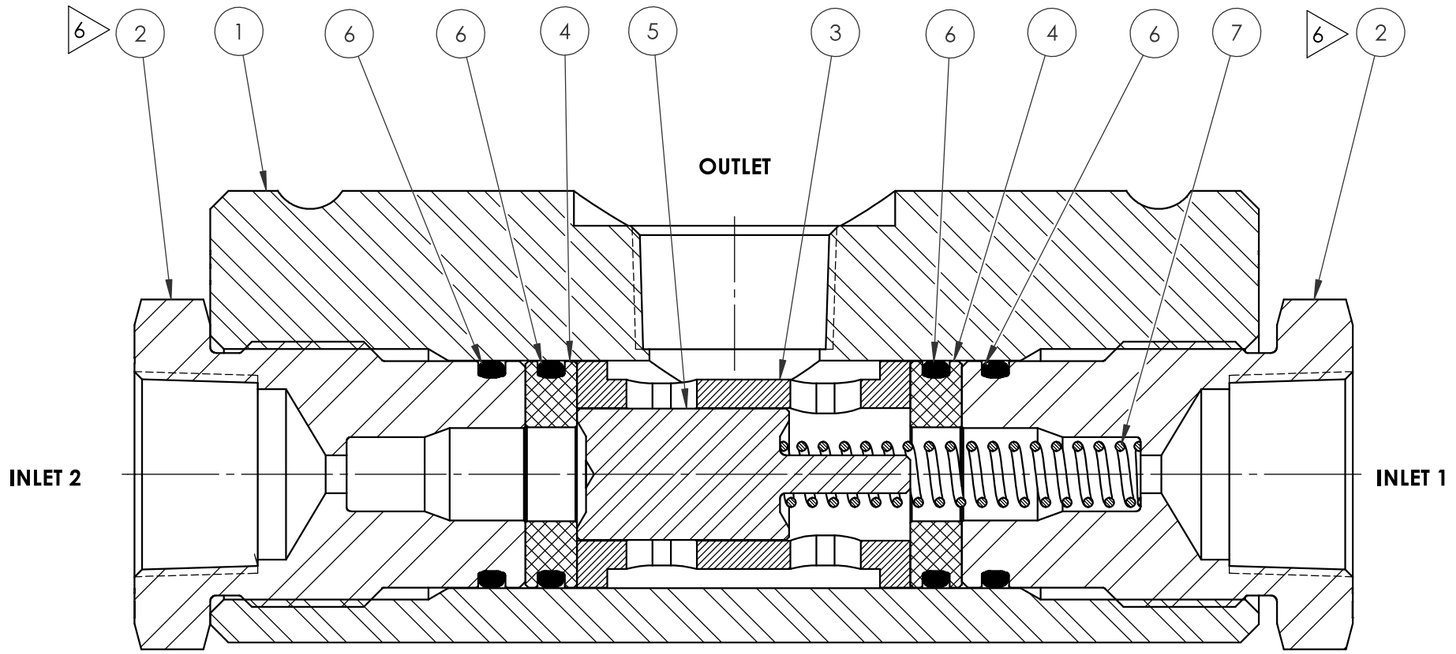
VALVE, SHUTTLE, GEN 2, 3/8" NPTF, HIGH INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29007-3	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145193	BODY- 3/8" NPT	A276 TP 316	1		
2	144711	END CAP- 3/8" NPT	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



SECTION A-A
SCALE 2 : 1

Gilmore a pro/ierv company — **ENGINEERING**

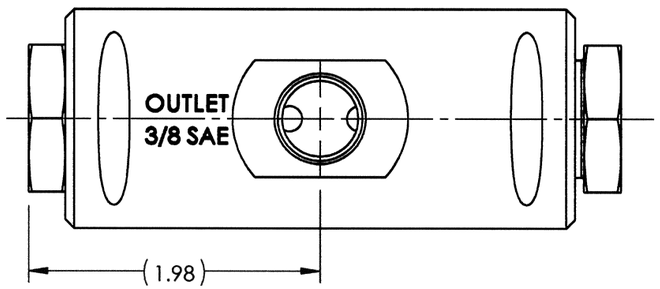
SIZE	DWG NO	REV
B	29007-3	F

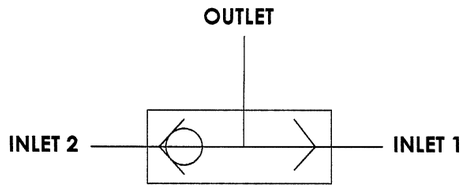
SCALE	SolidWorks	SHEET
1:1		2 OF 2

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 29008 RK AND SEAL KIT 29008 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	4/23/19





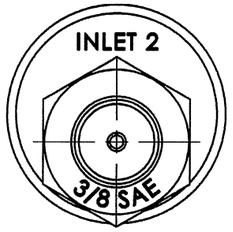
SCHEMATIC

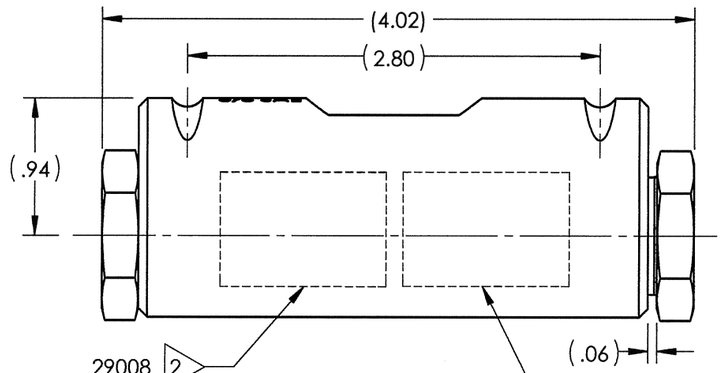
PRESSURE DATA
MAWP: 5,000 PSI

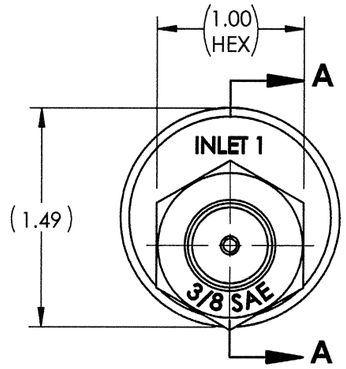
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

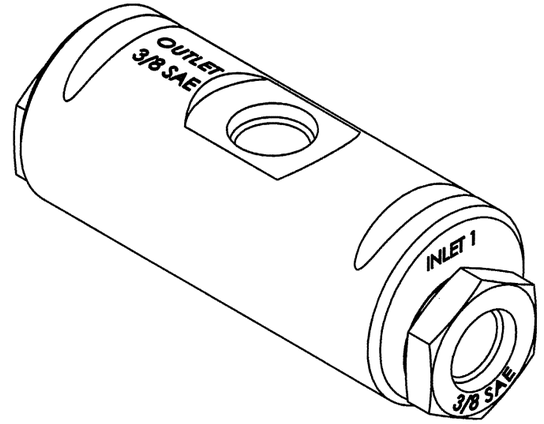
PORTS
INLETS: 3/8" SAE
OUTLET: 3/8" SAE

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE









29008 2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO 2 AND COMPANY INFORMATION

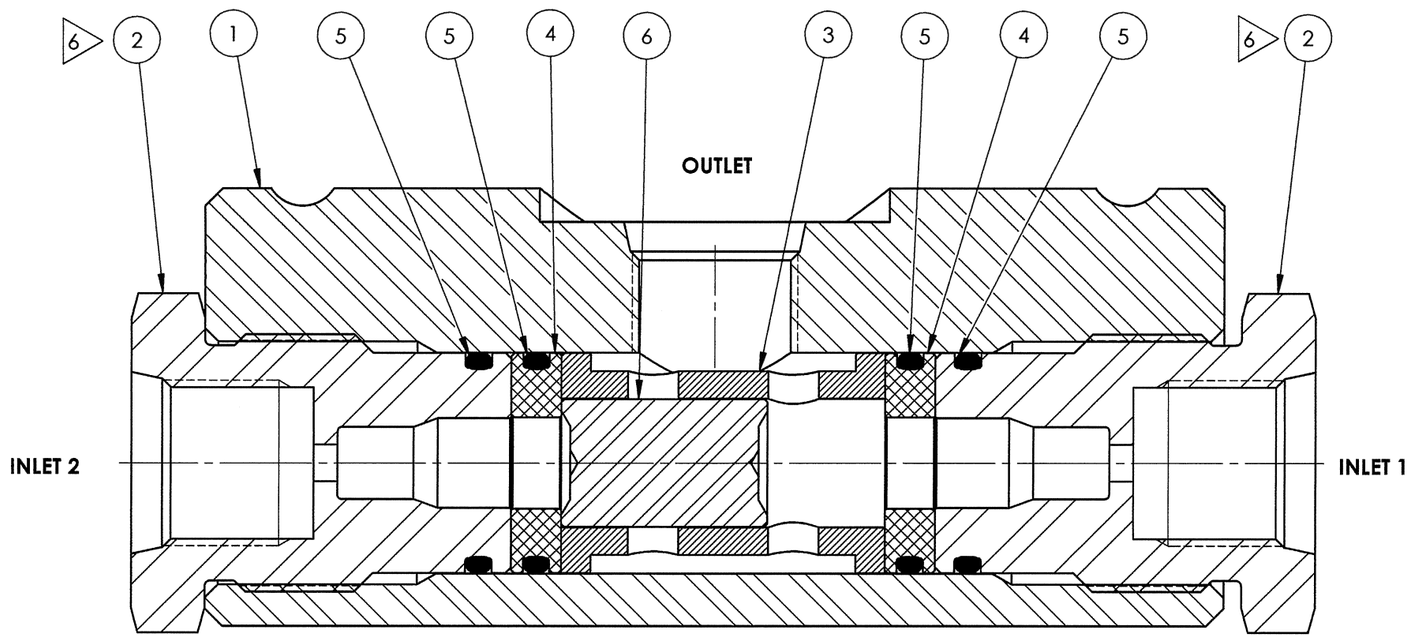
U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	DRAWN BY: CMY	DATE: 11/11/16	proserv Gilmore
CONDITION:	CHECKED BY: AP	DATE: 11/11/16	VALVE, SHUTTLE, GEN 2, 3/8" SAE, LOW INTERFLOW, 5000 PSI, DISC SEAL
TREATMENT:	ENGINEER: GM	DATE: 11/11/16	
PROCEDURE NUMBER: 5	ERN NUMBER: 02089	DATE: 10-13-16	SIZE B · DWG NO 29008 · REV E
			SCALE 1:1 · SolidWorks · SHEET 1 OF 2

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°

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	145194	BODY- 3/8" SAE	A276 TP 316	1		
	2	144714	END CAP- 3/8" SAE	A276 UNS S21800 (NITRONIC 60)	2		
1	3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
E	4	108175	SEAL, DISC	PEEK	2	X	X
	5	18100-001K1	O-RING	HNBR	4	X	X
1	6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



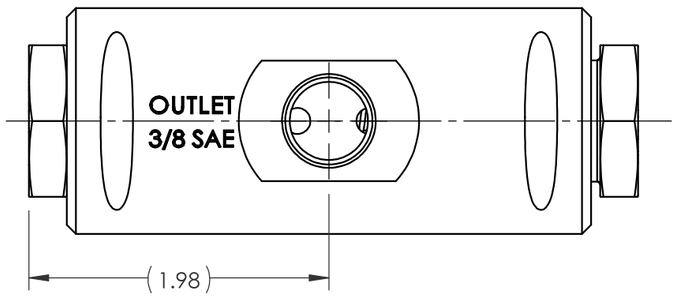
SECTION A-A
SCALE 2 : 1

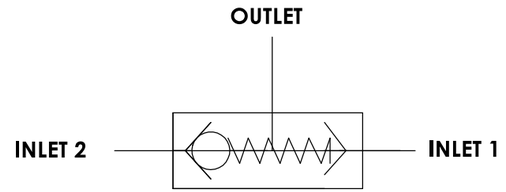
proserv | Gilmore			
SIZE B	DWG NO 29008		REV E
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29008-1 RK AND SEAL KIT 29008-1 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20





SCHEMATIC

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

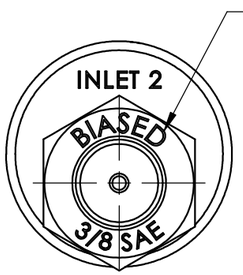
CRACKING PRESSURE <20 PSI

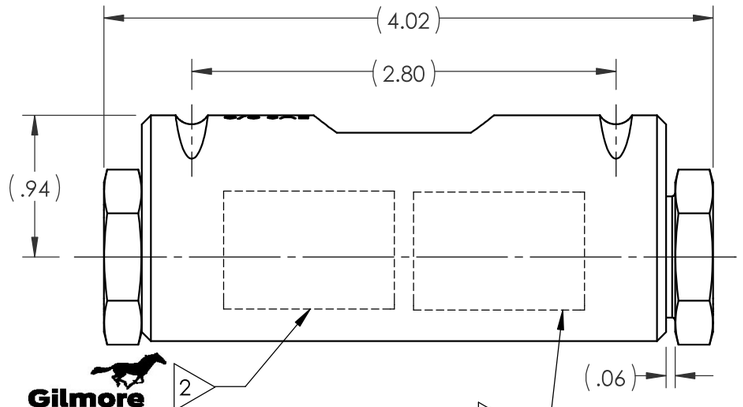
PORTS

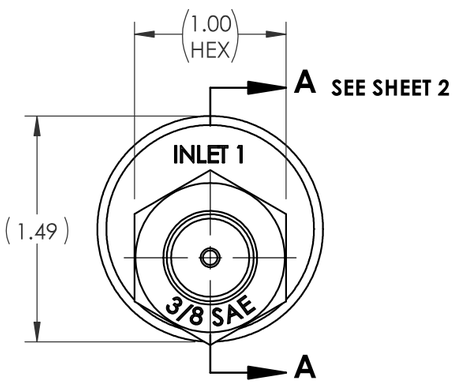
INLETS: 3/8" SAE
OUTLET: 3/8" SAE

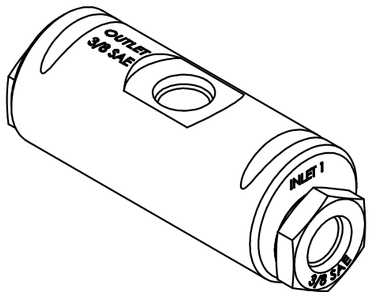
GENERAL

APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE









29008-1
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282
(DATE OF MFG) F

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	
CONDITION:	
TREATMENT:	
PROCEDURE NUMBER: 5	

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-14-16

Gilmore a pro/env company — ENGINEERING

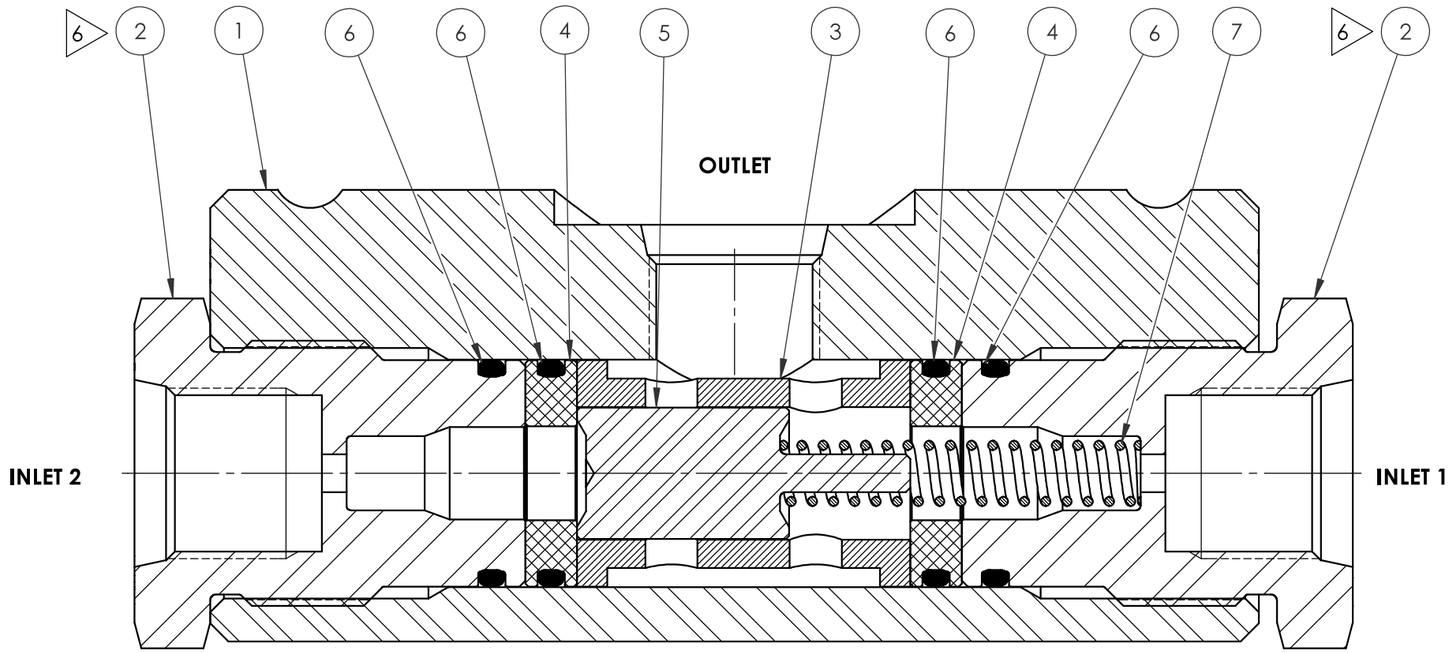
VALVE, SHUTTLE, GEN 2, 3/8" SAE, LOW INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29008-1	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145194	BODY- 3/8" SAE	A276 TP 316	1		
2	144714	END CAP- 3/8" SAE	A276 UNS S21800 (NITRONIC 60)	2		
3	108176	CAGE- LI	A276 TP S21800 (NITRONIC 60)	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



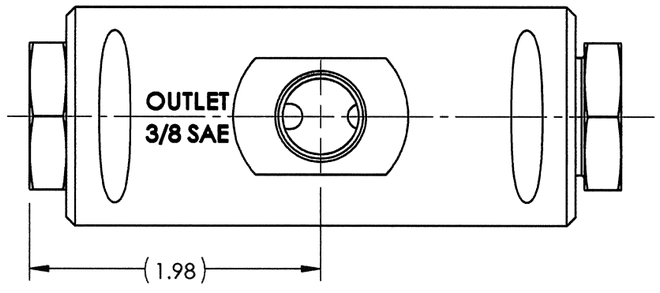
SECTION A-A
SCALE 2 : 1

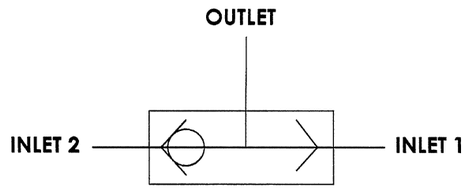
Gilmore a pro/erv company	ENGINEERING		
SIZE B	DWG NO 29008-1		REV F
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29008-2 RK AND SEAL KIT 29008-2 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
E	ECO 015541	M.S. 4/17/19	4/18/19	4/23/19





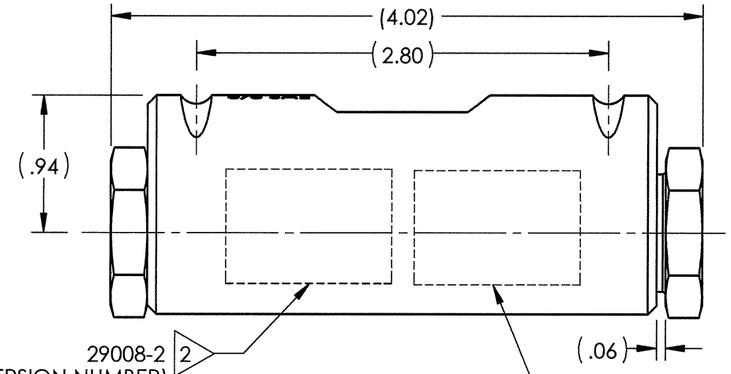
SCHEMATIC

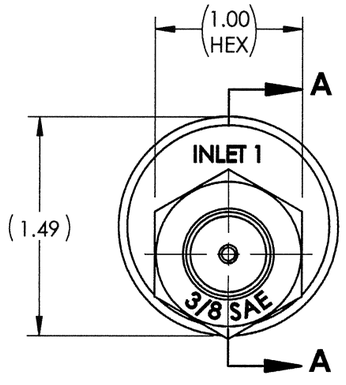
PRESSURE DATA
MAWP: 5,000 PSI

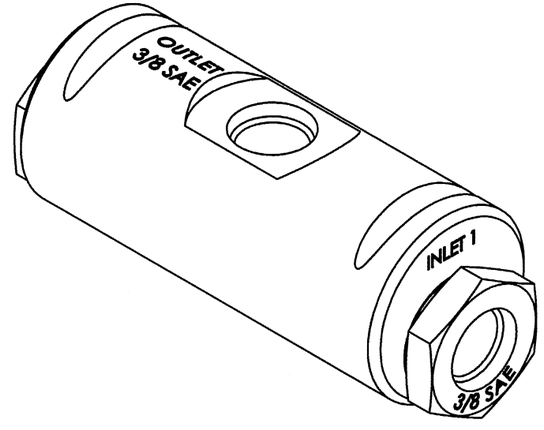
FLOW DATA
MAX FLOW CAPACITY: 8 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM
FLUIDS: 1) WATER BASED DRILLING CONTROL FLUID.
2) MINERAL OIL BASED DRILLING CONTROL FLUID.
CRACKING PRESSURE <20 PSI

PORTS
INLETS: 3/8" SAE
OUTLET: 3/8" SAE

GENERAL
APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32°F TO 150°F
FIELD SERVICEABLE







29008-2 2
VER (AX VERSION NUMBER)
(SERIAL NUMBER)
PATENT PENDING
5,000 PSI
(DATE OF MFG)
SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

MARK WITH LOGO AND COMPANY INFORMATION 2

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM

CONDITION:

TREATMENT:

PROCEDURE NUMBER: 5

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-13-16

proserv Gilmore

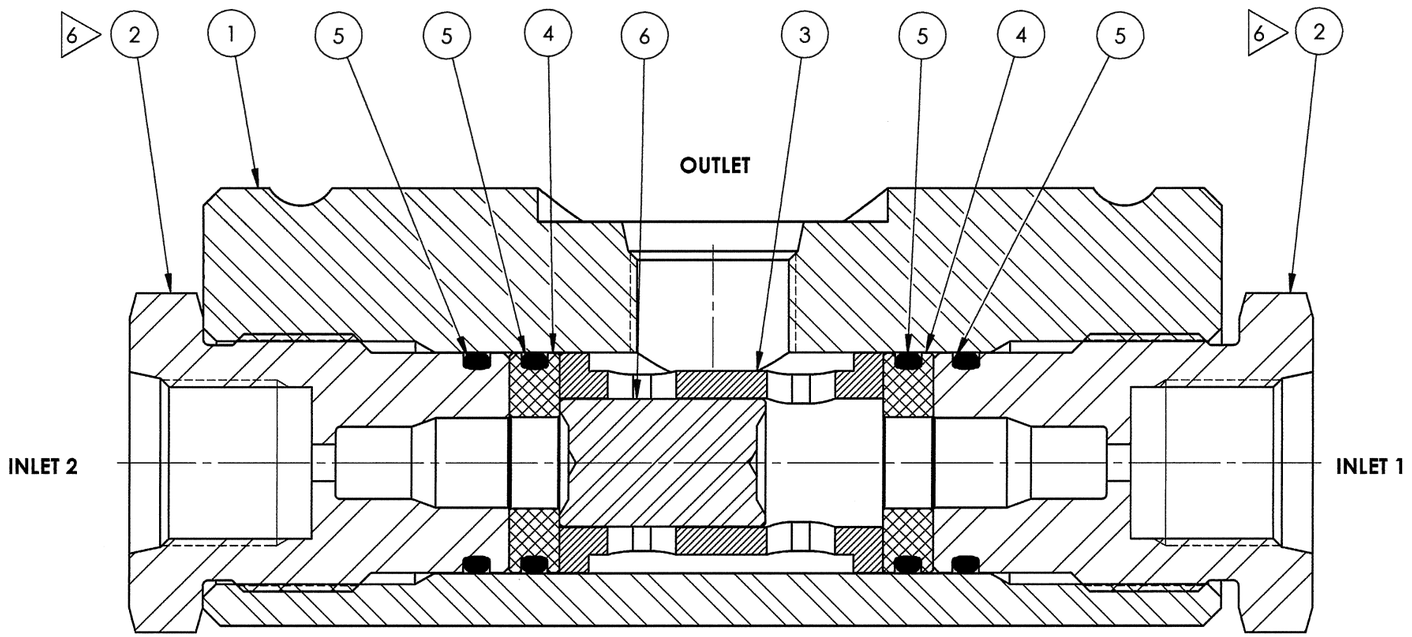
VALVE, SHUTTLE, GEN 2, 3/8" SAE, HIGH INTERFLOW, 5000 PSI, DISC SEAL

SIZE	DWG NO	REV
B	29008-2	E

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
3	1	145194	BODY- 3/8" SAE	A276 TP 316	1		
	2	144714	END CAP- 3/8" SAE	A276 UNS S21800 (NITRONIC 60)	2		
1	3	144628	CAGE- HI	A276 TP S21800	1	X	
E	4	108175	SEAL, DISC	PEEK	2	X	X
	5	18100-001K1	O-RING	HNBR	4	X	X
1	6	144627	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	



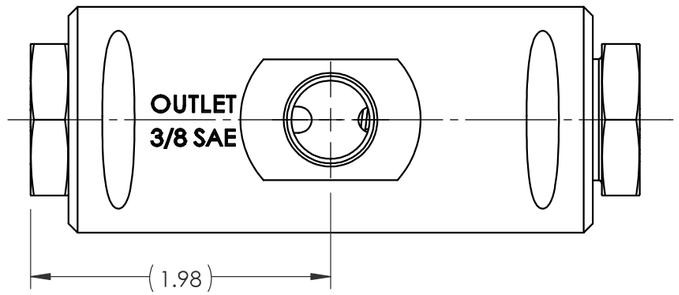
SECTION A-A
SCALE 2 : 1

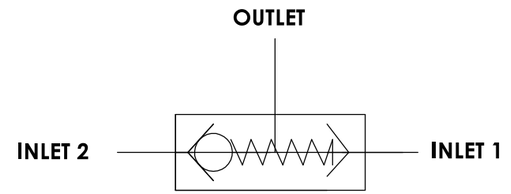
proserv | Gilmore			
SIZE B	DWG NO 29008-2		REV E
SCALE 1:1	SolidWorks	SHEET 2 OF 2	

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 29008-3 RK AND SEAL KIT 29008-3 SK.
5. FOR ASSEMBLY PROCEDURE SEE 50190, FOR MAINTENANCE MANUAL SEE 51014, FOR EXTENDED FAT PROCEDURE SEE 50188, FOR STANDARD FAT PROCEDURE SEE 50189.
6. TORQUE CAP TO 30 FT-LB

REVISIONS				
REV	ERN /ECO NUMBER	DRAWN	CHECKED	APPROVED
F	ECO 019512	JZ 9/28/20	CMY 9-28-20	AJP 9/28/20





SCHEMATIC

PRESSURE DATA

MAWP: 5,000 PSI

FLOW DATA

MAX FLOW CAPACITY: 4 GPM
Cv = .6 (CALC)
MINIMUM SHIFT FLOW AT 1,500 PSI DIFFERENTIAL PRESSURE 0.10 GPM

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

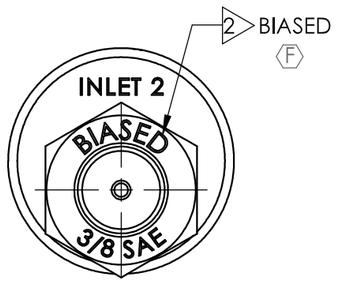
CRACKING PRESSURE <20 PSI

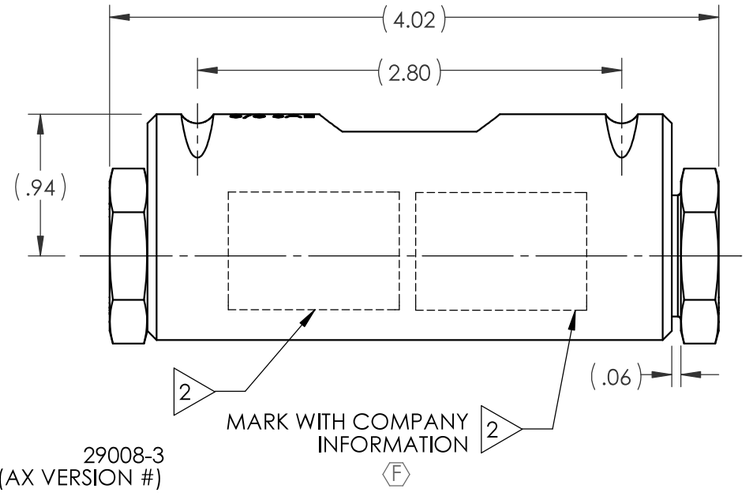
PORTS

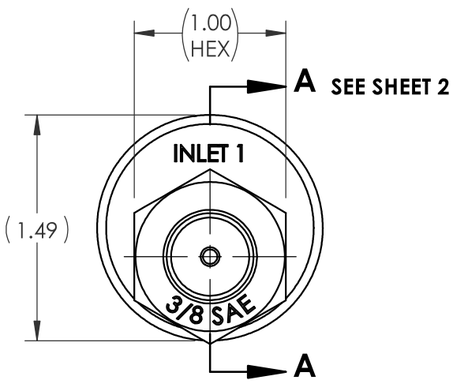
INLETS: 3/8" SAE
OUTLET: 3/8" SAE

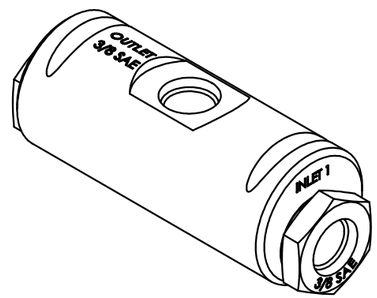
GENERAL

APPROX WEIGHT: 1.6 LBS
TEMPERATURE: 32 °F TO 150 °F
FIELD SERVICEABLE









29008-3
VER (AX VERSION #)
(SERIAL NUMBER)
5,000 PSI
US PATENT 10,133,282 F
(DATE OF MFG)

SEE SHOP TRAVELER FOR ADDITIONAL INFO REQUIRED

U.S. PATENT 10,133,282

MATERIAL: SEE PARTS IN BOM	
CONDITION:	
TREATMENT:	
PROCEDURE NUMBER: 5	

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	CMY	DATE 11/11/16
CHECKED BY	AP	DATE 11/11/16
ENGINEER	GM	DATE 11/11/16
ERN NUMBER	02089	DATE 10-14-16

Gilmore a pro/serv company — ENGINEERING

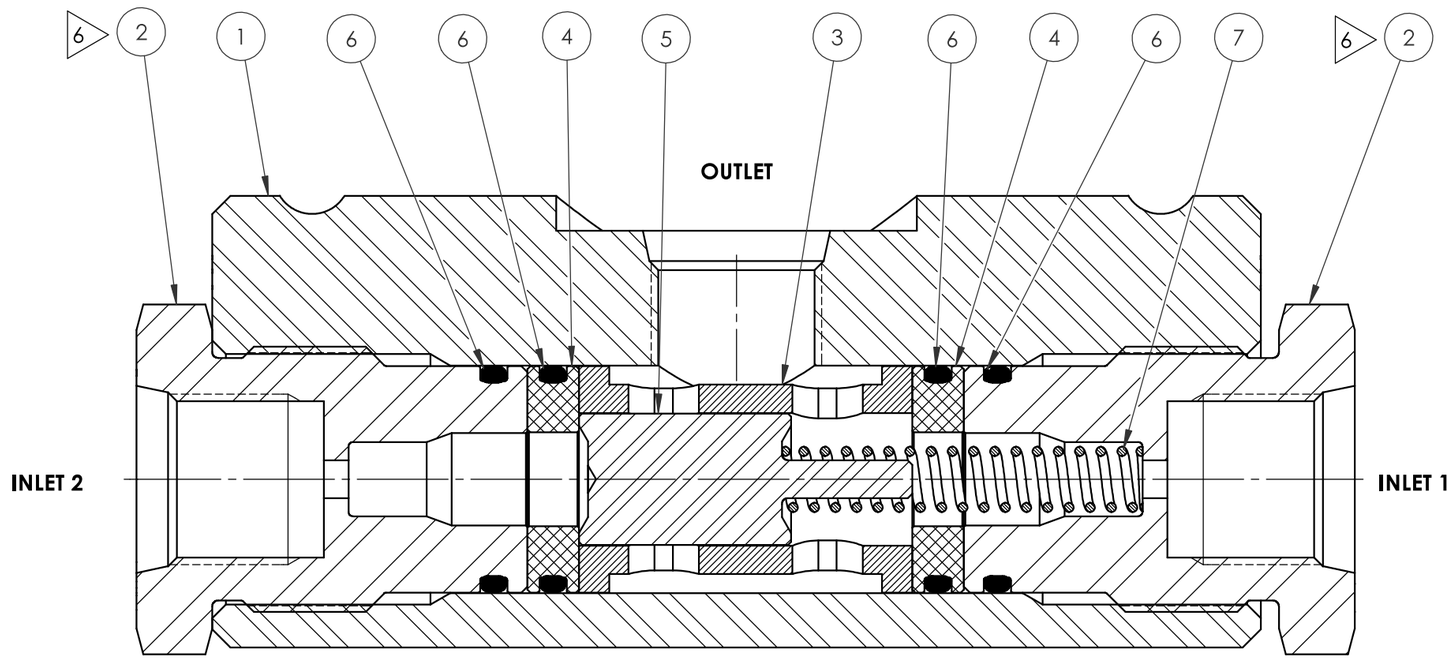
VALVE, SHUTTLE, GEN 2, 3/8" SAE, HIGH INTERFLOW, 5000 PSI, DISC SEAL SPRING BIASED

SIZE	DWG NO	REV
B	29008-3	F

SCALE 1:1 | SolidWorks | SHEET 1 OF 2

BILL OF MATERIALS

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY.	RK	SK
1	145194	BODY- 3/8" SAE	A276 TP 316	1		
2	144714	END CAP- 3/8" SAE	A276 UNS S21800 (NITRONIC 60)	2		
3	144628	CAGE- HI	A276 TP S21800	1	X	
4	108175	SEAL, DISC	POLYETHERETHERKETONE (PEEK) PER MIL-P-46183 TYPE 1	2	X	X
5	108177	SHUTTLE	A276 UNS S21800 (NITRONIC 60)	1	X	
6	18100-001K1	O-RING	HNBR	4	X	X
7	28441	SPRING	ELGILOY	1	X	



SECTION A-A
SCALE 2 : 1

Gilmore a pro/ierv company — **ENGINEERING**

SIZE	DWG NO	REV
B	29008-3	F

SCALE 1:1	SolidWorks	SHEET 2 OF 2