

1" MKIV Shuttle Valve Product Line

REV	DATE	DESCRIPTION	ORIGIN (issued by)	APPROVED
Rev A	03-13-2018	Document No: 120-031318-001	AP	SS

COMPANY PROPRIETARY INFORMATION

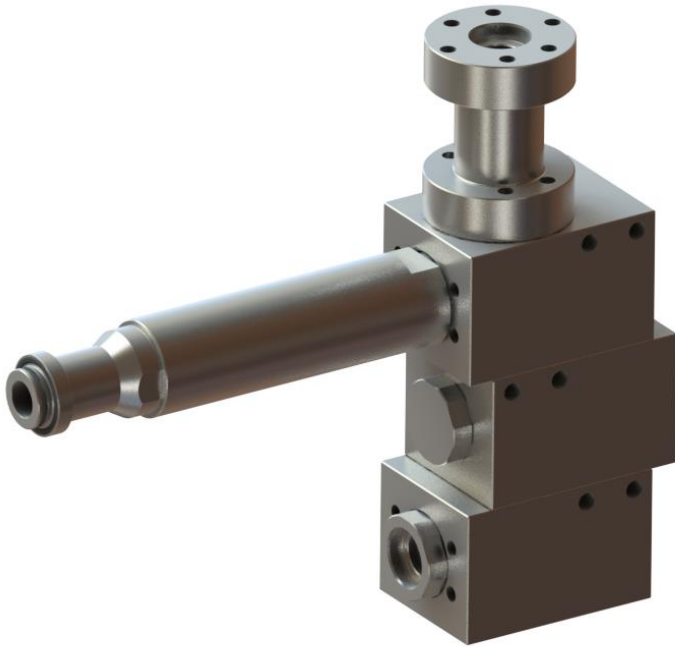
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For more information:

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

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Houston, TX 77043

1" MKIV Shuttle Valve Product Line



The 1" Mark IV Shuttle Valve product line establishes a new benchmark for reliability and serviceability in drilling control systems where redundant hydraulic pressure supplies are required.

Features and Benefits:

- Qualification exceeds API 16D requirements
 - Non Biased shuttle valves qualified to 2500 cycles at maximum flow conditions
 - Pressure and Spring Biased shuttle valves qualified to 1000 cycles at maximum flow conditions
- Shuttle metal seat no longer requires coining, simplifying on-site repairs
- All shuttle styles are hydraulically dampened
- Common stacked bodies can be readily reconfigured
- Fully serviceable shuttles and body seats can be completely redressed inline.
- Available configurations include Pressure biased, Spring biased, high interflow, low interflow, high drag, low drag options with customizable end connections and mounting provisions.
- Customizable single valve and stack valve assemblies available to suit application requirements

Suitable for panel mounting or direct mounting
U.S. Patent 9,915,275

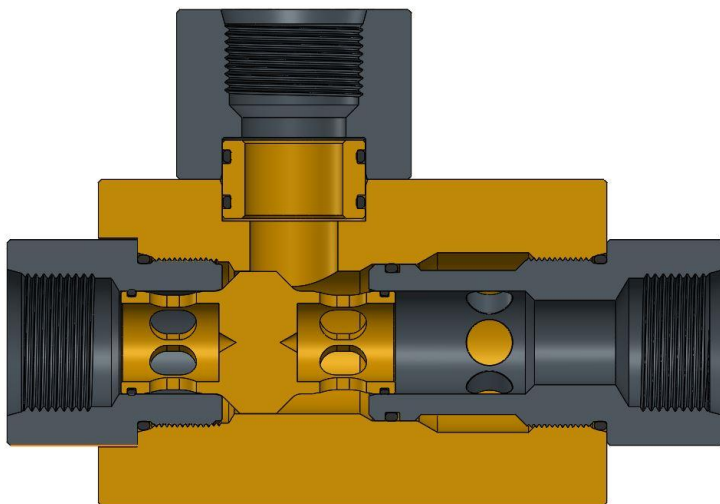
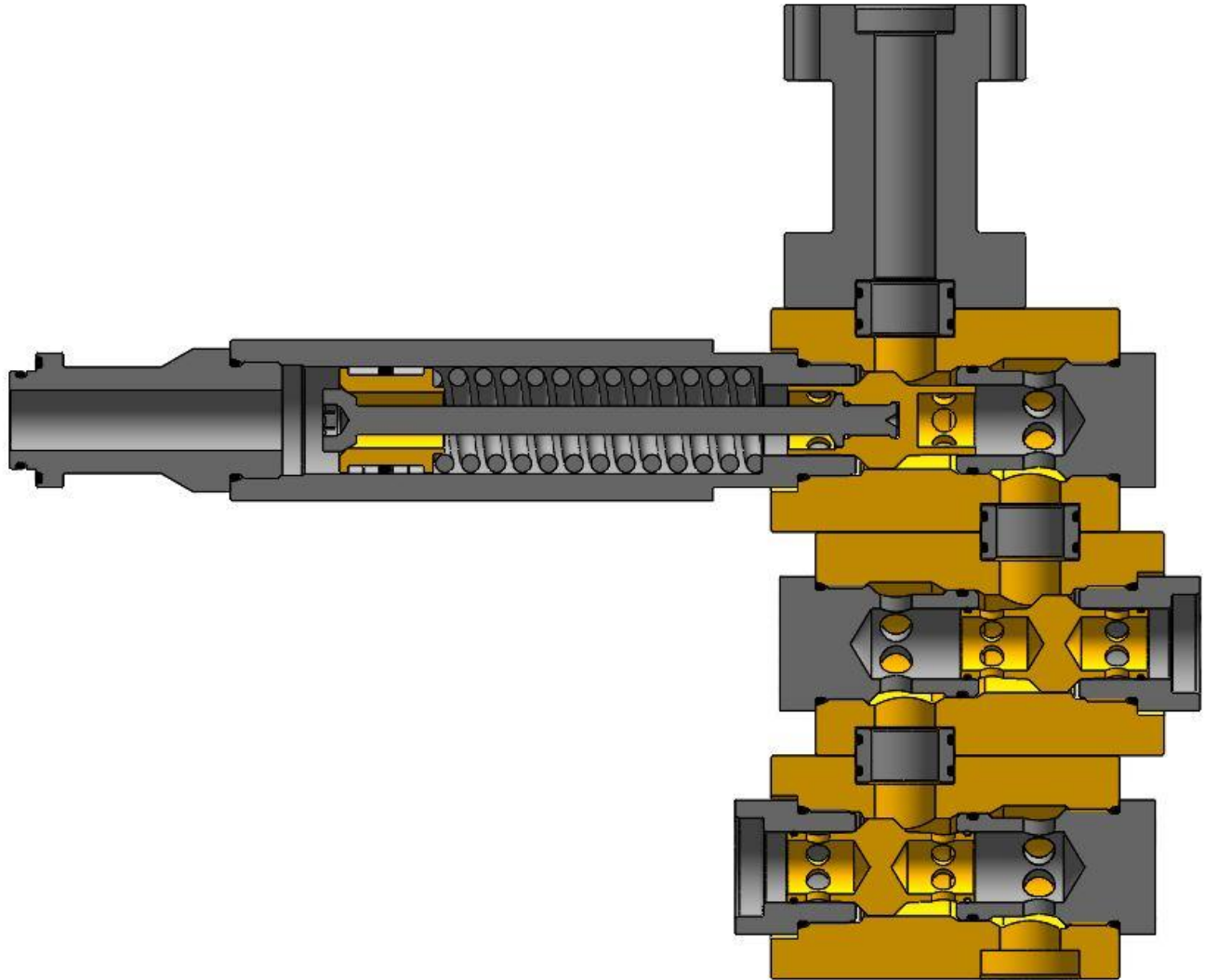


Figure 1. PN 29018: 1" MKIV Shuttle Valve, Inline, SAE, High Interflow, High Drag

1" MKIV Shuttle Valve Product Line

Figure 2. PN 29019: 1" MKIV Shuttle Valve, Stack, 4 Inlets, Code 62, Pressure Biased, Low Interflow, High Drag



Gilmore has exceeded API 16D requirements by qualifying the new 1" MKIV Shuttle Valve non-biased designs to multiple endurance qualification tests to 2500 cycles, at a starting flow rate of 175 gpm – and biased designs to 1000 cycles and 150 gpm – at 5000 psi, with 1% - 4% water glycol test fluid.

The new Gilmore 1" MKIV Shuttle Valves are now available for purchase. A few examples of typical assembly configurations are listed below for reference. Proserv Gilmore will create other customized 1" MKIV Shuttle valve configurations that are required.

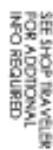
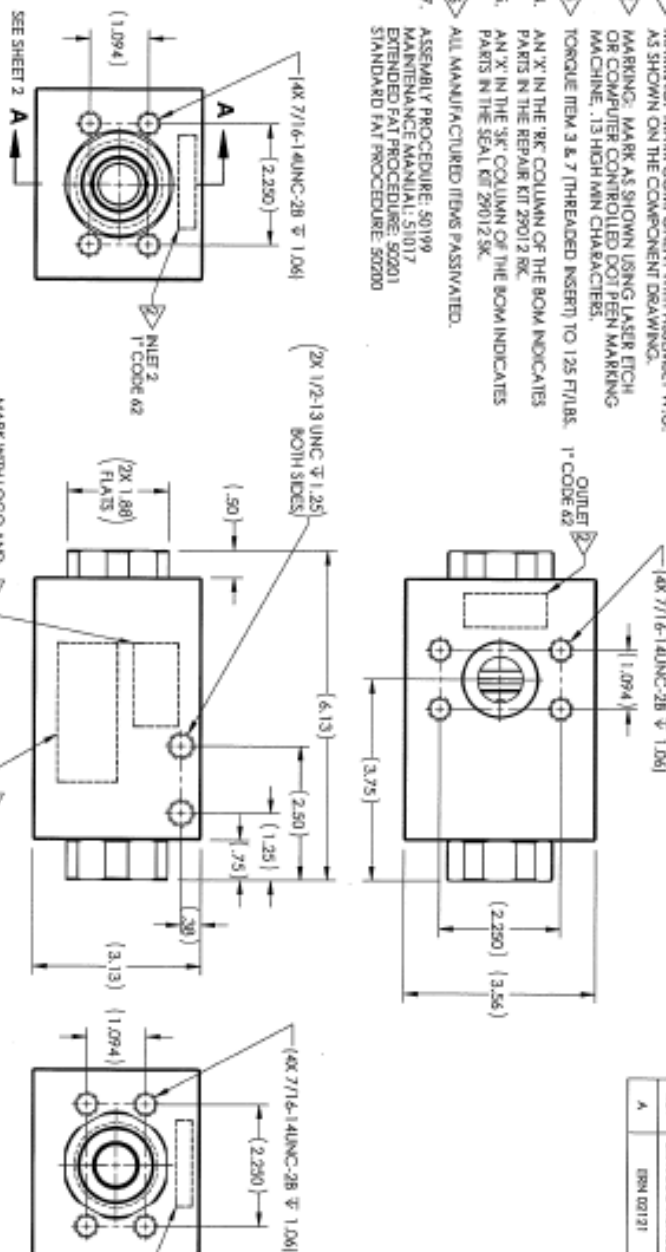
Please contact Gilmore Customer Service to request a quotation for the 1" MKIV Shuttle Valves listed below, or other configurations as required.

Table 1. Examples of New 1" MKIV Shuttle Valve Part Numbers:

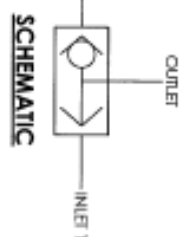
Item	New Valve Description	Legacy PN Reference	New Valve PN	New Repair Kit PN	New Seal Kit PN
1	Valve, MKIV, 1" Inline, Code 62, Low Interflow, High Drag	27023-0.3	29012	29012 RK	29012 RK
2	Valve, MKIV, 1", 90 Degree, Code 62, Low Interflow, High Drag	N/A	29014	29014 RK	29014 RK
3	Valve, MKIV, 1" Inline, SAE, Pressure Biased, 400 psi Shift	28059	29015	29015 RK	29015 RK
4	Valve, MKIV, 1", Inline, SAE, Spring Biased	28135	29016	29016 RK	29016 RK
5	Valve, MKIV, 1", Inline, SAE, High Interflow, Low Drag	27020	29018	29018 RK	29018 RK
6	Valve, MKIV, 1" Stacked, 4 Inlets, Code 62 Seal Sub, Low Interflow, High Drag, Pressure Biased, 200 psi Seal	28306-3.3	29019	29019 RK	29019 RK
7	Valve, MKIV, 1" Inline, SAE, Pressure Biased, 200 psi Shift	27088	29020	29020 RK	29020 RK

Please note that Gilmore will continue to support the legacy 1" MKIII Shuttle Valves, which have a different footprint than the new 1" MKIV Shuttle Valves.

- 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 PEN MARKING MACHINE. .13 HIGH MIN CHARACTERS.
 3. TORQUE ITEM 3 & 7 (THREADED INSERT) TO 125 FT/LBS.
 4. AN 'X' IN THE 'RC' COLUMN OF THE BOM INDICATES PARTS IN THE REPAIR KIT 25012 RC.
 5. AN 'X' IN THE 'SC' COLUMN OF THE BOM INDICATES PARTS IN THE SEAL KIT 25012 SC.
 6. ALL MANUFACTURED ITEMS PASSIVATED.
 7. ASSEMBLY PROCEDURE: 50109
MAINTENANCE MANUAL: 51017
EXTENDED FAT PROCEDURE: 50201
STANDARD FAT PROCEDURE: 50200



U.S. PATENT PENDING



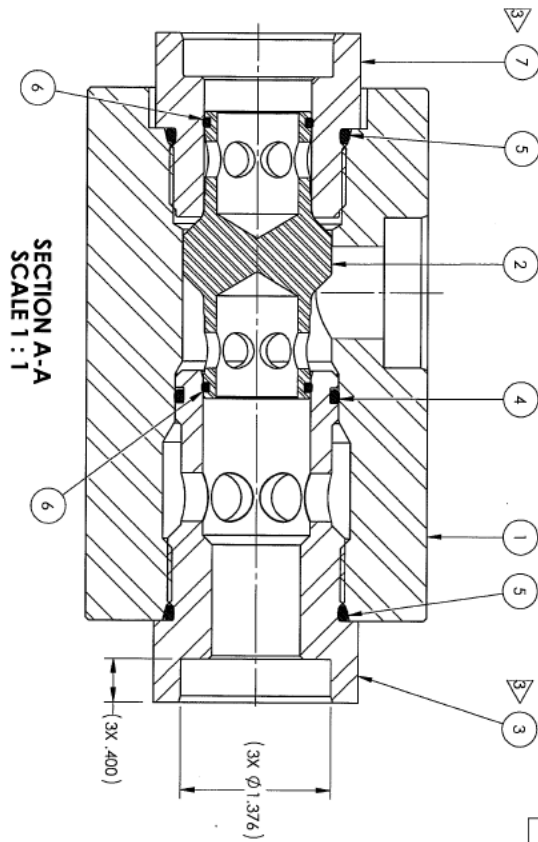
APPROX WEIGHT: 13.6 LBS
TEMPERATURE RANGE: 32°F TO 150°F
FLUIDS: - WATER BASED DRILLING
CONTROL FLUID,
- MINERAL OIL BASED DRILLING
CONTROL FLUID.
FIELD SERVICEABLE: REPAIR KITS AVAILABLE

PRESSURE DATA	
MAXIMUM SUPPLY PRESSURE:	6,000 PSI
MINIMUM WORKING PRESSURE:	1,500 PSI
FLOW DATA	
CV INLET 1/2:	5.4
MAX FLOW CAPACITY:	175 GPM
MIN SHUT FLOW AT 1500 Psi	2.2 GPM
MAX OPERATING DEPTH:	15,000 FT
CONNECTION	
INLET 1:	1" CODE 62
INLET 2:	1" CODE 62
OUTLET:	1" CODE 62
GENERAL DATA	

REVISIONS				
REV	ENR JECO NUMBER	DRAWN	CHECKED	APPROVED
A	ENR 02121	CY-22-17	JRS 9/25/17	APR 9/25/17

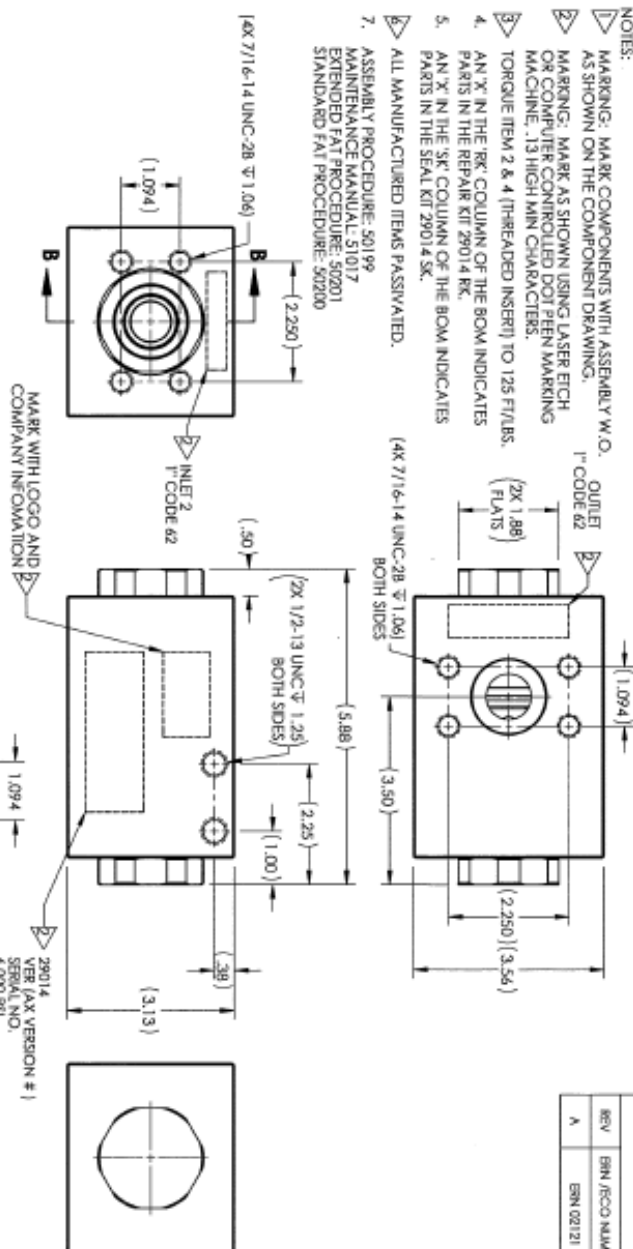
[illegible]

BILL OF MATERIALS					
ITEM NO/PART NUMBER	DESCRIPTION	MATERIAL	QTY	RK	SK
1	146825 BODY	A276 TP 316 (316 SS)	1		
2	146827 SHUTTLE, LL HD	A276 UNS S21800 (INTRONIC 60)	1	X	
3	146832 INSERT, THREADED, 1" CODE 62	A276 UNS S21800 (INTRONIC 60)	1	X	
4	18100-052C O-RING	BUNA-N 90	1	X	X
5	18100-619C O-RING	BUNA-N 90	2	X	X
6	18100-026C O-RING	BUNA-N 90	2	X	X
7	147338 ADAPTER, 1" CODE 62	A276 UNS S21800	1	X	



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SIZE	DWG NO	REV	
B	29012	A	
SCALE	1:2	SHEET	2 OF 2

- NOTES:
1. MARKING: MARK COMPONENTS WITH ASSEMBLY W.O. AS SHOWN ON THE COMPONENT DRAWING.
 2. MARKING: MARK AS SHOWN USING LASER ETCH OR COMPUTER CONTROLLED DOT PEN MARKING MACHINE. .13 HIGH MIN CHARACTERS.
 3. TORQUE ITEM 2 & 4 (THEADED INSERT) TO 125 FT/LBS.
 4. AN 'X' IN THE 'RC' COLUMN OF THE BOM INDICATES PARTS IN THE REPAIR KIT 20014 RC.
 5. AN 'X' IN THE 'SC' COLUMN OF THE BOM INDICATES PARTS IN THE SEAL KIT 20014 SC.
 6. ALL MANUFACTURED ITEMS PASSIVATED.
 7. ASSEMBLY PROCEDURE: 50109
MAINTENANCE MANUAL: 51017
EXPENDED PART PROCEDURE: 50201
STANDARD FAI PROCEDURE: 302200

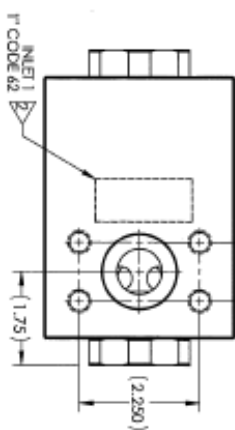


NO. 1101070			
REV	EN/ISSO NUMBER	DRAWN	CHECKED
A	EN 02121	CY 9-22-17	JB 9/25/17

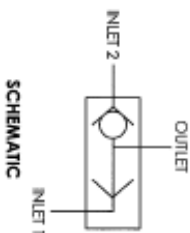
PRESSURE DATA	
MAXIMUM SUPPLY PRESSURE:	6,000 PSI
MINIMUM WORKING PRESSURE:	1,500 PSI
FLOW DATA	
CV INLET 1 & 2:	5.4
MAX FLOW CAPACITY:	175 GPM
MIN SHUT FLOW AT 1500 PSI:	2.5 GPM
MAX OPERATING DEPTH:	15,000 FT

CONNECTION	
INLET 1:	1" CODE 62
INLET 2:	1" CODE 62
OUTLET:	1" CODE 62
GENERAL DATA	
APPROX WEIGHT:	13.5 LBS
TEMPERATURE RANGE:	32°F TO 150°F
FLUIDS: - WATER BASED DRILLING	
CONTROL BLIND	

- MINERAL OIL BASED DRILLING
CONTROL FLUID.
FIELD SERVICEABLE: REPAIR KITS AVAILABLE

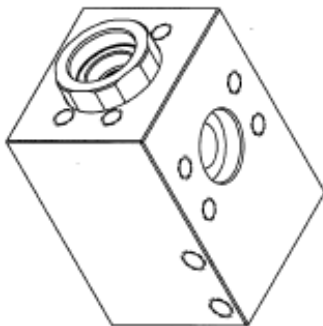


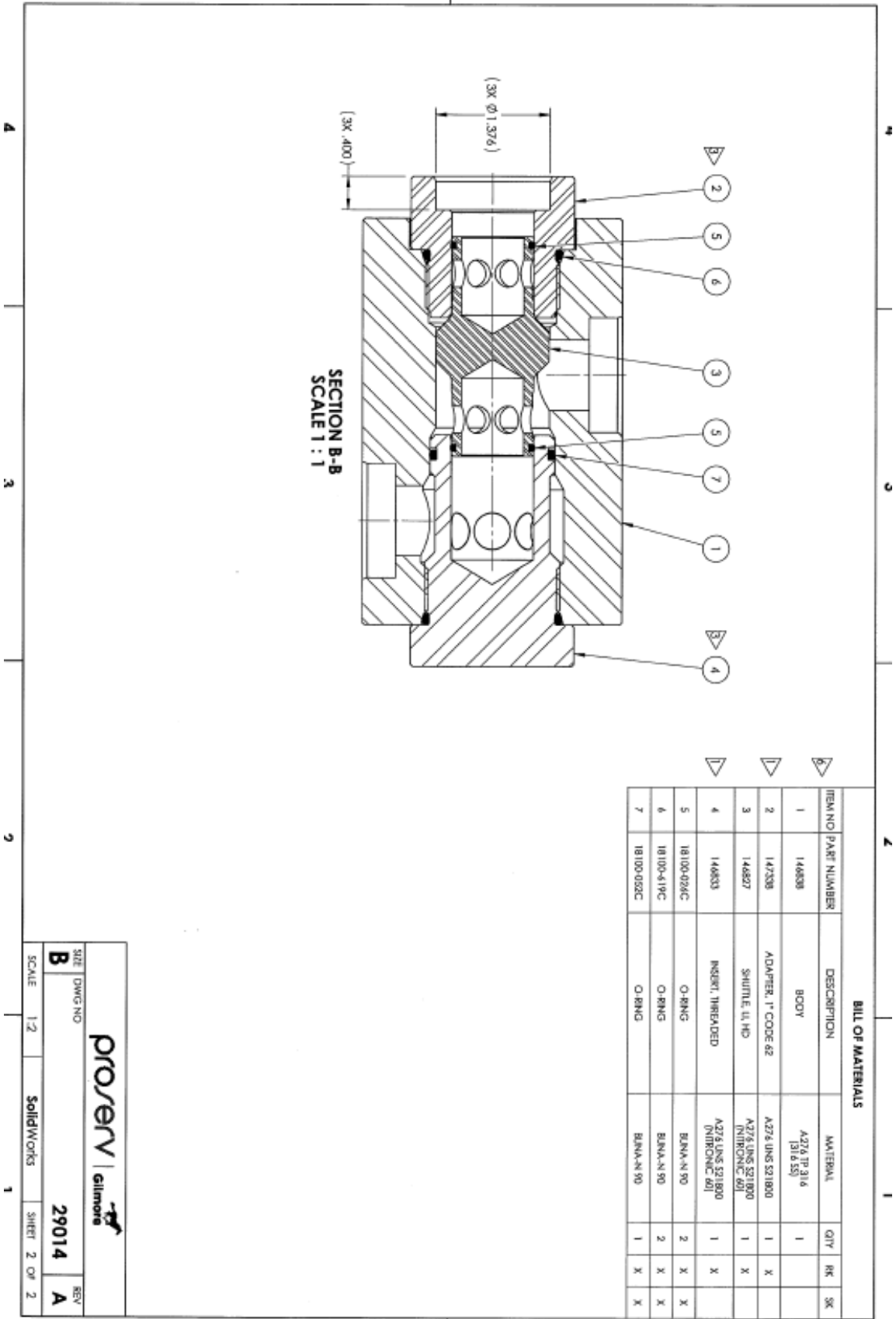
U.S. PATENT PENDING



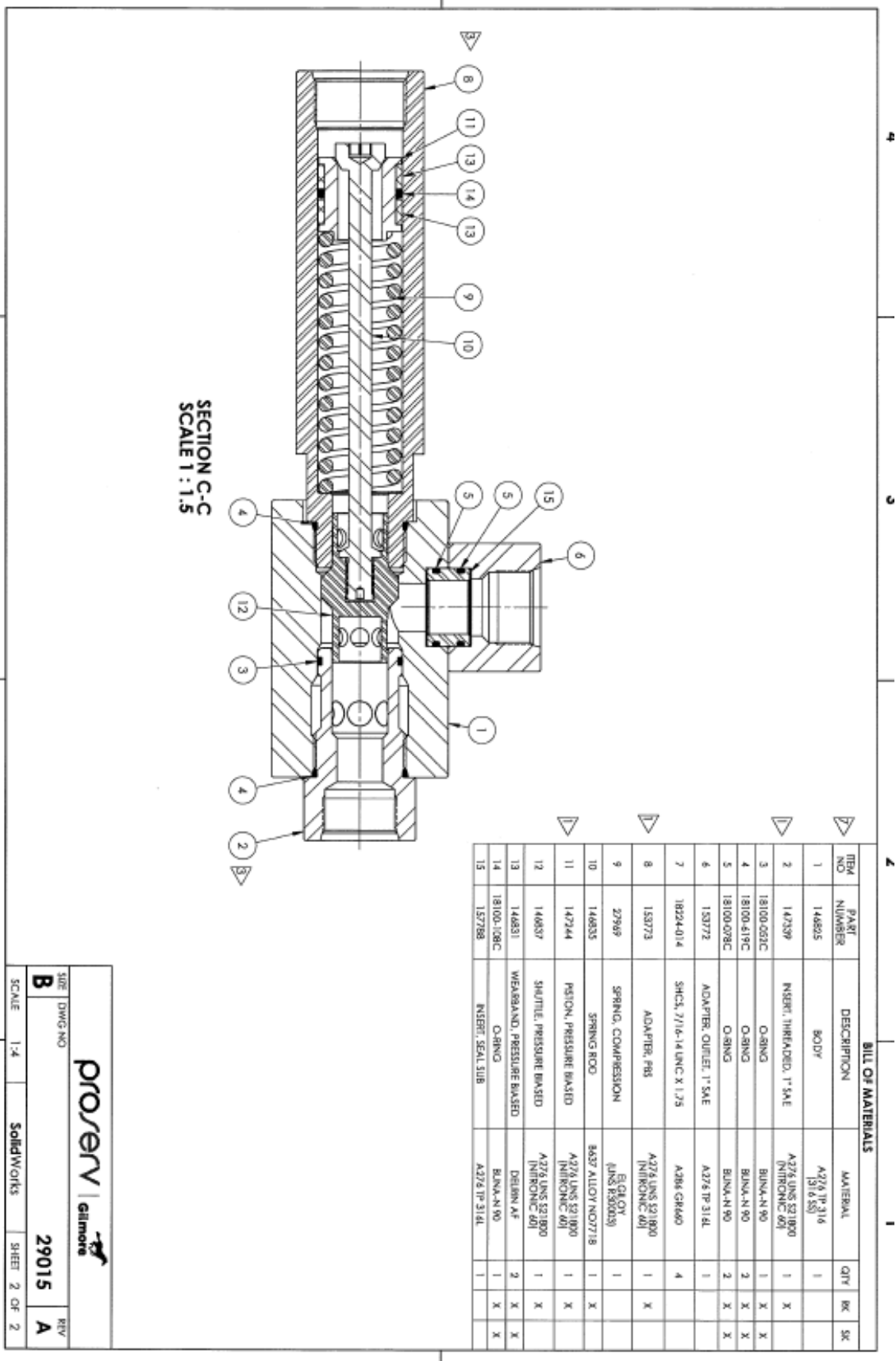
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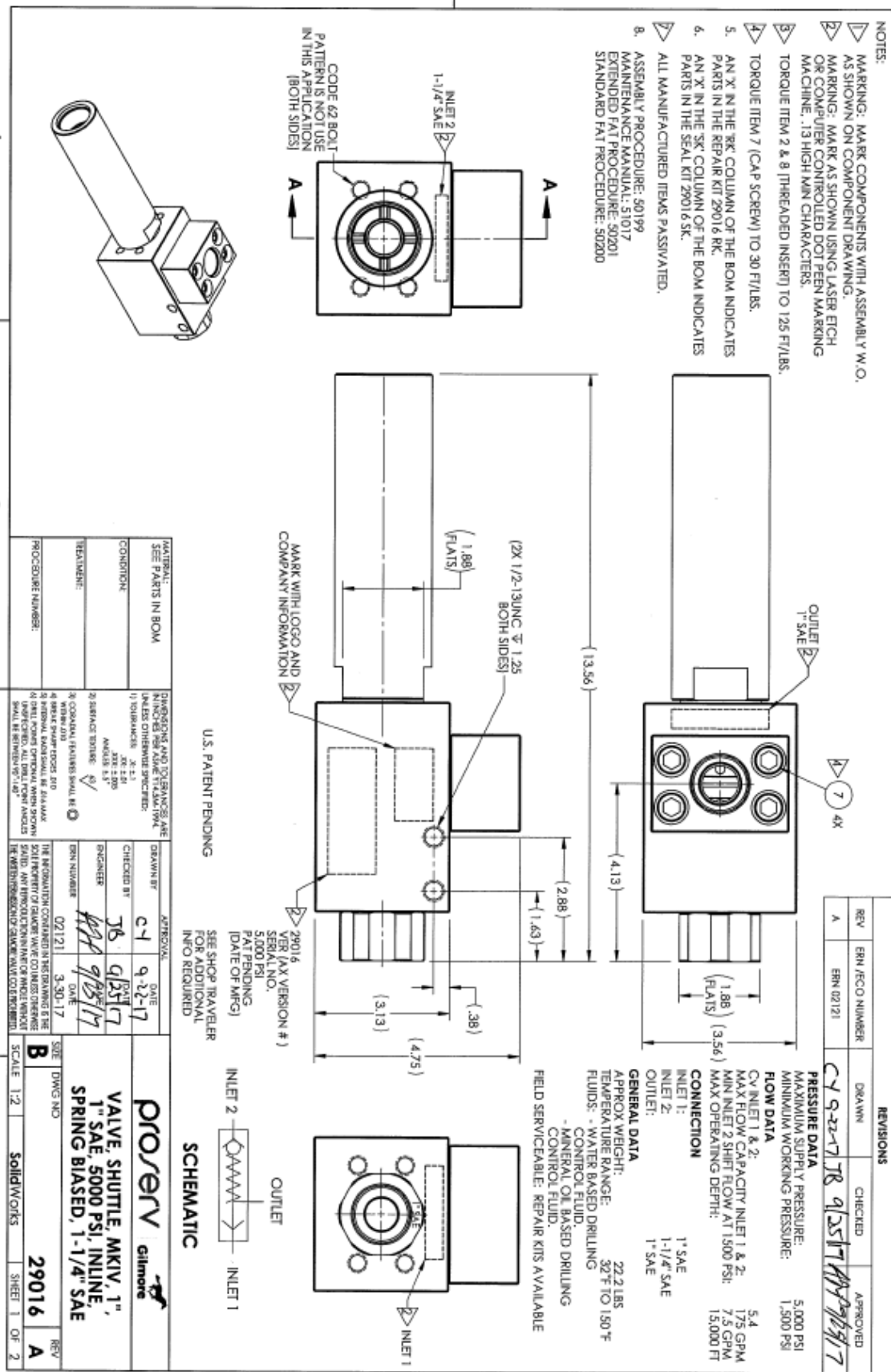
WARRANTY	DRAWINGS AND TOLERANCES ARE TO BE IN ACCORD WITH THE FIRST EDITION OF THE ASME Y14.5M-1994.		DATE		9-17-17
CONDITION	1) TOLERANCES: .0001 2) FINISH: 32 3) ANGLE: 2.00°		CHECKED BY: JKS ENGINEER: [Signature]	DATE	9-17-17
REMARKS:	25 SERVICE TEMPERATURE: 47 26 COATING: GALVANIZED SHALL BE 10 27 WELDS: AS 28 MATERIALS SHALL BE AS SHOWN 29 DIMENSIONS SHALL BE AS SHOWN 30 FINISHES SHALL BE AS SHOWN 31 SURFACES SHALL BE AS SHOWN 32 DIMENSIONS SHALL BE AS SHOWN 33 DIMENSIONS SHALL BE AS SHOWN 34 DIMENSIONS SHALL BE AS SHOWN 35 DIMENSIONS SHALL BE AS SHOWN 36 DIMENSIONS SHALL BE AS SHOWN 37 DIMENSIONS SHALL BE AS SHOWN 38 DIMENSIONS SHALL BE AS SHOWN 39 DIMENSIONS SHALL BE AS SHOWN 40 DIMENSIONS SHALL BE AS SHOWN 41 DIMENSIONS SHALL BE AS SHOWN 42 DIMENSIONS SHALL BE AS SHOWN 43 DIMENSIONS SHALL BE AS SHOWN 44 DIMENSIONS SHALL BE AS SHOWN 45 DIMENSIONS SHALL BE AS SHOWN 46 DIMENSIONS SHALL BE AS SHOWN 47 DIMENSIONS SHALL BE AS SHOWN 48 DIMENSIONS SHALL BE AS SHOWN 49 DIMENSIONS SHALL BE AS SHOWN 50 DIMENSIONS SHALL BE AS SHOWN 51 DIMENSIONS SHALL BE AS SHOWN 52 DIMENSIONS SHALL BE AS SHOWN 53 DIMENSIONS SHALL BE AS SHOWN 54 DIMENSIONS SHALL BE AS SHOWN 55 DIMENSIONS SHALL BE AS SHOWN 56 DIMENSIONS SHALL BE AS SHOWN 57 DIMENSIONS SHALL BE AS SHOWN 58 DIMENSIONS SHALL BE AS SHOWN 59 DIMENSIONS SHALL BE AS SHOWN 60 DIMENSIONS SHALL BE AS SHOWN 61 DIMENSIONS SHALL BE AS SHOWN 62 DIMENSIONS SHALL BE AS SHOWN 63 DIMENSIONS SHALL BE AS SHOWN 64 DIMENSIONS SHALL BE AS SHOWN 65 DIMENSIONS SHALL BE AS SHOWN 66 DIMENSIONS SHALL BE AS SHOWN 67 DIMENSIONS SHALL BE AS SHOWN 68 DIMENSIONS SHALL BE AS SHOWN 69 DIMENSIONS SHALL BE AS SHOWN 70 DIMENSIONS SHALL BE AS SHOWN 71 DIMENSIONS SHALL BE AS SHOWN 72 DIMENSIONS SHALL BE AS SHOWN 73 DIMENSIONS SHALL BE AS SHOWN 74 DIMENSIONS SHALL BE AS SHOWN 75 DIMENSIONS SHALL BE AS SHOWN 76 DIMENSIONS SHALL BE AS SHOWN 77 DIMENSIONS SHALL BE AS SHOWN 78 DIMENSIONS SHALL BE AS SHOWN 79 DIMENSIONS SHALL BE AS SHOWN 80 DIMENSIONS SHALL BE AS SHOWN 81 DIMENSIONS SHALL BE AS SHOWN 82 DIMENSIONS SHALL BE AS SHOWN 83 DIMENSIONS SHALL BE AS SHOWN 84 DIMENSIONS SHALL BE AS SHOWN 85 DIMENSIONS SHALL BE AS SHOWN 86 DIMENSIONS SHALL BE AS SHOWN 87 DIMENSIONS SHALL BE AS SHOWN 88 DIMENSIONS SHALL BE AS SHOWN 89 DIMENSIONS SHALL BE AS SHOWN 90 DIMENSIONS SHALL BE AS SHOWN 91 DIMENSIONS SHALL BE AS SHOWN 92 DIMENSIONS SHALL BE AS SHOWN 93 DIMENSIONS SHALL BE AS SHOWN 94 DIMENSIONS SHALL BE AS SHOWN 95 DIMENSIONS SHALL BE AS SHOWN 96 DIMENSIONS SHALL BE AS SHOWN 97 DIMENSIONS SHALL BE AS SHOWN 98 DIMENSIONS SHALL BE AS SHOWN 99 DIMENSIONS SHALL BE AS SHOWN 100 DIMENSIONS SHALL BE AS SHOWN		ORDER NUMBER: 02121 DATE: 3-14-17 THE INFORMATION ON THIS DRAWING IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR COPIED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM THE COMPANY.	SIZE: DWG NO: B SCALE: 1:2 SolidWorks SHEET: 1 OF 2	VALVE, SHUTTLE, MKIV, 1" 1" G67 SEAL SUB, 6000 PSI, 90 DEGREE, U, HD Gilmore

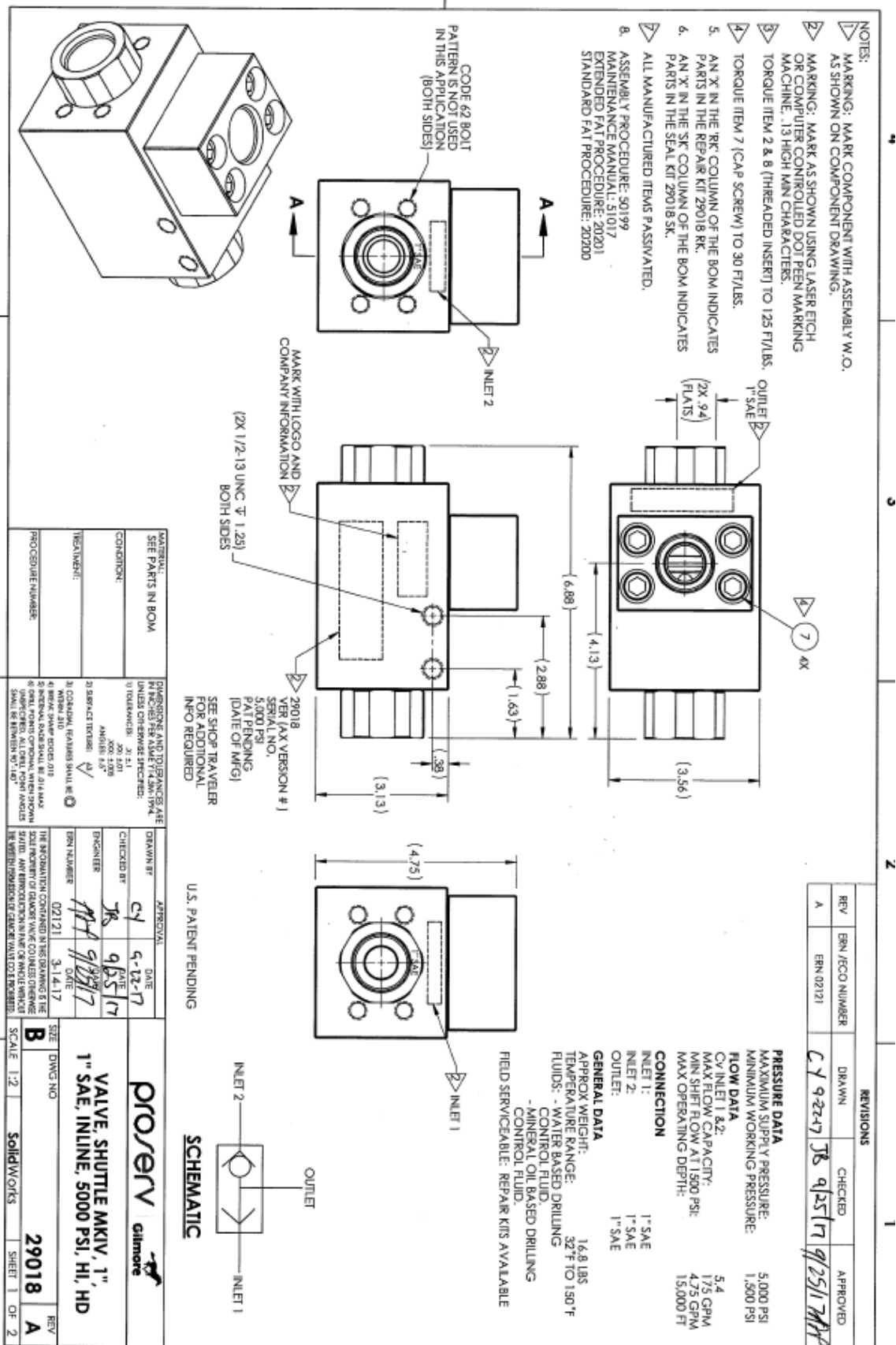


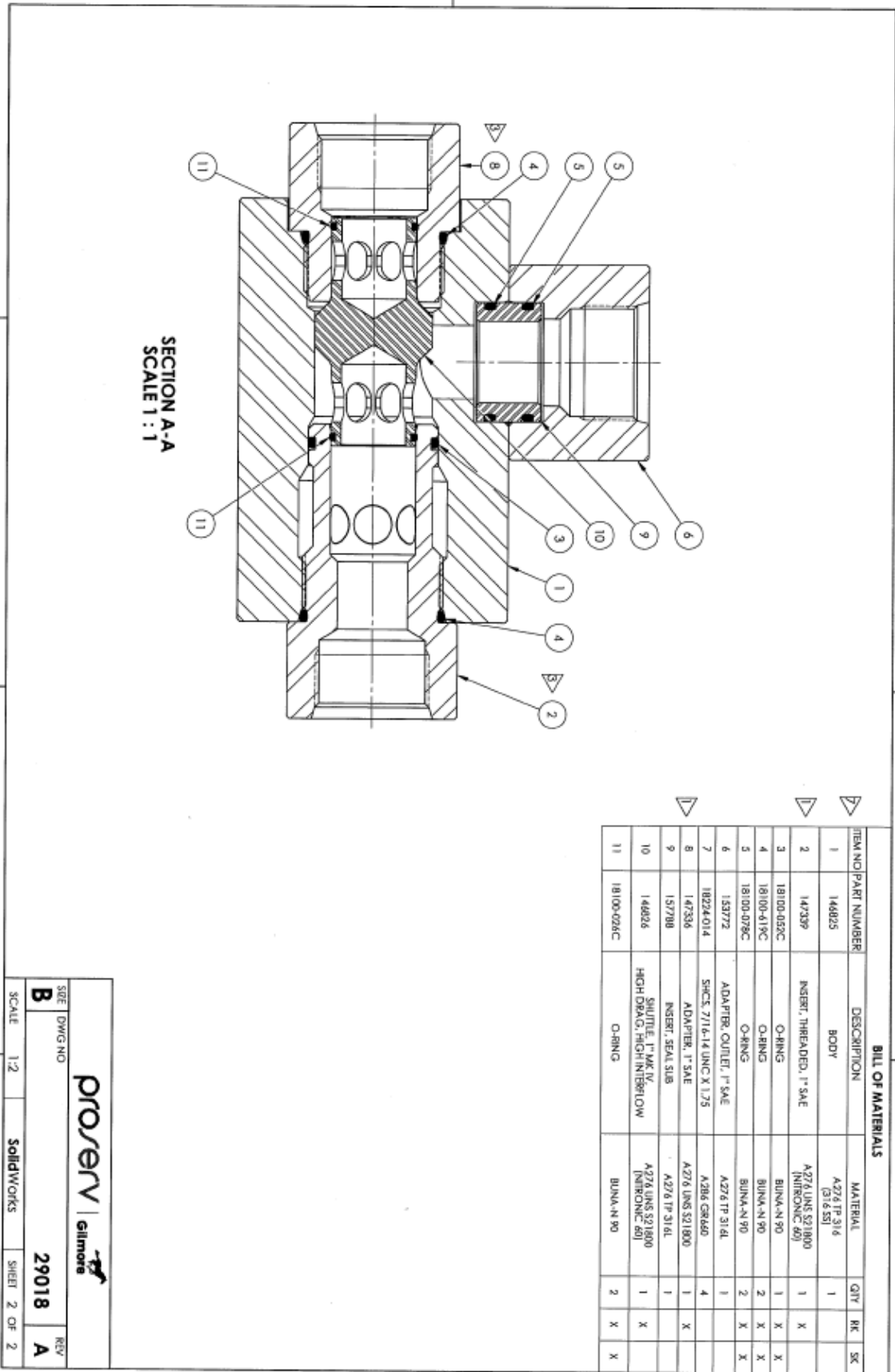




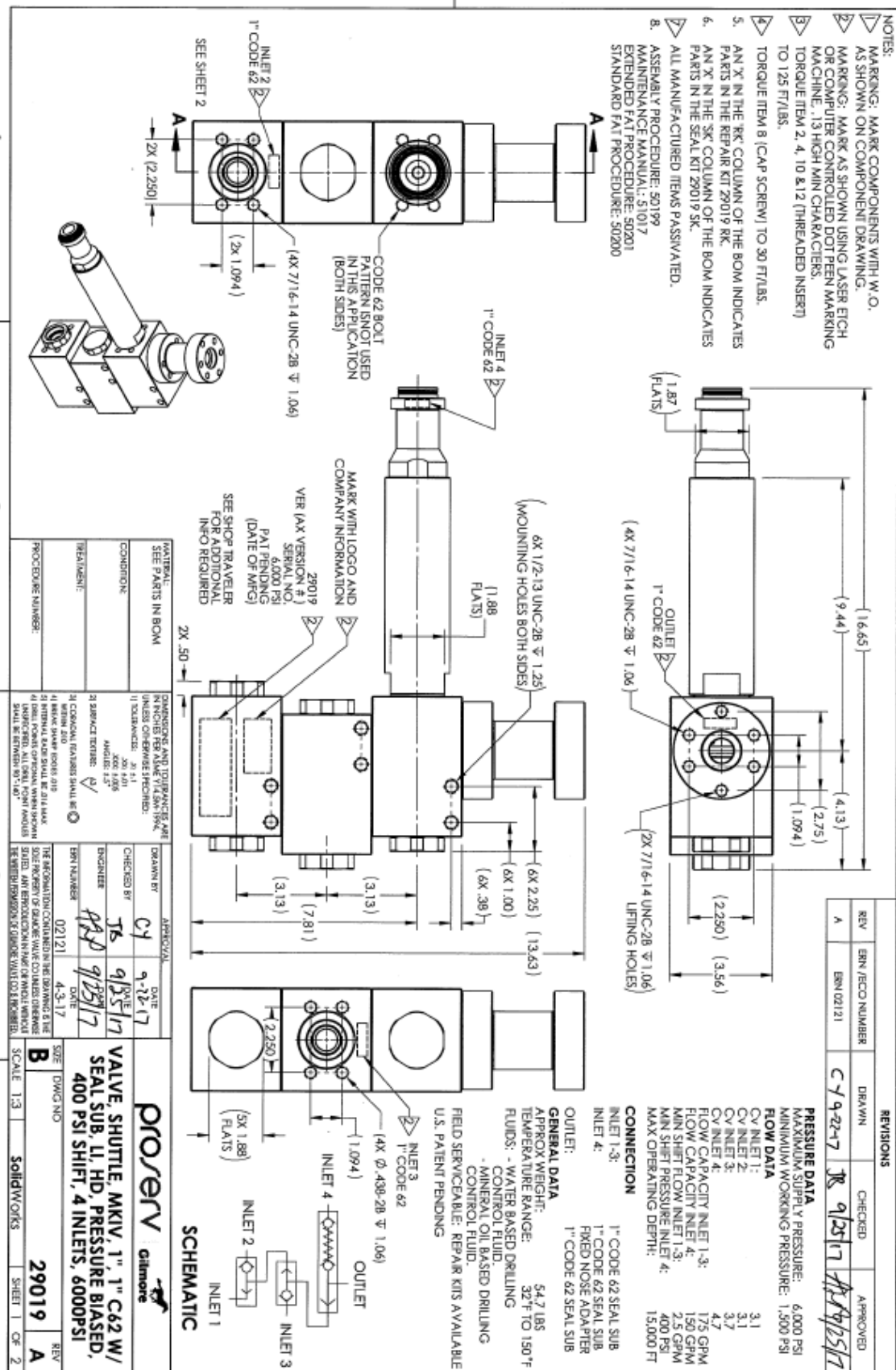


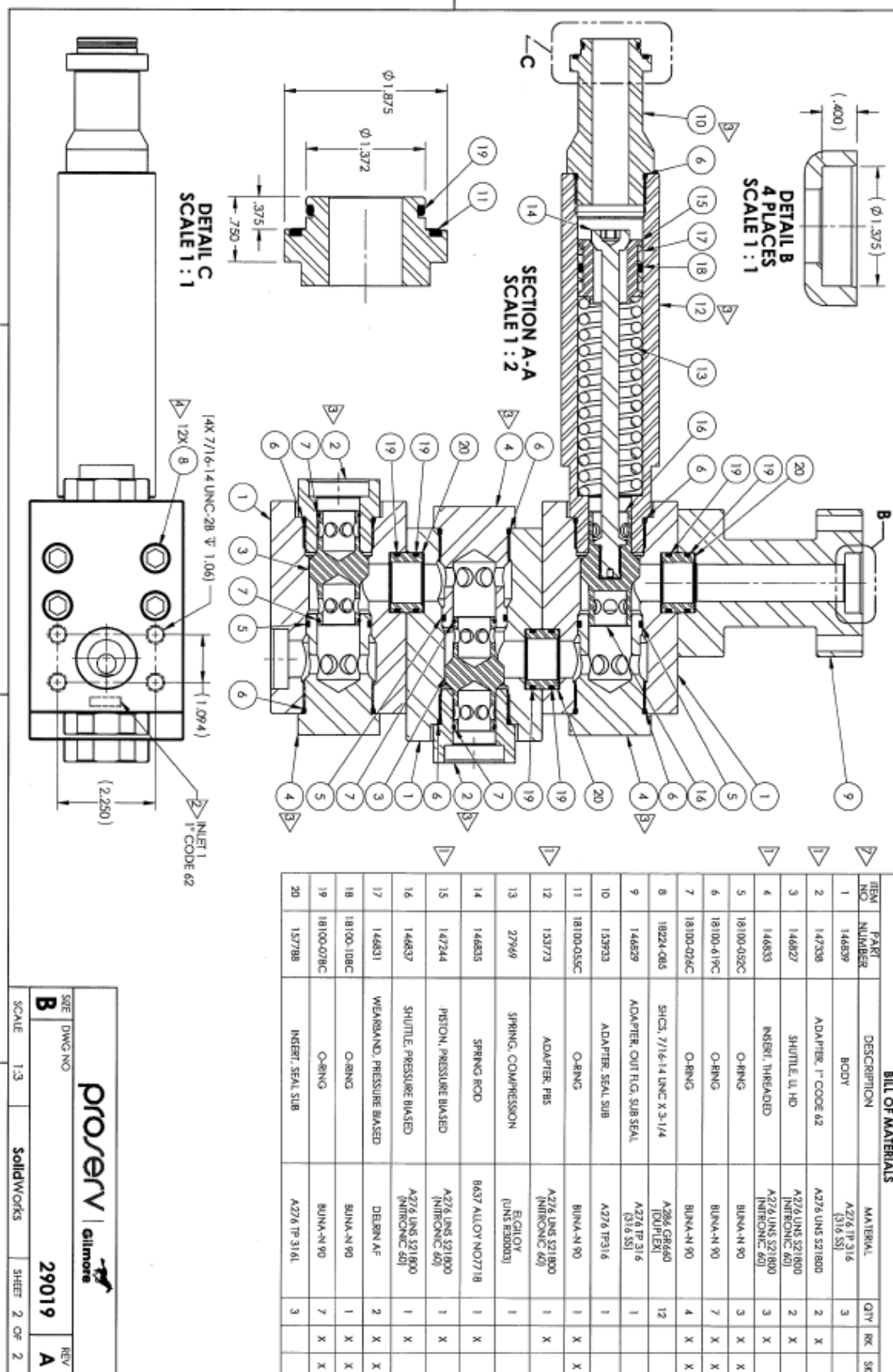




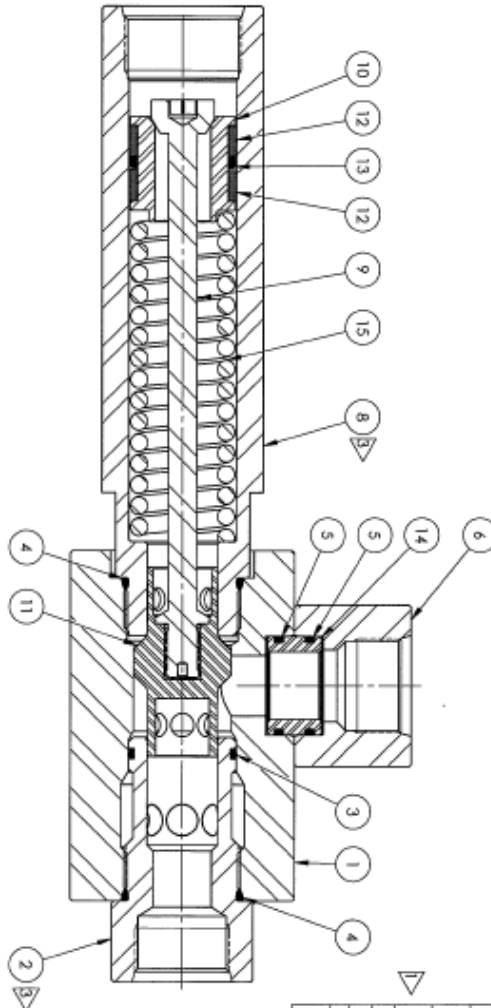


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SIZE	DWG NO	REV	
B	29018	A	
SCALE	1:2	SolidWorks	SHEET 2 OF 2





SECTION A-A
SCALE 1 : 1.5



BILL OF MATERIALS					
ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	QTY	REV
1	146825	BODY	A276 TP 316 (316 SS)	1	
2	147339	INSERT, THREADED, 1" SAE	A324 UNS S21800 (INCONEL 601)	1	X
3	18100-050C	O-RING	BUNA-N 90	1	X
4	18100-619C	O-RING	BUNA-N 90	2	X
5	18100-078C	O-RING	BUNA-N 90	2	X
6	153772	ADAPTER, OUTLET, 1" SAE	A276 TP 316L	1	
7	18224014	SHCS, 7/16-14 UNC X 1.75	A286 GR660	4	
8	153773	ADAPTER, PIS	A324 UNS S21800 (INCONEL 601)	1	X
9	146835	SPRING ROD	B637 ALLOY N07718	1	X
10	147244	PISTON, PRESSURE BIASED	A324 UNS S21800 (INCONEL 601)	1	X
11	146837	SHUTTLE, PRESSURE BIASED	A324 UNS S21800 (INCONEL 601)	1	X
12	146831	WEARBOARD, PRESSURE BIASED	DELTA AF	2	X
13	18100-108C	O-RING	BUNA-N 90	1	X
14	157788	INSERT, SEAL 318	A276 TP 316L	1	X
15	270792	SPRING, COMPRESSION	A313 TP 316 (SS316)	1	

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SIZE	DWG NO	REV	
B	29020	A	
SCALE	1/4	SolidWorks	SHEET 2 OF 2