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**GARDNER DENVER®**

303THD997 Rev B  
July, 2005

## **WELL SERVICING PUMP**

**MODEL**

**HD-2250**

**C-2250**

**D-2250**

**TRIPLEX PUMPS**

## **CWS FLUID END PARTS LIST**

**Gardner**  

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**Denver**

**GWS FLUID END PARTS LIST  
FOR  
HD-2250, C-2250, D-2250  
WELL SERVICING PUMPS**

**MAINTAIN PUMP RELIABILITY AND PERFORMANCE WITH  
GENUINE GARDNER DENVER  
PARTS AND SUPPORT SERVICES**

Gardner Denver® genuine pump parts are manufactured to design tolerances and are developed for optimum dependability. Design and material innovations are the result of years of experience with hundreds of different pump applications. Reliability in materials and quality assurance is incorporated in our genuine replacement parts.

**Your authorized Gardner Denver Sales Office offers all the backup you'll need.** The Fort Worth Manufacturing Facility maintains a large inventory of genuine parts.

Gardner Denver supports your needs with these services:

1. Trained parts specialists to assist you in selecting the correct replacement parts.
2. Repair and maintenance kits designed with the necessary parts to simplify servicing your pump.

Authorized service technicians are factory trained and skilled in pump maintenance and repair. They are ready to respond and assist you by providing fast, expert maintenance and repair services.

**For the location of your local authorized Gardner Denver distributor, refer to the yellow pages of your phone directory or contact:**

<b>Factory (Tulsa):</b> Gardner Denver Well Servicing Pumps 4747 South 83 <sup>rd</sup> East Avenue Tulsa, Oklahoma 74145	<b>Service Center (Odessa):</b> Chaparral 2121 West 44 <sup>th</sup> Street Odessa, Tx 79768	<b>Service Center (Ft. Worth):</b> Geoquip 7533 Kathy Lane Ft. Worth, Texas 76126
Phone: (918) 664-1151 (800) 738-8099	Phone: (432) 366-5433 (800) 368-1134	Phone: (817) 249-6400 (800) 824-0271
Fax: (918) 664-6225	Fax: (432) 363-9940	Fax: (817) 249-6401

**INSTRUCTIONS FOR ORDERING REPAIR PARTS**

When ordering parts, specify Pump MODEL and SERIAL NUMBER (see nameplate on unit). The Serial Number is also stamped on top of the cylinder end of the frame (cradle area).

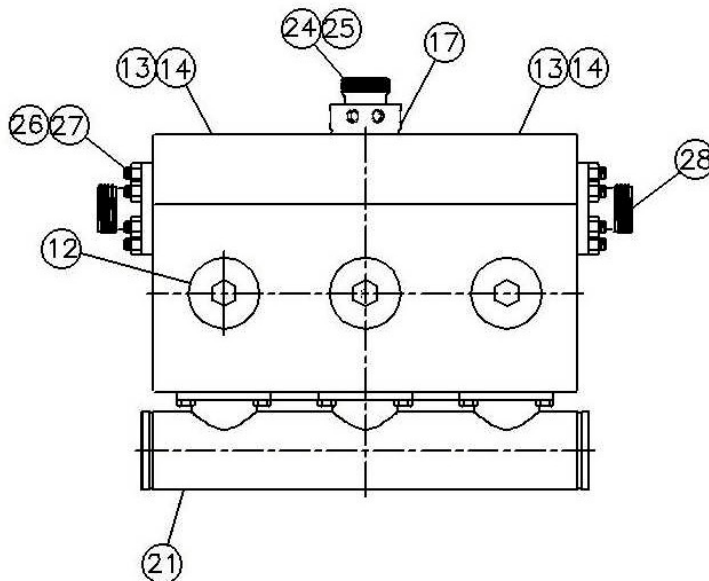
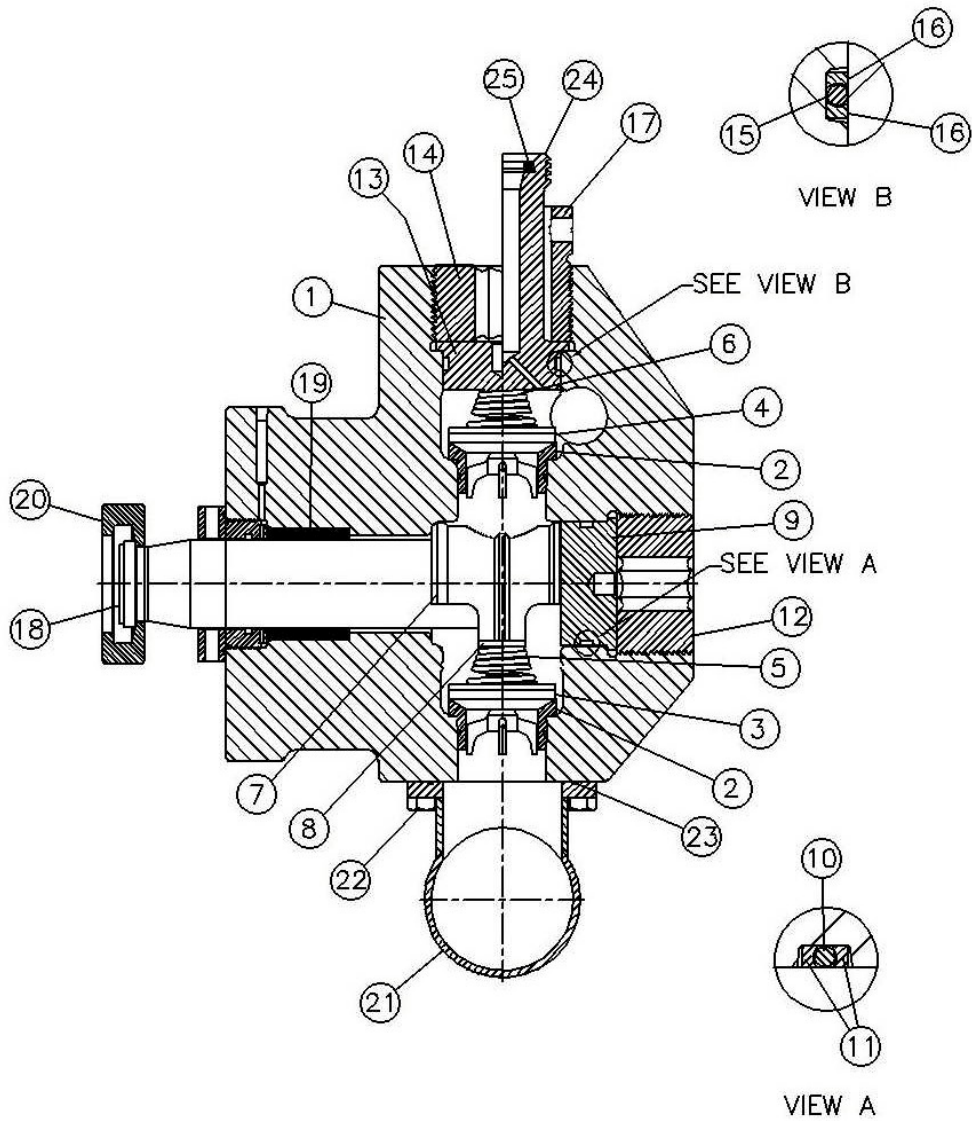
**All orders for Parts should be placed with the Tulsa or Ft. Worth facility.**

Where NOT specified, quantity of parts required per pump or unit is one (1); where more than one is required per unit, quantity is indicated in parenthesis. **SPECIFY EXACTLY THE NUMBER OF PARTS REQUIRED.**

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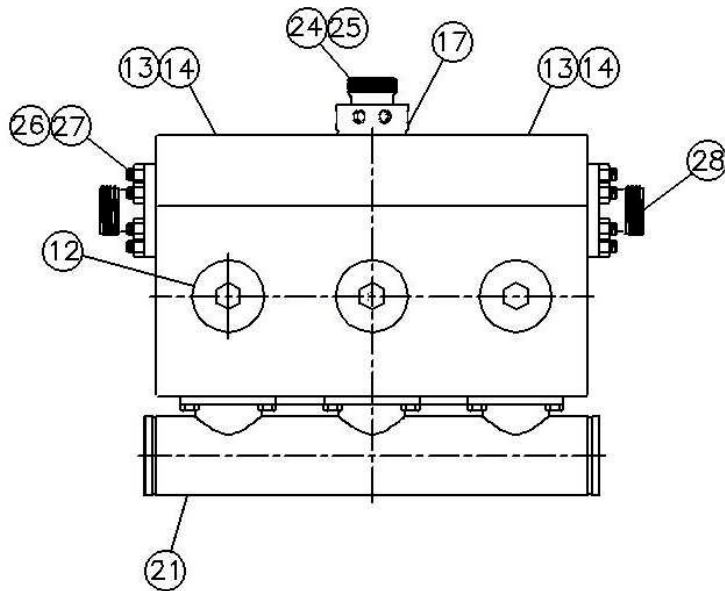
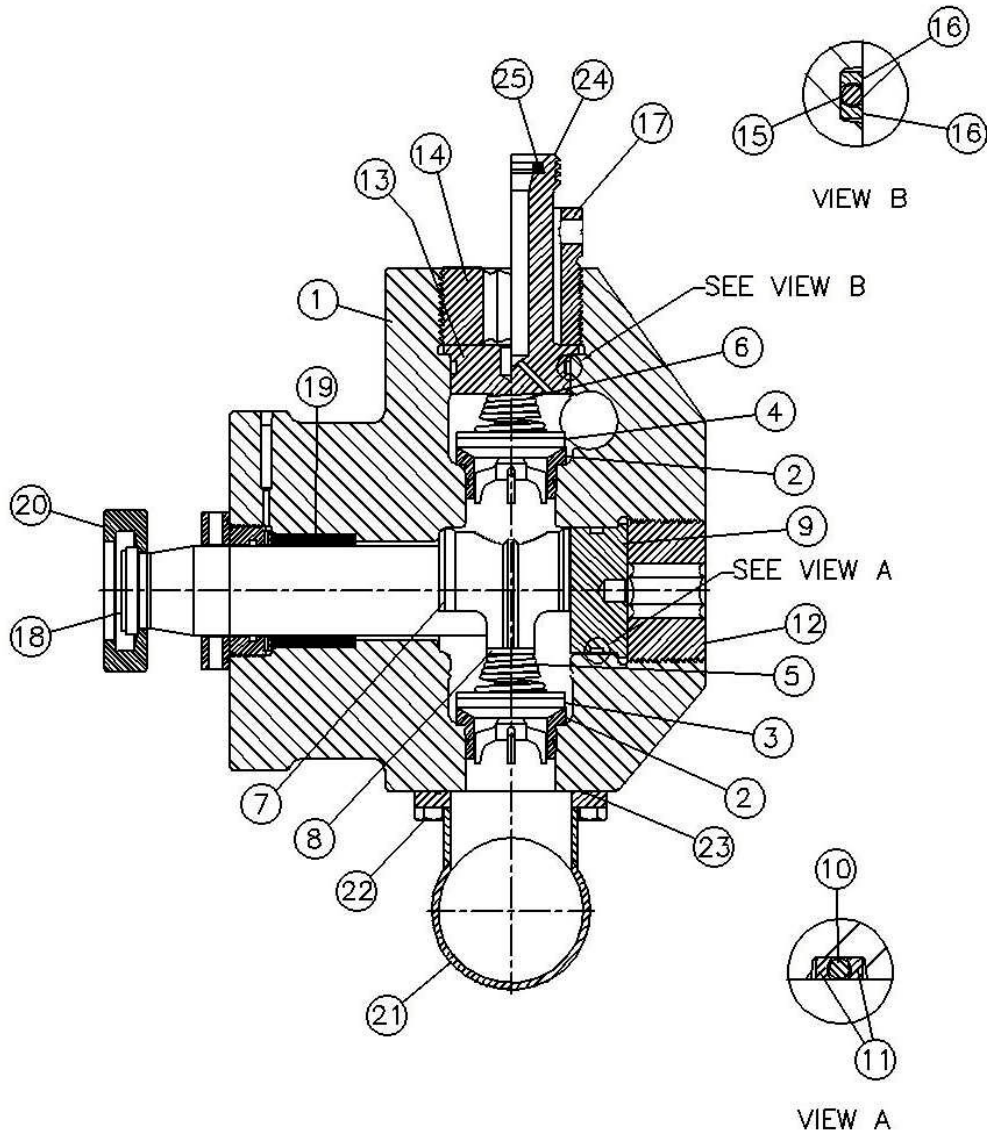
### 3.75" CWS FLUID CYLINDER ASSEMBLY



### 3.75" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 3.75" CWS	1	012PN026
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-10
	Valve Seat (Suction and Discharge) – Novatech	6	100349
3	Suction Valve – Mission	3	927SH01-10
	Suction Valve – Novatech	3	101498
4	Discharge Valve – Mission	3	927SH01-10
	Discharge Valve – Novatech	3	101498
5	Valve Spring – Suction	3	918VP023
6	Valve Spring – Discharge	3	918VP023
7	Suction Spring Retainer – Cage	3	131PN05
8	Suction Valve Stop	3	130PN07
9	Suction Valve Cover	3	218TWD147
10	O-ring	3	107985
11	Back-up Ring (for Item 10)	6	25BC658
12	Retainer Nut – Suction Valve Cover	3	342-A-70
13	Discharge Valve Cover – Plain	2	310WPD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-70
15	O-ring	3	901SH05-425
16	Back-up Ring (for Item 15)	6	25BC657
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-28
18	Plunger – 16" Long (Standard)	3	508895000
	Plunger – 18" Long	3	157PN020
	Plunger – 16" Long Pump Saver	3	157AD003
	Plunger – 18" Long Pump Saver	3	157AD020
19	Packing Group	3	See Pages 24 & 28
20	Plunger Clamp	3	302THD092
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	302THD092
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	72PN04
	Discharge Valve Cover – 2" 2002 Gauge Connection		073PN002
25	Seal – 2" 1502 Weco	1	901SH06-1
	Seal – 2" 2002 Weco	1	901SH06-4
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

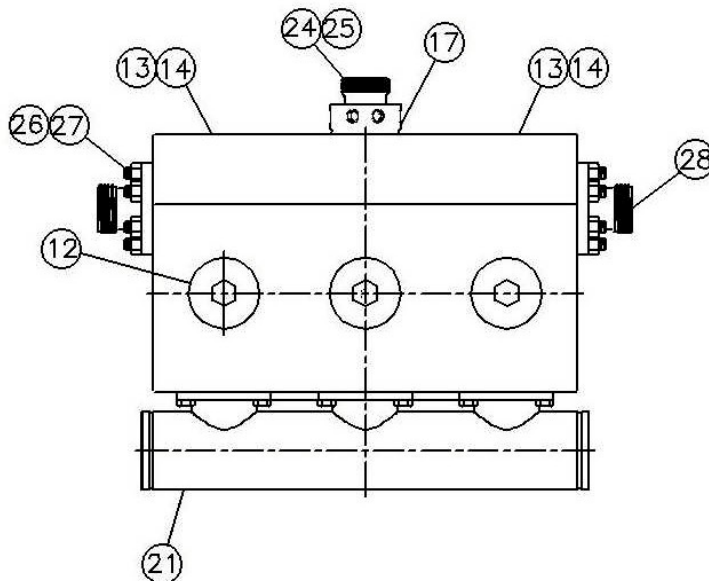
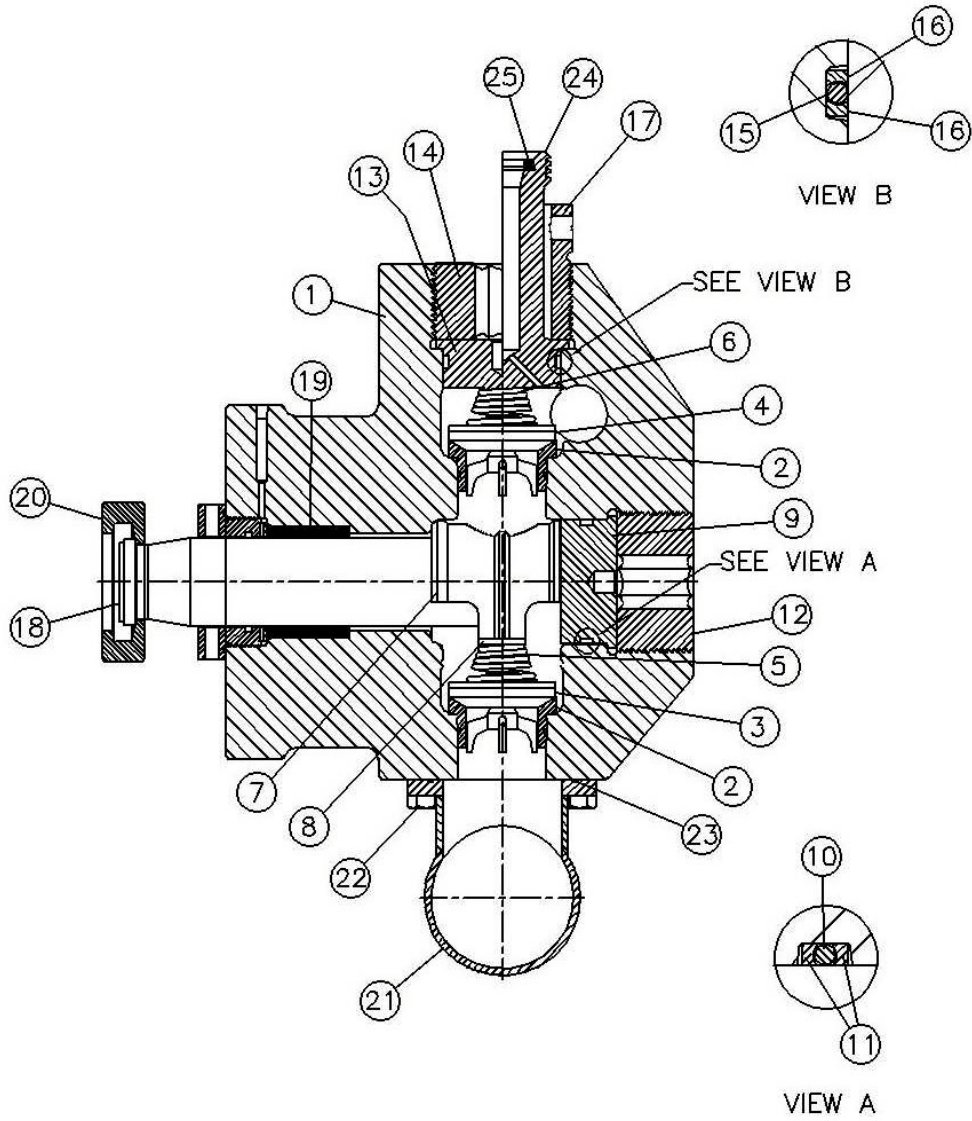
# 4.0" CWS FLUID CYLINDER ASSEMBLY



## 4.0" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder,4.0" CWS	1	012PN022
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-10
	Valve Seat (Suction and Discharge) – Novatech	6	100349
3	Suction Valve – Mission	3	927SH01-10
	Suction Valve – Novatech	3	101498
4	Discharge Valve – Mission	3	927SH01-10
	Discharge Valve – Novatech	3	101498
5	Valve Spring – Suction	3	918VP023
6	Valve Spring – Discharge	3	918VP023
7	Suction Spring Retainer – Cage	3	131PN05
8	Suction Valve Stop	3	130PN07
9	Suction Valve Cover	3	218TWD147
10	O-ring	3	107985
11	Back-up Ring (for Item 10)	6	25BC658
12	Retainer Nut – Suction Valve Cover	3	342-A-70
13	Discharge Valve Cover – Plain	2	310WPD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-70
15	O-ring	3	901SH05-425
16	Back-up Ring (for Item 15)	6	25BC657
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-28
18	Plunger – 16" Long (Standard)	3	157PN009
	Plunger – 18" Long	3	157PN011
	Plunger – 16" Long Pump Saver	3	157AD009
	Plunger – 18" Long Pump Saver	3	157AD011
19	Packing Group	3	See Pages 24 & 28
20	Plunger Clamp	3	302THD092
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	72PN04
	Discharge Valve Cover – 2" 2002 Gauge Connection		073PN002
25	Seal – 2" 1502 Weco	1	901SH06-1
	Seal – 2" 2002 Weco	1	901SH06-4
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Page 32-38

# 4.5" CWS FLUID CYLINDER ASSEMBLY

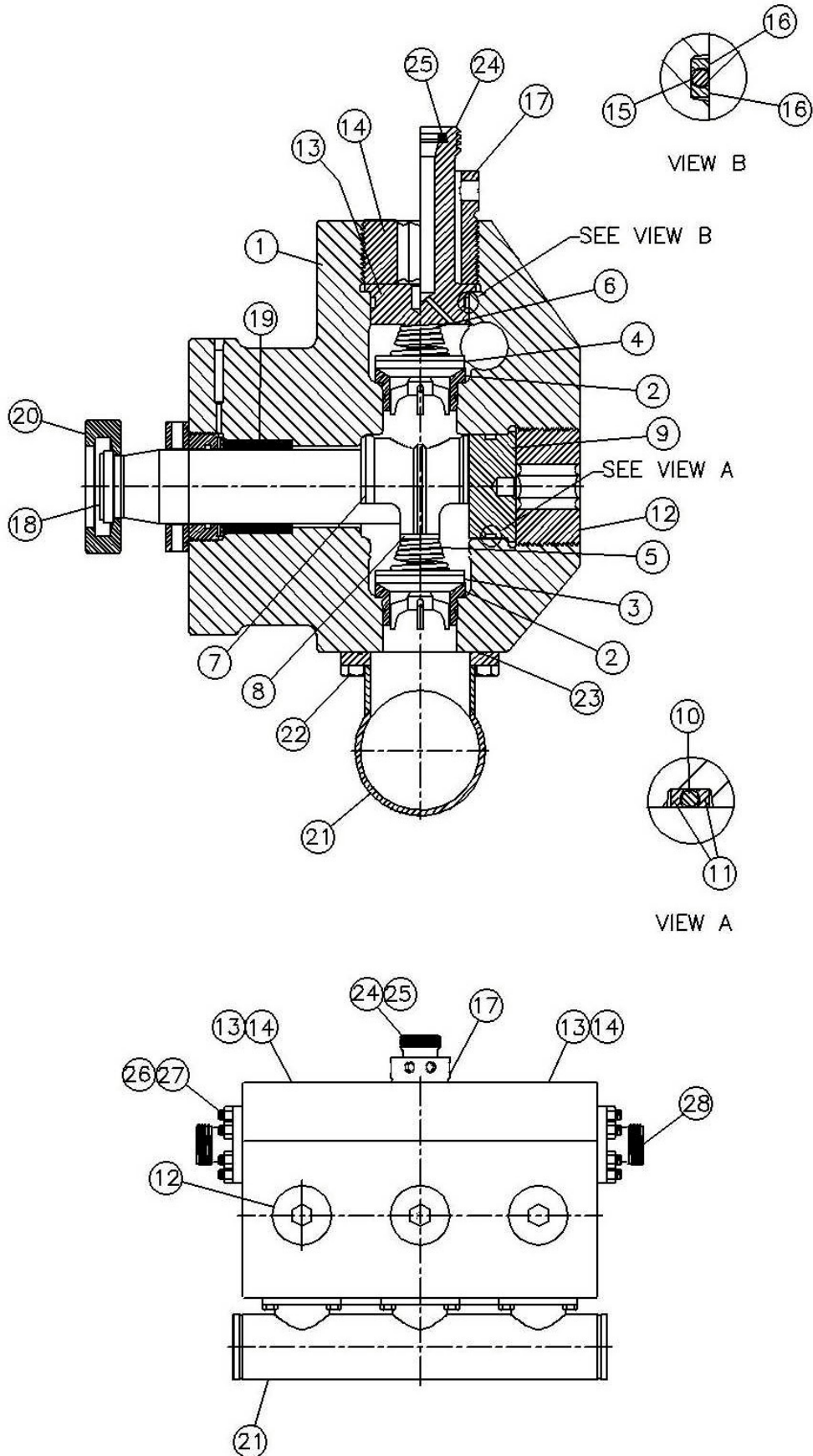




## 4.5" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 4.5" CWS	1	012PN025
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-1
	Valve Seat (Suction and Discharge) – Novatech	6	100241
3	Suction Valve – Mission	3	927VP010-004
	Suction Valve – Novatech	3	101469
4	Discharge Valve – Mission	3	927VP010-004
	Discharge Valve – Novatech	3	101469
5	Valve Spring – Suction	3	918VP025
6	Valve Spring – Discharge	3	918VP025
7	Suction Spring Retainer – Cage	3	131PN02
8	Suction Valve Stop	3	201OPB205
9	Suction Valve Cover	3	217TWD147
10	O-ring	3	901SH05-432
11	Back-up Ring (for Item 10)	6	25BC660
12	Retainer Nut – Suction Valve Cover	3	51PN02
13	Discharge Valve Cover – Plain	2	205TWD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-70
15	O-ring	3	107985
16	Back-up Ring (for Item 15)	6	25BC658
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-28
18	Plunger – 16" Long (Standard)	3	512893000
	Plunger – 18" Long	3	157PN012
	Plunger – 16" Long Pump Saver	3	157AD002
	Plunger – 18" Long Pump Saver	3	157AD012
19	Packing Group	3	See Page 24 & 28
20	Plunger Clamp	3	342-C-76
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	72PN04
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges (See Page XX)	2	See Pages 32-38

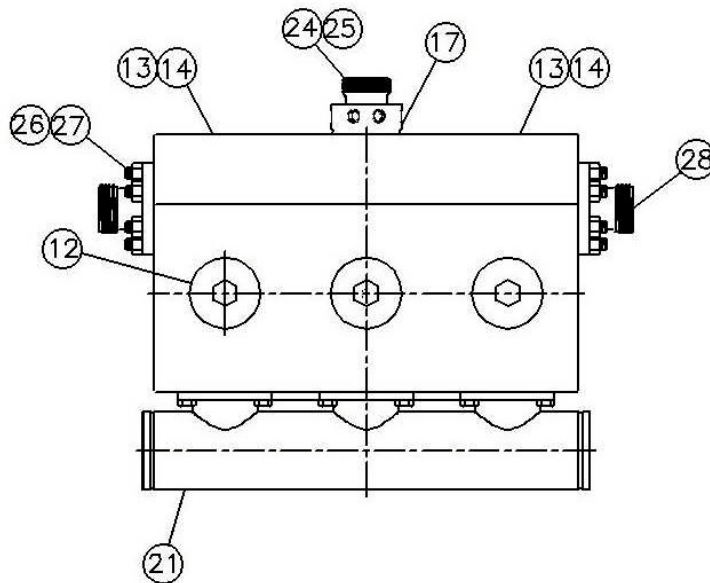
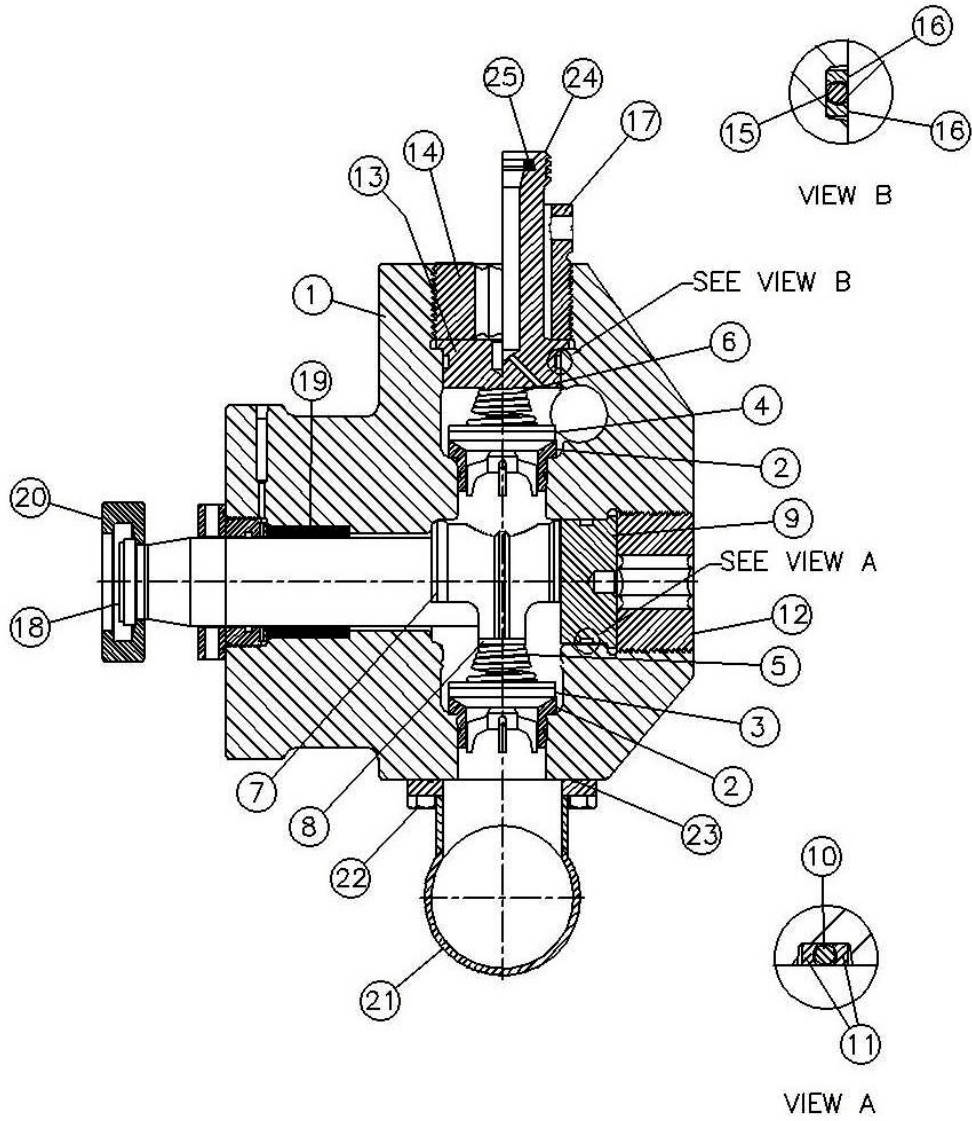
# 5.0" CWS FLUID CYLINDER ASSEMBLY



## 5.0" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 5.0" CWS	1	012PN024
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-1
	Valve Seat (Suction and Discharge) – Novatech	6	100241
3	Suction Valve – Mission	3	927VP010-004
	Suction Valve – Novatech	3	101469
4	Discharge Valve – Mission	3	927VP010-004
	Discharge Valve – Novatech	3	101469
5	Valve Spring – Suction	3	918VP025
6	Valve Spring – Discharge	3	918VP025
7	Suction Spring Retainer – Cage	3	200OPB205
8	Suction Valve Stop	3	201OPB205
9	Suction Valve Cover	3	202TWD147
10	O-ring	3	107990
11	Back-up Ring (for Item 10)	6	25BC661
12	Retainer Nut – Suction Valve Cover	3	51PN03
13	Discharge Valve Cover – Plain	2	205TWD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-70
15	O-ring	3	107985
16	Back-up Ring (for Item 15)	6	25BC658
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-28
18	Plunger – 16" Long (Standard)	3	478640000
	Plunger – 18" Long	3	157PN016
	Plunger – 16" Long Pump Saver	3	157AD007
	Plunger – 18" Long Pump Saver	3	157AD016
19	Packing Group	3	See Pages 25 & 29
20	Plunger Clamp	3	342-C-76
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	206TWD147
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

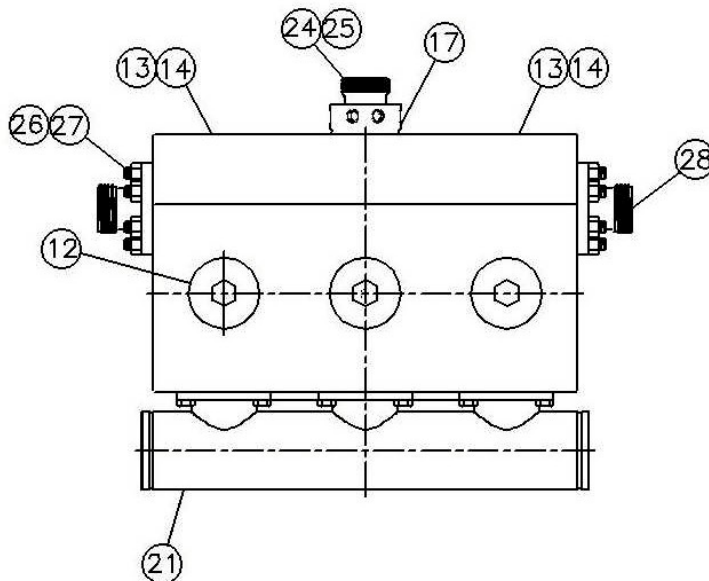
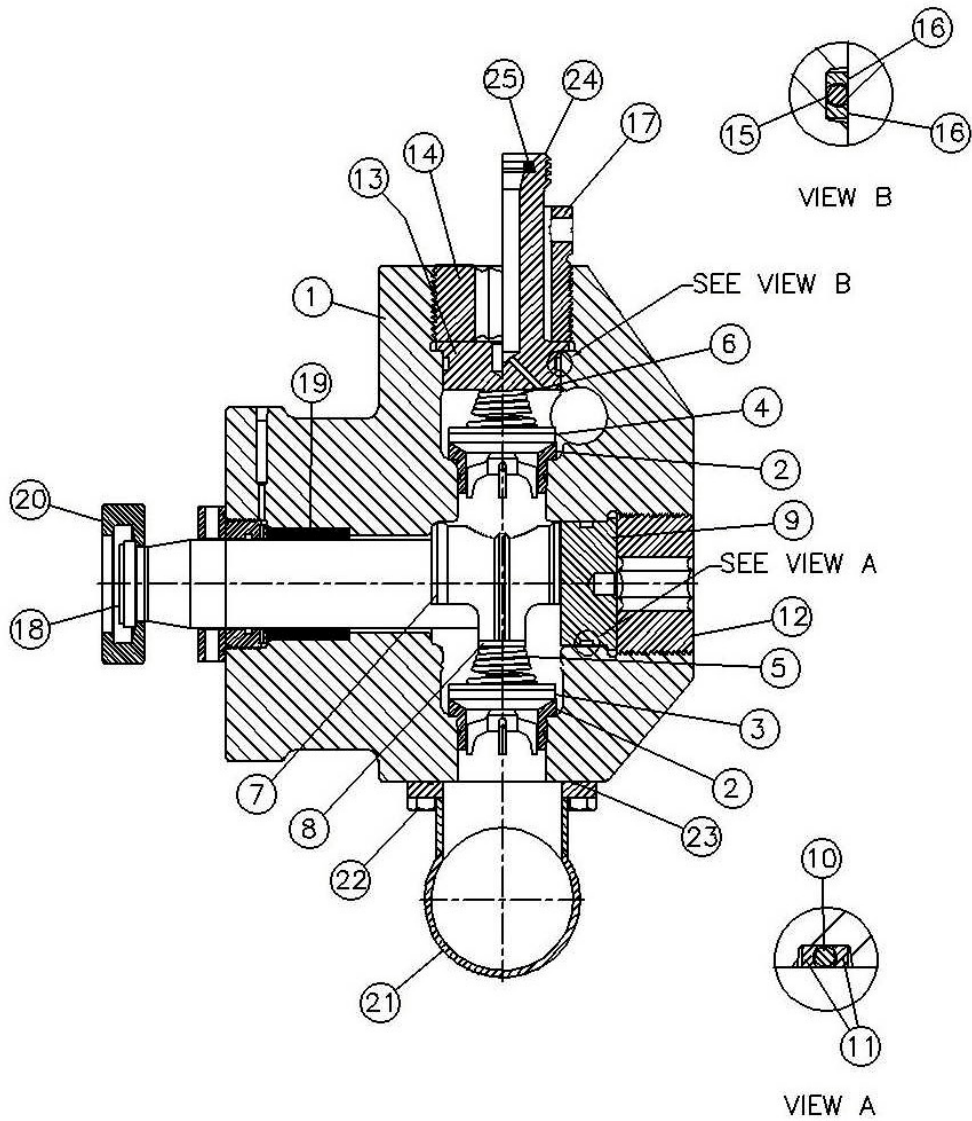
# 5.5" CWS FLUID CYLINDER ASSEMBLY



## 5.5" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 5.5" CWS	1	012PN027
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-6
	Valve Seat (Suction and Discharge) – Novatech	6	100153
3	Suction Valve – Mission	3	927VP010-005
	Suction Valve – Novatech	3	101470
4	Discharge Valve – Mission	3	927VP010-005
	Discharge Valve – Novatech	3	101470
5	Valve Spring – Suction	3	100116
6	Valve Spring – Discharge	3	100116
7	Suction Spring Retainer – Cage	3	131PN09
8	Suction Valve Stop	3	130PN10
9	Suction Valve Cover	3	312WPD147
10	O-ring	3	107991
11	Back-up Ring (for Item 10)	6	25BC662
12	Retainer Nut – Suction Valve Cover	3	303OPE205
13	Discharge Valve Cover – Plain	2	308WPD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	50PN13
15	O-ring	3	901SH05-432
16	Back-up Ring (for Item 15)	6	25BC660
17	Retainer Nut – Discharge Valve Cover – Gage	1	54PN01
18	Plunger – 16" Long (Standard)	3	478658000
	Plunger – 18" Long	3	157PN014
	Plunger – 16" Long Pump Saver	3	157AD005
	Plunger – 18" Long Pump Saver	3	157AD014
19	Packing Group	3	See Pages 25 & 29
20	Plunger Clamp	3	342-C-76
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN014
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

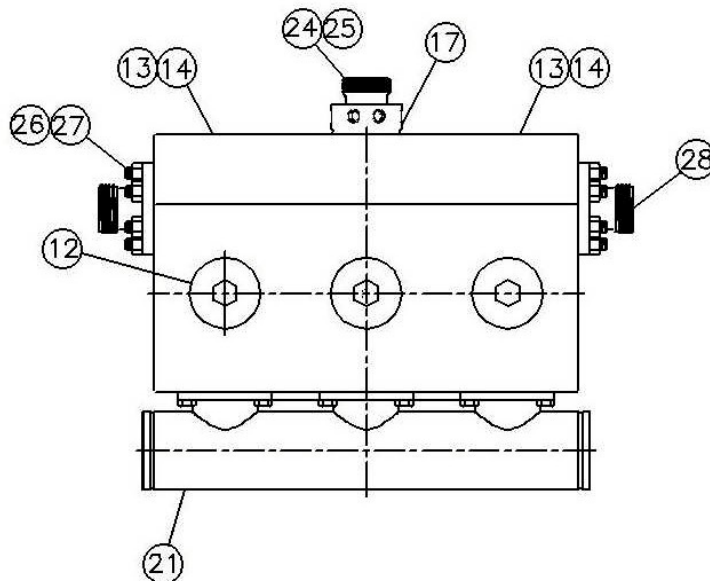
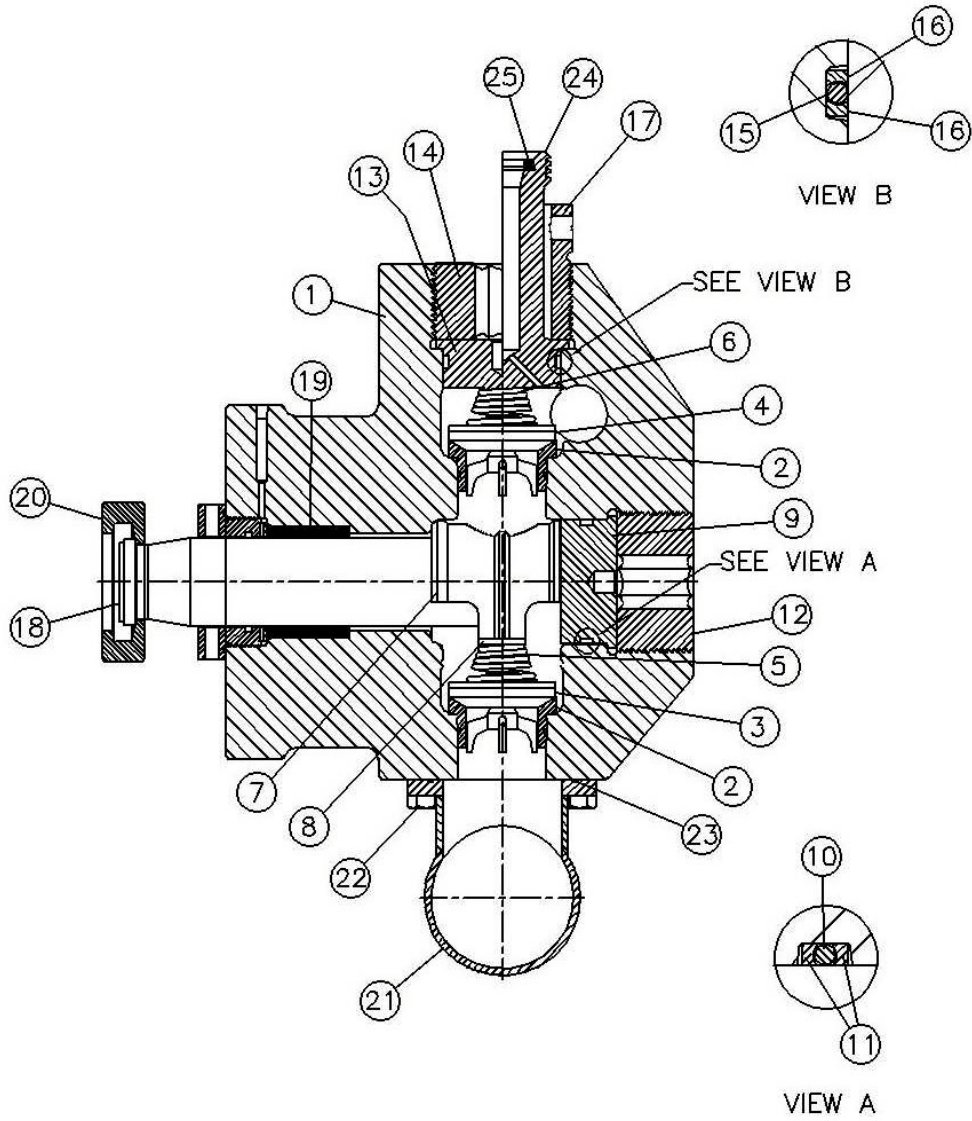
# 5.75" CWS FLUID CYLINDER ASSEMBLY



## 5.75" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 5.75" CWS	1	012PN023
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-6
	Valve Seat (Suction and Discharge) – Novatech	6	100153
3	Suction Valve – Mission	3	927VP010-005
	Suction Valve – Novatech	3	101470
4	Discharge Valve – Mission	3	927VP010-005
	Discharge Valve – Novatech	3	101470
5	Valve Spring – Suction	3	100116
6	Valve Spring – Discharge	3	100116
7	Suction Spring Retainer – Cage	3	131PN08
8	Suction Valve Stop	3	130PN10
9	Suction Valve Cover	3	220TWD147
10	O-ring	3	901SH05-440
11	Back-up Ring (for Item 10)	6	25BC664
12	Retainer Nut – Suction Valve Cover	3	50PN12
13	Discharge Valve Cover – Plain	2	308WPD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	50PN13
15	O-ring	3	901SH05-432
16	Back-up Ring (for Item 15)	6	25BC660
17	Retainer Nut – Discharge Valve Cover – Gage	1	54PN01
18	Plunger – 16" Long (Standard)	3	210OPB038
	Plunger – 18" Long	3	157PN013
	Plunger – 16" Long Pump Saver	3	157AD004
	Plunger – 18" Long Pump Saver	3	157AD013
19	Packing Group	3	See Pages 25 & 29
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN014
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

# 6.0" CWS FLUID CYLINDER ASSEMBLY





## 6.0" CWS FLUID CYLINDER ASSEMBLY

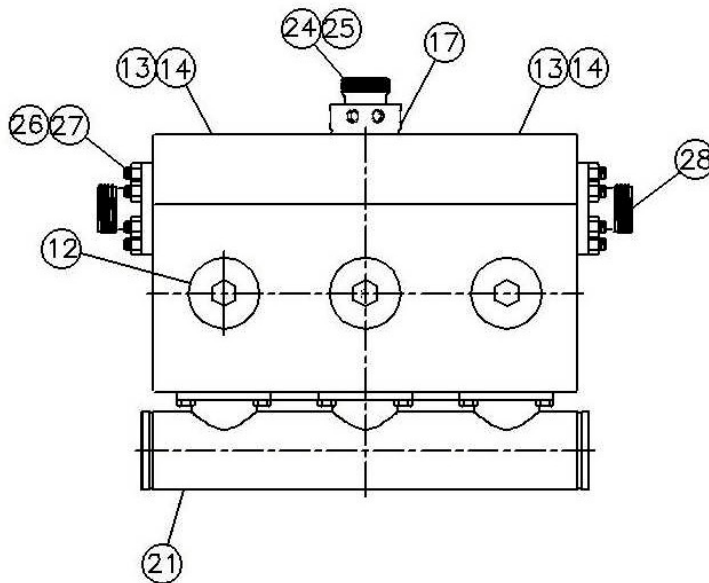
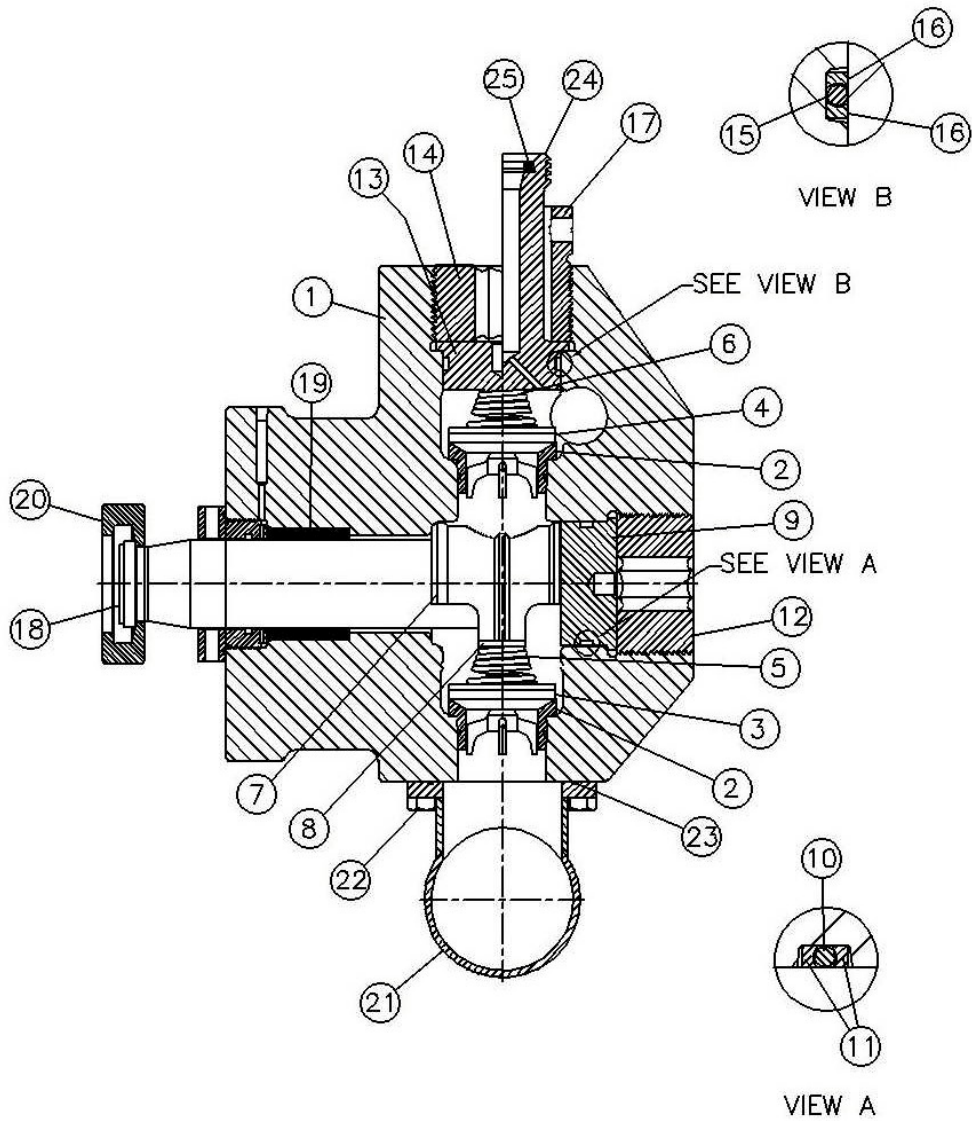
Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 6.0" CWS	1	206OPB029
2	Valve Seat (Suction and Discharge) – Mission	6	928SH01-6
	Valve Seat (Suction and Discharge) – Novatech	6	100153
3	Suction Valve – Mission	3	927VP010-005
	Suction Valve – Novatech	3	101470
4	Discharge Valve – Mission	3	927VP010-005
	Discharge Valve – Novatech	3	101470
5	Valve Spring – Suction	3	100116
6	Valve Spring – Discharge	3	100116
7	Suction Spring Retainer – Cage	3	131PN08
8	Suction Valve Stop	3	130PN10
9	Suction Valve Cover	3	220TWD147
10	O-ring	3	901SH05-440
11	Back-up Ring (for Item 10)	6	25BC664
12	Retainer Nut – Suction Valve Cover	3	50PN12
13	Discharge Valve Cover – Plain	2	308WPD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	50PN13
15	O-ring	3	901SH05-432
16	Back-up Ring (for Item 15)	6	25BC660
17	Retainer Nut – Discharge Valve Cover – Gage	1	54PN01
18	Plunger – 16" Long (Standard)	3	211OPB038
	Plunger – 18" Long	3	157PN015
	Plunger – 16" Long Pump Saver	3	157PN006
	Plunger – 18" Long Pump Saver	3	157AD015
19	Packing Group	3	See Pages 26 & 30
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN014
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38



## 6.5" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 6.5" CWS	1	210OPB029
2	Valve Seat (Suction and Discharge) – Novatech	6	100274
3	Suction Valve – Novatech	3	TUL101615
4	Discharge Valve – Novatech	3	TUL101615
5	Valve Spring – Suction	3	918VP033
6	Valve Spring – Discharge	3	918VP033
7	Suction Spring Retainer – Cage	3	131PN01
8	Suction Valve Stop	3	130PN02
9	Suction Valve Cover	3	208TWD147
10	O-ring	3	901SH05-442
11	Back-up Ring (for Item 10)	6	25BC655
12	Retainer Nut – Suction Valve Cover	3	342-A-116
13	Discharge Valve Cover – Plain	2	303THD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-92
15	O-ring	3	901SH05-362
16	Back-up Ring (for Item 15)	6	25BC654
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-53
18	Plunger – 16" Long (Standard)	3	157PN001
	Plunger – 18" Long	3	157PN018
	Plunger – 16" Long Pump Saver	3	203OPB038
	Plunger – 18" Long Pump Saver	3	205OPB038
19	Packing Group	3	See Pages 26 & 30
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN013
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

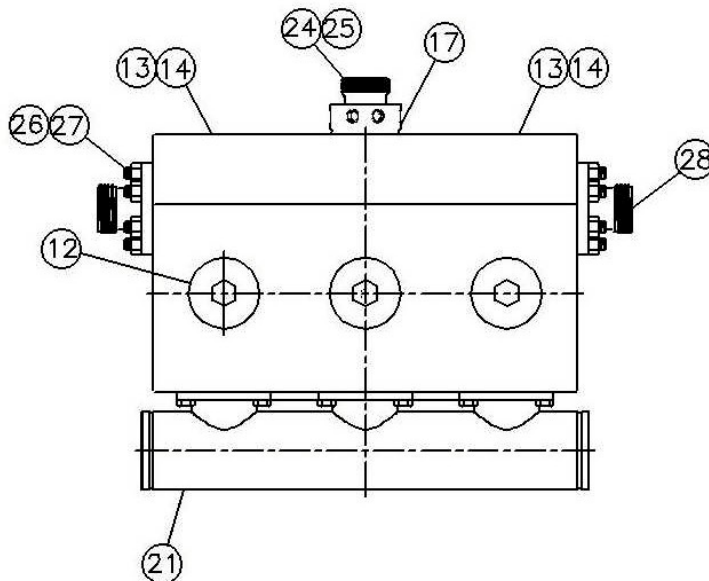
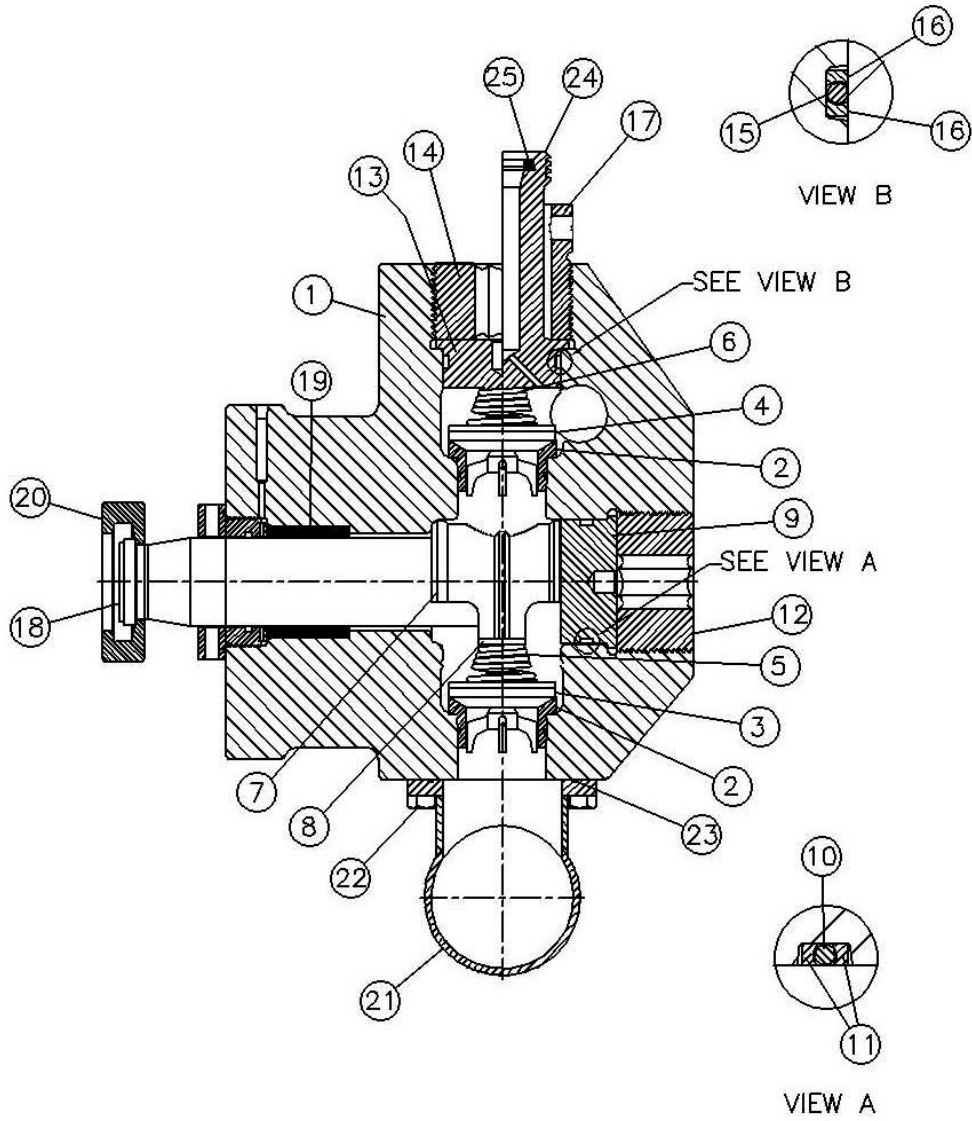
# 6.75" CWS FLUID CYLINDER ASSEMBLY



## 6.75" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 6.75" CWS	1	209OPB029
2	Valve Seat (Suction and Discharge) – Novatech	6	100274
3	Suction Valve – Novatech	3	TUL101615
4	Discharge Valve – Novatech	3	TUL101615
5	Valve Spring – Suction	3	918VP033
6	Valve Spring – Discharge	3	918VP033
7	Suction Spring Retainer – Cage	3	131PN11
8	Suction Valve Stop	3	130PN02
9	Suction Valve Cover	3	222TWD147
10	O-ring	3	901SH05-443
11	Back-up Ring (for Item 10)	6	25BC666
12	Retainer Nut – Suction Valve Cover	3	342-A-116
13	Discharge Valve Cover – Plain	2	303THD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-92
15	O-ring	3	901SH05-362
16	Back-up Ring (for Item 15)	6	25BC654
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-53
18	Plunger – 16" Long (Standard)	3	157PN008
	Plunger – 18" Long	3	157PN017
	Plunger – 16" Long Pump Saver	3	157AD008
	Plunger – 18" Long Pump Saver	3	157AD017
19	Packing Group	3	See Pages 26 & 30
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN013
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

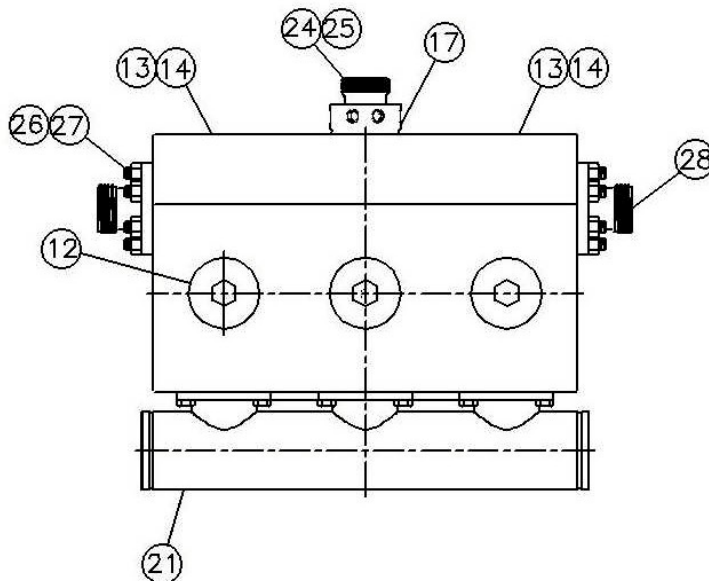
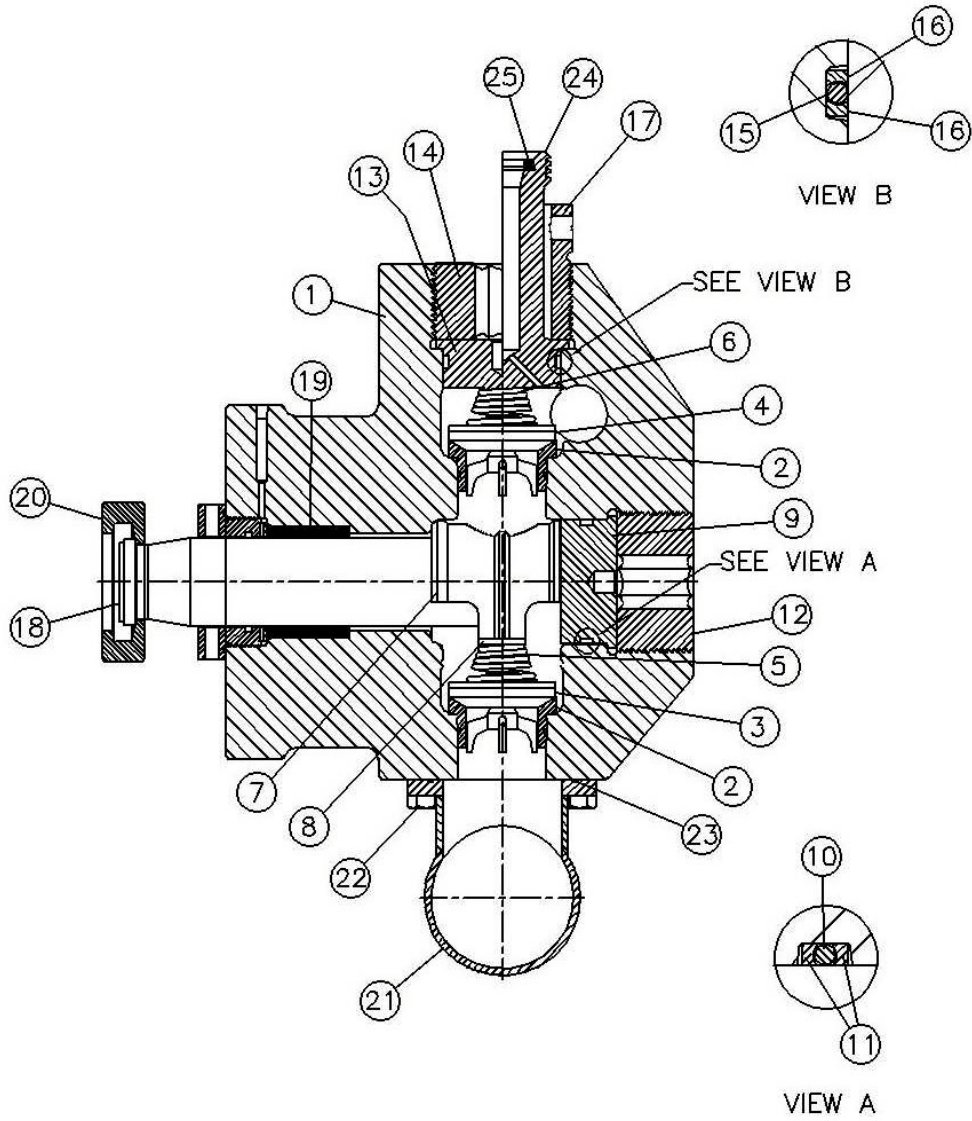
# 7.0" CWS FLUID CYLINDER ASSEMBLY



## 7.0" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 7.0" CWS	1	207OPB029
2	Valve Seat (Suction and Discharge) – Novatech	6	100274
3	Suction Valve – Novatech	3	TUL101615
4	Discharge Valve – Novatech	3	TUL101615
5	Valve Spring – Suction	3	918VP033
6	Valve Spring – Discharge	3	918VP033
7	Suction Spring Retainer – Cage	3	131PN014
8	Suction Valve Stop	3	130PN02
9	Suction Valve Cover	3	221TWD147
10	O-ring	3	901SH05-369
11	Back-up Ring (for Item 10)	6	25BC655
12	Retainer Nut – Suction Valve Cover	3	050PN020
13	Discharge Valve Cover – Plain	2	303THD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-92
15	O-ring	3	901SH05-362
16	Back-up Ring (for Item 15)	6	25BC654
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-53
18	Plunger – 16" Long (Standard)	3	157PN024
	Plunger – 18" Long	3	157PN025
	Plunger – 16" Long Pump Saver	3	157AD024
	Plunger – 18" Long Pump Saver	3	157AD025
19	Packing Group	3	See Pages 27 & 31
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN013
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

# 7.5" CWS FLUID CYLINDER ASSEMBLY

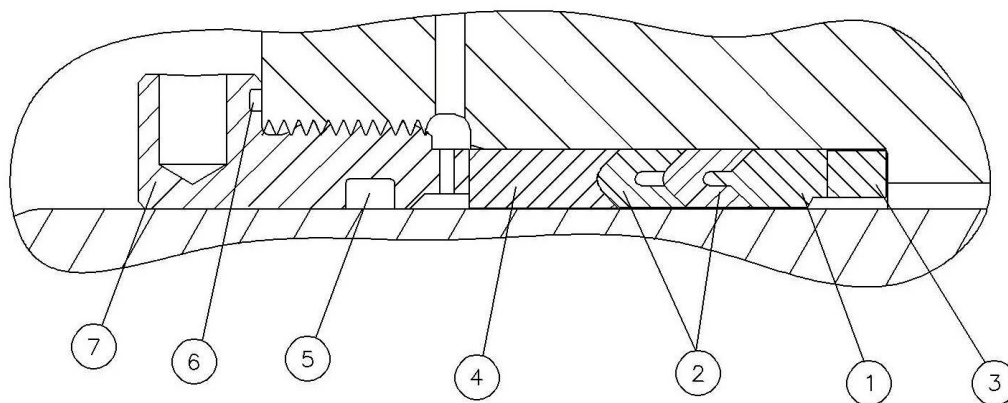




## 7.5" CWS FLUID CYLINDER ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	Fluid Cylinder, 7.5" CWS	1	208OPB029
2	Valve Seat (Suction and Discharge) – Novatech	6	100274
3	Suction Valve – Novatech	3	TUL101615
4	Discharge Valve – Novatech	3	TUL101615
5	Valve Spring – Suction	3	918VP033
6	Valve Spring – Discharge	3	918VP033
7	Suction Spring Retainer – Cage	3	131PN12
8	Suction Valve Stop	3	130PN02
9	Suction Valve Cover	3	219TWD147
10	O-ring	3	901SH05-371
11	Back-up Ring (for Item 10)	6	25BC656
12	Retainer Nut – Suction Valve Cover	3	50PN16
13	Discharge Valve Cover – Plain	2	303THD147
14	Retainer Nut – Discharge Valve Cover – Plain	2	342-A-92
15	O-ring	3	901SH05-362
16	Back-up Ring (for Item 15)	6	25BC654
17	Retainer Nut – Discharge Valve Cover – Gage	1	342-A-53
18	Plunger – 16" Long (Standard)	3	157PN010
	Plunger – 18" Long	3	157PN019
	Plunger – 16" Long Pump Saver	3	157AD010
	Plunger – 18" Long Pump Saver	3	157AD019
19	Packing Group	3	See Pages 27 & 31
20	Plunger Clamp	3	342-C-77
21	Suction Manifold	1	See Pages 39-41
22	Screw	12	75A237
23	O-ring	3	See Pages 39-41
24	Discharge Valve Cover – 2" 1502 Gauge Connection	1	072PN013
25	Seal – 2" 1502 Weco	1	901SH06-1
26	Stud	12	450VP005-034
27	Hex Nut	12	50B34
28	Discharge Flanges	2	See Pages 32-38

## RUBBER SPRING LOADED PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



**3.75" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 3.75"	1	901VP014-004
2	PRESSURE RING	2	901VP002-004
3	JUNK RING	1	207WPD144
4	FEMALE ADAPTER	1	203PN001-002
5	WIPER SEAL	1	60AM71
6	O-RING	1	901SH05-256
7	PACKING NUT	1	300THD008

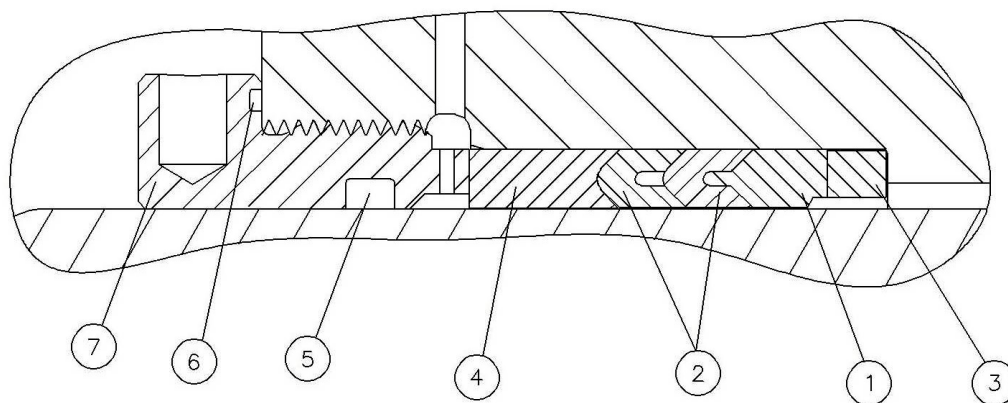
**4.0" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 4"	1	901VP014-005
2	PRESSURE RING	2	901VP002-005
3	JUNK RING	1	203WPD144
4	FEMALE ADAPTER	1	203PN001-003
5	WIPER SEAL	1	60AM84
6	O-RING	1	901SH05-256
7	PACKING NUT	1	301THD008

**4.5" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 4.5"	1	901VP014-014
2	PRESSURE RING	2	901VP002-014
3	JUNK RING	1	204WPD144
4	FEMALE ADAPTER	1	203PN001-005
5	WIPER SEAL	1	60AM73
6	O-RING	1	108515
7	PACKING NUT	1	302THD008

## RUBBER SPRING LOADED PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



**5.0" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.0"	1	901VP014-009
2	PRESSURE RING	2	901VP002-009
3	JUNK RING	1	205WPD144
4	FEMALE ADAPTER	1	203PN001-006
5	WIPER SEAL	1	60AM74
6	O-RING	1	167661
7	PACKING NUT	1	303THD008

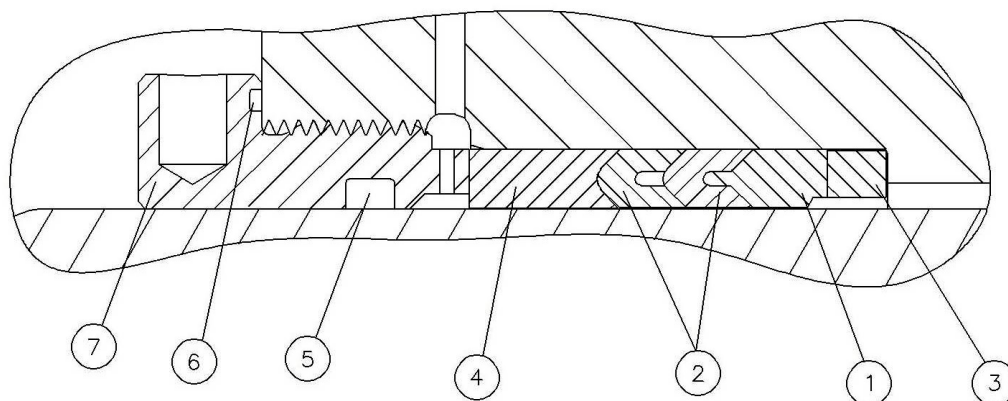
**5.5" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.5"	1	901VP014-008
2	PRESSURE RING	2	901VP002-008
3	JUNK RING	1	208WPD144
4	FEMALE ADAPTER	1	203PN001-012
5	WIPER SEAL	1	60AM75
6	O-RING	1	901SH05-263
7	PACKING NUT	1	304THD008

**5.75" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.75"	1	901VP014-006
2	PRESSURE RING	2	901VP002-006
3	JUNK RING	1	209WPD144
4	FEMALE ADAPTER	1	203PN001-010
5	WIPER SEAL	1	60AM85
6	O-RING	1	108516
7	PACKING NUT	1	305THD008

## RUBBER SPRING LOADED PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



**6.0" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.0"	1	901VP014-007
2	PRESSURE RING	2	901VP002-007
3	JUNK RING	1	210WPD144
4	FEMALE ADAPTER	1	203PN001-011
5	WIPER SEAL	1	60AM76
6	O-RING	1	108516
7	PACKING NUT	1	306THD008

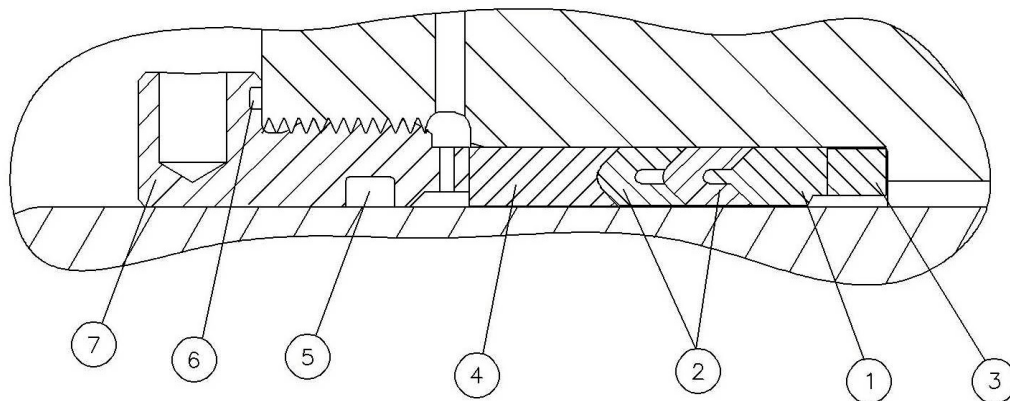
**6.5" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.5"	1	901VP014-015
2	PRESSURE RING	2	901VP002-015
3	JUNK RING	1	211WPD144
4	FEMALE ADAPTER	1	203PN001-004
5	WIPER SEAL	1	60AM77
6	O-RING	1	108517
7	PACKING NUT	1	307THD008

**6.75" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.75"	1	901VP014-008
2	PRESSURE RING	2	901VP002-008
3	JUNK RING	1	212WPD144
4	FEMALE ADAPTER	1	203PN001-008
5	WIPER SEAL	1	60AM86
6	O-RING	1	136847
7	PACKING NUT	1	308THD008

## RUBBER SPRING LOADED PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



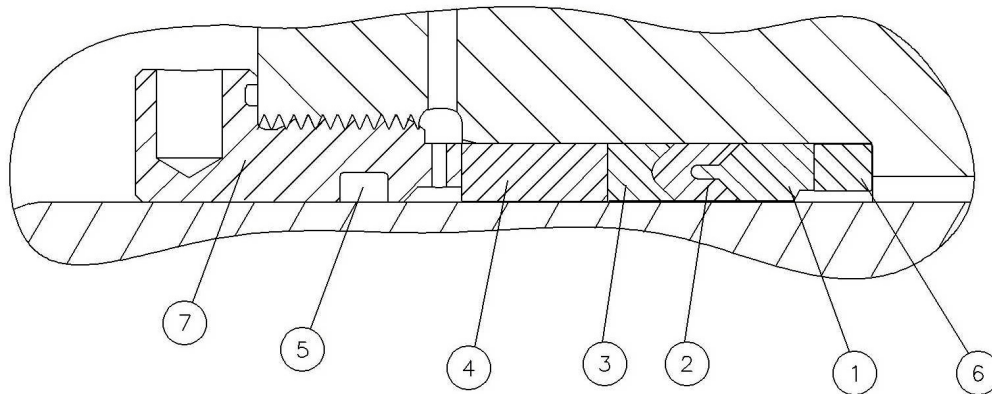
**7.0" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 7.0"	1	901VP014-017
2	PRESSURE RING	2	901VP002-017
3	JUNK RING	1	214WPD144
4	FEMALE ADAPTER	1	203PN001-014
5	WIPER SEAL	1	60AM87
6	O-RING	1	171655
7	PACKING NUT	1	309THD008

**7.5" RSL PACKING ASSEMBLY**

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 7.5"	1	901VP014-016
2	PRESSURE RING	2	901VP002-016
3	JUNK RING	1	213WPD144
4	FEMALE ADAPTER	1	203PN001-013
5	WIPER SEAL	1	60AM88
6	O-RING	1	5000810
7	PACKING NUT	1	310THD008

## CDI HNBR PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



### 3.75" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 3.75"	1	595703000
2	PRESSURE RING	1	595695000
3	FEMALE ADAPTER	1	595687000
4	SPACER	1	595719000
5	WIPER SEAL	1	60AM71
6	JUNK RING	1	304OPE317
7	PACKING NUT	1	300OPE008

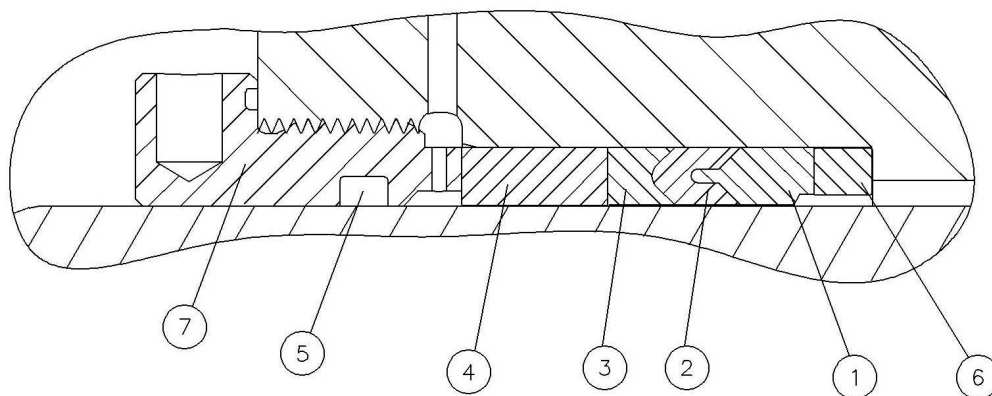
### 4.0" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 4.0"	1	303OPE222
2	PRESSURE RING	1	310OPE222
3	FEMALE ADAPTER	1	309OPE170
4	SPACER	1	303OPE144
5	WIPER SEAL	1	60AM84
6	JUNK RING	1	305OPE317
7	PACKING NUT	1	301OPE008

### 4.5" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 4.5"	1	595704000
2	PRESSURE RING	1	595696000
3	FEMALE ADAPTER	1	595688000
4	SPACER	1	595720000
5	WIPER SEAL	1	60AM73
6	JUNK RING	1	306OPE317
7	PACKING NUT	1	302OPE008

## CDI HNBR PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



### 5.0" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.0"	1	595705000
2	PRESSURE RING	1	595697000
3	FEMALE ADAPTER	1	595689000
4	SPACER	1	595721000
5	WIPER SEAL	1	60AM74
6	JUNK RING	1	307OPE317
7	PACKING NUT	1	303OPE008

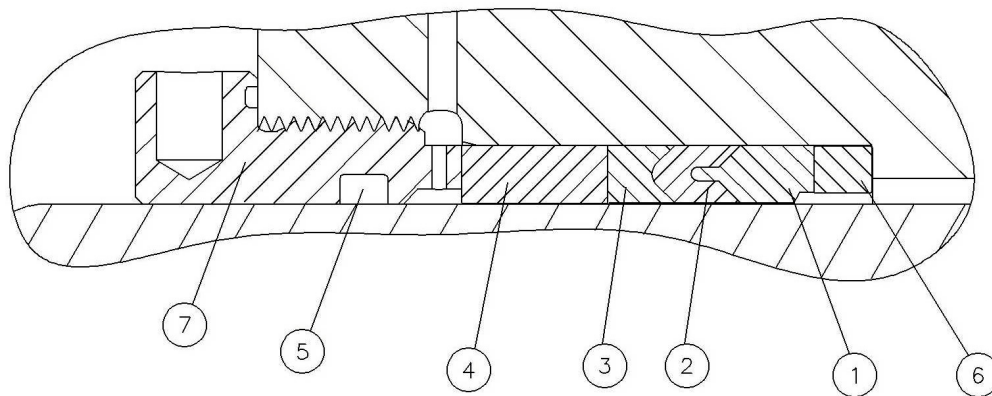
### 5.5" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.5"	1	595706000
2	PRESSURE RING	1	595698000
3	FEMALE ADAPTER	1	59569000
4	SPACER	1	595723000
5	WIPER SEAL	1	60AM75
6	JUNK RING	1	308OPE317
7	PACKING NUT	1	304OPE008

### 5.75" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 5.75"	1	304OPE222
2	PRESSURE RING	1	311OPE222
3	FEMALE ADAPTER	1	310OPE170
4	SPACER	1	304OPE144
5	WIPER SEAL	1	60AM85
6	JUNK RING	1	304OPE144
7	PACKING NUT	1	305OPE008

## CDI HNBR PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



### 6.0" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.0"	1	595707000
2	PRESSURE RING	1	595699000
3	FEMALE ADAPTER	1	595691000
4	SPACER	1	595729000
5	WIPER SEAL	1	60AM76
6	JUNK RING	1	310OPE317
7	PACKING NUT	1	306OPE008

### 6.5" CDI HNBR PACKING ASSEMBLY

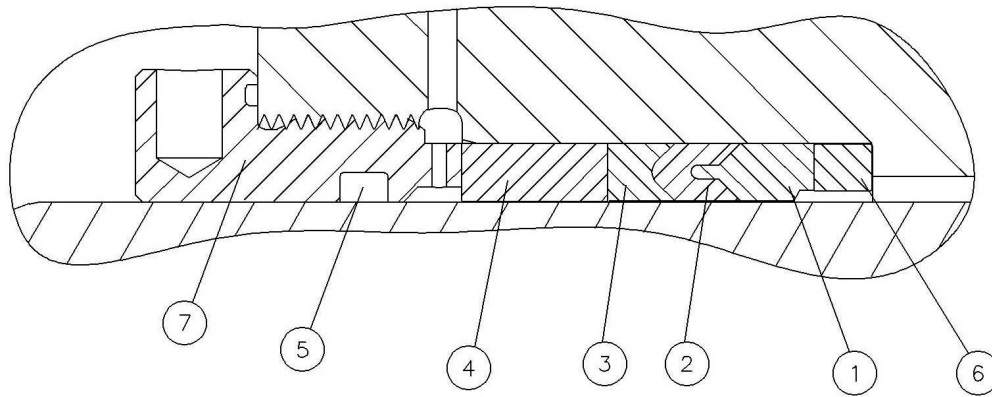
Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.5"	1	595708000
2	PRESSURE RING	1	595700000
3	FEMALE ADAPTER	1	595692000
4	SPACER	1	595724000
5	WIPER SEAL	1	60AM77
6	JUNK RING	1	311OPE317
7	PACKING NUT	1	307OPE008

### 6.75" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 6.75"	1	595709000
2	PRESSURE RING	1	595701000
3	FEMALE ADAPTER	1	595693000
4	SPACER	1	305OPE144
5	WIPER SEAL	1	60AM86
6	JUNK RING	1	312OPE317
7	PACKING NUT	1	308OPE008



## CDI HNBR PACKING ASSEMBLY FOR CWS FLUID CYLINDERS



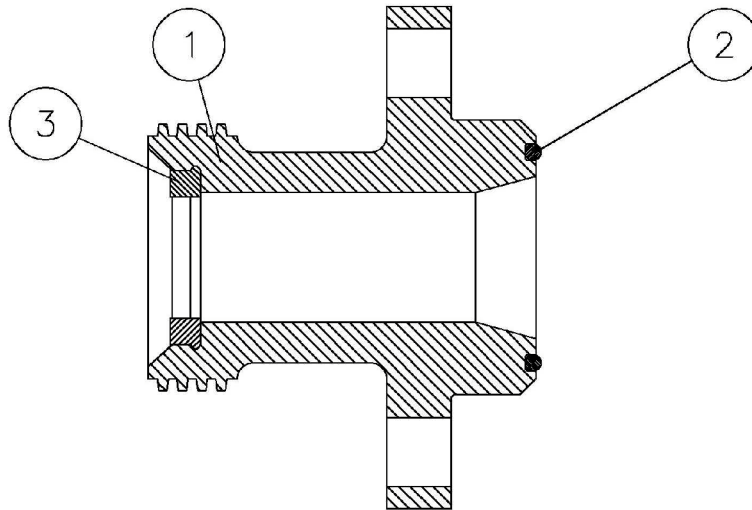
### 7.0" CDI HNBR PACKING ASSEMBLY

Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 7.0"	1	305OPE222
2	PRESSURE RING	1	312OPE222
3	FEMALE ADAPTER	1	311OPE170
4	SPACER	1	306OPE144
5	WIPER SEAL	1	30AM87
6	JUNK RING	1	313OPE317
7	PACKING NUT	1	309OPE008

### 7.5" CDI HNBR PACKING ASSEMBLY

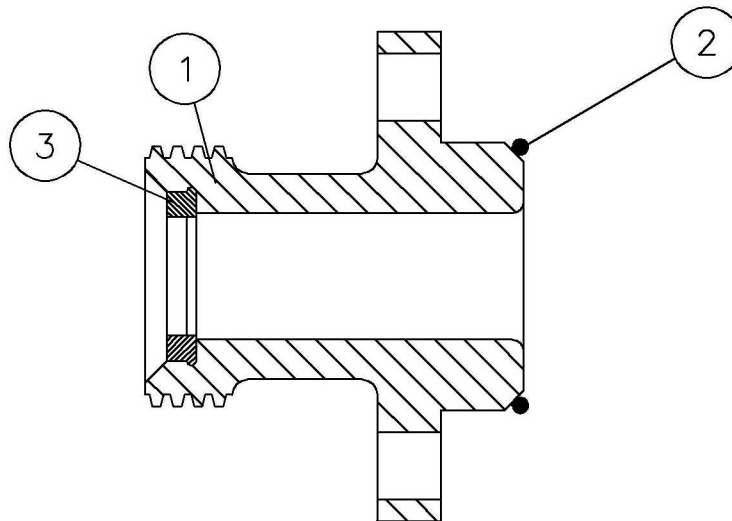
Ref No.	Name of Part	Qty.	Part No.
1	HEADER RING, 7.5"	1	306OPE222
2	PRESSURE RING	1	313OPE222
3	FEMALE ADAPTER	1	312OPE170
4	SPACER	1	307OPE144
5	WIPER SEAL	1	60AM88
6	JUNK RING	1	314OPE317
7	PACKING NUT	1	310OPE008

**2" 1502 HAMMER UNION DISCHARGE FLANGE**



**3-3/4" TO 5" FLUID END**

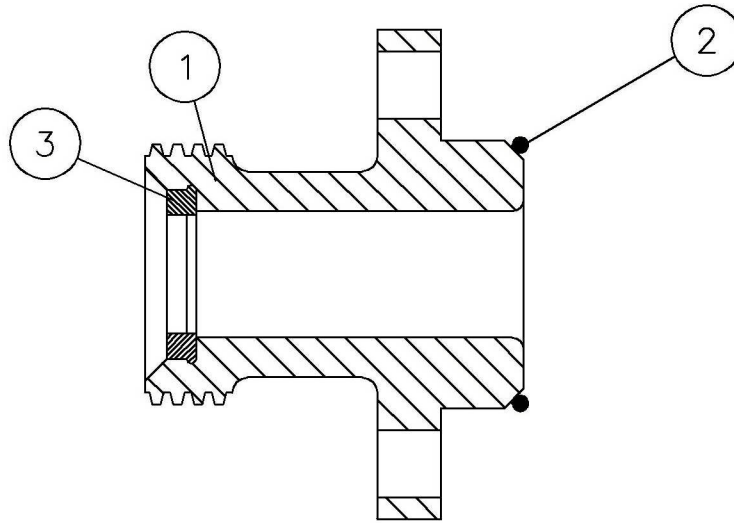
Ref No.	Name of Part	Qty.	Part No.
1	2" 1502 Female Flange	1	267PN09
2	O-ring	1	107975
3	Seal – 2" 1502 Weco	1	901SH06-1



**5-1/2" TO 7-1/2" FLUID END**

Ref No.	Name of Part	Qty.	Part No.
1	2" 1502 Female Flange	1	342-C-82
2	O-ring	1	107981
3	Seal – 2" 1502 Weco	1	901SH06-1

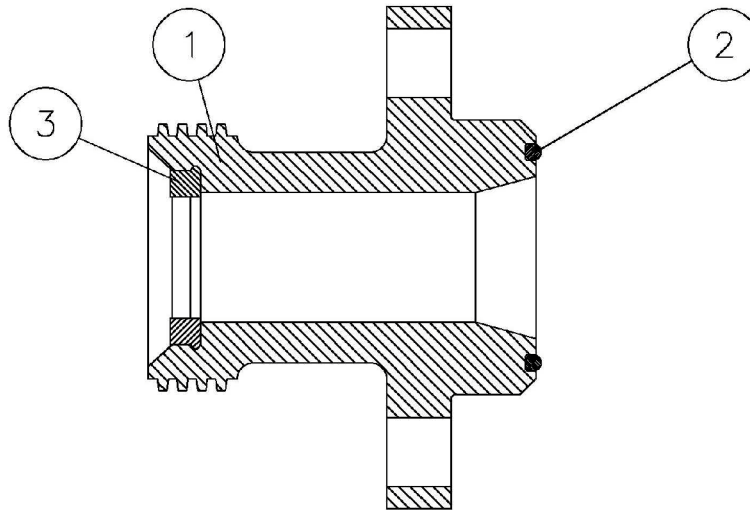
### 3" 1002 HAMMER UNION DISCHARGE FLANGE



### 5-1/2" TO 7-1/2" FLUID END

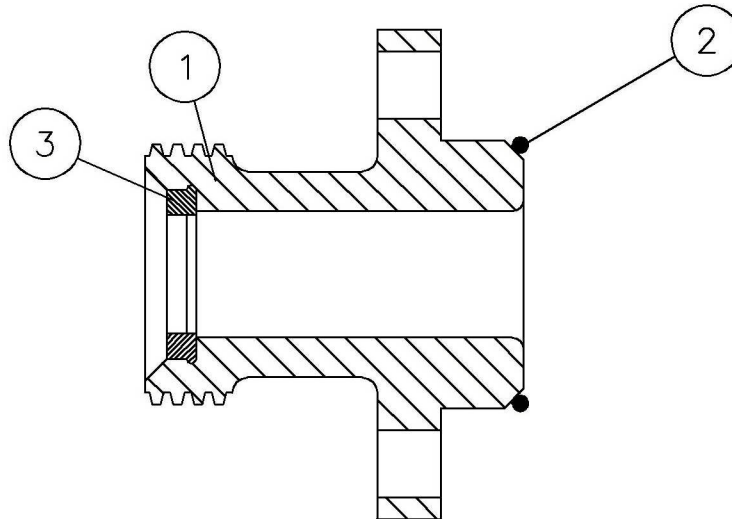
Ref No.	Name of Part	Qty.	Part No.
1	3" 1002 Female Flange	1	342-B-14
2	O-ring	1	107981
3	Seal – 3" 1002 Weco	1	901SH06-1

### 3" 1502 FEMALE HAMMER UNION DISCHARGE FLANGE



3-3/4" TO 5" FLUID END

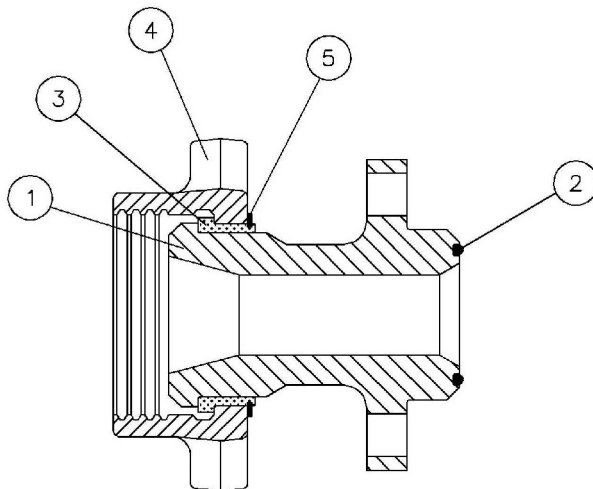
Ref No.	Name of Part	Qty.	Part No.
1	3" 1502 Female Flange	1	267PN10
2	O-ring	1	107976
3	Seal – 3" 1502 Weco	1	901SH06-2



5-1/2" TO 7-1/2" FLUID END

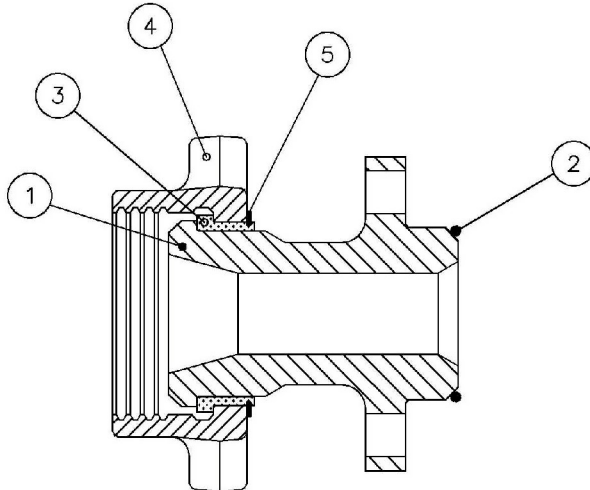
Ref No.	Name of Part	Qty.	Part No.
1	3" 1502 Female Flange	1	342-C-52
2	O-ring	1	107981
3	Seal – 3" 1502 Weco	1	901SH06-2

**3" 1502 MALE HAMMER UNION DISCHARGE FLANGE**



**3-3/4" TO 5" FLUID END**

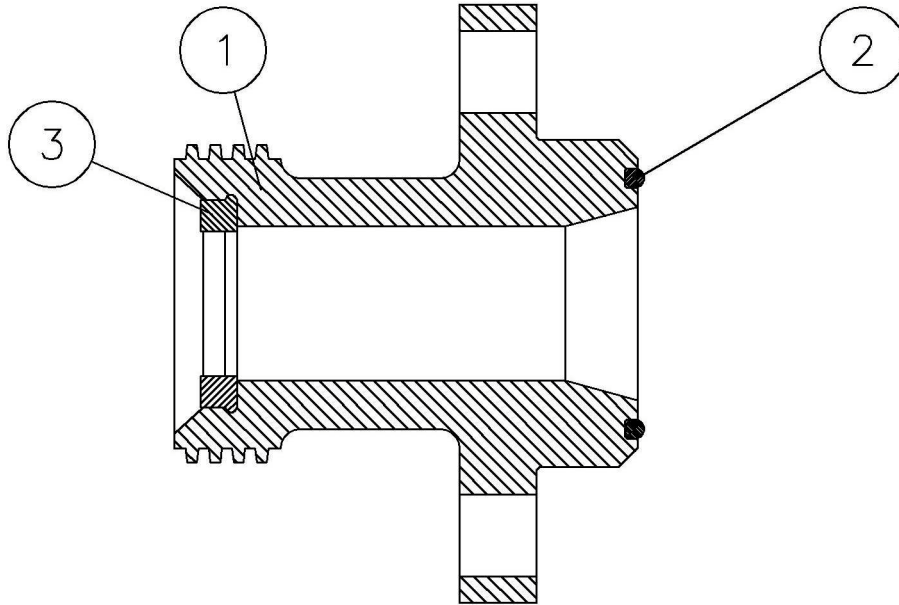
Ref No.	Name of Part	Qty.	Part No.
1	3" 1502 Male Flange	1	102122
2	O-ring	1	107976
3	Retaining Segments	3	431042090
4	Union Nut	1	431200090
5	Retaining Ring	1	421067000



**5-1/2" TO 7-1/2" FLUID END**

Ref No.	Name of Part	Qty.	Part No.
1	3" 1502 Male Flange	1	102108
2	O-ring	1	107981
3	Retaining Segments	1	431042090
4	Union Nut	3	431200090
5	Retaining Ring	1	421067000

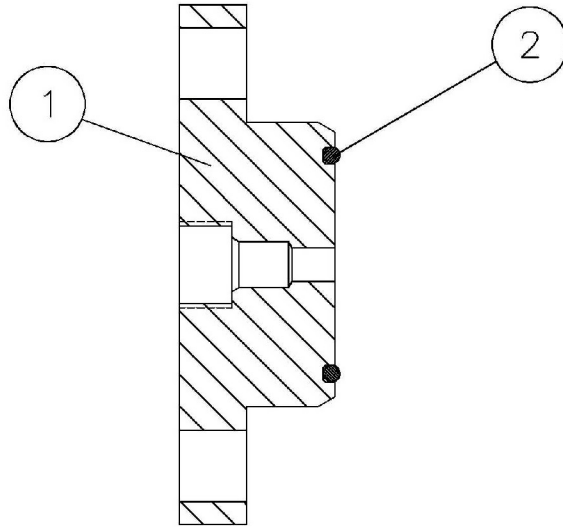
### 4" 602 HAMMER UNION DISCHARGE FLANGE



### 5-1/2" TO 7-1/2" FLUID END

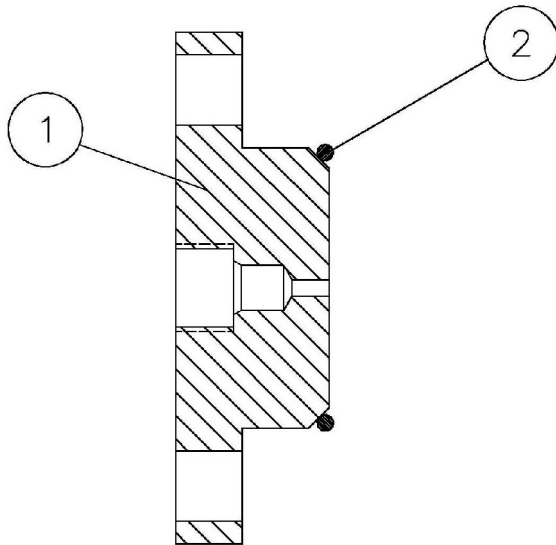
Ref No.	Name of Part	Qty.	Part No.
1	4" 602 Female Flange	1	PP1003093
2	O-ring	1	107981
3	Seal - 4" 602 Weco	1	901SH06-6

**BLEED OFF DISCHARGE FLANGE**



**3-3/4" TO 5" FLUID END**

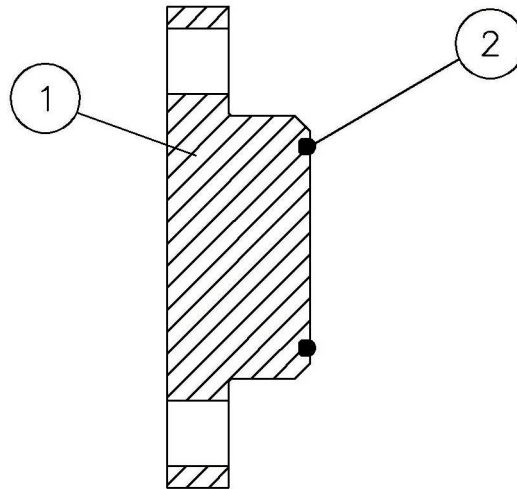
Ref No.	Name of Part	Qty.	Part No.
1	Bleed Off Flange	1	268PN02
2	O-ring	1	107976



**5-1/2" TO 7-1/2" FLUID END**

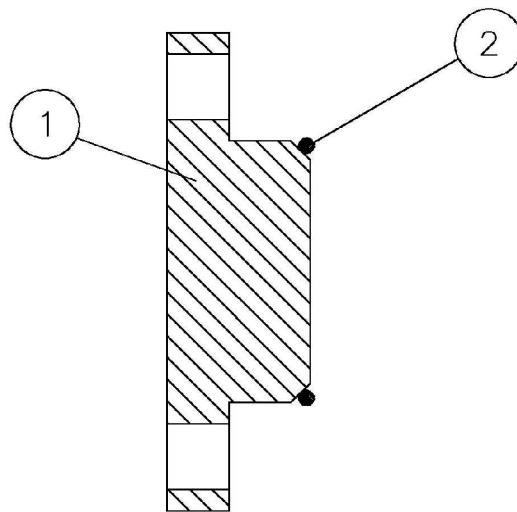
Ref No.	Name of Part	Qty.	Part No.
1	Bleed Off Flange	1	342-C-79
2	O-ring	1	107981

**BLIND DISCHARGE FLANGE**



**3-3/4" TO 5" FLUID END**

Ref No.	Name of Part	Qty.	Part No.
1	Blind Flange	1	265PN03
2	O-ring	1	107976

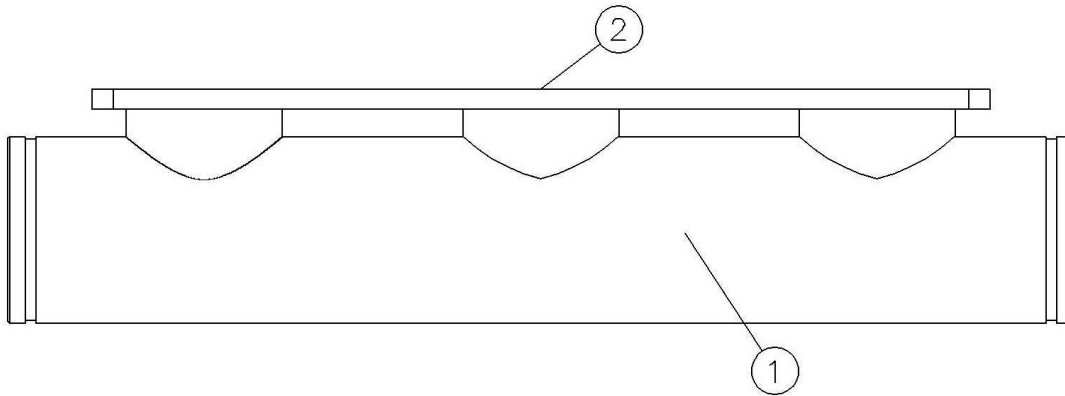


**5-1/2" TO 7-1/2" FLUID END**

Ref No.	Name of Part	Qty.	Part No.
1	Blind Flange	1	342-C-71
2	O-ring	1	107981

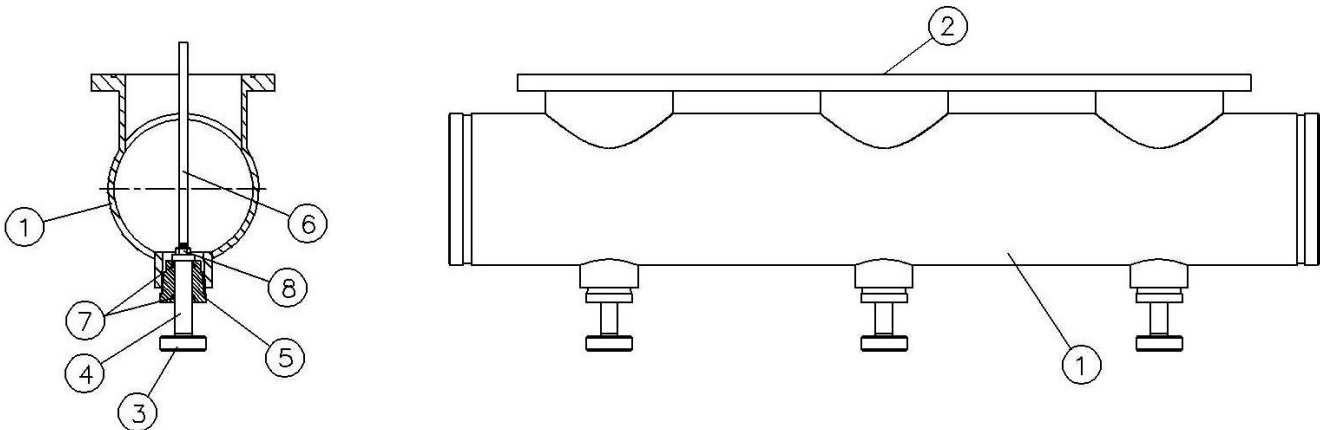


### 6" SUCTION MANIFOLD WITH VICTAULIC ENDS



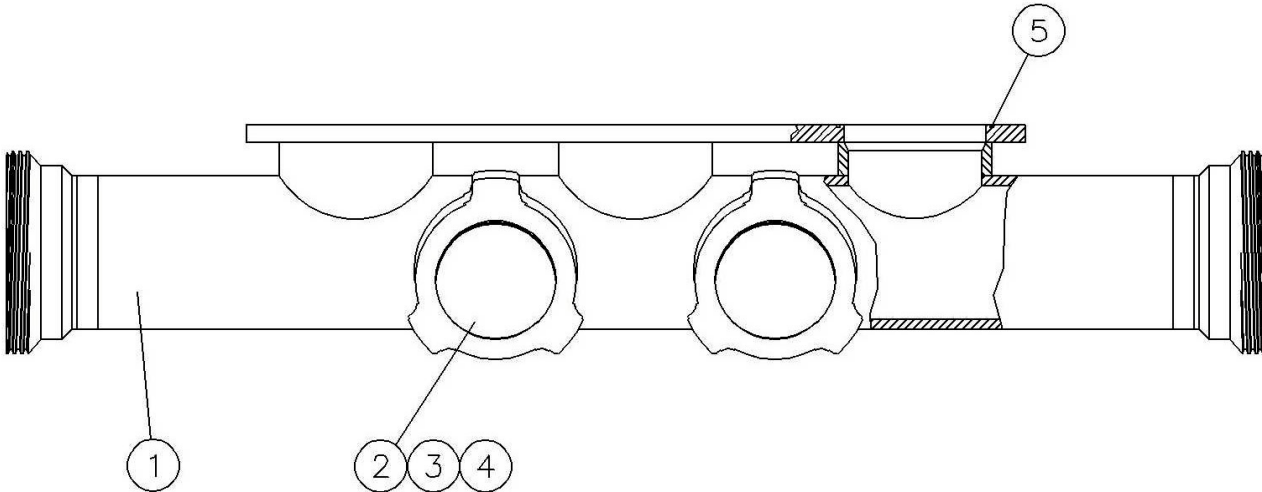
Ref No.	Name of Part	Qty.	Part No.
1	Suction Manifold	1	117PN008
2	O-ring	3	25BC333

### 6" SUCTION MANIFOLD WITH VICTAULIC ENDS AND VALVE LIFTERS



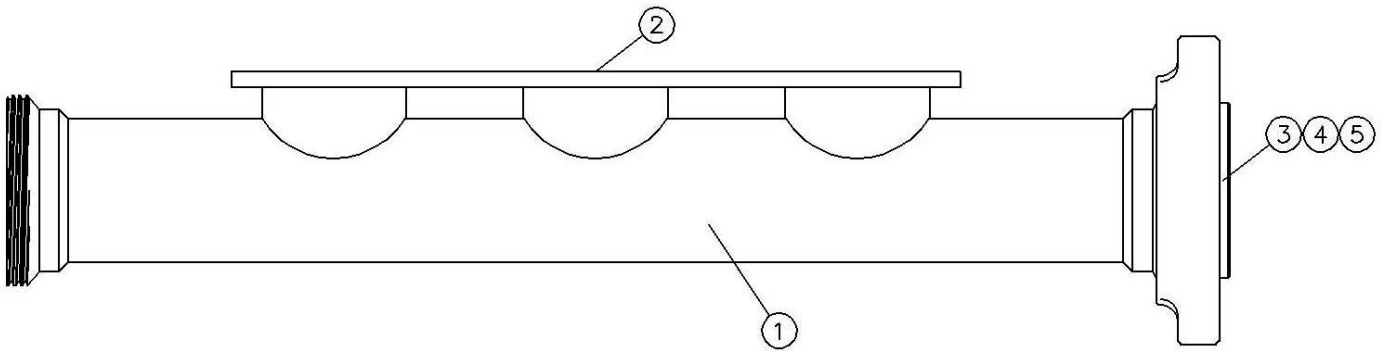
Ref No.	Name of Part	Qty.	Part No.
1	Suction Manifold	1	116PN001
2	O-ring	3	25BC333
3	Lifter Disc	3	595PN01
4	Lifter Shaft	3	595PN02
5	Coupling	3	595PN03
6	Push Rod	3	595PN04
7	O-ring	6	107956
8	Hex Nut	3	50AQ3

## 6" CO2 SUCTION MANIFOLD ASSEMBLY WITH CLEANOUTS



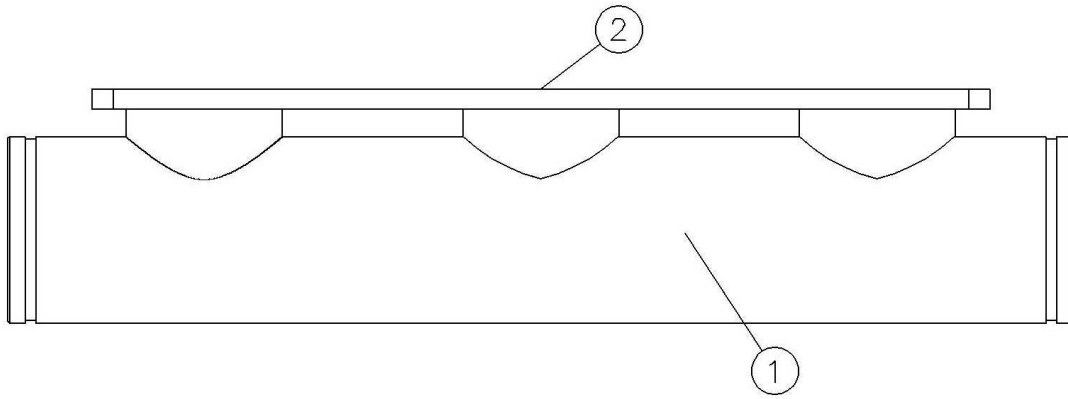
Ref No.	Name of Part	Qty.	Part No.
1	Suction Manifold	1	522191000
2	Plug – Cleanout	2	64EB876
3	Wing Nut – Cleanout	2	64EB875
4	O-ring – Cleanout	2	124642
5	O-ring – Fluid End	3	136236

## 6" CO2 SUCTION MANIFOLD ASSEMBLY WITHOUT CLEANOUTS



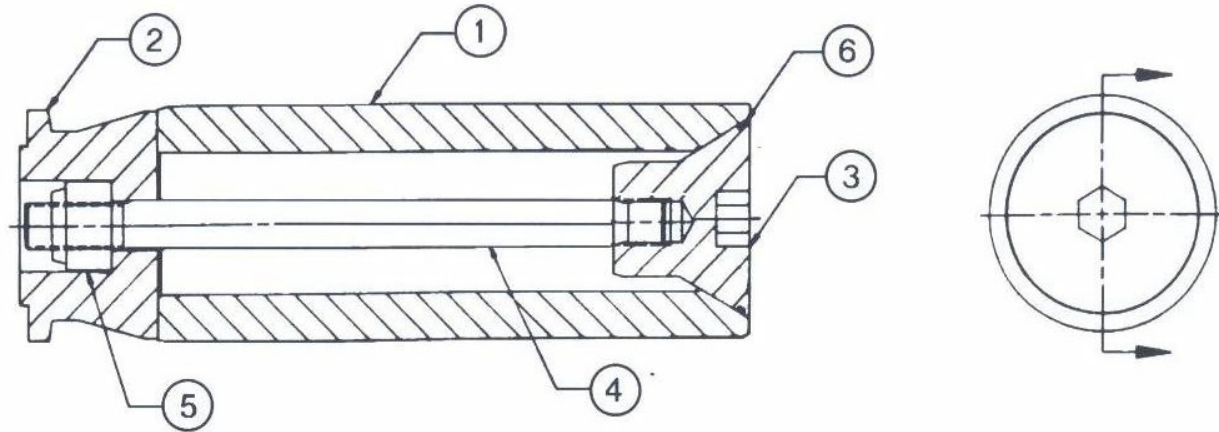
Ref No.	Name of Part	Qty.	Part No.
1	Suction Manifold	1	PP1009501
2	O-ring – Fluid End	3	136236
3	End Plug	1	VP1009631
4	O-ring – End Plug	1	124642
5	Wing Nut	1	VP1009630

### 8" SUCTION MANIFOLD WITH VICTAULIC ENDS



Ref No.	Name of Part	Qty.	Part No.
1	Suction Manifold	1	300THD069
2	O-ring	3	25BC333

## PUMP SAVE PLUNGER ASSEMBLY (16" LONG)

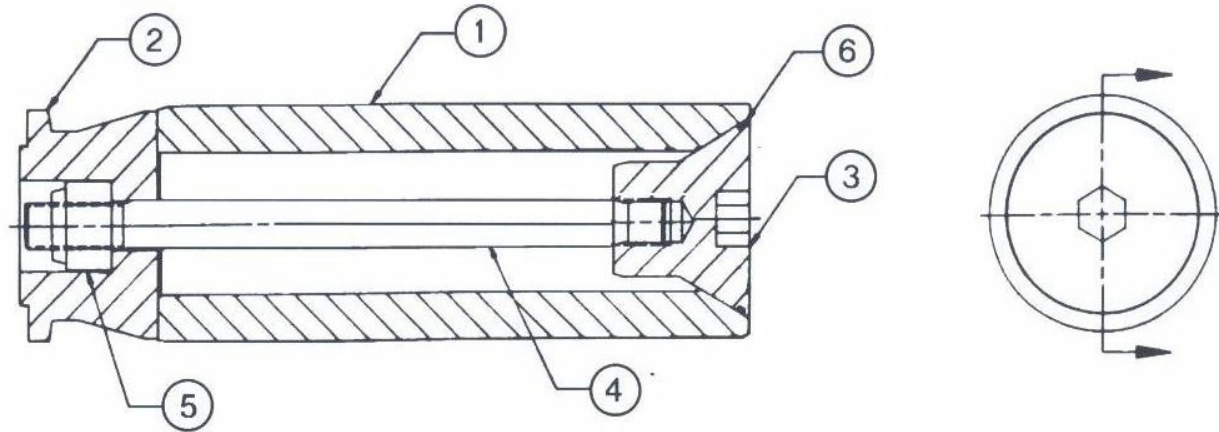


Ref. No.	Name of Part	Qty.	3-3/4" 157AD003	4" 157AD009	4-1/2" 157AD002	5" 157AD007
1	PLUNGER BODY .....	1	411PN002	411PN003	411PN001	411PN004
2	PLUNGER CAP END .....	1	255PN002	255PN003	255PN001	255PN004
3	PLUNGER NOSE PLUG ..	1	974PN002	974PN002	974PN001	974PN001
4	TENSIONING STUD.....	1	450PN001	450PN001	450PN001	450PN001
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3	50V3
6	O-RING .....	1	108504	108504	901SH05-240	901SH05-240

Ref. No.	Name of Part	Qty.	5-1/2" 157AD005	5-3/4" 157AD004	6" 157AD006	6-1/2" 203OPB038
1	PLUNGER BODY .....	1	411PN005	411PN006	411PN024	201OPB038
2	PLUNGER CAP END .....	1	255PN005	255PN005	255PN005	255PN006
3	PLUNGER NOSE PLUG ..	1	974PN003	974PN003	974PN003	202OPB038
4	TENSIONING STUD.....	1	450PN001	450PN001	450PN001	450PN001
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3	50V3
6	O-RING .....	1	901SH05-249	901SH05-249	901SH05-249	108512

Ref. No.	Name of Part	Qty.	6-3/4" 157AD008	7" 157AD024	7.5" 157AD010
1	PLUNGER BODY .....	1	411PN009	411PN010	411PN011
2	PLUNGER CAP END .....	1	255PN006	255PN006	255PN007
3	PLUNGER NOSE PLUG ..	1	974PN004	974PN004	974PN005
4	TENSIONING STUD.....	1	450PN001	450PN001	450PN001
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3
6	O-RING .....	1	901SH05-257	901SH05-257	167661

## PUMP SAVE PLUNGER ASSEMBLY (18" LONG)



Ref. No.	Name of Part	Qty.	3-3/4" 157AD020	4" 157AD011	4-1/2" 157AD012	5" 157AD016
1	PLUNGER BODY .....	1	411PN012	411PN013	411PN014	411PN015
2	PLUNGER CAP END .....	1	255PN002	255PN003	255PN001	255PN004
3	PLUNGER NOSE PLUG ..	1	974PN002	974PN002	974PN001	974PN001
4	TENSIONING STUD.....	1	450PN002	450PN002	450PN002	450PN002
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3	50V3
6	O-RING .....	1	108504	108504	901SH05-240	901SH05-240

Ref. No.	Name of Part	Qty.	5-1/2" 157AD014	5-3/4" 157AD013	6" 157AD015	6-1/2" 205OPB038
1	PLUNGER BODY .....	1	411PN016	411PN017	411PN018	204OPB038
2	PLUNGER CAP END .....	1	255PN005	255PN005	255PN005	255PN006
3	PLUNGER NOSE PLUG ..	1	974PN003	974PN003	974PN003	202OPB038
4	TENSIONING STUD.....	1	450PN002	450PN002	450PN002	450PN002
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3	50V3
6	O-RING .....	1	901SH05-249	901SH05-249	901SH05-249	108512

Ref. No.	Name of Part	Qty.	6-3/4" 157AD017	7" 157AD025	7.5" 157AD019
1	PLUNGER BODY .....	1	411PN020	411PN021	411PN022
2	PLUNGER CAP END .....	1	255PN006	255PN006	255PN007
3	PLUNGER NOSE PLUG ..	1	974PN004	974PN004	974PN005
4	TENSIONING STUD.....	1	450PN002	450PN002	450PN002
5	HEX NUT W/ INSERT .....	1	50V3	50V3	50V3
6	O-RING .....	1	901SH05-257	901SH05-257	167661

## CWS FLUID END SERVICE TOOLS

### 3-3/4" TO 5" FLUID END

<b>Ref No.</b>	<b>Name of Part</b>	<b>Qty.</b>	<b>Part No.</b>
1	Packing Nut Wrench	1	200OPB933
2	2" Hex Wrench	1	P-A-09
3	Slide Hammer Puller	1	590PN006
4	Valve Spring Compressor	1	211AD01-2
5	Puller - Suction Valve Spring Retainer	1	590PN01

### 5-1/2" TO 7-1/2" FLUID END

<b>Ref No.</b>	<b>Name of Part</b>	<b>Qty.</b>	<b>Part No.</b>
1	Packing Nut Wrench	1	200OPB933
2	3" Hex Wrench	1	342-A-89
3	Slide Hammer Puller	1	590PN006
4	Valve Spring Compressor	1	211AD01-2
5	Puller - Suction Valve Spring Retainer	1	590PN01

## VALVE SEAT PULLER KITS

Ref No.	Name of Part	Qty.	Part No.
1	3.75" – 4.0" Valve Seat Puller Kit* (*Includes the following 3 items)	1	402THD6031
	* Seat Puller Jack Assembly	1	102014
	* Puller Head Assembly	1	HG-3
	* Tool Box	1	H-400
2	4.5" – 5" Valve Seat Puller Kit* (*Includes the following 3 items)	1	403THD6031
	* Seat Puller Jack Assembly	1	102014
	* Puller Head Assembly	1	HR-4
	* Tool Box	1	H-400
3	5.5" – 6" Valve Seat Puller Kit* (*Includes the following 3 items)	1	404THD6031
	* Seat Puller Jack Assembly	1	102014
	* Puller Head Assembly	1	HB-5
	* Tool Box	1	H-400
4	6.5" – 7.5" Valve Seat Puller Kit* (*Includes the following 3 items)	1	405THD6031
	* Seat Puller Jack Assembly	1	102014
	* Puller Head Assembly	1	HBR-6
	* Tool Box	1	H-400



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