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12. PLUG VALVE

13. CHECK VALVE

14. SAFETY VALVE

15. BUTTERFLY VALVE





Your Reliable Business Partner

FOR 45 YEARS, AMPHIBIAN PETROLEUM TECHNOLOGIES SPECIALIZED IN MANY FIELDS AND LAYS STRONG EMPHASIS ON QUALITY, RESEARCH & DEVELOPMENT AND CUSTOMER SERVICE.

Our products meet or exceed API 6A, 16C, 16D required standards and specifications. Our facility is ISO 9001-2008 certified.

Products Ranges:

- **Frac Pump**
- **Fluid Ends**
- **Hammer Unions**
- **Swivel Joints**
- **Hose Assemblies**
- **Adapters & Crossovers**
- **Integral Fittings**
- **Frac Head**
- **Gate Valve: Expanding Style;**
- **Gate Valve: Slab Style**
- **Chock Valve**
- **Plug Valve**
- **Check Valve**
- **Safety Valve**
- **Butterfly Valve**

Services Offered:

- **Repair and Rebuild per API standards**
- **Inspection and Testing**
- **Repair & Testing of High Pressure Test Units**
- **Repair & Testing of Hydraulic Power Units**
- **Repair & Testing & Certification of Swivel Joints, Pup Joints, Loops, Spools, Flanges, Crosses, Tees**
- **Customize Products for Customer with our Engineer and Technicians**
- **Customized Products Development & Contract Manufacturing**

FRAC PUMP

APT OFFERS TRIPLEX OR QUINTUPLEX PUMPS SUPPORTING A VARIETY OF WELL SERVICE AREA INCLUDING FRAPTURING, ACIDIZING, CEMENTING, GRAVEL PACKING, SNUBBING, DRILLING.

- **Suitable for Acidizing, Cementing, Fracturing and General Fluid Pumping**
- **Triples and Quint with 600-2500 Horse Power**
- **Valves & Seats, Plungers and Packing**

We care about each customer and each product performance.

With our monitor performance and troubleshoot assist team, we support each client to ensure the installation guidance, education on wellsite operations, repair and maintenance of our products.



QUINT 2500



SPECIFICATIONS

Number of Plungers	5
Max Brake Horsepower	2500 BHP
Pressure Ranges (Min/Max)	17,800 PSI
Max Piston Load	196,350 LBS
Stroke Length	8"
Piston/Plunger Diameter (Min/Max)	3.8" TO 6.8"
Displacement Rate (Min/Max)	2,044 GPM
Gear Ratio	6.353:1
Valves	Wing Guided Insert with O-Ring Seat
Pump Weight	18,850 LBS
Lube System	Pressure Feed
Recommended Application	Fracturing

MATERIAL AND COATING

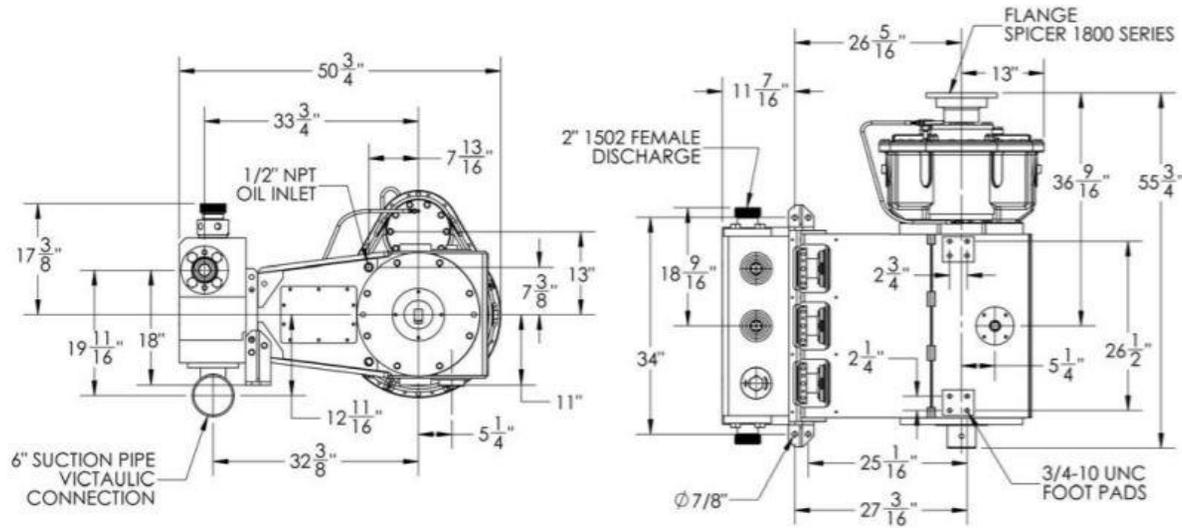
Fluid End	Forged Alloy Steel 4330 VM Forged Stainless Steel 17-4 PH
Plungers	Colmonoy 730 Hard Coat

FEATURES

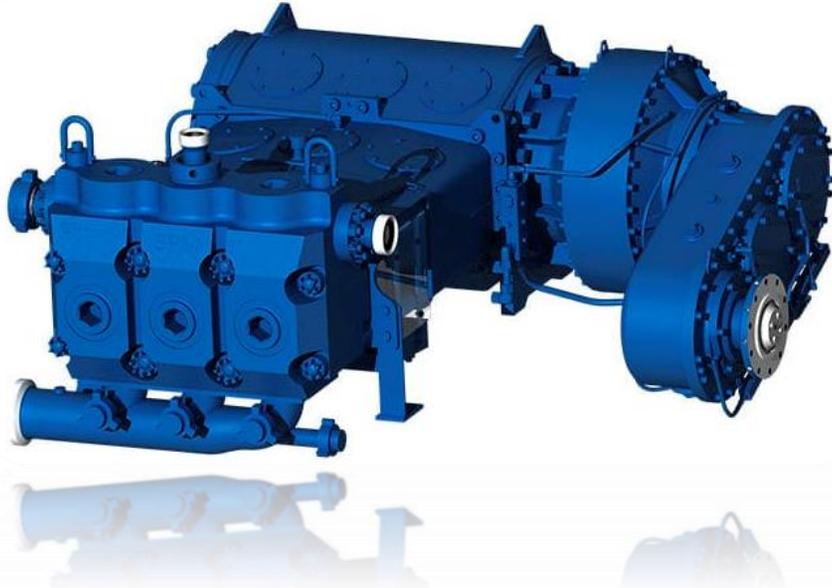
- Fluid Ends Block is forged high strength alloy steel with proprietary heat treat specification for superior strength and smooth flow
- Frame designed for perfect rigidity under various operation conditions
- Gearbox with case carburized, hardened and precision grounded helical gears to reduce thrust loading
- Lube System for optimizing distribution and component life

PERFORMANCE CHART TWS 2250

Plunger Diameter	Output DPR	Displacement at Pump Strokes Per Minute											
		50	318	140	890	182	1155	223	1420	265	1685	307	1950
Inch	DPR	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
4"	1.31	65	18985	183	18985	237	14626	292	11895	346	10024	401	8661
4.5"	1.65	83	15000	231	15000	300	11557	369	9399	438	7920	507	6843
5"	2.04	102	12150	286	12150	371	9361	456	7613	541	6415	626	5543



TRIPLEX 2250



SPECIFICATIONS

Number of Plungers	3
Max Brake Horsepower	2500 BHP
Pressure Ranges (Min/Max)	20,000 PSI
Max Piston Load	225,000 LBS
Stroke Length	8"
Piston/Plunger Diameter (Min/Max)	3.8" TO 7.5"
Displacement Rate (Min/Max)	191/2,523 GPM
Gear Ratio	6.963 : 1
Valves	Wing Guided Insert with O-ring Seat
Pump Weight	12,500 LBS
Lube System	Pressure Feed
Recommended Application	Fracturing

MATERIAL AND COATING

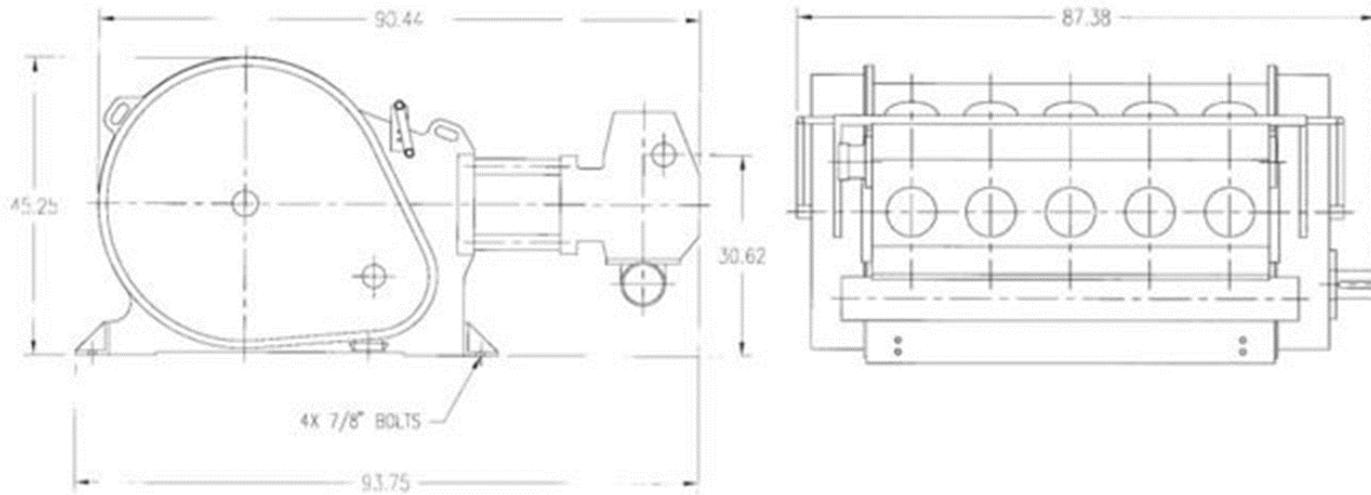
Fluid End	Forged Alloy Steel 4330 VM Forged Stainless Steel 17-4PH
Plungers	Colmonoy 730 Hard Coat

FEATURES

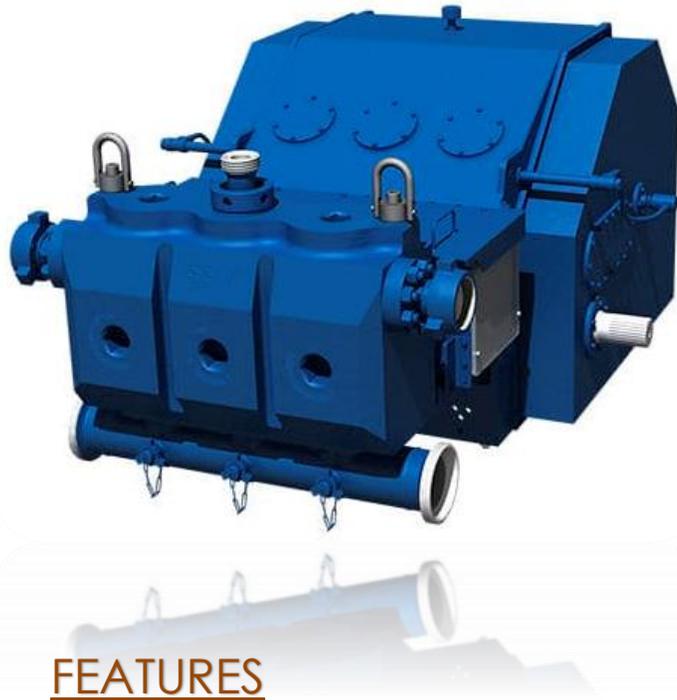
- Fluid Ends Block is forged high strength alloy steel with proprietary heat treat specification for superior strength and smooth flow
- Frame designed for perfect rigidity under various operation conditions
- Gearbox with case carburized, hardened and precision grounded helical gears to reduce thrust loading
- Lube System for optimizing distribution and component life

PERFORMANCE CHART TWS 2500

Plunger Diameter	Output DPR	Displacement at Pump Strokes Per Minute											
		50	319	109	694	158	1008	207	1322	257	1636	306	1950
Inch	DPR	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
4"	1.63	82	21725	178	21721	258	14950	338	11397	419	9209	499	7725
4-1/2"	2.07	103	17165	225	17162	326	11812	428	9005	530	7276	632	6104
5"	2.55	127	13904	277	13901	403	9568	529	7294	654	5894	780	4944



TRIPLEX 2250



SPECIFICATIONS

Number of Plungers	3
Max Brake Horsepower	2250 BHP
Pressure Ranges (Min/Max)	21,500 PSI
Max Piston Load	237,500 LBS
Stroke Length	8"
Piston/Plunger Diameter (Min/Max)	3.8" TO 7"
Displacement Rate Max	1,319 GPM
Gear Ratio	6.353 : 1
Valves	Wing Guided Insert with O-Ring Taper
Pump Weight	12,750 LBS
Lube System	Pressure Feed
Recommended Application	Fracturing

FEATURES

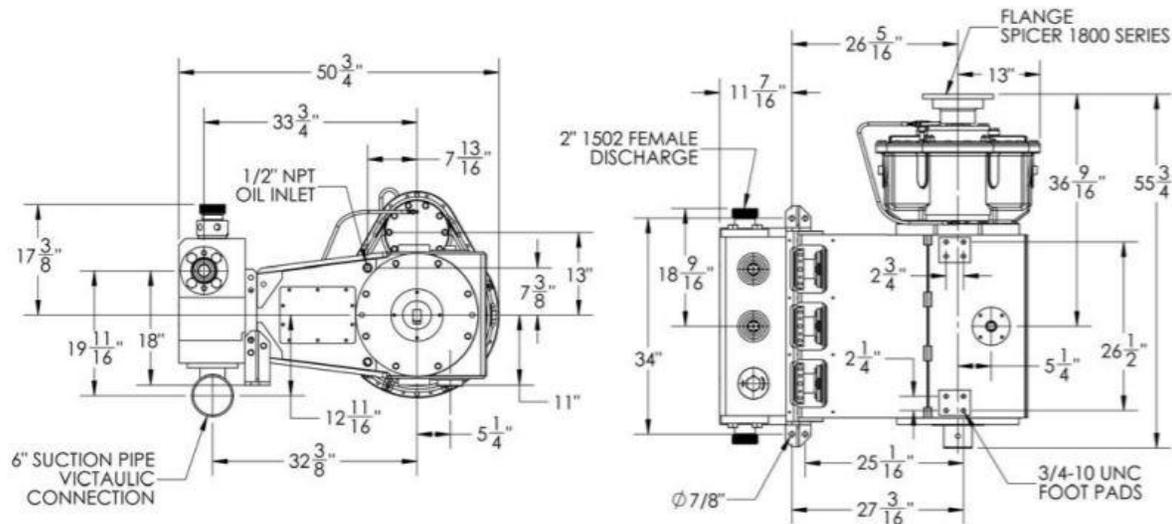
- Fluid Ends Block is forged high strength alloy steel with proprietary heat treat specification for superior strength and smooth flow
- Frame designed for perfect rigidity under various operation conditions
- Gearbox with case carburized, hardened and precision grounded helical gears to reduce thrust loading
- Lube System for optimizing distribution and component life

MATERIAL AND COATING

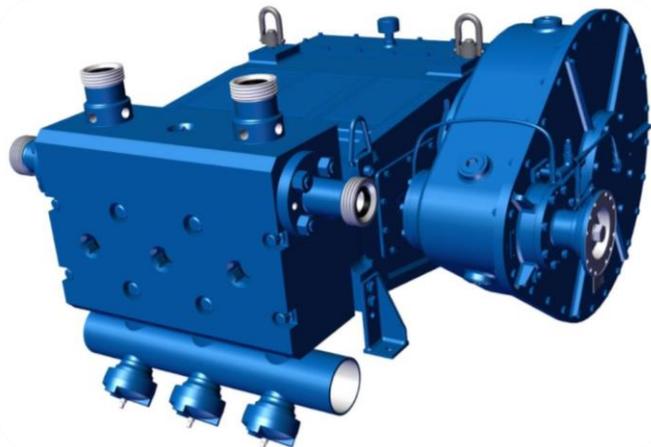
Fluid End	Forged Alloy Steel 4140 HT Forged Stainless Steel 17-4 PH
Plungers	Colmonoy 730 Hard Coat

PERFORMANCE CHART TWS 2250

Plunger Diameter	Output DPR	Displacement at Pump Strokes Per Minute											
		50	318	140	890	182	1155	223	1420	265	1685	307	1950
Inch	DPR	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
4"	1.31	65	18985	183	18985	237	14626	292	11895	346	10024	401	8661
4.5"	1.65	83	15000	231	15000	300	11557	369	9399	438	7920	507	6843
5"	2.04	102	12150	286	12150	371	9361	456	7613	541	6415	626	5543



TRIPLEX 600



SPECIFICATIONS

Number of Plungers	3
Max Brake Horsepower	600 BHP
Pressure Ranges Max	15,000 PSI
Max Piston Load	100,000 LBS
Stroke Length	6"
Piston/Plunger Diameter (Min/Max)	2.5" TO 4.5"
Displacement Rate (Min/Max)	565 GPM
Gear Ratio	4.61:1
Valves	Wing Guided Insert with O-Ring Taper
Pump Weight	5450 LBS
Lube System	Pressure Feed
Recommended Application	Acidizing, Cementing, Gravel Packing, Snubbing

MATERIAL AND COATING

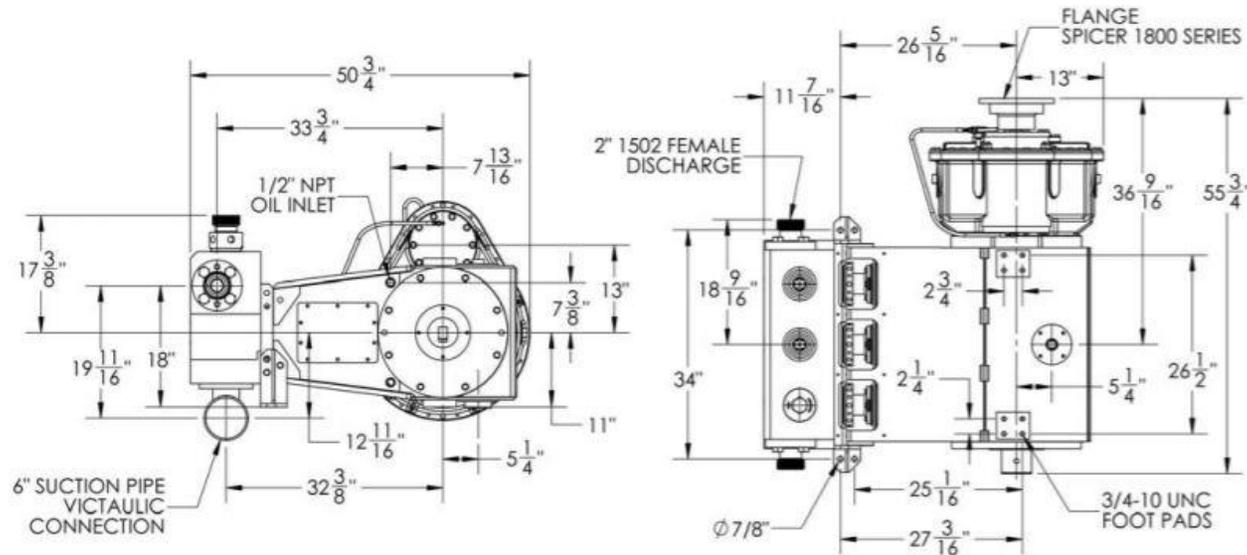
Fluid End	Forged Alloy Steel 4140 HT Forged Stainless Steel 17-4 PH
Plungers	Colmonoy 730 Hard Coat

FEATURES

- Fluid Ends Block is forged high strength alloy steel with proprietary heat treat specification for superior strength and smooth flow
- Frame designed for perfect rigidity under various operation conditions
- Gearbox with case carburized, hardened and precision grounded helical gears to reduce thrust loading
- Lube System for optimizing distribution and component life

PERFORMAMNCE CHART TWS 600S AND

Plunger Diameter	Output	Displacement at Pump Strokes Per Minute											
		50	231	112	516	198	912	284	1308	370	1704	456	2100
Inch	DPR	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
2-1/2"	0.38	19	21600	43	21600	76	12227	109	8527	141	6546	174	5312
2-3/4"	0.46	23	17851	52	17851	92	10105	219	7047	171	5410	211	4390
3"	0.55	28	15000	62	15000	109	8491	131	5921	204	4546	251	3689
3-1/2"	0.75	37	11020	84	11020	148	6238	156	4350	277	3340	342	2710
4"	0.98	49	8438	110	8438	194	4776	278	3331	362	2557	446	2075
4-1/2"	1.24	62	6667	139	6667	245	3774	352	2632	458	2020	565	1639



FLUID ENDS

AMPHIBIAN PETROLEUM TECHNOLOGIES OFFERS PUMP FLUID ENDS AND PARTS SUPPORTING A VARIETY OF COMMON PUMP MANUFACTURES INCLUDING GARDNER DENVER, SPM, MSI, SERVA AND OTHERS.

- Suitable for Acidizing, Cementing, Fracturing and General Fluid Pumping
- Triplex and Quint with 600-2500 Horse Power
- Valves & Seats, Plungers and Packing
- 2.5" to 6.75" Size Available



QUINT FLUID ENDS

- 1000, 2500, 2800, 3000 Horse Power Available
- Forged SAE 4330V Alloy Steel and 17-4PH Available
- High-pressure Resistance
- Maximum Pressure Refer to Chart
- Maximum Flow Refer to Chart
- Size option from 3-3/4" to 6-3/4"



TRIPLEX FLUID ENDS

- 600, 2250, 2400, 2500, 2700 Horse Power Available
- Forged SAE 4330V Alloy Steel and 17-4PH Available
- High-pressure Resistance
- Maximum Pressure Refer to Chart
- Maximum Flow Refer to Chart
- Size option from 2-1/2" to 4-1/2"





FLUID ENDS SPECIFICATIONS CHART

600S/1000S		2250 Triplex		2500 Quint	
Stroke Size 6"		Stroke Size 8"		Stroke Size 8"	
Plunger Size	Max PSI	Plunger Size	Max PSI	Plunger Size	Max PSI
2-1/2"	21,600	3-3/4"	20,372	3-3/4"	17,419
2-3/4"	17,851	4"	17,905	4"	15,305
3"	15,000	4-1/2"	14,147	4-1/2"	12,093
3-1/2"	11,020	5"	11,459	5"	9,795
4"	8,438	5-1/2"	9,470	5-1/2"	8,095
4-1/2"	6,667	5-3/4"	8,665	5-3/4"	7,406
		6"	7,958	6"	6,802
		6-1/2"	6,781	6-1/2"	5,796
		6-3/4"	6,288	6-3/4"	5,375

FRAC PUMP EXPENDABLE PRODUCTS AND PARTS

AMPHIBIAN PETROLEUM GROUP SUPPORTS A VARIETY OF COMMON PUMP MANUFACTURES INCLUDING GARDNER DENVER, SPM, SERVA, MSI AND OTHERS

Valves and Seats

- Low cost and superior performance
- Urethane poured directly around machine serrations to anchor insert to valves
- High Temperature up to 300°F
- Minimizes insert movement, leakage and separation from valve
- One-piece body optional for enhanced strength
- Improved flow and reduced max stress and strain



Packing and Plungers

- Low cost and superior performance
- Plungers with Variety of Coating and fusion process of proprietary Ni and TC blends
- Packing with severe service sealing designs
- Increased production quality control and extended life
- Easy installation and removal



HAMMER UNIONS

APT OFFERS A COMPREHENSIVE RANGE OF STANDARD AND SOUR GAS HAMER UNIONS. EACH UNION IS THOROUGHLY INSPECTED TO ENSURE LONG, DEPENDABLE SERVICE IN THE MOST EXTREME CONDITIONS. AVAILABLE IN STOCK AT OUR WAREHOUSE IN HOUSTON, SAN ANTONIO, OKLAHOMA, AND MIDLAND.

COMMON BUCKLE MODELS FOR HIGH PRESSURE WING UNIONS



fig. 100 union



fig. 200 union



fig. 206 union



fig. 211 union



fig. 400 union



fig. 600 union



fig. 602 union



fig. 1002 union



fig. 1003 union



fig. 1502 union



fig. 2202 union



fig. 2202 union



General

APT manufactures Hammer Unions from raw materials in the form of forgings or castings in accordance with service requirements in sizes 1 to 12" with ratings up to 20,000 PSI cold working pressure. Unions for sour gas service are manufactured in accordance with NACE MR-01-75 & API RP-14E.

Interchangeability

APT'S Hammer Unions are interchangeable with WECO or other manufacturers adhering to the industry standards. Thread Gauging

Acme thread and line pipe threads are gauged by standard plug & ring gauges.

Sealing Design

The conical and spherical surfaces of the female and male subs respectively form an effective metal-to-metal seal in case of low pressure services.

For medium pressure mostly an 'O' ring is provided in the male sub in addition to the metal to metal seal. For high pressure a lip type seal ring is provided for primary seal in the female sub. The seal protects the secondary metal to metal seal from corrosion and limits fluid flow turbulence. For sour service applications Viton seals are provided. Quality Control

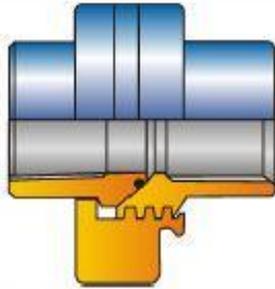
APT unions are manufactured using modern techniques to attain first class workmanship and dimensional control. Correctly chosen raw materials for a service together with correct heat-treatment process is used to ensure better service and longer life in extreme conditions.

FEATURES

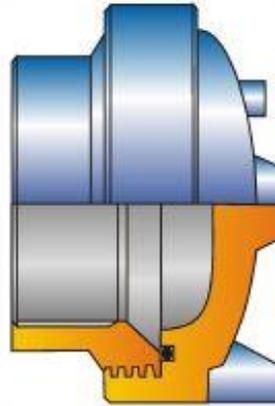
- With precise ball surface and 90-degree conical surface processed by precise machine, wing hammer union is of high strength and pressure-bearing capacity.
- The LP thread, UN thread, EU thread, processed by numerically-controlled machine imported cutter, has high precision and strong sealing, ensures high press and sealing.
- The seal ring can keep strong sealing for joints and avoid joints from corrosion and prolong the product life.
- The wing hammer union which especially applicable to acid environment is designed and manufactured in strict accordance with NACE MR0175
- Wing unions joints are all ACME thread; thus, it is easy to assemble, disassemble without any tools and it has elf-lock function. The product parts are universal internationally and can be exchanged.



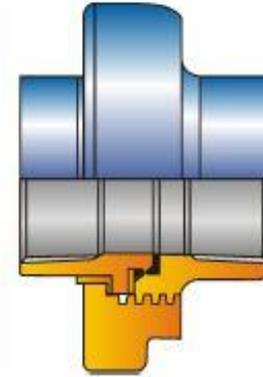
Fig. No.	Assembly Color Code for Standard Service	Pressure Rating (PSI)				Working Environment																
		Standard Service		Sour Gas Service		Normal	Anti-Sulfur	mm	13	25	32	38	50	65	80	100	125	150	200	250	300	
		Cold Working	Test	Cold Working	Test			in	1/2	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	
50		500	750	N/A	N/A	X																
100		1,000	1,500	N/A	N/A	X																
101		1,000	1,500	N/A	N/A	X																
200		2,000	3,000	2,000	3,000	X																
201		2,000	3,000	2,000	3,000	X																
206		2,000	3,000	2,000	3,000	X																
207		2,000	3,000	2,000	3,000	X																
211		2,000	3,000	N/A	N/A	X																
300		2,000	3,000	N/A	N/A	X																
400		4,000	6,000	4,000	6,000	X	X															
602		6,000	9,000	6,000	9,000	X	X															
1002		10,000	15,000	7,500	11,250	X	X															
1003		10,000	15,000	7,500	11,250	X	X															
1004		10,000	15,000	7,500	11,250	X																
1502		15,000	22,500	10,000	15,000	X	X															
2002		20,000	30,000	N/A	N/A	X																
2202		N/A	N/A	15,000	22,500		X															
6666		6,000	9,000	N/A	N/A																	



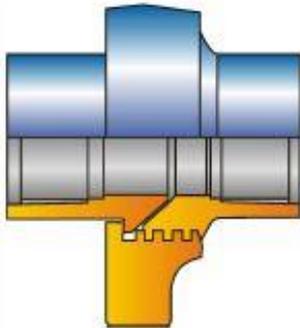
2,000 PSI CWP (Fig. - 206)



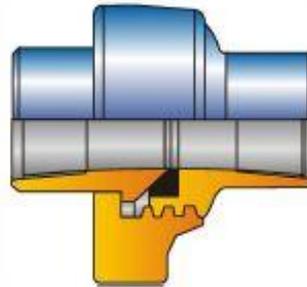
2,000 PSI CWP (Fig. - 207)



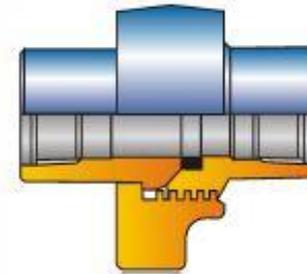
2,000 PSI CWP (Fig. - 211)



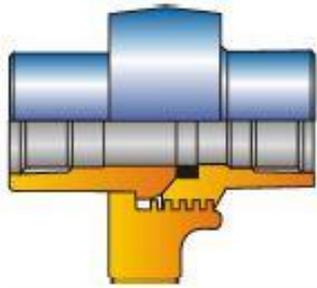
4,000 PSI CWP (Fig. - 400)



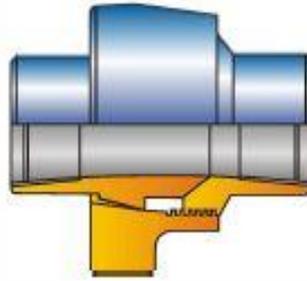
6,000 PSI CWP (FIG - 600)



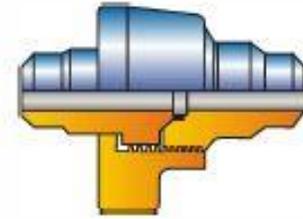
6,000 PSI CWP (FIG - 602)



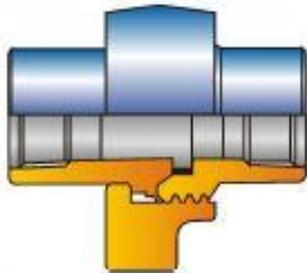
10,000 PSI CWP (FIG - 1002)



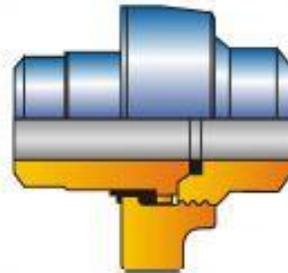
10,000 PSI CWP (FIG - 1003)



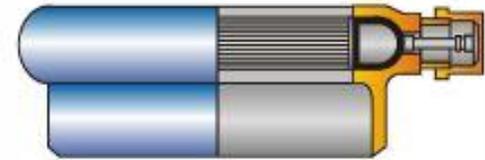
10,000 PSI CWP (FIG - 1004)



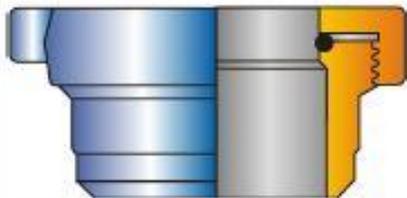
15,000 PSI CWP (FIG - 1502)



**20,000 PSI CWP (Fig. - 2002)
15,000 PSI CWP (Fig. - 2202)**



Air - Union



Mud Tank Union

HAMMER SEAL UNIONS

APT OFFERS A COMPREHENSIVE RANGE OF HAMMER SEAL UNIONS.

- Our products are designed to quickly connect mud tanks with flanged connections.
- Nitrile O-Ring provides a compressive non-leak seal that limits the line fluid pressure to 150 PSI.
- Tank Unions are accepting up to 7" of pipe misalignment.
- The female sub of hammer seal union welds to a schedule 40/80 pipe
- Available in stock at our warehouse

Gray Nut
 Gray Sub



Size	Nut Radius	Total Length	Weight
Inches	Inches	Inches	LBS
	L	L1	Approx.
4	5.31	3.67	22.05
6	6.57	5.22	33.7
8	7.71	5.24	43.65
10	8.86	5.24	52.03
12	9.84	5.19	63.71
14	10.59	4.67	73.48

SWIVEL JOINT

PRODUCTS DESCRIPTION

APT SWIVEL JOINTS ARE MANUFACTURED BOTH FOR STANDARD SERVICE & SOUR SERVICE. LONG SWEEP SWIVEL JOINTS ARE DESIGNED GENERALLY FROM 6000 PSI CWP TO 20,000 PSI CWP, BOTH FOR STANDARD AND SOUR SERVICE AND ENSURE BETTER FLOW CHARACTERISTICS. SMOOTH AND ROUND BORE DESIGN KEEPS PRESSURE DROP LOW AND MINIMIZES TURBULENCE. SWIVEL JOINTS ARE MADE FROM CARBON STEEL AND LOW ALLOY STEEL AND ARE SPECIALLY HEAT TREATED FOR CONTROLLED HARDNESS.

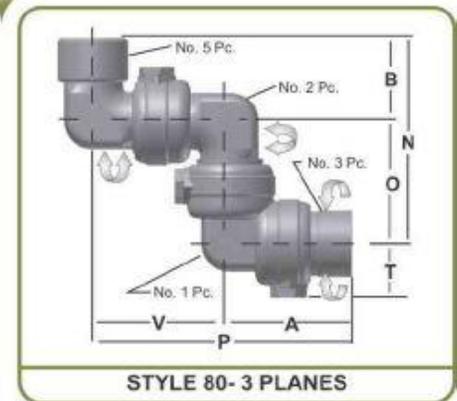
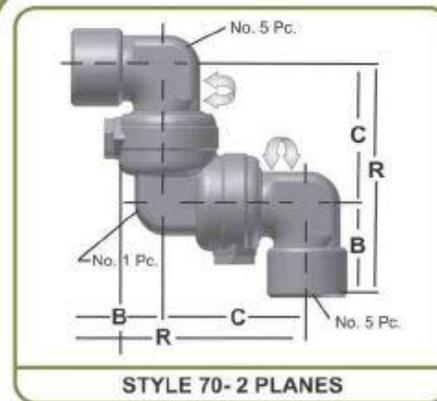
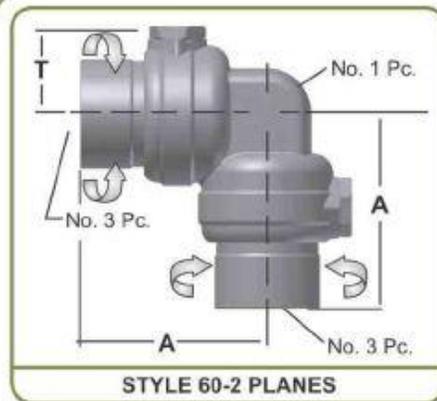
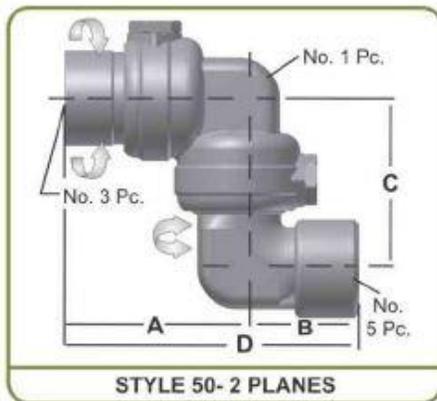
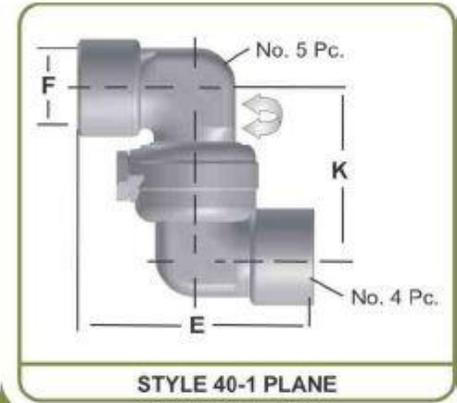
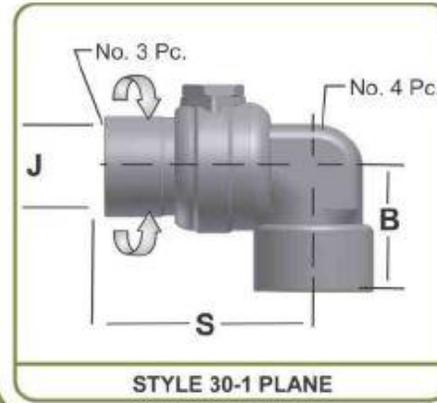
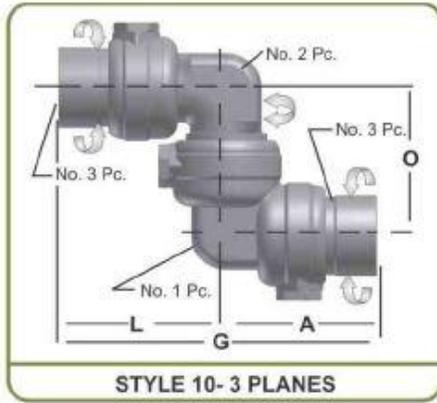
Long sweep sour service swivel joints are manufactured in accordance with National Association of Corrosion Engineers (NACE) standard, MR-01 - 75 (Latest) and the American Petroleum Institute's (API) standard RP -14 E.

Features

- Our products are designed to quickly connect mud tanks with flanged connections.
- Nitrile O-Ring provides a compressive non-leak seal that limits the line fluid pressure to 150 PSI.
- Sealings equipped with the metal spray ring, as well as the relief hold. In case of the leakage, the pressure will be relieved automatically to avoid its accumulation in the lane cavity
- Tank Unions are accepting up to 7" of pipe misalignment.
- The female sub of hammer seal union welds to a schedule 40/80 pipe
- All joint sizes are interchangeable to global brands in the well cementation and Fracturing, being strong in the exchange
- Uniform wall thickness, long service life and smoother transportation of fluid



COMMON CONNECTION TYPE





SPECIFICATIONS

Models	Color Code	Cold Working Pressure (PSI)	Material	End Connections	Size (Inches)						
					3/4	1	1-1/4	1-1/2	2	3	4
Low pressure	Blue	1,000	Carbon Steel	NPT						X	
				Beveled for welding						X	
High Pressure	Silver	6,000	Alloy Steel	Female line pipe threads	X	X	X	X	X	X	
				Figure 602 union	X	X	X	X	X	X	
Long Sweep	Olive Green (Sour Gas)	7,500	Alloy Steel	Figure 1002 union					X	X	X
	Olive Green (Sour Gas)	10,000	Alloy Steel	figure 1502 union					X	X	X
	Black	10,000	Alloy Steel	Figure 1002 union					X	X	X
	Olive Green (Sour Gas)	15,000	Alloy Steel	Figure 2202 union					X	X	
	Red	15,000	Alloy Steel	Figure 1502 union					X	X	X
	Light Blue	20,000	Alloy Steel	Figure 2002 union					X	X	

HOSE ASSEMBLIES

General Description

Introduction

APT'S Cementing & Circulating Hoses are manufactured in various sizes (from 1" to 4") and in various configurations to meet virtually all needs of Oil Industry. These can handle a wide variety of fluids at cold working pressure up to 20,000 PSI. These hoses are made in steel to meet ASTM/AISI standards, are rugged, fold up easily and quickly for transportation. These are specially heat treated to get the desired hardness to suit various applications. Even sizes beyond 4" can be supplied to meet customer requirement.

Features

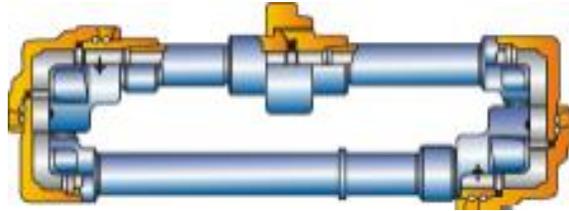
- Used in a variety of high pressure well service application
- Utilize swivel joint & hammer union end connections for fast and secure make up & breakout operations
- Made to with stand cold working pressure up to 15,000 PSI for standard service and 10,000 PSI for sour service
- APT Steel Hose Assemblies eliminate the need for Exact alignment when installing to facilitate the routing of lines around fixed objects and simplify folding, transporting and storage of equipment



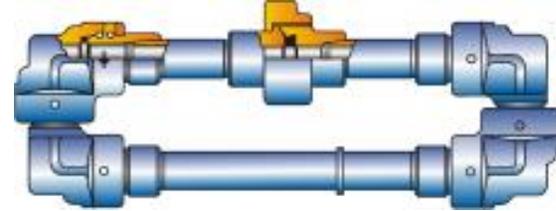
Size	Swivel Joint Style	Quantity of Wing Unions	Weight LBS
2"x10"	50 & 10	1	147
2"x12"	50 & 10	1	170
2"x12"	(2) 50	2	179
2"x12"	(2) 50	4	207
3"x12"	(2) 50	4	454

CEMENTING & CIRCULATING HOSES

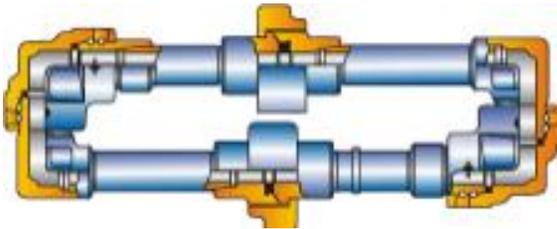
1. THREADED ENDS USING API LINE PIPE THREADS



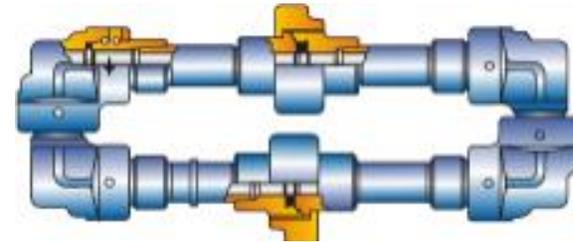
MODEL NUMBER: PSSCCH-50-2-1U-T



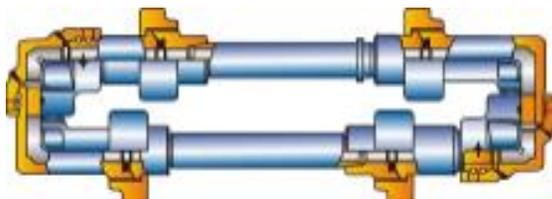
MODEL NUMBER: PSSCCH-10-2-1U-T



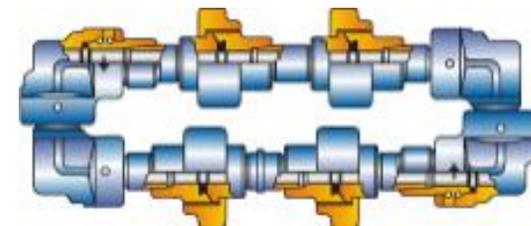
MODEL NUMBER: PSSCCH-50-2-2U-T



MODEL NUMBER: PSSCCH-10-2-2U-T



MODEL NUMBER: PSSCCH-50-2-4U-T



MODEL NUMBER: PSSCCH-10-2-4U-T

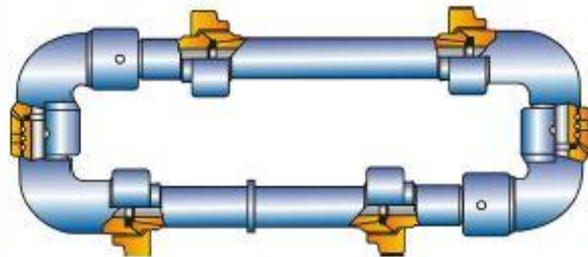
I. THREADED ENDS USING API LINE PIPE THREADS

UNION (THREADED)	1 NO.	1 NO.	2 NOS.	2 NOS.	4 NOS.	4 NOS.
S. JOINT (THREADED)	STYLE-50 (2 NOS.)	STYLE-10 (2 NOS.)	STYLE-50 (2 NOS.)	STYLE-10 (2 NOS.)	STYLE-50 (2 NOS.)	STYLE-10 (2 NOS.)
MODEL NUMBER.	PSSCCH-50-2-1U-T	PSSCCH-10-2-1U-T	PSSCCH-50-2-2U-T	PSSCCH-10-2-2U-T	PSSCCH-50-2-4U-T	PSSCCH-10-2-4U-T

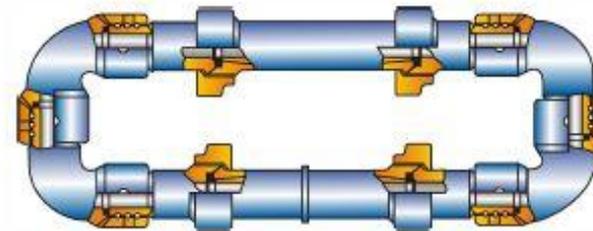
2. NPS ENDS

CONFIGURATION OF NPS END MODELS

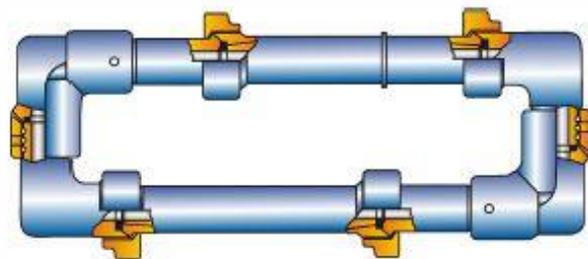
MODEL NUMBER: PLSCCH-50-2-4U-N



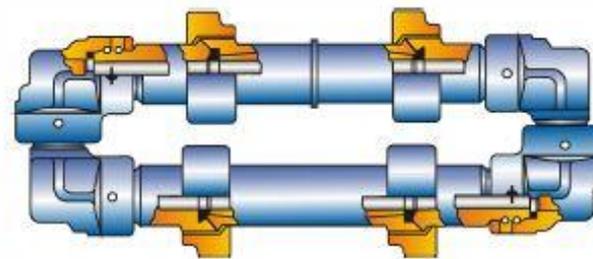
MODEL NUMBER: PLSSCCH-10-2-4U-N



MODEL NUMBER: PSSCCH-50-2-4U-N



MODEL NUMBER: PSSCCH-10-2-4U-N



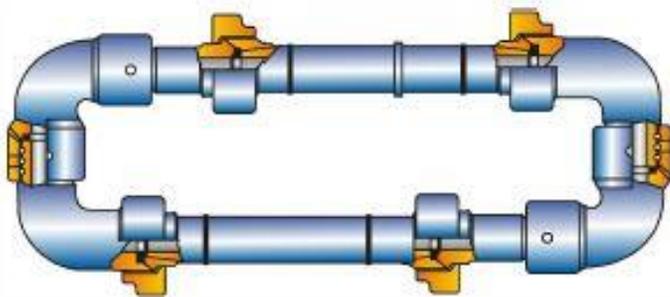
2. NPS ENDS

UNION	4 NOS.	4 NOS.	4 NOS.	4 NOS.
SWIVEL JOINT UNION END	STYLE-50 (2 NOS.)	STYLE- 10 (2 NOS.)	STYLE-50 (2 NOS.)	STYLE- 10 (2 NOS.)
MODEL NUMBER.	PLSCCH-50-2-4U-N	PLSCCH-10-2-4U-N	PSSCH-50-2-4U-N	PSSCCH-10-2-4U-N

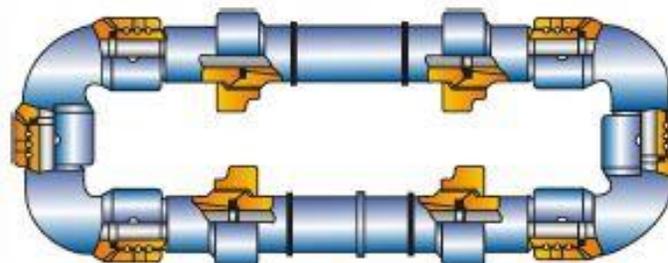
3. WELDED ENDS

CONFIGURATION OF WELDED END MODELS

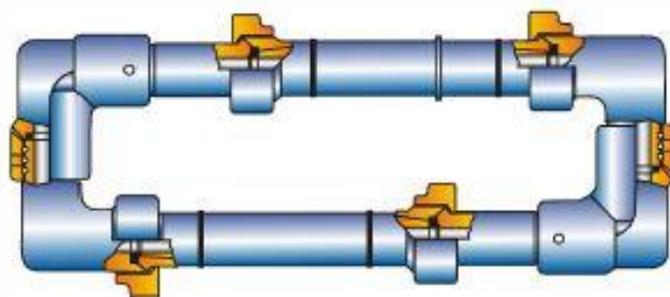
MODEL NUMBER: PLSCCH-50-2-4U-W



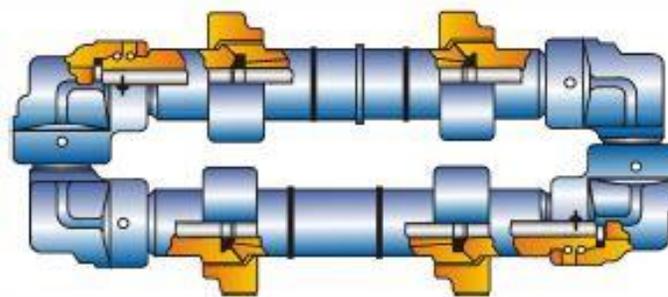
MODEL NUMBER: PLSSCCH-10-2-4U-W



MODEL NUMBER: PSSCCH-50-2-4U-W



MODEL NUMBER: PSSCCH-10-2-4U-W



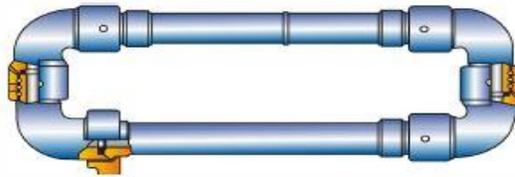
3. WELDED ENDS

UNION	4 NOS.	4 NOS.	4 NOS.	4 NOS.
SWWEL JOINT UNION END	STYLE-50 (2 NOS.)	STYLE- 10 (2 NOS.)	STYLE-50 (2 NOS.)	STYLE- 10 (2 NOS.)
MODEL NUMBER	PLSCCH-50-2-4U-W	PLSCCH-10-2-4U-W	PSSCCH-50-2-4U-W	PSSCCH-10-2-4U-W

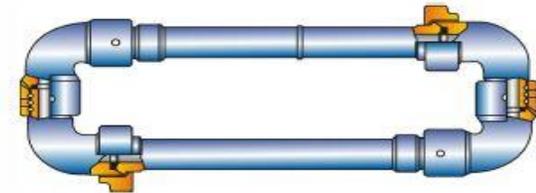
4. INTEGRAL UNION ENDS

CONFIGURATION OF INTEGRAL UNION END MODELS

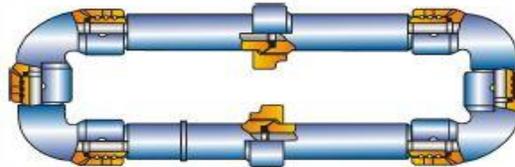
MODEL NUMBER: PLSCCH-50-1-10-1-1U-I



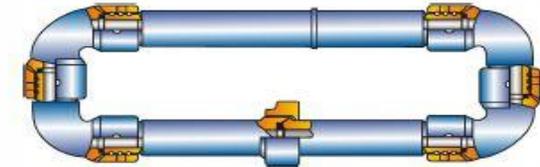
MODEL NUMBER: PLSCCH-50-2-2U-I



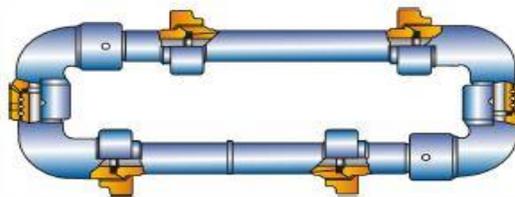
MODEL NUMBER: PLSCCH-10-2-2U-I



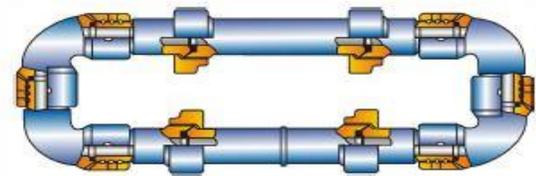
MODEL NUMBER: PLSCCH-10-2-1U-I



MODEL NUMBER: PLSCCH-50-2-4U-I



MODEL NUMBER: PLSCCH-10-2-4U-I





UNION	1 NO.	2 NOS.	2 NOS.	1 NO.	4 NOS.	4 NOS.
SWIVEL JOINT	STYLE-50 (1 NO)	STYLE- 50 (2 NOS.)	STYLE-10 (2 NOS.)	STYLE-10 (2 NOS.)	STYLE-50 (2 NOS.)	STYLE-10 (2 NOS.)
(UNION ENDS)	STYLE- 10 (1 NO)					
MODEL NUMBER	PLSOCH-50-1-10-1-1U-I	PLSCCH-50-2-2U-I	PLSCCH-10-2-2U-I	PLSCCH-10-2-1U-I	PLSOCH-50-2-4U-I	PLSCCH-10-2-4U-I

TREATING IRONS

TREATING IRONS, UNION CONNECTIONS, BULL PLUGS,
CROSS OVER ADAPTORS & SWAGES

Treating Irons

APT'S one piece Treating Iron comprises an integral APT'S wing union end connection which eliminates welds and threads. Available in length up to 12 feet. Material is of carbon steel and alloy steel and is light weight. This integral treating iron can handle a variety of fluids at cold working pressure of 15000 psi. APT'S treating irons are also available for sour service up to a CWP of 10,000 psi & in other lengths if required.

Recommended. service

These are suitable for High Pressure Discharge Lines, Temporary Flow Lines, Auxiliary Flow Lines, Well Testing Lines, Water Lines, Choke and Kill Lines and Abrasive Applications.

Salient Benefits

Since there are no welds and threads, APT'S treating irons provide a uniform bore of greater flow capacity and improved flow Characteristics. APT'S design allows for uniform heat treating of the entire joint for better structural qualities. Nut can be detached for easy disassembly if replacement becomes necessary. For this only a circlip must be removed.

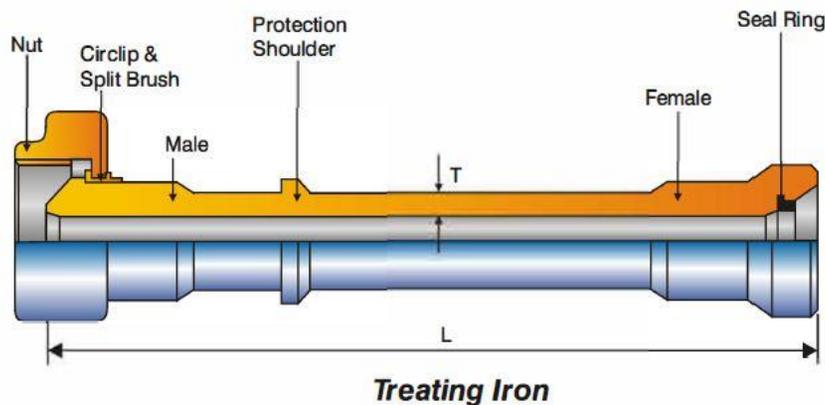
End Connections

End connections can be provided for fig 602, fig 1002 and fig 1502 or any other fig required by the customer.

NOTE: APT can also provide welded & threaded type treating iron if required by the customer.

DIMENSIONAL REFERENCE CHART												
SIZE (IN)	1"		1- 1/2"		2"		2- 1/2"		3"		4"	
FIGURE	602	1502	602	1502	602	1502	602	1502	602	1502	602	1502
WORKING PRESSURE (PSI)	6000	15000	6000	15000	6000	15000	6000	15000	6000	15000	6000	15000
TEST PRESSURE (PSI)	9000	22500	9000	22500	9000	22500	9000	22500	9000	22500	9000	22500
WALL (T) MM	6.35	9.09	7.14	10.16	7.14	11.1	7.14	14.02	7.62	15.24	13.49	17.11
INCH	0.250	0.358	0.281	0.400	0.281	0.4360	0.281	0.552	0.300	0.600	0.531	0.674
APPROX WT. PIPE:												
LBSF /FT	2.84	3.66	4.86	6.41	6.28	9.03	8.0	11.81	10.25	18.58	22.51	28.65
KGF /M	4.24	5.45	7.25	9.56	9.36	13.44	14.92	20.39	15.27	27.68	33.54	42.65
H UNION;												
LBSF	3.30	8.5	9.70	12.80	12.12	20.30	15.87	23.00	20.94	29.50	30.66	76.50
KGF	1.50	3.80	4.40	5.70	5.50	9.20	7.20	10.30	9.50	13.30	14.00	34.40
LENGTH L (FEET)	2', 3', 4', 5', 6', 7', 8', 9', 10', 12'											

NOTE: Other lengths, Figures , Pressure Rating, Butt weld and integral Connections are also available on customer's request.



ADAPTERS & CROSSOVERS/CHANGEOVERS

APT's changeover/crossover adaptors are manufactured in different sizes and threads, types Male to Male, Female to Female, Female to Male configurations with sizes varying from 1" to 4" and in pressure ratings from 1 000 PSI to 20000 PSICWP.

Swages

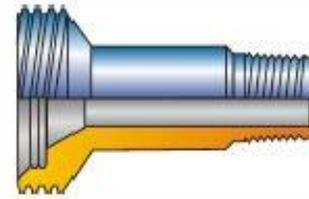
APT manufactures integral swages with unions male and female to pipe and tubing threads, in different sizes 1" to 4" and thread configurations, in pressure ratings from 6000 PSI to 15000 PSI CWP. These are made to highest quality standards to provide trouble free service to users.

Precautions

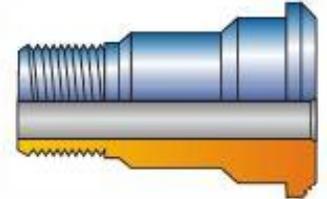
1. Do not expose standard service products to sour gas fluid.
2. Pressure ratings given are for temperatures,; between - 20°F to 100°F. For services above 100°F consult factor
3. Excessive hammering force should not be used for tightening hammer unions.
4. For using hammer unions below freezing temperatures, correct safety precautions should be taken.
5. Hammer unions under pressure should not be struck otherwise failure may occur causing personnel injury or death.

Integral Female Adaptor Flanges

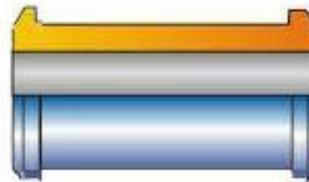
We manufacture these adaptor flanges of various sizes commencing from 1 13/16" onwards and various flanges pressure ratings with integral hammer union ends.



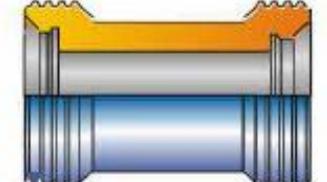
Female To Tubing Thread



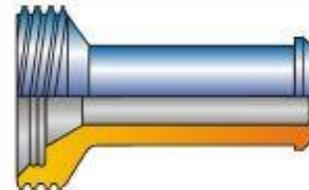
Male To Tubing Thread



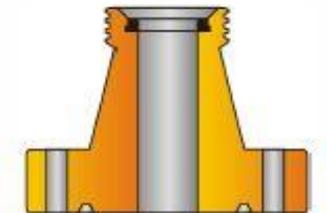
Double Wing (Male)



Double Thread (Female)



*Thread To Wing
(Male To Female)*



*Integral Female
Adaptor Flange*

INTEGRAL/FABRICATED UNION CONNECTIONS & FITTINGS

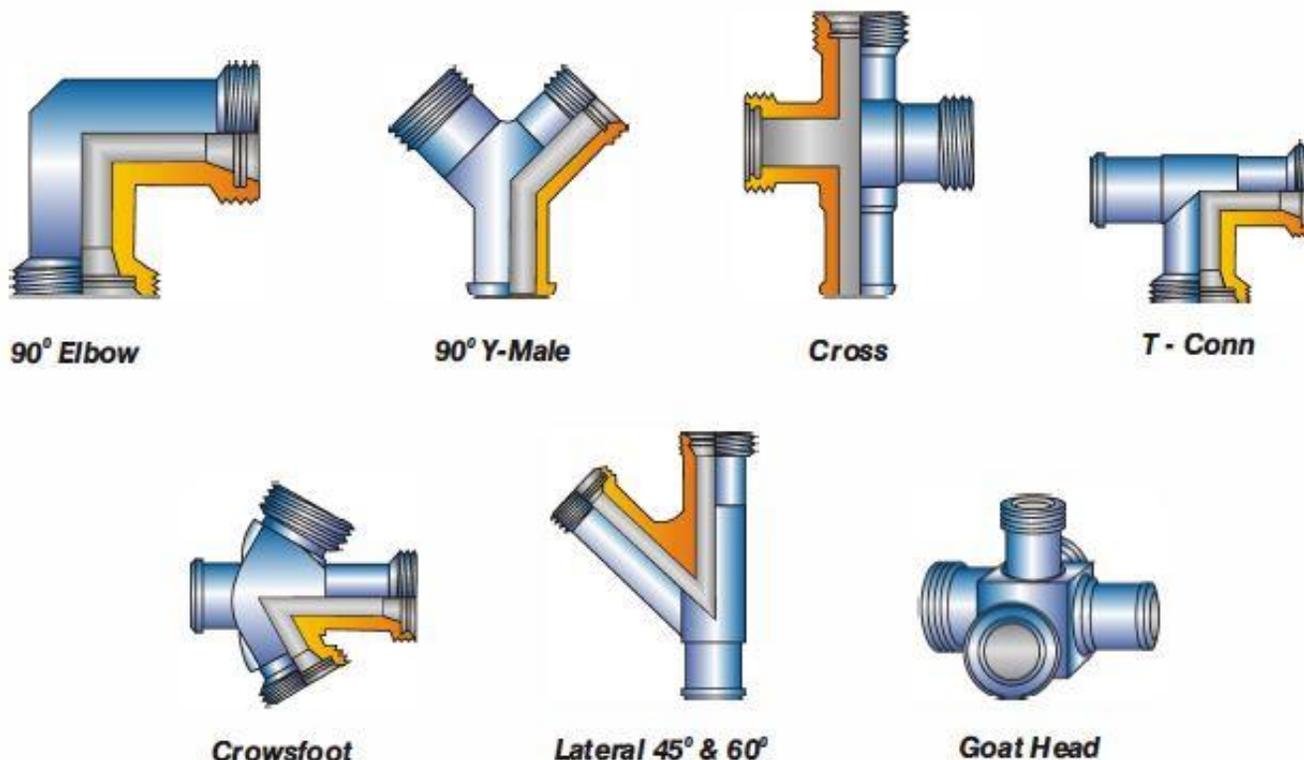
APT MANUFACTURES A QUALITY LINE OF HIGH PRESSURE INTEGRAL/FABRICATED UNION CONNECTIONS WITH UNIONS IN VARIOUS CONFIGURATIONS AND SIZES FROM 1 "TO 4" AND IN PRESSURE RATINGS UP TO 20,000 PSI CWP. THESE ITEMS ARE MANUFACTURED FROM HIGH STRENGTH ALLOY STEEL FORGINGS AND FULLY HEAT TREATED UNDER CONTROLLED CONDITIONS TO ASSURE UNIFORM QUALITY THROUGHOUT. AVAILABLE IN COMBINATIONS MALE BY MALE, MALE BY FEMALE TO SUIT VIRTUALLY ANY INSTALLATION.

The type of connections that APT manufactures are:

- a. Cross, Elbows, Tees and Wyes.
- b. 45° and 60° Laterals
- c. Crows foot
- d. Goat Head.

Recommended Service:

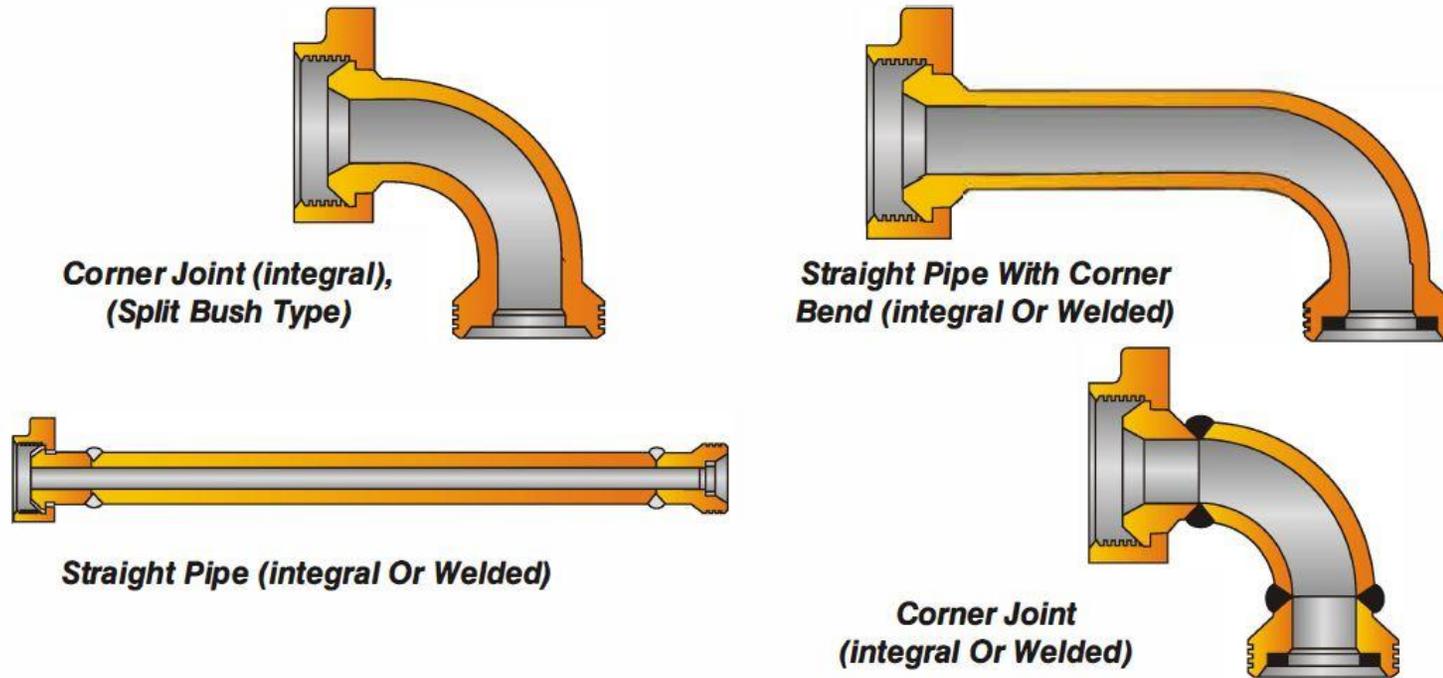
High Pressure Discharge Lines, Auxiliary Flow Lines, Temporary Flow Lines, Cementing and Circulating Lines, Well Testing Lines and other High Pressure applications.



INTEGRAL/WELDED UNION END FITTINGS

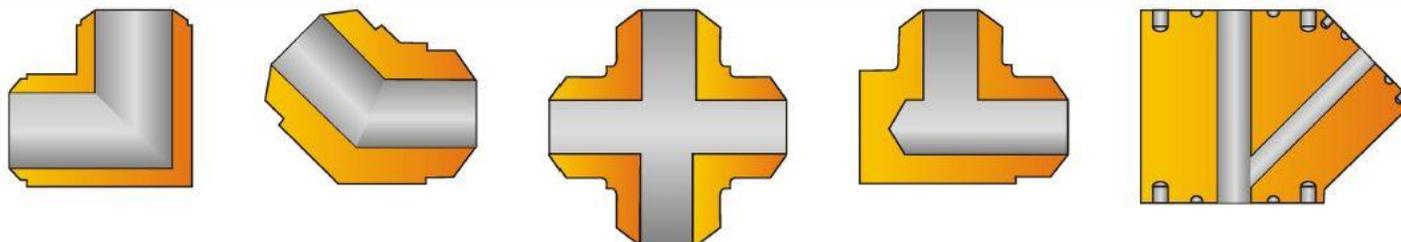
CORNER JOINT & STRAIGHT PIPE

Size: 1" To 6" Upto W.P 15,000 PSI, T.P 22,500 PSI For Standard & Sour Service



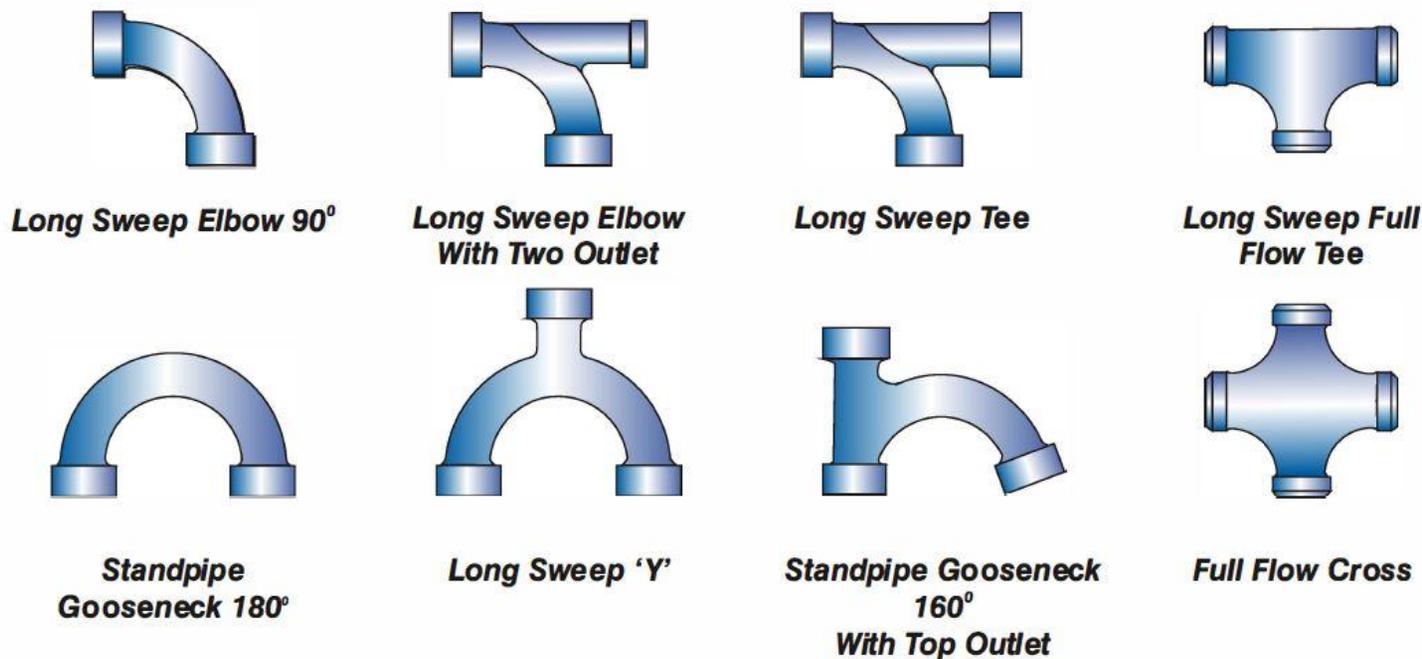
BLOCK TYPE FITTINGS (WELDED & STUDDED FLANGED TYPE)

**Block Type Fittings (Welded & Studded Flanged Type)
 (Up To 30,000 PSI Test Pressure In Any Sizes)**



MANIFOLD FITTINGS (THREADED, BUTT WELDED & SOCKET WELDED)

**Manifold Fittings (Threaded, Butt Welded & Socket Welded)
 (Up To 10,000 PSI Test Pressure, Sizes: 2", 3", 4", & 5")**



PUP JOINTS

APT MANUFACTURES PUPJOINTS WITH INTEGRAL HAMMER UNION END CONNECTIONS. THIS ENABLES FASTER, EASIER MAKE-UP AND BREAK-OUT OF TEMPORARY FLOW LINES

- Integrally forged hammer lug union end connections eliminate welding or threading
- Lightest pup joint available for fast, easy handling
- Available in butt weld, integral, threaded LPT and NPST
- Sizes from 2" to 4". Available in length up to 12 feet while threaded / butt weld is available up to 20 feet
- Available in 6,000 to 20,000 PSI pressure rating
- All products Manufactured from forged steel which meets ASTM and AISI standards
- Available in both standard and H2S service
- Available in stock at distribution center in Houston, Oklahoma and Midland



LUG

FRAC HEAD

APT MANUFACTURES FRAC HEAD APPLIED IN THE HIGH PRESSURE AND HIGH FLOW RATE FRACURIG OPERATION OF DEEP WELL BELOWING 15,000 PSI, AND WITH FEATURES OF COMPACT STRUCTURE, CONVENIENT OPERATION, HIGH PRESSURE RESISTANCE AND ABRASIOON RESISTANCE.

- | | |
|---|--|
| <ul style="list-style-type: none"> • Pressure: 10,000 ~ 20,000 PSI • Main Bore Size: 4-1/16" ~ 7-1/16" • Side Outlet Size: 4-1/16" • Material Class: AA, BB, CC, DD, EE, FI • Temperature Class: P~U (-20 F~ 250 I | <ul style="list-style-type: none"> • Product Specification Level: PSL1~3 • Product performance Requirement: PR1~2 • Fracturing Head Outlet Connection: Union Connection |
|---|--|



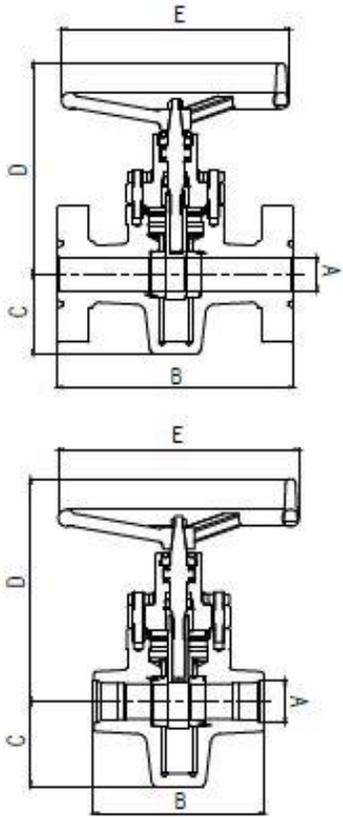
GATE VALVE: EXPANDING STYLE; SLAB STYLE

SG-10 SLAB GATE VALVE

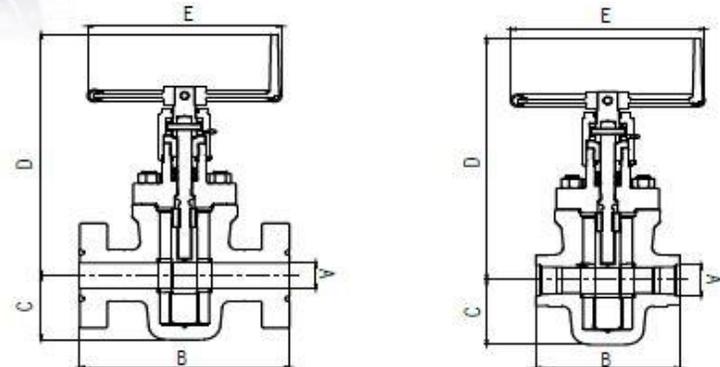
With reliable performance and double direction sealing structure, SG-10 slab gate valve can perform well when used in high pressure service condition. In addition, it can be used in oil filed wellhead, X-maxi tree and manifold system where pressure is in range of 2,000 psi to 5,000 psi.

DESIGN SPECIFICATION

Standard SG-10 gate valve can meet requirements in API 6A and API 6D SSV. The previous expanding wedge is replaced by rigid flat wedge. The medium, H₂S material can be used in accordance with the latest NACE MR-01-75 specification.



- Casting steel valve body/forged valve bonnet
- Low operation torque
- Metal to metal valve body/valve bonnet seal
- Metal to metal wedge/valve seat seal
- Add lubricant nozzle to realize maintenance
- Wedge guidance design can lubricate the wedge and protect the surface of wedge
- Hydraulic Actuator and pneumatic Actuator designed to realize automatic operation
- Simple and reliable structure, low cost
- Flange or thread connection



CHOCK VALVE

APT EXTERNAL SLEEVE CONTROL CHOKE

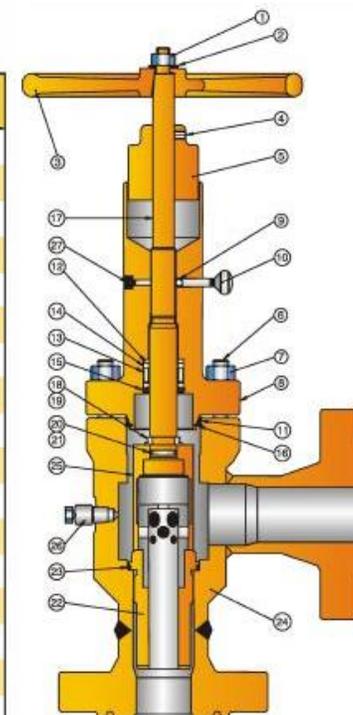
APT external sleeve control chokes minimize erosion and improve flow Characteristics suitably for erosive service and under high pressure drop, with sand concentration. It applies the principle of "flow impingement" to dissipate and contain the destructive forces of cavitation, within the heavy duty thick walled cage of tungsten carbide.

Other features:

- Positive Choke Valve, Needle Adjustable Choke Valve, Cage-Type Choke Valve, Plug-Type Choke Valve, H2 Adjustable Choke Valve Available
- Spring loaded pressure energized stem seal
- Field proven metal bonnet seal
- Dependable positive shut-off
- Nominal Diameter: 2-1/16" to 9"
- Working Pressure: 2,000 to 20,000 PSI
- Working Medium: Petroleum, Natural Gas, Mud, Gas Containing H₂S and CO₂.
- Working pressure: K~X
- Material Class: AA, BB, CC, DD, EE, FF, HH
- Product Specification Level: PSL 1~4
- Performance Requirement: PR1~2

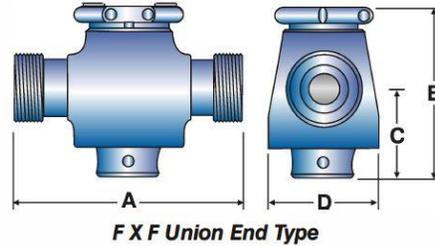
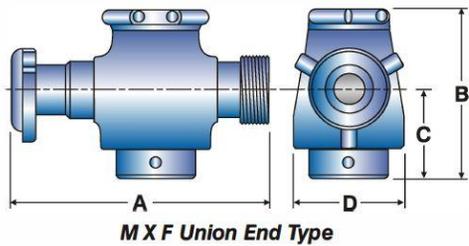


Size & WP	Max Orifice Dia
2.1/16 x 2000	25.4 mm
2.9/16 x 2000	50.8 mm
3.1/8 x 2000	50.8 mm
4.1/16 x 2000	76.2 mm
2.1/16 x 3000	25.4 mm
2.9/16 x 3000	50.8 mm
3.1/8 x 3000	50.8 mm
4.1/16 x 3000	76.2 mm
2.1/16 x 5000	25.4 mm
2.9/16 x 5000	50.8 mm
3.1/8 x 5000	50.8 mm
4.1/16 x 5000	76.2 mm
2.1/16 x 10000	25.4 mm
2.9/16 x 10000	50.8 mm
3.1/16 x 10000	50.8 mm
2.1/16 x 15000	25.4 mm
3.1/16 x 15000	50.8 mm



External Sleeve Control Choke

PLUG VALVES

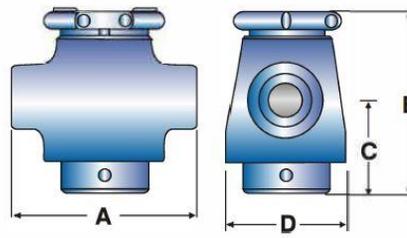


A. SPECIAL DESIGN FEATURES

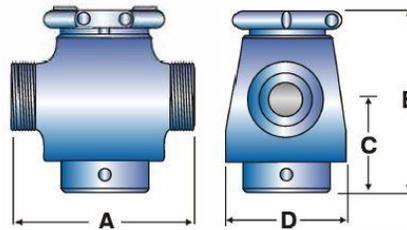
- 1.APT valve bodies are made from alloy steel forgings which are designed to variety of end connections to be integrally machined.
- 2.APT plug and inserts are designed to resist abrasion and corrosion.
- 3.APT valves can be easily adopted for hydraulic or pneumatic Actuation. These configurations are designed for integration with complete manifold systems.
- 4.We Manufacture in compliance with API-6A & API-01.
- 5.Our range is up to 15000 PSI WP.

B. OPERATING PRINCIPLE

- 1.The plug rotates 90° (1 /4 turn) for rapid full open or close operation. This reduces erosion due to throttling Option.
- 2.To ensure a uniform clamping options for the initial pressure seal, the valve body is tapered.
- 3.To ensure a continuous seal becoming more ef fictive as' differential pressure increases, the plug and inserts "float" downstream with pressure differential caused by the initial seal.
- 4.Relationship between the seal and the bearing areas is such that the torque required to operate the valve is minimized.
- 5.To eliminate the need for thrust bearing to reduce friction, the plug is balanced by identical stem seals



L.P Female Type (threaded)



L.P Male Type (threaded)

VALVE DESCRIPTION	PART NOS	DIMENSION				W.P PSIG	APPROXIMATE WEIGHT (lbs)
		A±1	B±1	C±1	D±1		
1" x 2" LP FEMALE	40000500	8.1/2	9.1/4	4.9/16	5.3/8	6000 10000	39
1" x 2" LP MALE	40000400	9.0	9.1/4	4.9/16	5.3/8	6000 10000	40
1" x 2" 1502 UNION	40000300	10.9/16	9.1/4	4.9/16	5.3/8	6000 10000 15000	60
2" x 2" LP FEMALE	40000200	8.1/2	10.5/8	5.1/2	5.3/8	6000 10000	61
2" x 2" 1502 UNION	40000100	13.7/8	10.5/8	5.1/2	7.1/8	6000 10000 15000	90
3" x 3" LP FEMALE	40000600	11.1/8	13.0	7.1/8	9.3/8	6000 10000	148
3" x 3" 1502 UNION	40000700	17.0	13.0	7.1/8	9.3/8	6000 10000	188

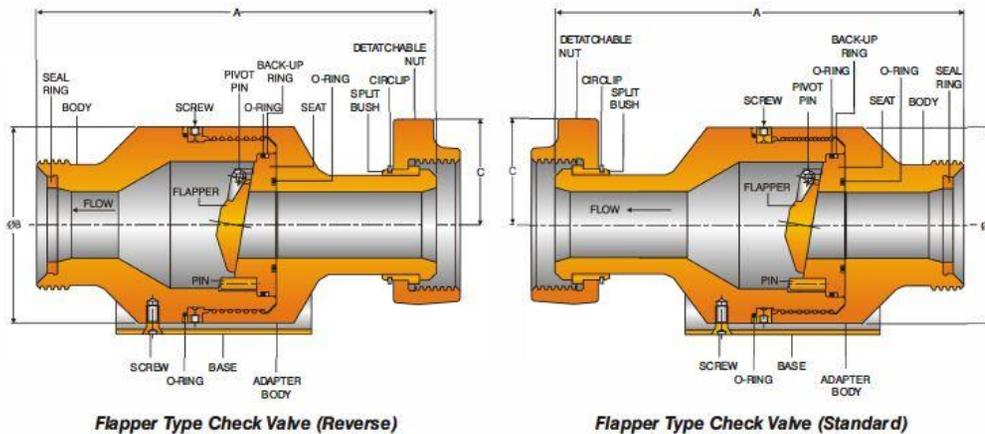
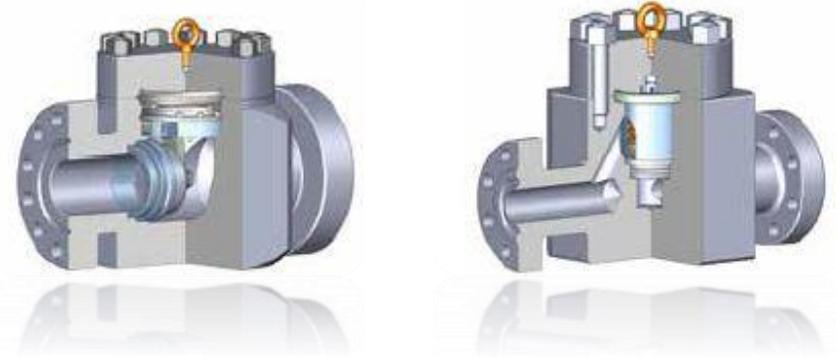
- All dimensions are in inches.
- Special plug valve can be provided to suit customer requirements.

CHECK VALVE

APT VALVES ARE DESIGNED AND MANUFACTURED PRIMARILY FOR USE IN PORTABLE AND TEMPORARY FLOW LINES AND ARE USED TO ISOLATE WELL-SERVING EQUIPMENT FROM HIGH PRESSURE TREATING FLUIDS DURING FRACUTRING APPLICATIONS. TOP ENTRY DESIGNS ALLOW EASY AND RAPID REPLACEMENT OF ITS VALVE SEAT AND FLAPPER WITHOUT BREAKING ANY CONNECTION. ALL CHECK VALVES HAVE A UNIQUE IDENTIFYING NUMBER AND ARE SUPPLIED WITH FULL MATERIAL TRACEABILITY AS STANDARD.

Standard Specifications:

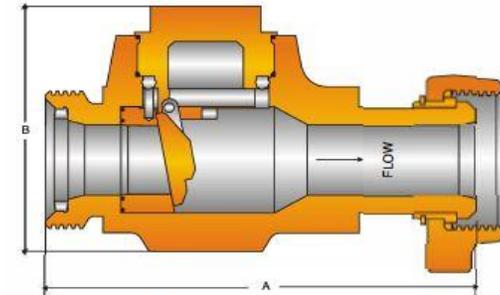
- 2" nominal bore size
- Standard service applications
- Maximum CWP up to 15,000 PSI
- Comes standard with fig 1502 female and male end connections



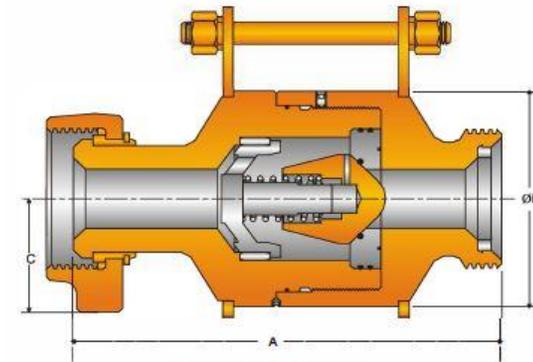
Flapper Type Check Valve					
NOMINAL SIZE	A (INCH)	ØB (INCH)	C (INCH)	WEIGHT (LBSF)	
				STANDARD	REVERSE
2" x Fig. 1502 (MxF)	10.1	7.0	3.8	88	88
3" x Fig. 1502 (MxF)	15.6	8.1	4.4	121	121
4" x Fig. 1502 (MxF)	22.7	12.2	-	385	385

Top Entry Check Valve			
NOMINAL SIZE	A (INCH)	B (INCH)	WEIGHT (LBS)
3" x Fig. 1502 (MxF)	15.66	9.60	115
4" x Fig. 1502 (MxF)	19.76	12.00	275

Dart Type Check Valve				
NOMINAL SIZE	A (INCH)	ØB (INCH)	C (INCH)	WEIGHT (In LBS)
2" x Fig. 1502 (MxF)	14.0	6.9	3.74	112.5
3" x Fig. 1502 (MxF)	15.4	8.3	4.5	144.8



Top Entry Check Valve



Dart Type Check Valve

SAFETY VALVE

APT EMERGENCY RELEASE VALVES (SAFETY VALVES), WITH SELF-RESET FUNCTION, CAN AUTOMATICALLY RELEASE PRESSURE WHEN THE ACTUAL PRESSURE EXCEEDS THE PRESET VALUE.

Its release mechanism is of spring-loaded ball and seat, to protect personnel and high-pressure system. The valve of pressure release can be adjusted from 14Mpa to 140Mpa through a top adjustment bolt. The valves can be installed on high pressure fluid control lines, reciprocal plunger pumps or pressure vessels with maximum working pressure of 105Mpa or 140Mpa. When the system pressure exceeds the preset value, it can open the valve, after it drops, the valve will automatically close. Therefore, the safety and personnel and equipment can be guaranteed.

Features:

- Union Connection makes installation and dismounting convenient
- The automatic open/close of valve is realized through a spring without shutting down the system for protection, with a better performance than shear type safety valve.
- The preset value can be adjusted
- Pneumatic Diaphragm, Pneumatic Piston, Hydraulic Single Piston, Hydraulic Double Piston, Electric, Self-contained type available

Size	Working pressure Mpa/Psi	Overall Dimensions (mm)			Connection Type	Environment
		L	A	H		
2"	105/15000	366	154	154	FIG 1502 (FXM)	STANDARD
2"	140/20000	376	166.5	154	FIG 1502 (FXM)	STANDARD



- Nominal diameter: 2-1/16" ~ 7-1/16"
- Working Pressure: 2,000 ~ 20,000 PSI
- Working Medium: Petroleum, Natural Gas, Mud, Gas Containing H₂S and CO₂
- Working Temperature: P~U
- Material Class: AA, BB, CC, DD, EE, FF, HH
- Product Specification: PSL 1~4
- Performance Requirement: PR2 Class I or Class II

BUTTERFLY VALVE

APT MANUFACTURES BUTTERFLY VALVE ACCORDING TO API 6D STANDARD. OUR DESIGN OFFERS EASY MAINTENANCE AND INDUSTRY LEADING PERFORMANCE IN HIGH AND LOW PRESSURE.

Features

- Available with low pressure, cryogenic, metal to metal and fire safe seat designs
- Rugged control or isolation valve for abrasive and harsh chemical applications.
- Wafer lug or grooved connections
- Press-to-connect ends selection
- Broad range of sizes
- Lug or wafer types
- Ductile iron, cast iron, CPVC materials
- Lead-free & fire protection





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Your Reliable Business Partner

Dream Big, Do Great Things.

Let's Make It Happen!