

SPECIAL ALLOY VALVES

Titanium & Titanium Alloy Valves

Zirconium & Zirconium Alloy Valves

Nickel & Nickel Alloy Valves

Hastelloy Alloy Valves

Inconel Alloy Valves

Incoloy Alloy Valves

Monel Alloy Valves

Duplex Steel Valves

PASCO

Brief introduction

The PASCO Facility has developed into a provincial high-tech enterprise, which integrates with research, design, manufacture, sales and service. The factory has 158 workers; including 26 technicians, 100 sets production equipment.

Up to now, the PASCO Plant has gained the ISO9001, ISO14001, OHSAS18001, API6D etc., International certificates.

PASCO Valves is a leading company specialized in producing special material valves. The main products are titanium & titanium alloy series valves, nickel & nickel alloy



PASCO

Solution for Anti-corrosive Valve

PASCO, famous for its excellent design, high-quality and good service, specializes in producing special alloy valve.

Valves are delivered worldwide to the petro-chemical industry, oil and gas production, offshore and on shore pharmaceutical industry power generation and other industrial processes.

Titanium, Zirconium, Nickel,
Hastelloy, Inconel, Incoloy, Monel,
904L, Alloy20, Duplex steel and other corrosion resistant alloys.



Petro-Chemical

Utilities
Potable Water
PTA Process
Acetic Acid Process



Offshore Oil&Gas

Seawater Injection
Oil/Water Separation
Fire Fighting
Cooling System
Ballast System



FPSO/FSO

Fire Fighting
Ballast System
Cooling System
Oil/Water Separation
Sea Chests



Continuous Development

Ongoing investment in advanced CNC machine facilities, computerized systems and the latest material technology always enables PASCO valves to anticipate and meet the needs of its served industries. Looking ahead, PASCO Valves will provide first-class valve solutions to meet customers' requirements.



LNG

Fire Water Ring Main
Cooling System
Ballast Water Treatment
Utilities



Power Generation

Power Generation
Sea Water Inlets
Cooling System
Desalination
Desulfurize
Utilities



Naval Marine

HVAC
Ballast System
Chilled Water
Grey Water
Black Water
Fuel System



↓ Contract evaluation



↓ Design evaluation



↓ Product design



↓ Valve foundry



↓ Valve vacuum foundry



Enter inspection



↑ Vacuum heat treatment



↑ Cast sand



↑ Polish



↑ Chemical analysis



↑ Spectral test



Wall thickness test



↓ Mechanical analysis



↓ Metallographic Analysis



↓ Hardness test



↓ Ultrasonic non-destructive inspection



↓ X-ray flaw detection test



Supersonic spray



↑ Parts processing



↑ CNC driller



↑ CNC machining



↑ Machining center



↑ Vertical lather machining



Boring machine machining

PASCO valves functional quality management system complies with ISO 9001 and API 6D requirements to ensure the production process maintains international safety and quality standards.

PASCO handles the complete production process from start to finish: design, manufacture, test and sale. Products are rigorously tested and certified for quality assurances and is carried out with safe highest quality standards to be one of the best corrosion resistant valve manufactures in the global market.



Material Group		Forgings	Castings	Bars
		Spec.No.Grade	Spec.No.Grade	Spec.No.Grade
Titanium alloy	Titanium			
	Titanium Gr2	B381 Gr F2	B367 Gr C2	B348 Gr 2
	Titanium Gr3	B381 Gr F3	B367 Gr C3	B348 Gr 3
	Titanium alloy			
	Titanium Gr5	B381 Gr F5	B367 Gr C5	B348 Gr 5
	Titanium Gr6	B381 Gr F6	B367 Gr C6	B348 Gr 6
	Titanium Gr12	B381 Gr F12	B367 Gr C12	B348 Gr 12
	Titanium Pd7B	B381 Gr F7	B367 Pd7B	B348 Gr 7
Nickel base alloy	Ni			
	Nickel200	B160 N02200	A494 CZ100	B160 N02200
	Nickel201	B160 N02201		B160 N02201
	Ni-alloy			
	Monel 400	B564 N04400	A494 M35-1/M35-C	B164 N04400
	Monel K500	B885 N05500		B885 N05500
	Inconel 600	B564 N06600	A494 CY40	B166 N06600
	Inconel 625	B564 N06625	A494 CW6MC	B446 N06625
	Incoloy 800	B564 N06800	A351 CT15C	B408 N06800
	Incoloy 825	B564 N06825	A494 CU5MCuC	B425 N06825
	Hastelloy B	B335 N10001	A494 N12MV	B335 N10001
	Hastelloy B-2	B462 N10665	A494 N7M	B335 N10665
	Hastelloy C276	B574 N10276	A494 CW12MW/ CW6M	B574 N10276
	Hastelloy C-22	B574 N06022	A494 CX2MW	B574 N06022
	Hastelloy C-4	B574 N06455	A494 CW2M	B574 N06455
Zirconium	Hastelloy G	B462 N06007		B581 N06007
	Hastelloy G30	B462 N06030		B581 N06030
	Zirconium702	B493 R60702	B752 702C	B550 R60702
	Zirconium705	B493 R60705	B752 705C	B550 R60705
	Iron base alloy	Duplex stainless steel		
Duplex S31803		A182 F51(2205)	A995 4A(CD3MN)	A276 S31803
Super-Duplex S32750		A182 F53(2507)	A995 5A(CE3MN)	A276 S32750
Super-Duplex S32760		A182 F55	A995 6A(CD3MWCuN)	A276 S32760
Super austenitic stainless steel				
904L		A182 F904L		B649 N08094
254SMO		A182 F44	A351 CK3MGuN	A276 S31254
AL-6XN		B462 N08367	A351 CN3MN	B688 N08367
austenitic stainless steel				
304		A182 F304	A351 CF8	A276 304
304L		A182 F304L	A351 CF3	A276 304L
316		A182 F316	A351 CF8M	A276 316
316L		A182 F316L	A351 CF3M	A276 316L
316Ti		A182 F316Ti		A276 316Ti
317		A182 F317	A351 CG8M	A276 317
317L		A182 F317L	A351 CG3M	A276 317L
347		A182 F347	A351 CF8C	A276 347
310		A182 F310	A351 CK20	A276 310
310S		A182 F310S	A351 CK20	A276 310S
Alloy 20		B462 N08020	A351 CN7M	B473 N08020
Carbon steel				
A105/WCB		A105/A105N	A216WCB	A105

Material Group		Characteristics	Typical application
Titanium alloy	Titanium		
	Titanium Gr 2	High resistance to pitting, crevice corrosion resistance,High resistance to stress corrosioncracking, corrosion fatigue and erosion.	Chemical processes ,oil refining and Pulp and paper mills equipment.
	Titanium Gr 3		
	Titanium alloy		
	Titanium Gr 5	Higher strength with (Al,Mo, Sn ,V) . Higher corrosion resistance in reductio acid with Pt content.	Chemical processes ,oil refining and Pulp and paper mills equipment.
	Titanium Gr 6		
	Titanium Gr 12		
	Titanium Pd7B		
Nickel base alloy	Nickel		
	Nickel200	Superior corrosion resistance to carbon acid solution such as soda calcium carbonate.	Alkali salt and concentrated salt Chemical and oil processes equipm ent.
	Nickel201		
	Ni-alloy		
	Monel 400	Superior corrosion resistance under reducing environment, and stress corrosion cracking resistance.	Chemical processes handling alkali chloride and boiled acid, also for oil refining.
	Monel K500		
	Inconel 600	Superior corrosion resistance to pure water and alkali under oxidizing and high temperature environment; also resistance to stress corrosion cracking by Cl ions.	Chemical and food processes.
	Inconel 625	Superior corrosion resistance under oxidizing and high temperature environment; and superior erosion resistance.	Chemical processes in general.
	Incoloy 800	Superior mechanical strength at high temperature and resistance to carburizing with stabilized structure to be used for long duration; also superior corrosion resistance under humid environment.	Petrochemical and carburizing processes.
	Incoloy 825	Superior corrosion resistance to sulfuric acid and phosphoric acid;also resistance to stress corrosion cracking and crevice corrosion.	Chemical processes in general.
	Hastelloy B	Resistance to hydrochloric acid of any concentration up to boiling point , resistance to reducing chloride such as sulfuric acid, phosphoric acid and copper chloride, resistant to high temperature but not suitable under highly oxidizing environment.	Corrosion resistance processes handling chlorine, sulfuric acid, phosphoric acid, acetic acid and hydrogen chloride gas, also for processes handling chloridewith high concentration at high temperature.
	Hastelloy B-2		
	Hastelloy C276	Superior resistance under oxidizing environment, such as wet chlorine gas and chlorine dioxide; also resistance to organic and chloride such as acetic acid and seawater.	Processes handling oxidizing acid, formic acid,acetic anhydride and seawater, also for chemical processes handling fluoride.
	Hastelloy C-22	Higher intergranular corrosion resistance than HastelloyB.	Acetic acid, chemical manure, agricultural pesticide processes.
	Hastelloy C-4		
	Hastelloy G		
	Hastelloy G30	Superior corrosion resistance to mixed acid of phosphoric acid and oxidizing acid.	Processes handling sulfuric acid and phosphoric acid.
Zirconium	Zirconium702	High resistance to pitting, crevice corrosion resistance,High resistance to stress corrosion cracking, corrosion fatigue and erosion. Good in nearly all cases, excellent for high temperature acids.	Nuclear cooling processes, chlorhydric acid ,dilute sulphuric acid and alkali processes equipment.
	Zirconium705		
Iron base alloy	Duplex stainless steel		
	Duplex S31803	High cracking corrosion resistance to chloride environment,High corrosion resistance to dilute sulphuric acid and phosphoric acid.	Pulp and paper mills, chemical processes, and seawater service.
	Super-Duplex S32750	Higher stress corrosion cracking resistance than austenitic stainless steel, Higher weldability than ferritic stainless steel and higher acid,pitting and crevice corrosion resistance than CF3M with higher mechanical strength.	Salt manufacturing processes, seawater desalination, and seawater service under chloride environment and dilute sulfuric acid, phosphoric acid formic acid acetic acid and urea production under acid environment also for chemical processes.
	Super-Duplex S32760		
	Super austenitic stainless steel		
	904L	The most superior acid and alkali resistance among all austenitic stainless steel and superior pitting and crevice corrosion resistance to chloride solution as seawater.	Chemical processes for highly concentrated chloride, flue gas desulfurization, acid and alkali reactor,salt manufacturing processes and seawater desalination.
	254SMO		
	AL-6XN		
	Austenitic stainless steel		
	304	Super corrosion resistance to nitric acid phosphoric acid and organic acid.	Pulp and paper mills, chemical processes, and seawater service.
	304L	Higher intergranular corrosion resistance than CF8.	
	316	Higher pitting corrosion resistance than CF8.	
	316L	Higher intergranular corrosion resistance than CF8M.	
	316Ti	Higher intergranular corrosion resistance than CF3M with T.	
	317	Higher pitting and crevice corrosion resistance than CF8.	Power generation, seawater service and oil pipeline.
	317L		
	347	Higher intergranular corrosion resistance than CF8M, carbide stablized with Nb.	Pulp and paper mills, chemical processes, and seawater service.
	310	Sulfurous acid and dilute sulphuric acid with Higher Cr Ni content.	Chemical processes.
	310S		
	Alloy 20	Superior corrosion resistance to nitric acid of any concentration at 60℃ and lower, and to heated dilute oxide.	Chemical processes handing acetic acid alkali,dilute hydrochloricacid, dilute hydrofluoric acid, dilute sulphuric acid and phosphoric acid, also for oil refining.
	Carbon steel		
	A105/WCB	For water, oil, steam and non-corrosive media.	Oil and nature gas equipment.

PASCO

BALL VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB
 Connecting type: Flanged, Wafer, SW, BW, Thread type, etc.
 Pressure rating: Class 150 Lb~2500 Lb, 1.0 MPa~42.0 MPa, JIS10K~40K
 Size range: NPS3/8" ~32", DN8~DN800
 Operation: Handle, Gear, Electric, Pneumatic operated.

Design Feature:

- 1pc-2pc-3pc
- Stem, Seat grease feeding system
- Full bore /reduced bore
- Cavity pressure automatic relief structure
- Fire-safe design, Anti-static device
- Double Jam and release structure
- Blow-out proof stem
- ISO 5211 mounting pad
- Anti-leakage design packing & packing box
- Optional locking device



Alloy 20 ball valve



C4 ball valve



Duplex steel ball valve



Duplex steel metal seal ball valve



Pure nickel ball valve



Hastelloy ball valve



Monel ball valve



Inconel ball valve



Titanium metal seal type ball valve



Titanium ball valve



Titanium steam jacket ball valve



Zirconium ball valve



Pneumatic V-Regulating ball valve



Titanium pneumatic type ball valve



Titanium electric type three-way ball valve



Titanium trunnion ball valve

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GATE VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB
Connecting type: Flanged, SW, BW, Thread type, etc.
Pressure rating: Class150 Lb~2500 Lb, PN1.0 MPa~42.0 MPa, JIS10K~40K
Size range: NPS1/2" ~30", DN15~DN750
Operation: Hand wheel, Gear, Electric, Pneumatic operated.

Design Feature:

- Flexible /solid wedged disc•
- Full bore/ reduced bore •
- Bolted bonnet /welded bonnet •
- Renewable seat/ integral seat •



Hastelloy gate valve



Inconel gate valve



Alloy 20 gate valve



Gate valve



Monel gate valve



Titanium gate valve



Titanium knife type gate valve



Titanium gate valve



Titanium steam jacket gate valve

PASCO

GLOBE VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB
 Connecting type: Flanged, SW, BW, Thread type, etc.
 Pressure rating: Class150 Lb~2500 Lb, PN1.0 MPa~42.0 MPa, JIS10K~40K
 Size range: NPS1/2" ~16", DN15~DN400
 Operation: Hand wheel, Gear, Electric, Pneumatic operated.

Design Feature:

- Full bore/ reduced bore
- Bolted bonnet /welded bonnet
- Renewable seat/ integral seat
- Conical surface /flat surface



Hastelloy needle valve



Hastelloy globe valve



Titanium globe valve



Titanium globe valve



Pure nickel globe valve



Pure nickel globe control valve



Titanium big size globe valve



Zirconium globe valve



Zirconium globe control valve

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CHECK VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB
Connecting type: Flanged, Wafer, SW, BW, Thread type, etc.
Pressure rating: Class150 Lb~2500 Lb, PN1.0 MPa~42.0 MPa, JIS10K~40K
Size range: NPS1/2" ~20", DN15~DN500

Design Feature:

- Lift / Swing / Double disc type
- Full bore / reduced bore
- Bolted bonnet/ welded bonnet
- Renewable seat /integral seat



Hastelloy check valve



Titanium butterfly type check valve



Inconel butterfly type check valve



Titanium vertical check valve



Pure nickel vertical check valve



Monel check valve



Titanium check valve



Titanium check valve



Stainless steel check valve

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BUTTERFLY VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB

Connecting type: Flanged, Wafer, SW, type, etc.

Pressure rating: Class150 Lb~300 Lb, PN1.0 MPa~4.0 MPa, JIS10 K-20 K

Size range: NPS3"~40", DN15~100

Operation: Handle, Gear, Electric, Pneumatic operated.

Design Feature:

- Vertical central line structure / Double eccentric / Triple eccentric
- Zero leakage
- Wear resistant when closing
- Blow-out proof stem
- ISO 5211 mounting pad



Desulfuration butterfly valve



Desulfuration butterfly valve



Desulfuration butterfly valve



Titanium lug type butterfly valve



Hastelloy lug type butterfly valve



Hastelloy butterfly valve



Titanium butterfly valve



Steam jacket butterfly valve



Titanium wafer type butterfly valve

PASCO

PLUG VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB
Connecting type: Flanged, SW, BW, Thread type, etc.
Pressure rating: Class150 Lb~600 Lb, PN1.0 MPa~10.0 MPa, JIS10K~40K
Size range: NPS1/2" ~12" , DN15~300
Operation: Handle, Gear, Electric, Pneumatic operated.

Design Feature:

- Soft sealing / metal sealing•
- Full bore / reduced bore•
- 360°C bushing / zero leakage•
- Adjusting bolt can balance the pressure •



Zirconium plug valve



Zirconium plug valve



Titanium plug valve



Inconel plug valve



Pure nickel plug valve



Titanium plug valve



Hastelloy sampling valve



Hastelloy plug valve



Titanium plug valve

PASCO

DISCHARGE VALVES

Design standard: API, ASME, EN, ISO, JIS, DIN, BS, GB

Connecting type: Flanged, SW type, etc.

Pressure rating: Class150 Lb~1500 Lb, PN1.0 MPa~25.0 MPa, JIS10 K~40 K

Size range: NPS1/2"~12", DN15~300

Operation: Handle, Gear, Electric, Pneumatic operated.

Design Feature:

- On expansion
- Under expansion
- Crystal proof
- Blow-out proof stem



Titanium discharge valve



Titanium steam jacket discharge valve



Titanium discharge valve



Hastelloy discharge valve



Hastelloy pneumatic discharge valve



Titanium discharge valve



Titanium discharge valve

PASCO

FITTING SERIES

Ball, Stem, Disc, Flange
Elbow, Pipe Fittings



Titanium ball



Titanium stem



Ceramics ball



Hastelloy disc



Titanium/nickel/zirconium flange



Pure nickel strainer



Titanium/nickel/zirconium elbow



Titanium/nickel/zirconium elbow



Titanium/nickel/zirconium three way

Engineering Data— Soft Seat Material

Seat

Properties		Nylon	Teflon (unfilled)	PEEK	Delrin	Polyphenylene
Temperature Range °F		-30~250	-100~425	-60~500	-50~200	-50~450
Pressure Rating		900~1500	150~600	150~1500	150~1500	150~300
Mechanical Property	Hardness	D75	D58	D85	R-120	D80
	Tensile Strength (psi)	8700(min)	2100~2400	11000(min)	6600~7500 (min)	2000~2350 (min)
	Elongation (%)	250~290	250	30(min)	220	275~310
Physical Property	Specific Gravity	1.04	2.2	1.3	1.41	1.9~2.1
	Water Absorption (%)	0.2	<0.01	0.18	0.15	0.1~0.2
	Radiation	5*10 ⁵ RAD	10 ⁴ RAD	10 ⁵ RAD	107RAD	9*10 ⁶ RAD
Service Application		High pressure & Low temperature service	Chemical& Cryogenic service	High pressure & temperature service with steam in radiation environment	High pressure& Low temperature service	High temperature High Corrosion service

Sealing

Type	Viton®	EPDM	25% Glass Filled PTFE	NBR	Buna.N
Temperature range °F	-20~400	-60~300	-328~500	-50~300	-30~250
Service Application	1.85	---	2.24	1.2	1.31
Hardness	D75	D90	D65	D50	D90

Gasket

Type	Flexible Graphite	Spiral Wound 304/316+Graphite	Spiral Wound 304/316+PTFE
Temperature range °F	-328~500	-328~1000	-328~500
Service Application	100% Fire-safe	100% Fire-safe	Cryogenic High Corrosion
Hardness	0~14	0~14	0~14