VXE Series Ball Valves

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Submittal Data Sheet

Job or Customer: .....

Engineer: .....

Contractor: .....

Submitted by: ..... Date

Approved by: ..... Date

Order No: ..... Date

Specification: .....

The IPEX EasyFit VXE Series True Union Ball Valves represent the latest innovation in thermoplastic ball valve manufacturing technology. Developed in collaboration with Giugiaro Design, the VXE Series replaces the well received VX Series with new and cutting edge features and is designed for industrial, general purpose and O.E.M. applications. This valve features an ultra-compact double block design, and full port bi-directional operation. The true union design allows the valve to be easily removed from the piping system and be fully serviced. A threaded seat stop carrier provides improved seal integrity under tough service conditions while the EasyFit multifunction handle doubles as a tool for ball seat adjustment, and for tightening union nuts precisely.

VXE ball valves are part of our complete system of IPEX pipe, valves, and fittings, engineered and manufactured to our strict quality, performance, and dimensional standards.

< STANDARDS >

ASTM D1784
ASTM D2464
ASTM D2466
ASTM D2467
ASTM F437
ASTM F439
ASTM F1498

ANSI B1.20.1

Certified to NSF/ANSI 61-G

VALVE AVAILABILITY

BODY MATERIAL	PVC, CPVC
SIZE RANGE	1/2" through 6"*
Pressure	up to 232 psi
SEATS	Teflon® (PTFE)
SEALS	EPDM or FPM
END CONNECTIONS	Socket (IPS), Threaded (FNPT), Flanged (ANSI150)

* 4" with venturied ends

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IPEX by aliaxis

VXE Series Ball Valves

Submittal Data Sheet

Valve Selection

Size (inches)	Body Material	O-ring Material	IPEX Part Number			
			IPS Socket	FNPT Threaded	ANSI Flanged	Pressure Rating
1/2	PVC	EPDM	353001		353627	232 psi for socket or threaded
		FPM	353002		353637	
	CPVC	EPDM	353041		353651	
		FPM	353042		353661	
3/4	PVC	EPDM	353003		353628	
		FPM	353004		353638	
	CPVC	EPDM	353043		353652	
		FPM	353044		353662	
1	PVC	EPDM	353005		353629	
		FPM	353006		353639	
	CPVC	EPDM	353045		353653	
		FPM	353046		353663	
1-1/4	PVC	EPDM	353007		353630	
		FPM	353008		353640	
	CPVC	EPDM	353047		353654	
		FPM	353048		353664	
1-1/2	PVC	EPDM	353009		353631	
		FPM	353010		353641	
	CPVC	EPDM	353049		353655	
		FPM	353050		353665	
2	PVC	EPDM	353011		353632	150 psi for flanged
		FPM	353012		353642	
	CPVC	EPDM	353051		353656	
		FPM	353052		353666	
2-1/2	PVC	EPDM	353623	-	353633	
		FPM	353624	-	353643	
	CPVC	EPDM	353647	-	353657	
		FPM	353648	-	353667	
3	PVC	EPDM	353013	353017	353634	
		FPM	353014	353018	353644	
	CPVC	EPDM	353053	353057	353658	
		FPM	353054	353058	353668	
4	PVC	EPDM	353015	353019	353635	
		FPM	353016	353020	353645	
	CPVC	EPDM	353055	353059	353659	
		FPM	353056	353060	353669	
6	PVC	EPDM	353625	-	353636	
		FPM	353626	-	353646	
	CPVC	EPDM	353649	-	353660	
		FPM	353650	-	353670	

Body Material:

- ☐ PVC
- ☐ CPVC

Size (inches):

- ☐ 1/2
- ☐ 3/4
- ☐ 1
- ☐ 1-1/4
- ☐ 1-1/2
- ☐ 2
- ☐ 2-1/2
- ☐ 3
- ☐ 4
- ☐ 6

Seals:

- ☐ EPDM
- ☐ Fluoropolymer (FPM)

End Connections:

- ☐ Socket (IPS)
- ☐ Threaded (FNPT)
- ☐ Flanged (ANSI 150)

IPEX Part Number:

_____

VXE Series Ball Valves

Submittal Data Sheet

Valve Selection – Vented

Vented ball valves are used with volatile liquids such as Hydrogen Peroxide (H_2O_2) and sodium hypochlorite (NaClO) to relieve a potentially dangerous pressure build-up in the ball cavity, when the valve is closed.

Size (inches)	Body Material	Seal Material	IPEX Part Number			Pressure Rating
			IPS Socket	FNPT Threaded	ANSI 150 Flanged	
1/2	PVC	FPM	353031		–	232 psi for socket or threaded
	CPVC		353067		–	
3/4	PVC		353032		–	
	CPVC		353068		–	
1	PVC		353033		–	
	CPVC		353069		–	
1-1/4	PVC		353034		–	
	PP		353070		–	
1-1/2	PVC		353035		–	
	CPVC		353071		–	
2	PVC		353036		–	
	CPVC		353072		–	
2-1/2	PVC		353037	–	353063	
	CPVC		353073	–	353079	
3	PVC		353038	353040	353064	
	CPVC		353074	353076	353080	
4	PVC		353039	353061	353065	
	CPVC		353075	353077	353081	
6	PVC		353086	–	353066	
	CPVC		353029	–	353082	

Size (inches):

- ☐ 1/2
- ☐ 3/4
- ☐ 1
- ☐ 1-1/4
- ☐ 1-1/2
- ☐ 2
- ☐ 2-1/2
- ☐ 3
- ☐ 4
- ☐ 6

End Connections:

- ☐ Socket (IPS)
- ☐ Threaded (FNPT)
- ☐ Flanged (ANSI 150)

IPEX Part Number:

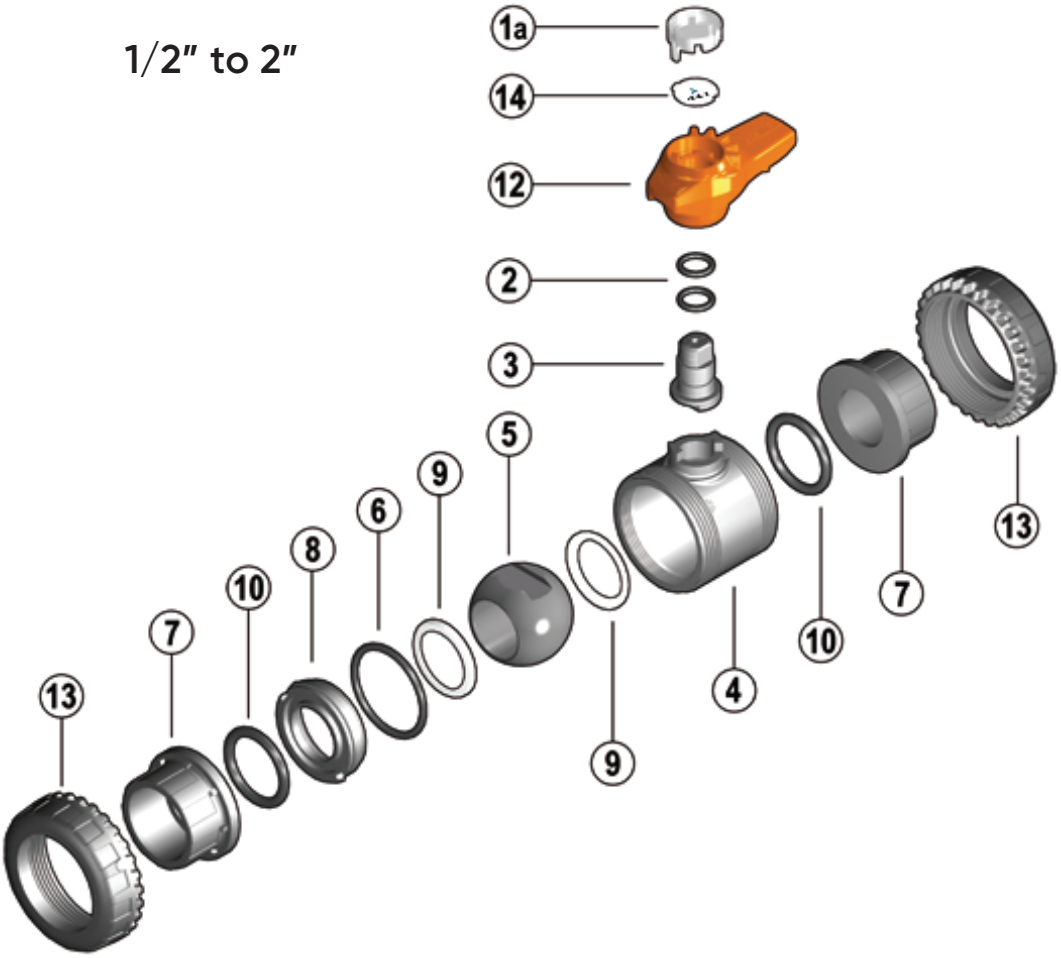
_____

VXE Series Ball Valves

Submittal Data Sheet

Components

1/2" to 2"



No.	Component	Material	Qty
1a	Transparent Service Plug	PVC	1
2*	Stem O-Ring	EPDM / FPM	2
3*	Stem	PVC / CPVC	1
4	Body	PVC / CPVC	1
5	Ball	PVC / CPVC	1
6*	Body Seal O-Ring	EPDM / FPM	1
7	End Connector	PVC / CPVC	2
8	Support for Ball Seat	PVC / CPVC	1
9*	Ball Seat	PTFE	2
10*	Socket Seal O-Ring	EPDM / FPM	2
12	Handle	PVC	1
13	Union Nut	PVC / CPVC	2
14	Tag Holder	PVC	1

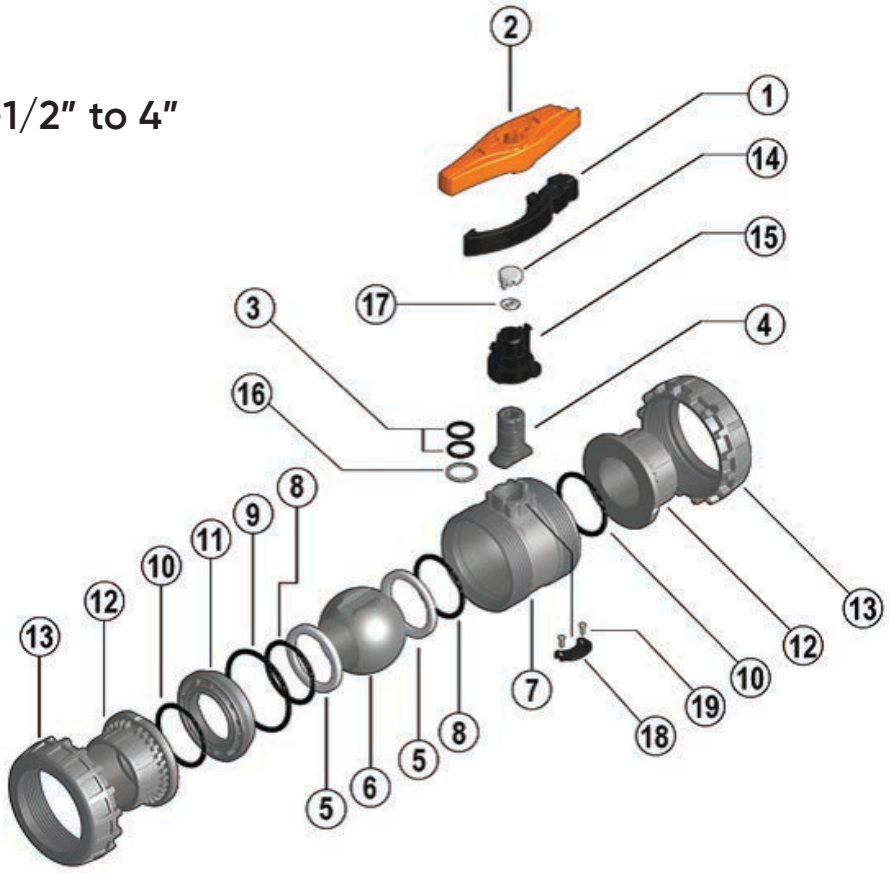
* Spare parts available.

VXE Series Ball Valves

Submittal Data Sheet

Components

2-1/2" to 4"



No.	Component	Material	Qty
1	Easyfit multifunctional Tool	GFPP	1
2*	Easyfit multifunctional Handle	PVC	1
3*	Stem O-rings	EPDM / FPM	2
4	Stem	PVC / CPVC	1
5	Ball Seat	PTFE	2
6*	Ball	PVC / CPVC	1
7	Body	PVC / CPVC	1
8	Ball Seat O-Ring	EPDM / FPM	2
9*	Radial Seal O-Ring	EPDM / FPM	1
10*	Socket Seal O-Ring	EPDM / FPM	2
11	Support for ball seat	PVC / CPVC	1
12	End Connector	PVC / CPVC	2
13	Union Nut	PVC / CPVC	2
14	Transparent Service Plug	PVC	1
15	Central Hub	PVC	1
16	Friction reducing bush	PTFE	1
17	Tag Holder	PVC	1
18	Tamper-proof plate	PVC	1
19	Self-tapping screw	SS	2

* Spare parts available.

Installation Procedures

1. For socket and threaded style connections, remove the union nuts (part #13 on previous page) and slide them onto the pipe. For flanged connections, remove the union nut / flange assemblies from the valve.
2. Please refer to the appropriate connection style sub-section:
   a. For socket style, solvent cement the end connectors (7 or 12) onto the pipe ends. For correct joining procedure, please refer to the section entitled, *"Joining Methods – Solvent Cementing"* in the IPEX Industrial Technical Manual Series, *"Volume I: Vinyl Process Piping Systems"*. **Be sure to allow sufficient cure time before continuing with the valve installation.**

   b. For threaded style, thread the end connectors (7) onto the pipe ends. For correct joining procedure, please refer to the section entitled, "Joining Methods – Threading" in the IPEX Industrial Technical Manual Series, "Volume I: Vinyl Process Piping Systems".

3. Open and close the valve to ensure that the ball seat support (8) is at the desired adjustment. If adjustment is required, ensure that the valve is in the closed position then remove the handle (12 or 2) from the valve stem. Line up the moldings on the handle wit the slots in the ball seat support. Tighten or loosen to the desired position then replace the handle on the valve stem.
4. Ensure that the valve is in the closed position, and that the socket o-rings (10) are properly fitted in their grooves. Carefully place the valve in the system between the two end connections.
5. Tighten the union nut on the side opposite to that which is marked "ADJUST". Hand tightening is typically sufficient to maintain a seal for the maximum working pressure. If additional tightening is required, the Easyfit multifunctional handle tool can be used to tighten the union nuts an additional 1/4 turn.
6. Tighten the union nut on the side marked "ADJUST". Tightening the union nuts in this order results in the best possible valve performance due to optimum positioning and sealing of the ball and seat support system.

   Over-tightening may damage the threads on the valve body and/ or the union nut and may even cause the union nut to crack. It is recommended to use the Easyfit handle to prevent damage.

7. Open and close the valve to again ensure that the cycling performance is adequate. If adjustment is required, place the valve in the closed position, loosen the union nuts, remove the valve from system and then continue from Step 3.

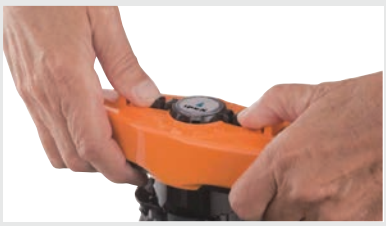
Valve Maintenance

Disassembly

1. If removing the valve from an operating system, isolate the valve from the rest of the system. **Be sure to depressurize and drain the isolated branch and valve before continuing.**
2. Loosen both union nuts (13) and drop the valve out of the line. If retaining the socket o-rings (10), take care that they are not lost when removing the valve from the line.
   a. For 1/2" to 2" remove the handle (12) and the transparent service plug (1a). Turn handle over, and seat on valve stem, ensuring the integrated gear teeth on the handle mesh with the union nut teeth. Turn clockwise to loosen.
   b. For 2-1/2" to 6" remove handle (2). Remove the Easyfit multifunctional tool (1) from the bottom of the handle (2), turn it over and re-install it. Engage the tool (1) with the outer ring profile on the union nut (13) and loosen.
3. To disassemble, place the valve in the closed position and locate the ball seat support adjustment tool on the multifunctional handle. This is found on the bottom of 1/2" to 2" handles and on the top of 2-1/2" to 6" handles.
4. Line up the moldings on the handle with the slots in the ball seat support (found on the side marked "ADJUST"). Loosen and remove the ball seat support (8 or 11) by turning in a counterclockwise direction.
5. Carefully press the ball (5 or 6) out of the valve body, taking care not to score or damage the outer surface.
6. To remove the stem (3 or 4), remove the central hub (15) on 2-1/2" to 6" sizes, press the stem into the valve body (4 or 7) from above.
7. The stem o-rings (2 or 3), body o-ring (6 or 9), friction reducing bushing (16) and ball seats (9 or 5) can now be removed and/or replaced.

1/2" – 2" VXE Ball Valves

2-1/2" – 6" VXE Ball Valves



Valve Maintenance

Assembly

NOTE: Before assembling the valve components, it is advisable to lubricate the o-rings with a water soluble lubricant. **Be sure to consult the "IPEX Chemical Resistance Guide" and/or other trusted resources to determine specific lubricant-rubber compatibilities.**

1. Firmly place the ball seat (9 or 5) in the groove on the opposite end inside the valve body (4 or 7).
2. Properly fit the stem o-rings (2 or 3) in the grooves on the stem (3 or 4) and the friction reducing bushing (16) onto the stem, then insert the stem from the inside of the valve body.
3. Ensure that the valve stem is in the closed position then insert the ball (5 or 6) into the valve body taking care not to score or damage the outer surface.
4. Check that the ball seat (9 or 5) and body o-ring (6 or 9) are properly fitted on the ball seat support (8 or 11), then slightly hand tighten into the valve body. Line up the moldings on the handle (12 or 2) with the slots in the ball seat support then tighten by turning in a clockwise direction.
5. Replace the handle on the valve stem then cycle the valve open and closed to determine whether or not the performance is adequate. If so desired, the handle can be removed and used to make further adjustments.
6. Properly fit the socket o-rings (10) in their respective grooves.
7. Place the end connectors (7 or 12) into the union nuts (13), then thread onto the valve body taking care that the socket o-rings remain properly fitted in their grooves.
   a. For 1/2" to 2" remove the handle (2) and the transparent service plug (1a). Turn handle over and seat over stem ensuring the integrated gear teeth mesh with the union nut teeth. Turn couter-clockwise to tighten.
   b. For 2-1/2" to 6" remove handle (12). Remove the Easyfit multifunctional tool (1) from the bottom of the handle (12), turn it over and re-install it. Engage the tool (1) with the outer ring profile on the union nut (13) and tighten.
8. Replace the handle on the valve stem then cycle the valve open and closed to determine whether or not the performance is adequate.

Testing & Operating

The purpose of system testing is to assess the quality of all joints and fittings to ensure that they will withstand the design working pressure, plus a safety margin, without loss of pressure or fluid. Typically, the system will be tested and assessed in sub-sections as this allows for improved isolation and remediation of potential problems. With this in mind, the testing of a specific installed valve is achieved while carrying out a test of the overall system.

An onsite pressure test procedure is outlined in the IPEX Industrial Technical Manual Series, *"Volume I: Vinyl Process Piping Systems" under the section entitled "Testing".* The use of this procedure should be sufficient to assess the quality of a valve installation. **In any test or operating condition, it is important to never exceed the pressure rating of the lowest rated appurtenance in the system.**

IMPORTANT POINTS:

- Never test thermoplastic piping systems with compressed air or other gases including air-over-water boosters.
- When testing, do not exceed the rated maximum operating pressure of the valve.
- Avoid the rapid closure of valves to eliminate the possibility of water hammer which may cause damage to the pipeline or the valve.

For safety reasons, please contact IPEX customer service and technical support when using volatile liquids such as hydrogen peroxide (H202) and sodium hypochlorite (NaClO). These liquids may vaporize causing a potentially dangerous pressure increase in the dead space between the ball and the valve body. Special VXE ball valves are available for these types of critical applications.

Please contact IPEX customer service and technical support with regard to any concern not addressed in this data sheet or the technical manual.

About IPEX

About the IPEX Group of Companies

As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the world's largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

Markets served by IPEX group products are:

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- Plumbing and mechanical piping systems
- Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
- Irrigation systems
- PVC, CPVC, PP, PVDF, PE, ABS, and PEX pipe and fittings

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