

Cepex Sales Folder

12/2006

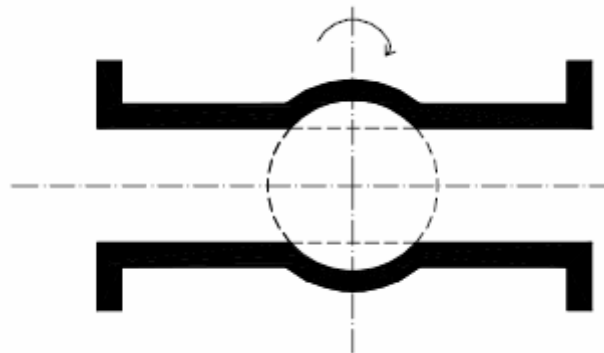


03 Ball Valves



Introduction

- Closing element is a ball which has a cylindrical hole in its center.
- The ball is able to turn, to open or to close the fluid pass; it is open when the axis of the hole is aligned with the pipe.
- When they are closed, the flow in both senses is stopped.
- They are used to control the fluid pass through it.
- Changes in the flow are not proportional to the movement of the handle; a little turn can vary the flow a lot.
- Valve with quarter turn (90°) (3-way Series with T-PORT turn 180°).



Advantages and disadvantages

- ✓ It is possible to have flow control using the intermediate positions of the ball
 - ✓ In every moment is known if the valve is open or closed by the handle position
 - ✓ Watertightness
 - ✓ Resistant to corrosion
 - ✓ Light weight
-
- ✗ Water hammers are possible if the handle is opened or closed suddenly
 - ✗ It is usually used in little diameters (until D110)
 - ✗ Not recommended in applications with particles in suspension as these could settle in the ball cavity and block it

Cepex Ball Valves

- Sizes from D16 (3/8") up to D110 (4").
- Working pressure at 20°C (73°F) water temperature:
 - D16 – D63 (3/8" - 2"): PN 16
 - D75 – D110 (2 1/2" - 4"): PN 10
- Available different kinds for different quality or economic requirements: Standard Series, Industrial Series, Uniblock Series, 3-way Series.
- Socket or threaded connections for all the models.
- Minimum pressure loss in all sizes.
- Manufactured in several materials: PVC-U and PVC-C.



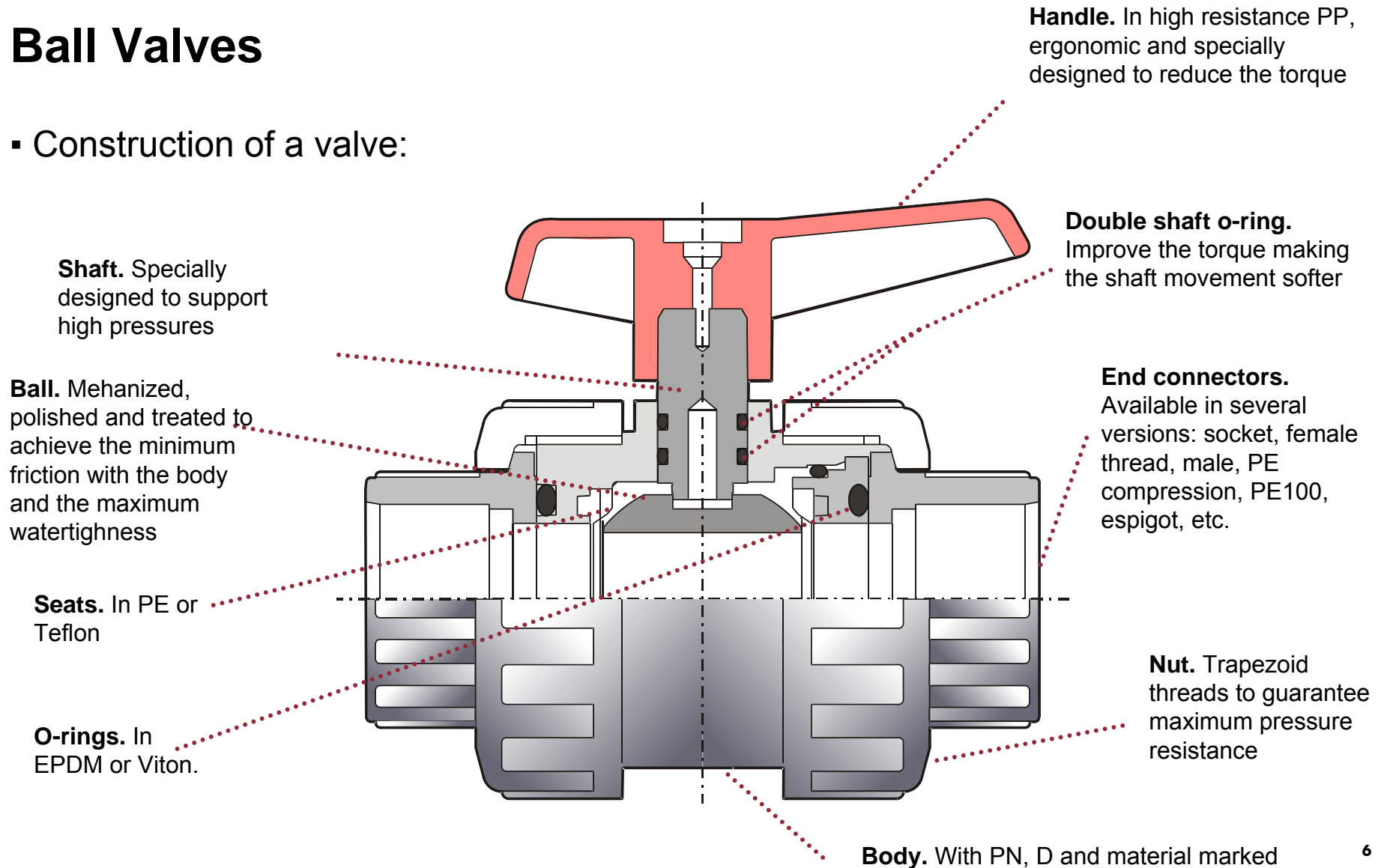
Range

Industrial Series							
	Material	Ball seat	O-Rings	Sizes	PN	Connections	Standards
	PVC-U	PTFE (Teflon®)	EPDM FPM (Viton®)	D16-D83 (3/8"-2") D75-D110 (2½"-4")	At 20°C 16 bar (240 PSI @ 73°F) At 20°C 10 bar (150 PSI @ 73°F)	Female socket Male socket Female threaded Male threaded With flanges Victaulic®	Metric BS ASTM JIS
	Corzan® CPVC	PTFE (Teflon®)	EPDM FPM (Viton®)	D16-D83 (3/8"-2") D75-D110 (2½"-4")	At 20°C 16 bar (240 PSI @ 73°F) At 20°C 10 bar (150 PSI @ 73°F)	Female socket Female threaded	Metric ASTM
Electric & Pneumatic Actuation							
	Actuator		Type		Options		
	Electric		Voltage: 230 VAC 12, 24, 110 VDC 12, 24, 110 VAC		BSR Safety Block		
	Pneumatic		Double acting Spring return		Electric valve Relief regulators Limit-switch		
Standard Series							
	Material	Ball seat	O-Rings	Sizes	PN	Connections	Standards
	PVC-U	PE PTFE (Teflon®)	EPDM	D16-D83 (3/8"-2") D75-D110 (2½"-4")	At 20°C 16 bar (240 PSI @ 73°F) At 20°C 10 bar (150 PSI @ 73°F)	Female socket Male socket Female threaded Male threaded With flanges Victaulic®	Metric BS ASTM JIS
Uniblock Series							
	Material	Ball seat	O-Rings	Sizes	PN	Connections	Standards
	PVC-U	PE	EPDM	D20-D80 (½"-3")	At 20°C 10 bar (150 PSI @ 73°F)	Female socket Female threaded Male threaded PE Connection	Metric BS ASTM
3-way Series							
	Material	Ball seat	O-Rings	Sizes	PN	Connections	Standards
	PVC-U	PE	EPDM	D50 (1½")	At 20°C 10 bar (150 PSI @ 73°F)	Female socket Female threaded Self-align unions	Metric BS ASTM

Cepex

Ball Valves

▪ Construction of a valve:



Cepex

Ball Valves

- Cepex ball valves in PVC-U can be used with:

PVC-U rigid pipe



PVC flexible hose



Cepex

Ball Valves

- Cepex ball valves in PVC-C can be used with:

PVC-C rigid pipe



Certifications

▪ NSF

(National Sanitation Foundation)

- Country: USA
- NSF is the North American organization responsible of the certification of drinking water products in the USA.
- Cepex ball valves have got the international certification NSF (National Sanitation Foundation)



Features and benefits

Feature	Benefit
“Antiblock” system	Avoids ball blockage
Installation with nuts (true union design)	Easy and don't require the use of tools
Possibility of change the end connectors*	The user can customize the valve (connections) depending on his needs
Electric and pneumatic actuation	Easy actuation and possibility of doing it with the valve installed
Ergonomic and strong handle	Improve the torque
Double shaft o-ring	
Completely made in plastic	It has no corrosion possibilities
Industrial Series includes a regulation key	Easy disassembly and change of all the valve parts, regulation of the opening torque
Possible flange installation in the Industrial Series	Safer installation, it doesn't let the pipe twist
Threaded seal-carrier in the Industrial Series**	It allows the disassembly of the valve with the system under pressure (maintenance without emptying the system)
The Uniblock Series do not allow disassembly for maintenance, one-piece body	Economic range
3-way Series available with self-align union	It can be used in almost all the installations

*ConnectIT System

- Possibility of changing the valve connections to satisfy the user needs.
- With the separate selling of the end connectors and a great assembly easiness, the user can obtain the kind of valve that he needs.
- To assembly the valve, it is enough with unscrew the nut and change the end connector by another one.
- The most common combinations are sold assembled (female solvent socket x female solvent socket; female threaded x female threaded).

Available connections



- Female solvent socket
- Male solvent socket
- Female threaded
- Male threaded
- Victaulic® bush connection
- Spigot connection
- PE connection
- Compression connection



Valves examples



Female s. socket x
male threaded

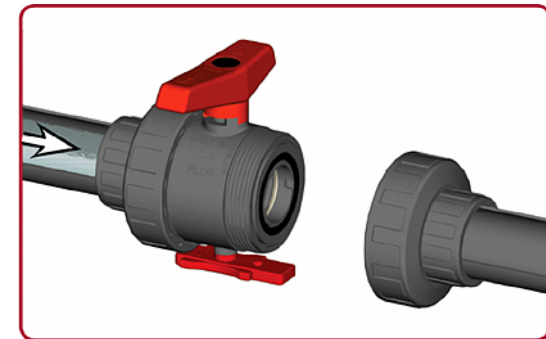
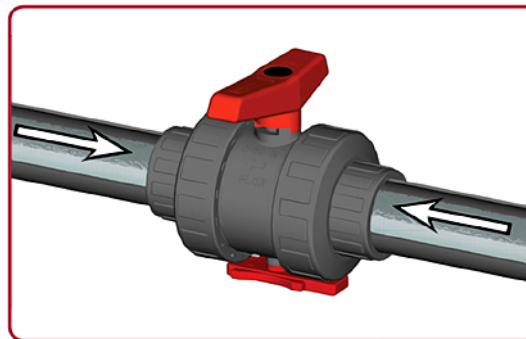
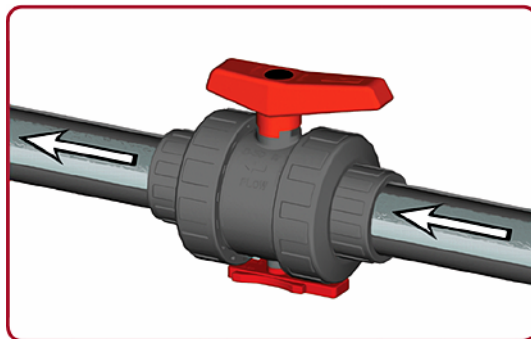
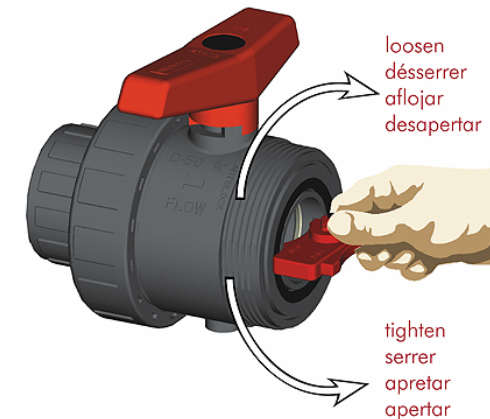
Female threaded x PE c.

Male threaded x
Victaulic® c.

Male threaded x Male s.
socket

**Threaded seal-carrier: Industrial Series

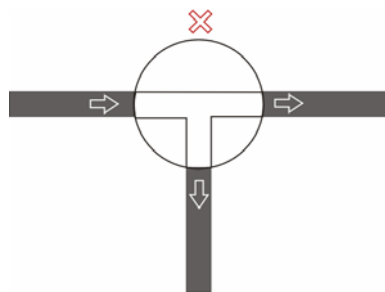
- Industrial Series feature a threaded seal-carrier instead of the push-fit system. The threaded seal-carrier allows for upstream maintenance without emptying the system.
- A closed valve with a push-fit seal-carrier will not withstand system pressure: when the nut is disassembled, the seal-carrier gets free.
- On the other side, a valve with a threaded seal-carrier will supports the system pressure thanks to the thread.
- With Cepex valves, it is possible to disassemble the valve (only upstream) to carry out installation maintenance.



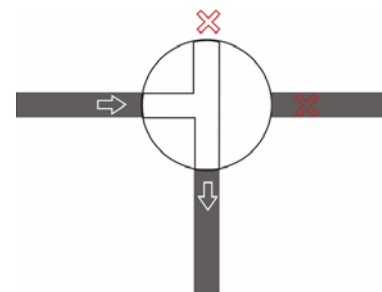
3-way Ball Valves

- The ball, with the fluid pass in T form, allows several positions with different number of open ways (see position drawings).
- It allows to replace the set made for a ball valve an a T fitting.
- Four seats assure the correct position of the ball.
- Handle can be positively located for maximum performance intermediate positions.

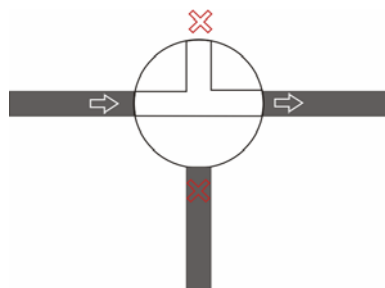
Way opening



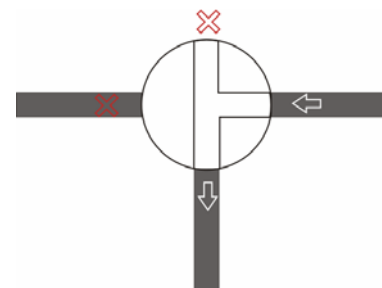
3-ways open



2-ways open with
different fluid
origins

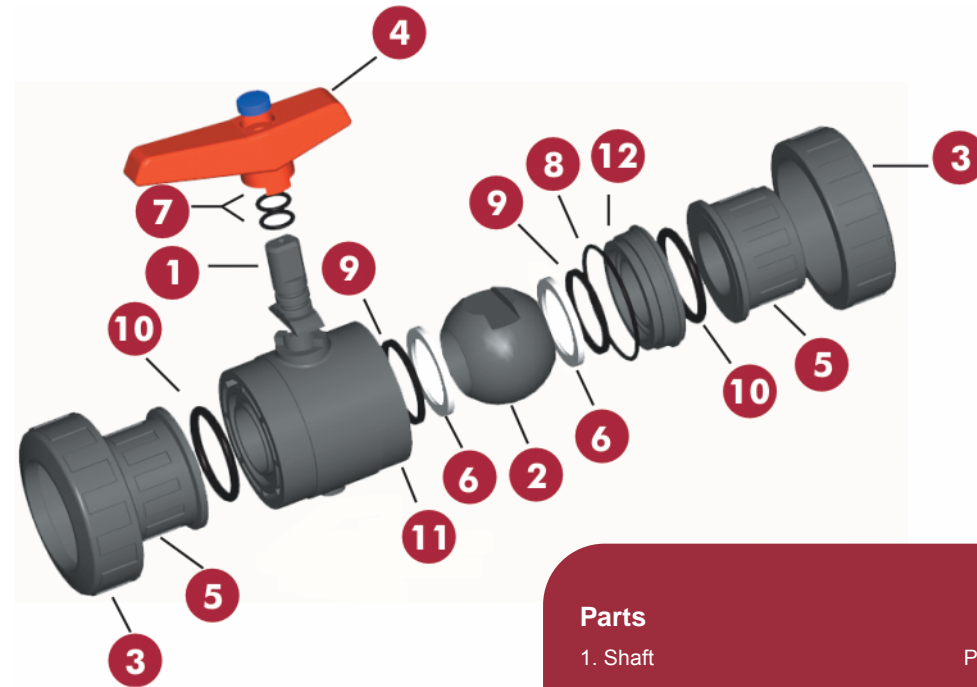


2-ways open



Explosion

Standard Series

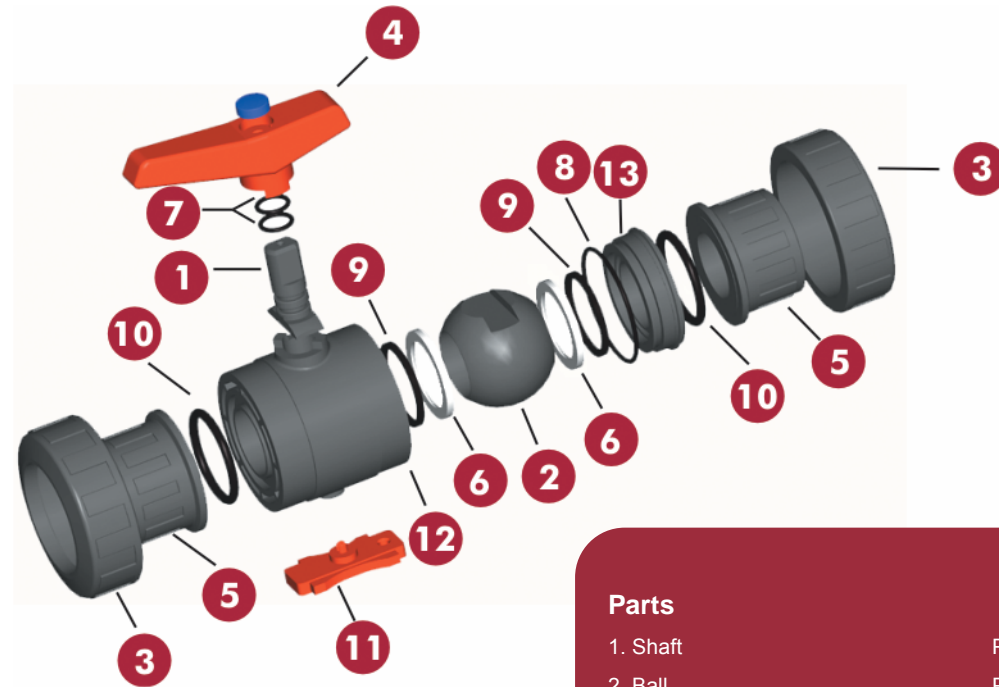


Parts

1. Shaft	PVC
2. Ball	PVC
3. Union nut	PVC
4. Handle	PP
5. End connector	PVC
6. Ball seat	HDPE / Teflon®
7. Shaft o-rings	EPDM / Viton®
8. Body o-rings	EPDM / Viton®
9. Dampener seal	EPDM / Viton®
10. End connector o-ring	EPDM / Viton®
11. Body	PVC
12. Seal-carrier	PVC

Explosion

Industrial Series

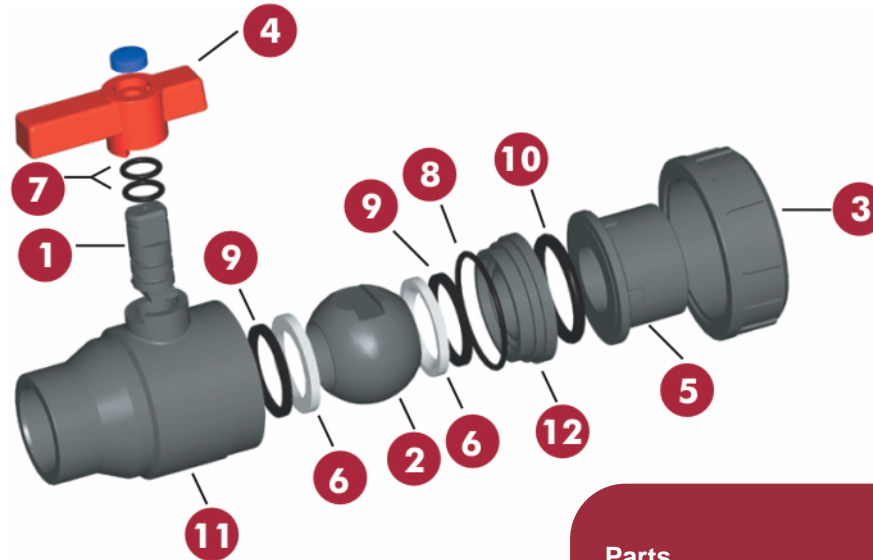


Parts

1. Shaft	PVC / CPVC
2. Ball	PVC / CPVC
3. Union nut	PVC / CPVC
4. Handle	PP
5. End connector	PVC / CPVC
6. Ball seat	Teflon®
7. Shaft o-ring	EPDM / Viton®
8. Body o-ring	EPDM / Viton®
9. Dampener seal	EPDM / Viton®
10. End connector o-ring	EPDM / Viton®
11. Regulation key	ABS
12. Body	PVC / CPVC
13. Seal-carrier	PVC / CPVC

Explosion

Uniblock Series



Parts

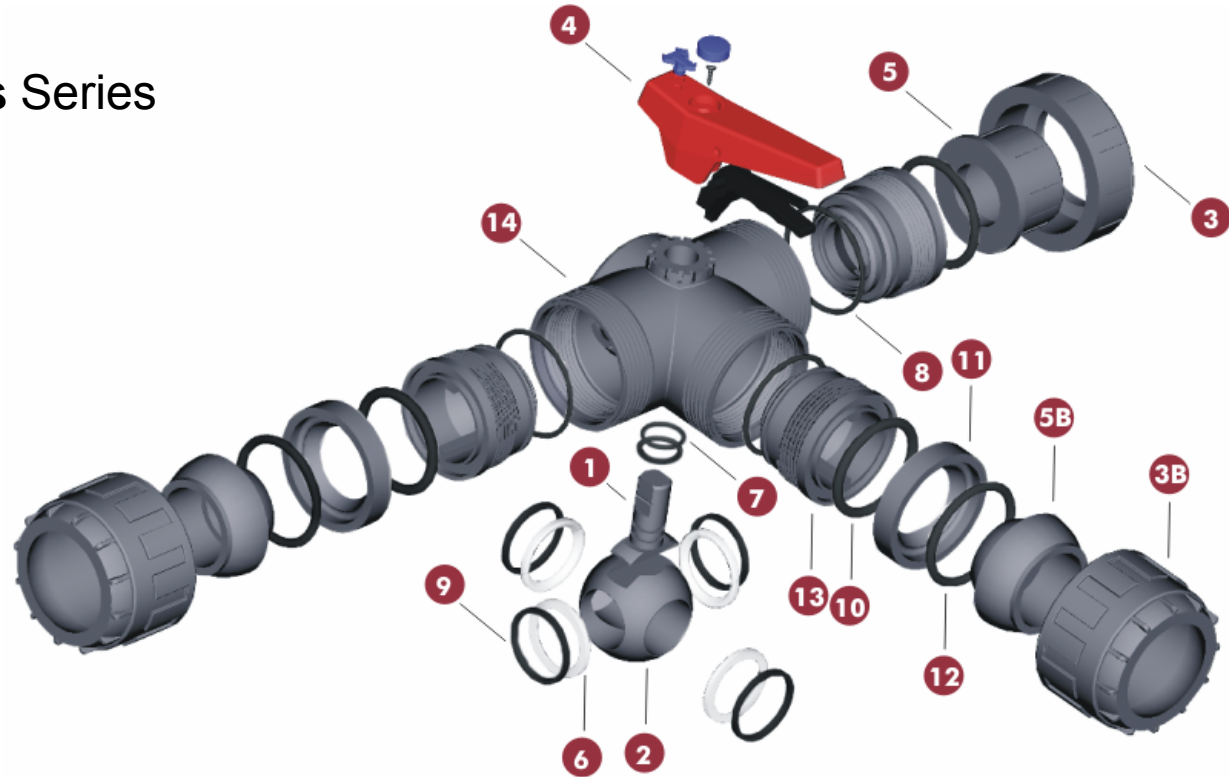
1. Shaft	PVC
2. Ball	PVC
3. Union nut	PVC
4. Handle	ABS
5. End connection	PVC
6. Ball seat	HDPE
7. Shaft o-ring	EPDM
8. Body o-ring	EPDM
9. Dampener seal	EPDM
10. End connector o-ring	EPDM
11. Body	PVC
12. Seal-carrier	PVC

Explosion

3-ways Series

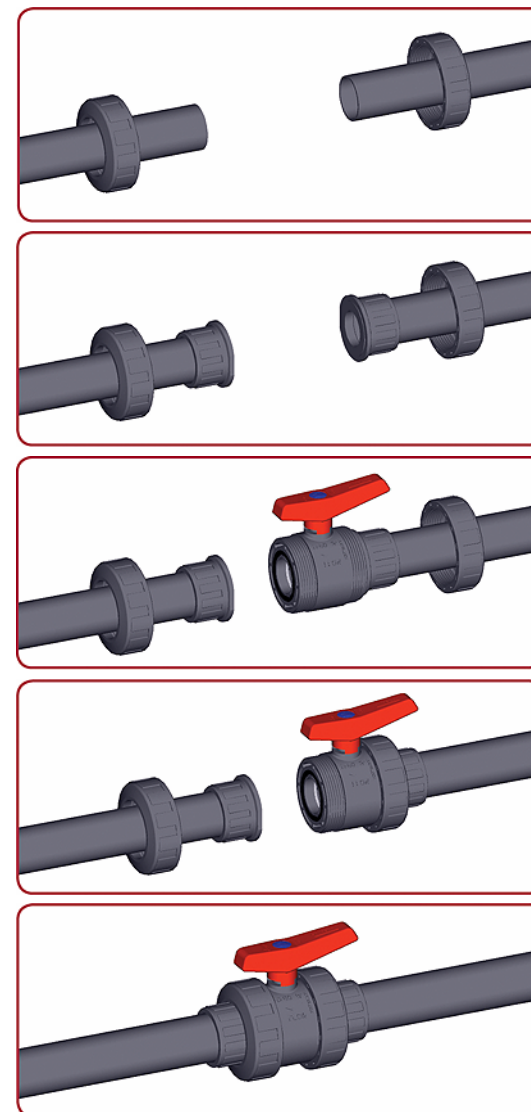
Parts

1. Shaft	PVC
2. Ball	PVC
3. Union nut	PVC
3B. Self-align end connector	PVC
4. Handle	PP
5. End connector	PVC
5B. Self-align end connector	PVC
6. Ball seat	HDPE
7. Shaft o-ring	EPDM
8. Body o-ring	EPDM
9. Dampener seal	EPDM
10. End connector o-ring	EPDM
11. Ball-and-socket joint	PVC
12. Ball-and-socket joint o-ring	PE
13. Seal-carrier	PVC
14. Body	PVC



Instalation

- Loosen the union nuts and separate these and the end connectors from the body.
- Place the bushes over the end of the pipe.
- Once the necessary time has passed, place the valve and tighten the nuts by hand.
- For the maintenance, let the installation under pressure and close the valve; act when the line is empty.
- Regulation of the ball resistance (opening torque): disassembly the nuts and introduce the regulation key in the seal-carrier slot, turn it.
- It is possible to disassembly the valve turning the key until the maximum and loosen the bolt under the handle logo.



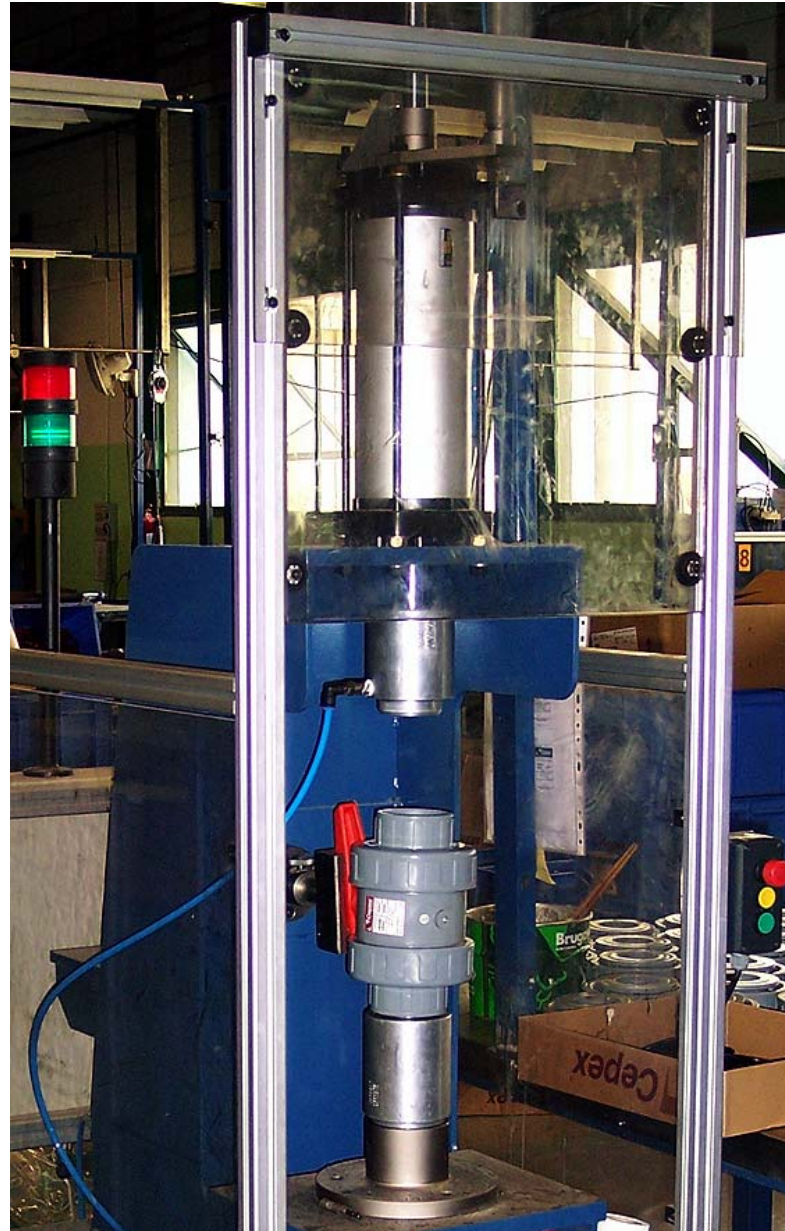
Quality

- **Tests on assembled valves (according to european standards):**
 - Pressure
 - Watertightness
 - Packaging
 - Traceability

- **Watertightness test:**
 - Applied to 100% of Cepex valves production.
 - Air is injected inside the valve through a microfugometer.
 - The valve passes the test if no air-leaks happen.

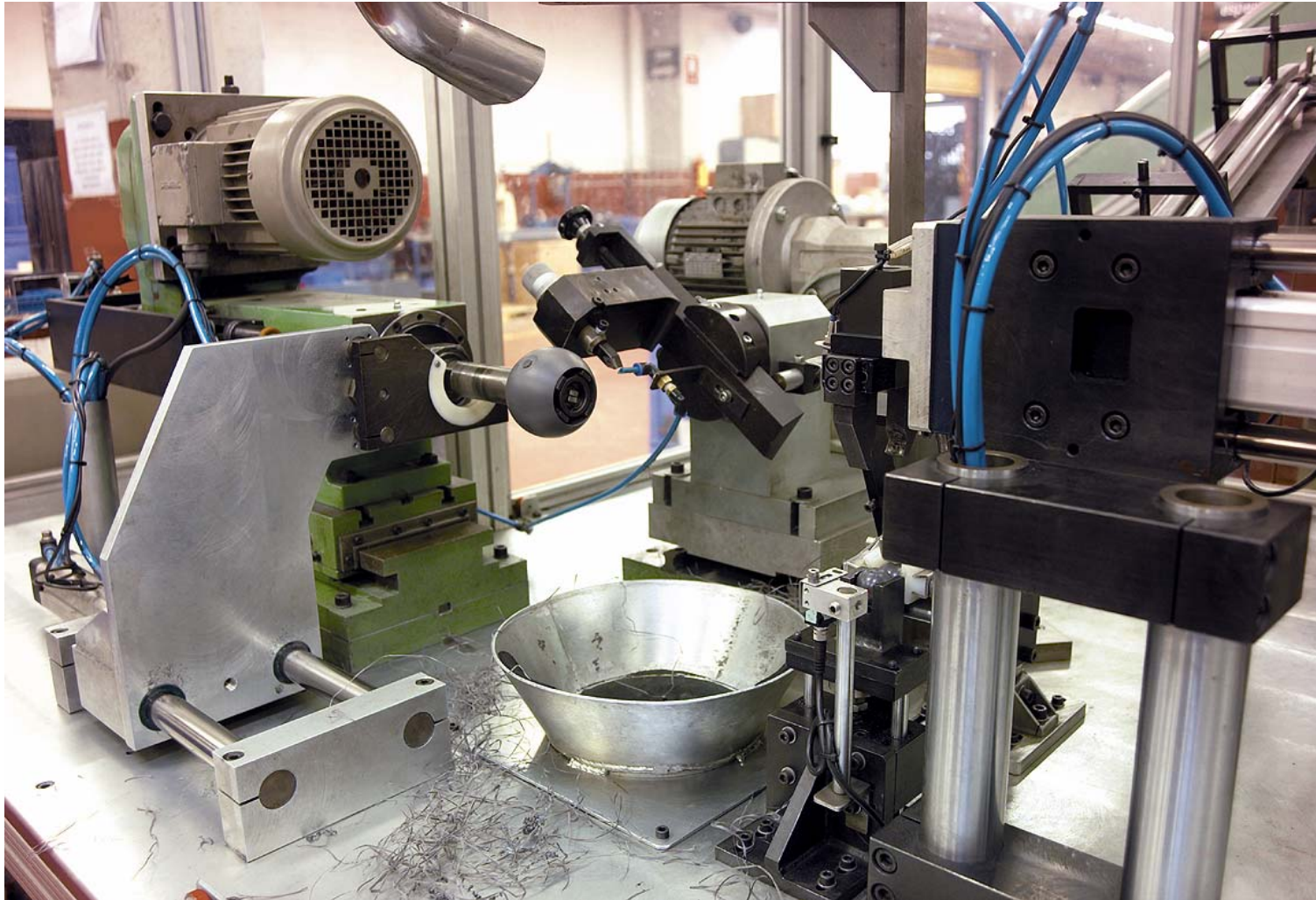
All these controls are explained in the Quality Tests CSF.

Quality



Water tightness test in the leak control device

Mechanized



Ball mechanized

Polished



Ball polishment

Assembly



Automatic assembly line for ball valves

Assembly



Semi-automatic assembly line for ball valves

Packaging

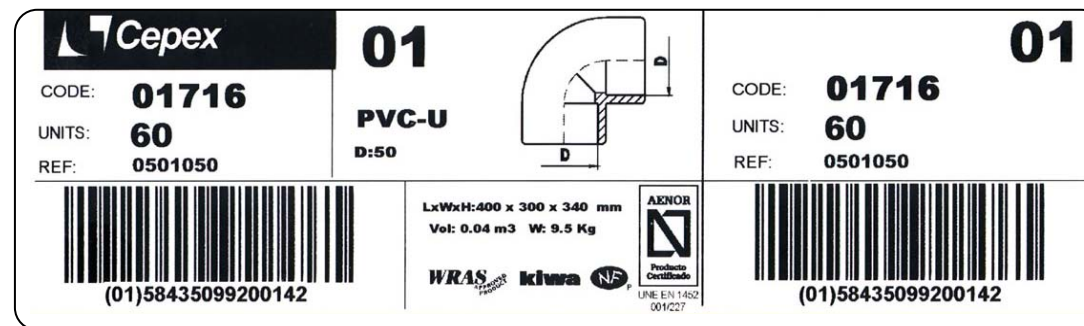
New box design:

- Strong
- Sub-standard: carton boxes



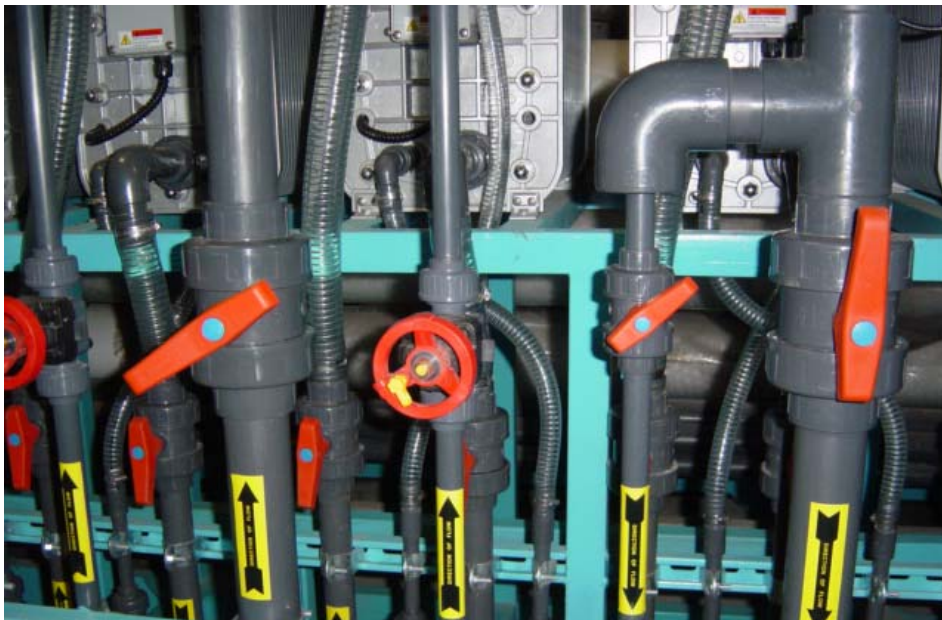
New label design

- Includes Cepex and certifications logos.
- Improves barcode placing, making easier reading.



Applications

- Industry



Nitto Denko factory



Port Hawkesbury geothermal system

Applications

- Water treatment



Palmela swimming-pool



Monchique swimming-pool

Applications

- Irrigation



Automatic straining system



Greenhouse (Almería)

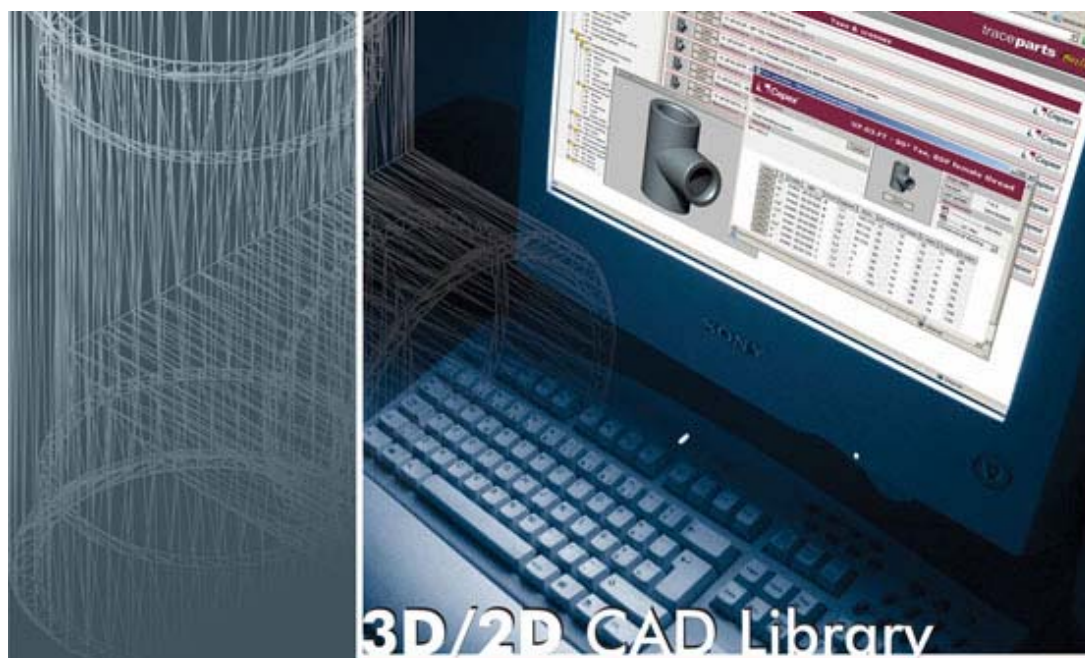


Automatic fertirrigation system

CAD

▪ 3D/2D CAD Library


- Free download of 3D and 2D models through www.cepex.com.
- All Cepex products catalogue available.
- Multiformat.
- Multilanguage.



3D/2D CAD Library

Cepex presents their complete product range as 3D/2D files available for download and compatible with all the main CAD software in the world:

AutoCAD, CATIA, Inventor, Mechanical Desktop, Pro/ENGINEER, Solid Edge, SolidWorks, thinkdesign, TopSolid, ...



03 Ball Valves

Cepex Sales Folder



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CEPEX

- PVC-U / PVC-C
 - ACCESORIOS EN PVC-U
 - VÁLVULAS EN PVC-U Y PVC-C
 - Válvulas de bola manuales
 - Válvulas anti-retorno
 - Válvulas de clapeta
 - Válvulas de mariposa manuales
 - Válvulas mariposa reductor manual
 - Válvulas de diafragma
 - Válvulas hidráulicas
 - Válvulas asiento inclinado
 - Válvula de ventosa
 - Válvulas de purga
 - Válvulas compuerta rotatoria
 - Válvulas de guillotina
 - PP / PE

UP. 62. SF5 - Válvula de bola "PN 10", Cuerpo en PVC-U, Encolar hembra, Serie métrica, Juntas asiento bola en HDPE, Anillos tóricos en EPDM
Fabricante: CEPEX

UP. 62. SMF5 - Válvula de bola "PN 10", Cuerpo en PVC-U, Encolar macho x hembra, Serie métrica, Juntas asiento bola en HDPE, Anillos tóricos en EPDM
Fabricante: CEPEX

UP. 61. SF6 - Válvula de bola "Standard", Cuerpo en PVC-U, Encolar hembra, Serie métrica, Juntas asiento bola en PTFE (Teflon®), Anillos tóricos en EPDM, Distintivo negro

Fabricante: CEPEX
Especialistas en conducción de fluidos

Información de pieza
Versión: 1.0.1
Última actualización: 25/05/2005
documentos
Página del catálogo (89 Kb)
Photo (20 Kb)
Dibujos dimensionales...

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Seleccionar	90	02477	05 61 090	D	2 (1)	80	10	51	269	179
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Cepex Sales Folder

12/2006



- 01 PVC Pressure Fittings
- 02 PP Compression Fittings
- 03.s Ball Valves [STD] Series **NEW!**
- 03.i Ball Valves [IND] Series **NEW!**
- 03 Ball Valves**
- 04 Check Valves
- 05.s Butterfly Valves Standard Series **NEW!**
- 05.i Butterfly Valves Industrial Series **NEW!**
- 05.c Butterfly Valves Classic Series
- 06 Valve Boxes Pro Series
- 07 PE 100 Fittings
- 08 PVC Flexible Pipe
- 09 Actuated Valves
- 10 Hydraulic Valves
- 11 Filtration

- A Plastics Market
- B Fluid Dynamics
- C Plastic Types
- D Union Types
- E Quality Tests

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