

**PVC-U BALL VALVES**

# Welcome to Effast

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Effast by Polypipe is a well-established brand name that is recognised throughout both the industrial process market and construction industries for its market-leading range of thermoplastic pipework systems suitable for use within industrial applications.

Manufactured in Cicagna North Italy, the company now provides these components to customers all over the world and leads the way in the research and development of advanced new solutions that satisfy the specific needs of the market.

Supported by its large UK based manufacturing capabilities, Polypipe has developed Effast's comprehensive product portfolio such that it now offers a proven and effective solution to virtually any requirement. No matter what the project, the Effast range can offer the perfect combination of pressure pipe fittings, ball, butterfly, diaphragm and actuated valves, compression joints, adaptors and other fittings. Normally available in both metric and imperial dimensions these products are suited to many different applications in such areas as; food and beverage processing, chemical manufacture, water treatment, marine, spa and swimming pools, building technology and agriculture.

Outstanding performance and reliability have come to represent the hallmarks by which Effast products are recognised and with these products carrying accreditation and conforming to various European standards they can be specified with complete confidence. In addition, our manufacturing facilities in Italy are certified under the relevant ISO accreditations so you can be assured you'll receive not only outstanding performance, but outstanding quality too.

Dedicated to supporting its customers at every stage the company also complements its products and systems with full technical information and support service, while a nationwide distribution network means that products are readily available, even when needed next day. Get in touch\* and find out how we can support you on your next project.

## **EFFAST – Performance Under Pressure**

\* see back page for contact details

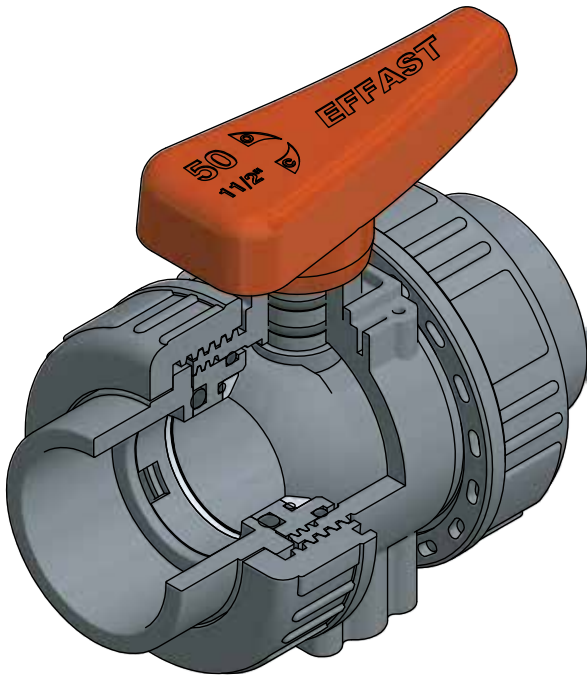
For more information on all the relevant accreditations, please visit our website [www.effast.com](http://www.effast.com)



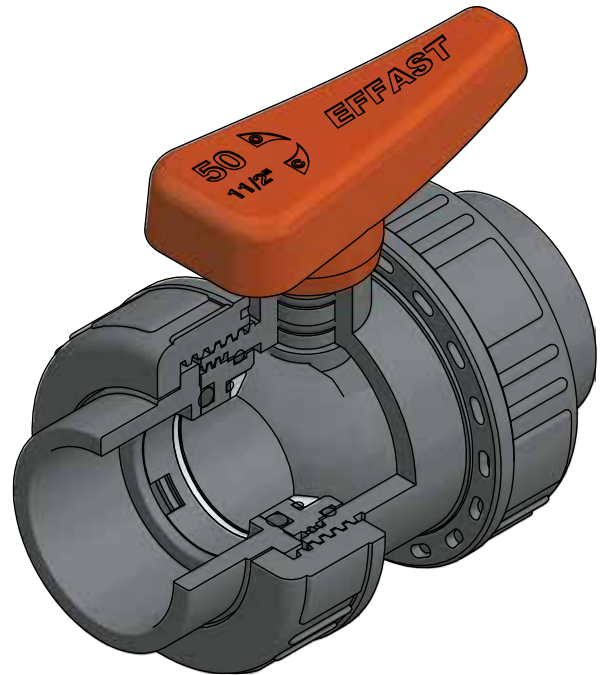
# EFFAST PVC-U double union ball valves

A double union ball valve ideal for heavy duty applications, chemical applications and water treatment. The BK1 range of ball valves can be used with pneumatic actuation for sites with compressed air or electric actuation for standard voltage 24 – 240V AC/DC.

## BK1 Range

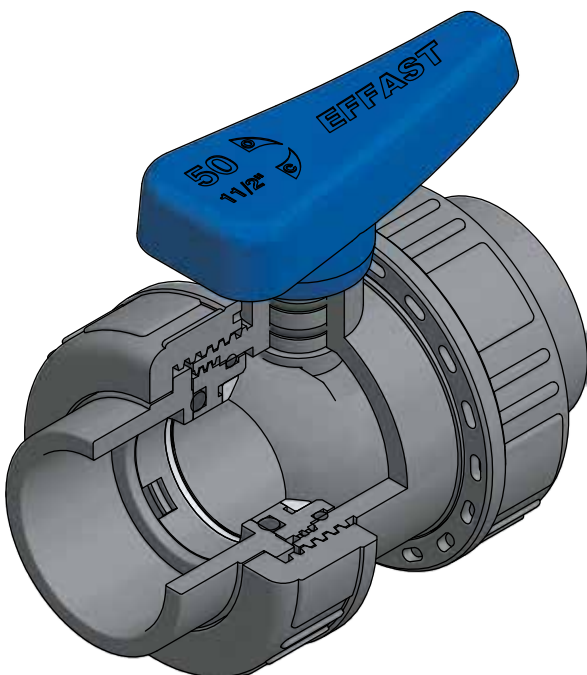


## BX Range



## BV Range

A double union ball valve ideal for applications in the field of agriculture, swimming pools, light water treatment and non-critical chemicals.



### Key Benefits

- Full bore ball locked in place on both sides.
- Fully round ball smoothed by special turning machine.
- Locking mechanism and adjustment accessed via the handle.
- Handle made from shock resistant PVC.
- PVC-U compound fit for contact with potable water according to European, UK and USA regulations.
- Marine Application approval.
- Compliant with the requirements of Annex III, Module A2 of the Pressure Equipment Directive 2014/68/EU.

# Technical information

## PVC-U Features

PVC-U is stabilized with compounds conforming to the EEC safety levels for vinyl chloride monomer (VCM) and the WRAS requirements for use with potable water.

PVC-U is resistant to most solutions of acids, alkalis and salts and to solvents that can be mixed with water.

PVC-U is not resistant to aromatic and chlorinated

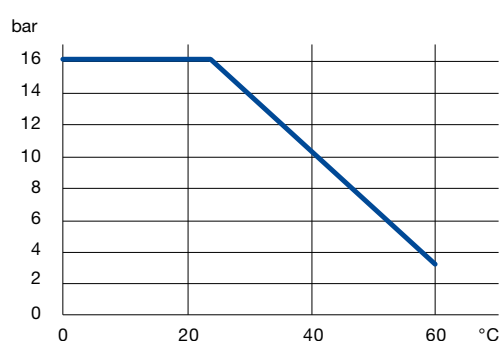
hydrocarbons. Thermal coefficient of linear expansion for PVC-U is  $7,8 \times 10^{-5} \text{ m/m } ^\circ\text{C}^{-1}$ .

Maximum working pressure for PVC-U: according to temperature as shown in graph.

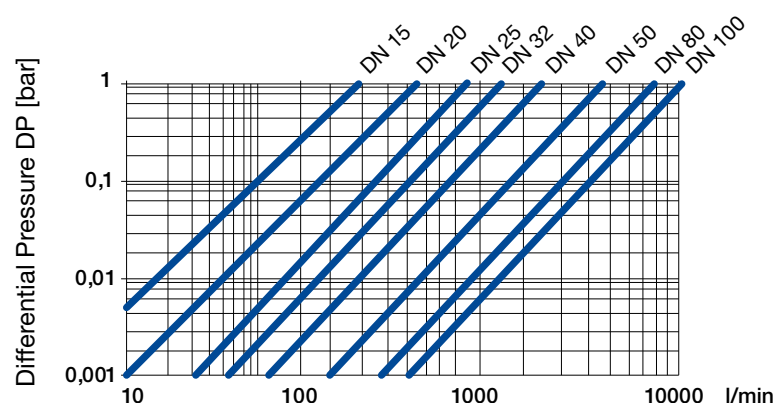
## Technical Features

|                    | BK1   | BX  | BV   |
|--------------------|---|---|--|
| NOMINAL PRESSURE   | PN 16 (at 20 °C)  |   |  |
| VALVE MATERIAL     | PVC-UH  |   |  |
| SEALS MATERIAL     | O-rings: EPDM/FKM<br>Ball seats: PTFE   | O-rings: EPDM/FKM<br>Ball seats: PTFE   | O-rings: EPDM<br>Ball seats: PE  |
| TEMPERATURE RANGE  | 0 °C ÷ 60 °C  |   |  |
| COUPLING STANDARDS | Solvent welded sockets:<br>metric, BS<br>Threaded sockets: BSPP<br>EN/ISO/DIN flanges<br>HDPE spigots | Solvent welded sockets:<br>metric, BS<br>Threaded sockets: BSPP<br>EN/ISO/DIN flanges<br>HDPE spigots | Solvent welded sockets:<br>metric, BS, ASTM, JIS<br>Threaded sockets: BSP, NPT<br>Compression joints |
| CONTROL OPTIONS    | Hand-operated<br>Electrically actuated<br>Pneumatically actuated                                      | Hand-operated   | Hand-operated  |

## Working Pressure



## Pressure Loss



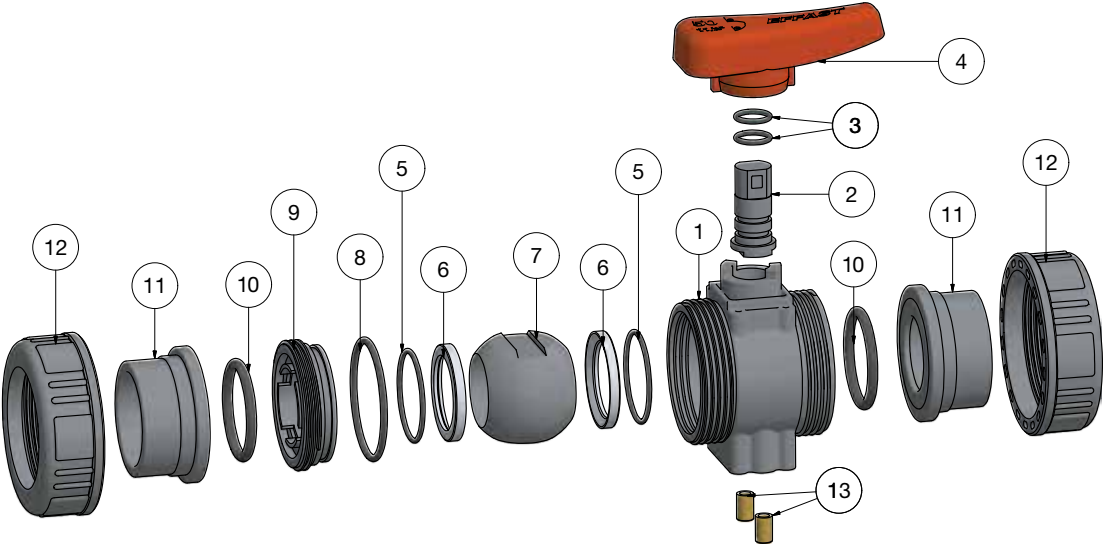
## Flow Rate Coefficient Kv100 at $\Delta p = 1 \text{ bar}$

| DN    | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 | DN 80 | DN 100 |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| l/min | 190   | 380   | 700   | 1000  | 1700  | 3200  | 7000  | 10000  |

## Torque Force at Maximum Pressure Rate

| DN | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 | DN 80 | DN 100 |
|----|-------|-------|-------|-------|-------|-------|-------|--------|
| Nm | 1.5   | 2     | 3     | 5     | 7     | 10    | 24    | 30     |

# PVC-U double union ball valve BK1



| n. | Component         | Material | Qty |
|----|-------------------|----------|-----|
| 1  | Body              | PVC-U    | 1   |
| 2  | Stem              | PVC-U    | 1   |
| 3  | Stem O-rings      | EPDM/FKM | 2   |
| 4  | Handle            | PVC-U    | 1   |
| 5  | Ball Seat O-rings | EPDM/FKM | 2   |
| 6  | Ball Seat         | PTFE     | 2   |
| 7  | Ball              | PVC-U    | 1   |

| n. | Component                     | Material | Qty |
|----|-------------------------------|----------|-----|
| 8  | Body O-ring                   | EPDM/FKM | 1   |
| 9  | Gasket Carrier                | PVC-U    | 1   |
| 10 | Sockets O-rings               | EPDM/FKM | 2   |
| 11 | Sockets                       | PVC-U    | 2   |
| 12 | Nuts                          | PVC-U    | 2   |
| 13 | Threaded Inserts <sup>1</sup> | Brass    | 2   |

1) From DN 15 to DN 50.

## Actuation and Fastening

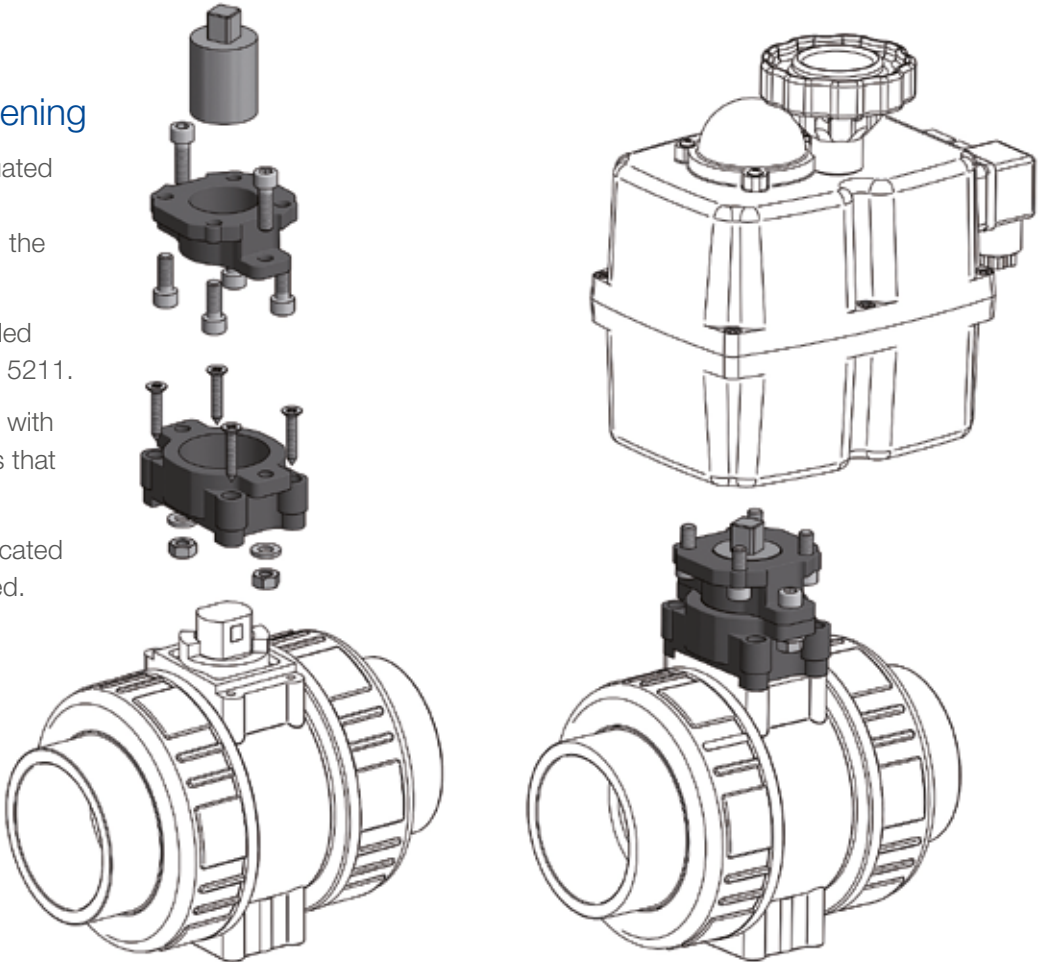
BK1 ball valve can be actuated with standard electric or pneumatic actuators using the dedicated kit.

The mounting flange is drilled according to standard ISO 5211.

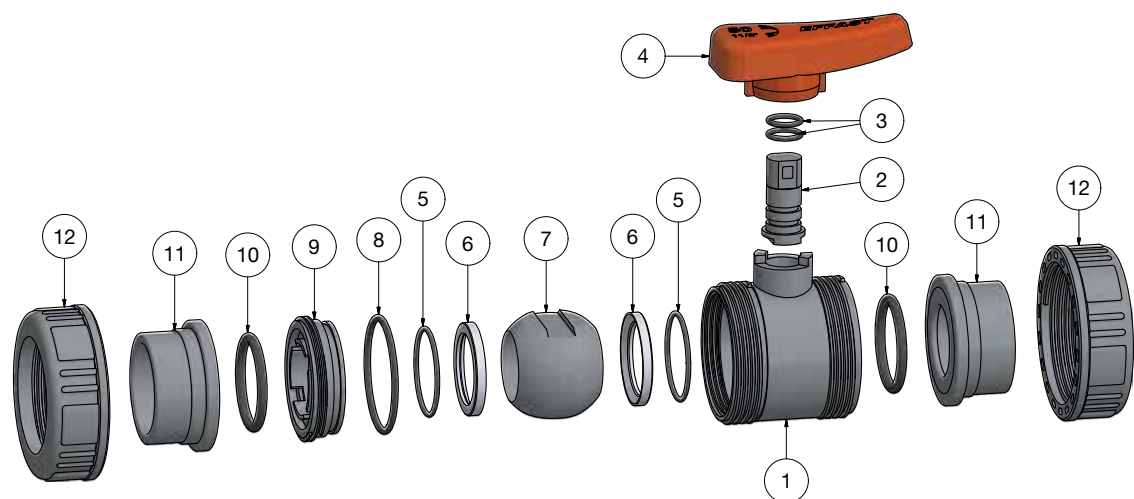
BK1 ball valve<sup>1</sup> is provided with integrated threaded inserts that permit to fasten the valve.

For wall installation, a dedicated mounting plate can be used.

<sup>1</sup> From DN 15 to DN 50.



# PVC-U double union ball valve BX



| n. | Component         | Material | Qty |
|----|-------------------|----------|-----|
| 1  | Body              | PVC-U    | 1   |
| 2  | Stem              | PVC-U    | 1   |
| 3  | Stem O-rings      | EPDM/FKM | 2   |
| 4  | Handle            | PVC-U    | 1   |
| 5  | Ball Seat O-rings | EPDM/FKM | 2   |
| 6  | Ball Seat         | PTFE     | 2   |

| n. | Component       | Material | Qty |
|----|-----------------|----------|-----|
| 7  | Ball            | PVC-U    | 1   |
| 8  | Body O-ring     | EPDM/FKM | 1   |
| 9  | Gasket Carrier  | PVC-U    | 1   |
| 10 | Sockets O-rings | EPDM/FKM | 2   |
| 11 | Sockets         | PVC-U    | 2   |
| 12 | Nuts            | PVC-U    | 2   |

# PVC-U double union ball valve BV



| n. | Component    | Material | Qty |
|----|--------------|----------|-----|
| 1  | Body         | PVC-U    | 1   |
| 2  | Stem         | PVC-U    | 1   |
| 3  | Stem O-Rings | EPDM     | 2   |
| 4  | Handle       | PVC-U    | 1   |
| 5  | Ball Seats   | PE       | 2   |
| 6  | Ball         | PVC-U    | 1   |

| n. | Component       | Material | Qty |
|----|-----------------|----------|-----|
| 7  | Body O-Ring     | EPDM     | 1   |
| 8  | Gasket Carrier  | PVC-U    | 1   |
| 9  | Sockets O-Rings | EPDM     | 2   |
| 10 | Sockets         | PVC-U    | 2   |
| 11 | Nuts            | PVC-U    | 2   |

# Certifications

## Quality Marks

Our knowledge and expertise to bring innovation in all we do has helped us produce a specialist range of products and solutions that are always up to date with the very latest regulations and quality standards.



Quality Management System  
ISO 9001:2015 and Environmental  
Management System ISO 14001:2015,  
certified by Kiwa Cermet Italia for  
“Design and manufacturing of plastic  
fittings and valves through moulding  
and assembling processes;  
trading of accessories”.



Product certificate Kiwa-UNI for PVC-U  
plastic fittings for water supply and for  
buried and above-ground drainage and  
sewerage under pressure, according to  
UNI EN ISO 1452-3.



Product certificate, issued in  
accordance with Kiwa Regulations  
for Product Certification, for Solvent  
cemented fittings of PVC-U, according  
to KIWA Evaluation Guideline  
BRL-K17301.



Certificate of conformity of PVC fittings  
according to DIN EN ISO 1452-3.



Certificate for plastic piping systems  
for water supply following the French  
standards NF EN ISO 1452-3,  
NF T 54-029.



Kitemark licence for PVC-U plastic  
piping systems for water supply,  
according to BS EN ISO 1452-3.



Kitemark licence for ABS plastic  
piping systems for water supply,  
according to BS 5392 part 1.



Type Approval Certificate for  
thermoplastic material Pipes and  
Fittings on Marine Application.



Approvals for PVC-U and ABS range  
of fittings and valves, PVC-U and ABS  
valves and solvent cement, according to  
the requirements of the United Kingdom  
Water Supply (Water Fittings)  
regulations and  
Scottish Water Byelaws.



Certificate according to the Guideline for  
Hygienic Assessment of Organic Materials  
in Contact with Drinking Water  
(KTW Guideline).



Attestation de Conformité Sanitaire for  
PVC-U raw material compound and  
PVC-U valves.



Russian Hygienic  
and Sanitary certificate.



Certificate of compliance with  
NSF/ANSI 61 and all applicable  
requirements (for products  
appearing in NSF Official Listing).



Certificate of conformity for Valves  
in thermoplastic material, according  
to the requirements of Annex III,  
Module A2 of the Pressure  
Equipment Directive 2014/68/EU.

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# Effast Pressure System Range

Effast Pressure Systems are suited to a wide range of Commercial and Industrial applications, with an extensive range of pipes, fittings and valves, easily and permanently assembled using solvent cement, electro-fusion weld or mechanical installation.

Applications include:

- Chemical
- Cold water services
- Slurry lines
- Water treatment
- Reactor cooling

- Available in PVCu, ABS, PPH or PE
- WRAS approved for use with potable water
- Valves available electrically or pneumatically actuated if required

| PRODUCTS  | RANGE   |
|---|---|
|    | From 3/8" to 4" BS                            |
|    | From 20 mm to 110 mm;<br>From 3/8" to 4" BSPP |
|   | From 20 mm to 110 mm;<br>From 1/2" to 4"      |
|  | From 16 mm to 110 mm;<br>From 3/8" to 4"      |
|  | From 75 mm to 225 mm;<br>From 2 1/2" to 8"    |
|   | From 75 mm to 225 mm;<br>From 2 1/2" to 8"    |
|   | From 75 mm to 225 mm;<br>From 2 1/2" to 8"    |

| PRODUCTS   | RANGE                                      |
|--|--|
|    | From 75 mm to 225 mm;<br>From 2 1/2" to 8" |
|    | From 20 mm to 110 mm;<br>From 1/2" to 4"   |
|   | From 20 mm to 110 mm;<br>From 1/2" to 4"   |
|   | From 20 mm to 110 mm;<br>From 1/2" to 4"   |
|   | From 75 mm to 225 mm;<br>From 2 1/2" to 8" |
|  | From 20 mm to 63 mm;<br>From 1/2" to 2"    |
|  | Large Tite (THF-free) and Tite'n Fast      |

## Polypipe Italia

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