



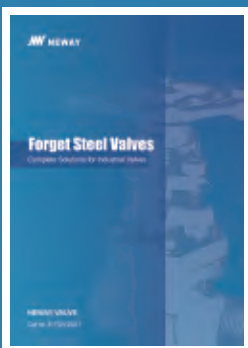
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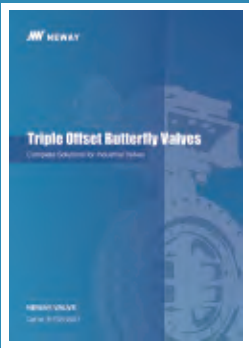
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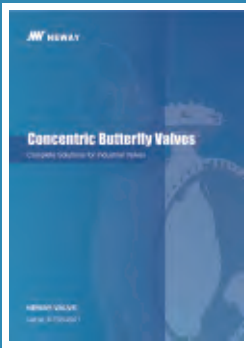
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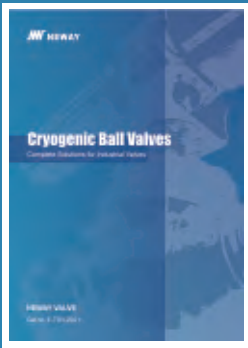
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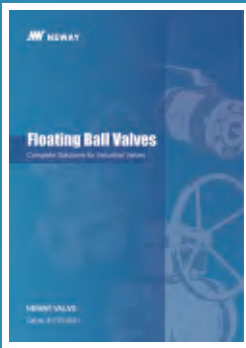
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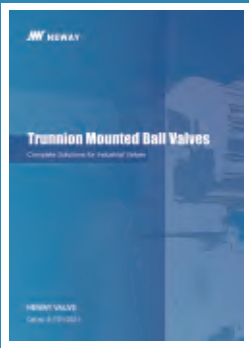
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Cat.no.:E-FWBV



Cat.no.:E-FBV



Cat.no.:E-TMBV



Cat.no.:E-MSBV

Cat.no.:E-ECBV-2022



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Distributed by:



Eccentric C-Type Ball Valves

Complete Solutions for Industrial Valves

NEWAY VALVE

Cat.no.:E-ECBV-2022

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Complete Solutions for Industrial Valves

As a global leader of valve manufacturing, Neway (SSE:603699) is dedicated to the production, research, and development of industrial valves. Neway is committed to providing complete valve solutions to all industries through advanced engineering and innovation.

Neway's product line includes Ball, Butterfly, Gate, Globe, Check, Nuclear, Control, Subsea, Safety valves. Our high quality standards and innovative ability are recognized by many global end users and EPCs. Neway valves are utilized in a wide variety of industries and working conditions such as Refining, Chemical, Coal Chemical, Offshore(including subsea), Air Separation, LNG, Nuclear Power, Power Generation, and Pipeline Transmission applications.

Facilities & Service

Neway has developed a sophisticated multi-plant management system operating two valve assembly plants for GGC/ball/Butterfly/Nuclear valves, one API 6A valve plant, one safety valve plant, four casting & forging plants, and three R&D centers. Our largest assembly plant was expanded in 2013, and it covers 230,000 square meters.

Advanced software (ANSYS, FE-Safe, CF-Design, Siemens PLM and NX) is applied here at Neway for the Research & Development of products. We use SPA&MES to control the traceability and status of all products during the manufacturing process. In order to ensure the safety, reliability, and environmental compliance of our products, we use advanced testing equipments for fire safe, cryogenic, high pressure, and fugitive emission performance verification.

As part of Neway's global strategy and to better serve our customers, we have established our overseas subsidiaries in the USA, the Netherlands, Italy, Singapore, Dubai, Nigeria, Vietnam, Malaysia, Qatar, and Saudi Arabia, along with over 80 agents and distributors worldwide.

Quality Assurance

Neway is dedicated to continuous improvement. We maintain a quality management system that encompasses our entire operation from order entry to final inspection. Through continuous efforts, Neway's products have successfully obtained industry certifications, including ASME UV & NB, NBBI, KGS, CE, CCS, and BV approvals.

Quality Commitment

Neway recognizes the importance of valve quality for the safety and protection of personnel health and property. It is our quality commitment to focus our resources to provide our customers with first class products at a competitive price, that are designed, manufactured, inspected and tested in accordance with our customer's specifications and that comply with all international standards.

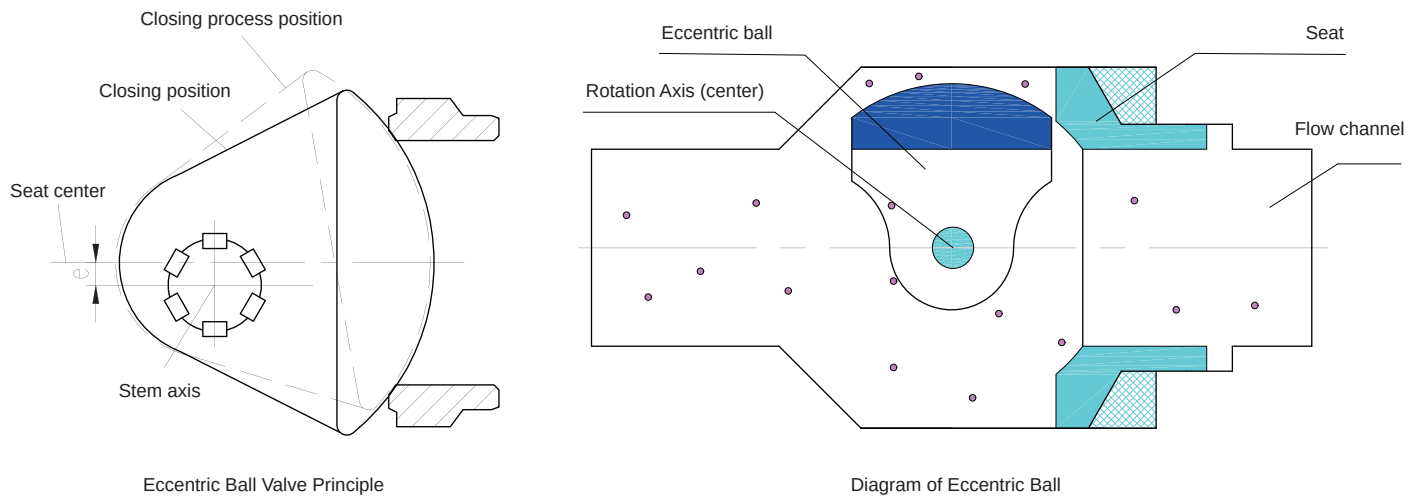
With respect to the facts that the current industrial standards do not always take into consideration the likelihood and consequences of possible deterioration in service, related to specific service fluids or the external environment in which they operate. Our customers are requested to keep an open line of communication with our engineering department to identify and implement standards, that will provide valves with the possibility of deterioration in service, so as to ensure safety over the valves expected lifetime.



Eccentric C-Type Ball Valve

NW brand eccentric C-Type ball valve changed the traditional ball valve design concept which relies on medium and spring force to achieve sealing. The sealing force is provided by the external torque and applied to the seat, and it's independent with the pipeline pressure. The rotation center of the ball deviates from the center of the seat, so the ball surface produces continuous and different rotation radius. The ball presses the seat to create a CAM effect and achieving a forced seal and there is no friction and wear between the "C" ball and the seat during the opening and closing the valve, extending the valve life.

The single seat design makes the C-ball valve there is no dead chamber and the risk of medium overpressure and accumulation as the traditional ball valve. At the final stage of the closing process, the medium automatically cleans the sealing surface along the 360°sealing pair to prevent the easy coking, self-polymerization, containing particles, dust and other media affecting the sealing performance. The eccentric C-Type ball valve meets the requirements of the most demanding working conditions.



Production Range

Pressure	Size	Main Material	Applicable Temperature
150 ~ 1500LB	1-24 in	Stainless steel	-254 ~ +700°C
150 ~ 300LB	1-24 in	CS/CMS/SS/Special alloy, etc	-46 ~ +700°C
600LB	2-24 in	CS/CMS/SS/Special alloy, etc	-46 ~ +700°C
900LB	2-24 in	CS/CMS/SS/Special alloy, etc	-46 ~ +700°C
1500LB	2-24 in	CS/CMS/SS/Special alloy, etc	-46 ~ +700°C

- Designing standards: ASME B16.34, API608, etc
- Testing standard: ISO5208/API 598, etc
- Connection end: RF/SW
- Driving mode: Handle/gear box/electric/pneumatic



Forced sealing

Eccentric design, CAM effect, torque forced sealing, achieving reliable bidirectional seal.

Lower operating torque

there is no friction and wear between the "C" ball and the seat during the opening and closing the valve, reducing the torque and extending the valve life.

Various sealing materials

According to different working conditions , matching the best sealing with the help of NW database.

Replaceable seat

Top entry C-ball valve with unique replaceable seat designing, it's easy to maintenance online, no need any special tools.

Bearing protection

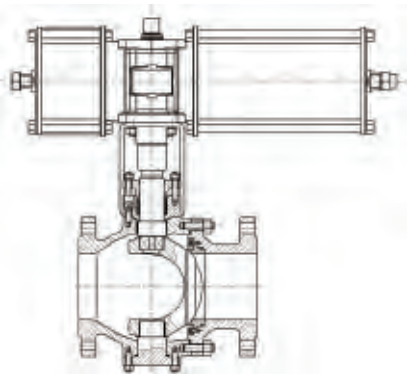
In order to avoid the particle medium entering the gap between the shaft and the bearing, resulting jam during opening and closing, and even affecting the packing performance , the upper and lower bearings are effectively protected by scraper rings.

Self-cleaning function

The medium flow flushes the sealing pair along 360 degrees at the moment of opening or closing, and can effectively remove any foreign materials on the sealing surface without local erosion phenomenon.

Bearing Selection

In order to ensure the stable operating, we use special bearings with special lubrication coating with excellent corrosion resistance, high temperature resistance, wear resistance and very lower friction coefficient.



Bearing Protection Design

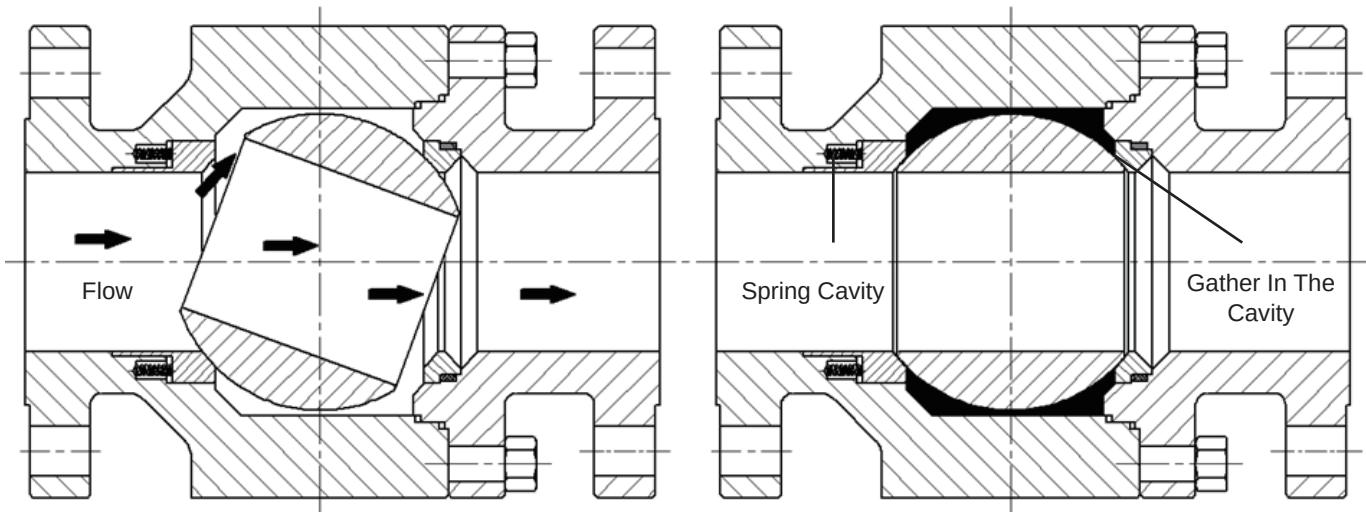


Neway Bearing

No Cavity

When the conventional ball valve is fully open or closed, there is a closed cavity area between ball and body, which is easy to cause the accumulation and crystallization of the medium in the cavity, leading to the valve to get stuck and failed.

Eccentric C-Type Ball Valve is designed with single seat and half ball, no body cavity construction.

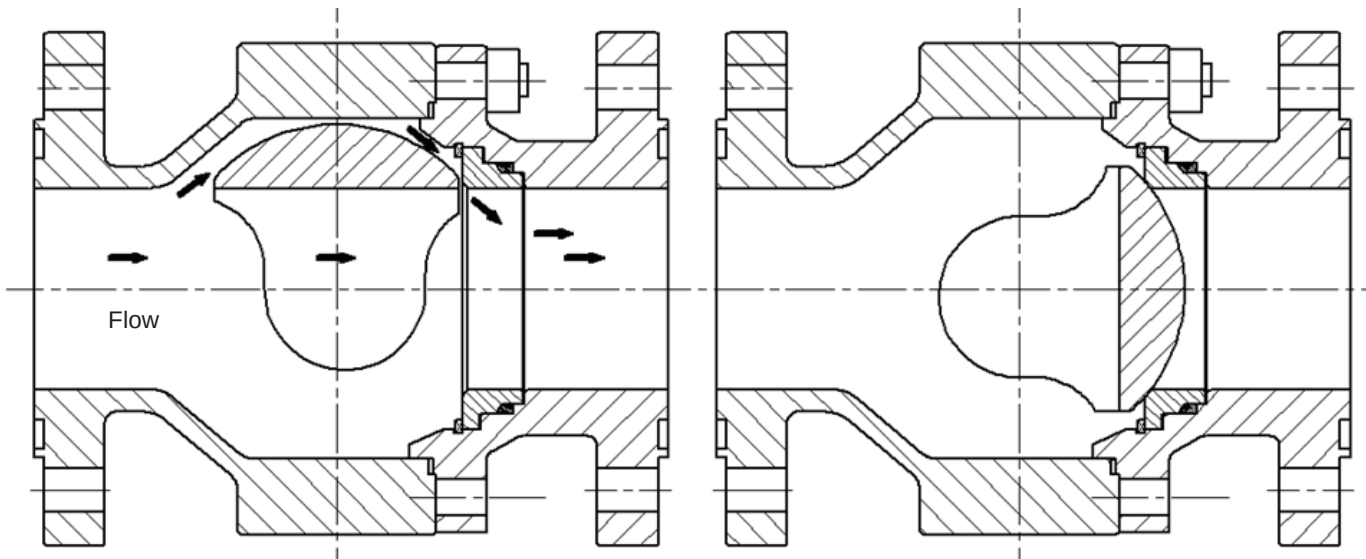


Working Principle of Conventional Ball Valve

No Spring Preloading

Eccentric C-Type Ball Valve adopts torque seal, no spring structure, reliable bi-directional seal performance.

The problem of get stuck and failed caused by the accumulation of media in the spring chamber of conventional ball valve is effectively avoided.



Working Principle of Eccentric C-Type Ball Valve



◀ **Machining Center**

Maximum turning milling accuracy 7 μ m; Maximum boring milling accuracy is 1.9 μ
The key dimensions can be once clamped and processed to achieve 100% interchange of ball valve core parts



Grinding Equipment ▶

Grinding equipment ensure the ball valve seat match with high precision



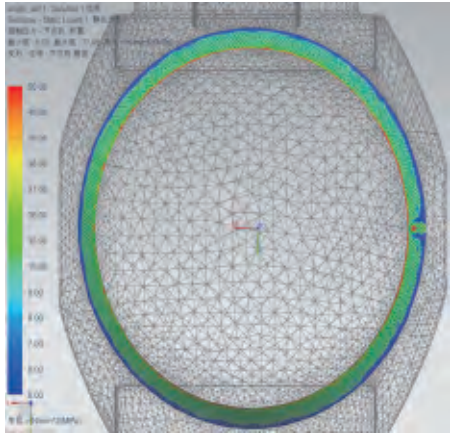
◀ **Coordinate Measuring Machine**

100% CMM inspection for valve body/bonnet/ball/seat and other key components



High/ Low temperature cycle test ▶

Valve is repeatedly tested for switching life under high and low temperature environment which is much harsher than the actual working condition to ensure the reliability of products



Finite element simulation

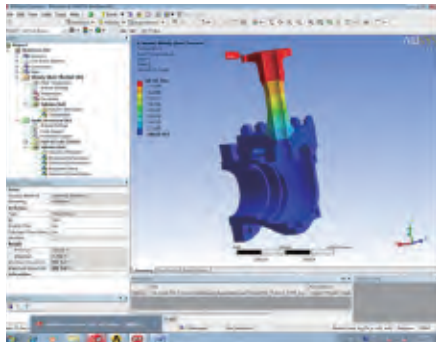


Three coordinate inspection of body

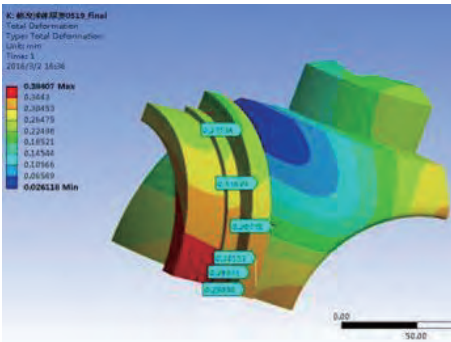


Ultrasonic cleaning

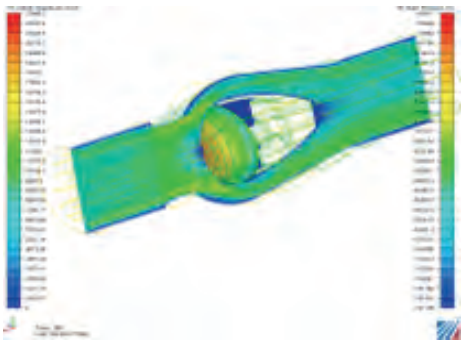
Research and development capability



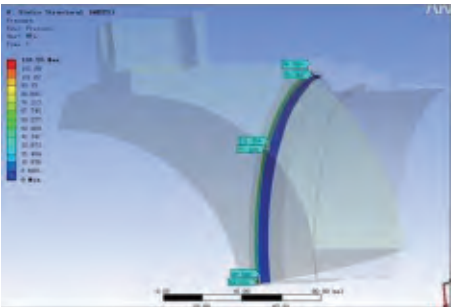
Temperature field analysis



Shell strength analysis



Sealing analysis



Flow characteristics analysis

Performance Verification



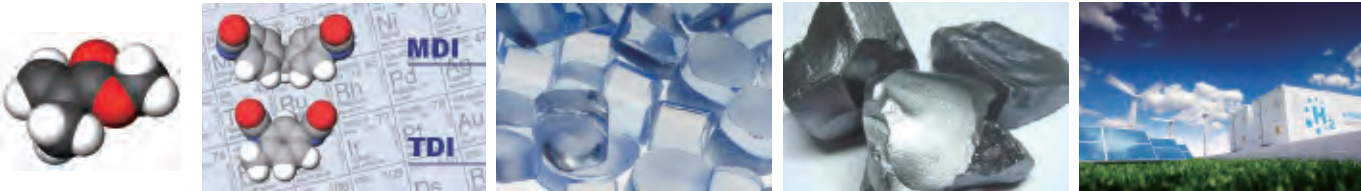
High temperature testing ≥5000 times switch life cycle verification Low temperature testing

Advantages

Truly torque force sealing do not need to be compensated by floating seat; Fixed seat without hidden dangers which blocking the ball by medium crystallization, polymerization, deposition, Maintaining high sealing performance after frequency switch at low and high temperature .

Application

C-type ball valve is suitable for conditions with particles, easy to condense or coking, such as MMA, MDI, TPU, Polysilicon, Coal Chemical, LNG, Liquid Hydrogen and so on. It can also be used in place of High-end ball valves and to reduce user's costs.



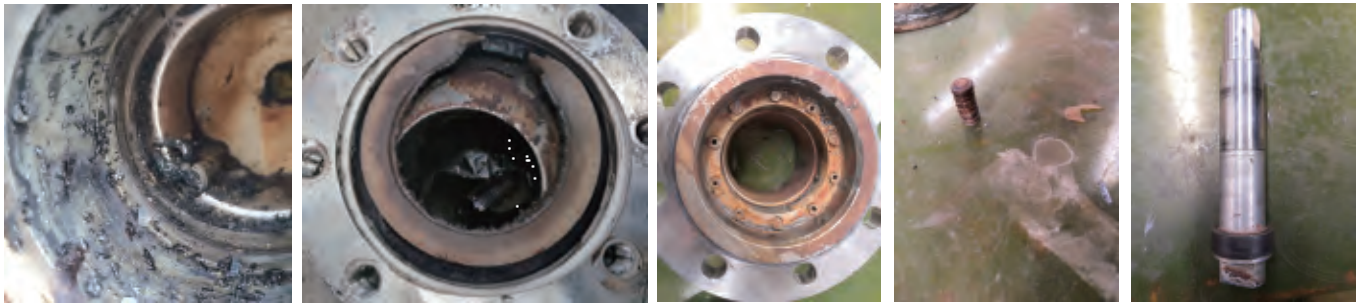
MMA MDI (Diphenyl methane di-isocyanate) Thermoplastic Polycrystalline Silicon Liquid Hydrogen
(Methyl Methacrylate An) TDI (Toluene di-isocyanate) etc. Polyurethanes

MDI / HDI Ball valve technology improvement

Item	Parameter
medium	HDI :phosgene/chlorobenzene/ HDI(Hexamethylene Di-isocyanate)
temperature	130 ~ 150℃
pressure	300LB (0.8Mpa)



Ball valve blocked by medium solidification Ball valve blocked by medium self-aggregation Trunnion and bearing jammed by medium coking



Ball jammed by medium coking Spring failure Stem bearing blocked

Equipment	Newey breakthrough valve type	Service life	Usage and improvement effect
HDI	Eccentric C-Type Ball Valves	>24 months	The original O-type ball valves were only used for 4 months before failure. Now C-type ball valves have been used for more than 2 years with smooth switch and no leakage
MDI	Eccentric C-Type Ball Valves	>24 months	A well-known international brand O-type ball valves were only used for 6 months before failure. Now C-type ball valves have been used for more than 2 years with smooth switch and no leakage

Application

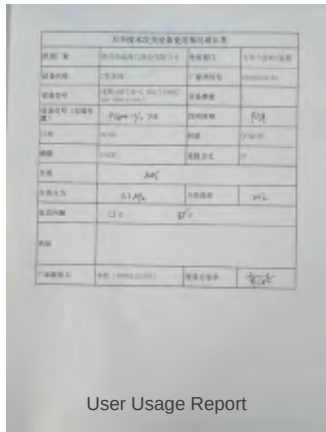
MDI/HDI Equipment

The original well known O-type wear-resistant ball valve appeared faults after the average operation life about 6 months on the equipment, such as abnormal increase of torque, unable to operate, etc.



Coking in the valve body cavity

Size	Class	Connection	Operation	Application equipment
3"-6"	300LB	LG	Gear box	HDI
4"-6"	150LB	RF	Gear box	MDI



NW eccentric C-Type ball valve application

The NW eccentric ball valve has been running stably more than 15 months on a chemical device which is easy to coking and self-polymerization. One valve was disassembled and inspected, the main parts are still in good condition, indicating that the bearing protection is reliable, and the seat sealing part is clean and free of foreign materials.

Application

NW eccentric C-type ball valve with self-cleaning, wear resistance, erosion resistance, high life and other excellent performance, Widely used in chemical industry (silicon chemical, PTA, MDI, PX, MMA and other devices), refining and petrochemical industry (delayed coking, catalytic cracking, hydrocracking and other devices), coal chemical industry, metallurgy, oil and gas mining, LNG and other working conditions including particles, easy coking, high scouring, high wear, strong corrosion, high operating frequency, high sealing performance requirements.

Product Warranty

Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.