

GUIDE VALVE LIMITED

"Better by Design"



Distributors/Agents



Global Supply Line are Guide Valve sole agents, stockists, distributing to Australia, NZ & PNG, and can automate, service & test in our Adelaide Lloyd's 9001 facility, approved by Guide Valve.

Contact us: sales@globalsupplyline.com.au

Stock lists at our website: www.globalsupplyline.com.au

Mission Statement

It is our mission to effectively and continuously engage in methods of technology and innovation to meet the organizational goals of GVL and "Better By Design" products, while at the same time, striving to exceed the needs and expectations of our clients.

Fostering a company environment for overall safety, continuous improvement and cultivating cooperation and mutual respect towards our environment, employees, suppliers, and customers.

CORPORATE VIDEO

<https://www.youtube.com/watch?v=DOPSxYN5Jrs>



CANADIAN HEAD OFFICE & PLANT



USA SALES OFFICE & WAREHOUSE



GUIDE VALVE

WUXI LIMITED



API 6D & API-6A CERTIFICATIONS



**American
Petroleum
Institute**



2018-151 | Digital

Certificate of Authority to use the Official API Monogram

License Number: 6D-1822

ORIGINAL

The American Petroleum Institute hereby grants to

GUIDE VALVE WUXI LIMITED
Building M, No. 30 Wanquan Road
Xishan District
Wuxi, Jiangsu
People's Republic of China

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-6D** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6D-1822**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ball Valves, Plug Valves

QMS Exclusions: Servicing

Effective Date: JULY 16, 2024

Expiration Date: JULY 16, 2027

Senior Vice President of Global Industry Services

To verify the authenticity of this license, go to www.api.org/compositelist.



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2018-151 | Digital

Certificate of Authority to use the Official API Monogram

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In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6A-2250**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Gate, Ball, Plug Valves at PSL 1, PSL 2, PSL 3, PSL 4

QMS Exclusions: Servicing

Effective Date: JULY 16, 2024

Expiration Date: JULY 16, 2027

Senior Vice President of Global Industry Services

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API Q1 & APIQR-ISO CERTIFICATIONS



ISO CERTIFICATE



CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

Guide Valve Limited

Main Site: 51 Terecar Drive, ,
Woodbridge, Ontario, L4L 0B5, Canada

has been registered by Intertek as conforming to the requirements of:

ISO 9001:2015

The management system is applicable to:

The design and manufacturing of valves.

Certificate Number:
0052985

Initial Certification Date:
06 September 2016

Date of Certification Decision:
18 August 2025

Issuing Date:
18 August 2025

Valid Until:
05 September 2028



intertek

Rathin Grover
President, Business Assurance

Intertek Testing Services NA,
Inc. dba Intertek,
4700 Broadmoor SE Suite 200 Kentwood,
Michigan 49512, United States



In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone. The certificate remains the property of Intertek, to whom it must be returned upon request.



INTRODUCING **GVS**® PRESSURE BALANCE LUBRICATED PLUG VALVE



API -6D CERTIFICATE



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2018-151 | Digital

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The scope of this license includes the following: Ball Valves, Plug Valves

QMS Exclusions: Servicing

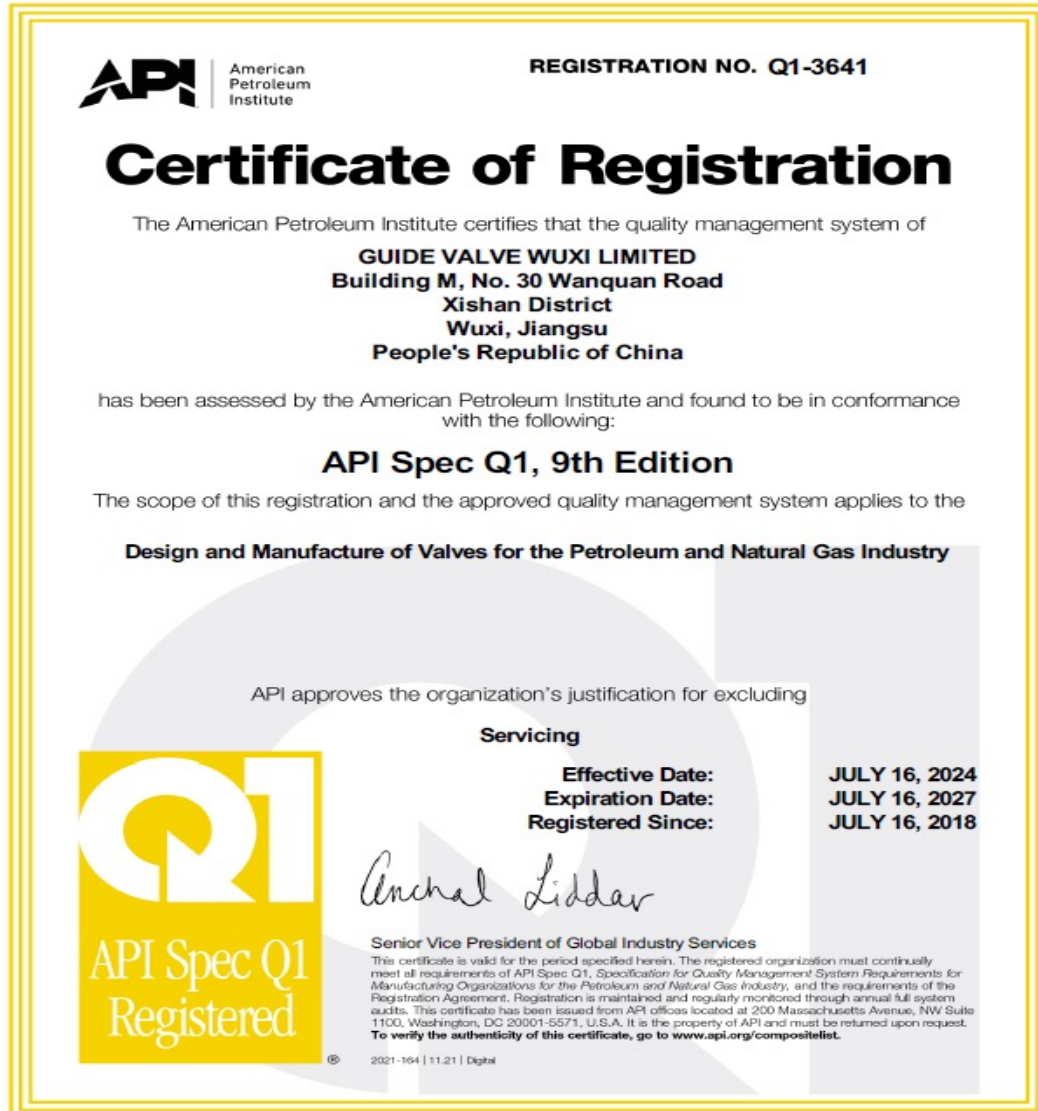
Effective Date: JULY 16, 2024

Expiration Date: JULY 16, 2027

Senior Vice President of Global Industry Services

To verify the authenticity of this license, go to www.api.org/compositelist.

API Q1 & APIQR-ISO CERTIFICATIONS



API 607 & 6FA FIRE SAFE CERTIFICATIONS

Fire Test Report

ANSI/API Standard 607, 6th Edition, 2010

ISO 10497: 2010

API Standard 6FA, Third Edition, April 1999

Performed for

Guide Valve Limited

www.gvs-vci.com

←————→
2 inch Class 600 Plug Valve
Valve Code: 02-P1R-600-RF-L-01

Project Number: 215206
Test Date: August 5, 2016

←————→
Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

434 Walnut Hill Road
North Yarmouth, ME 04097 USA
(207) 829-5359
info@yarmouthresearch.com
www.yarmouthresearch.com

Fire Test Report

ANSI/API Standard 607, 6th Edition, 2010

ISO 10497: 2010

API 6FA, Third Edition, April 1999

Performed for

Guide Valve Limited

www.gvs-vci.com

←————→
8 inch Class 600 Pressure Balanced Plug Valve
Valve Code: 08-P1R-600-RF-G-02

Project Number: 215206
Test Date: August 25, 2015

←————→
Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

434 Walnut Hill Road
North Yarmouth, ME 04097 USA
(207) 829-5359
info@yarmouthresearch.com
www.yarmouthresearch.com

API 641 FUGITIVE EMISSION CERTIFICATIONS

API Standard 641, First Edition, 2016

Test Report

“Type Testing of Quarter-turn Valves for Fugitive Emissions”

Performed for

Guide Valve Limited

www.gvs-vci.com

3 inch Class 2500 GVS Lubricated
Pressure Balanced Plug Valve
Product Code: GVS 3" Plug Valve

Project Number: 222346

Test Start Date: December 13, 2022

Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

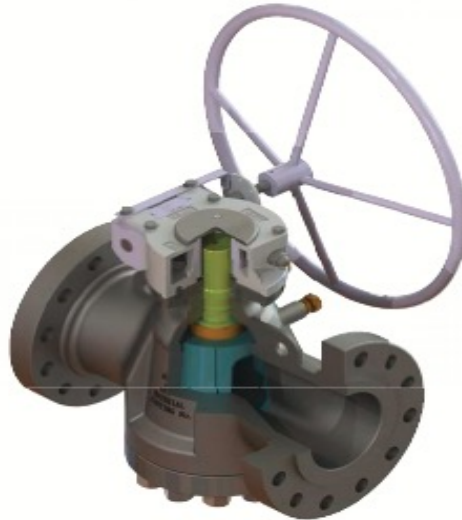
434 Walnut Hill Road
North Yarmouth, ME 04097 USA
(207) 829-5359

info@yarmouthresearch.com
www.yarmouthresearch.com

PRESSURE BALANCE LUBRICATED PLUG VALVES



Model P1 - Short Pattern
ANSI Class 150 & 300
Sizes: 2" up to 12"



Model P1 - Regular & Venturi Pattern
ANSI Class 150 up to 1500
Sizes: 2" up to 30"

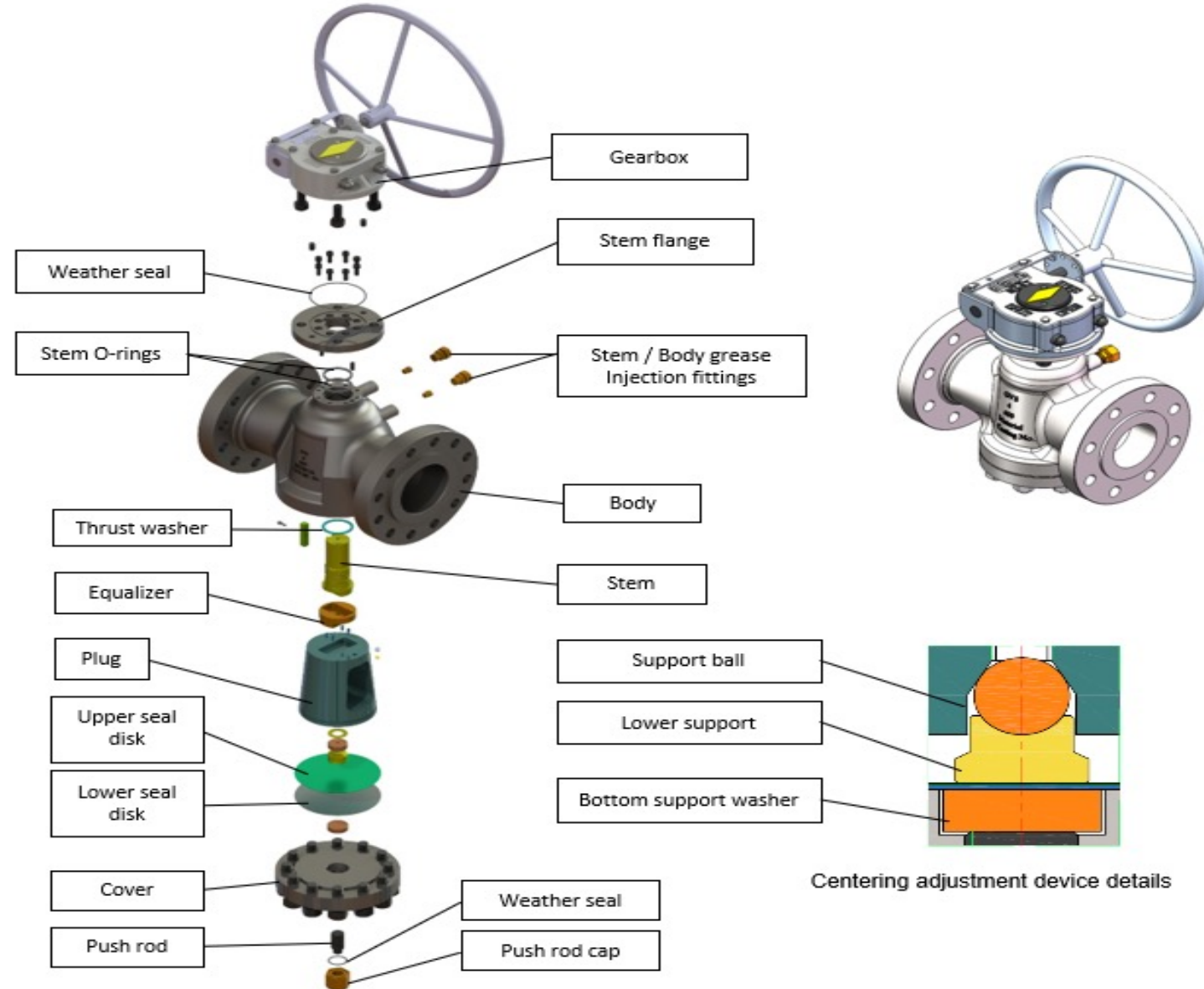


PRESSURE BALANCE LUBRICATED PLUG VALVES

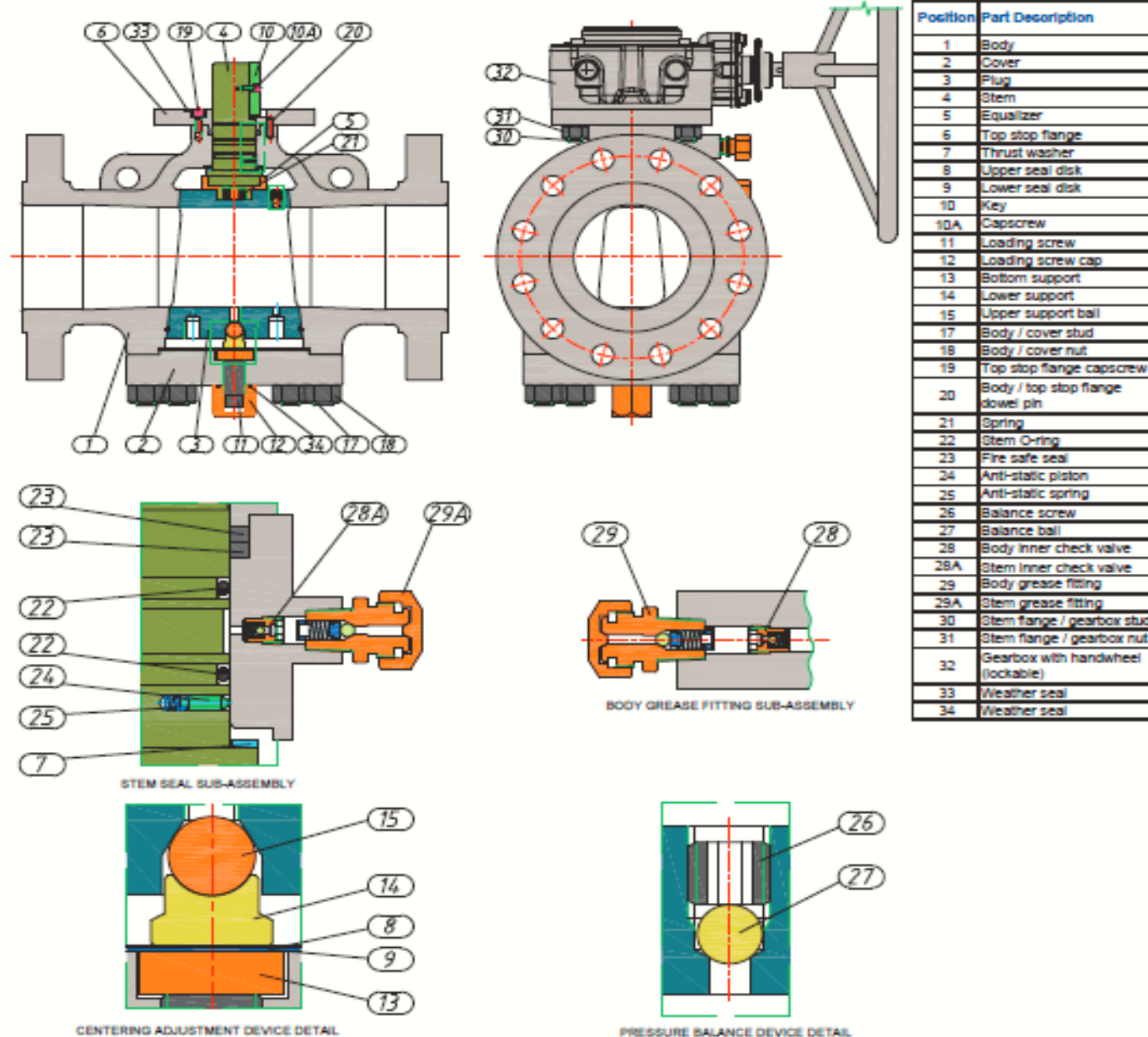
- Sizes: 2" to 30"
- ANSI CLASSES 150 – 2500
- Patterns Available
 - Short – Regular - Venturi
- Low Temperature Lubricant
- API 6D Latest Edition(s) Monogrammed
- CSA Z245.15 Latest Edition(s)
- **API 607 & 6FA Fire Safe Certified**
- Fugitive Emission Certified – API 641
- Canadian Registration Numbers – Across Canada



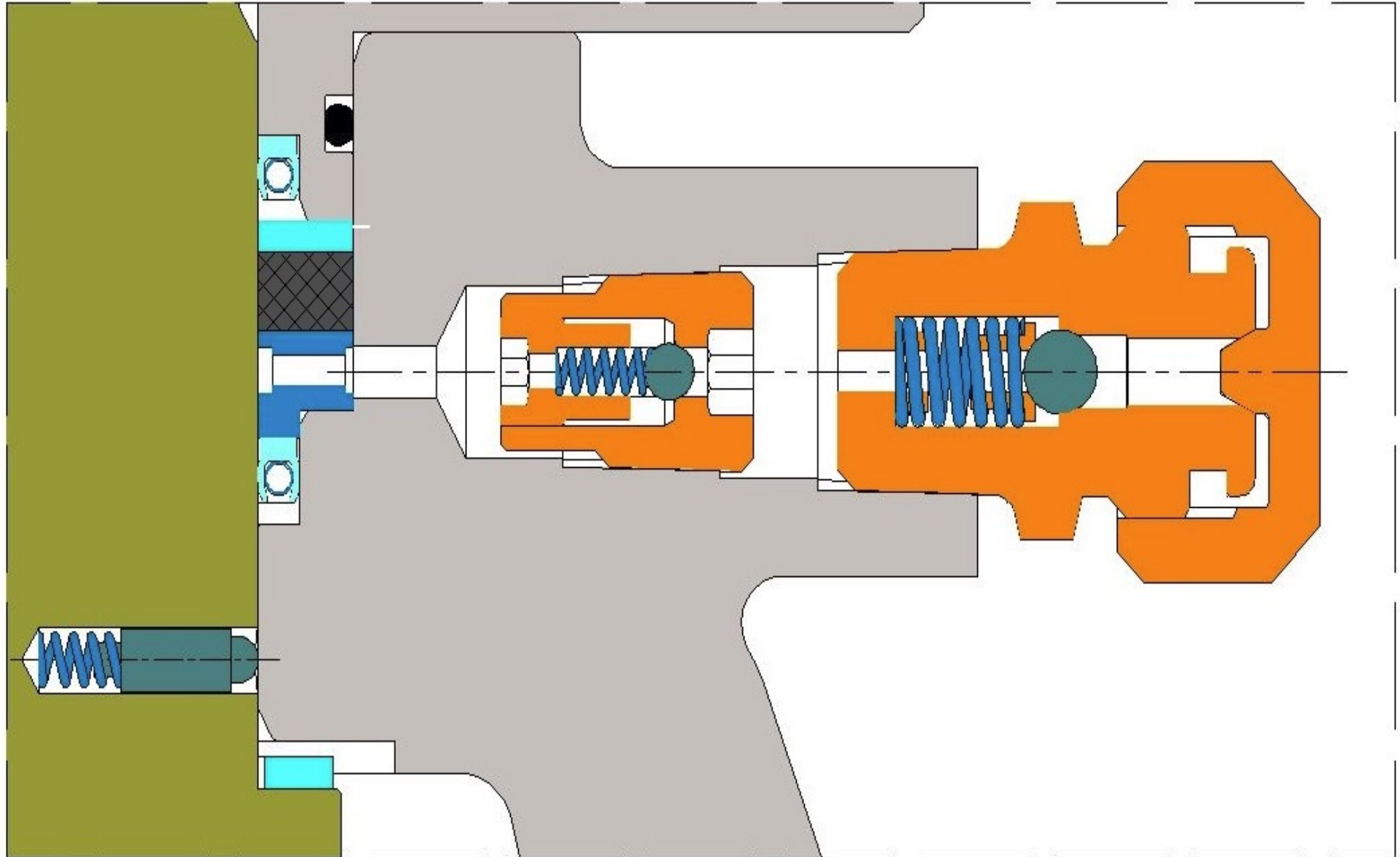
PRESSURE BALANCE LUBRICATED PLUG VALVE



PRESSURE BALANCE LUBRICATED PLUG VALVES



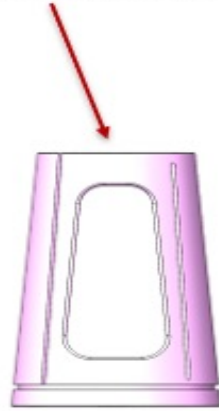
STEM SEALING ASSEMBLY



HOW A PRESSURE BALANCE PLUG VALVE FUNCTIONS

All valves have a round port at each end and a trapezoidal port on the plug.
Plug's seat surfaces are self-protecting and self-cleaning. Any abrasive particle on fluids that touches the plug in a closed position is wiped off when the plug turns back to the open position.

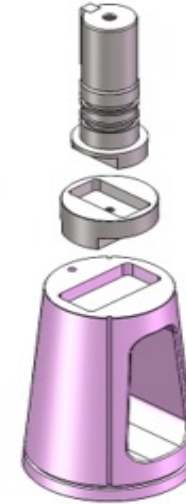
Inverted plug, has (5) vertical grease channels and (2) balancing holes.



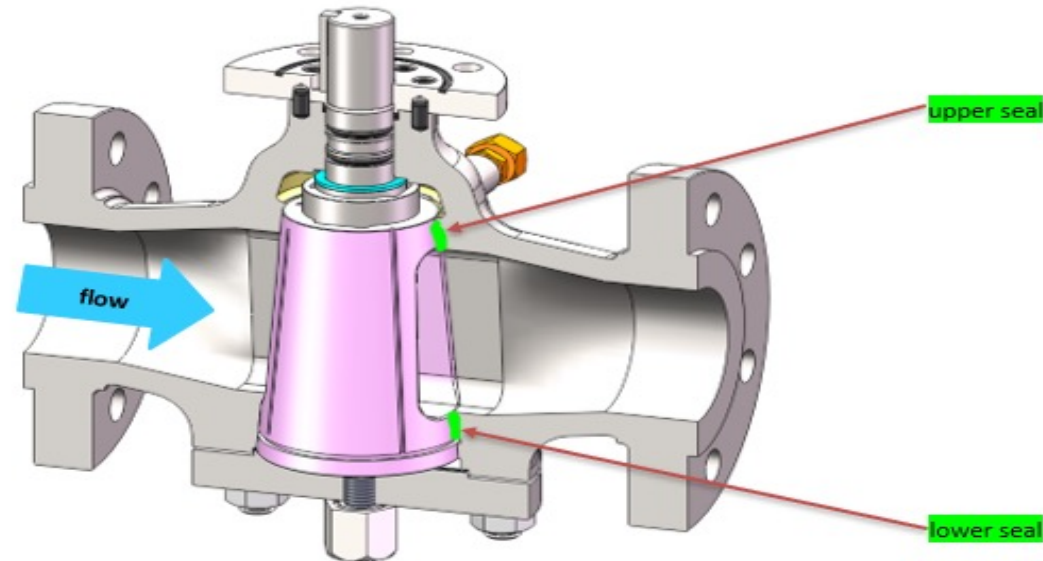
Valve's body, bonnet and stem flange are bolted together.
Stem, equalizer and plug are engaged together.
The plug works like a floating ball.
Connection between stem-equalizer-plug allows this.

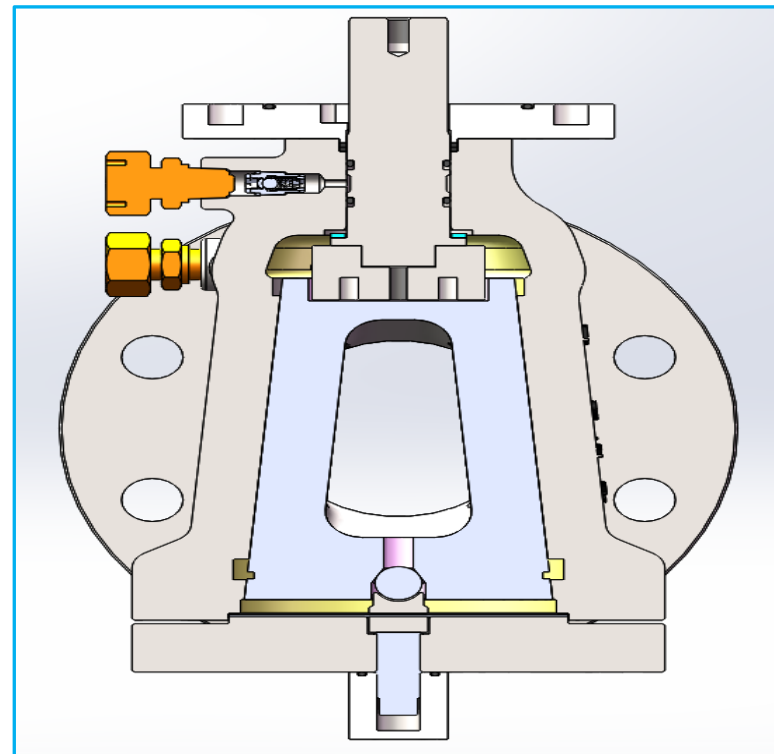
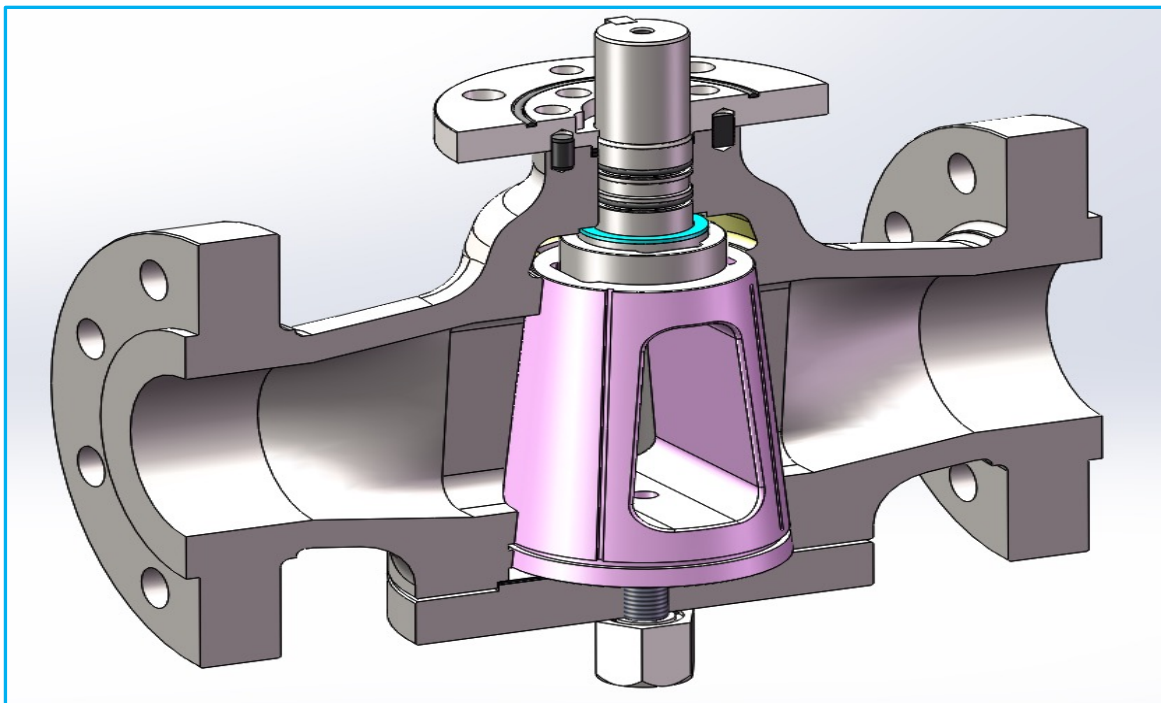
The sealing design is based on the principle of tapered plug that seals metal-to-metal on its tapered mating surface plug-to-body.
The plug is kept in contact thru tapered surface(s) and pushed upward by ball/ball holder underneath it.
The seal (bubble-tight) is helped and guaranteed by a thin film of lubricant/grease.

The plug seals in the lower and upper conical/tapered area of the body.



Fluid pressure from upstream side will create a seal in the downstream seal area (continues on page 4).





Part 3: How pressure balancing works on plug valves

The plug is designed to be pressure-balanced, to ensure the pressure is equalized (the same) between the cavity (upper and lower chambers), plug's trapezoidal bore and the valve ends.

Once the fluid enters plug's bore, it will flow thru lower and upper balancing holes (see detail in page 4).

On the upper cavity, the fluid gets trapped (contained as the ball on balancing hole will not allow it to reverse in the plug bore), and ensures the pressure above the plug remains the same or greater than plug's bore.

On the lower cavity, the fluid travels both ways, in and out, and maintains pressure equalization between the lower cavity and plug's bore.

Valve opened:

With the valve installed in the pipeline, the first time it is opened, the fluid enters the bore, then thru balancing holes fills the lower and upper cavities.

The same pressure exercised on a larger area (bottom of the plug vs. the top) pushes the plug upward and creates the first seal.

The pressure remains the same within body cavities as the line pressure **P1**, the plug remains balanced vertically.

Valve closed:

With the valve closed (or i.e., valve open and line pressure drops) the pressure in the bore and lower cavity decreases and remains equal.

The pressure in the upper cavity **P2** decreases and typically remains higher than the bore/lower cavity.

The plug is designed to balance between different pressures applied to different areas (bottom vs. top)

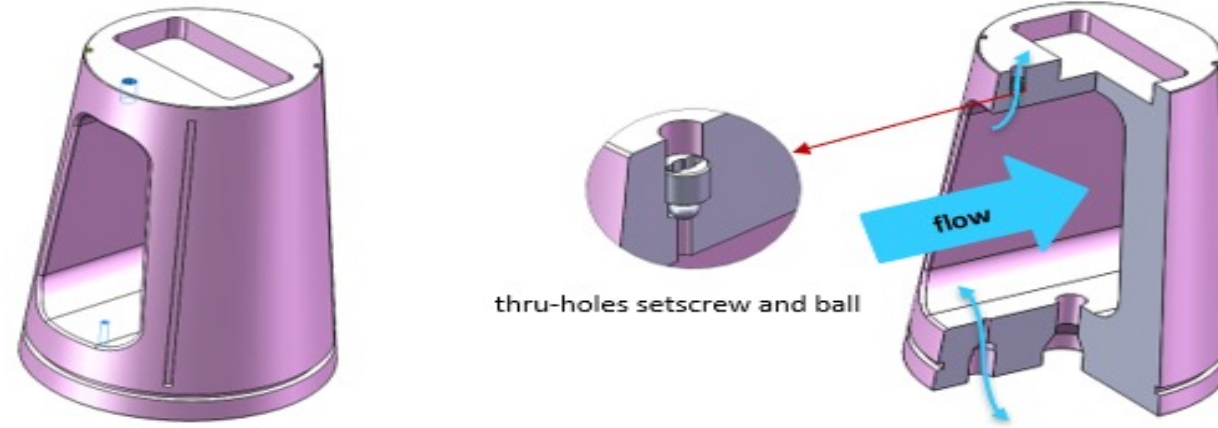
Rule of thumb $P2 \geq P1$.

This ensures consistent operation and predictability of torques.

Additionally, this ensures the plug does not seize on top tapered seal surface.

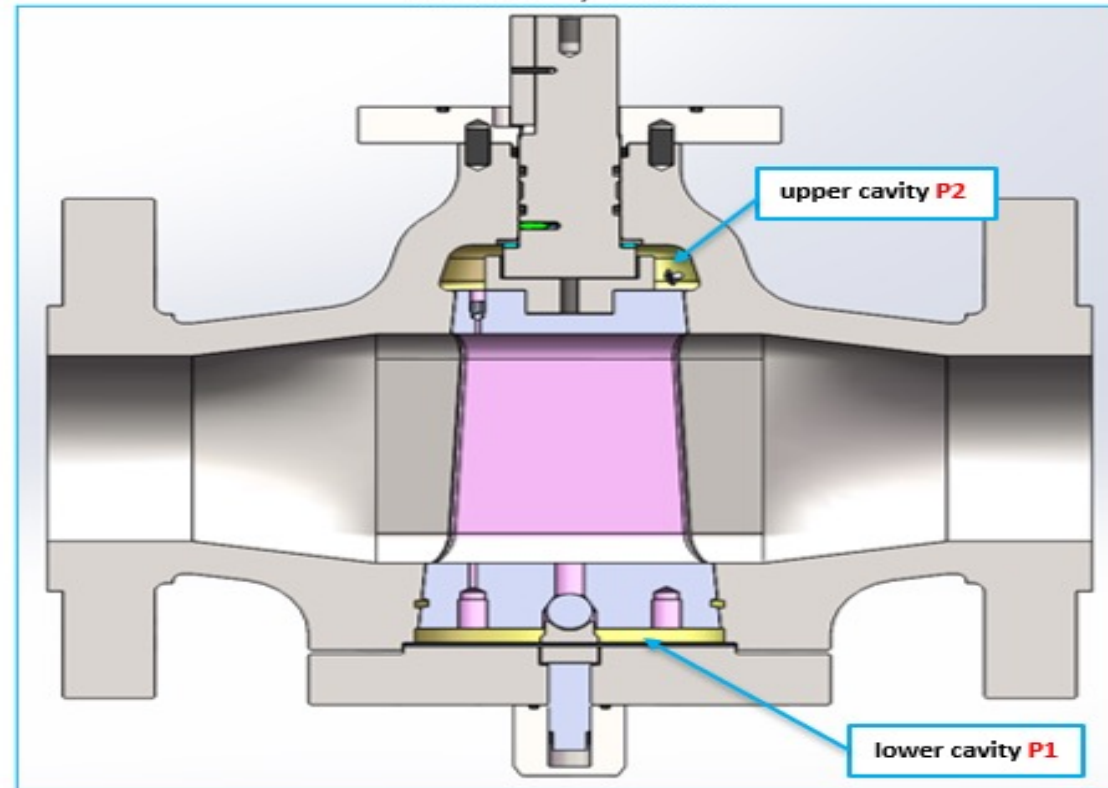
Note: A single plug valve does not function as a Double Block and Bleed (DBB) valve.

All plugs are provided with balancing holes. These are drilled on the plug to have fluid pressure go thru for balancing purposes. The lower is a thru hole and allow fluid passage both ways; and the upper has a setscrew & ball installed on it and these function as a check valve.



thru-holes setscrew and ball

Cross-section, front view



PLUG VALVE LAPPING

