Flow-Tek®
A Subsidiary of BRAY INTERNATIONAL, Inc.

OVERVIEW

Flow-Tek Overview

Founded 1983 in Columbia, South Carolina

Purchased by Bray in 1999

Relocated to Houston 2001

Flow-Tek
A Subsidiary of BRAY INTERNATIONAL, Inc.

Flow-Tek - Houston

Bray Controls China – Flow-Tek

Worldwide Locations


United States


USA - Technical Center


China


United Kingdom


Canada


Brazil


Australia


Chile


Mexico


Poland


USA – Flow-Tek


Canada – Rite Corp.


Germany


Netherlands


India


Argentina

14 other Bray locations not shown

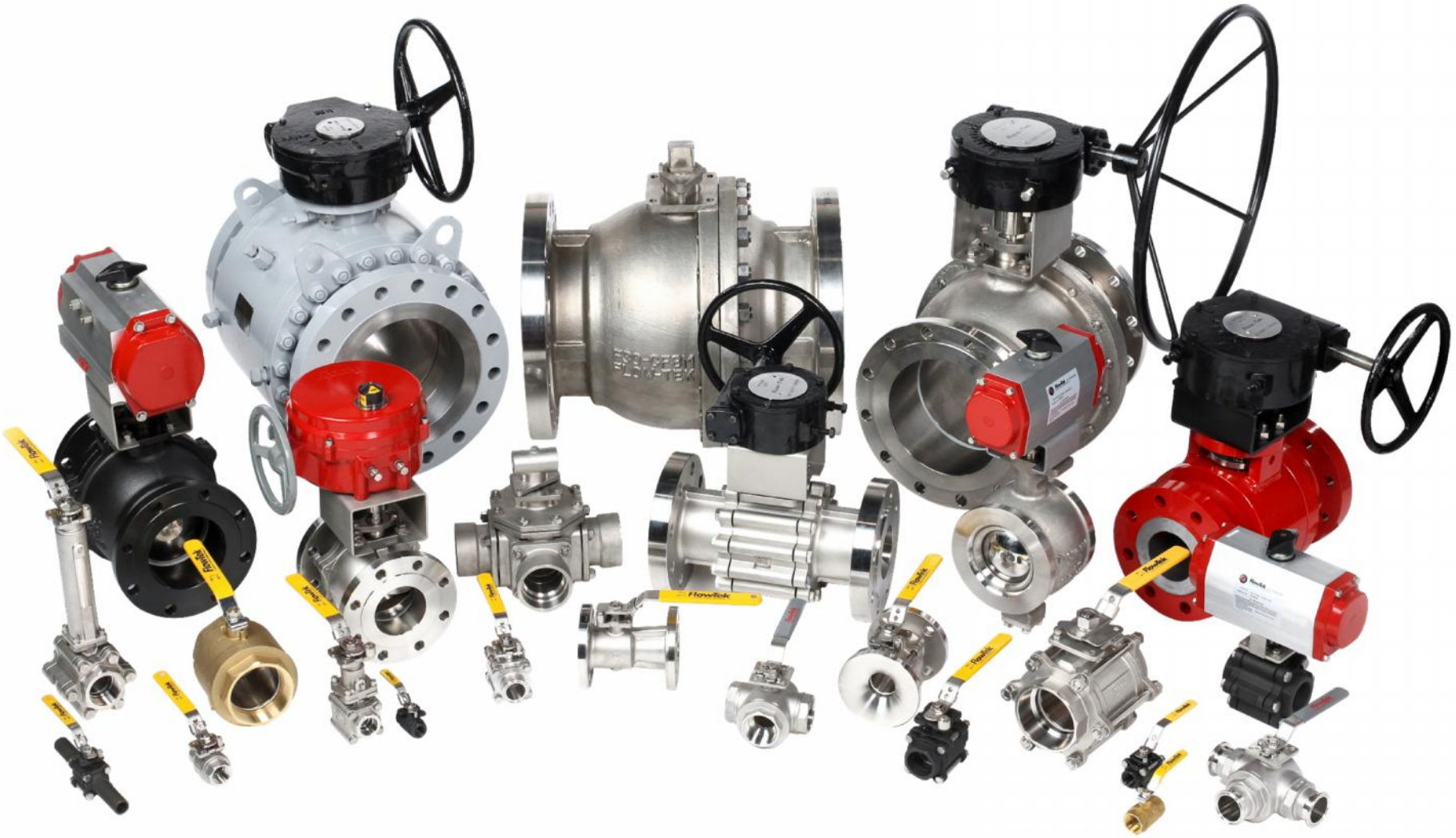
Major Global Customers / Strategic Alliances

- Exxon Mobil
- Shell
- Chevron
- Alstom Power
- Praxair
- KBR
- Veolia
- Air Liquide
- Repsol
- JEA
- SJRPP
- Linde Process
- Petrobras
- Aramco
- Dow Chemical
- BASF
- General Electric
- Siemens
- Santee Cooper
- Hitachi
- Southern Company
- Reliant/NRG
- Bechtel
- Fluor
- AMEC
- Babcock & Wilcox
- Black & Veatch
- URS/Advatech
- Dominion Power
- Mitsubishi
- TXU Energy
- DuPont
- Conoco Phillips
- Air Products
- Johnson Controls
- Florida Power & Light

Sample list - not a comprehensive listing

Certifications & Approvals

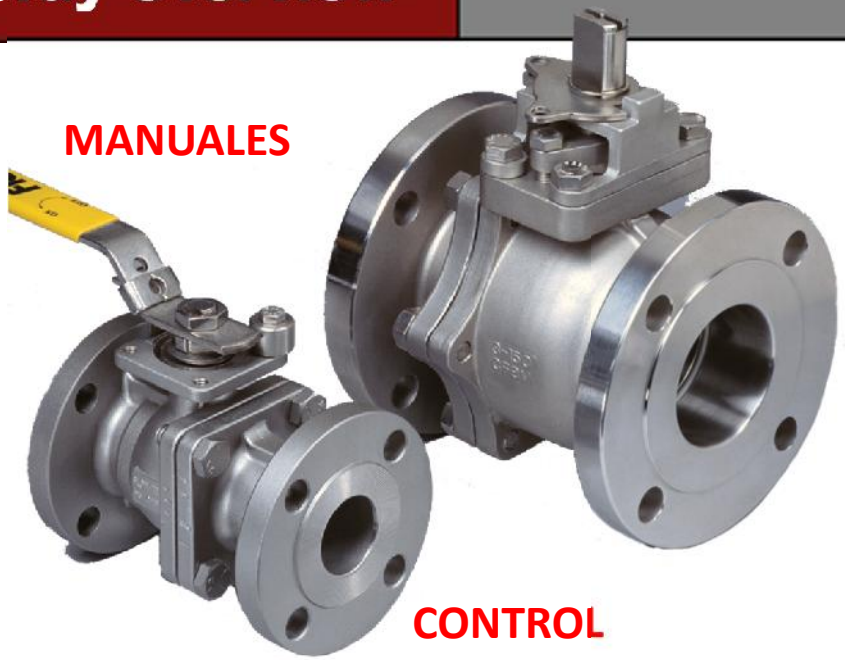
Bray Overview



FlowTek
A Subsidiary of BRAY INTERNATIONAL, Inc.

Bray Overview

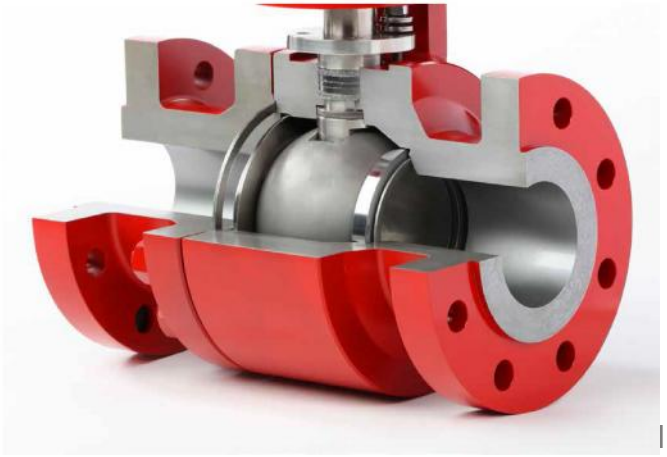
MANUALES



ON-OFF Y SDV

CONTROL

SERVICIO SEVERO

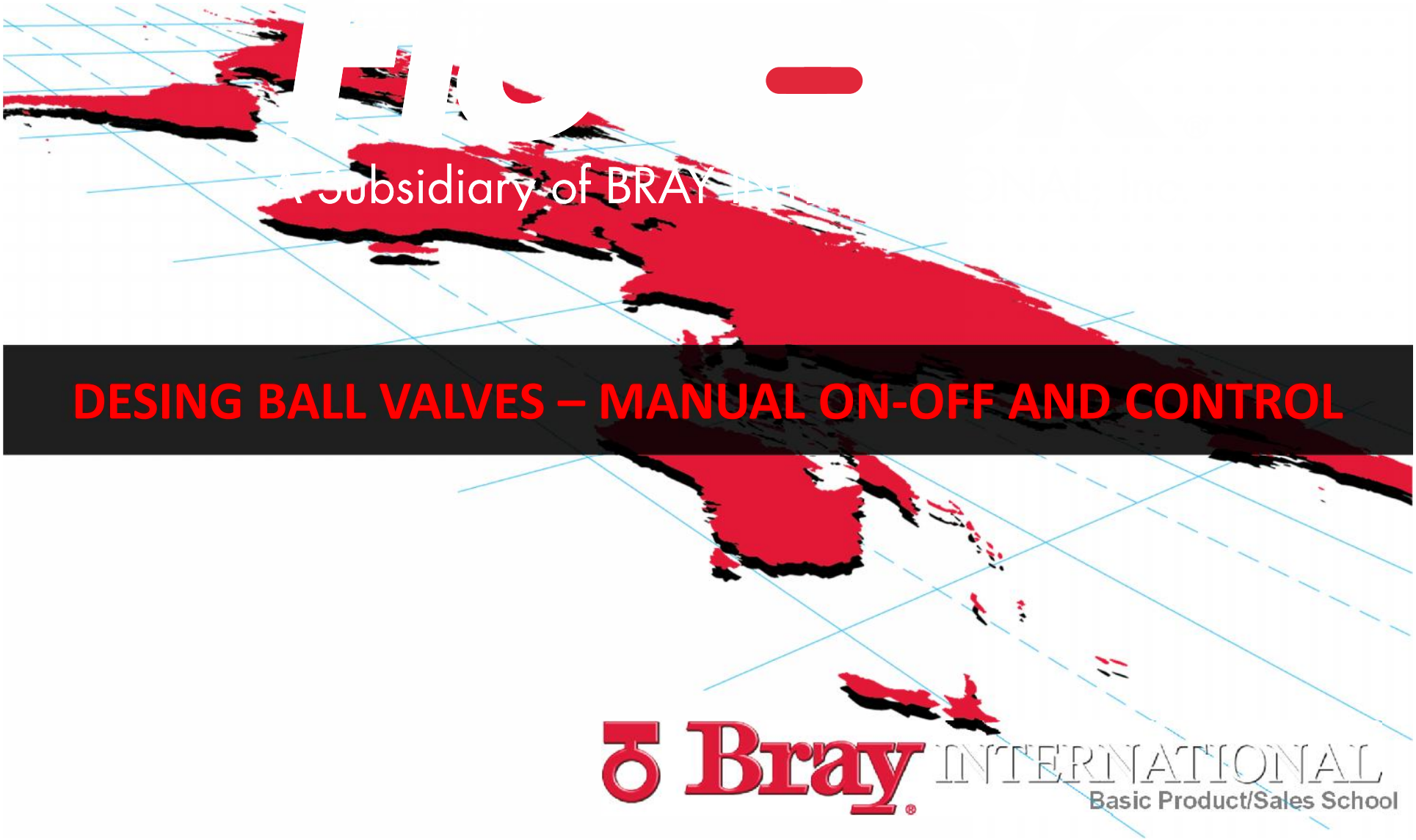


ACTUADORES

ACCESORIOS

POSICIONADORES

ACTUADORES ELECTRICOS

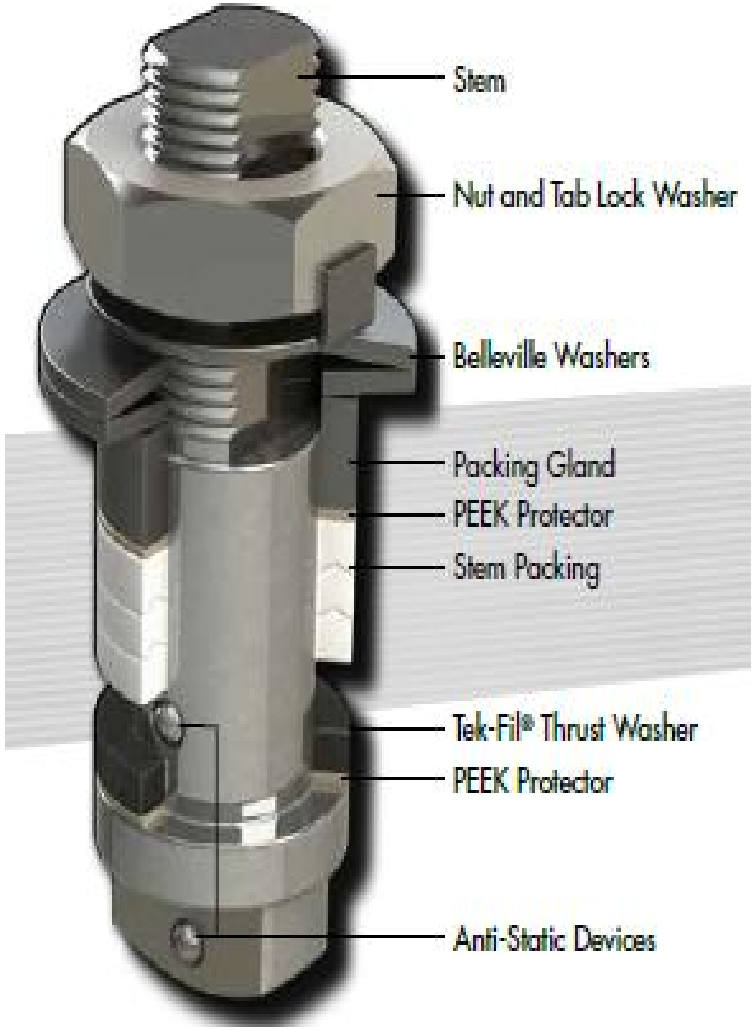


DESING BALL VALVES – MANUAL ON-OFF AND CONTROL

Bray INTERNATIONAL

Basic Product/Sales School

FLOW-TEK BALL VALVE DESIGN FEATURES



STEM DESIGN

TEM"

Certificate

TÜVRheinland

We hereby certify that the stem sealing of the ball valves and the body gasket of below series were reviewed and recognized in accordance with EN ISO 15848-1:2015

Model F15 / F30, 2.5" – 12" ANSI Class 150 – 300
Model FD15/FD30, DN65-300, PN10-40
Model RF15 / RF30, 3" – 12" ANSI Class 150 – 300
Model RFD15/RFD30, DN80-300, PN10-40
Model 7000 / 8000, 3" – 12" 1000WOG
Model TRIAD 2.5" – 4" 2200WOG

Certificate no.:	01 202 USA/T-16 2826-3
Name and address of the manufacturer:	Flow-Tek Inc. 8323 N. Eldridge Parkway Houston, Texas 77041 USA
Tested acc. to EN ISO 15848-1:	Industrial valves - Measurement, test and qualification procedures for fugitive emissions
Test report no.:	442826
Test Condition:	205 cycles @ Room Temperature per Clause 6.3.1
The product meet the requirement:	Graphite Seals Tightness Class BM (≤100ppm),

Certificate validity is dependent on the operating instructions being read and observed. In particular the bolted connections related to the sealing must be checked and tightened at regular intervals.

First issue of the certificate: 05.12.2016. This certificate is valid until May. 2021 with monitoring of production carried out annually.

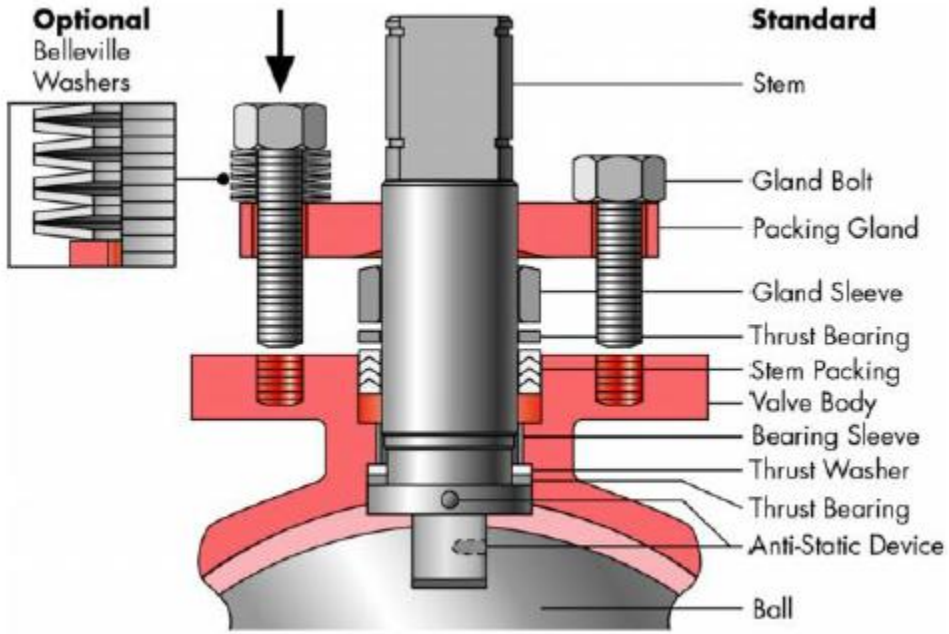
Location, Date	Name
Houston, TX May 12, 2016	Joe Shu

TÜV Rheinland Industrial Solutions, Inc.
8181 Broadmoor SE, Caledonia, MI 49316
Phone: 616-891-3570 Fax: 616-891-3660 Email: jshu@us.tuv.com

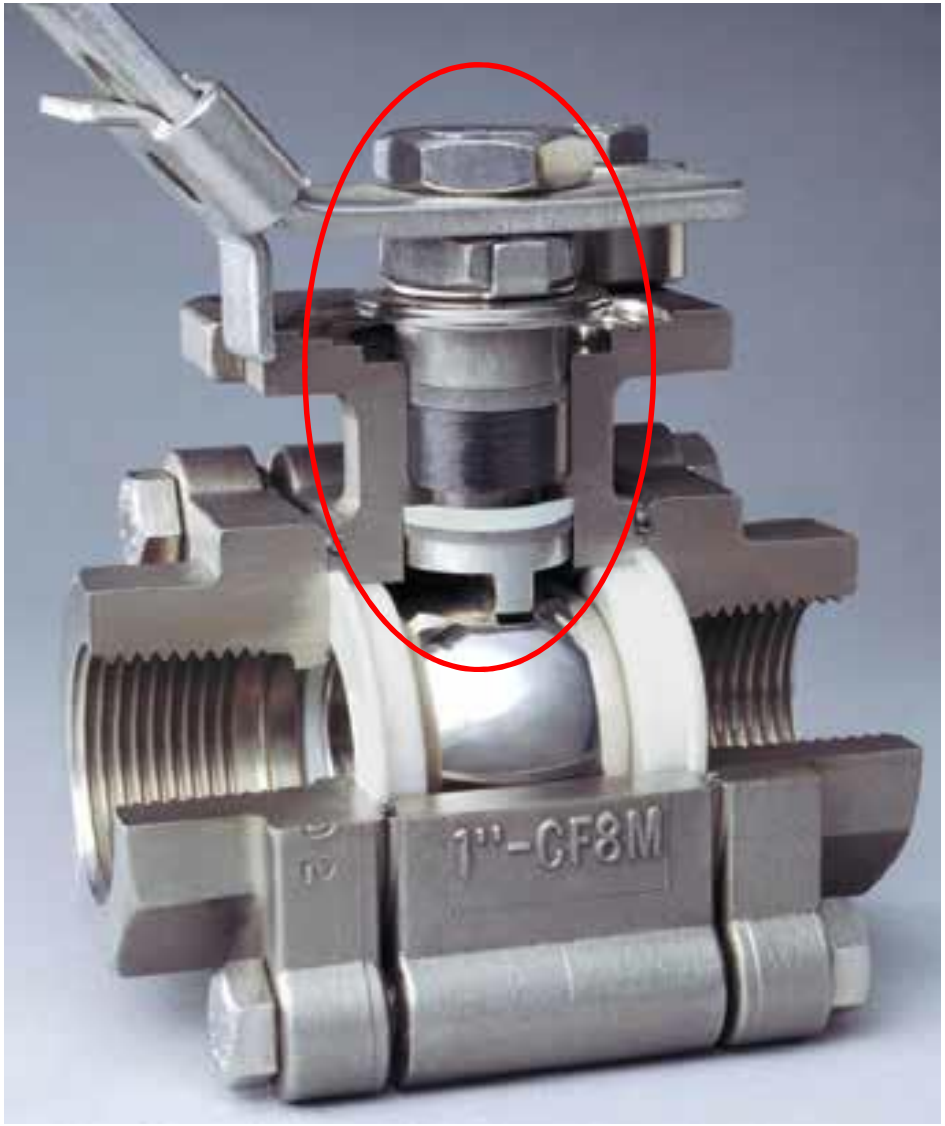
FLOW-TEK BALL VALVE DESIGN FEATURES

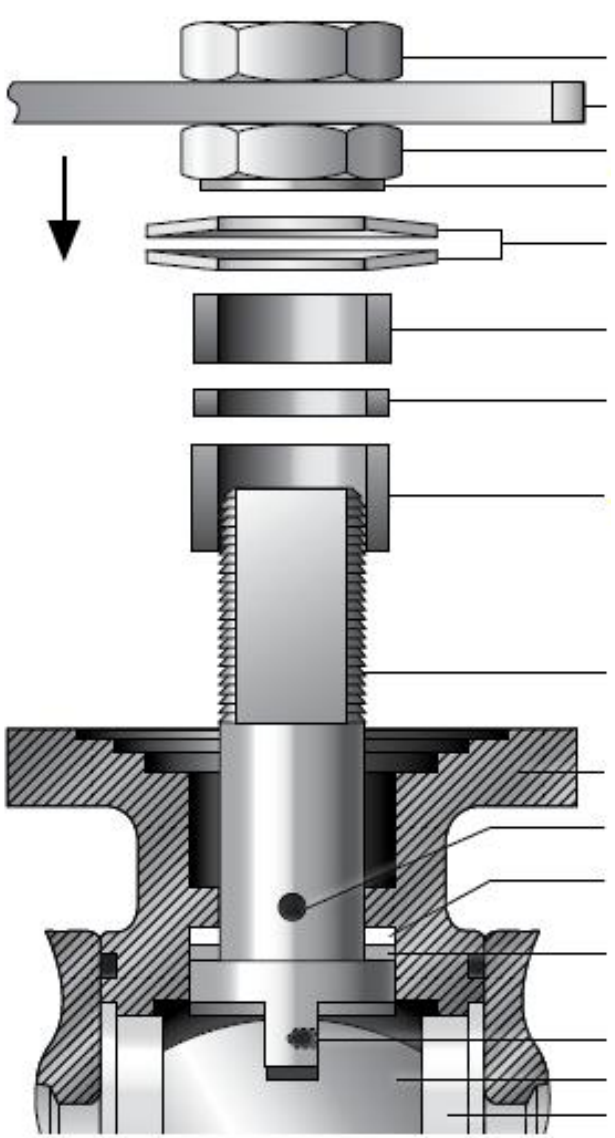
STEM DESIGN
"SMART STEM"

Tecnología de vástago inteligente, para sistemas redundantes en válvulas automatizadas y sistemas de vástago antiexpulsion fundidos sobre el vastago

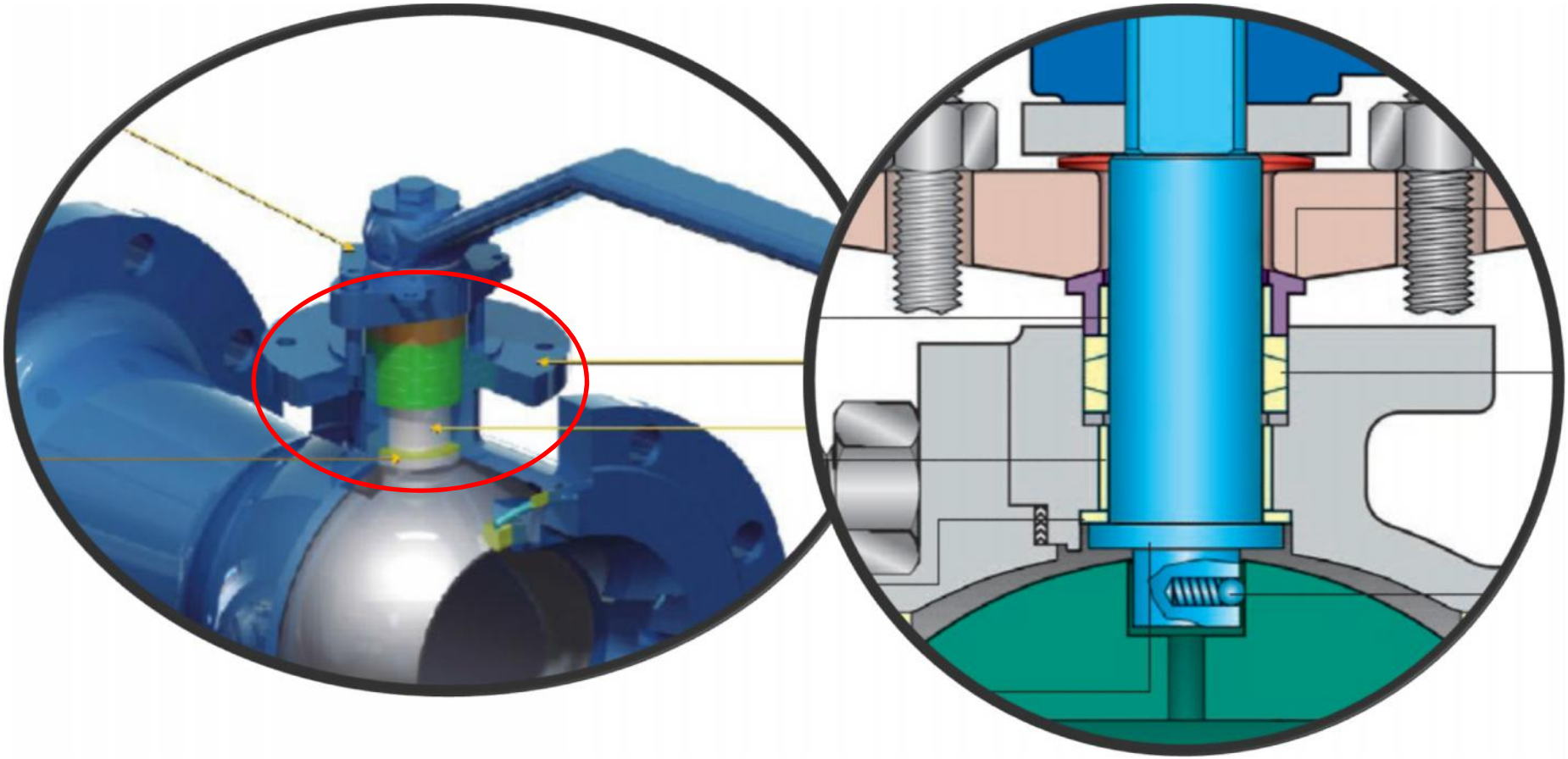


FLOW-TEK DESING

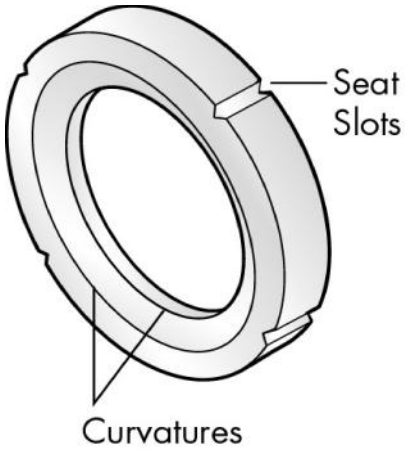




Competitors - STEM



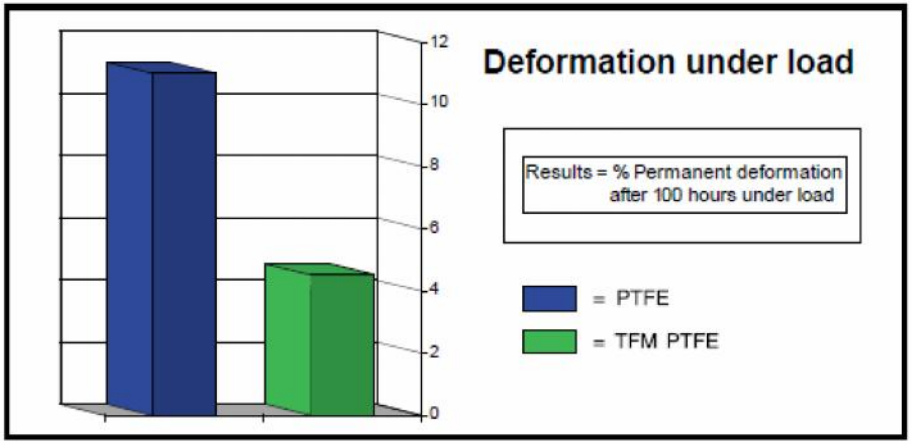
SOFT SEAT AND METAL SEAT DESIGN

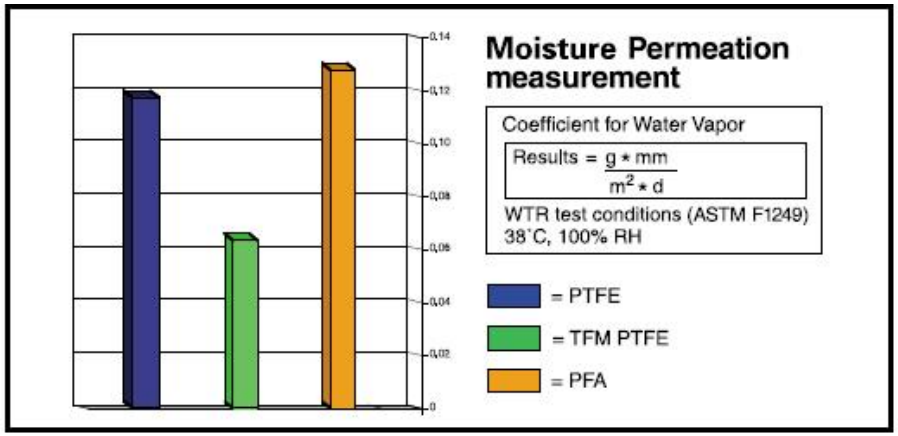


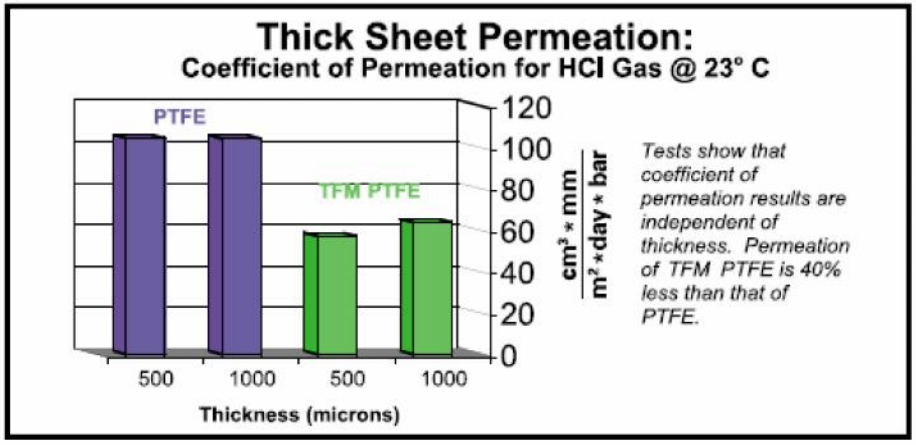
R-PTFE | 50/50 | **TFM-1600** | PEEK | **TEK-FIL (Carb/Grafi)**

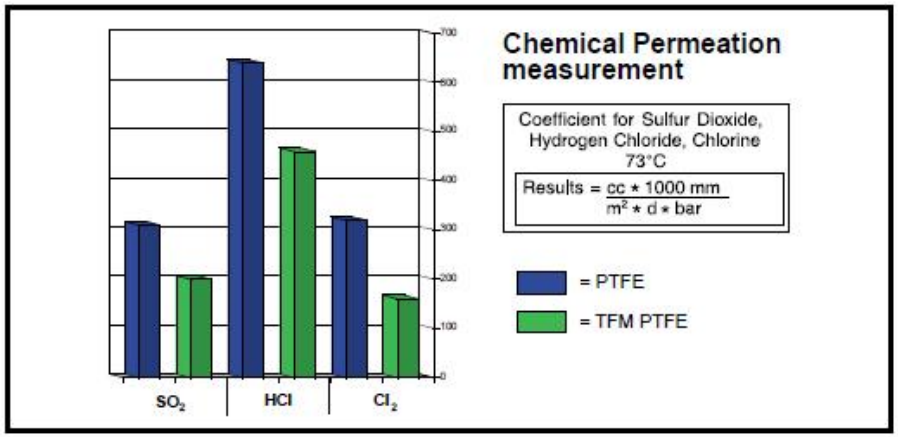
• PTFE (Virgin)	-50° to +450° F
• RPTFE (15% Glass Filled)	-50° to +450° F
• TFM 1600 STANDART ®	-328°to +500° F
• Tek-Fil (Carbon/Graphite filled TFM)	-328°to +650° F
• PEEK	-70° to +600° F
• SS Filled PTFE (50/50)	-20° to +500° F
• UHMWPE	-70° to +200° F

SEAT DESIGN









TFM 1600

FlowTek
Basic Product/Sales School

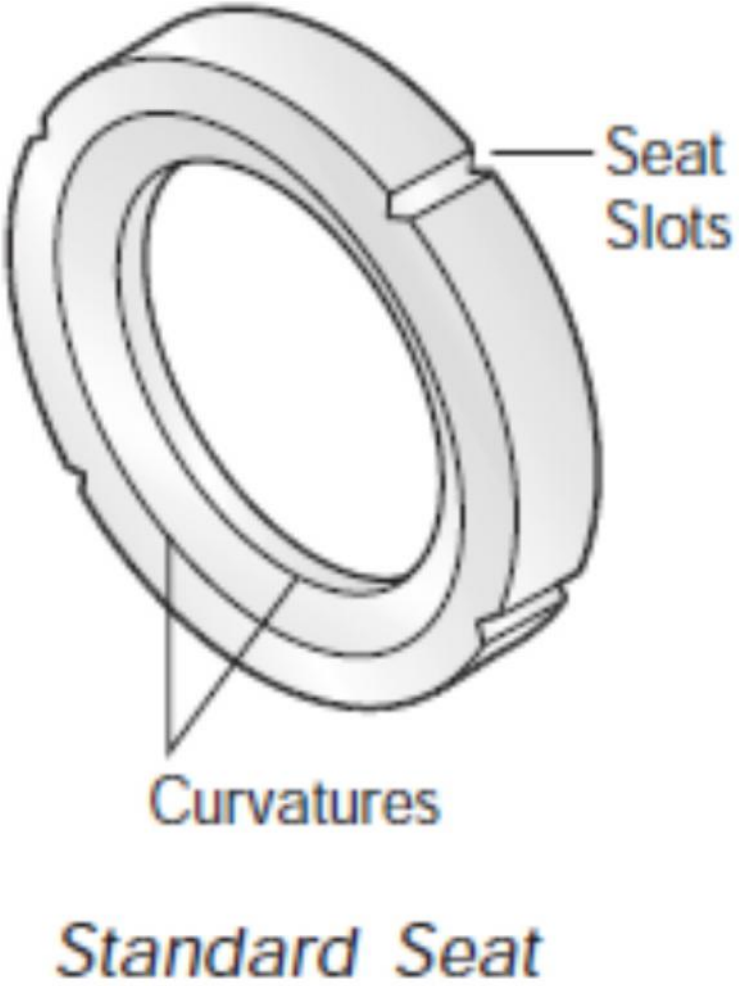
Seat Slots & Curvatures

Axial slots on the seat's circumference:

- allow for relieve pressure past the upstream seat

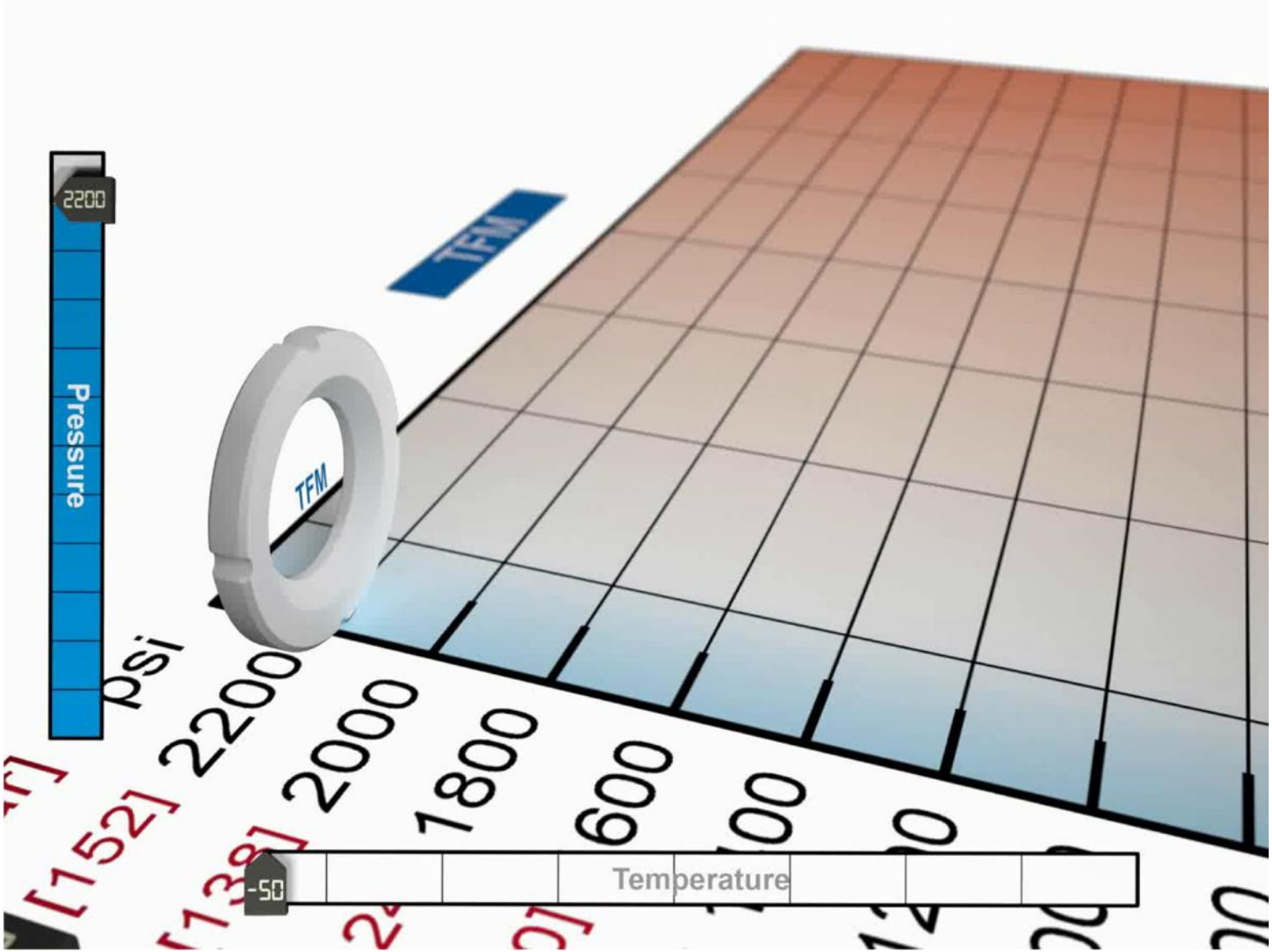
Curved seat face edges:

- Minimize contact stresses and cold flow
- Reduce friction, torque, wear

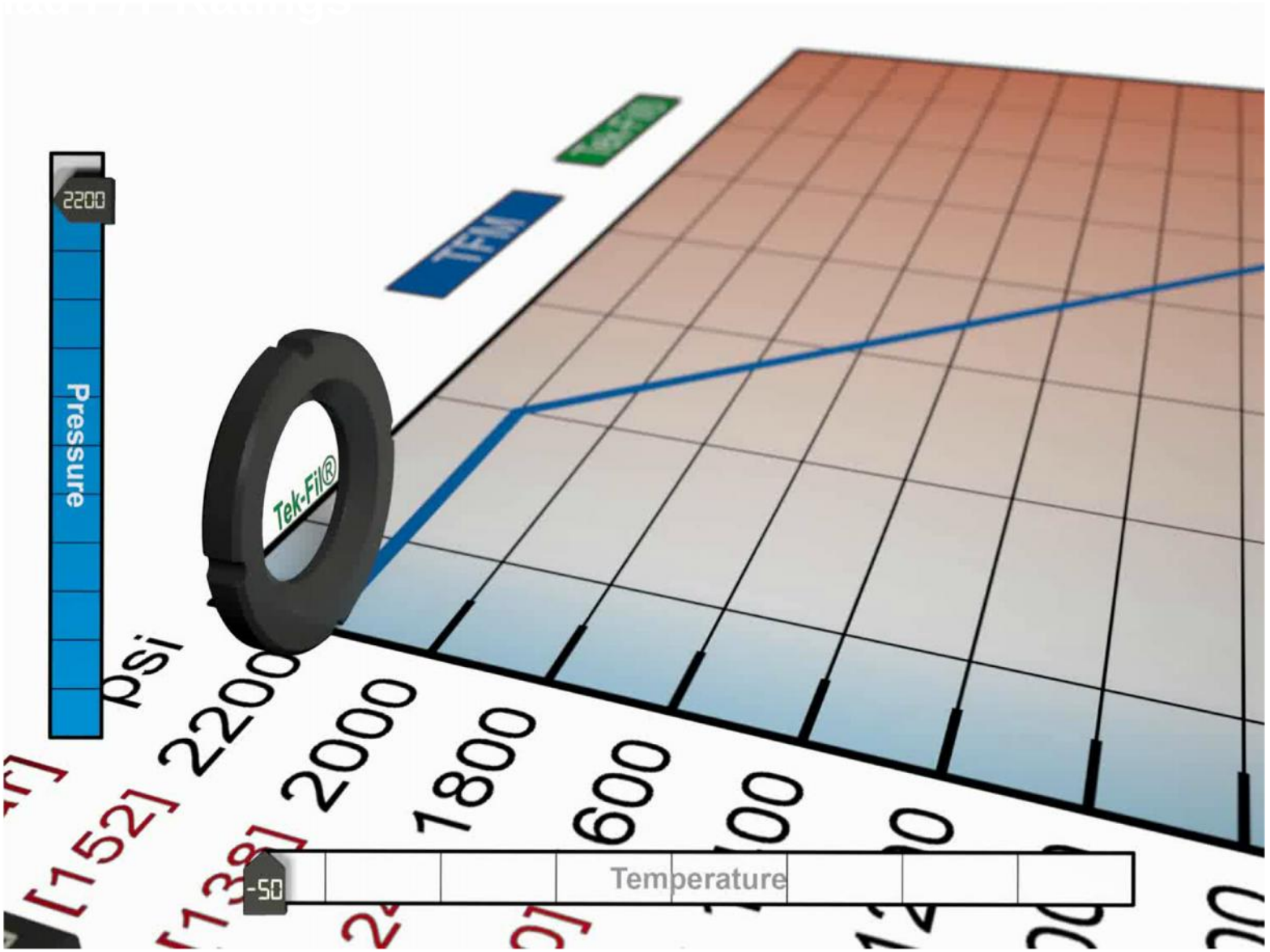


Standard Seat

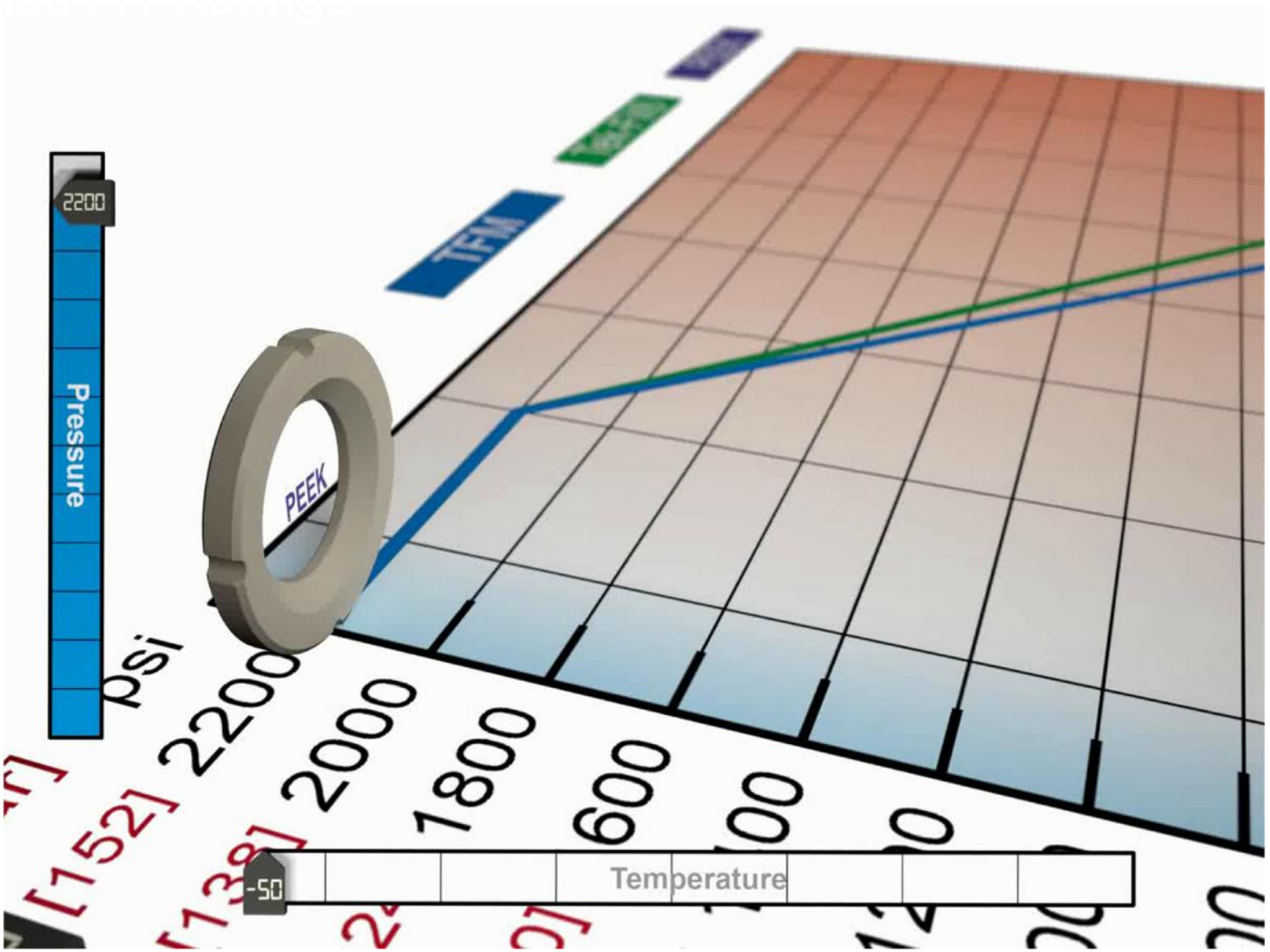
Seat Design



Seat Design

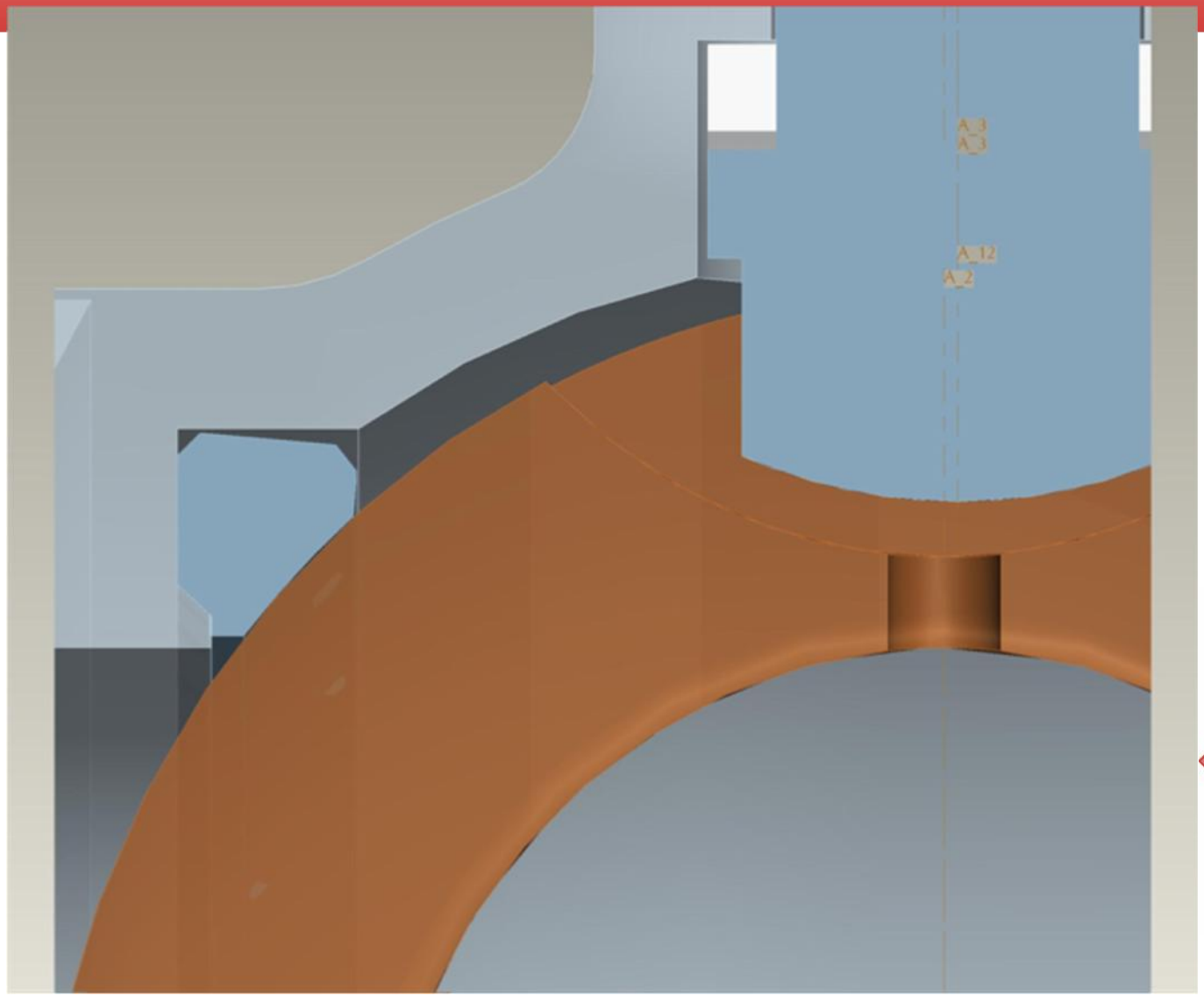

2200
Pressure
psi
TFM
Tek-Fil®
2200
2000
1800
600
-50
Temperature

Seat Design


2200
Pressure
psi
TFM
PEEK
2200
2000
1800
600
-50
Temperature

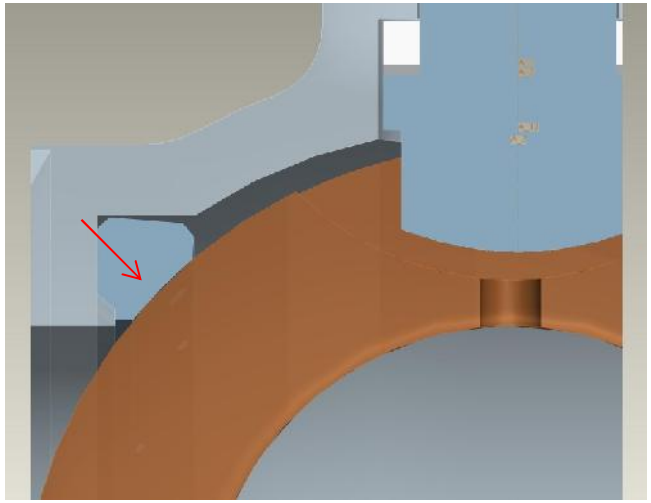
Seat Design

Lip Seal “Rocking” Seat Design

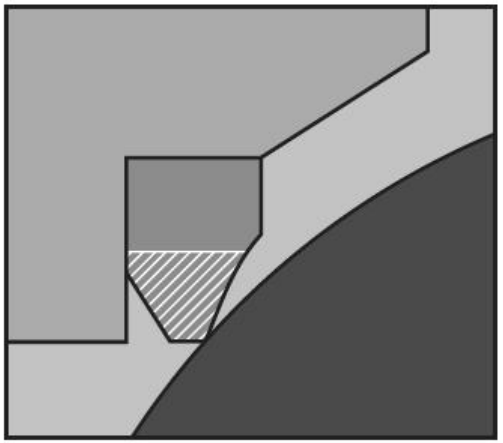


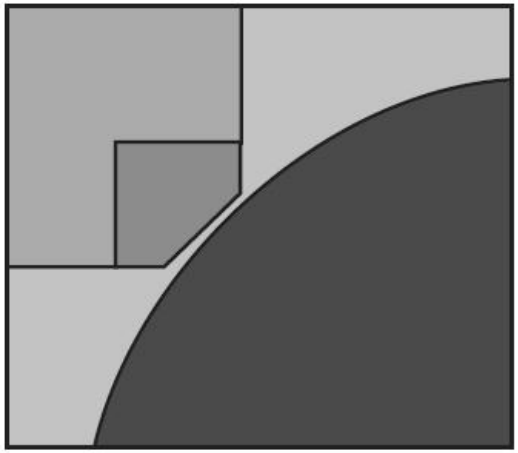
COPETITORS DESIGN

FLOW-TEK TENSION FLEXIBLE SEAT



COMPETITION NON FLEXIBLE SEAT



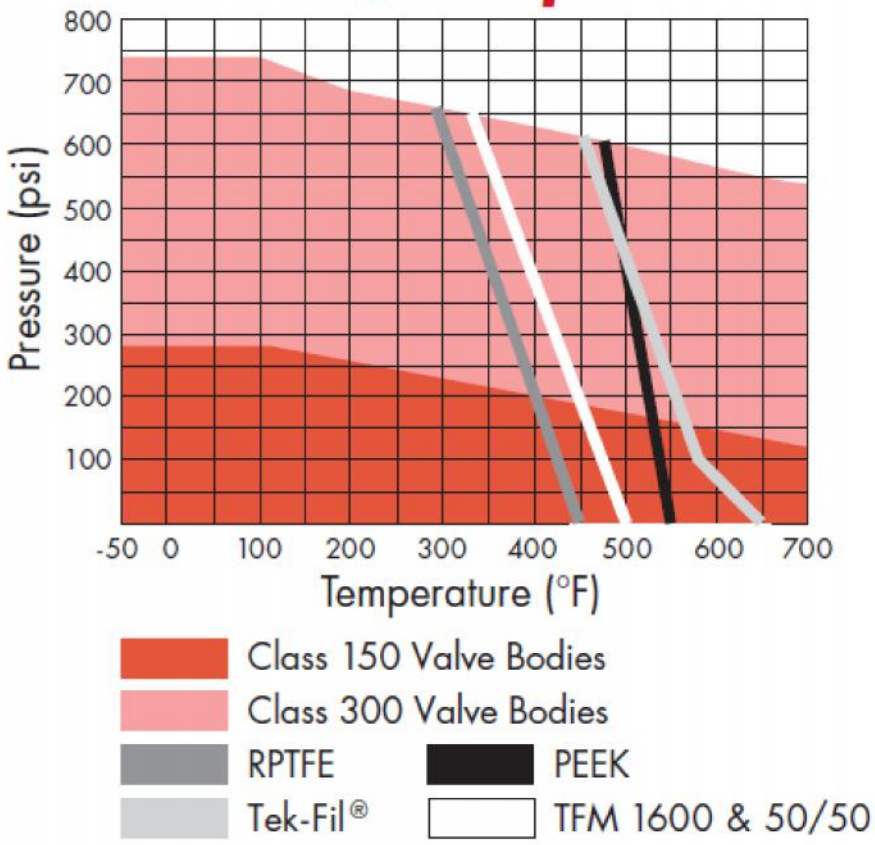


ZERO LEAKAGE TEST API598

Seat Materials	Temperature Rating		Typical Services
TFM 1600 (Modified PTFE)	**-328 to +500 ºF**	**-200 to +260 ºC**	General Industrial
Tek-Fil® (Carbon/Graphite filled TFM)	**-328 to +650 ºF**	**-200 to +343 ºC**	Control Valves, Steam
RPTFE (15% Glass Filled)	**-50 to +450 ºF**	**-46 to +232 ºC**	General Industrial
PTFE (Virgin)	**-50 to +450 ºF**	**-46 to +232 ºC**	High Purity
UHMWPE	**-70 to +200 ºF**	**-57 to +93 ºC**	Abrasive, Nuclear, Tobacco
PEEK	**-70 to +600 ºF**	**-57 to +316 ºC**	Steam, Hot Oils
Metal	**to +750 ºF**	**to +400 ºC**	High Temperature

Seat Design

Pressure / Temperature



Steam Service Pressure Ratings: WSP

Valve	TFM Seats PSI	TFM Seats °F	Tek-Fil Seats PSI	Tek-Fil Seats °F	PEEK Seats PSI	PEEK Seats °F
Class 150	150	365	200	450	200	500
Class 300	150	365	425	450	425	500

FUNDICION

1. MOLDEO A CERA PERDIDA O MICROFUSION – FLOW-TEK

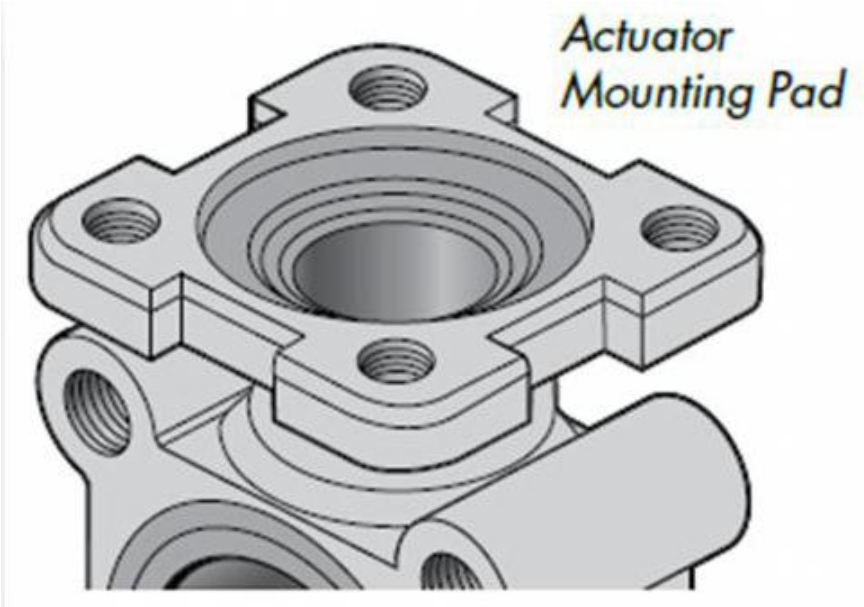
1. Acabado superficial superior
2. Rigidez a la estructura

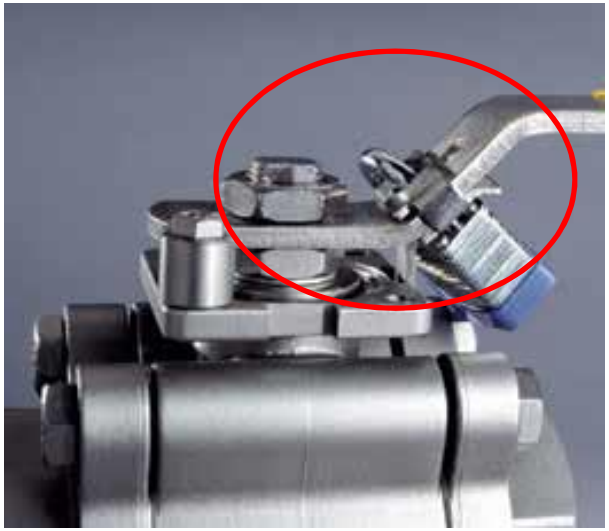
2. All body are ANNEALED / NORMALIZED
- Added Stregth

Each body is MARKED with a foundry heat number for FULL TRACEABILITY

Stainless steel ball polished to a SURFACE FINISH OF 8 RA for bubble – tight Shut off
- Reduced operating Torque
- High cycle life

AUTOMATED VALVES - ISO 5211





OTHER VALVES

FLOW-TEK
PARTES INTERCAMBIABLES

Valve Model	Ball	Stem	Seat	Stem Packing	Bracket	Coupler	Handle
7000	•	•	–	•	•	•	•
8000	•	•	–	•	•	•	•
F15	•	•	•	•	•	•	•
F30	•	•	•	•	•	•	•
RF15	•	•	•	•	•	•	•
TK7000	•	•	–	•	•	•	•
S85					•	•	•

MTR ANS SHELL TEST

Changzhou Jiayufucheng Metals Ware Limited Comapany
Nanxiashu Town, Wujin District, Changzhou City, Jiangsu
TEL: 0519-86463852 FAX: 0519-86463917 Postalcode:

Approved By Bray Insp.
Checked By: Angel
Date: 5.17.2012

Material Test Report
IN ACCORDANCE WITH EN 10204 3.1

Customer: **Bray Controls China** Material:Stainless Steel Specification:ASTM A351/A351M Grade CF8M

Heat No.	Chemical Composition (%)								Mechanical Properties				Heat Treatment Required			Part No.	Qty.
	C	Mn	Si	P	S	Cr	Mo	Ni	Yield (Mpa)	Tensile (Mpa)	%Elong	Hardness (HB)	Solution Treatment Temperatur	Time	Cooling medium		
Requirement	≤	≤	≤	≤	≤	18-	2-	9-	≥	≥	≥	≤			Water		
	0.080	1.5	1.5	0.04	0.04	21	3	12	205	485	30	200					
J010	0.058	0.92	0.783	0.028	0.003	18.26	2.17	9.09	213	512	35	185	1100	3.5	Water	F150100-92600580	5320

We hereby certify that the tests and solution annealing carried out meet the specified material standard and grade.
Inspect by: Date:2012.5.6

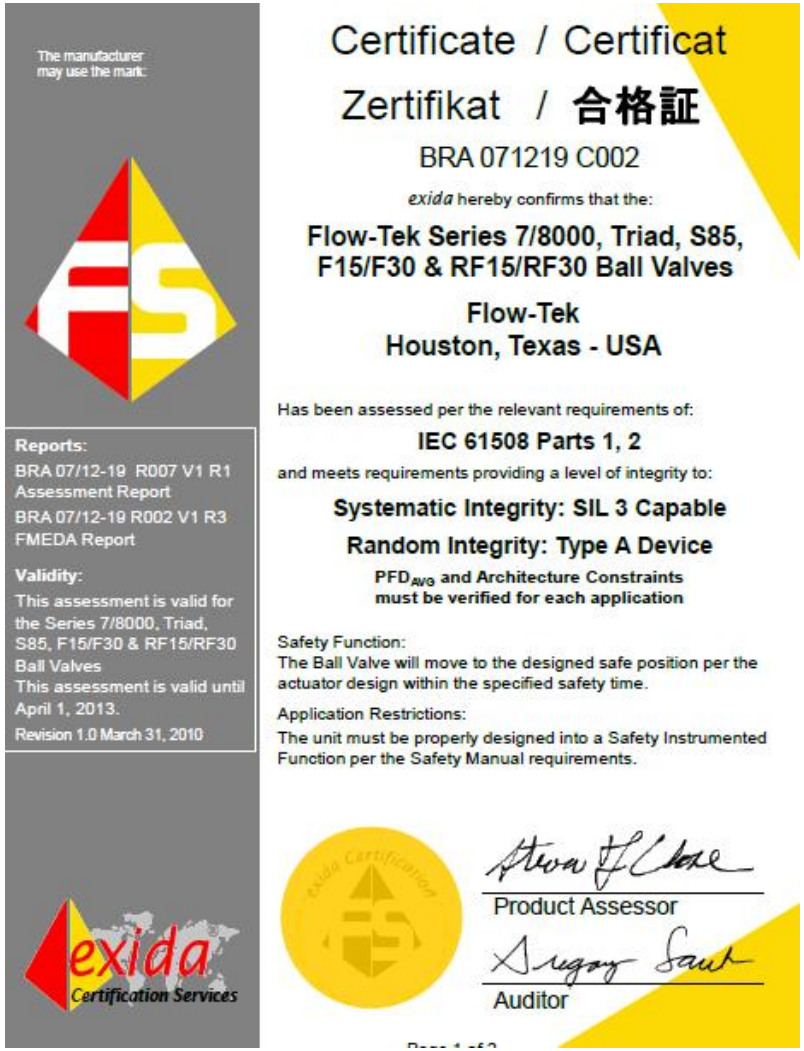
质检专用章

Bray As-Built Record System - Summary Report Sort By Sales Number

Sales No.	Part Number	Test Results:	Full Pressure	Shell	Torque	Low Pressure	Low Hydraulic	Trace Codes	
PO207579	140100-11000CSRR-NN	Upstream:	No Data	1500 psig	9.5 Nm	100 psi	No Data	Body:	SD9742
	1" 8105-3-R-R-L	Duration:	No Data	15 sec	No Data	15 sec	No Data	Ball:	J010
		Downstream:	No Data		No Data	100 psi		End Cap 1:	SD2954
	Assemble Date: 08/28/2012	Duration:	No Data		No Data	15 sec		End Cap 2:	SD2954
	Serial No. F2H7645	Max Leakage:					No Data	Stem:	XD1243
	Cycle Test: N/A Calibration: N/A							Seat:	

CERTIFICATIONS

SIL 3 - SAFETY INTEGRITY LEVEL



The manufacturer may use the mark:

Reports:
BRA 07/12-19 R007 V1 R1 Assessment Report
BRA 07/12-19 R002 V1 R3 FMEDA Report

Validity:
This assessment is valid for the Series 7/8000, Triad, S85, F15/F30 & RF15/RF30 Ball Valves
This assessment is valid until April 1, 2013.
Revision 1.0 March 31, 2010

exida Certification Services

Certificate / Certificat
Zertifikat / 合格証

BRA 071219 C002

exida hereby confirms that the:

Flow-Tek Series 7/8000, Triad, S85, F15/F30 & RF15/RF30 Ball Valves

Flow-Tek
Houston, Texas - USA

Has been assessed per the relevant requirements of:

IEC 61508 Parts 1, 2

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 3 Capable

Random Integrity: Type A Device

PFD_{AVG} and Architecture Constraints must be verified for each application

Safety Function:
The Ball Valve will move to the designed safe position per the actuator design within the specified safety time.

Application Restrictions:
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

Product Assessor

Auditor

Table 1		
Safety Integrity Level (SIL)	Probability of Failure on Demand / Year	Risk Reduction Factor
SIL 4	≥ 10-5 - <10-4	100.000 - 10.000
SIL 3	≥ 10-4 - <10-3	10.000 - 1.000
SIL 2	≥ 10-3 - <10-2	1.000 - 100
SIL 1	≥ 10-2 - <10-1	100 - 10

http://www.exida.com/index.php/Resources/SAEL_Results/92560fa4e273406508799a96dbf66602/

Flow-Tek

Basic Product/Sales School

TA-LUFT

TÜVRheinland®

Certificate

As requested by Bray Armaturen und Antriebe Europa we hereby certify that the stem sealing of the ball valves and the body-gasket of the series

Model **F15 / F30**, 1/2" – 12" ANSI Class 150 – 300
Model **RF15 / RF30**, 1/2" – 12" ANSI Class 150 – 300
Model **7000 / 8000**, 6" – 12" 400WOG
made by

Flow-Tek Inc.
A Subsidiary of Bray International, Inc.

8323 N. Eldridge Parkway
Houston, Texas 77041
USA

was reviewed and recognized in accordance with TA-Luft VDI2440.

The products meet the requirements:

• *Operating condition: RT to 50°C/max.40 bar*	• *Quality of the packing materials in accordance with purchase order specifications.*
• *No. of switching cycles: 500*	• *Surface roughness, dimensions, shape, and position tolerances in accordance with drawings.*
• *Sealing effect by stem packing of RPTFE/Graphite Qty. 3/1 and body gasket.*	• *Visual inspection of the gasket construction.*
• *Examination at operating conditions.*	• *German Clean Air Act (TA-Luft) (leakage verification) in accordance with VDI 2440.*
	• *Production monitoring.*

Certificate validity is dependent on the operating instructions being read and observed. In particular the bolted connections related to the sealing must be checked and tightened at regular intervals.

Basis:

First General Administrative Order of the Federal Pollution Control Act
TA-Luft [02]- Technical Instructions for Air Pollution Control,
Section 5.2.6.4 as amended on 24 July 2002 along with VDI 2440, Section 3.3.1.3

First issue of the Certificate: **04.05.2009**, with Test Certificate No. **973-10128308**. During the annual monitoring of production, compliance with the requirements has been demonstrated, see Monitoring Test Report No. **422063** / Houston, TX. This certificate is valid until **10/2014**.

Cologne, 25 October 2012
TÜVRheinland Industrie Service GmbH
TÜVRheinland Group
Conformity pressure equipment

Dipl.-Ing Th. Oswald (LT3 EN473)

ISO 15848 – low emissions

Certificate

TÜVRheinland

We hereby certify that the stem sealing of the ball valves and the body gasket of below series were reviewed and recognized in accordance with EN ISO 15848-1:2015

Model F15 / F30, 2.5" – 12" ANSI Class 150 – 300
Model FD15/FD30, DN65-300, PN10-40
Model RF15 / RF30, 3" – 12" ANSI Class 150 – 300
Model RFD15/RFD30, DN80-300, PN10-40
Model 7000 / 8000, 3" – 12" 1000WOG
Model TRIAD 2.5" – 4" 2200WOG

Certificate no.:	**01 202 USA/T-16 2826-3**
Name and address of the manufacturer:	**Flow-Tek Inc.** **8323 N. Eldridge Parkway** **Houston, Texas 77041** **USA**
Tested acc. to EN ISO 15848-1:	Industrial valves - Measurement, test and qualification procedures for fugitive emissions
Test report no.:	**442826**
Test Condition:	205 cycles @ Room Temperature per Clause 6.3.1
The product meet the requirement :	**Graphite Seals Tightness Class BM (≤100ppm),**

Certificate validity is dependent on the operating instructions being read and observed. In particular the bolted connections related to the sealing must be checked and tightened at regular intervals.

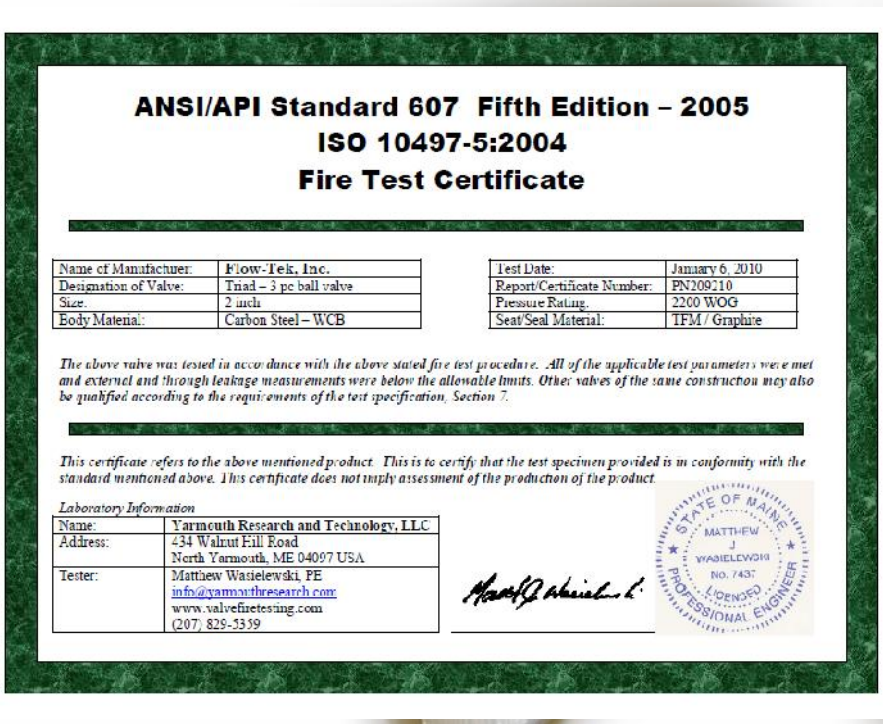
Firs tissue of the certificate: 05.12.2016. This certificate is valid until May. 2021 with monitoring of production carried out annually.

Location, Date: Houston, TX May 12, 2016

Name: Joe Shu

TÜV Rheinland Industrial Solutions, Inc.
8181 Broadmoor SE, Caledonia, MI 49316
Phone: 616-891-3575 Fax: 616-891-3993 Email: phu@us.tuv.com

Certificaciones



ANSI/API Standard 607 Fifth Edition – 2005
ISO 10497-5:2004
Fire Test Certificate

Name of Manufacturer:	Flow-Tek, Inc.
Designation of Valve:	Triad – 3 pc ball valve
Size:	2 inch
Body Material:	Carbon Steel – WCB

Test Date:	January 6, 2010
Report/Certificate Number:	PN209210
Pressure Rating:	2200 WOG
Seat/Seal Material:	TFM / Graphite

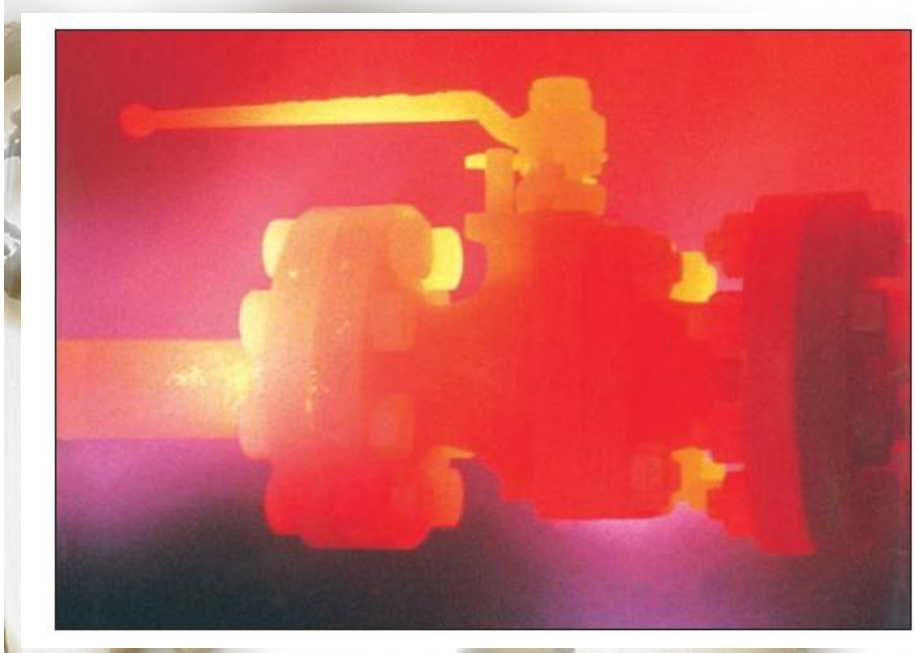
The above valve was tested in accordance with the above stated fire test procedure. All of the applicable test parameters were met and external and through leakage measurements were below the allowable limits. Other valves of the same construction may also be qualified according to the requirements of the test specification, Section 7.

This certificate refers to the above mentioned product. This is to certify that the test specimen provided is in conformity with the standard mentioned above. This certificate does not imply assessment of the production of the product.

Laboratory Information

Name:	Yarmouth Research and Technology, LLC
Address:	434 Walnut Hill Road North Yarmouth, ME 04097 USA
Tester:	Matthew Wasielewski, PE info@yarmouthresearch.com www.valvefiretesting.com (207) 829-5359

STATE OF MAINE MATTHEW J WASIELEWSKI NO. 7437 LICENSED PROFESSIONAL ENGINEER



API 607 Fire Safe

FlowTek

Certificaciones

Basic Product/Sales School

ABS Quality Evaluations

Certificate Of Conformance

This is to certify that the Quality Management System of:

Flow-Tek
8323 N. Eldridge Parkway
#100
Houston, TX 77041
U.S.A.

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by:

ISO 9001:2008

The Quality Management System is applicable to:

MANUFACTURE OF VALVES

Certificate No:	45598
Effective Date:	31 August 2011
Expiration Date:	30 July 2014
Issue Date	31 August 2011

Alex Weisselberg, President

Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt, written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or components thereof.
ABS Quality Evaluations Inc. 16885 Northchase Drive, Houston, TX 77060, U.S.A.
Validity of this certificate may be confirmed at www.abs-qe.com/cert_validation.

ISO 9001-2008

exida CERTIFICATION

The manufacturer may use the mark:

CERTIFIED IEC 61508 SIL 3 CAPABLE

Valid until May 1, 2016.
Revision 2.0 April 22, 2013

ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

Certificate / Certificat
Zertifikat / 合格証

BRA 071219 C001

exida hereby confirms that the:

Series 92/93 Rack & Pinion Actuators

Bray International Inc.
Houston, Texas - USA

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A Element

PFD_{AVG} and Architecture Constraints must be verified for each application

Safety Function:
The Actuator will move to the valve to the designed safe position per the actuator design within the specified safety time.

Application Restrictions:
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

Evaluating Assessor

Certifying Assessor

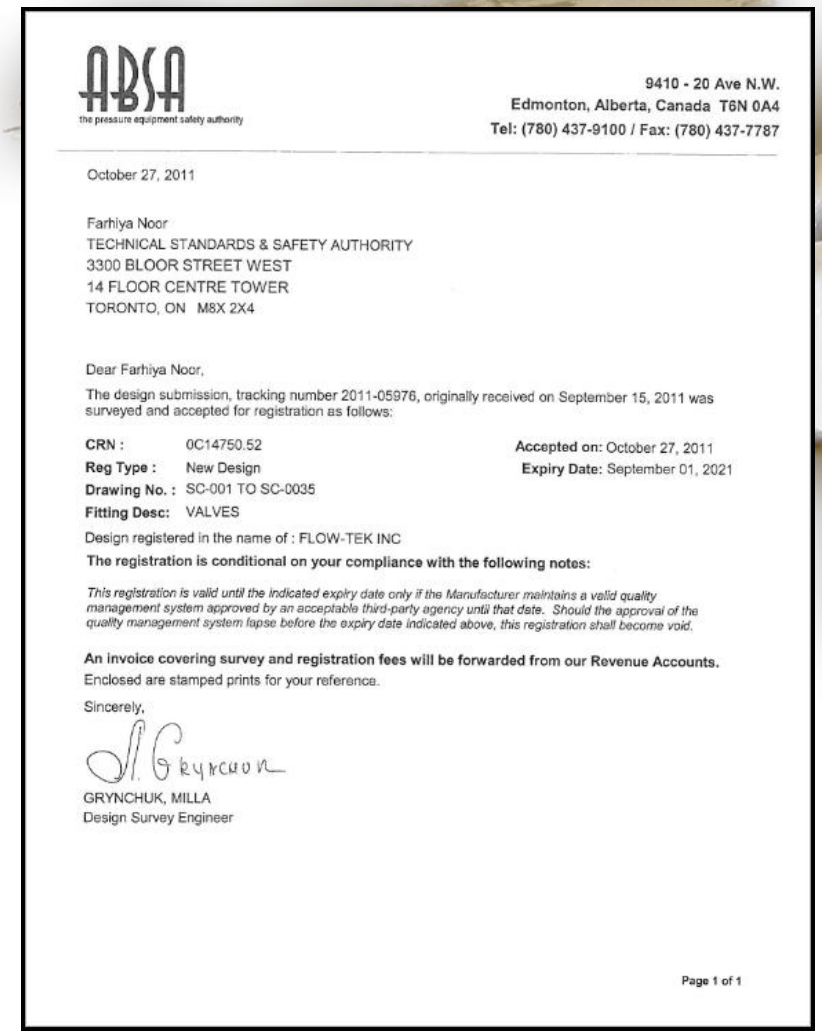
Page 1 of 2

SIL 3- ACTUATORS

Certificaciones

Basic Product/Sales School

CRN – CANADIAN REGISTER



ABSA
the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

October 27, 2011

Farhiya Noor
TECHNICAL STANDARDS & SAFETY AUTHORITY
3300 BLOOR STREET WEST
14 FLOOR CENTRE TOWER
TORONTO, ON M8X 2X4

Dear Farhiya Noor,

The design submission, tracking number 2011-05976, originally received on September 15, 2011 was surveyed and accepted for registration as follows:

CRN : 0C14750.52 **Accepted on:** October 27, 2011
Reg Type : New Design **Expiry Date:** September 01, 2021
Drawing No. : SC-001 TO SC-0035
Fitting Desc: VALVES

Design registered in the name of : FLOW-TEK INC

The registration is conditional on your compliance with the following notes:

This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.
Enclosed are stamped prints for your reference.

Sincerely,

GRYNCHUK, MILLA
Design Survey Engineer

Page 1 of 1

РОССИЙСКАЯ ФЕДЕРАЦИЯ
СЕРТИФИКАТ СООТВЕТСТВИЯ
(обязательная сертификация)

№ C-US.АГ75.В.04874 (номер сертификата соответствия) ТР 1515063 (учетный номер бланка)

ЗАЯВИТЕЛЬ (наименование и место нахождение заявителя) "Flow-Tek, подразделение BRAY INTERNATIONAL, INC.", Адрес: 8323 N. Eldridge Pkwy #100, Houston, Texas 77041, USA, Соединенные Штаты Америки.

ИЗГОТОВИТЕЛЬ (наименование и место нахождение изготовителя продукции) "Flow-Tek, подразделение BRAY INTERNATIONAL, INC.". Адрес: 8323 N. Eldridge Pkwy #100, Houston, Texas 77041, USA, Соединенные Штаты Америки.

ОРГАН ПО СЕРТИФИКАЦИИ (наименование и место нахождение органа по сертификации, выдавшего сертификат соответствия) ООО «ПродМашТест». 127015, Москва, Бумажный пр., 14, стр. 1 Телефон/факс: (495) 7634799/(495) 7634799. ОГРН: 1117746593557. Аттестат рег. № РОСС RU.0001.11АГ75 выдан 28.10.2011г. Федеральным агентством по техническому регулированию и метрологии.

ПОДТВЕРЖДАЕТ, ЧТО ПРОДУКЦИЯ (информация об объекте сертификации, позволяющая идентифицировать объект) Краны шаровые стальные: Серия Triad, модели FP2000, FP3000, SP2000, SP3000; Серия 7000/8000, модели 7000, 8000; Серия 5000, модели 5000; Серия Micro Pure - модели S7500, S7700; Серия Tank Bottom - модели TK7000, TK8000, TK15; Серия F15/F30 - модели F15,F30; Серия RF15/RF30 - модели RF15, RF30; Серия Trunnion - модели TC, TF; Серия Multi-Port - модели MPT130, MPC130, MPT230, MPC230, MPT240, MPC240, MPF150,MPF300; Серия Instrumentation valves - модели HP,HX,3HP, S20,S85,S70,S60,S80,S40. Серийный выпуск.

код ОК 005 (ОКП) 37 4000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ ТЕХНИЧЕСКОГО РЕГЛАМЕНТА (ТЕХНИЧЕСКИХ РЕГЛАМЕНТОВ) (наименование технического регламента (технических регламентов), на соответствие требованиям которого (которых) проводилась сертификация) Технический регламент о безопасности машин и оборудования (Постановление Правительства РФ от 15.09.2009 N 753)

код ЕКПС

код ТН ВЭД России 8481 80 819 0

ПРОВЕДЕННЫЕ ИССЛЕДОВАНИЯ (ИСПЫТАНИЯ) И ИЗМЕРЕНИЯ от 28.10.2011, адрес: 127015, Москва, Бумажный пр., 14, стр. 1 Протокол исследований № 34939-37 от 26.10.2012 г., Испытательная лаборатория ООО «ПродМашТест», рег. № РОСС RU.0001.21АВ79

ПРЕДСТАВЛЕННЫЕ ДОКУМЕНТЫ (документы, представленные заявителем в орган по сертификации в качестве доказательств соответствия продукции требованиям технического регламента (технических регламентов)) Сертификат ISO 9001 №15598 от 31.08.2011, выданный ABC Quality Evaluations.

СРОК ДЕЙСТВИЯ СЕРТИФИКАТА СООТВЕТСТВИЯ с 29.10.2012 по 28.10.2017

Руководитель (заместитель руководителя) органа по сертификации (подпись, инициалы, фамилия) Мыльцев В.В.

Эксперт (эксперты) (подпись, инициалы, фамилия) Чумаков Б.П.

GOSH – GASES RUSIA

API6D – Monograma

Certificate of Authority to use the Official API Monogram

License Number: 6D-1521 **ORIGINAL**

The American Petroleum Institute hereby grants to

BRAY (CHINA) CONTROLS CO., LTD.
No.98, Gaoxin 6th Road
Economic & Technological Development Zone, Xiaoshan District
Hangzhou, Zhejiang
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-1521**

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

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MARCH 31, 2015
Expiration Date: MARCH 31, 2018

American Petroleum Institute

American Petroleum Institute

CORPORATE SEAL

2014-156

Certificaciones

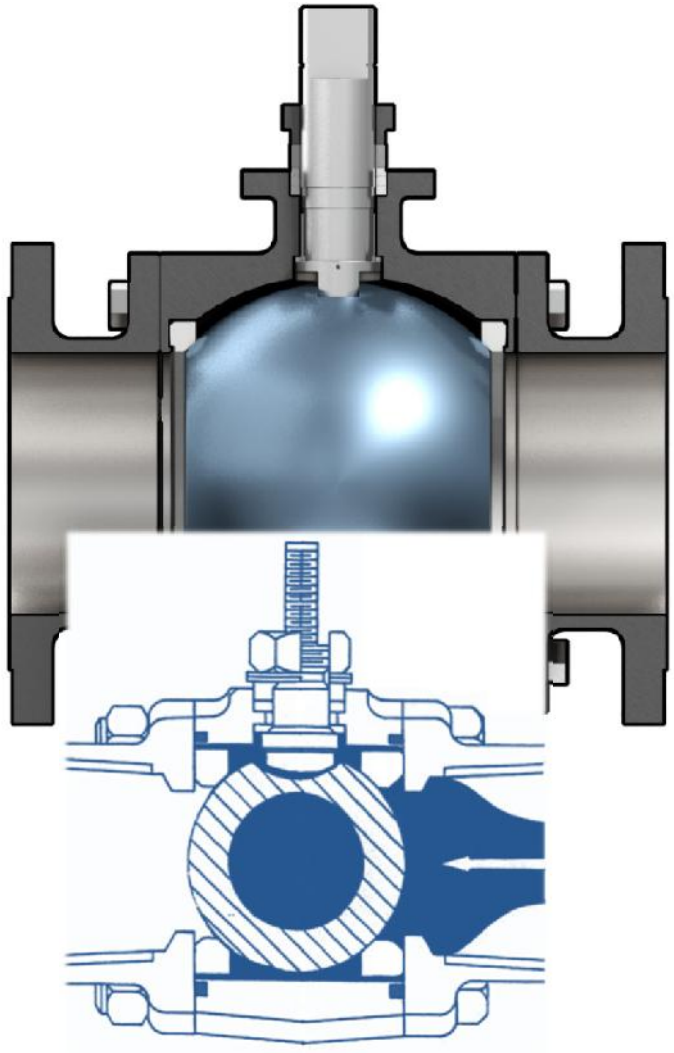
Product Certifications

- **Safety Integrity Level**
  - **Certified SIL 3 Capable**
- **Hazardous Area Usage**
  - **ATEX Certification**
- **Ingress Protection**
  - **IP 66/67M Certified**
- **PED**
  - **Module B+D**
- **GOST**

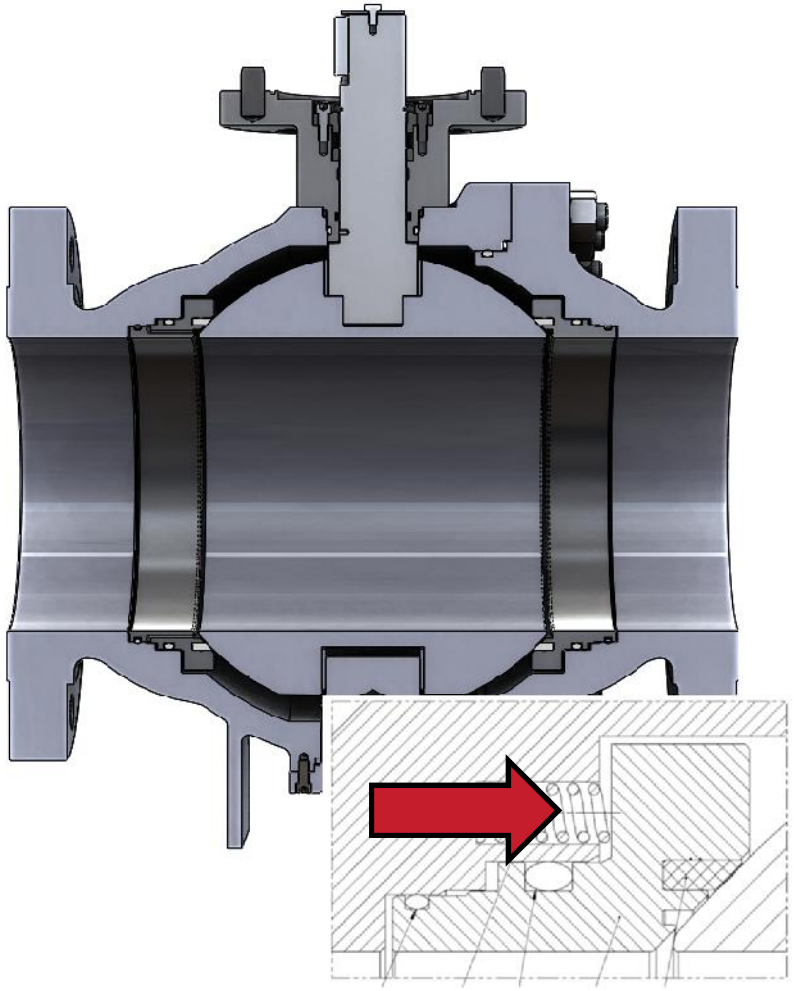
II 2GD EEx c IIC T3

PRODUCTS

TYPES



FLOATING



TRUNNION

FLANGE BALL

FLOATING

TRUNNION

Bray

RF15/RF30

1 Piece Flanged Body

Standard Port

1” to 12”

ASME Class 150 275/285 psi

ASME Class 300 720/740 psi

SS or WCB Bodes with SS Trim

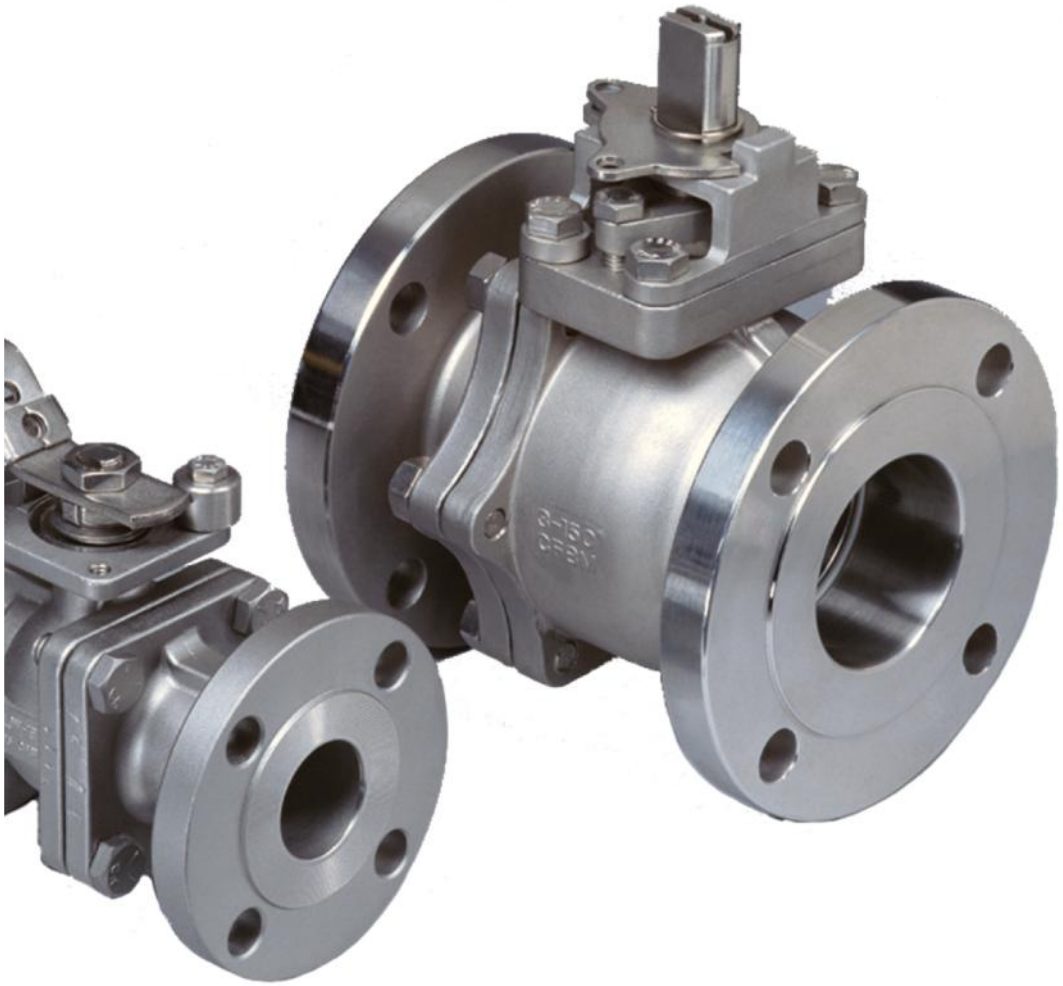
TFM 1600 – Standard Seat

API-607 Fire Safe Design

ISO 5211 Mounting

Live Loaded packing through 2” (Optional > 2”)

Flow-Tek®



F15/F30

2 Piece Flanged Body

Full Port

1/2” to 12”

ASME Class 150 275/285 psi

ASME Class 300 720/740 psi

SS or WCB Bodes with SS Trim

TFM 1600 – Standard Seat

API 607 Fire Safe Design

ISO 5211 Mounting

Live Loaded Packing through 2” (Optional > 2”)

FlowTek

ON-OFF VALVES

STEAM SERVICE PRESSURE RATINGS: WSP

	TFM Seats		Tek-Fil Seats		PEEK Seats	
	PSI	°F	PSI	°F	PSI	°F
Class 150:	150	365	190	383	170	374
Class 300:	150	365	425	454	425	454

Vacuum Service to 29.9 inches Hg. gauge.

SEAT SELECTION

A wide range of seat materials are available to meet most applications. The standard seat is TFM 1600. Options include:

- RPTFE
- StainlessSteel/PTFE (50/50)
- UHMWPE
- Virgin PTFE
- PEEK
- Tek-Fil® (carbon/graphite filled TFM)
- Full metal seats
- Cavity Fillers

PEEK seats offer high pressure/temperature capability. Tek-Fil® seats offer reduced torque in high temperature, high cycle, and steam service applications. TFM 1600 seats offer the exceptional chemical resistance of PTFE plus lower porosity and permeability, improved temperature range and reduced valve torques.

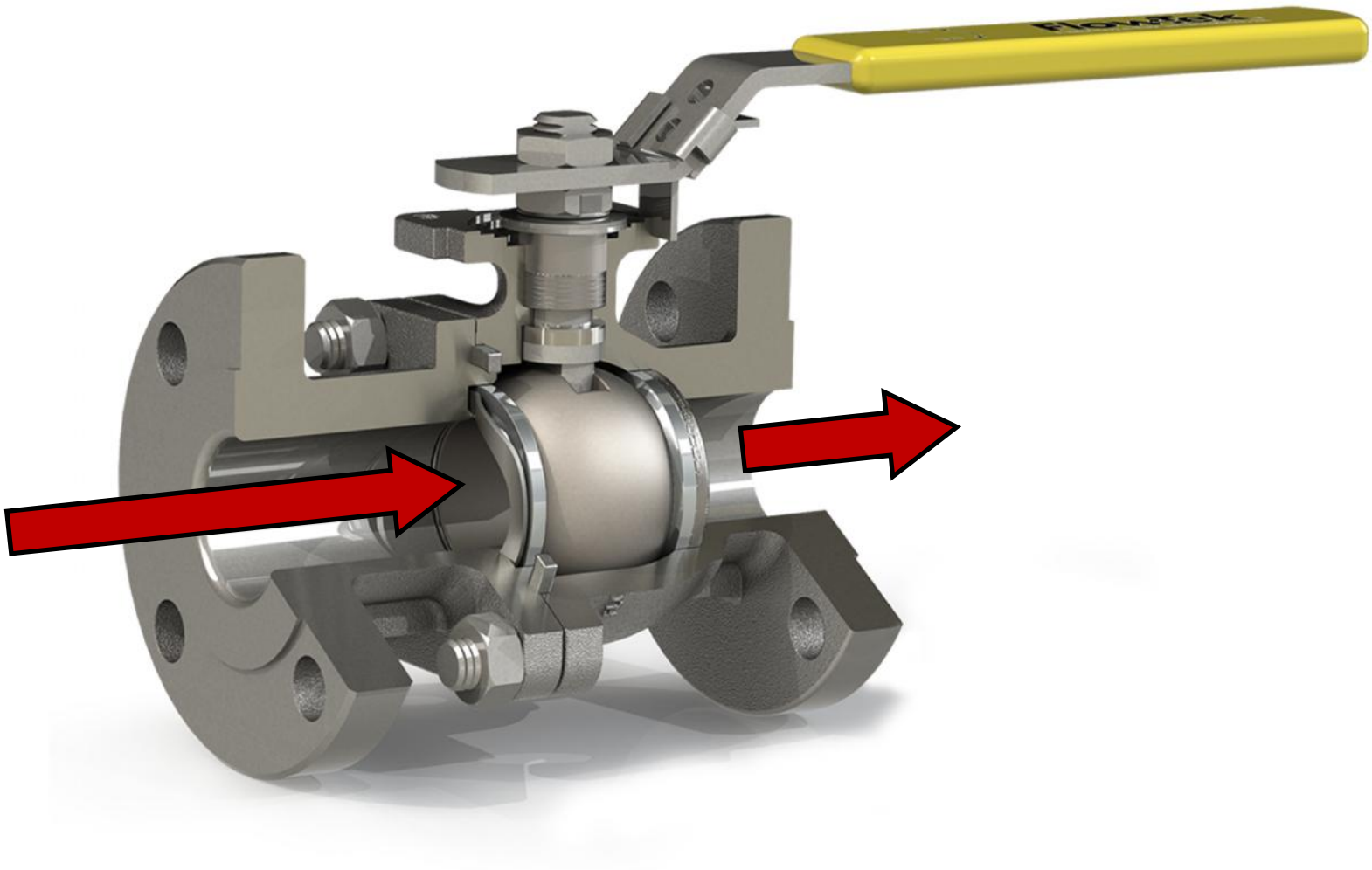
TRUNNION API6D SERIES

- Body: 2 piece Cast or
- 3 Piece Forget
- Full and Standard Port
- 2” to 42”
- SS or WCB Body
- Trim: F316, A105ENP
- ASME Class 150, 300, 6
- 900, 1500, 2500
- Fire Safe API 607
- Monogramed API6D

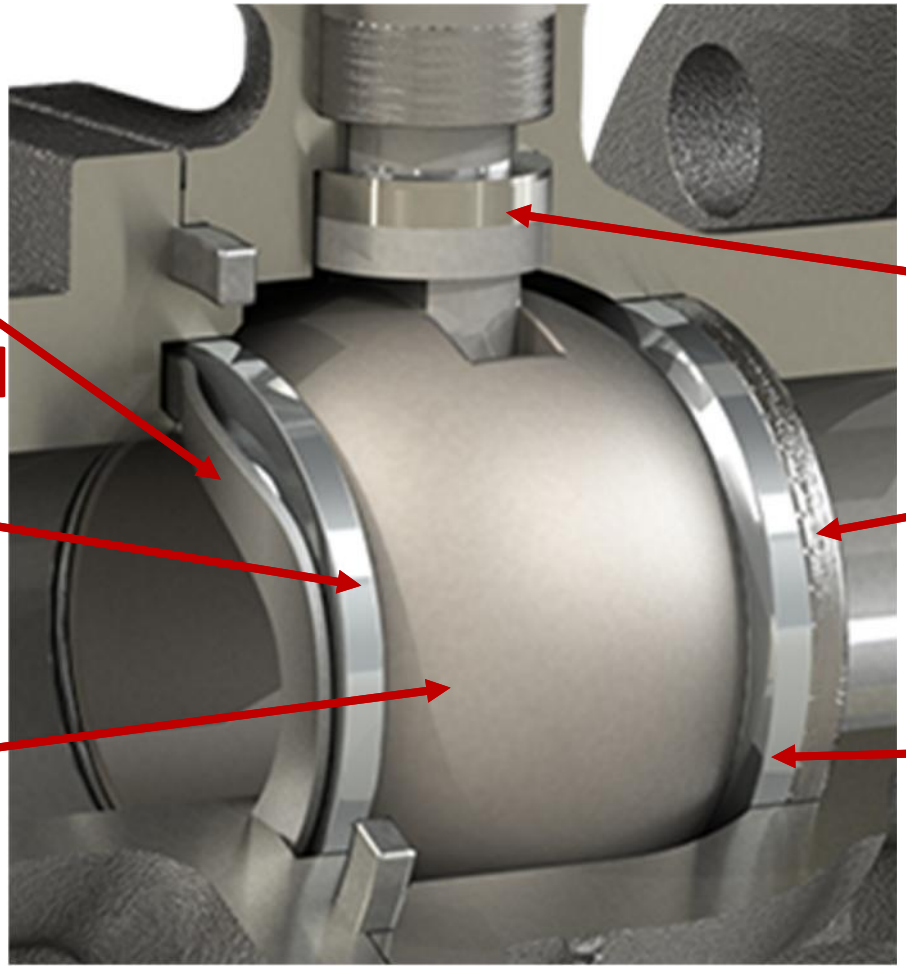
SDV VALVES - TRUNNION SERIES

METAL TO METAL
TEMPERATURE: 750 º F

F15/F30 METAL SEATED



Cutaway View



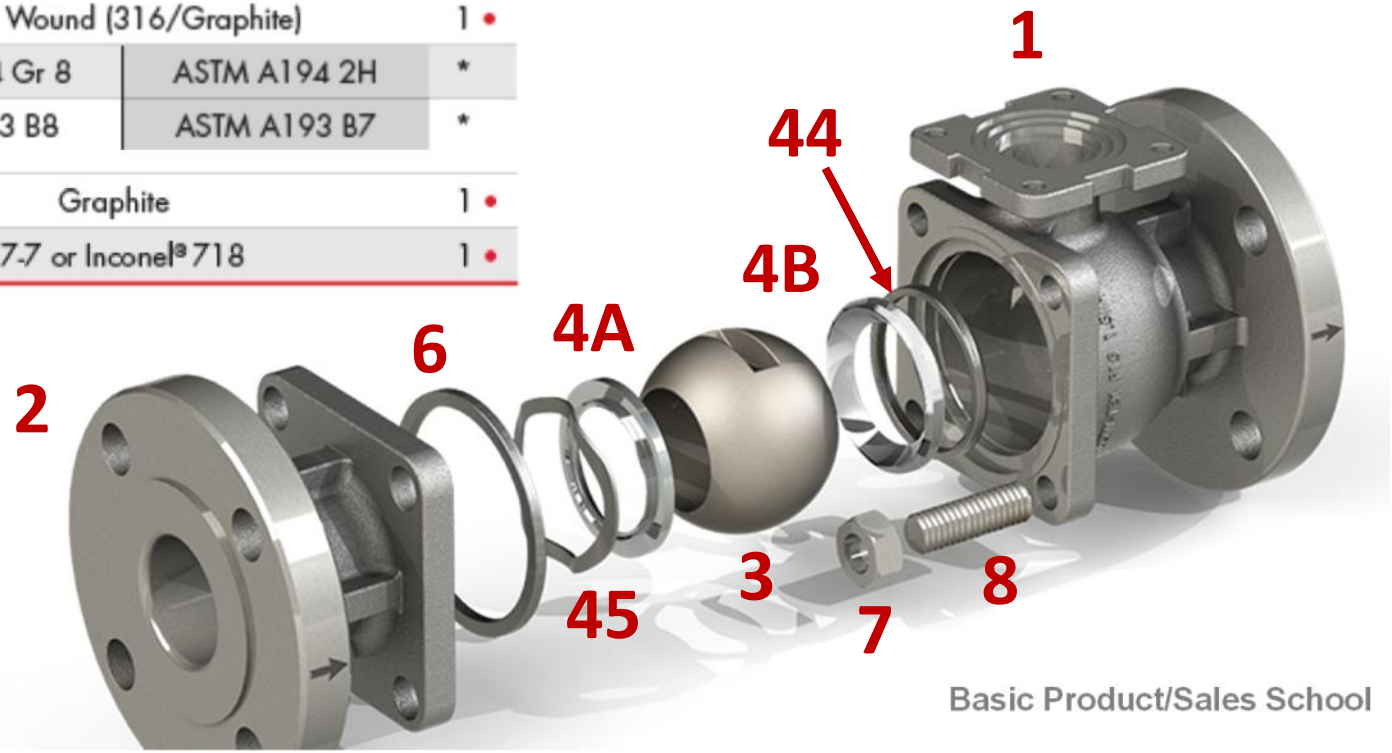
Design Features

- Extends F15/F30 temperature range (750°F /400°C)
- Abrasion/erosion resistance and anti-fouling capabilities (slurries, etc.)
- Size range: ½" to 8", CL150 & CL300
- 2016 Kick Off Stock: 2"-6", CL150 & CL300
- Currently Uni-directional sealing
- No machining required, uses standard F15/F30 valve Drop-in trim replacement for soft seated trim
- Significantly reduced cost
- Significantly reduced lead time
- Field repairable
- Reduced torque at low pressure

Ball & Seat Set Conversion

COMPONENTS & MATERIALS

	ITEM / NAME	STAINLESS STEEL	CARBON STEEL	QTY.
1.	Body	ASTM A351 Gr CF8M	ASTM A216 Gr WCB	1
2.	End Cap	ASTM A351 Gr CF8M	ASTM A216 Gr WCB	1
3.	Ball	ASTM A351 Gr CF8M/Chrome Carbide ASTM A351 Gr CF8M/Hard Chrome		1 •
4A.	Upstream Seat	ASTM A351 Gr CF8M/Chrome Carbide ASTM A351 Gr CF8M/Stellite® 6		1 •
4B.	Downstream Seat	ASTM A351 Gr CF8M/Chrome Carbide ASTM A351 Gr CF8M/Stellite® 6		1 •
5.	Stem	SS660 or17-4 PH		1
6.	Body Seal	Spiral Wound (316/Graphite)		1 •
7.	Body Nut	ASTM A194 Gr 8	ASTM A194 2H	*
8.	Body Stud	ASTM A193 B8	ASTM A193 B7	*
44.	Seat Seal	Graphite		1 •
45.	Wave Spring	17-7 or Inconel® 718		1 •



NEW VALVES
SEVERE SERVICE METAL
SEAT ASME 4500

Severe-Tek™

FlowTek®

Severe Service:

What exactly is it?

Severe Service Definition

TYPICALLY HAS AT LEAST 2 OUT OF 3 FACTORS:

1. **HIGH TEMPERATURE:** GREATER THAN 500 °F (260 °C)
2. **HIGH PRESSURE:** GREATER THAN 500 PSIG (35 BAR)
3. **SOLIDS / SCALING MEDIA**

OTHER CONSIDERATIONS:

- **TOXIC / HAZARDOUS SERVICE**
- **FUGITIVE EMISSIONS**
- **HIGH CYCLE**
- **ZERO LEAKAGE**
- **CRITICAL ISOLATION, EMERGENCY SHUTDOWN**
- **EXOTIC ALLOYS & FORGED/BAR**

SEVERE SERVICE SDV AND ON-OFF

Severe Tek R100 / R200

SEVERE SERVICE DESIGN

Severe-Tek™

METAL SEAT– SEVERE SERVICE

Severe Tek Bray

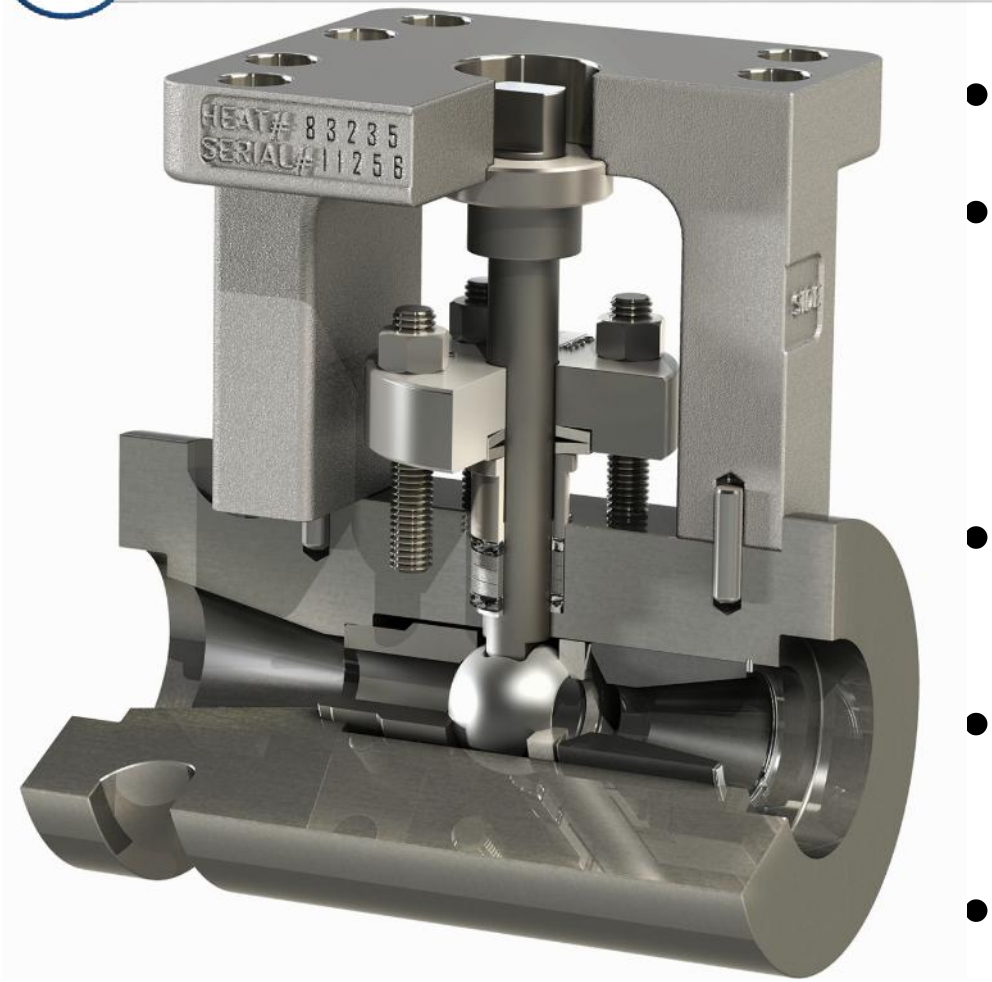
R100 / R200

- Asme B16.34
- ASME Section VIII Div 1
- Medidas: 1/2” a 36”
- ASME 150 - 4500
- Temp: 1100° F to 1500° F
- End: RF /RTJ or BW
- MS-SP 61 Test and API 598
- Body: Cast or Forguet
- Seat: 410 SS / HVOF
- Ball: 410 SS/ CT
- ZERO LEAKAGE - METAL

Severe-Tek™

Basic Product/Sales School

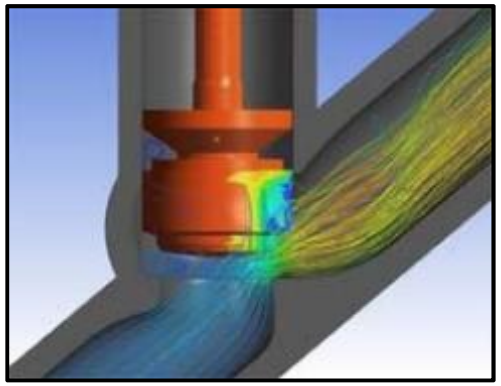
Design Features: 1 Piece Body

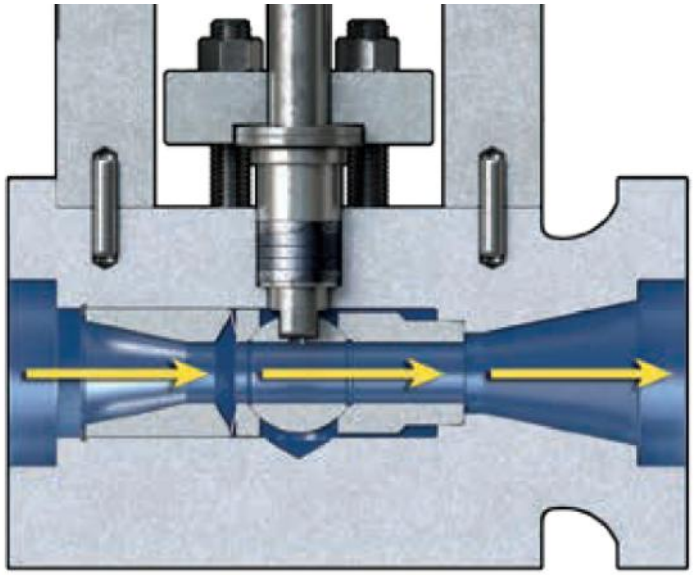


- No body joint leak path
- Internal parts are assembled (inserted) from one side of the valve
- Retained by a strong (Gr. 660ss) ring
- Stem assembled from top through bracket
- Body groove for PWHT heat dissipation

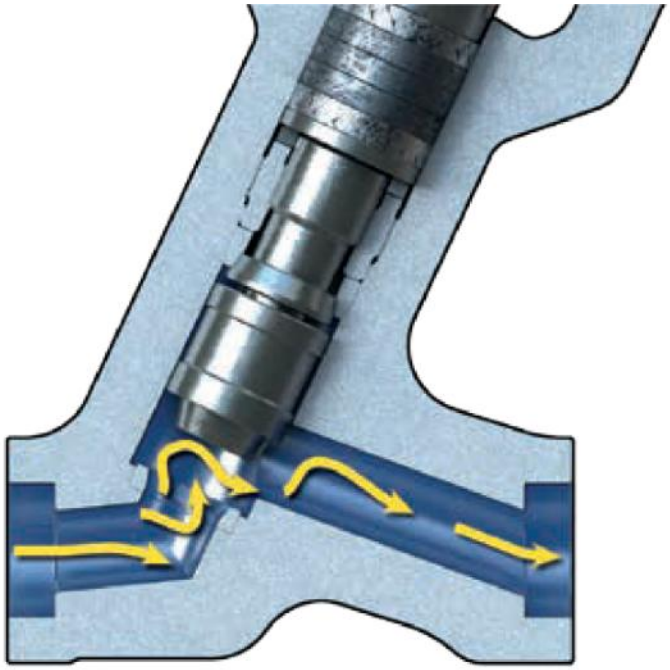
Product Comparison: M4 vs. Globe Valve

- **Repeatable Zero Leakage** vs. Class V or VI
- Smooth, quick operation vs. linear operation
- Actuator space savings
- Straight-through bore vs. torturous path
- Pressure and spring assisted sealing vs. torque/thrust seated





M4 Ball Valve

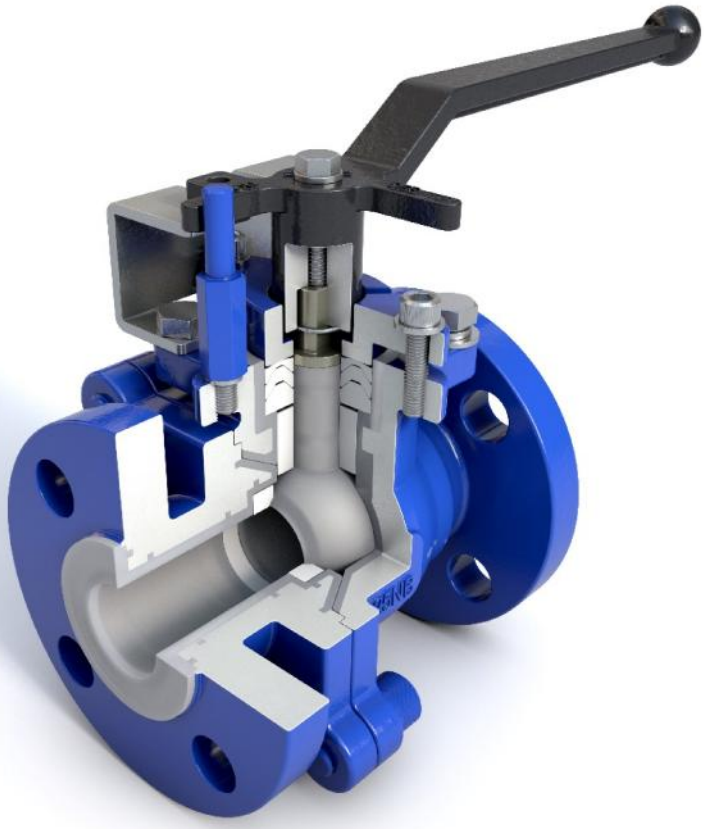


Globe Valve

OTHER PRODUCTS

AMRESIST ACRIS PFA LINED BALL VALVE 1” – 6”

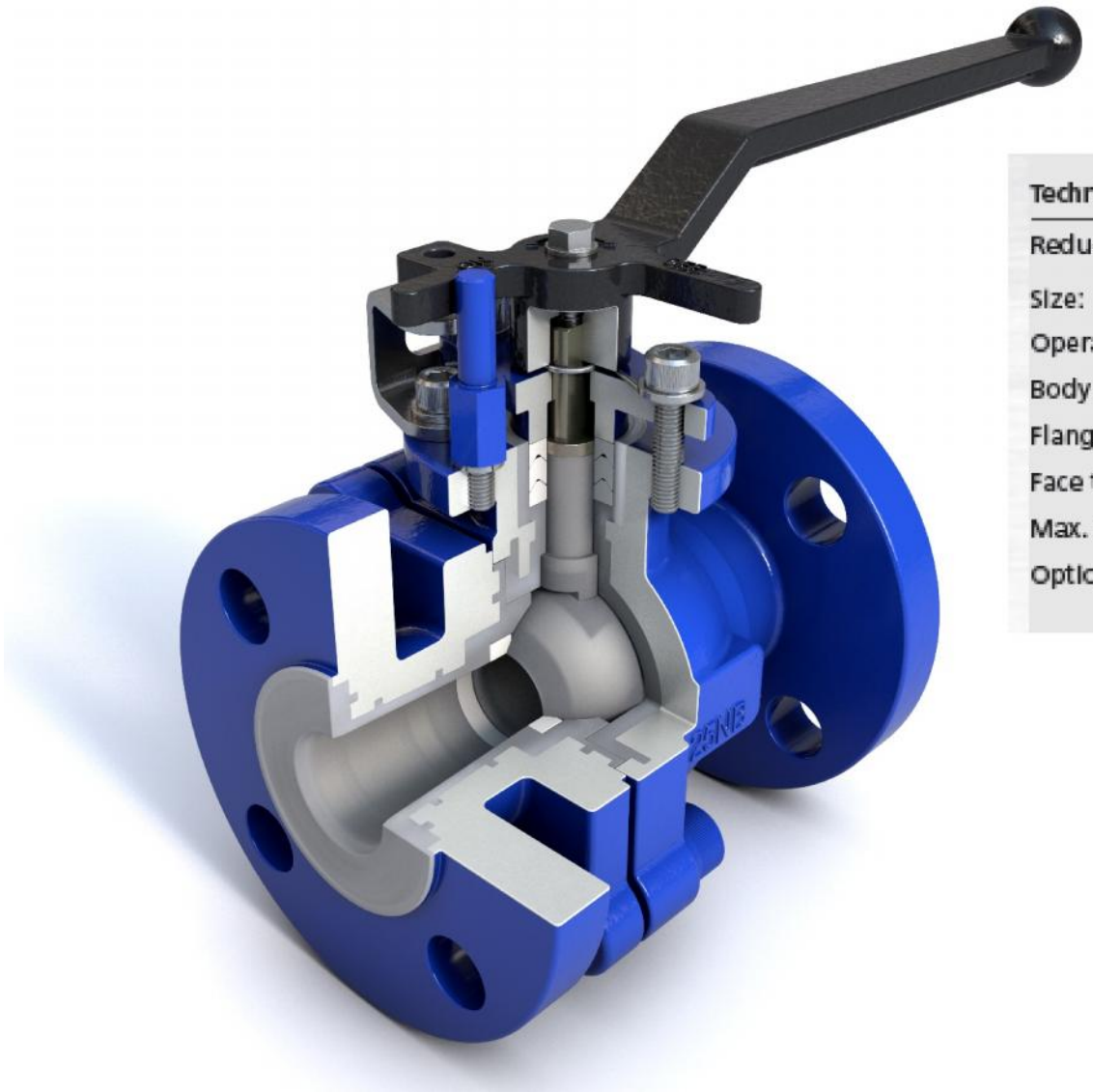
ACRIS – PFA Lined Full Port, Ball Valve



Technical data	
Full Port, One Piece Ball & Stem Design	
Size:	1 – 6 Inch
Operating temperature:	-22 °F to +400 °F
Body design:	ASME B16.34
Flanges:	ASME B16.5 Class 150 RF
Face to face:	ASME B16.10
Max. Operating pressure:	250 psig
Optional vented ball for chlorine gas service	

AMRESIST ACRIS PFA LINED BALL VALVE 1” – 4”

ACRIS – PFA Lined Reduced Port, Ball Valve



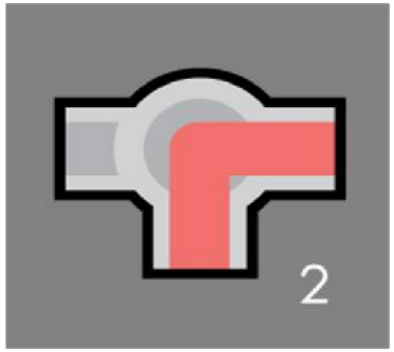
Technical data	
Reduced Port Design	
Size:	1 – 4 inch
Operating temperature:	-22 °F to +400 °F
Body design:	ASME B16.34
Flanges:	ASME B16.5 Class 150 RF
Face to face:	ASME B16.10
Max. Operating pressure:	250 psig
Optional vented ball for chlorine gas service	

MULTIPORT 3 - 4 WAY

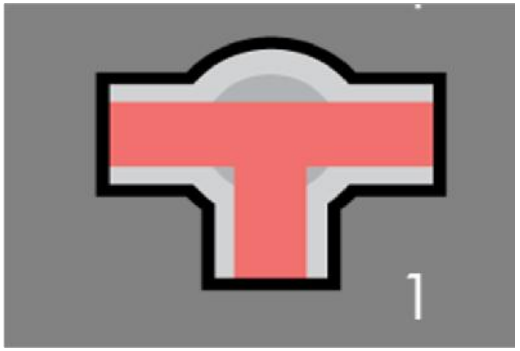
- ON-OFF
- FULL PORT
- Clases ASME 150 y 300
- Medidas 1/2” a 16”
- CUERPO: 216 WCB or CF8M
- TRIM:
  - BOLA: 316SS
  - VASTAGO: 316SS
  - Asiento: TFM 1600
  - PUERTO L, T

BALL CONFIGURATION

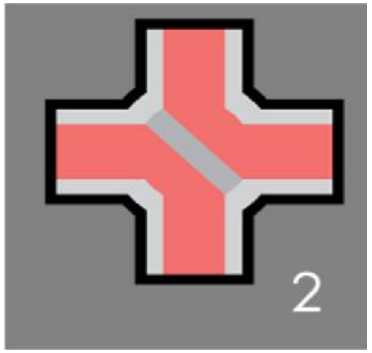
L Port



T Port

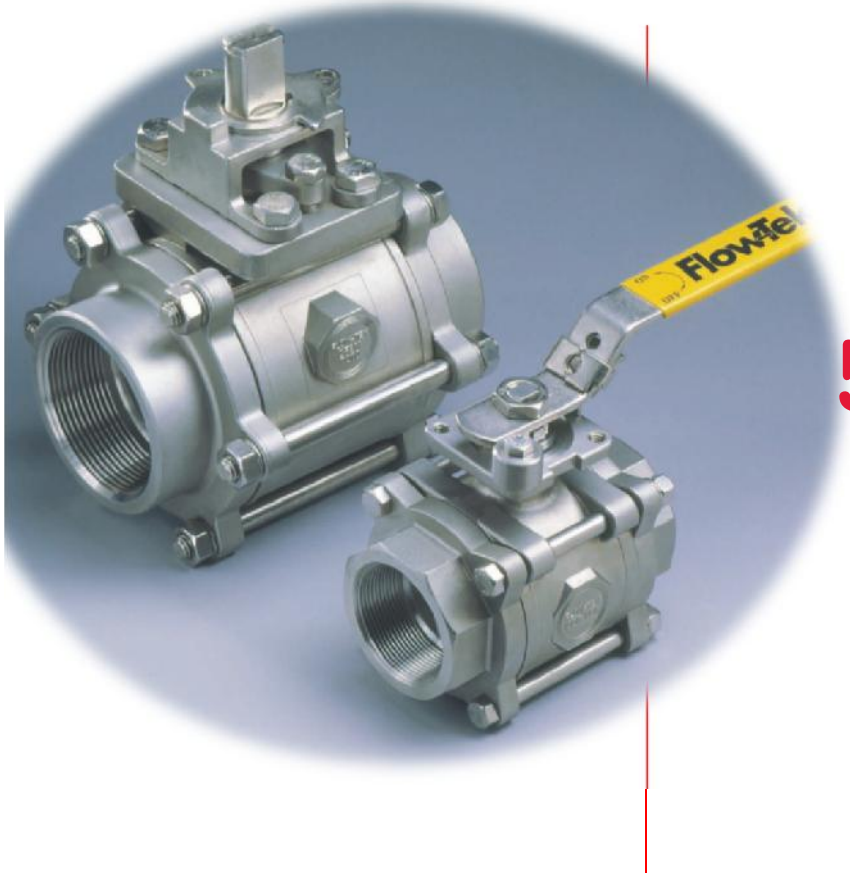


LL Port (4 Way)



GENERALS - 3 PIECE

1000 PSI



2200 PSI

5000 PSI

Flow-Tek® CRIOGENIC VALVES

Bray

- Vastago Extendido
- Asientos TFM 1600 (Temperaturas hasta -425F)
- Agujeros de venteo
- Unidirectional
- Carga Viva en Vastagos

Flow-Tek® CRIOGENIC VALVES