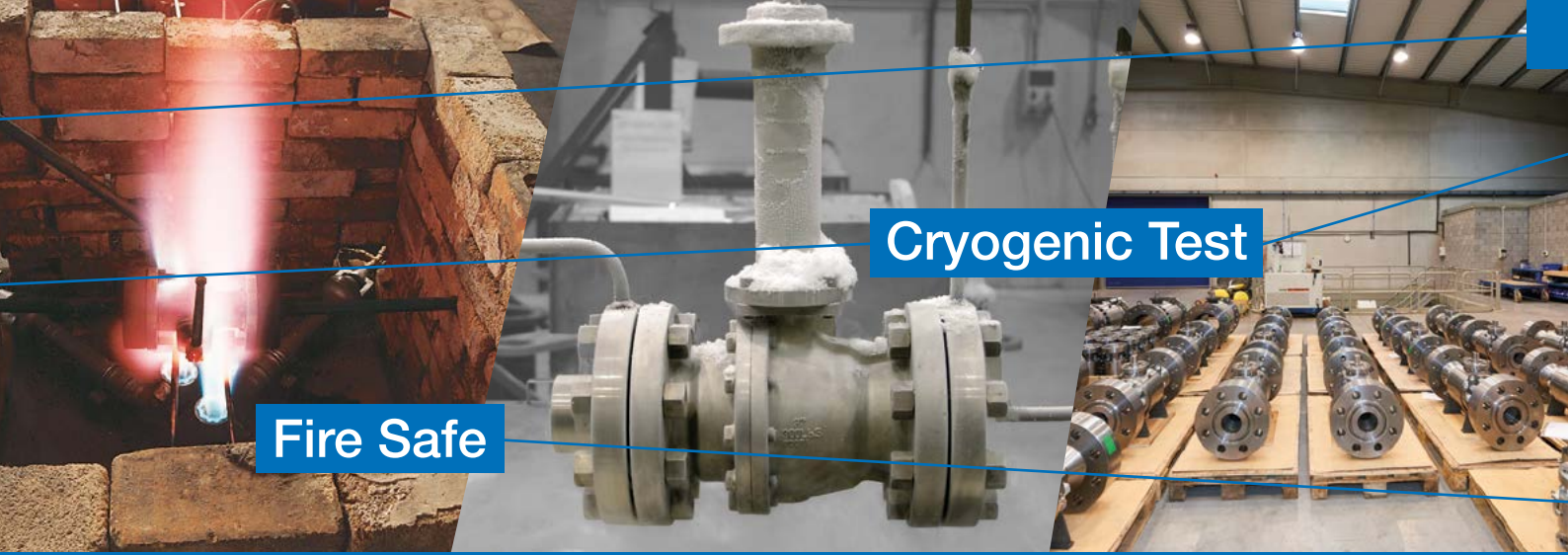


**Ball valves**

**Metal  
SEATED**

The background of the lower half of the page is filled with light blue technical drawings of various industrial valves, including ball valves, gate valves, and butterfly valves, shown in cross-section and isometric views.

**Pekos**  
V A L V E S



**Fire Safe**

**Cryogenic Test**

## Certifications and tests

### Certificates of the company

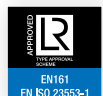
- ISO 14001 ..... Enviromental Management System
- ISO 9001 ..... Quality Management system
- API Monogram ..... API Q1 & API-6D

### Certificates of the product

- DNV ..... Type approval
- Lloyd's Register ..... Fire Safe & Type Approval
- TÜV A352.09 AD Merkblatt A4 ..... Design of the valves
- TA - Luft ISO 15848-1 + VDI 2440.. Stem tightness for low emissions
- Directive 2014/68/EU ..... Pressure equipment directive (CE marking)
- Directive 2014/34/EU ..... ATEX- directive - (  $\text{Ex}$  II2GD c T)
- BS 6364 ..... Valves for Cryogenic Service
- EN 161 / EN 23553 / EN 16678 ..... Automatic shut-off valves for Gas / Oil burners and equipment
- Helium -40 °C..... Leeds University test
- TR CU..... TR CU 010 (EAC) - TR CU 012 - TR CU 032
- Sanitary approval (Russian) ..... Food processing and Pharmaceutical industry
- IEC 61508 ..... SIL3 CAPABLE
- UKR SEPRO ..... Ukraine Certificate
- DVGW-EN 13774 ..... Valves for gas distribution with MOP 16 bar
- API 6D Monogram..... Certificate N° 6D-0363

### Some Company Approvals

- Repsol-YPF (Spain)
- AI Furat Petroleum (Syria)
- Sasol Technology (South Africa)
- EGPC (Egypt)
- China Petroleum (China)
- OMV / Petrom
- Borealis
- Solvay
- Qatar Petroleum (Qatar)
- Petroleum Development Oman (PDO)
- KUWAIT Oil Co. (KOC)
- Zadco (UAE)
- National Iranian Oil Engineering & Construction Co (Irán)
- ADNOC (Borouge, GASCO, ADGAS, ZADCO)
- INOVYN / INEOS
- Neste



## General features

- Floating Ball / Trunnion
- Split body/ End Entry/ Top Entry
- Full / Reduced bore
- Bidirectional
- Self-cavity pressure relief
- Spring loaded seat
- Anti Blow out stem
- Antistatic device
- Double Block and Bleed
- Auto adjustable packing

## Standards

- Top flange ISO5211
- Flanges ASME B16.5, EN 1092-1
- Face to face ANSI B16.10, EN 558
- Testing API 598, API 6D, BS6755-1, EN-12266, ISO 5208, ANSI FCI 70
- Design API 6D, B16.34, EN-12516, ISO 17292
- Materials according to NACE MR0175

## COATING MATERIALS

### Chrome Carbide (CrC)

Chrome Carbide is the standard coating for Pekos ball valves, is well suited to very high temperature gas or liquid applications and has excellent resistance to wear, erosion and corrosive media. It has certain limitations in chlorine services and wet sulfur.

### Hard Chromium (HCr)

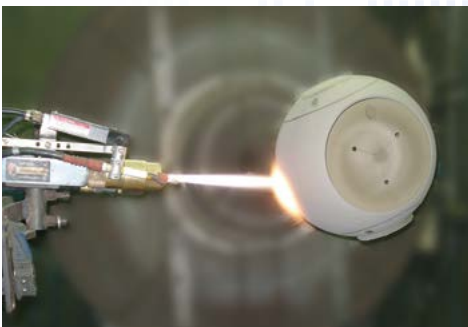
Hard Chromium is suited to a wide range of applications in liquids and gases. It is limited to moderate pressures and temperatures. HCr is not suitable for strong acids and fluids with high chloride content.

### Tungsten Carbide (WC-Co)

Tungsten Carbide is very resistant to wear and erosion from slurries, powders, muds. It works well in cryogenic applications, hydrocarbon gases and liquids, oxygen and dry gas services. It has limitations in corrosive services and condensates.

### Cobalt Based Alloy

Cobalt based coating (Stellite) provide a excellent mechanical wear resistance, superior corrosion resistance and a good performance in high temperature (up to 535°C). Stellite is used in a lot of applications in pulp and paper industries and refining applications.



Coating



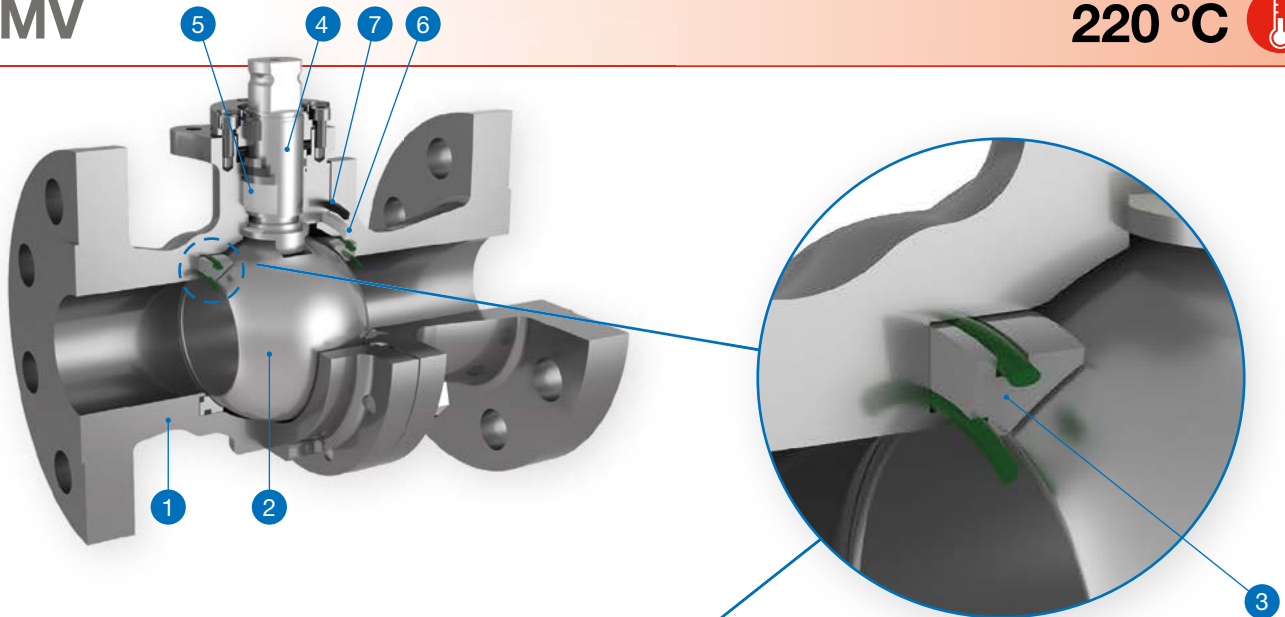
Grinding



## FLOATING

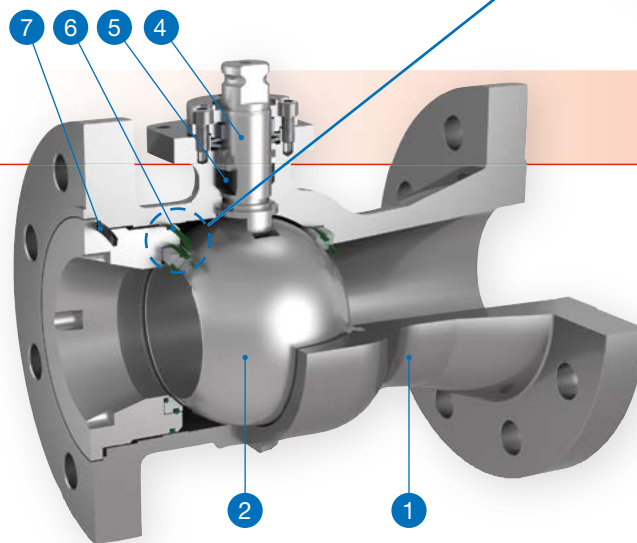
### ZMV

220 °C



### ZMVRB

220 °C



### Standard Materials\*

Item	Description	ZMV & ZMVRB (ANSI)		ZMV (DIN)	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A216 WCC/A352 LCC	A351 CF8M	1.0619/1.6220	1.4408
2	Ball	CF8M+Cr-Carbide		1.4408+Cr-Carbide	
3	Seats	AISI 316+Cr-Carbide		1.4401+Cr-Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	RPTFE		RPTFE	
6	Body seal 1	RPTFE / FKM		RPTFE	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

### Range

ZMV	
SIZE	RATING
DN 15 - 50	PN 63 - 100
DN 15 - 125	PN 25 - 40
DN 15 - 200	PN 10 -16
1/2" - 2"	Class 600
1/2" - 4"	Class 300
1/2" - 8"	Class 150

ZMVRB	
SIZE	RATING
1/2" - 6"	Class 600
1/2" - 10"	Class 150

### GENERAL FEATURES

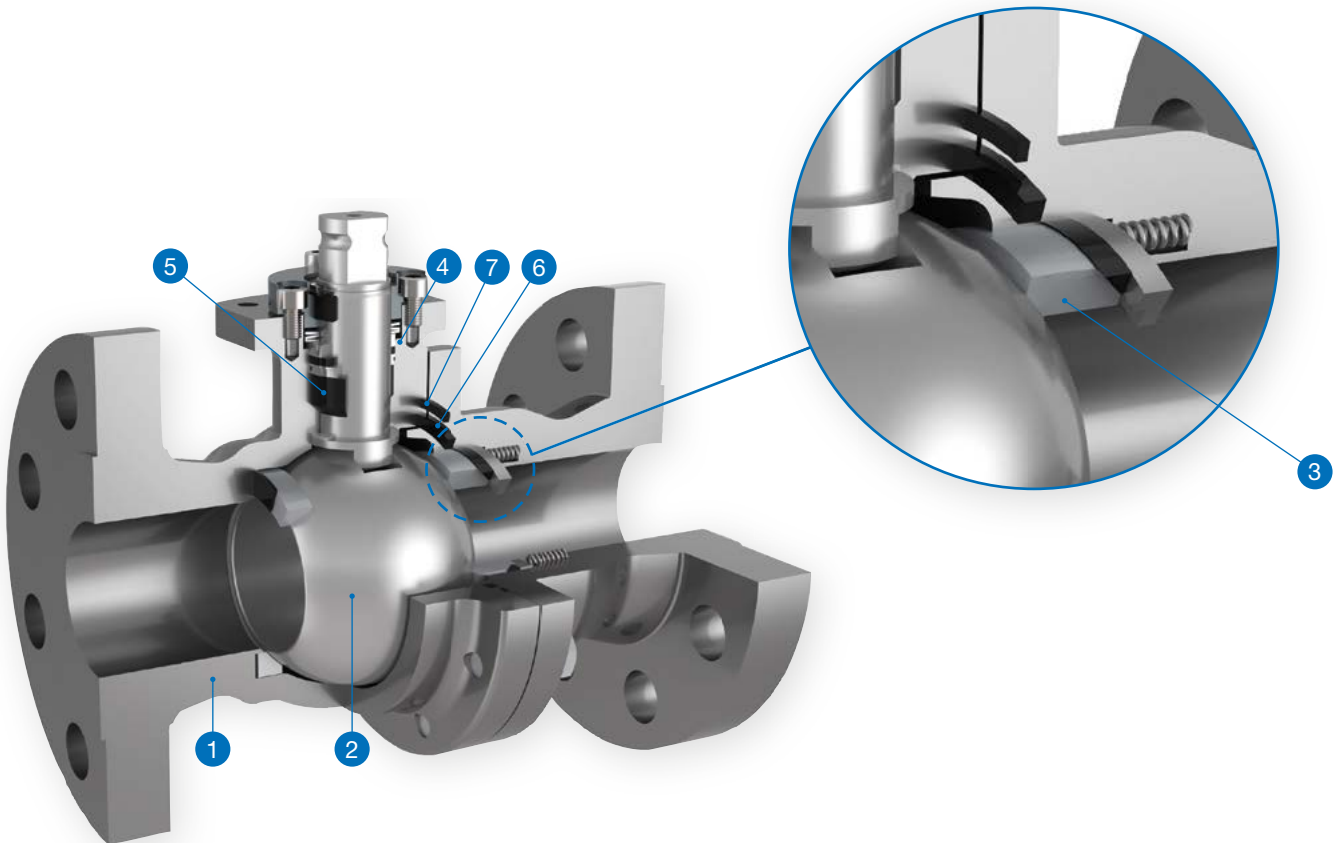
- Floating ball.
- Full / Reduced bore
- Split / One piece body
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Anti static device.
- Self-cavity pressure relief.
- Seat with O-ring

## FLOATING

### ZMS

400 °C

Up to 640°C  
with F Stem Extension



#### Standard Materials\*

Item	Description	ANSI		DIN	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A216 WCC/LCC	A351 CF8M	1.0619/1.6220	1.4408
2	Ball	CF8M+Cr-Carbide		1.4408+Cr-Carbide	
3	Seats	AISI 316+Cr-Carbide		1.4401+Cr-Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		Graphite	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

#### Range

ZMS	
SIZE	RATING
DN 15 - 50	PN 63 - 100
DN 15 - 125	PN 25 - 40
DN 15 - 200	PN 10 - 16
1/2" - 2"	Class 600
1/2" - 4"	Class 300
1/2" - 8"	Class 150

#### GENERAL FEATURES

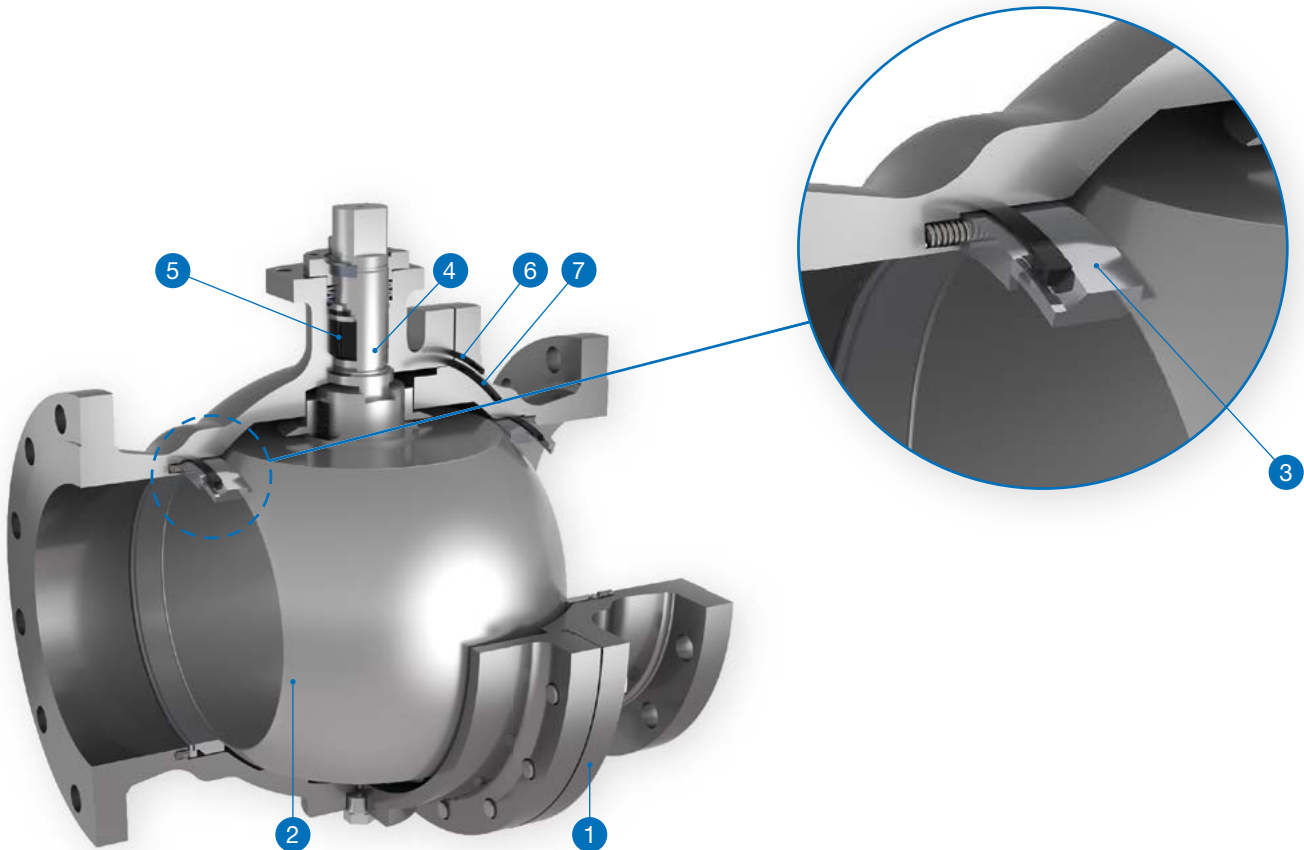
- Floating ball.
- Split body.
- Full bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Anti static device.
- Self-cavity pressure relief.
- Spring loaded seat.

## FULL TRUNNION 2 PCS

### ZGMS

400 °C

Up to 640°C  
with F Stem Extension



### Standard Materials\*

Item	Description	ANSI		DIN	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A216 WCC/LCC	A351 CF8M	1.0619 /1.6220	1.4408
2	Ball	CF8M+Cr-Carbide		1.4408+Cr-Carbide	
3	Seats	AISI 316+Cr-Carbide		1.4401+Cr-Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		Graphite	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

### Range

ZGMS	
SIZE	RATING
DN40-200	PN10-40
DN40-300	PN10-16
1 1/2" - 8"	Class 300
1 1/2" - 12"	Class 150

### GENERAL FEATURES

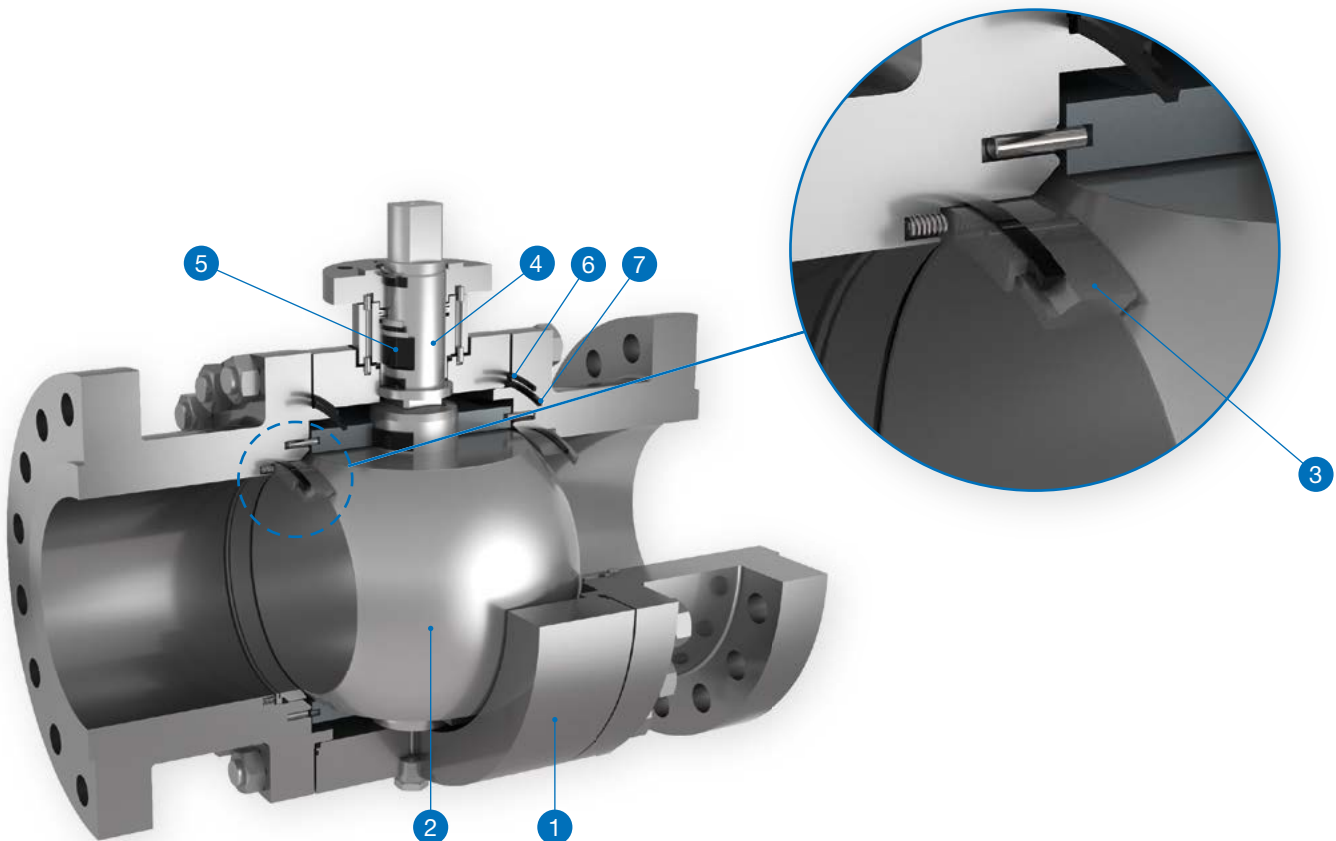
- Trunnion.
- Split body.
- Full bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Antistatic device.
- Self-cavity pressure relief.
- Double Block and Bleed.
- Spring loaded seat.

## FULL TRUNNION 3 PCS

### ZGKMS / ZGKMSRB

400 °C

Up to 640°C   
with F Stem Extension



#### Standard Materials\*

Item	Description	ANSI		DIN	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A105/A350 LF2	A182 F316	1.0352	1.4401
2	Ball	F316 + Cr-Carbide/XM-19 + Cr-Carbide		1.4401+Cr-Carbide/XM-19+Cr-Carbide	
3	Seats	F316 + Cr-Carbide/XM-19 + Cr-Carbide		1.4401+Cr Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		Graphite	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

#### Range

ZGKMS	
SIZE	RATING
DN 15 - 300	PN 320 - 400
DN 15 - 500	PN 160 - 250
DN 15 - 1050	PN 10 - 100
1/2" - 12"	Class 2500
1/2" - 20"	Class 900 - 1500
1/2" - 42"	Class 150 - 600

#### GENERAL FEATURES

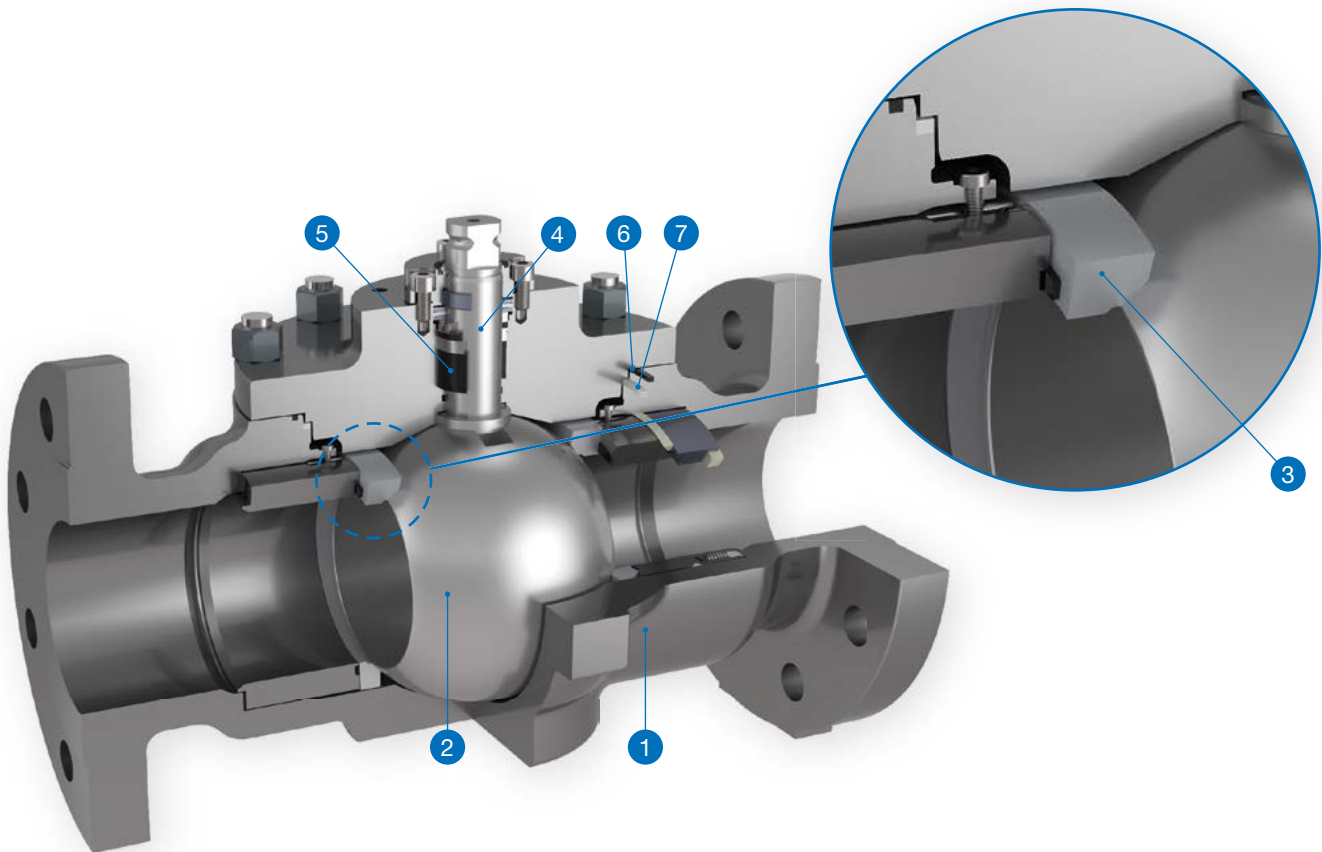
- Trunnion.
- Three Piece body.
- Full / Reduced bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Antistatic device.
- Self-cavity pressure relief.
- Double Block and Bleed.
- Spring loaded seat.

## TOP ENTRY FLOATING

## ZTEMS / ZTEMSRB

400 °C

Up to 640°C   
with F Stem Extension



### Standard Materials\*

Item	Description	ANSI		DIN	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A216 WCC/ LCC	A351 CF8M	1.0619/1.6220	1.4408
2	Ball	F316 + Cr carbide		1.4401 + Cr. Carbide	
3	Seats	AISI 316 + Cr Carbide		1.4401 + Cr. Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		Graphite	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

### Range

ZTEMS	
SIZE	RATING
DN15-50	PN 63 - 100
DN15-100	PN 16 - 40
1/2" - 2"	Class 600
1/2" - 4"	Class 300
1/2" - 8"	Class 150

### GENERAL FEATURES

- Top Entry.
- Floating Ball.
- Full / Reduced bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Antistatic device.
- Self-cavity pressure relief.
- Allows in-line maintenance.
- Spring loaded seat.

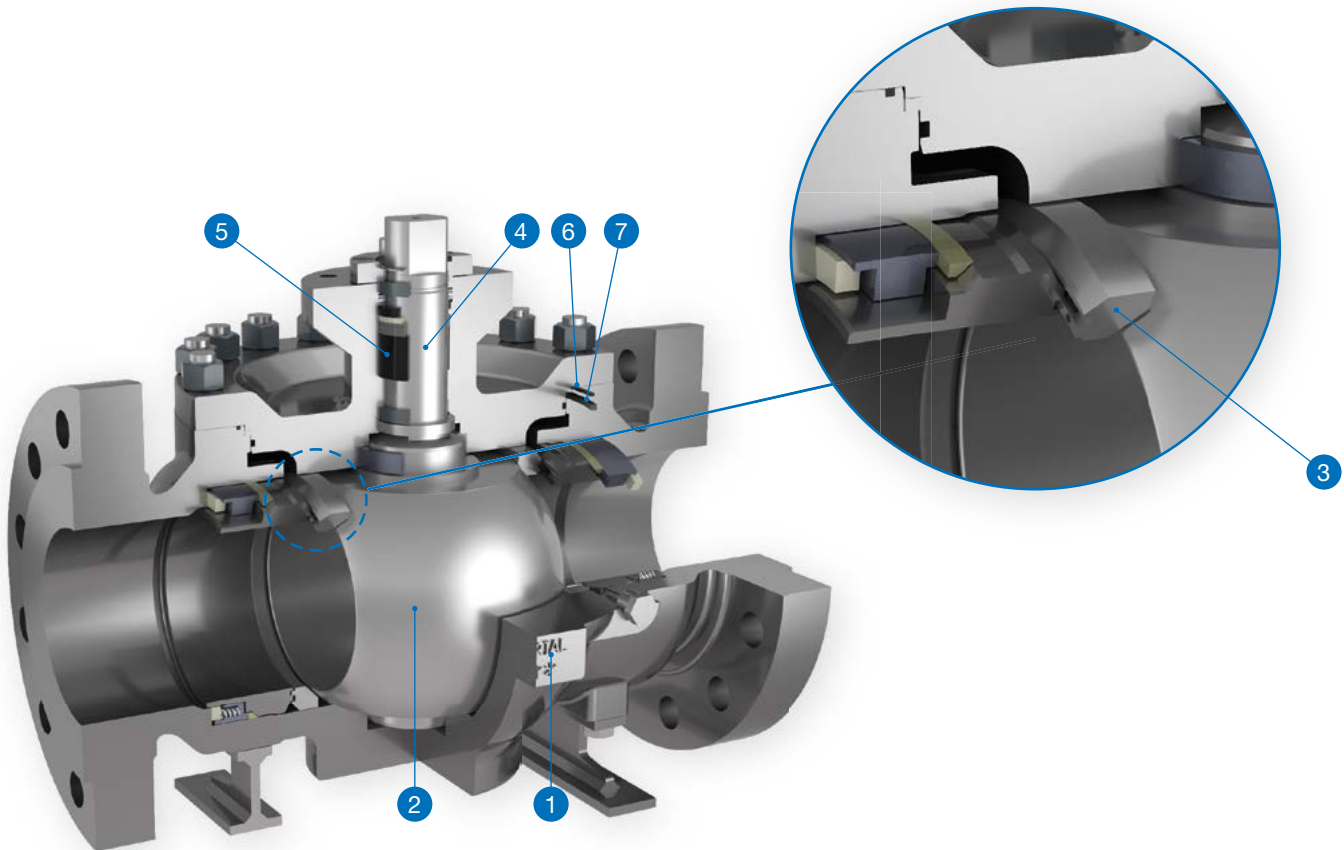


## TOP ENTRY FULL TRUNNION

### ZTEGMS / ZTEGMSRB

400 °C

Up to 640°C   
with F Stem Extension



#### Standard Materials\*

Item	Description	ANSI		DIN	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A216WCC/ A352 LCC	A351 CF8M	1.0619/1.6220	1.4408
2	Ball	F316 + Cr. Carbide		1.4401 + Cr. Carbide	
3	Seats	AISI 316 + Cr. Carbide		1.4401 + Cr. Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		Graphite	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

#### Range

ZTEGMS	
SIZE	RATING
DN80 - 300	PN 320-400
DN80 - 500	PN 160-250
DN80 - 600	PN 10-100
3" - 12"	Class 2500
3" - 20"	Class 900-1500
3" - 24"	Class 150-600

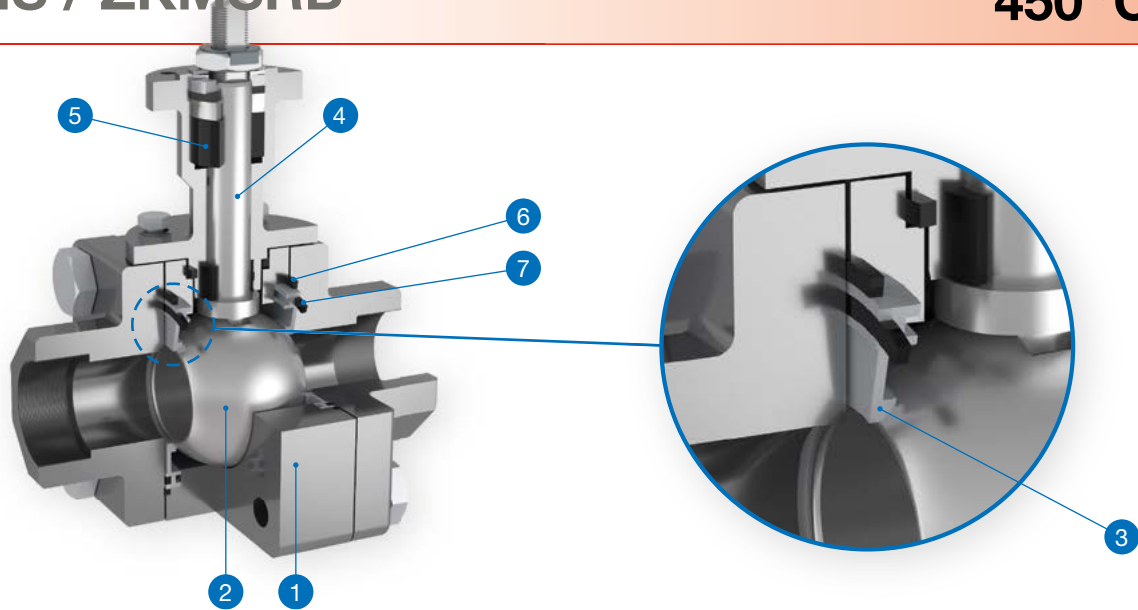
#### GENERAL FEATURES

- Top Entry.
- Trunnion.
- Full / Reduced Bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Antistatic device.
- Self-cavity pressure relief.
- Allows in-line maintenance.
- Spring loaded seat.

## 3 PCS

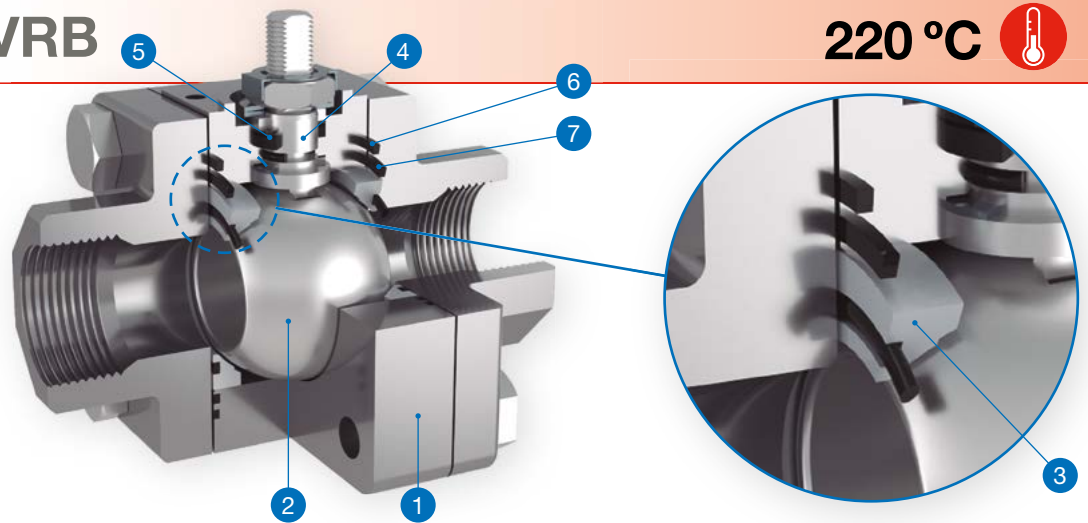
### ZKMS / ZKMSRB

450 °C



### KMV / KMVRB

220 °C



#### Standard Materials\*

Item	Description	ZKMS		ZKMV	
		Carbon steel	Stainless steel	Carbon steel	Stainless steel
1	Body	A105/A350 LF2	A182 F316/316L	A105/A350 LF2	A182 F316/316L
2	Ball	XM-19 + Hard Chrome		F316/F316L + Cr-Carbide	
3	Seats	AISI 316 + F51		AISI 316 + Cr-Carbide	
4	Stem	XM-19		XM-19	
5	Stem packing	Graphite		Graphite	
6	Body seal 1	Graphite		RPTFE	
7	Body seal 2	Graphite		Graphite	

\* Other material construction for different service upon request

#### Range

SIZE	RATING
1/4" - 1"	Class 300-800
1/4" - 4"	Class 150

#### GENERAL FEATURES

- Three piece body.
- Full / Reduced bore.
- Bidirectional.
- Anti blow out stem.
- Auto-adjustable packing.
- Antistatic device.
- Self-cavity pressure relief.
- Spring loaded seat.

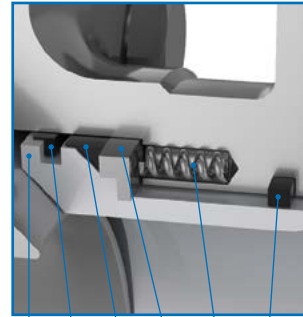
## SEAT MODELS



47 108 48 45

**Spring Loaded**  
High Temperature

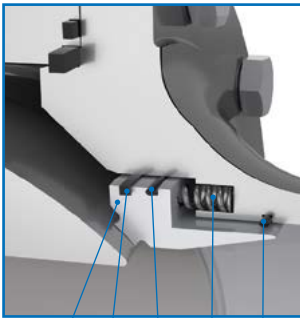
Item	Description
108	Seat Seal
45	Spring Seat
47	Metal Seat
48	Ring Seat



47 46b 46a 44b 45 46c

**Protected**  
Dust Proof

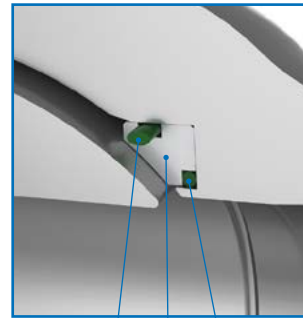
Item	Description
47	Metal Seat
46c	Seat Seal 3
46b	Seat Seal 2
46a	Seat Seal 1
45	Spring Seat
44b	Ring Seat



47 46 108 45 108

**Protected and Scraper**  
Sticky Material

Item	Description
108	Seat Seal 2
47	Metal Seat
46	Seat Seal 1
45	Spring Seat



108 47 48

**Pulp & Paper**

Max. Temp: FKM up to 220°C  
Max. Temp: FFKM up to 327°C

Item	Description
108	O-ring Seat
48	O-ring spring Seat
47	Metal Seat

## STEM EXTENSIONS



**Simple**

- Length 150 mm.
- Only Lever Operated.
- No Stem Packing.
- No gasket between valve & Stem extension.
- Manufactured from bar material.



**Standard**

- Length 150mm.
- Top Flange ISO 5211
- No Stem Packing.
- No gasket between valve & Stem extension.
- Stem guide seal on top.
- Housing in cast material.



**Security F**

- **High Temperature.** & Low emission
- Length 150 mm.
- Top Flange ISO 5211
- Stem Packing on Top, no packing in valve.
- Gasket between valve & Stem extension.

Up to 640°C



**Security F with Fugitive Detector**

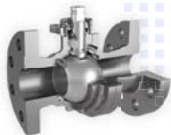
- **High Temperature** & Low emission.
- Length 150 mm.
- Top Flange ISO 5211
- Double stem packing
- Gasket between valve & stem extension.
- Grease injector or fugitive detector between the two packings in the stem extension.

Up to 640°C





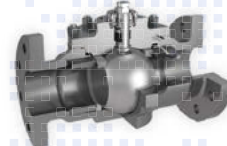
# Metal SEATED



**FLOATING  
ZMV**



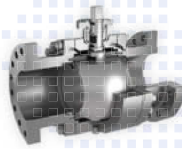
**FULL TRUNNION  
2PCS ZGMS**



**TOP ENTRY  
FLOATING ZTEMS**



**FLOATING  
ZMVRB**



**FULL TRUNNION  
3PCS ZGKMS**



**TOP ENTRY FULL  
TRUNNION ZTEGMS**



**FLOATING  
ZMS**



**3PCS  
ZKMS**



**3PCS  
KMV**



[www.pekos.es](http://www.pekos.es)

Sales & Headquarters: Rec del Molinar, 9-P-I. El Circuit  
08160 Montmeló (Barcelona) - Spain  
Tel. (+34) 93 568 92 56 - [pekos@pekos.es](mailto:pekos@pekos.es)

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