Pekos®
VALVES

Ball valves
class 150, 300, 600, 900,1500 and 2500

ANSI

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3	Certification and approvals
4	General features
5	Full bore floating
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7-8	Full trunnion
9	Stem extensions Top flange ISO 5211 Torque values
10	Test pressures Pressure-Temperature Graph How to order PEKOS valves

Production and stocks

NEW FACTORY IN ARTEA

SALES AND LOGISTICS

QUALITY CONTROL

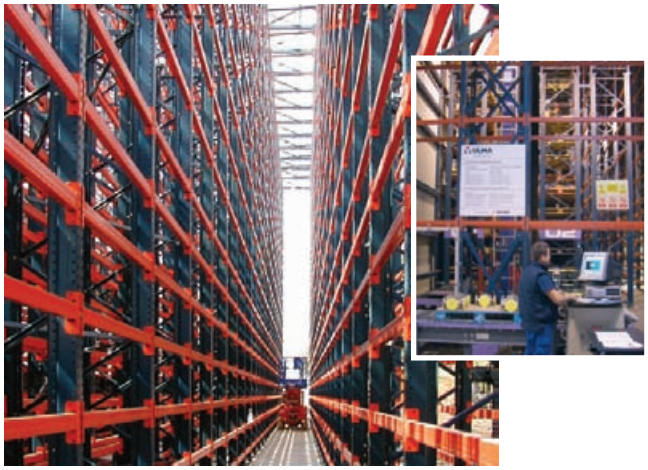
Spectrometer

Hardness test

Feritscope

SALES DEPARTMENT

IN HOUSE CNC MACHINING

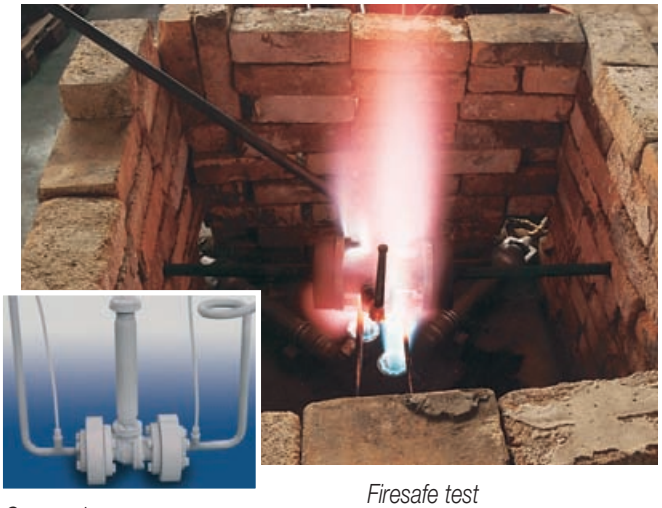


AUTOMATIC WAREHOUSES

ASSEMBLY

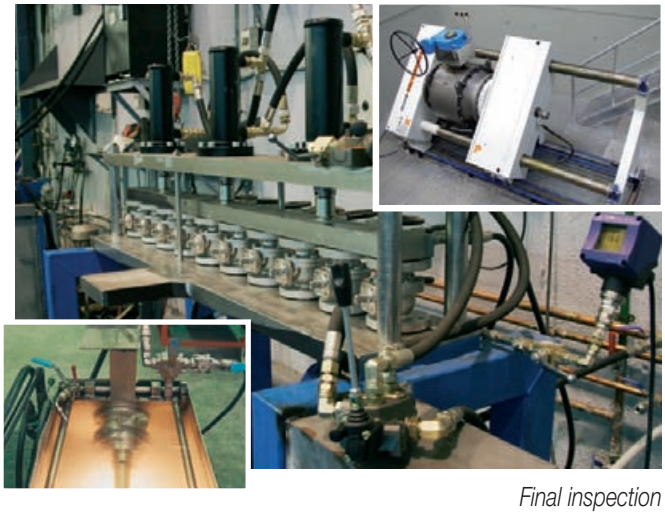
ACTUATORS ASSEMBLY

Certifications and tests



Cryogenic test

Firesafe test



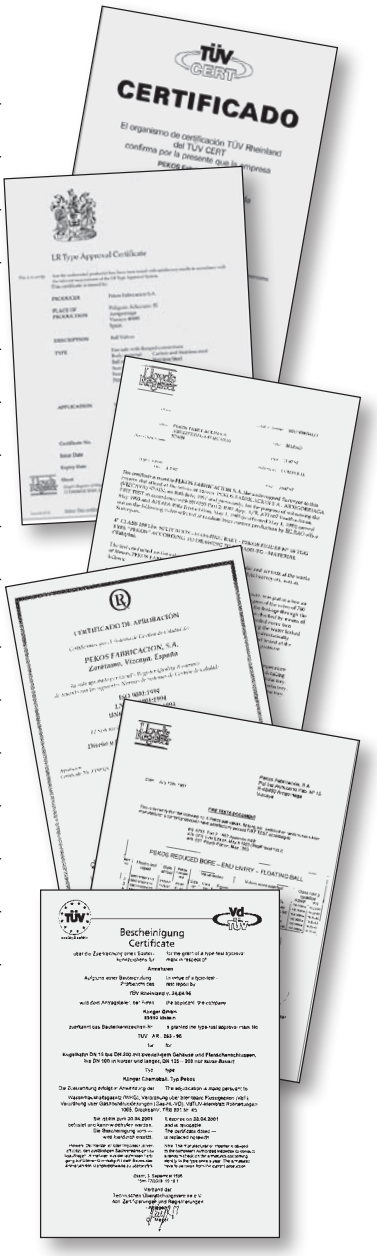
Final inspection

Certificates of the company

ISO 9001	Quality Assurance System
AD-Merkblatt WO/TRD 100	Manufacturing process and Quality System
API Monogram	Standard API 6D. certificate number: 6D-0363

Certificates of the product

Lloyd's Type Approval	Fire Safe & type approval
TUV A352.09	Design of the valves
TA-Luft ISO 15848	Stem tightness for gas emissions
CE	Pressure equipment CE marking (97/23/EC Directive)
ATEX ⟨Ex⟩	Conformity with Directive 94/9/EC - (⟨Ex⟩II2GD)
Cryogenic	Cryogenic as per norm BS 6364
EN 161 / EN 264	For cut off gas burners and gas equipment
Helium -40 °C	Leeds University test
GOST-R	Russian Federation Certificate
Sanitary approval (Russian)	Food processing and Pharmaceutical industry
SIL	Safety Integral Level as per standard IEC 61508



Some Company Approvals

- Repsol-YPF (Spain)
- Al Furat Petroleum (Syria)
- Sasol Technology (South Africa)
- EGPC (Egypt)
- Qatar Petroleum (Qatar)
- Petroleum Development Oman (PDO
- KUWAIT Oil Co. (KOC)
- Zadco (UAE)

General features

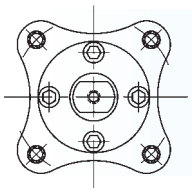
- Design as per BS5351, ANSI B16.34, EN 12516, ISO 17292, API 6 D upon request
- ISO 5211 Top flange
- FIRE SAFE construction certified as per BS 6755 part 2, API 6FA, API 607 and ISO 10497
- Pressure testing according, API 598, ISO 5208, EN 12266 and API 6D upor request
- Face to face as per ANSI B16.10, API 6D and EN 558
- End connections

Flanged RF, RTJ.....	ANSI 16.5
Socket Weld.....	ANSI 16.11
Butt Weld.....	ANSI 16.25
NPT.....	ANSI B1.20.1
BSPP.....	BS 21, ISO 228/1
BSPT.....	BS 21, ISO 7/1

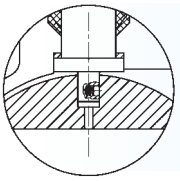
Body constructions

- Floating ball
- Guided ball
- Full Trunnion
- Split body 2-3 pieces or 1 piece (side-entry)
- Full and Reduced bore

Design advantages

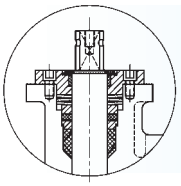


ISO 5211 Top flange



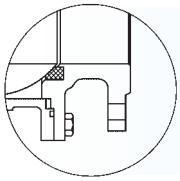
Anti-blow out stem

Antistatic stem



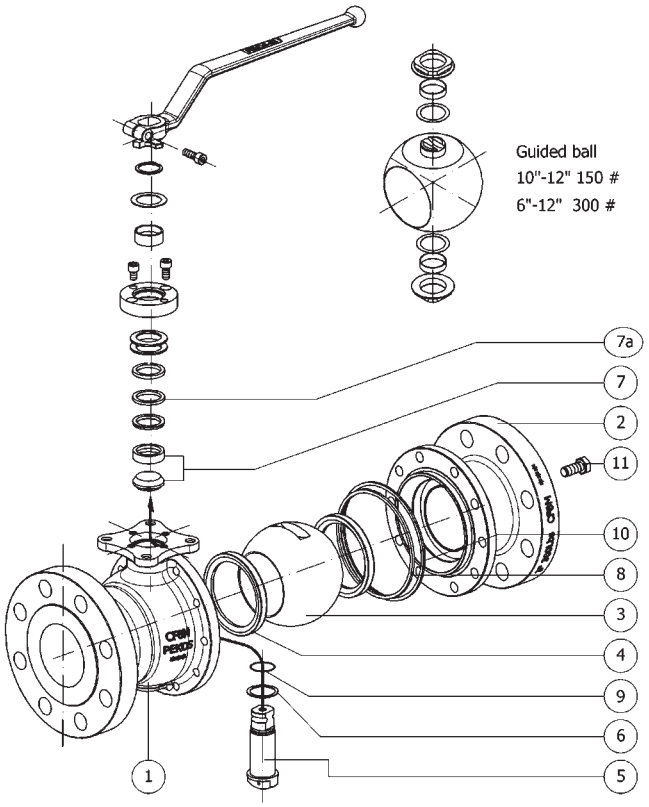
Guided stem
Fire safe

Stem packing
MAINTENANCE FREE



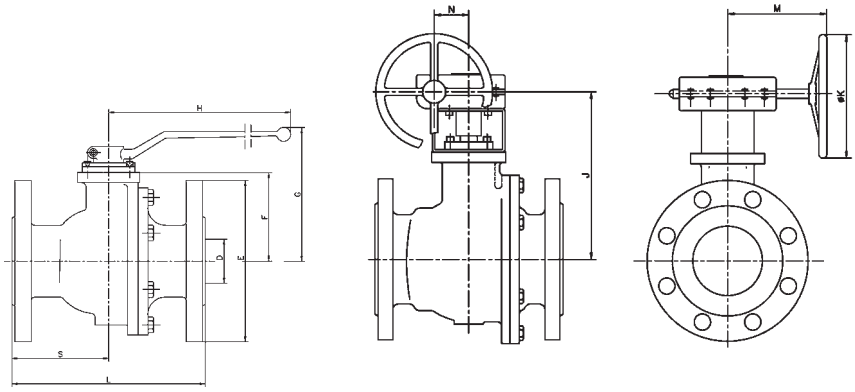
Standard construction
Fire safe

FULL BORE - FLOATING & GUIDED



Standard materials

Item	Description	Figure	
		Z14 TTTGV Z34 TTTGV Z64 TTTGV ZG14TTTGV ZG34 TTTGV	Z16 TTTGV Z36 TTTGV Z66 TTTGV ZG16TTTGV ZG36 TTTGV
1-2	Body	A216 WCC	A351CF8M
3	Ball	A351CF8M	
4	Seats	PTFE (T) PTFE+FG (R) PTFE + CG (S)	
5	Stem	AISI 316 A182 F51	
6	Stem seal	PTFE + CG (S)	
7	Packing 1	PTFE (T)	
7a	Packing 2	Graphite	
8	Seal body 1	PTFE (T)	
9	Oring stem	Viton®	
10	Seal body 2	Graphite	
11	Bolts body	A193 B7M	A193/A320 B8M Cl2



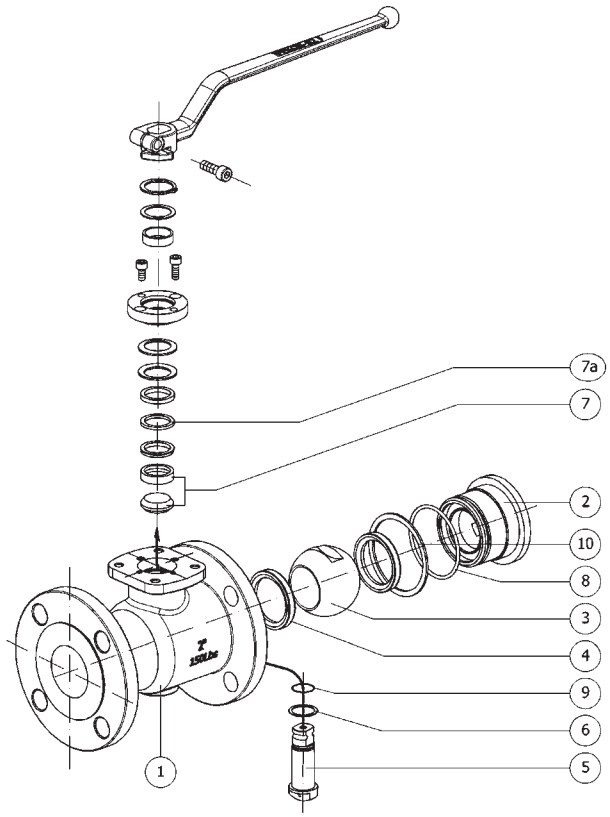
Weight (Kg)

NPS	Class 150	Class 300	Class 600	G.Box
½"	2,5	3	4	-
¾"	3,3	4,5	6	-
1"	4,2	5	8	-
11/2"	7,4	10,5	14	-
2"	10,6	12,5	19	3
21/2"	17	20	-	3
3"	22	27	-	3
4"	32	44	-	3
6"	81	105	-	9
8"	143	179	-	20
10"	245	287	-	20
12"	367	480	-	20/25

Dimensions

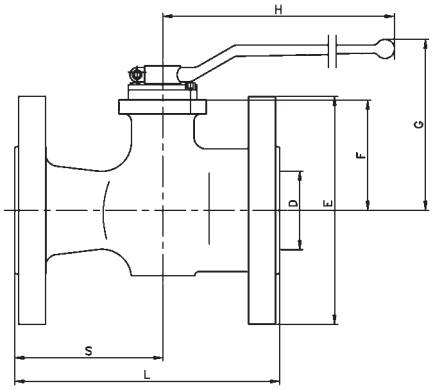
NPS	Class 150 & 300											Class 600							Gearbox			
	D	L		E		F	G	H	S		ISO	L	E	F	G	H	S	ISO	J	M	N	K
		150	300	150	300				150	300	5211							5211				
½"	15	108	140	89	95	52	105	185	47	64	F05	165	95	61	112	185	68	F05	-	-	-	-
¾"	20	117	152	99	118	54	107	185	52	76	F05	190	120	61	112	185	84	F05	-	-	-	-
1"	25	127	165	108	124	60	113	185	56	70	F05	216	125	61	112	185	96	F05	-	-	-	-
11/2"	40	165	191	127	156	75	145	300	77	78	F07	241	456	76	130	300	115	F07	153	261	50	300
2"	50	178	216	152	165	84	153	300	92	90	F07	292	165	83	137	300	129	F07	192	261	50	300
21/2"	65	190	241	178	190	96	166	300	95	120	F07	-	-	-	-	-	-	-	204	261	50	300
3"	80	203	283	191	210	114	205	355	101	142	F10	-	-	-	-	-	-	-	222	261	50	300
4"	100	229	305	229	254	128	220	355	114	152	F10	-	-	-	-	-	-	-	236	261	50	300
6"	150	394	403	279	318	175	284	680	165	211	F12	-	-	-	-	-	-	-	295	287	71	400
8"	200	457	502	343	381	245	362	750	228	251	F14	-	-	-	-	-	-	-	377	305	86	500
10"	250	533	568	406	445	285	-	-	270	283	F14	-	-	-	-	-	-	-	417	305	86	500
12"	300	610	648	483	521	336	-	-	305	324	F14	-	-	-	-	-	-	-	474	346	104	500

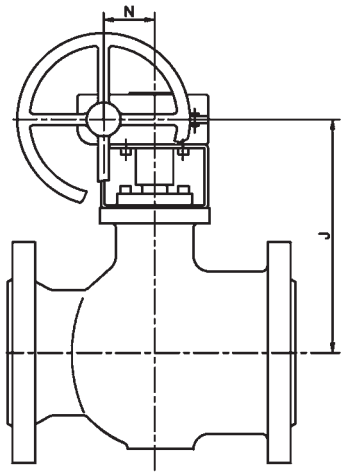
REDUCED BORE - SIDE ENTRY - FLOATING

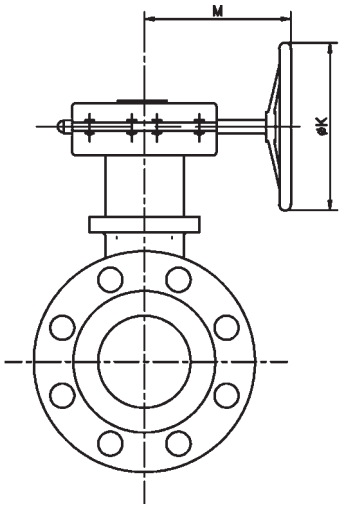


Standard materials

Item	Description	Figure	
		ZRB 14 TTGVV ZRB 34 TTGVV	ZRB 16 TTGVV ZRB 36 TTGVV
1-2	Body	A216 WCC	A351CF8M
3	Ball	A351CF8M	
4	Seats	PTFE (T) PTFE+FG (R) PTFE + CG (S)	
5	Stem	AISI 316 A182 F51	
6	Stem seal	PTFE + CG (S)	
7	Packing 1	PTFE (T)	
7a	Packing 2	Graphite	
8	Seal body 1	Viton®	
9	Oring stem	Viton®	
10	Seal body 2	Graphite	





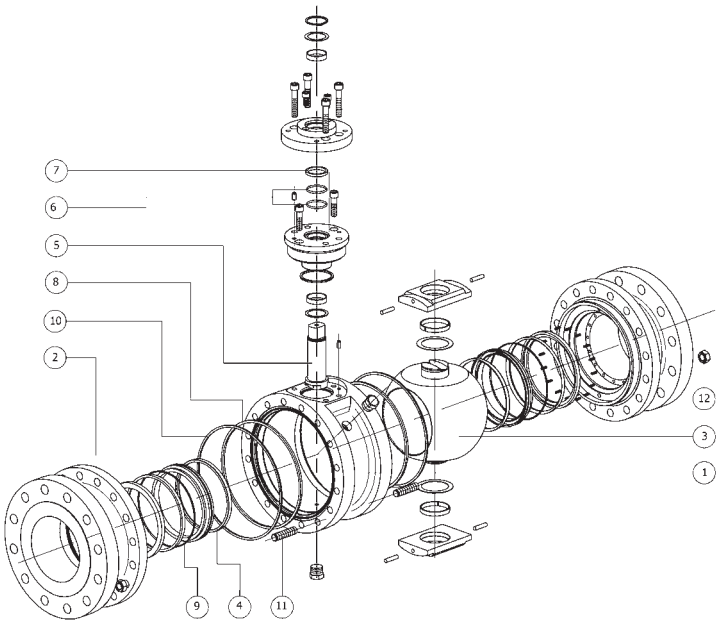


Dimensions

NPS	D	L		E		F	G	H	S		ISO	G. box				Weight (kg)		
		150	300	150	300				150	300	5211	J	M	N	K	150	300	G.box
½"	10	108	-	89	-	43	91	185	61	-	F05	-	-	-	-	2	2,5	-
¾"	15	117	152	99	118	46	94	185	57	92	F05	-	-	-	-	2,5	3,6	-
1"	20	127	165	108	124	54	102	185	72	104	F05	-	-	-	-	3,5	4,8	-
11/2"	32	165	191	127	156	65	118	185	93	118	F05	-	-	-	-	5,5	9	-
2"	40	178	216	152	165	75	145	300	108	146	F07	183	261	50	300	9	12	2.5
3"	65	203	283	191	210	96	166	300	123	203	F07	204	261	50	300	17	25	2.5
4"	80	229	305	229	254	114	205	355	137	203	F10	229	261	50	300	25	39	2.5
6"	100	267	403	279	318	148	257	680	147	283	F12	268	287	71	400	46	75	10
8"	144	292	419*	343	381*	172	281	680	157	284	F12	292	287	71	400	80	118	10
10"	187	330	-	406	-	237	-	-	170	-	F14	369	305	86	500	124	-	20
12"	235	356	-	483	-	266	-	-	178	-	F14	398	305	86	500	196	-	20

* Guided ball

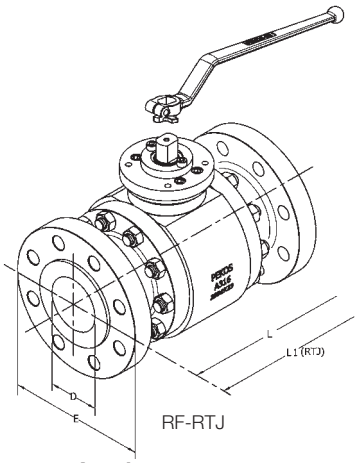
FULL TRUNNION



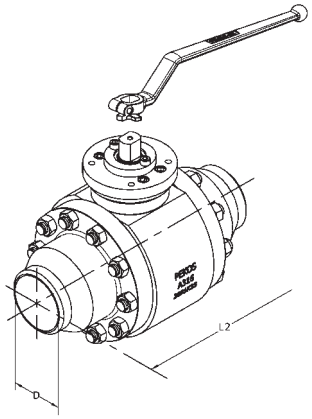
Standard materials

Item	Description	Figure*	
		GKS 14 SGS GV GKS 34 SGS GV GKS 64 SGS GV GKS 94 SGS GV GKS 154 SGS GV GKS 254 SGS GV	GKS 16 SGS GV GKS 36 SGS GV GKS 66 SGS GV GKS 96 SGS GV GKS 156 NGT GV GKS 256 NGT GV
1-2	Body	A216 WCC A105N/LF2	A351 CF8M A182 F316
3	Ball	A351 CF8M / LF2+ENP	
4	Seats	TEFLON (T) TEFLON +FG (R) TEFLON+CG(S) DEVLON (N)	
5	Stem	AISI 316 A182 F51	
6-7	Paking ring	Graphite Viton®	
9	Seat seal	Viton® Graphite	
8-10	Body seal	Viton® - Graphite	
11	Studs	A320 L7M	A193/A320 B8M Cl2
12	Nuts	A194 7M	A194 8M

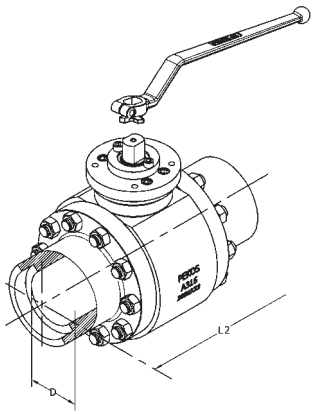
* When is reduced bore to add RB after S



RF-RTJ



BUTT WELD



SOCKET WELD

Weight (kg)

Full Bore

RF - RTJ

NPS	Class150	Class 300	Class 600	Class 900	Class1500	Class 2500
2"	21	22	30	60	75	118
3"	55	57	60	80	110	220
4"	105	110	110	180	185	370
6"	225	185	235	390	430	755
8"	305	240	460	650	780	1970
10"	455	575	680	980	1200	3005
12"	630	660	1020	1400	1620	4150
14"	770	800	1220	1640	1980	-
16"	850	1215	1510	1980	2370	-
18"	1450	1710	2410	2805	-	-
20"	1870	2450	3115	3738	-	-

Butt Weld - Socket Weld

NPS	Class150	Class 300	Class 600	Class 900	Class1500	Class 2500
2"	17	18	25	49	62	97
3"	45	47	50	66	90	180
4"	87	91	91	150	152	305
6"	186	153	195	/320	359	625
8"	253	200	380	530	640	1635
10"	377	470	560	810	995	2490
12"	520	540	845	1160	1344	3440
14"	640	664	1010	1360	1640	-
16"	700	1008	1250	1640	1970	-
18"	1200	1400	2000	2328	-	-
20"	1550	2033	2580	3100	-	-

Reduced Bore

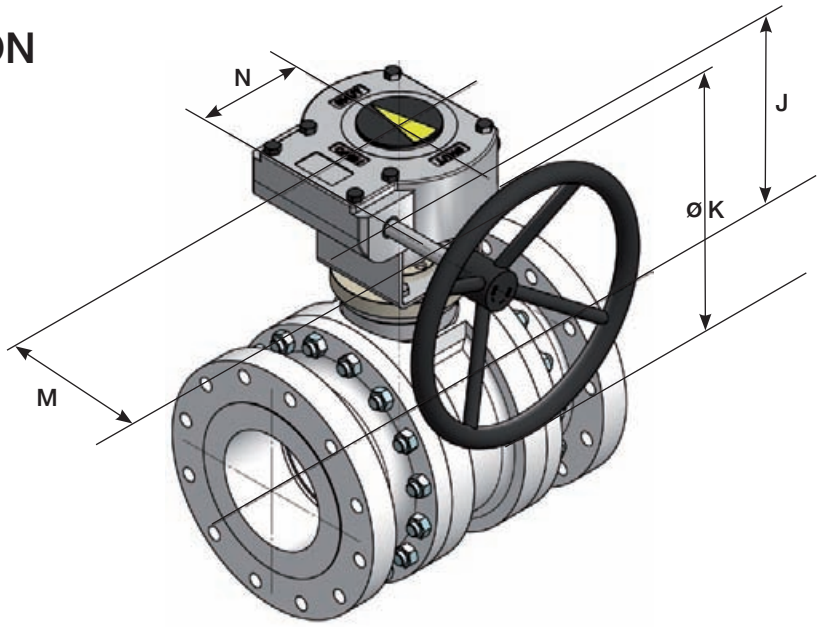
RF - RTJ

NPS	Class150	Class 300	Class 600	Class 900	Class1500	Class 2500
3"X2"	30	34	39	65	76	150
4"x3"	75	78	85	109	141	281
6"x4"	115	130	160	222	285	567
8"x6"	268	265	328	370	515	989
10"x8"	395	314	550	560	790	2250
12"x10"	615	625	720	798	1070	3110
14"x12"	712	730	920	934	1300	-
16"x14"	880	890	1120	1128	1560	-
18"x16"	905	1200	2050	1300	-	-
20"x18	1420	1850	2600	2460	-	-

Butt Weld - Socket Weld

NPS	Class150	Class 300	Class 600	Class 900	Class1500	Class 2500
3"X2"	25	28	32	54	63	124
4"x3"	62	64	70	90	117	233
6"x4"	95	106	132	184	236	470
8"x6"	222	219	272	307	427	820
10"x8"	327	260	456	464	655	1867
12"x10"	510	518	597	662	888	2581
14"x12"	590	605	760	775	1079	-
16"x14"	730	730	929	936	1295	-
18"x16"	750	995	1700	1079	-	-
20"x18	1178	1530	2150	2040	-	-

FULL TRUNNION



Dimensions

Class 150/300/600

NPS		D		L (RF)			L1(RTJ)			L2 (BW) (SW)			E		
FB	RB	150-600 FB	150-600 RB	150	300	600	150	300	600	150	300	600	150	300	600
2”	-	50	-	178	216	292	191	232	295	216	216	292	152	165	165
3”	3” x 2”	75	50	203	283	356	215	300	359	283	283	356	191	210	210
4”	4” x 3”	100	75	229	305	432	241	321	435	305	305	432	229	254	273
6”	6” x 4”	150	100	394	403	559	406	419	562	457	457	559	279	318	356
8”	8” x 6”	201	150	457	502	660	470	518	663	521	521	660	343	381	419
10”	10” x 8”	252	201	533	568	787	545	584	790	559	559	787	406	445	508
12”	12” x 10”	303	252	610	648	838	622	664	841	635	635	838	483	521	559
14”	14” x 12”	385	303	686	762	889	698	778	891	762	762	889	535	585	605
16”	16” x 14”	334	334	762	838	991	774	854	877	838	838	991	595	650	685
18”	18”x16”	438	385	864	914	1092	877	930	1095	914	914	1092	635	710	745
20”	20”x18”	487	436	914	991	1194	927	1007	1200	991	991	1194	700	775	815
24”	24”x20”	589	487	1067	1143	1397	1080	1165	1407	1143	1143	1397	815	915	940

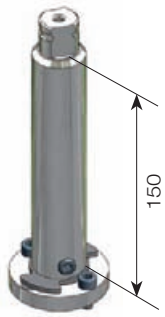
NPS		Class 150					Class 300					Class 600 lbs				
FB	RB	J	K	M	N	ISO 5211	J	K	M	N	ISO 5211	J	K	M	N	ISO 5211
2”	3”x 2”	226	300	276	50	F07	226	300	276	50	F07	226	300	276	50	F07
3”	4”x3”	258	300	276	50	F10	258	300	276	50	F10	258	300	276	50	F10
4”	6”x4”	277	300	276	50	F10	277	300	276	50	F10	295	400	317	71	F12
6”	8”x6”	330	400	317	71	F12	330	400	317	71	F12	361	500	305	86	F14
8”	10”x8”	395	500	305	86	F14	395	500	305	86	F14	463	500	305	104	F16
10”	12”x10”	433	500	305	86	F14	439	500	305	104	F14	505	600	346	130	F16
12”	14”x12”	506	500	346	104	F14	506	500	305	104	F14	635	600	346	130	F25
14”	16”x14”	574	500	346	104	F16	574	600	346	130	F16	700	600	412	182	F25
16”	18”x16”	608	600	346	130	F16	608	600	447	130	F16	749	700	500	203	F25
18”	20”x18	695	600	387	130	F25	700	600	412	182	F25	769	700	578	278	F30
20”	24x20	722	600	412	182	F25	700	600	412	182	F25	809	700	578	278	F30
24”	--	890	600	412	182	F30	900	600	412	182	F30	860	700	578	278	F30

Class 900/1500/2500

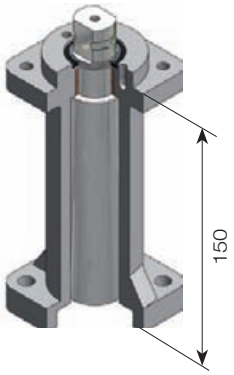
NPS		D						L (RF)			L1(RTJ)			L2 (BW) (SW)			E		
FB	RB	900 FB	900 RB	1500 FB	1500 RB	2500 FB	2500 RB	900	1500	2500	900	1500	2500	900	1500	2500	900	1500	2500
2”	-	50	-	50	-	42	-	368	368	451	371	371	454	368	368	451	215	215	235
3”	3” x 2”	75	50	75	50	62	42	381	470	578	384	473	584	381	470	578	240	265	305
4”	4” x 3”	100	75	100	75	87	62	457	546	673	460	549	683	457	546	673	290	310	355
6”	6” x 4”	150	100	144	100	131	87	610	705	914	613	711	927	610	705	914	380	395	485
8”	8” x 6”	201	150	192	144	179	131	737	832	1022	740	841	1038	737	832	1022	470	485	550
10”	10” x 8”	252	201	239	192	223	179	838	991	1270	841	1000	1292	838	991	1270	545	585	675
12”	12” x 10”	303	252	287	239	265	223	965	1130	1422	968	1146	1445	965	1130	1422	610	675	760
14”	14” x 12”	334	303	315	287	--	--	1029	1250	--	1039	1276	--	1029	1250	--	640	750	--
16”	16” x 14”	373	334	360	315	--	--	1130	1384	--	1140	1407	---	1130	1384	---	705	825	--
18”	18”x16”	423	373	--	--	--	--	1219	--	--	1221	--	--	1219	--	--	785	--	--
20”	20”x18”	471	423	--	--	--	--	1321	--	--	1334	--	--	1321	--	--	855	--	--
24”	24”x20”	570	471	--	--	--	--	1549	--	--	1568	--	--	1549	--	--	1040	--	--

NPS		Class 900					Class 1500					Class 2500 lbs				
FB	RB	J	K	M	N	ISO 5211	J	K	M	N	ISO 5211	J	K	M	N	ISO 5211
2”	3”x 2”	243	300	263	50	F10	243	300	263	50	F10	267	300	263	50	F12
3”	4”x3”	268	300	263	70	F12	278	400	296	70	F12	313	400	305	70	F14
4”	6”x4”	345	400	296	70	F12	372	400	305	70	F14	332	500	305	86	F16
6”	8”x6”	387	500	305	86	F16	475	500	305	86	F16	410	500	305	86	F25
8”	10”x8”	463	500	305	86	F16	525	600	364	104	F25	633	600	364	104	F25
10”	12”x10”	532	500	364	104	F16	666	600	364	104	F25	723	600	420	104	F30
12”	14”x12”	620	600	364	104	F25	729	600	364	104	F30	780	800	420	104	F35
14”	16”x14”	660	600	364	130	F30	780	800	420	182	F30	--	--	--	--	--
16”	18”x16”	730	600	364	130	F30	857	800	420	182	F35	--	--	--	--	--
18”	20”x18	768	800	420	182	F35	--	--	--	--	--	--	--	--	--	--
20”	24x20	806	800	600	430	F35	--	--	--	--	--	--	--	--	--	--
24	--	856	800	600	430	F35	--	--	--	--	--	--	--	--	--	--

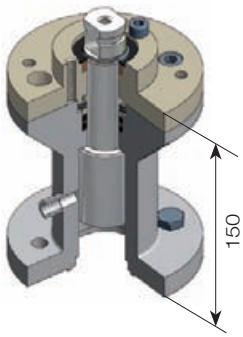
STEM EXTENSION



Simple stem extension



Standard extension

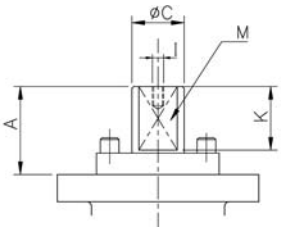


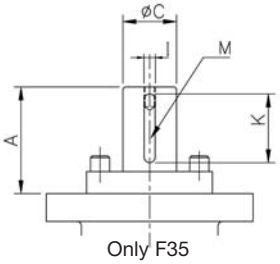
Security and fugitive emission detector

TOP FLANGE ISO 5211

FLOATING AND GUIDED BALL

ISO 5211	F05	F05	F07	F10	F12	F14
M	8	10	14	19	26	32
C	12	16	20	25	34	42
A	16	22	25	27	38	43
K	13	19	22	24	35	40
I	M4	M4	M6	M8	M8	M8





Only F35

FULL TRUNNION

ISO 5211	F05	F07	F10	F12	F14	F16	F25	F30	F35
M	14	17	22	27	36	46	55	75	Key 40x22
C	18	22	28	36	48	60	72	100	160
A	19,5	30	40	50	63	73	83	83	190
K	17	17	22	27	36	60	70	80	150
I	M4	M6	M8	M8	M10	M10	M10	M10	M10

MAST (Maximum allowable stem torque in Nm)

Valve type	Stem material	F05*	F05*	F07	F10	F12	F14	F16	F25	F30	F35
Floating and guided ball	F51	80	175	384	796	2013	3784	....	....	...	...
	316	35	78	170	354	894	1682	...	...	...	...
	17-4 PH	153	336	736	1526	3856	7249	...	...	...	...
Full trunnion	F51	116	207	549	1146	2356	5585	11084	19102	48235	106822
	316	42	92	244	510	1047	2482	4926	8490	21438	47477
	17-4 PH	183	398	1053	2197	4513	10698	21232	36592	92397	204625

BREAKAWAY TORQUE (Nm)

FLOATING AND GUIDED BALL

NPS FB	½"	¾"	1"	1 ½"	2"	2 ½"	3"	4"	-	6"	8"	10"	12"
NPS RB	¾"	1"	1 ½"	2"	2 ½"	3"	4"	-	6"	8"	10"	12"	-
Class150	9	11	16	32	48	62	103	145	249	400	720	1160	1650
Class 300	14	16	19	42	70	90	150	216	320	590	1220	1620	1820
Class 600	16	18	40	90	156	-	-	-	-	-	-	-	-

FULL TRUNNION

NPS FB	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
NPS RB	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	-
Class 150	70	80	120	160	910	1500	1800	2800	3215	5100	6400	7480	8540
Class 300	115	302	490	890	1540	2020	2460	4165	5780	7830	9830	13100	16300
Class 600	166	320	711	1580	2520	3400	4650	6820	8600	13120	17800	22500	28400
Class 900	205	560	880	2050	3205	4070	4800	8200	10900	17100	23880	29800	38500
Class 1500	310	875	1340	3340	5050	6520	7670	13100	17500	--	--	--	--
Class 2500	470	1360	2070	5250	8240	10280	12050	--	--	--	--	--	--

- Test are made with water and PTFE (T) seats maximum ΔP according to body and seat rating.
- With seats in S or R type this values have to increased approximately 30%.
- Breakaway torque can be increased approximately 50% after longs periods of inactivity during the first cicles.

Leak tests

Test acording API 598, EN 12266-1 Class A and ISO 5208 Rate A

Leak tests (bars)

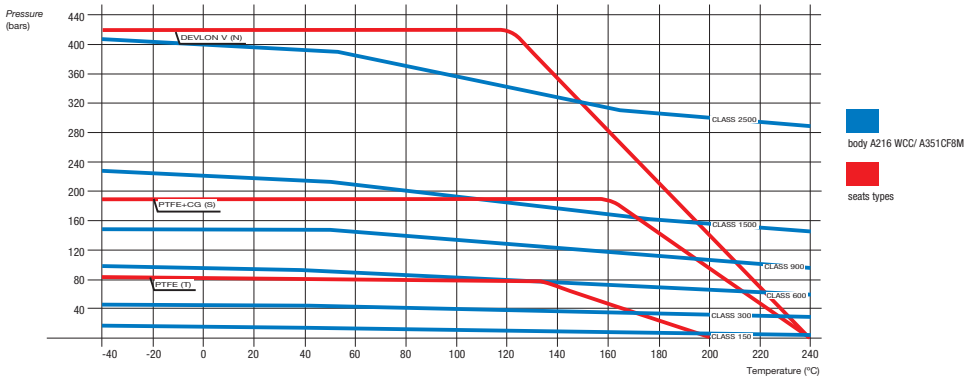
Class	Hydraulic test		Pneumatic test	
	shell test	Seat test	Shell test	Seat test
150	30	22	18,5	6
300	78	57		
600	156	114		
900	235	171		
1500	390	285		
2500	647	474		

Size	Minimum duration (sec) Hydraulic and pneumatic	
	Shell test	Seat test
½" to 1 ½"	15	15
2"	15	60
2 ½" to 6"	60	60
8"	120	120
10" to 12"	180	120
≥ 14"	300	120

K_v (m^3/h)

DN	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
Full bore	20	44	88	200	310	480	960	1700	4100	8200	11500	18340	26300	30200	35400	54100	62500	70300
Reduced bore	-	20	44	88	200	310	480	960	1700	4100	8200	11500	18340	26300	41200	45200	51520	58200

Pressure – Temperature limitations



How to order PEKOS ball valves

SPECIAL PREFIX	I Class	II Body/Ball	III Seats	IV Packing	V Body seal 1	VI Body seal 2	VII O ring stem
B-Sampling valve	**0**-F4/F5	**0**- Special	**T**-PTFE	**T**-PTFE	**T**- PTFE	**T**-PTFE	**V**-Viton® (FKM)
C-Cavity filler	**1**-150 Class.	**1**-GG25/1.4408	**R**-PTFE + FG	**R**-PTFE + FG	**R**-PTFE + FG	**G**-Graphite	**N**-Buna®
E-Standard stem extens.	**2**-F1	**2**-GG25/1.4027	**S**-PTFE + CG	**S**-PTFE + CG	**S**-PTFE + CG	**V**- Viton® (FKM)	**E**-EPDM
F-Security Stem extens.	**3**-300 Class.	**3**-WCC/CA15	**P**-PEEK®	**G**-Graphite	**G**-Graphite	**N**-Buna®	**K**-KALREZ®
G-Guided ball	**4**-CL 400	**4**-WCC/CF8M 1.0619/1.4408	**K**-KEL´F® (PCTFE)	**U**-UHMWPE®	**U**-UHMWPE®	**E**-EPDM	**L**-CLOROPRENO
H-Heating jacket	**5**-Tank bottom	**5**-LCC/LF2+ENP	**X**-PTFE + Inox	**Y**-TF 1750®	**V**- Viton® (FKM)	**K**-KALREZ®	**I**-SILICONE
I-Inclined stem	**6**-600 Class.	**6**-CF8M/CF.8M 1.4408/14408	**N**-Nylon		**Y**-TF1750®	**L**-CLOROPENO	
K-Three pieces	**7**-4 way	**7**-1.4539/1.4539	**D**-DELRIN®			**I**-SILICONE	
L-Locking device	**8**-3 way	**8**-Bronze/1.4408	**U**-UHMWPE®				
M-Metal seat	**9**-Wafer	**9**-LCC/CF8M 1.069QT/1.4408	**N**-DEVLON V®				
O-Degreased	**10**-Special		**G**-Graphite				
S-Spring seat	**15**-CL 1500		**V**- Viton®				
T-Simple stem extens.	**25**-CL 2500		**W**-Tungsteno				
U-Unidirectional	**80**-Class 800		**Q**-Peek+12% PTFE				
V-O ring seat	**90**-Class 900		**H**-Colmonoy (METAL)				
W-welding body			**C**-Cr Crom-Carbide (METAL)				
RB-Reduced bore							

Example: Fig. Z LU - 16 TGG - VN - DN80

- Z New stem design
- Special prefix
- VII
- VI
- V
- IV
- III
- II
- I

Viton® and Delrin® are registered trademark of Dupon.

ANSI

From 1/4” up to 24”
ANSI 150-300-600-900-1500-2500
From - 196 ºC up to +700 ºC

Split body floating

Full trunnion

Cryogenic

End entry floating

3 & 4 way floating and trunnion

Wafer

Heating jacket

Tank bottom

Metal to metal

Three piece forged

Pekos® VALVES

www.pekos.es

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pekos@pekos.es

ENERO / 12 - REV. 5