

MADE IN Germany

ANSI Class
150-300-600 lbs
PTFE - PEEK
Schwimmende Kugel

PTFE - PEEK
Floating ball

Flansch-Kugelhähne Typ KHF 510

flanged-ball valves type KHF 510

DN 15, 1/2" bis DN 350, 14"
ASME B 16.5 - 16.10

DN 15, 1/2" up to DN 350, 14"
ASME B 16.5 - 16.10

Werkstoffe:	-ETE-	-STE-	-EPE-	-SPE-
Gehäuse	1.4408	1.0619	1.4408	1.0619
Dichtungen	PTFE	PTFE	PEEK	PEEK
Kugel	1.4408	1.4308	1.4408	1.4308

materials:	-ETE-	-STE-	-EPE-	-SPE-
body	1.4408	1.0619	1.4408	1.0619
seats	PTFE	PTFE	PEEK	PEEK
ball	1.4408	1.4308	1.4408	1.4308

DIN EN ISO 9001:2008 - TÜV CERT -
DGRL 97/23/EG
Herstellung gem. AD-2000
TA-Luft 2002
Fire-Safe API 607 Fifth Edition / ISO 10497-5:2004



DIN EN ISO 9001:2008 - TÜV CERT -
PED 97/23/EC
manufacturing acc. to AD-2000
TA-Luft 2002
Fire-Safe API 607 Fifth Edition / ISO 10497-5:2004



Einsatzbereiche:
Neutrale Gase und Flüssigkeiten,
Mineralölprodukte, Laugen, Dampf,
korrosive Flüssigkeiten und Gase.

Application:
Water, oil, gas, acid, solution, solvent, steam.

Temperatur: -50 °C (-60 °F) bis +230 °C (450 °F). (PTFE)
-50 °C (-60 °F) bis +260 °C (500 °F). (PEEK)

Temperature: -50 °C (-60 °F) to +230 °C (450 °F). (PTFE)
-50 °C (-60 °F) to +260 °C (500 °F). (PEEK)

Flansch-Kugelhähne Typ KHF 510 / flanged ball valves type KHF 510

ANSI Class 150-300-600 lbs

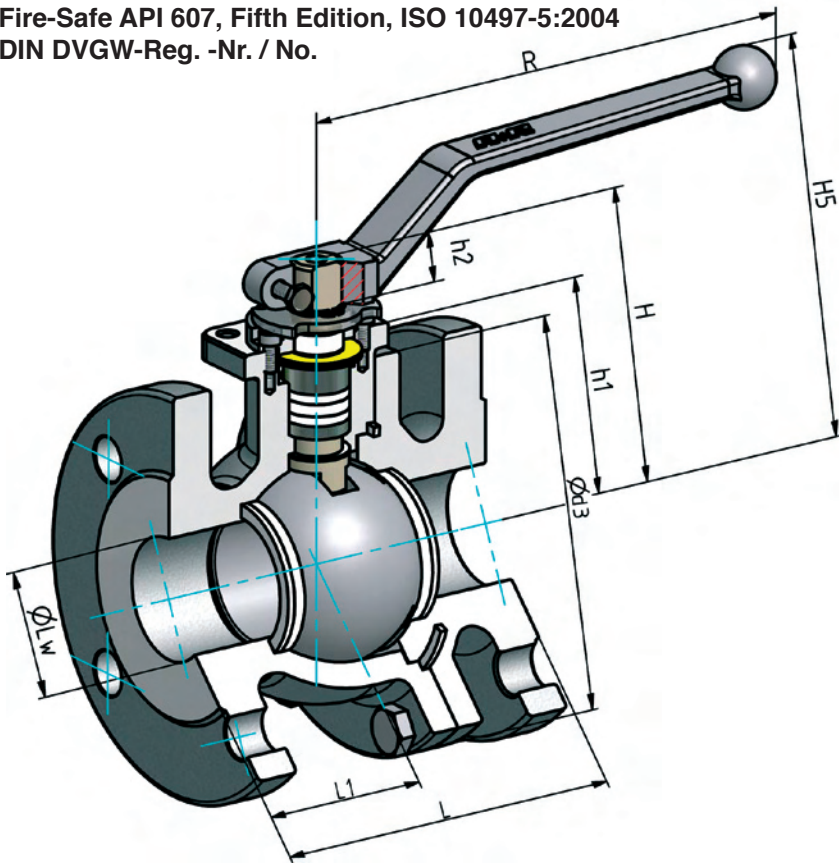
PTFE / PEEK

DGRL 97/23/EG / PED 97/23/EC

TA- Luft 2002

Fire-Safe API 607, Fifth Edition, ISO 10497-5:2004

DIN DVGW-Reg. -Nr. / No.



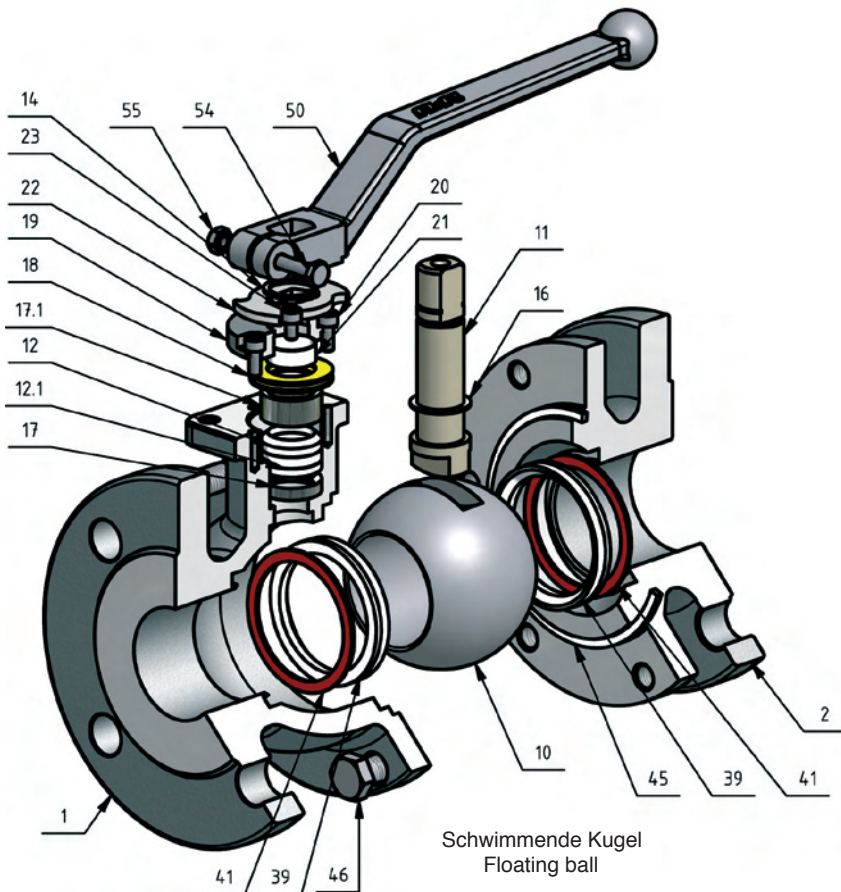
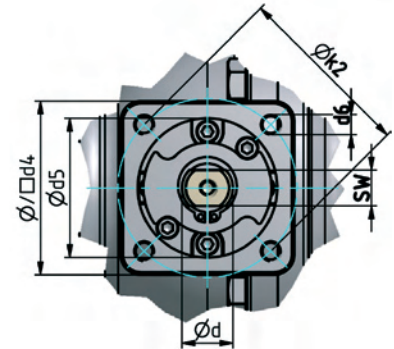
Antriebsaufbau

nach DIN ISO 5211

actuator attachment

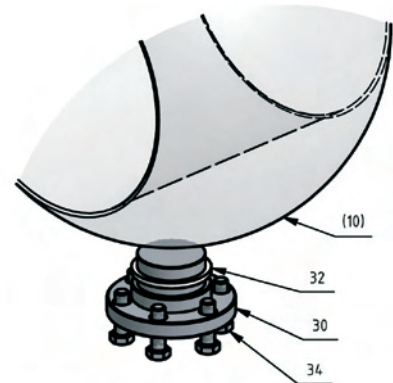
acc. to DIN ISO 5211

ISO 5211	Øk2	d6	thread length	Ød5	□/Ø d4
F 05	50,0	4xM6	10,0	35,0	□48
F 07	70,0	4xM8	12,0	55,0	□68
F 10	102,0	4xM10	15,0	70,0	□96
F 12	125,0	4xM12	18,0	85,0	Ø150
F 14	140,0	4xM16	24,0	100,0	Ø175
F 16	165,0	4xM20	30,0	130,0	Ø210
F 25	254,0	8xM16	24,0	200,0	Ø285
F 30	298,0	8xM20	30,0	230,0	Ø350



Schwimmende Kugel
Floating ball

DN 1/2" bis DN 14"
DN 1/2" to DN 14"



Option mit gestützter Kugel,
Option with ball support

DN 6" bis DN 14"
DN 6" to DN 14"

Flansch-Kugelhähne Typ KHF 510 / flanged ball valves type KHF 510

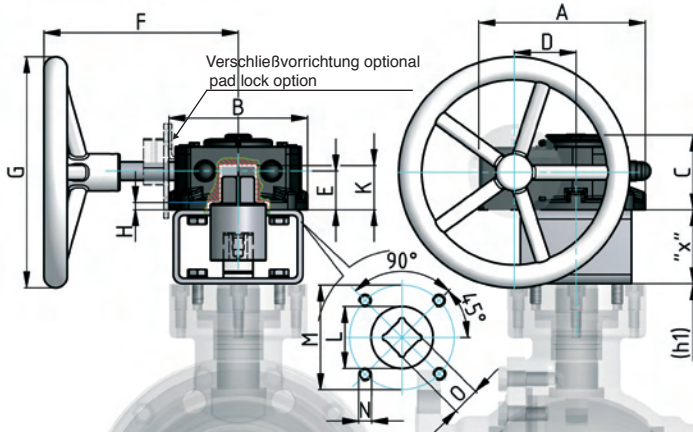
ANSI Class 150-300-600 lbs

DN	ØLw	L			L1			H		h1		h2		Ød		SW			Ød3			H5			R			Weight Kg			ISO 5211		
		150	300	600	150	300	600	150	300	150	300	150	300	150	300	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
1/2"	mm	16,0	108,0	139,7	165,1	47,0	47,0	58,0	80,0	63,0	10,0	16,0	12,4	90,0	90,0	91,0	133,0	160,0	3,0	3,7	4,2				F 05								
	in	0,63	4,25	5,50	6,50	1,85	1,85	2,28	3,15	2,48	0,39	0,63	0,49	3,54	3,54	3,58	5,24	6,30															
3/4"	mm	19,0	117,3	152,4	190,5	48,0	48,0	58,0	80,0	63,0	10,0	16,0	12,4	90,0	90,0	91,0	133,0	160,0	3,3	4,7	5,4				F 05								
	in	0,75	4,62	6,00	7,50	1,89	1,89	2,28	3,15	2,48	0,39	0,63	0,49	3,54	3,54	3,58	5,24	6,30															
1"	mm	25,0	127,0	165,1	215,9	48,0	63,0	78,0	80,0	63,0	10,0	16,0	12,4	90,0	90,0	105,0	133,0	160,0	3,7	5,3	7,1				F 05								
	in	0,98	5,00	6,50	8,50	1,89	2,48	3,07	3,15	2,48	0,39	0,63	0,49	3,54	3,54	4,13	5,24	6,30															
1 1/2"	mm	38,1	165,1	190,5	241,3	67,5	67,5	102,5	109,0	80,0	14,0	20,0	14,0	120,0	120,0	130,0	158,0	215,0	7,4	10,6	13,5				F 07								
	in	1,50	6,50	7,50	9,50	2,66	2,66	4,04	4,29	3,15	0,55	0,79	0,55	4,72	4,72	5,12	6,22	8,46															
2"	mm	50,0	177,8	215,9	292,1	70,0	77,5	112,5	126,0	93,0	18,0	20,0	14,0	152,0	155,0	160,0	171,0	215,0	12,1	15,4	19,8				F 07								
	in	1,97	7,00	8,50	11,50	2,76	3,05	4,43	4,96	3,66	0,71	0,79	0,55	5,98	6,10	6,30	6,73	8,46															
2 1/2"	mm	64,0	190,5	241,3	330,2	80,0	80,0	102,5	150,0	115,0	18,0	20,0	14,0	190,0	190,0	190,0	195,0	215,0	19,5	23,0	29,7				F 10								
	in	2,52	7,50	9,50	13,00	3,15	3,15	4,04	5,91	4,53	0,71	0,79	0,55	7,48	7,48	7,48	7,68	8,46															
3"	mm	76,1	203,2	282,5	355,6	82,5	102,5	142,5	161,5	124,5	20,0	25,0	19,3	202,0	202,0	215,0	211,0	300,0	24,5	32,4	41,7				F 10								
	in	3,00	8,00	11,12	14,00	3,25	4,04	5,61	6,36	4,90	0,79	0,98	0,76	7,95	7,95	8,46	8,31	11,81															
4"	mm	100,0	228,6	304,8	431,8	94,5	117,5	162,5	178,0	141,0	20,0	25,0	19,3	235,0	238,0	253,0	228,0	300,0	36,1	48,7	75,5				F 10								
	in	3,94	9,00	12,00	17,00	3,72	4,63	6,40	7,01	5,55	0,79	0,98	0,76	9,25	9,37	9,96	8,98	11,81															
6"	mm	150,0	393,7	403,4	558,8	175,0	195,0	210,0	297,5	242,5	41,5	44,0	32,0	320,0	320,0	365,0	301,0	800,0	95,2	113,8	182,0				F 12								
	in	5,91	15,50	15,88	22,00	6,89	7,68	8,27	11,71	9,55	1,63	1,73	1,26	12,60	12,60	14,37	11,85	31,50															
8"	mm	200,0	457,2	501,7	660,4	210,0	235,0	265,0	335,0	280,0	41,5	44,0	32,0	397,0	405,0	465,0	338,0	800,0	159,5	193,3	348,5	F 12	F 16			F 16							
	in	7,87	18,00	19,75	26,00	8,27	9,25	10,43	13,19	11,02	1,63	1,73	1,26	15,63	15,94	18,31	13,31	31,50															
10"	mm	250	533,4	568,5	787,4	245,0	275,0	310,0	390,0	401,0	330,0	337,0	51,0	58,0	48,0	70,0	36,0	52,0	487,0	505,0	540,0	-	-	255,5	329,6	582,0	F 14	F 16	F 25				
	in	9,84	21,00	22,38	31,00	9,65	10,83	12,20	15,35	15,79	12,99	13,27	2,01	2,28	1,89	2,76	1,42	2,05	19,17	19,88	21,26												
12"	mm	300,0	609,6	647,7	838,2	270,0	305,0	360,0	426,0	441,0	365,0	377,0	51,0	58,0	48,0	70,0	36,0	52,0	570,0	580,0	620,0	-	-	361,8	456,9	766,0	F 14	F 16	F 25				
	in	11,81	24,00	25,50	33,00	10,63	12,01	14,17	16,77	17,36	14,37	14,84	2,01	2,28	1,89	2,76	1,42	2,05	22,44	22,83	24,41												
14"	mm	350,0	685,8	762,0	-	340,0	385,0	-	473,0	-	410,0	-	58,0	-	70,0	-	52,0	-	670,0	690,0	-	-	-	553,5	737,5	-	F 25						
	in	13,78	27,00	30,00		13,39	15,16		18,62		16,14		2,28		2,76		2,05		26,38	27,17													

KHF 510			ETE		STE		EPE		SPE	
55	Sechskantmutter	Nut	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304
54	Sechskantschraube	Hex Bolt	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304	A2/304
50	Handhebel	Handle	1.4308/CF8	1.4308/CF8	1.4308/CF8	1.4308/CF8	1.4308/CF8	1.4308/CF8	1.4308/CF8	1.4308/CF8
46	Sechskantschraube	Hex Bolt	A4-70/316	A2-70/304	A4-70/316	A2-70/304	A4-70/316	A2-70/304	A4-70/316	A2-70/304
45	Gehäusedichtring ²	Body seal ²	PTFE	PTFE	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
41 ³	Federelement ²	Spring element ²	-	-	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
39	Kugeldichtring ²	Ball seat ²	RPTFE	RPTFE	PEEK	PEEK	PEEK	PEEK	PEEK	PEEK
34	Sechskantschraube ¹	Hex Bolt ¹	A4-70/316	A2-70/304	A4-70/316	A2-70/304	A4-70/316	A2-70/304	A4-70/316	A2-70/304
32	Dichtring Stützbolzen ^{1,2}	Trunnion seal ^{1,2}	PTFE	PTFE	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
30	Stützbolzen ¹	Support trunnion ¹	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316
23	Zylinderschraube	Hex.-socket screw	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304
22	Anschlagscheibe	Stop disc	1.4301/304	1.4301/304	1.4301/304	1.4301/304	1.4301/304	1.4301/304	1.4301/304	1.4301/304
21	Lager-band/buchse ²	Bearing band/bush ²	PTFE	PTFE	PEEK	PEEK	PEEK	PEEK	PEEK	PEEK
20	Zylinderschraube	Hex.-socket screw	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304	A2-70/304
19	Deckel	Cover	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M	1.4408/CF8M
18	Tellerfeder	Cup spring	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568	1.4310/1.4568
17.1	Druckstück	Gland	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316
17	Druckring	Ring	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316
16	Gleitring ²	Thrust ring ²	PTFE	PTFE	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
14	Sicherungsring	Safety ring	1.4310/301	1.4310/301	1.4310/301	1.4310/301	1.4310/301	1.4310/301	1.4310/301	1.4310/301
12.1	Dichtring ²	Stem seal ²	PTFE	PTFE	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
12	Dichtring ²	Stem seal ²	PTFE	PTFE	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
11	Schaltwelle	Stem	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316	1.4401/316
10	Kugel	Ball	1.4408/CF8M	1.4308/CF8	1.4408/CF8M	1.4308/CF8	1.4408/CF8M	1.4308/CF8	1.4408/CF8M	1.4308/CF8
2	Seitenteil	Side cap	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB
1	Gehäuse	Body	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB	1.4408/CF8M	1.0619/WCB
Pos/ item	Benennung	Denomination	Werkstoff / material							

- 1 - nur bei gestützter Ausführung / only for ball supported design
- 2 - empfohlene Ersatzteile / recommended spare parts
- 3 - nur bei EPE und SPE / only for EPE and SPE

Handgetriebe Typ AR
manual worm gear Type AR

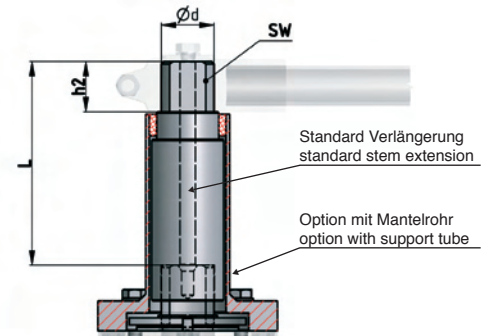


Type	A	B	C	D	E	F	G	H	K	L	M	N	O	ISO 5211
AR 1	122	112	69	38,5	30,5	195	200	2,5	55	38	102	M10	22	F 10
AR 2	180	150	81	66,7	42	235	250	7,5	72	64,5	125	M12	27	F 12
AR 3	217	198	93,5	89,5	50	285	457	8	81	90	140	M16	36	F 14
AR 4	292	252	105,5	123	50	355	600	10	92	115	140	M16	36	F 14

*X -- Brückenhöhe (Standard) / dimension of bracket (standard)

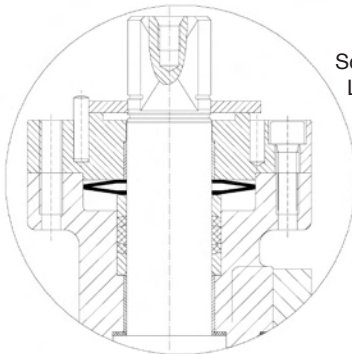
worm gear Type	Type KHF	DN 80 NPS 3"	DN 100 NPS 4"	DN 125 NPS 5"	DN 150 NPS 6"	DN 200 NPS 8"	DN 250 NPS 10"	DN 300 NPS 12"	DN 350 NPS 14"
AR 1	F 10	80	80	-	-	-	-	-	-
AR 2	F 12	80	80	80	-	-	-	-	-
AR 3	F 14	-	-	-	90	-	90	-	180
AR 4	F 14	-	-	-	90	-	90	-	180

Schaltwellenverlängerung
stem extension



	DN 15 - 25 NPS ½"-1"	DN 40 - 65 NPS 1 ½"-2 ½"	DN 80 - 100 NPS 3"-4"	DN 150 - 200 NPS 6"-8"	DN 250 - 300 NPS 10"-12"	DN 350 NPS 14"
L *	100	100	100	100	100	100
Ød	16	20	25	44	48	70
SW	12,4	14	19,3	32	36	52
h2	10	18	20	42	50	55

* - andere Längen auf Anfrage/ other dimensions on request

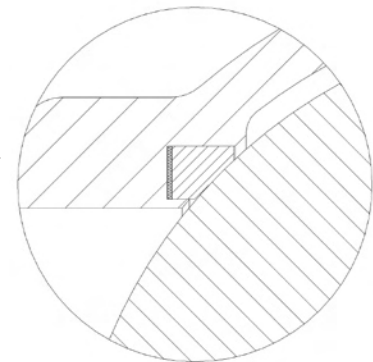


Schaltwellenabdichtung mit Tellerfedern, vorgespannter PTFE oder Graphitpackung und doppelter Lagerung erreicht eine Helium-Leckrate von $\approx 10^{-8}$ mbar·l·s⁻¹·m¹ und erfüllt die TA-Luft 2002. Der Einbauraum der Tellerfedern ist vor Umwelteinflüssen geschützt und garantiert langlebige Funktionalität. Bis zu 500.000 Schaltungen werden ohne sichtbare Leckage erreicht.

PTFE or Graphite stem packing with live load and double bushing ensures a Helium tightness of $\approx 10^{-8}$ mbar·l·s⁻¹·m¹ and fulfils the TA-Clean Air 2002. The live load room is fully encapsulated from any negative environment impact and guarantees a long term functionality. Up to 500.000 quarter turns will be performed without visible leakage.

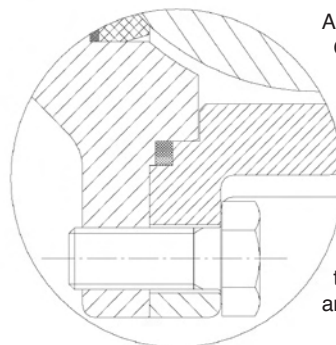
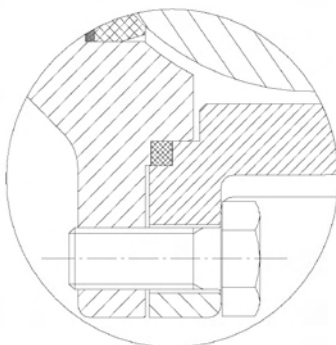
A+R® verwendet für RPTFE und PEEK-Kugelsitze eine ausgereifte Geometrie die bei Wärmeeinwirkung die erhebliche Volumenexpansion des Werkstoffes kompensiert. Es wird dadurch sichergestellt, dass das Drehmoment für die Betätigung, insbesondere durch Schwenkantriebe, konstant niedrig bleibt und ein Festsetzen der Kugel verhindert wird.

A+R® introduced a sophisticated ball seat geometry utilized to ensure that heat expansion of RPTFE and PEEK does not impact the ball functionality. It is guaranteed an operational integrity by constant torque which is very important for actuator use. The blocking of the ball is completely prevented.



Vor Montage
Before tightening

Nach Montage
After tightening



Allseitig gekammerte Mittelflanschdichtung aus PTFE oder Graphit. Montage mit definierter Vorspannung garantiert dauerhafte Dichtigkeit bei hoher Temperatur- und Druckbelastung oder schnellen Temperaturwechseln. Beide Mittelflanschteile auf metallischen Kraftschluss verschraubt.

Fully supported middle flange PTFE or Graphite sealing. Ensures absolute tightness by accurate preload of sealing between body and side cap during pressure and temperature service or thermal cycling. Middle flange of body and side cap were screwed on metal closure.

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