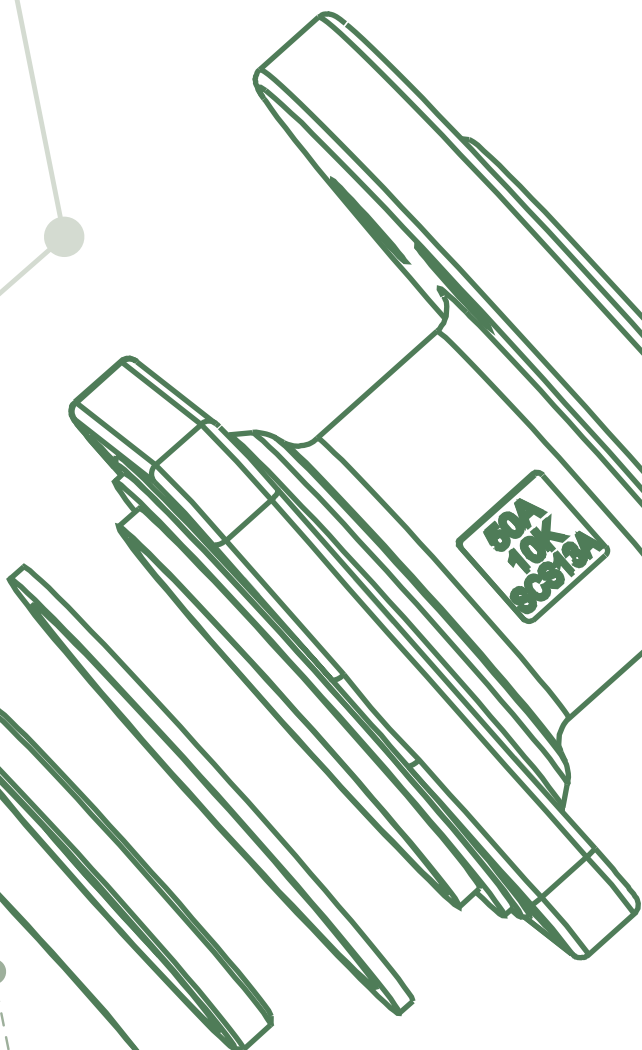




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KTN
Kara Technology News



TR.1212

TRUNNION MOUNTED BALL VALVE

API 6D / ISO 14313 CLASS 150 - 2500

Introduction to KTN TR1212 Trunnion Mounted Side Entry Steel Ball Valves

The KTN TR1212 series of trunnion mounted side entry steel ball valves are meticulously engineered to comply with the stringent requirements of API 6D and ISO 14313 standards, ensuring exceptional performance and reliability in demanding applications. These valves are designed for use in the petroleum, petrochemical, oil, gas, and various industrial sectors, where precision and durability are paramount.

The KTN TR1212 valves are designed to deliver superior performance, reliability, and longevity, making them the ideal choice for critical applications. With a robust construction and adherence to international standards, these valves provide users with the confidence and assurance needed for seamless operation in the most challenging environments.

APPLICABLE STANDARDS

- Steel ball valves API 608/API 6D
- Steel ball valves ISO 14313
- Fire safe API 607
- Anti statics API 608
- Steel valves ASME B16.34
- Face to face ASME B16.10
- End flanges ASME B16.5
- Buttwelding ends ASME B16.25
- Inspection and test API 598/API 6D

DESIGN DESCRIPTIONS

- Full port design
- BB.Bolted bonnet. Split body
- Three pieces body for 12" & Above
- Trunnion mounted ball type
- Blow-out proof stem
- Fire safe construction
- Anti statics device
- Stopper device
- ISO 5211 mounting PAD
- Flanged or buttwelding ends
- Available with wig operator

PRODUCT RANGE

- Nominal pressure : Class 150 to 2500
- Nominal size : NPS 1 to 24
- Shell materials :
Carbon and low alloy steel, Austenite
Stainless steel, Duplex stainless steel,
High alloy steel, Nickel based alloy
- Seat materials :
Reinforced PTFE, Modified PTFE,
Nylon 6, Nylon 12, DEVLON, PCTFE, PEEK

OPTION

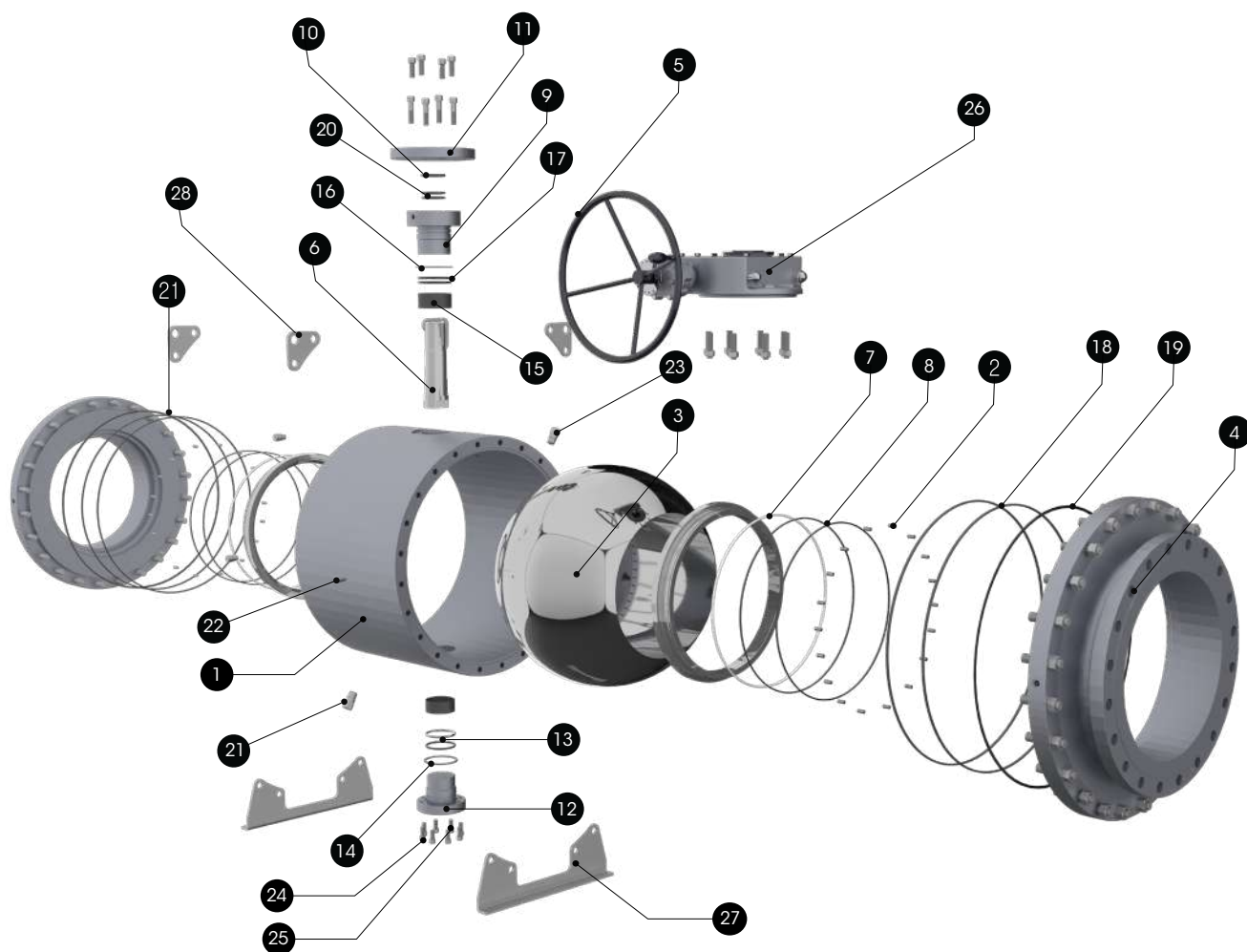
- NACE MR 0175 available
- Pneumatic and electric actuator
- Thru-conduit pigging bore
- Grease injection point for seat and stem
- Stem extension

CERTIFICATION

- PED 97/23/EC
- Fire Test : ISO 10497-2010 / API 607 5th
- ATEX 94/9/EC

TR 1212

TRUNNION MOUNTED BALL VALVE



NO./NAME	MATERIALS	NO./NAME	MATERIALS
1. BODY	A105/CF8M/WCB	15. TRUNNION BEARING	PTFE + CARBON STEEL / PTFE + 316
2. SEAT SPRING	X750	16. STEM O-RING	VITON AED / LOW TEMP HNBR
3. BALL	A105+ENP/F316/CF8M	17. GLAND O-RING	VITON AED / LOW TEMP HNBR
4. ADAPTER	A105 / CF8M / WCB	18. ADAPTER O-RING	VITON AED / LOW TEMP HNBR
5. SEAT RING	F316/F304/DEVLON/ALLOY STEEL	19. ADAPTER GASKET	GRAPHITE
6. STEM	F316/F304/ALLOY STEEL	20. MOUNTING PLATE GASKET	GRAPHOIL
7. SEAT INSERT	DEVLON, NYLON, PEEK, RPTFE	21. DRAIN VALVE	SS316
8. SEAT O-RING	VITON AED / LOW TEMP HNBR	22. VENT VALVE	SS316
9. GLAND	A105 / 316 / 410	23. INJECTION VALVE	SS316
10. GLAND RING	A105 / 316 / 410	24. STUD BOLT	B7 B7M / B8 B8M
11. MOUNTING PLATE	A105 / 316 / 410	25. HEX NUT	2H 2HM / 8 8M
12. TRUNNION	F316 / F304 / ALLOY STEEL	26. GEAR ACTUATOR	DUCTILE IRON, CARBON STEEL WORM GEAR
13. TRUNNION GASKET	GRAPHITE	27. FOOT PLATE	CARBON STEEL / STAINLESS STEEL
14. TRUNNION O-RING	VITON AED	28. LIFT PLATE	CARBON STEEL / STAINLESS STEEL

Key Features of Trunnion Mounted Valves

1

SPRING

The springs keep the seats in contact with the ball to ensure effective sealing in both low and high pressure conditions. The seat retainer holds the seats in position, ensuring constant contact with the ball. This combination not only ensures reliable sealing but also reduces the torque required to operate the valve.

3

Double Block And Bleed

Vent valves are located at the top of the body cavity and are used to release trapped gases, ensuring there is no internal pressure buildup.

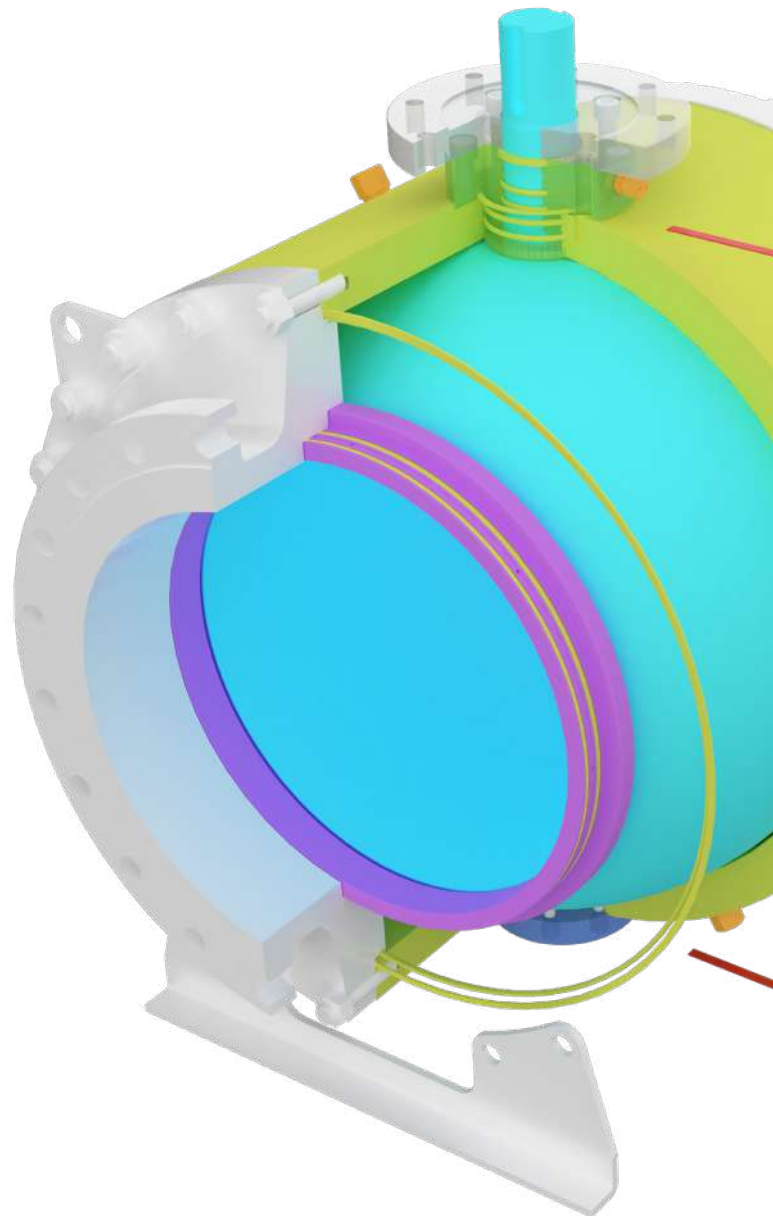
Drain valves are positioned at the bottom of the valve and allow the removal of retained liquids in the body cavity, preventing corrosion and internal damage.

Injection valves are used to inject lubricants or sealants into the valve seats, enhancing the sealing and operation of the valve, especially under high-pressure conditions. These valves are integral to the double block and bleed function, which isolates sections of the pipeline and allows for the safe release of trapped fluids or gases between the two closure elements.

5

Gland

The gland is a vital component that ensures your valve operates flawlessly. Surrounding the valve stem, it houses the packing that creates a tight seal, preventing fluid leaks and maintaining peak performance. With the gland, you can easily adjust the packing to keep your valve running smoothly and efficiently, safeguarding against fugitive emissions and ensuring reliability in every operation.



2**Ball and Stem**

The ball and stem are essential in a trunnion ball valve, providing precise flow control and effective sealing. Made from high-quality materials like CF8M, they offer durability and corrosion resistance. Both the ball and stem feature an anti-static device, preventing static charge buildup by being connected. Additionally, the stem includes an anti-blowout design to enhance operational safety.

4**Firesafe Structure**

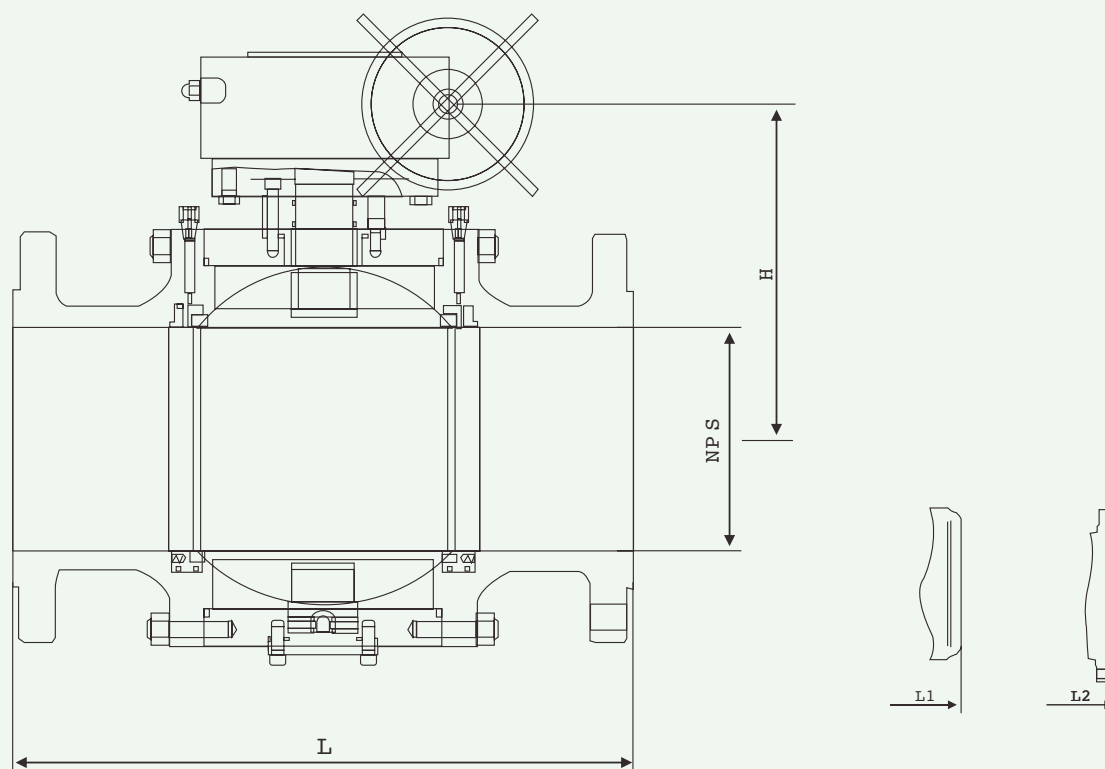
The firesafe structure of a trunnion ball valve includes a robust body made from fire-resistant materials such as stainless steel or carbon steel. Graphite seals and flexible graphite packing provide additional sealing in the event of a fire, ensuring the valve maintains its integrity and prevents leaks. Additionally, the double block and bleed (DBB) function allows for the safe release of accumulated pressure in the body cavity, while the anti-static device prevents the buildup of static charges that could cause sparks and fire.

6**Lower Trunnion**

The lower trunnion is the unsung hero of your valve, providing unwavering support to the ball and ensuring stability. This crucial component reduces wear on the seats, guaranteeing consistent and effective sealing. By maintaining a reliable seal and reducing the torque needed for operation, the lower trunnion enhances the overall performance of your valve, making it a dependable choice for high-pressure applications.

TR 1212

TRUNNION MOUNTED BALL VALVE



Dimensional datas of ANSI Class 150#

NPS DN	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	38.50	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	980	mm
w	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	40	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	28	35	55	80	190	290	445	570	780	1520	2300	2500	3950	4890	6300	7100	8950	13500	RF
	25	28	49	71	182	277	553	553	747	1481	2266	2460	3904	4939	6362	8149	9000	13570	BW

Dimensional datas of ANSI Class 300#

NPS DN	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	-	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	-	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	-	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	-	mm
w	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	-	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	-	mm
wt(kg)	30	40	60	90	200	325	490	690	900	1810	2620	2860	4430	5430	6810	7655	9590	-	RF
	24	31	49	72	169	280	424	598	872	1665	2440	2635	4075	4880	6225	7115	9230	-	BW

Dimensional datas of ANSI Class 600#

NPS	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	26	28	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	6.50	7.00	7.88	11.00	12.25	14.00	16.12	18.00	19.25	21.00	24.88	25.62	30.12	31.88	34.62	in
	165	180	200	280	310	355	410	455	490	535	630	650	765	810	880	mm
w	16	24	24	24	32	32	32	32	32	32	40	40	40	40	40	in
	400	600	600	600	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	34	53	65	125	245	505	640	910	1380	2250	3400	3850	4900	6700	8300	RF
	27	43	49	95	188	418	495	740	1185	1960	3050	3406	4275	6025	7590	BW

Dimensional datas of ANSI Class 900#

NPS	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	965	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	38.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	968	968	1038	1140	1232	1334	1568	mm
H	6.72	7.50	8.25	11.38	12.62	15.38	18.50	18.50	20.88	24.00	26.00	27.50	30.75	in
	170	190	210	290	320	390	470	470	530	610	660	700	780	mm
w	24	24	24	32	32	32	32	32	32	40	40	40	40	in
	600	600	600	800	800	800	800	500	800	1000	1000	1000	1000	mm
wt(kg)	45	65	73	135	360	650	1350	1350	1890	3100	4300	4950	7100	RF/RTJ
	37	53	56	98	291	545	1145	1145	1650	2750	3875	4410	6485	BW

Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)	
ANSI Class1500#												ANSI Class2500#									
2	50	14.50	368	14.62	371	6.75	170	24	600	55	40	17.75	451	17.88	454	7.50	190	24	600	68	57
2 ½	65	16.50	419	16.62	422	7.50	190	24	600	75	55	20.00	508	21.25	540	9.00	230	32	800	95	74
3	80	18.50	470	18.62	473	5.25	210	32	800	95	65	22.75	578	23.00	584	11.00	280	32	800	120	91
4	100	21.50	546	21.62	549	11.38	290	32	800	150	115	26.50	673	26.88	683	14.12	360	32	800	185	122
6	150	27.75	705	28.00	711	13.00	330	32	800	540	420	36.00	914	36.50	927	15.75	400	32	800	675	555
8	200	32.75	832	33.12	841	15.75	400	32	800	880	685	40.25	1022	40.88	1038	18.88	480	40	1000	1100	918
10	250	39.00	991	39.38	1000	17.38	440	32	800	1360	1025	50.00	1270	50.88	1292	20.50	520	40	1000	1650	1355
12	300	44.50	1130	45.12	1146	22.00	560	40	1000	1980	1555	56.00	1422	56.88	1445	26.38	670	40	1000	2300	1950
14	350	49.50	1257	50.25	1276	25.25	640	40	1000	3100	2600	-	-	-	-	-	-	-	-	-	-
16	400	54.50	1384	55.38	1407	27.12	690	40	1000	4650	3930	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	bw	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW