TILTING CHECK VALVE
WITH HYDRAULIC DAMPER

It is a type of check valve which consists of a cylindrical body, a disc inside it, a shaft that holds the disc, a counter lever, weight and a damper which controls closure. It is a type which needs less installation space.

Even it is fully open, disc is located on flow path. This is the reason why it cannot be used in sewage media, but can be used only in clean water.

Hydraulic damped tilting check valves are used at outlet side of pumps.

When flow begins, disc is pushed forward by effect of flow. Flow continues its travel in direction of pumping.

When there is an unexpected power cut and pump begins to slow down to stop, disc begins to close. Check valve closes automatically by assistance of back flow and counter weight which is connected to shaft by counter lever. Its closure prevents the water in the pipe line to flow reversely.

By the effect of hydraulic damper, closure is slow. Vibration, noise or shock is not created.

Opening angle of disc must not exceed 80 degrees. If it exceeds, in case of a mechanical tightness, flow moves under the disc and required forces for closure cannot occur. Reverse flow begins; pump starts to turn reverse direction. Serious damage may take place.

Hydraulic Damper, That unit prevents shock waves to occur in the pipe-line when check valve is closing. It prevents water hammer and its effects to occur which is due to flapping action of disc as a result of waves.

Hydraulic Damper Unit, It consists of a lever connected to shaft of valve, a counter weight on it and a cylinder-piston assembly connected to that lever.

There are two flow control valves fixed on hydraulic cylinder, as a standard. First valve is used to adjust closure time for 70% portion of entire travel. And second valve is used for remaining 30% portion. By means of this system, closure of hydraulic damped tilting check valves is controlled.

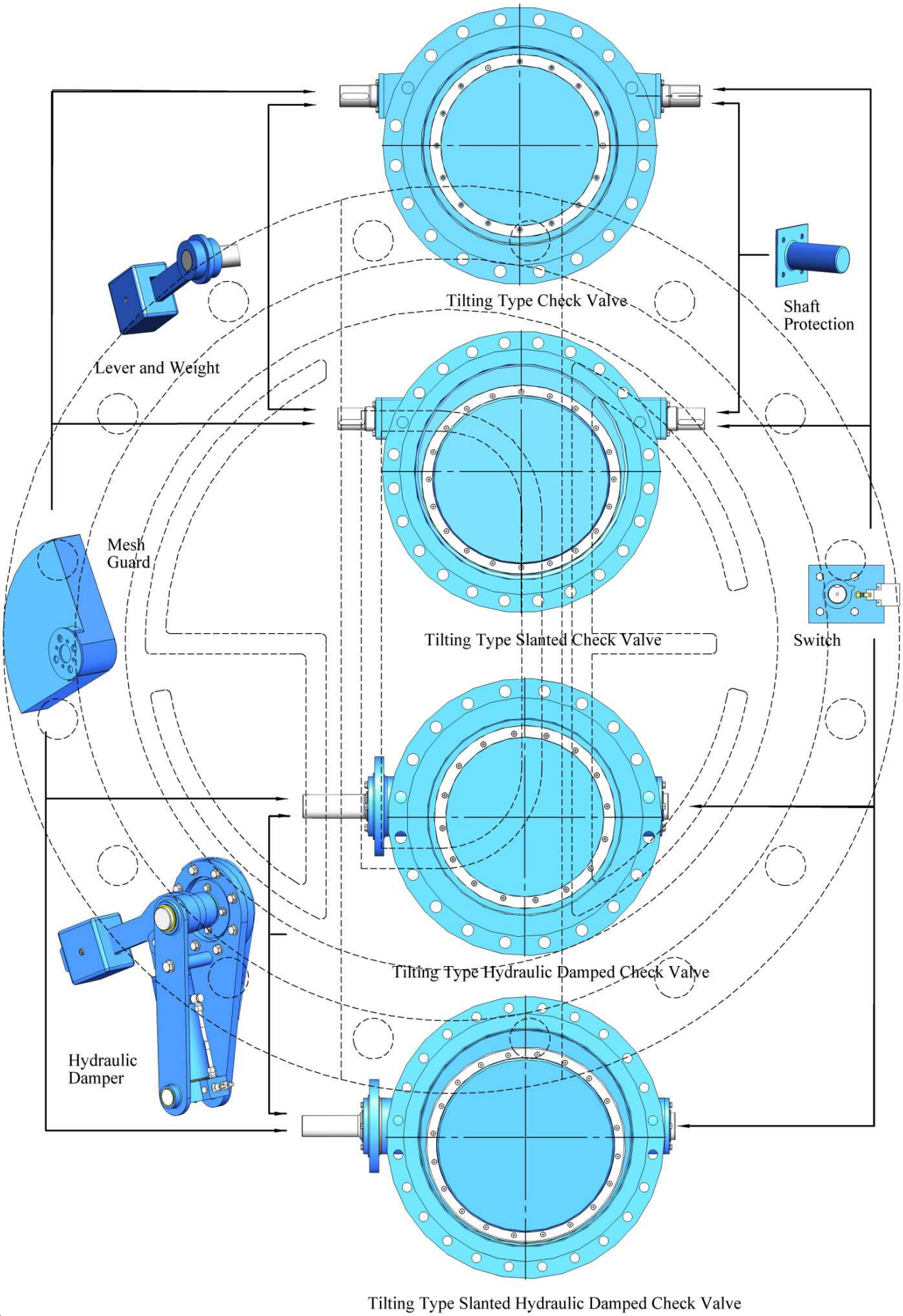
Installation Position,

Valve should be installed as shaft axis parallel to ground and flow direction in horizontal axis.

Maintenance,

There is no need for maintenance for these valves that are installed especially in clean water pipe-line. If valve is uninstalled, it is recommended to check disc ring (rubber ring), o-rings and change if necessary.

ACCESSORIES OF TILTING and SLANTED TYPE CHECK VALVES



S.D.E.

Product Code : HDC

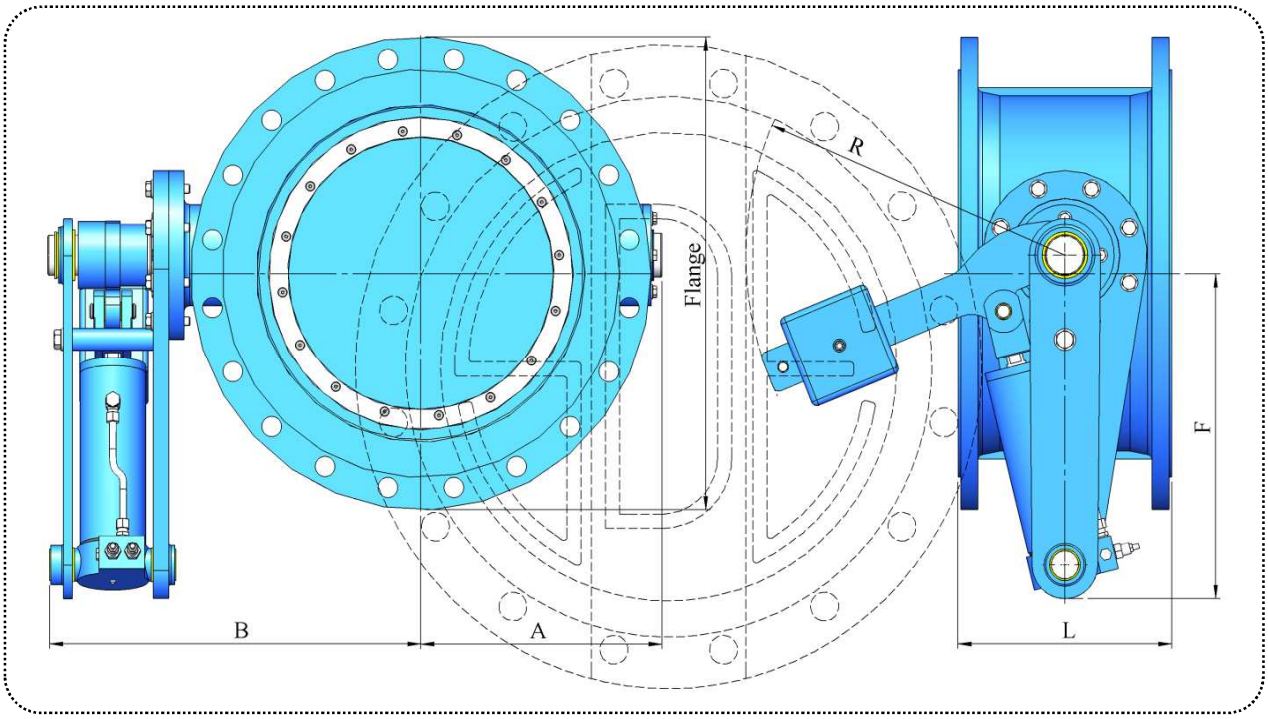
www.sde.com.tr

TILTING TYPE CHECK VALVE
WITH HYDRAULIC DAMPER

Body Length Standard : EN 558-1,S 14

Valve Standard : -

Maximum allowable working temperature for all types of our valves is 80 degrees Celcius.



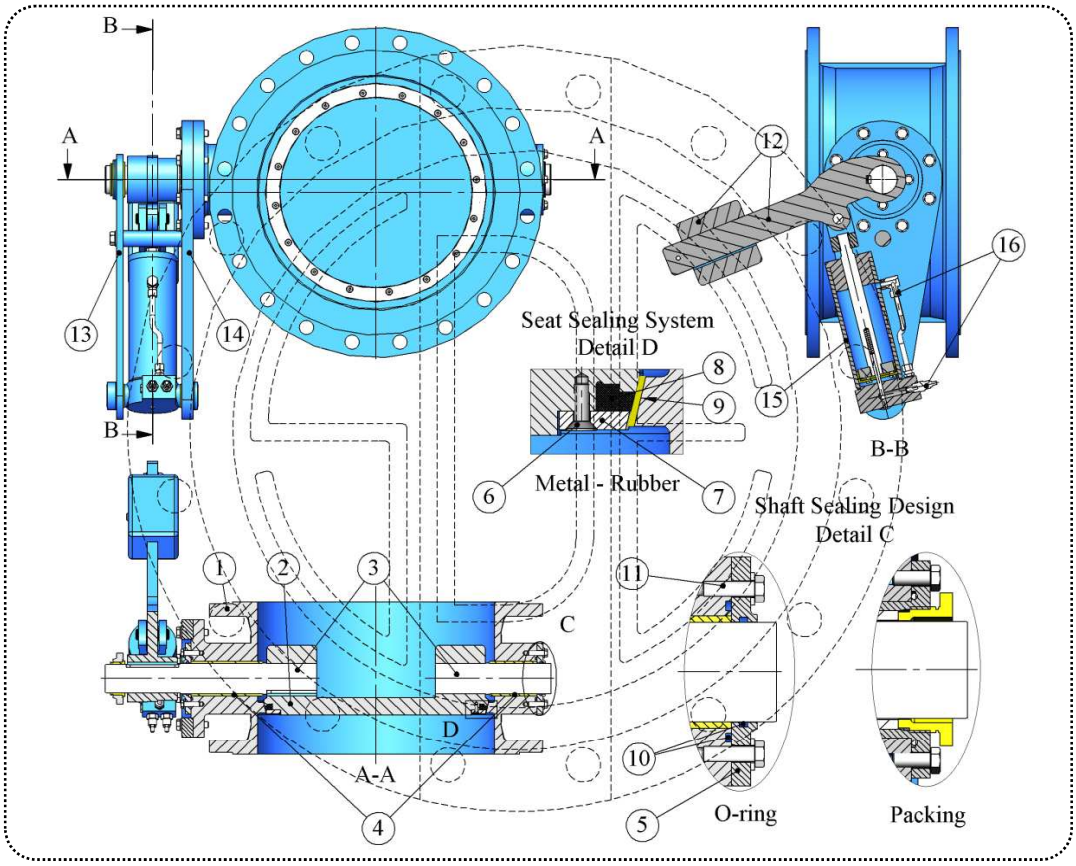
DIMENSIONS

DN	L	PN 20					PN 25					PN 40				
		A	B	F	R	Kg	A	B	F	R	Kg	A	B	F	R	Kg
200	230	194	350	253	280	97	194	350	253	280	97	203	350	263	280	118
250	250	230	415	298	280	139	230	415	298	280	139	243	415	316	335	185
300	270	262	480	340	335	196	262	480	340	335	196	278	495	362	335	248
350	290	300	530	390	335	230	300	530	390	335	230	313	545	407	400	313
400	310	335	595	435	400	326	335	595	435	400	326	356	610	463	500	444
450	330	362	660	470	500	435	362	660	470	500	435	370	675	481	500	531
500	350	394	710	512	500	498	394	710	512	500	498	408	725	530	600	677
550	370	425	775	553	500	589	425	775	553	500	589	444	790	577	600	792
600	390	456	825	593	600	713	456	825	593	600	713	481	840	625	700	978
650	410	487	905	634	600	846	487	905	634	600	846	509	920	662	700	1.142
700	430	518	955	674	700	1.043	518	955	674	700	1.043	537	970	698	800	1.435
750	450	551	1.050	716	700	1.229	551	1.050	716	700	1.229	576	1.065	749	800	1.661
800	470	586	1.100	762	800	1.542	586	1.100	762	800	1.542	616	1.115	800	800	1.822
900	510	640	1.215	832	800	1.881	640	1.215	832	800	1.881	675	1.230	878	900	2.551
1.000	550	713	1.315	927	800	2.310	713	1.315	927	800	2.310	734	1.330	955	900	3.073
1.050	570	741	1.395	963	800	2.587	741	1.395	963	800	2.587					
1.100	590	770	1.445	1.000	800	2.868	770	1.445	1.000	800	2.868					
1.200	630	826	1.545	1.074	800	3.135	826	1.545	1.074	800	3.135					

S.D.E.

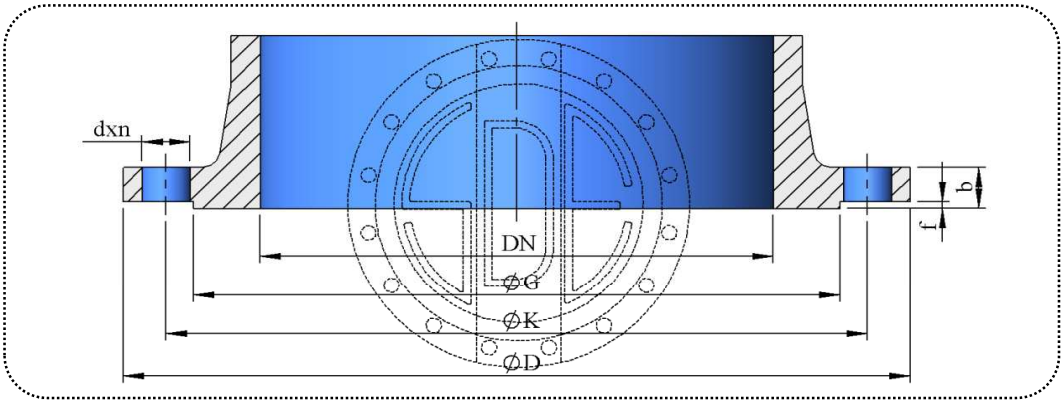
Product Code: HDC www.sde.com.tr

TILTING TYPE CHECK VALVE with HYDRAULIC DAMPER



No	Item Name	Material	Description	EN Standard	Material No
1-5	Body and Shaft Covers	GGG 40	Ductile Iron	EN-GJS-450-15	0.7040
		GGG 50		EN-GJS-500-7	0.7050
		ST 37-2	Steel Construction	EN 10025	1.0037
2	Disc	GGG 40	Ductile Iron	EN-GJS-450-15	0.7040
		GGG 50		EN-GJS-500-7	0.7050
		304	Stainless Steel Casting	G - X6CrNi 18-9	1.4308
		316		G - X6CrNiMo 18-10	1.4408
		CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
3	Shaft	420	Stainless Steel	X20Cr13	1.4021
		304		X5CrNi 18-10	1.4301
		316		X5CrNiMo17-12-2	1.4401
		431		X17CrNi16-2	1.4057
4	Bushes	CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
6	Bolts of Retainer Ring	A2 - A4	Stainless Steel	-	-
7	Retainer Ring	304	Stainless Steel	X5CrNi 18-10	1.4301
		316		X5CrNiMo17-12-2	1.4401
		CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
8	Disc Ring	NBR - EPDM	Rubber	-	-
9	Body Seat	316 L	Stainless Steel Welding	12072	1.4430
		CuAl8	Aluminium Bronze Welding	14640 S Cu 6100	2.0921
10	Shaft Sealing	NBR - EPDM	Rubber	-	-
		Packing	Non Asbestos	-	-
11	Bolt of Covers	Galvanized	Steel	-	-
		A2 - A4	Stainless Steel	-	-
12	Lever and Weight	GGG 50	Ductile Iron	EN-GJS-500-7	0.7050
13-14	Cylinder box	GGG 50	Ductile Iron	EN-GJS-500-7	0.7050
15-16	Hydraulic Cylinder and Parts	Steel	Special		
	Coating	WRAS approved fusion bonded epoxy. 300 microns dft as standard.			
Maximum allowable working temperature for all types of our valves is 80 degrees Celcius.					

FLANGE DIMENSIONS



Nominal Dia	Outside Dia	Raised Face		Flange Holes			Flange Thickness	Outside Dia	Raised Face		Flange Holes			Flange Thickness
		Dia	Height	Circle Dia.	Dia	Number			Dia	Height	Circle Dia.	Dia	Number	
DN	D	G	f	K	d	n	b	D	G	f	K	d	n	b
PN 10								PN 16						
100	220	158	3	180	19	8	19	220	158	3	180	19	8	19
125	250	188	3	210	19	8	19	250	188	3	210	19	8	19
150	285	212	3	240	23	8	19	285	212	3	240	23	8	19
200	340	268	3	295	23	8	20	340	268	3	295	23	12	20
250	395	320	3	350	23	12	22	405	320	3	355	28	12	22
300	445	370	4	400	23	12	25	460	378	4	410	28	12	25
350	505	430	4	460	23	16	25	520	438	4	470	28	16	27
400	565	482	4	515	28	16	25	580	490	4	525	31	16	28
450	615	532	4	565	28	20	26	640	550	4	585	31	20	30
500	670	585	4	620	28	20	27	715	610	4	650	34	20	32
600	780	685	5	725	31	20	30	840	725	5	770	37	20	36
700	895	800	5	840	31	24	33	910	795	5	840	37	24	40
800	1.015	905	5	950	34	24	35	1.025	900	5	950	41	24	43
900	1.115	1.005	5	1.050	34	28	38	1.125	1.000	5	1.050	41	28	47
1.000	1.230	1.110	5	1.160	37	28	40	1.255	1.115	5	1.170	44	28	50
1.200	1.455	1.330	5	1.380	41	32	45	1.485	1.330	5	1.390	50	32	57
1.400	1.675	1.535	5	1.590	44	36	46	1.685	1.530	5	1.590	50	36	59
1.500	1.785	1.640	5	1.700	44	36	48	1.820	1.640	5	1.710	57	36	63
1.600	1.915	1.760	5	1.820	50	40	49	1.930	1.750	5	1.820	57	40	65
1.800	2.115	1.950	5	2.020	50	44	52	2.130	1.950	5	2.020	57	44	69
2.000	2.325	2.150	5	2.230	50	48	55	2.345	2.150	5	2.230	62	48	73
2.200	2.550	2.370	5	2.440	57	52	59	2.555	2.360	5	2.440	62	52	80
PN 25								PN 40						
100	235	162	3	190	23	8	19	235	162	3	190	23	8	19
125	270	188	3	220	28	8	19	270	188	3	220	28	8	24
150	300	218	3	250	28	8	20	300	218	3	250	28	8	26
200	360	278	3	310	28	12	22	375	285	3	320	31	12	30
250	425	335	3	370	31	12	25	450	345	3	385	34	12	35
300	485	395	4	430	31	16	28	515	410	4	450	34	16	40
350	555	450	4	490	34	16	30	580	465	4	510	37	16	44
400	620	505	4	550	37	16	32	660	535	4	585	41	16	48
450	670	548	4	600	37	20	34	685	560	4	610	41	20	50
500	730	615	4	660	37	20	37	755	615	4	670	44	20	52
600	845	720	5	770	41	20	42	890	735	5	795	50	20	58
700	960	820	5	875	44	24	47	995	840	5	900	50	24	63
800	1.085	930	5	990	50	24	51	1.140	960	5	1.030	57	24	68
900	1.185	1.030	5	1.090	50	28	56	1.250	1.070	5	1.140	57	28	73
1.000	1.320	1.140	5	1.210	57	28	60	1.360	1.180	5	1.250	57	28	80
1.200	1.530	1.360	5	1.420	57	32	69	1.575	1.385	5	1.460	62	32	88
1.400	1.755	1.570	5	1.640	62	36	74	1.795	1.600	5	1.680	62	36	98
1.500	1.865	1.680	5	1.750	62	40	75	1.910	1.700	5	1.790	70	40	102
1.600	1.975	1.790	5	1.860	62	40	81	2.025	1.815	5	1.900	70	40	108
1.800	2.195	2.000	5	2.070	70	44	88							
2.000	2.425	2.230	5	2.300	70	48	95							