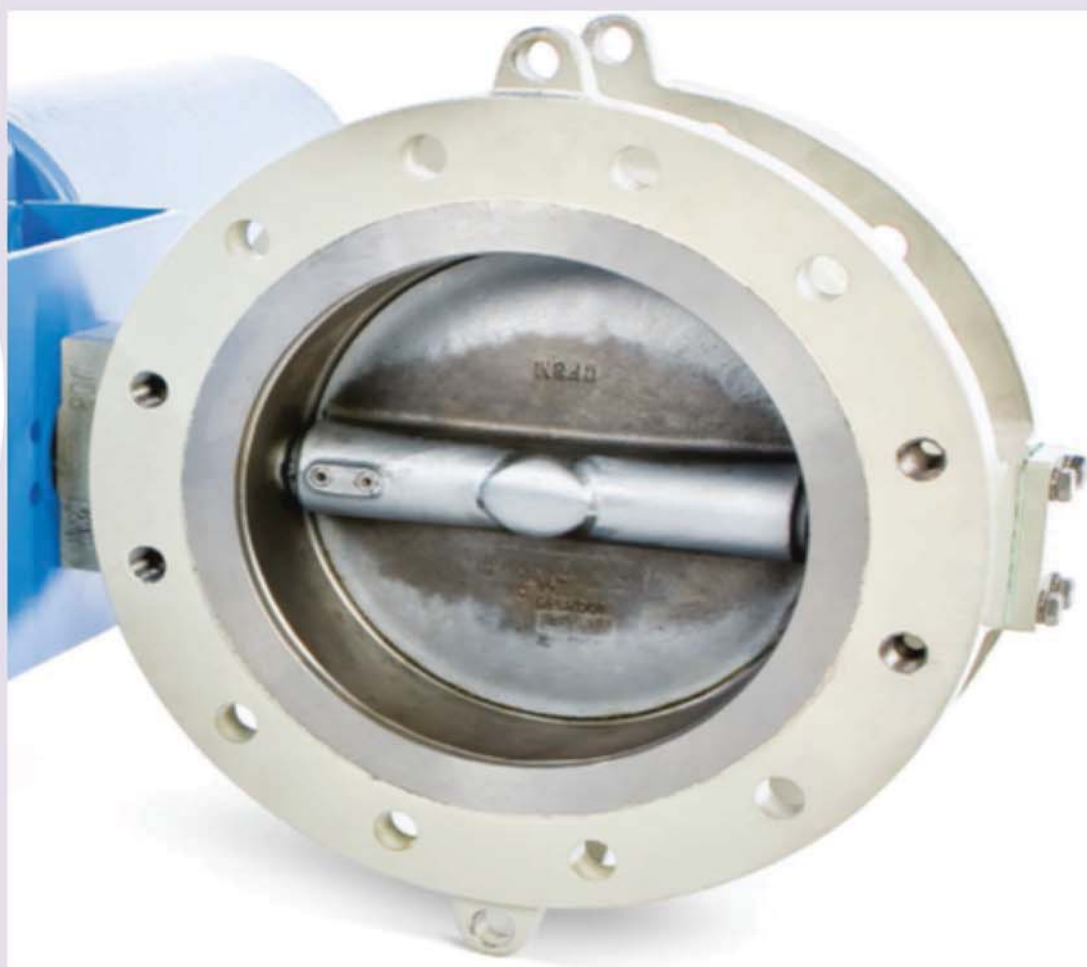


KOSO

STANDARD SPECIFICATION

***HIGH PERFORMANCE BUTTERFLY VALVE
ECCENTRIC TYPE***

AB4001/4001S



KOSO

BUTTERFLY VALVES

Series AB4001 / 4001S

Butterfly valves have grown in popularity for the process industry in recent years.

Butterfly rotary control valves get their name from the rotary disc that acts as the control element.

There are several reasons for using the Butterfly valve:

- More compact than a globe valve.
- Lighter in weight due to the compact design.
- Less expensive than a globe valve.
- High flow co-efficient.



Our Butterfly valves have been designed to comply with all the pressure and temperature ratings as used on a normal Butterfly valve. The basic materials of construction satisfy the majority of rotary control valve applications. Surface coatings, overlays and heat treatments are available for steam and arduous service, to provide resistance to wire drawing erosion.

Table 1. Valve Specifications				
Valve Type	ANSI Rating	Disc Configuration	Body Style	Leakage Class
Soft Seat	Upto 600#	Standard	Wafer	IV/ VI
			Flanged	
			Lugged	
Metal Seat	Upto 1500#	Standard	Wafer	II / III / IV / V
			Flanged	
			Lugged	
Seat less	Upto 1500#	Standard	Wafer	II
			Flanged	
			Lugged	

VALVE SELECTION CRITERIA

SOFT SEAL DESIGN:

For applications where Class VI is required in the closed position on liquids or gases and where control of the flow through the pipeline is required. Can be used on temperatures maximum +235°C with the correct selection of materials.

Table 2: Soft Seat Pressure-temperature Ratings wit PTFE or RPTFE Seats

Temperature °F (°C)	Class 150				Class 300				Class 600	
	PTFE		RPTFE		PTFE		RPTFE		RPTFE	
	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar
-20 to 100 (-29 to 38)	285	19.7	285	19.7	740	51	740	51	1480	102
150 (66)	273	18.8	273	18.8	708	48.8	708	48.8	1300	89.6
200 (93)	260	17.9	260	17.9	550	37.9	675	46.5	900	62.1
250 (121)	245	16.9	245	16.9	425	29.3	530	36.5	700	48.3
300 (149)	230	15.9	230	15.9	300	20.7	390	26.9	550	37.9
350 (177)	140	9.7	215	14.8	175	12.1	250	17.2	400	27.6
400 (204)	50	3.4	100	6.9	50	3.4	100	6.9	250	17.2
450 (232)	-	-	-	-	-	-	-	-	100	6.9
500 (260)	-	-	-	-	-	-	-	-	-	-
Note: PTFE =Polytetrafluoroethylene; RPTFE = Reinforced polytetrafluoroethylene										

METAL SEAT DESIGN

For applications where soft seats are not allowed and only a small leakage (Class IV is allowed in the closed position or where an elevated temperature or an arduous service means a soft seat is not practical. These valves can also be used as control valves. Temperature ranges from –196 to +600°C. Higher temperatures can be achieved but working conditions are subject to special scrutiny by our engineering department



CLASS II DESIGN

For applications where leakage in the closed position is not a problem, but where the control of the amount of liquid or gas through the pipeline is paramount. Operating temperature ranges from -196 to $+600^{\circ}\text{C}$ with the correct selection of materials. Class II leakage in the closed position is maintained for temperatures up to 200°C . Leak rate increases at temperatures above 200°C .



Table : 3 , CV Values for Series AB4001/4001S Standard (Soft Seal, Metal seal) ASME CLASS 150

VALVE SIZE		Cv Values relating to the Disc opening angle								
Inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50	3	9	19	33	58	94	128	147	156
2.5	65	4	11	22	38	67	108	148	169	180
3	80	5	13	25	44	78	126	172	197	210
4	100	10	26	53	92	163	264	361	414	440
5	125	13	36	73	127	224	363	496	569	605
6	150	20	54	108	189	333	540	738	846	900
8	200	42	114	228	399	703	1140	1558	1786	1900
10	250	68	186	372	651	1147	1860	2542	2914	3100
12	300	106	288	576	1008	1776	2880	3936	4512	4800
14	350	134	366	732	1281	2257	3660	5002	5734	6100
16	400	178	486	972	1701	2997	4860	6642	7614	8100
18	450	238	648	1296	2268	3996	6480	8856	10152	10800
20	500	301	822	1644	2877	5069	8220	11234	12878	13700
24	600	462	1260	2520	4410	7770	12600	17220	19740	21000
28	700	924	2520	5040	8820	15540	25200	34440	39480	42000
30	750	1010	2754	5508	9639	16983	27540	37638	43146	45900
32	800	1146	3126	6252	10941	19277	31260	42722	48974	52100
36	900	1518	4140	8280	14490	25530	41400	56580	64860	69000

Table: 4 , CV Values for Series AB4001/4001S Standard (Soft Seal, Metal seal) ASME CLASS 300										
VALVE SIZE		Cv Values relating to the Disc opening angle								
Inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50	3	8	15	27	47	76	104	119	127
2.5	65	4	10	19	34	59	96	131	150	160
3	80	5	13	27	47	82	134	183	209	223
4	100	9	25	51	89	157	254	347	398	423
5	125	16	44	88	154	272	440	602	690	734
6	150	26	70	141	246	433	703	960	1101	1171
8	200	50	136	271	474	836	1355	1852	2123	2258
10	250	78	213	425	745	1312	2127	2907	3333	3546
12	300	116	316	633	1107	1950	3163	4322	4955	5271
14	350	144	392	783	1371	2415	3917	5353	6137	6528
16	400	193	525	1051	1839	3240	5255	7181	8232	8758
18	450	240	654	1308	2289	4033	6540	8938	10246	10900
20	500	308	839	1677	2935	5172	8387	11462	13140	13978
24	600	462	1261	2522	4414	7777	12611	17235	19758	21019
28	700	635	1731	3462	6059	10675	17310	23657	27119	28850
30	750	732	1997	3995	6990	12316	19973	27296	31290	33288
32	800	845	2304	4607	8063	14206	23036	31483	36090	38394
36	900	1113	3035	6070	10623	18717	30352	41481	47552	50587

Table: 5 , CV Values for Series AB4001/4001S Standard (Soft Seal, Metal seal) ASME CLASS 600										
VALVE SIZE		Cv Values relating to the Disc opening angle								
Inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50	2	7	13	23	41	66	90	103	110
3	80	4	12	24	42	74	120	164	188	200
4	100	8	21	42	74	130	210	287	329	350
6	150	20	55	110	193	340	552	754	865	920
8	200	35	96	192	336	592	960	1312	1504	1600
10	250	55	150	300	525	925	1500	2050	2350	2500
12	300	81	222	444	777	1369	2220	3034	3478	3700
14	350	99	270	540	945	1665	2700	3690	4230	4500
16	400	141	384	768	1344	2368	3840	5248	6016	6400
18	450	165	450	900	1575	2775	4500	6150	7050	7500
20	500	196	534	1068	1869	3293	5340	7298	8366	8900
24	600	299	816	1632	2856	5032	8160	11152	12784	13600
28	700	367	1002	2004	3507	6179	10020	13694	15698	16700
30	750	425	1158	2316	4053	7141	11580	15826	18142	19300
32	800	519	1416	2832	4956	8732	14160	19352	22184	23600
36	900	858	2340	4680	8190	14430	23400	31980	36660	39000

Note : For Cv Values for other valves, please consult factory

Dimensional Drawing:

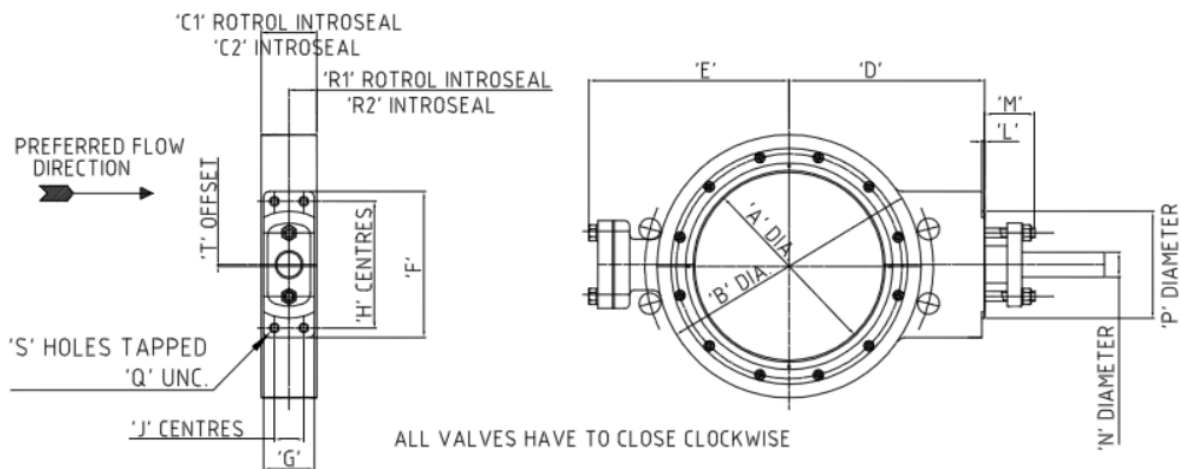


Table 6. Class 150 Butterfly Wafer Valves (Series AB4001 / 4001S)

Valve Size		Dimensions are in mm																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	20	90	3/8"	24.5	24.5	4	1
6	150	138	215	80	59	185	180	150	50	130	30	3	45	20	105	3/8"	26	26	4	1
8	200	188	270	95	64	200	205	170	52	145	35	3	55	25.4	105	3/8"	30	27.5	4	2
10	250	238	324	130	72	230	240	170	64	145	35	3	55	25.4	105	1/2"	47.5	34.5	4	2
12	300	287	382	145	81	270	270	170	72	145	35	3	55	32	105	1/2"	49	37	4	2
14	350	328	426	169	92	308	295	170	80	145	45	3	55	40	105	5/8"	60	41.5	4	2
16	400	365	474	185	102	340	335	170	80	145	45	3	55	40	105	5/8"	70	51	4	2
18	450	415	535	214	114	360	365	260	100	210	60	3	60	45	170	3/4"	80	57	4	2
20	500	465	590	240	127	395	390	260	100	210	60	3	65	60	170	3/4"	90	63.5	4	2
24	600	563	695	290	154	480	460	260	125	210	90	3	65	70	170	3/4"	110	77	4	2
28	700	665	805	340	165	540	530	260	150	210	100	3	65	80	170	1"	136	82.5	6	3
30	750	715	860	365	165	565	550	260	150	210	100	3	65	85	170	1"	135	79	6	3
32	800	763	920	385	190	600	590	260	150	210	100	3	65	90	170	1"	144	95	6	3
36	900	863	1028	430	200	655	645	260	150	210	100	3	65	110	170	1"	165	100	6	3

Dimensional Drawing:

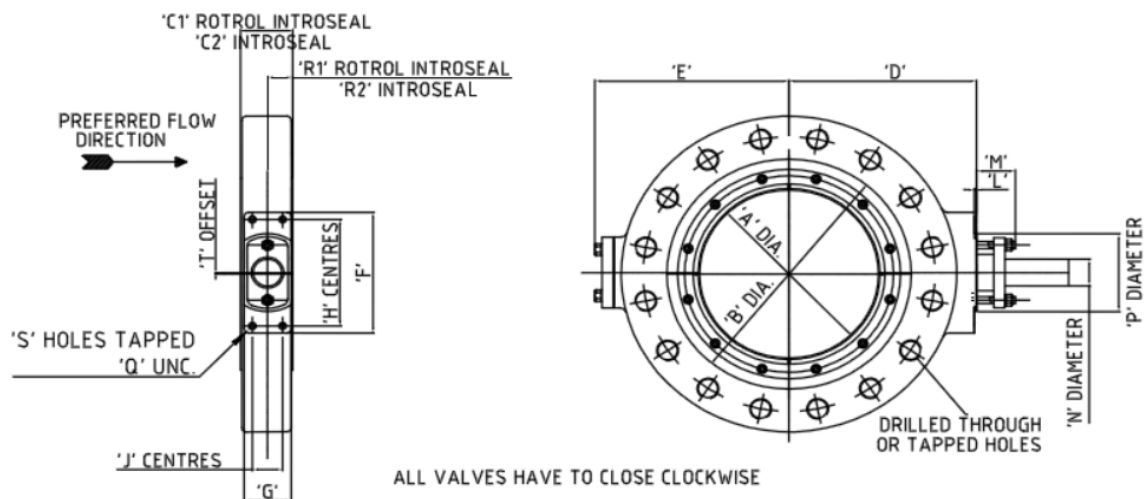


Table 7. Class 150LB Lugged Valves (Series AB4001 / 4001S)

Valve Size		Dimensions are in mm																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	20	90	3/8"	24.5	24.5	4	1
6	150	138	215	80	59	185	180	150	50	130	30	3	45	20	105	3/8"	26	26	4	1
8	200	188	270	95	64	200	205	170	52	145	35	3	55	25.4	105	3/8"	30	27.5	4	2
10	250	238	324	130	72	230	240	170	64	145	35	3	55	25.4	105	1/2"	47.5	34.5	4	2
12	300	287	381	145	81	270	270	170	72	145	35	3	55	40	105	1/2"	49	37	4	2
14	350	328	413	169	92	308	295	170	80	145	45	3	55	50	105	5/8"	60	41.5	4	2
16	400	365	470	185	102	340	335	170	80	145	45	3	55	55	105	5/8"	70	51	4	2
18	450	415	533	214	114	360	360	260	100	210	60	3	60	70	170	3/4"	80	57	4	2
20	500	465	590	-	127	395	390	260	100	210	60	3	65	75	170	3/4"	-	63.5	4	2
24	600	563	692	-	154	480	460	260	125	210	90	3	65	80	170	3/4"	-	87	4	2
28	700	665	801	-	165	540	530	260	150	210	100	3	65	90	170	1"	-	82.5	6	3
30	750	715	860	-	165	565	550	260	150	210	100	3	65	110	170	1"	-	79	6	3
32	800	763	915	-	190	600	590	260	150	210	100	3	65	115	170	1"	-	95	6	3
36	900	863	1022	-	200	655	645	260	150	210	100	3	65	125	170	1"	-	100	6	3

Dimensional Drawing:

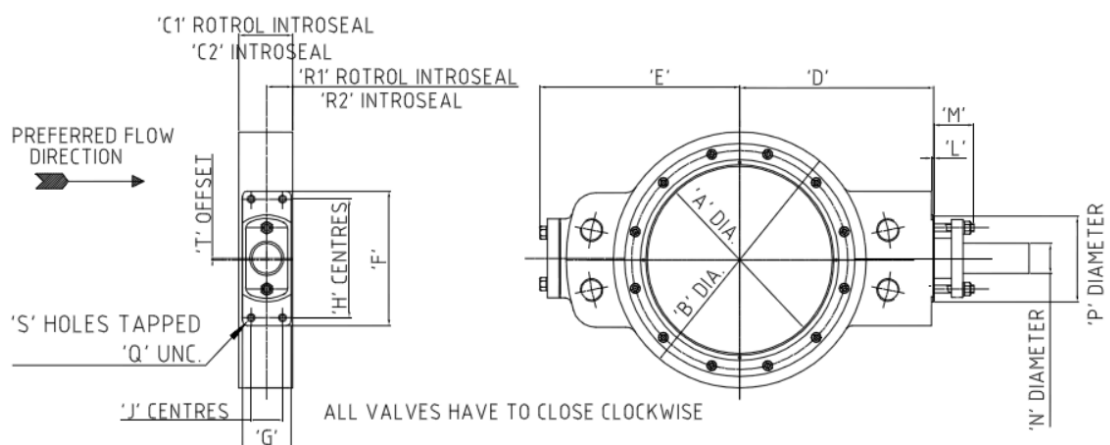


Table 8. Class 300LB Wafer Valves (Series AB4001/4001S)

Valve Size		Dimensions are in mm																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	80	3/8"	24.5	24.5	4	1
6	150	138	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	26	26	4	1
8	200	188	270	100	73	225	220	170	64	145	35	3	55	1 1/4"	105	3/8"	35	36.5	4	2
10	250	238	324	128	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	45	45	4	2
12	300	287	382	145	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	49	48	4	2
14	350	328	426	170	117	325	340	250	100	210	60	3	65	2"	170	3/4"	59	59	4	2
16	400	365	474	190	133	350	360	260	100	210	60	3	65	2"	170	3/4"	66.5	66.5	4	2
18	450	415	535	215	149	400	400	260	100	210	60	3	65	2 1/4"	170	3/4"	74.5	74.5	4	2
20	500	465	590	240	159	430	430	260	125	210	90	3	65	2 3/4"	170	3/4"	79.5	79.5	6	2
24	600	563	695	282	181	530	505	260	150	210	90	3	65	3"	170	3/4"	90	90	6	2
28	700	665	805	340	209	595	580	260	150	210	100	3	65	3 1/2"	170	1"	115	104	6	3
30	750	715	860	350	241	625	605	260	150	210	100	3	65	3 1/2"	170	1"	120	120	6	3
32	800	763	920	385	241	650	640	260	150	210	100	3	65	3 1/2"	170	1"	144	120	6	3
36	900	863	1028	440	260	710	700	260	150	210	100	3	65	3 1/2"	170	1"	165	130	6	3

Dimensional Drawing:

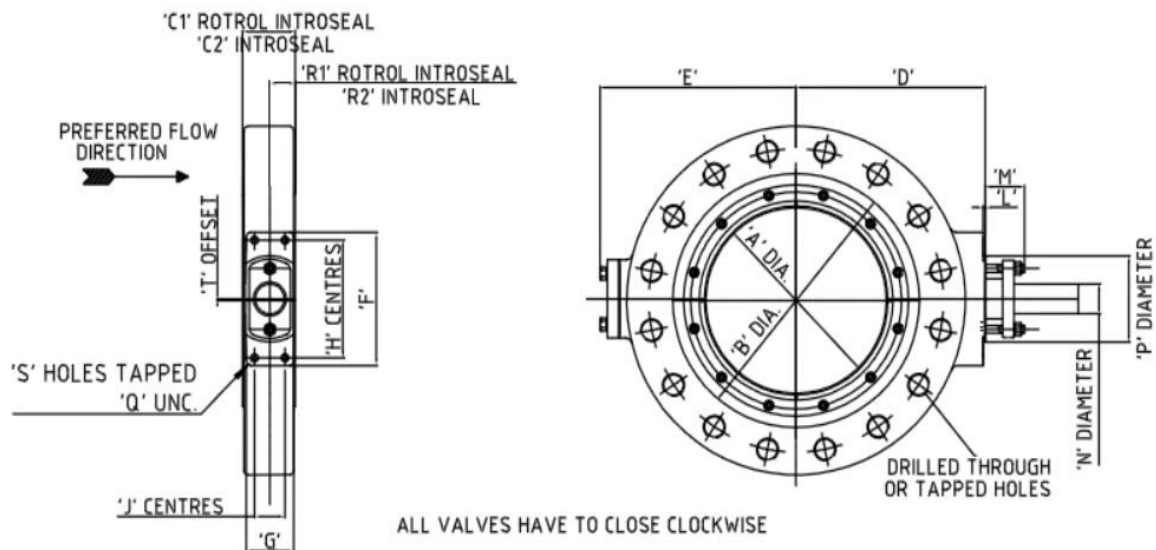


Table 9. Class 300LB Lugged Valves (Series AB4001 / 4001S)

Valve Size		Dimensions are in mm																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	80	3/8"	24.5	24.5	4	1
6	150	138	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	26	26	4	1
8	200	188	270	100	73	225	220	170	64	145	35	3	55	1 1/4"	105	1/2"	35	36.5	4	1
10	250	238	324	128	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	45	45	4	2
12	300	287	381	145	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	49	48	4	2
14	350	328	413	170	117	325	340	260	100	210	60	3	65	2"	170	3/4"	59	59	4	2
16	400	365	470	190	133	350	360	260	100	210	60	3	65	2"	170	3/4"	66.5	66.5	4	2
18	450	415	535	215	149	400	400	260	100	210	60	3	60	2 1/4"	170	3/4"	74.5	74.5	4	2
20	500	465	590	-	159	430	430	260	125	210	90	3	65	2 3/4"	170	3/4"	-	79.5	6	2
24	600	563	692	-	181	530	505	260	150	210	90	3	65	3"	170	3/4"	-	90	6	2
28	700	665	801	-	209	595	580	260	150	210	100	3	65	3 1/2"	170	1"	-	104	6	3
30	750	715	857	-	241	625	605	260	150	210	100	3	65	3 1/2"	170	1"	-	120	6	3

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Note:

Contents of this catalogue including technical specifications are subject to change without prior notice, due to continuous product improvement / upgradation.

The logo for KOSO, featuring the word "KOSO" in a bold, blue, serif font. The letters are slightly shadowed, giving it a three-dimensional appearance.