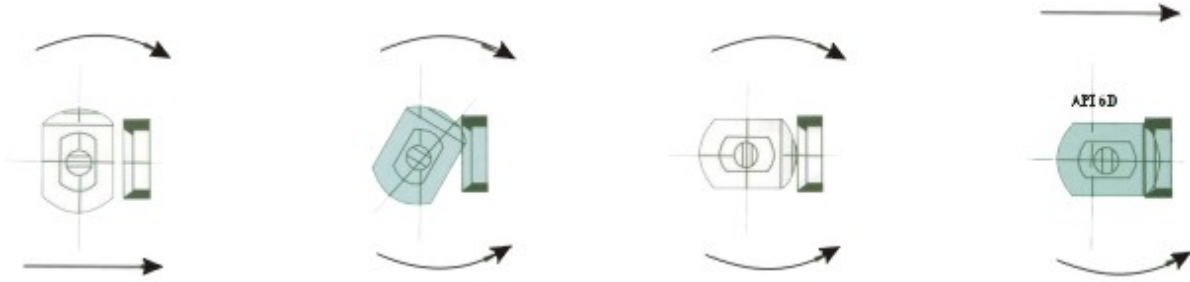


ORBITAL BALL VALVE

OPERATING PRINCIPLES

<p>a. Rotate the hand-wheel clockwise while the valve stays at full-open state. After the stem begins to move downwards and brings along the globe body to rotate under the concerted running of valve stem nuts and block bearing.</p>	<p>b. Continuously rotate the hand-wheel, and then the cam-slot track with fine helical-curve would interact mutually with the guide finger embedded inside the track to drive ceaselessly the globe body rotate clock -wisely with the stem.</p>	<p>c. When the valve is about to shut-down, the stem would bring along the globe body to rotate for 90° rod; under the condition that the two parts bears no abrasion completely against the sealing surface of the seat.</p>	<p>d. Continue to rotate the hand-wheel, and then the again-descended stem would press the globe body mechanically to make it contact with the seat closely. Thus the sealing effect would be realized.</p>
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<p>h. Continuously rotate the hand-wheel, as long as the stem rises to the limit position, at this time, the ball has also reversed along with the handle for 90° stem, and the valve has stayed already at the full-open position.</p>	<p>g. When the valve is about to open, the cam-slot track with fine helical-curve would interact mutually with the guide finger embedded inside the track to drive ceaselessly the globe body rotate counter clock-wisely under the conditions that the mentioned parts bears no abrasion completely against the sealing surface of the seat.</p>	<p>f. Continuously rotate the hand-wheel, hereafter the stem would bring along the globe body leave the seat w shiningly hile going-up.</p>	<p>e. Rotate the hand-wheel counter-clock-wisely while the valve stays at the full-close position. Therefore the handle would go up and drive the globe body to rotate under the concerted work by the stem nuts of the valve and the block bearing.</p>
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MAIN PARTS AND MATERIALS

Main types	Accessory name	Materials			
GQ40Y/F/H GQ41Y/F/H	Body, bonnet	WCB	ZG1Cr5Mo	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
	Ball	2Cr13	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
	Stem				
	Sealing surface	Cemented Carbide Alloy steel			
	Guide finger	2Cr13 40CrMn			
	Stem nut	Cast manganese brass			
	Bolt	35		1Cr18Ni9Ti	
	Nut	35	45		
	Stuffing	PTFE		Graphite ring	
	Gasket	Graphite wrapped-gasket		Graphite combined gasket	
	Handle	Able to forge iron			

E. TECHNICAL SPECIFICATION

Design Reference	GB	API
Structural Length	JB/T 7745 GB/T 12221	ANSI B16.10
Connecting Flange	GB/T 9113 JB/79 HG20592	ANSI B16.5
Butt-welding ends	GB/T 12224	MSS SP 44 ANSI B16.25
Test & Inspection	JB/T 9092	API 598

Notes: The sizes of serial valve connecting flange and butt-welding end can be designed according to customer's requirements.

PERFORMANCE SPECIFICATIONS OF THE PRODUCTS

Pressure grade	Test pressure		Suitable environment
	Shell test	Sealing test	
1.6	2.4	1.76	The occasions such as inflammable, easy to exploit, easy to volatilize, easy to get together, and hyper toxic occasion, etc.
2.5	3.75	2.75	
4.0	6.0	4.4	
6.4	9.6	7.04	
Class 150	2.94	2.2	
Class 300	7.5	- -	



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Class 600	15.0	11.0	
Applicable temperature	-196℃~≤550℃		
Applicable medium	Water, oil, natural gas, all kinds of soft medium and suspension, etc.		
Driving means	Manual, Motor driving, Pneumatic		

MAIN FORM OF CONNECTION DIMENSIONS

Class	Main Dimension	Nominal diameter (mm)															
		25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500
PN1.6Mpa	L	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250
	H	24	260	307	360	410	483	412	543	581	617	672	723	758	791	828	870
	Kg	09.5	16	19	28	30	41	55	78	115	215	270	385	502	876	980	1240
PN2.5Mpa	L	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250
	H	260	280	320	360	430	460	525	567	604	642	695	742	781	815	864	905
	Kg	9.5	16	19	28	30	45	59	82	121	230	289	402	540	913	1120	1280
PN4.0Mpa	L	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250
	H	260	280	320	360	436	492	527	607	649	701	750	750	790	832	875	910
	Kg	10	17	20	25	32	45	59	82	115	230	295	402	540	913	1124	1348
PN6.4Mpa	L	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	-	-
	H	280	300	329	365	450	509	541	663	725	781	790	806	821	858	-	-
	Kg	10	17	20	25	32	52	68	106	168	281	355	498	689	1134	-	-
150Lb	L	127	140	165	178	190	203	229	356	394	457	533	610	686	762	864	9147
300Lb	L	165	178	190	216	241	283	305	381	403	502	568	648	762	838	914	991
600Lb	L	216	229	241	292	330	356	432	508	559	660	787	838	889	991	1092	1194