

# INSPECTION CERTIFICATE

MESSRS	UNIMECH ENGINEERING (M) SDN. BHD.
DELIVER To	
JOB NAME	
JOB No.	
P.O.No.	APO-2004-0009
PRODUCT CODE	

Certificate No.  
1020332040-005-01-01

Date : 2020/07/19

# KITZ

### SPECIFICATION

Manuf No.	1020332040-005
Description	CLASS 150 CAST STAINLESS STEEL BALL VALVE FLANGED ENDS
Figure	150UTB<ZOP01>3
Size	3 inch(B)
Quantity	4
Valve No.	
Item No.	5
Kiki No.	

### MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8
002	BODY CAP	Gr. CF8
003	STEM	TYPE304
004	BALL	Gr. CF8

### TEST

Pressure test	Judge.	Inspection fluid and pressure	
Shell		Hydro	-
	Good	Air	2.9 MPa
Seat		Hydro	-
	Good	Air	0.6 MPa
Back seat		Hydro	-
		Air	-

Item	Judge.	Attached sheet
Material	Good	Material Test Result
Dimension	Good	
Visual	Good	
Operation	Good	

### NONDESTRUCTIVE EXAMINATION

Type of examination and judgement	Attached sheet

### REMARKS

\_\_\_\_\_  
Witnessed by

  
**KITZ CORPORATION**  
 QC Manager

We hereby certify that the articles listed above are satisfactory in accordance with the requirements of the standard and purchase order.

# MATERIAL TEST RESULT

MESSRS	UNIMECH ENGINEERING (M) SDN. BHD.
JOB NAME	
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Certificate No.  
1020332040-005-01-01-Z1

Date : 2020/07/19



Figure	150UTB<ZOP01>3	Valve No.	
Material	ASTM A 351 Gr. CF8	Item No.	5
Charge No.	Display No.	Name of Parts	
1 P03W251		BODY	
2 P03W241		BODY	
3 D03H131	D03H131	BODY CAP	
4 D03D061	D03D061	BODY CAP	

**CHEMICAL COMPOSITION %**

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec.	Max	Max	Max	Max	Max	8.0	18.0	Max								
	0.08	1.50	2.00	0.040	0.040	11.0	21.0	0.50								
1	0.06	0.92	0.62	0.005	0.034	8.2	18.3	0.16								
2	0.06	0.89	0.58	0.006	0.036	8.3	18.4	0.17								
3	0.05	1.11	1.06	0.004	0.032	8.2	18.4	0.12								
4	0.05	1.24	0.93	0.011	0.034	8.3	18.4	0.13								
Element																
Spec.																
1																
2																
3																
4																

**TENSION TEST**

**IMPACT TEST**

Item			Tensile str.	Yield str.	Elongation				
Unit			MPa	MPa	%				
Spec.			Min	Min	Min				
1			550	275	57				
2			532	258	50				
3			587	352	43				
4			569	345	43				

Item									
Unit									
Spec.									
1									
2									
3									
4									

**HEAT TREATMENT °C**

Spec.	Min 1040° C WQ	
1	ST:1100° C*60min WQ	
2	ST:1100° C*60min WQ	
3	ST:1100° C*100min WQ	
4	ST:1100° C*115min WQ	
N:Normalizing      A:Annealing      T:Tempering      Q:Quenching      AC:Air Cooling WQ:Water Quenching      OQ:Oil Quenching      WC:Water Cooling      FC:Furnace Cooling      ST:Solution Treatment		

**REMARKS**

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Reviewed by

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# MATERIAL TEST RESULT

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PRODUCT CODE	

Certificate No.  
1020332040-005-01-01-Z2

Date : 2020/07/19



Figure	150UTB<ZOP01>3	Valve No.	
	Material ASTM A 351 Gr. CF8	Item No.	5
	Charge No.	Display No.	Name of Parts
1	D03B061	D03B061	BODY CAP
2	JA04		BALL
3			
4			

**CHEMICAL COMPOSITION %**

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec.	Max	Max	Max	Max	Max	8.0	18.0	Max								
	0.08	1.50	2.00	0.040	0.040	11.0	21.0	0.50								
1	0.05	1.29	1.25	0.005	0.030	8.2	18.5	0.10								
2	0.05	0.96	0.55	0.003	0.021	8.2	18.6	0.20								
3																
4																
Element																
Spec.																
1																
2																
3																
4																

**TENSION TEST**

**IMPACT TEST**

Item			Tensile str.	Yield str.	Elongation				
Unit			MPa	MPa	%				
Spec.			Min	Min	Min				
1			485	205	35				
2			597	358	43				
3			530	269	49				
4									

Item									
Unit									
Spec.									
1									
2									
3									
4									

**HEAT TREATMENT °C**

Spec.	Min 1040° C WQ
1	ST:1100° C*135min WQ
2	ST:1100° C* 110min WQ
3	
4	

N:Normalizing      A:Annealing      T:Tempering      Q:Quenching      AC:Air Cooling  
 WQ:Water Quenching      OQ:Oil Quenching      WC:Water Cooling      FC:Furnace Cooling      ST:Solution Treatment

**REMARKS**

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QC Manager

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1020332040-005-01-01-Z3

Date : 2020/07/19



Figure	150UTB<ZOP01>3	Valve No.	
Material	ASTM A276 TYPE304	Item No.	5
Charge No.	Display No.	Name of Parts	
1 6C464204		STEM	
2			
3			
4			

**CHEMICAL COMPOSITION %**

Element	C	Mn	P	S	Si	Ni	Cr								
Spec.	Max	Max	Max	Max	Max	8.00	18.00								
	0.08	2.00	0.045	0.030	1.00	11.00	20.00								
1	0.06	1.84	0.032	0.026	0.46	8.09	18.53								
2															
3															
4															

**TENSION TEST**

**IMPACT TEST**

Item			Tensile str.	Yield str.	Elongation	Reduction				
Unit			MPa	MPa	%	%				
Spec.			Min	Min	Min	Min				
1			515	205	30	40				
2			721	621	39	67				
3										
4										

Item										
Unit										
Spec.										
1										
2										
3										
4										

**HEAT TREATMENT °C**

Spec.	
1	ST:1040°C WQ
2	
3	
4	

N:Normalizing      A:Annealing      T:Tempering      Q:Quenching      AC:Air Cooling  
 WQ:Water Quenching      OQ:Oil Quenching      WC:Water Cooling      FC:Furnace Cooling      ST:Solution Treatment

**REMARKS**

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