

MATERIAL TEST RESULT

MESSRS	KITZ Valve & Actuation (Malaysia) Sdn Bhd
JOB NAME	
JOB No.	
P. O. No.	KVM0018
PRODUCT CODE	UTKM11/2

Certificate No.

XTK180111-24-01-02-Z1

Date : 2019/01/08

KITZ

Figure	UTKM11/2	Valve No.	
Material	ASTM A 351 Gr. CF8M	Item No.	24
No.	Charge No.	Display No.	Name of Parts
1	L8YRM		BODY
2	V86RM		BODY
3			
4			

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec.	Max	Max	Max	Max	Max	9.0	18.0	2.0								
No.	0.08	1.50	1.50	0.040	0.040	12.0	21.0	3.0								
1	0.05	0.73	1.20	0.006	0.034	10.0	18.7	2.6								
2	0.05	1.10	0.69	0.007	0.031	9.7	18.4	2.4								
3																
4																

TENSION TEST

IMPACT TEST

Item			Tensile str.	Yield str.	Elongation				
Unit			MPa	MPa	%				
Spec.			Min	Min	Min				
No.			485	205	30				
1			515	244	50				
2			539	250	48				
3									
4									

Item									
Unit									
Spec.									
No.									
1									
2									
3									
4									

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ
1	ST:1080° C*1.5h WQ	
2	ST:1080° C*1.5h 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

EN10204 Type 2.2	<h2 style="margin: 0;">CERTIFIED TRUE COPY</h2> 
------------------	--

Reviewed 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.

INSPECTION CERTIFICATE

MESSRS	KITZ VALVE & ACTUATION (MALAYSIA)
DELIVER To	
JOB NAME	
JOB No.	
P. O. No.	
PRODUCT CODE	UTKM2

Certificate No.
XTK180010-44-01-01

Date : 2018/04/23

KITZ

SPECIFICATION

Manuf No.	XTK180010-44
Description	TYPE 600 CAST STAINLESS STEEL BALL VALVE SCREWED ENDS
Figure	UTKM2
Size	2 inch (B)
Quantity	64
Valve No.	
Item No.	44
Kiki No.	

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8M

TEST

Pressure test	Judge.	Inspection fluid and pressure		
Shell	Good	Hydro	6.2	MPa
		Air	-	
Seat	Good	Hydro	-	
		Air	0.6	MPa
Back seat		Hydro	-	
		Air	-	

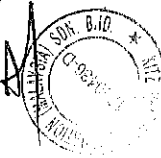
Item	Judge.	Attached sheet
Material	Good	Material Test Result
Dimension	Good	
Visual	Good	
Operation	Good	

NONDESTRUCTIVE EXAMINATION

Type of examination and judgement	Attached sheet

REMARKS

CERTIFIED TRUE COPY



 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	KITZ VALVE & ACTUATION (MALAYSIA)
JOB NAME	
JOB No.	
P. O. No.	
PRODUCT CODE	UTKM2

Certificate No.
XTK180010-44-01-01-Z1

Date : 2018/04/23



Figure	UTKM2	Valve No.	Item No. 44
--------	-------	-----------	-------------

Material	ASTM A 351 Gr. CF8M		
No.	Charge No.	Display No.	Name of Parts
1	V7ZRM		BODY
2	K7YRM		BODY
3	K79RM		BODY
4	K7ZRM		BODY

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec. No.	Max	Max	Max	Max	Max	Max	Max	Max								
	0.08	1.50	1.50	0.040	0.040	12.0	18.0	2.0								
1	0.06	1.26	0.75	0.005	0.039	9.9	18.9	2.4								
2	0.06	0.95	1.02	0.007	0.034	9.2	18.1	2.1								
3	0.07	0.84	1.09	0.005	0.033	9.4	18.4	2.4								
4	0.06	0.89	1.09	0.005	0.034	9.3	18.3	2.0								

TENSION TEST

IMPACT TEST

Item		Tensile str.	Yield str.	Elongation				
Unit		MPa	MPa	%				
Spec. No.		Min	Min	Min				
1		539	237	49				
2		541	359	37				
3		583	359	48				
4		563	364	44				

Item								
Unit								
Spec. No.								
1								
2								
3								
4								

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ
1	ST:1080° C*1.5h WQ	
2	ST:1080° C*110min WQ	
3	ST:1080° C*110min WQ	
4	ST:1080° C*110min 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

EN10204 Type 2.2

CERTIFIED TRUE COPY

Reviewed 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.

INSPECTION CERTIFICATE

MESSRS	KITZ VALVE & ACTUATION (MALAYSIA)
DELIVER To	
JOB NAME	
JOB No.	
P. O. No.	KVMSTOCKAUG18
PRODUCT CODE	UTKM1

Certificate No.
XTK180081-11-01-01

Date : 2018/11/14

KITZ

SPECIFICATION

Manuf No.	XTK180081-11
Description	TYPE 600 CAST STAINLESS STEEL BALL VALVE SCREWED ENDS
Figure	UTKM1
Size	1 inch (B)
Quantity	576
Valve No.	
Item No.	11
Kiki No.	

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8M

TEST

Pressure test	Judge.	Inspection fluid and pressure		
Shell	Good	Hydro	6.2	MPa
		Air	-	
Seat	Good	Hydro	-	
		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

REPRESENTATIVE TEST BY HYDRAULIC SHELL TEST HAS BEEN PERFORMED

CERTIFIED TRUE COPY

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	KITZ VALVE & ACTUATION (MALAYSIA)
JOB NAME	
JOB No.	
P. O. No.	KVMSTOCKAUG18
PRODUCT CODE	UTKM1

Certificate No.
XTK180081-11-01-01-Z1

Date : 2018/11/14



Figure	UTKM1	Valve No.	Item No. 1
--------	-------	-----------	--------------

Material	ASTM A 351 Gr. CF8M		
No.	Charge No.	Display No.	Name of Parts
1	V87RM		BODY
2	K88RM		BODY
3	K89RM		BODY
4	V83RM		BODY

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo						
Spec. No.	Max 0.08	Max 1.50	Max 1.50	Max 0.040	Max 0.040	9.0	18.0	2.0						
1	0.05	1.02	0.83	0.004	0.028	10.0	18.9	2.3						
2	0.07	0.89	1.00	0.007	0.036	9.2	18.3	2.1						
3	0.05	1.05	1.23	0.007	0.031	9.2	18.5	2.3						
4	0.05	1.20	0.69	0.005	0.029	9.4	19.2	2.4						

TENSION TEST

Item	Tensile str.	Yield str.	Elongation
Unit	MPa	MPa	%
Spec. No.	Min 485	Min 205	Min 30
1	511	241	48
2	592	377	41
3	555	357	38
4	549	260	43

IMPACT TEST

Item	Unit	Spec. No.	1	2	3	4

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ
1	ST:1080° C*1.5h	WQ
2	ST:1080° C*110min	WQ
3	ST:1080° C*110min	WQ
4	ST:1080° C*1.5h	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

EN10204 Type 2.2

CERTIFIED TRUE COPY

Reviewed 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.

INSPECTION CERTIFICATE

MESSRS	KITZ VALVE & ACTUATION (MALAYSIA) SDN. BHD
DELIVER To	
JOB NAME	
JOB No.	
P. O. No.	MXS2000040
PRODUCT CODE	

Certificate No.
1020287891-003-01-01
 Date : 2020/05/11



SPECIFICATION

Manuf No.	1020287891-003
Description	TYPE 600 CAST STAINLESS STEEL BALL VALVE SCREWED ENDS
Figure	UTKM1/2
Size	1/2 inch(B)
Quantity	1080
Valve No.	
Item No.	3
Kiki No.	

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8M

TEST

Pressure test	Judge.	Inspection fluid and pressure		
Shell	Good	Hydro	6.20	MPa
		Air	-	
Seat	Good	Hydro	-	
		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

REPRESENTATIVE TEST BY HYDRAULIC SHELL TEST HAS BEEN PERFORMED

CERTIFIED TRUE COPY



Witnessed by _____

[Signature]
KITZ CORPORATION
 QC Manager

MATERIAL TEST RESULT

MESSRS	KITZ VALVE & ACTUATION (MALAYSIA) SDN. BHD
JOB NAME	
JOB No.	
P. O. No.	MXS2000040
PRODUCT CODE	

Certificate No.
1020287891-003-01-01-Z1

Date : 2020/05/11

KITZ

Figure	UTKM1/2	Valve No.	
Material	ASTM A 351 Gr. CF8M	Item No.	3
No.	Charge No.	Display No.	Name of Parts
1	D03-5M	D03RM	BODY
2	D02RM	D02RM	BODY
3			
4			

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec. No.	Max	Max	Max	Max	Max	9.0	18.0	2.0								
	0.08	1.50	1.50	0.040	0.040	12.0	21.0	3.0								
1	0.06	1.06	1.11	0.010	0.032	9.3	19.3	2.1								
2	0.05	0.90	1.21	0.004	0.032	9.3	18.9	2.3								
3																
4																

TENSION TEST

IMPACT TEST

Item		Tensile str.	Yield str.	Elongation				
Unit		MPa	MPa	%				
Spec. No.		Min	Min	Min				
1		485	205	30				
2		571	349	43				
3		580	356	44				
4								

Item								
Unit								
Spec. No.								
1								
2								
3								
4								

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ
1	ST:1100° C*135min WQ	
2	ST:1100° C*135min 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

EN10204 Type 2.2

CERTIFIED TRUE COPY



Reviewed 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.

INSPECTION CERTIFICATE (1 pcs)

MESSRS	KITZ VALVE & ACTUATION (MALAYSIA) SDN. BHD
DELIVER To	
JOB NAME	
JOB No.	
P. O. No.	MXS2000040
PRODUCT CODE	

Certificate No.	1020287891-004-01-01
Date	: 2020/05/11

KITZ

SPECIFICATION

Manuf No.	1020287891-004
Description	TYPE 600 CAST STAINLESS STEEL BALL VALVE SCREWED ENDS
Figure	UTKM11/2
Size	1 1/2 inch(B)
Quantity	72
Valve No.	
Item No.	4
Kiki No.	

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8M

TEST

Pressure test	Judge.	Inspection fluid and pressure	
Shell	Good	Hydro	6.20 MPa
		Air	-
Seat	Good	Hydro	-
		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

REPRESENTATIVE TEST BY HYDRAULIC SHELL TEST HAS BEEN PERFORMED

CERTIFIED TRUE COPY



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	KITZ VALVE & ACTUATION (MALAYSIA) SDN. BHD.
JOB NAME	
JOB No.	
P. O. No.	MXS2000040
PRODUCT CODE	

Certificate No.
1020287891-004-01-01-Z1

Date : 2020/05/11



Figure	UTKM11/2	Valve No.	
Material	ASTM A 351 Gr. CF8M	Item No.	4

No.	Charge No.	Display No.	Name of Parts
1	D9ZRM	D9ZRM	BODY
2	A9YRM		BODY
3	D01RM	D01RM	BODY
4			

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo								
Spec. No.	Max	Max	Max	Max	Max	9.0	18.0	2.0								
	0.08	1.50	1.50	0.040	0.040	12.0	21.0	3.0								
1	0.05	1.24	1.07	0.012	0.031	9.1	19.1	2.2								
2	0.06	0.90	0.91	0.002	0.034	9.4	18.3	2.1								
3	0.05	1.21	0.99	0.008	0.030	9.1	19.0	2.1								
4																

TENSION TEST

IMPACT TEST

Item		Tensile str.	Yield str.	Elongation				
Unit		MPa	MPa	%				
Spec. No.		Min	Min	Min				
1		485	205	30				
2		585	357	44				
3		587	375	51				
4		584	357	43				

Item								
Unit								
Spec. No.								
1								
2								
3								
4								

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ
1	ST:1100° C*135min WQ	
2	ST:1100° C*60min WQ	
3	ST:1100° C*135min WQ	
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

EN10204 Type 2.2

CERTIFIED TRUE COPY

Reviewed 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.

(1 spes)

INSPECTION CERTIFICATE

MESSRS	KITZ VALVE & ACTUATION(MALAYSIA)
DELIVER To	
JOB NAME	
JOB No.	
P. O. No.	KVMSTOCKAUG18
PRODUCT CODE	UTKM11/2

Certificate No.
 XTK180081-13-01-01
 Date : 2018/11/29



SPECIFICATION

Manuf No.	XTK180081-13		
Description	TYPE 600 CAST STAINLESS STEEL BALL VALVE SCREWED ENDS		
Figure	UTKM11/2		
Size	11/2		inch(B)
Quantity	24		
Valve No.			
Item No.	13		
Kiki No.			

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. CF8M

TEST

Pressure test	Judge.	Inspection fluid and pressure		
Shell	Good	Hydro	6.2	MPa
		Air	-	
Seat	Good	Hydro	-	
		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

REPRESENTATIVE TEST BY HYDRAULIC SHELL TEST HAS BEEN PERFORMED

CERTIFIED TRUE COPY 

 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	KITZ VALVE & ACTUATION(MALAYSIA)
JOB NAME	
JOB No.	
P. O. No.	KVMSTOCKAUG18
PRODUCT CODE	UTKM11/2

Certificate No.
XTK180081-13-01-01-Z1

Date : 2018/11/29



Figure	UTKM11/2	Valve No.		Item No.	13
--------	----------	-----------	--	----------	----

	Material	ASTM A 351 Gr. CF8M			
No.	Charge No.	Display No.	Name of Parts		
1	V86RM		BODY		
2					
3					
4					

CHEMICAL COMPOSITION %

Element	C	Mn	Si	S	P	Ni	Cr	Mo									
Spec.	Max	Max	Max	Max	Max	9.0	18.0	2.0									
No.	0.08	1.50	1.50	0.040	0.040	12.0	21.0	3.0									
1	0.05	1.10	0.69	0.007	0.031	9.7	18.4	2.4									
2																	
3																	
4																	

TENSION TEST

IMPACT TEST

Item		Tensile str.	Yield str.	Elongation					
Unit		MPa	MPa	%					
Spec.		Min	Min	Min					
No.		485	205	30					
1		539	250	48					
2									
3									
4									

Item									
Unit									
Spec.									
No.									
1									
2									
3									
4									

HEAT TREATMENT °C

No.	Spec.	Min 1040° C WQ			
1	ST:1080° C*1.5h	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

EN10204 Type 2.2

CERTIFIED TRUE COPY



Reviewed 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.